Reliable even over long stroke lengths and in harsh conditions

MAGNETOSTRICTIVE SENSORS

Magnetostrictive sensors come into use wherever high reliability and precision is demanded in position and speed measurement. Also over long stroke lengths.

Our contact-free and absolute measuring systems are suitable for all industry-standard interfaces for a wide range of applications. Even under extreme surrounding conditions, they guarantee a high machine and system availability.

Features

- Precise, absolute measurement without a reference run
- Contact-free, so wear- and maintenance-free
- Resistant to shock, vibration and contamination
- Hermetically sealed housing
- Highly dynamic control applications through synchronizedeasurement data
- High durability and long service life
- Flexible installation and handling

	BTL7 -P- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable

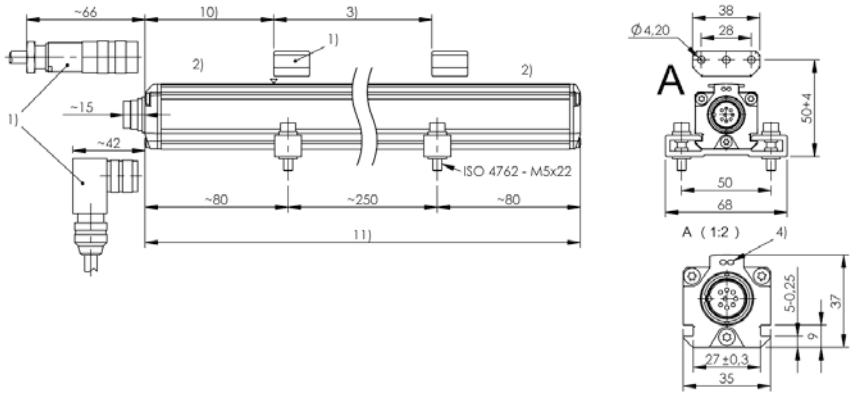
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

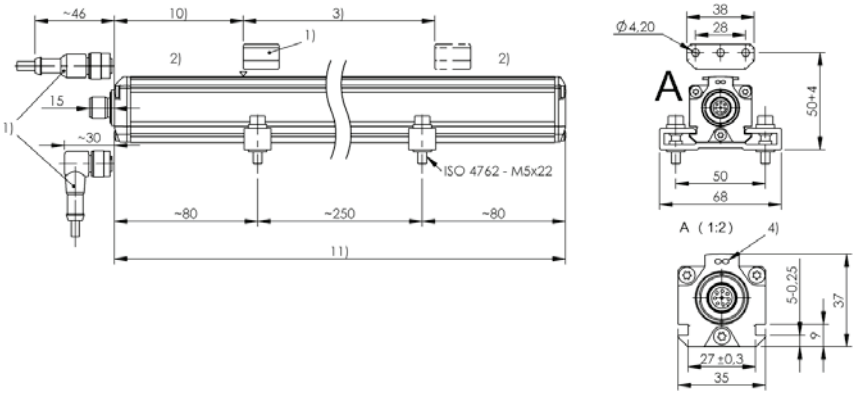
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-P-S32



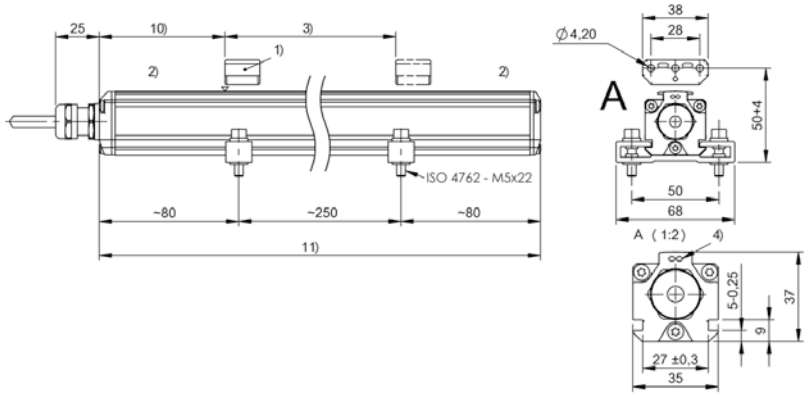
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-G501-Mxxxx-P-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-A501-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL7 -P- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
08 = 1 output, rising, 1 auxiliary output voltage, rising settable/programmable
09 = 1 output, rising, 1 auxiliary output voltage, falling settable/programmable
12 = 1 output, falling, 1 auxiliary output voltage, rising settable/programmable
13 = 1 output, falling, 1 auxiliary output voltage, falling settable/programmable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

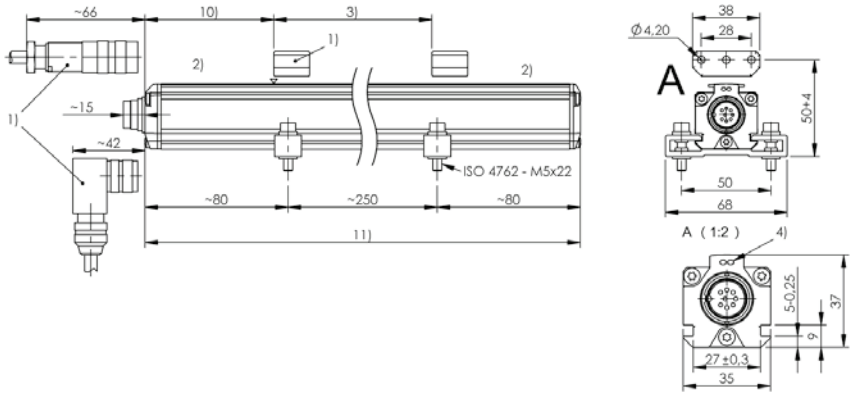
f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins

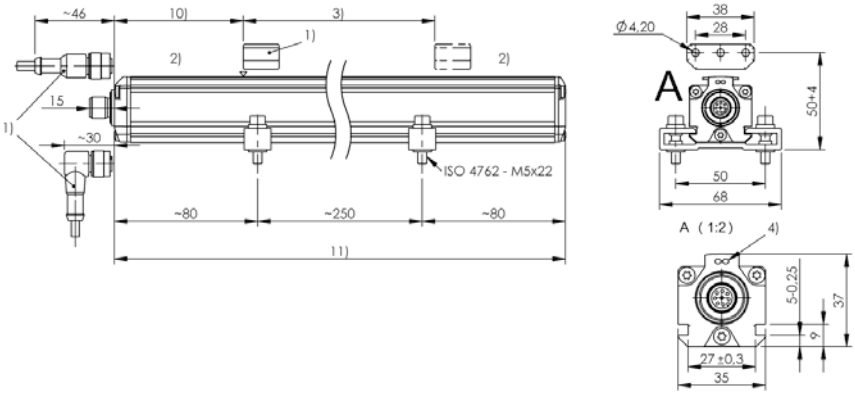
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-P-S32



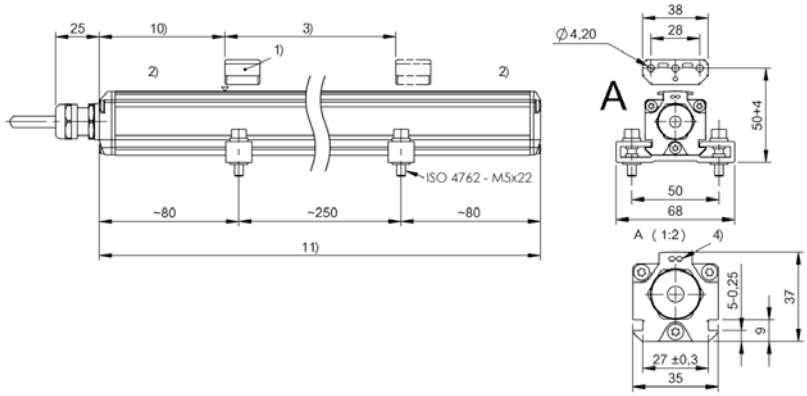
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-C501-Mxxxx-P-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-E508-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL7 -P- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 50 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

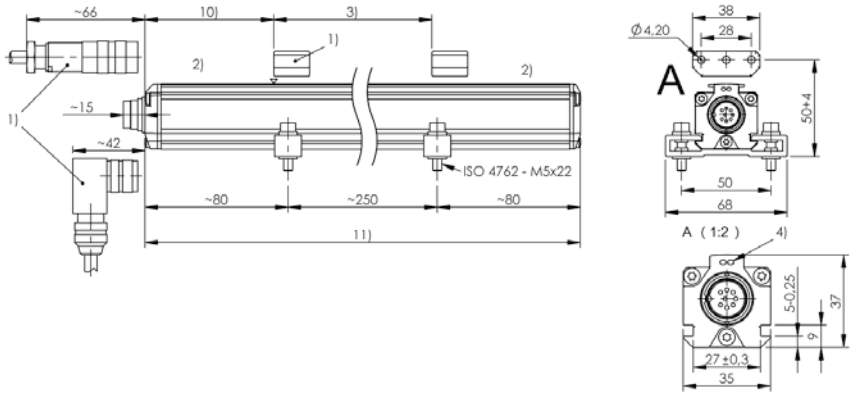
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

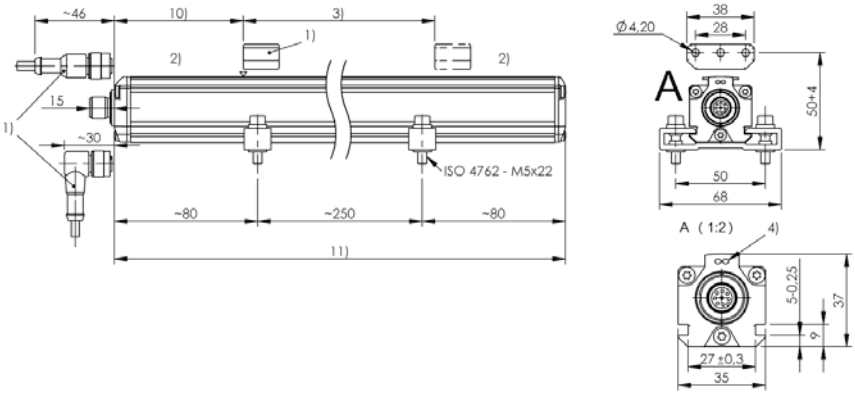
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-P-S32



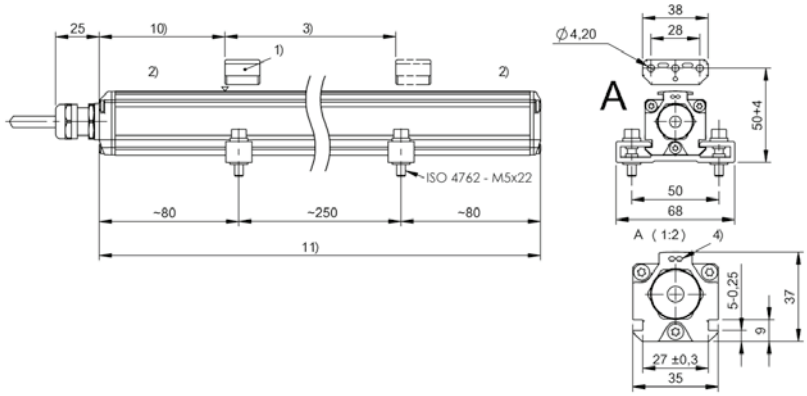
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-P-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL7 -P- SERIES - SSI
Interface	SSI
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcde-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm
9 = 0.5 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

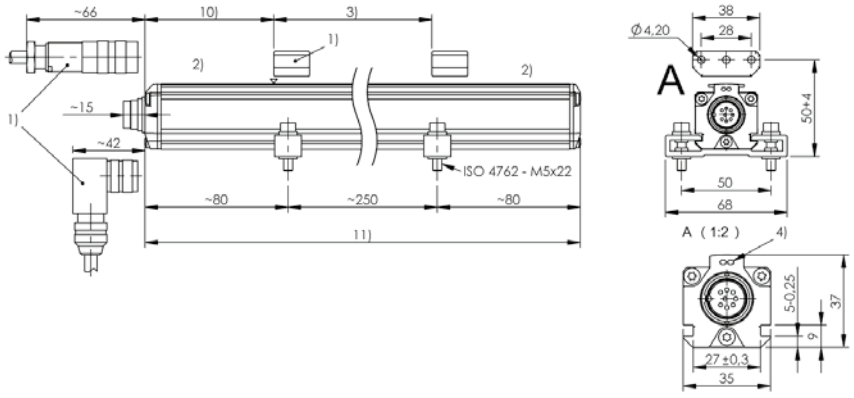
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
S = Connector
KA = Cable (PUR)

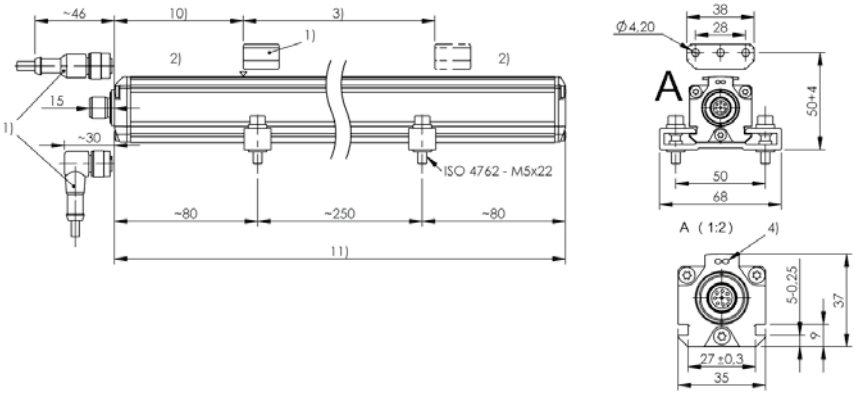
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-P-S32



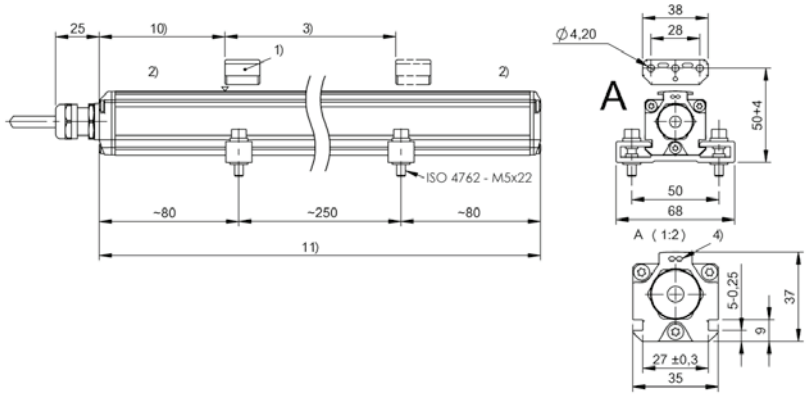
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-P-S115



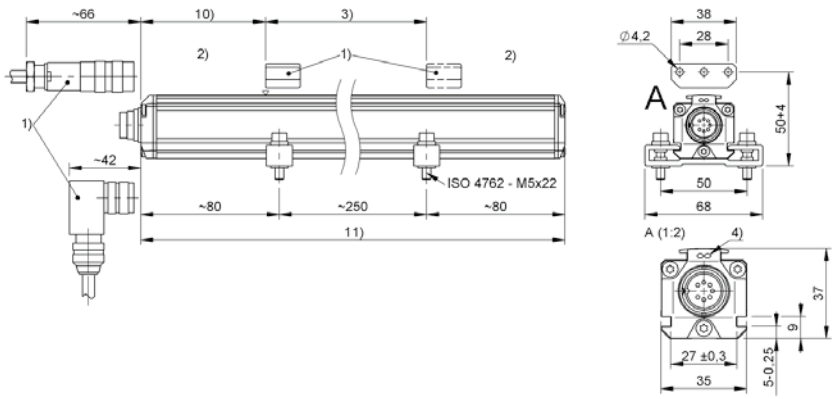
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-P-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-P-S147



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) LED function indicator
10) Null point
11) Installation length

	BTL5 -P- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

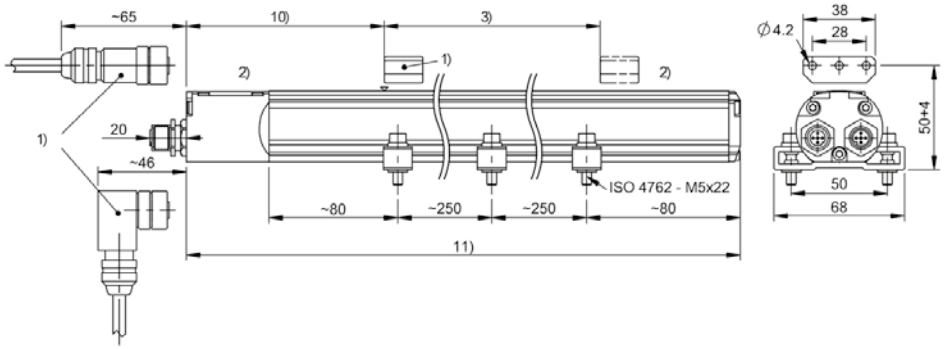
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
P = Profile

l Connection type
S = Connector

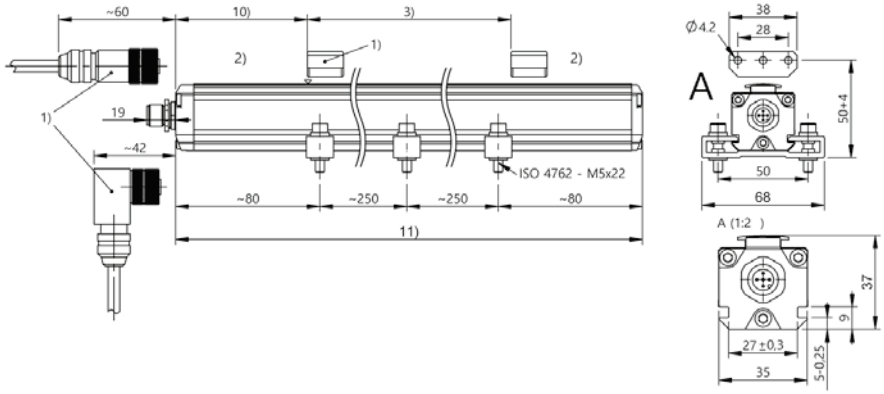
m Connection type characteristic
92 = 1 x M12x1 connector with 5 pins
94 = 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Hxxx-Mxxxx-P-S94



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

BTL5-Hxxx-Mxxxx-P-S92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL7 -P- SERIES - PROFINET
Interface	Profinet
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
T = Profinet

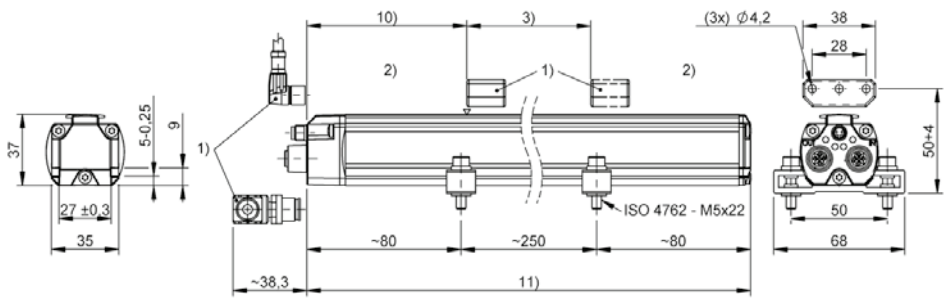
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
C = Connector

m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50T-Mxxxx-P-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL7 -P- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
D = EtherNet IP

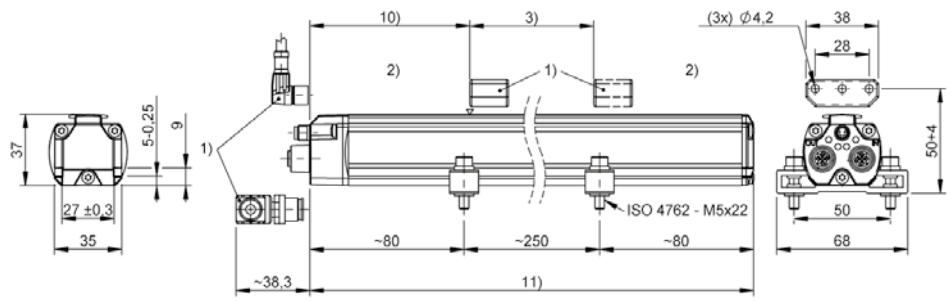
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
C = Connector

m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50D-Mxxxx-P-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL7 -P- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	50...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
E = EtherCAT

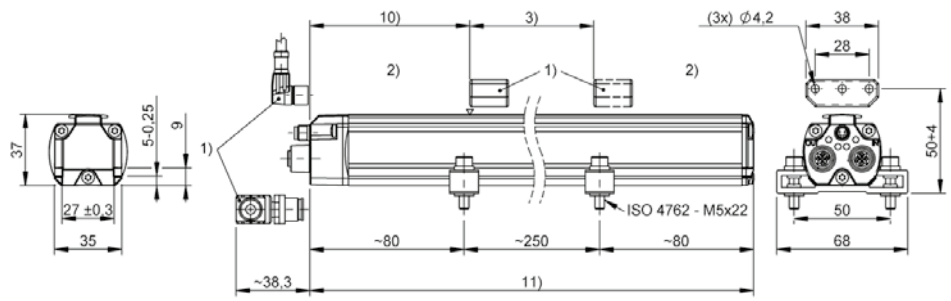
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M7620)

f Style
P = Profile

l Connection type
C = Connector

m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50E-Mxxxx-P-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL5 -P- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Block-style profile - 37 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
T = Profibus

b Operating voltage
1 = 20 … 28 V

c + d Interface characteristic 1 + 2
10 = 1 magnet (1 - 4 magnets can be set)

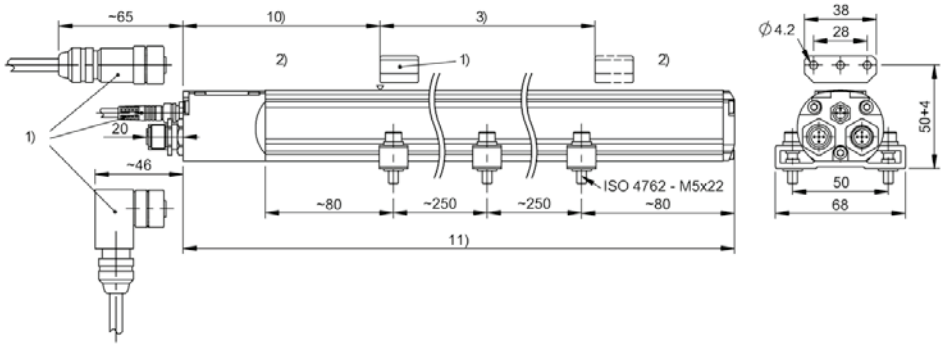
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
P = Profile

l Connection type
S = Connector

m Connection type characteristic
103 = 1 x M8x1 connector with 3 pins
+ 1 x M12x1 connector with 5 pins
+ 1 x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-P-S103



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL6 -A1- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...4012 mm
Repeat accuracy	—
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 500: ± 0.04% FS
Operating voltage Ub	—
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
3 = 20 … 28 V (if c + d = 10)
3 = 18 … 30 V (if c + d = 01)

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, 1 x rising/1x falling

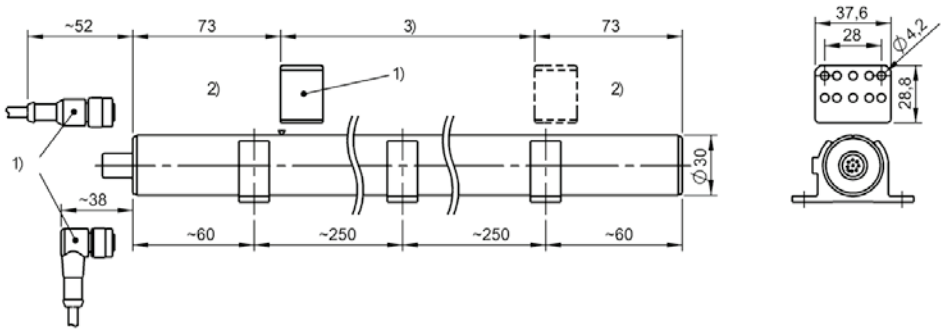
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012 when c+d = 10)
(M0050…M1512 when c+d = 01)

f Style
A1 = Round profile

l Connection type
S = Connector

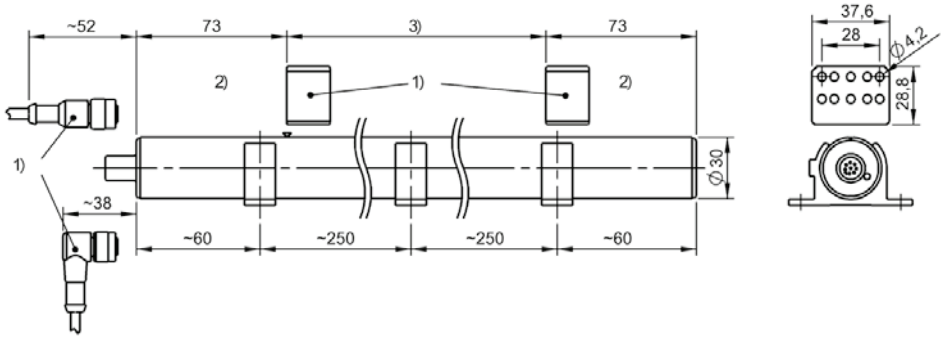
m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-A110-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

BTL6-G301-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -A1- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...4012 mm
Repeat accuracy	≤ 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
P = Digital pulse interface

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
0 = No communication interface
1 = DPI/IP communication interface

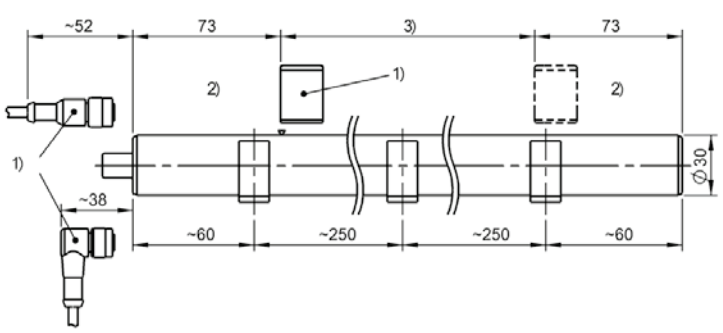
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012)

f Style
A1 = Round profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-P11x-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -A1- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	50...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets

d Interface characteristic 2
E = EtherCAT

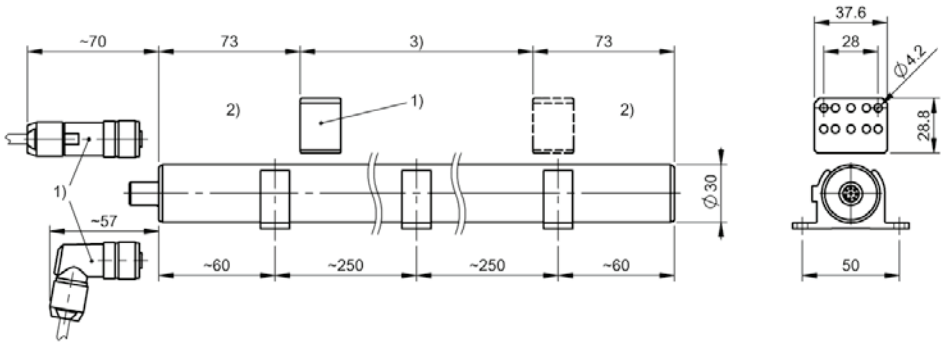
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012)

f Style
A1 = Round profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-V1xE-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -A1- SERIES - VARAN
Interface	Varan
Measuring length	50...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Round profile, Ø30 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet

d Interface characteristic 2
V = Varan

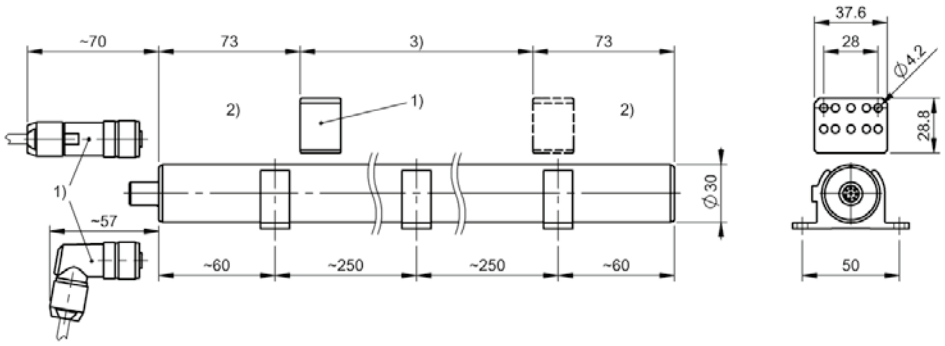
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4012)

f Style
A1 = Round profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-V11V-Mxxxx-A1-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length

	BTL6 -PF- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...5080 mm
Repeat accuracy	—
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M5080)

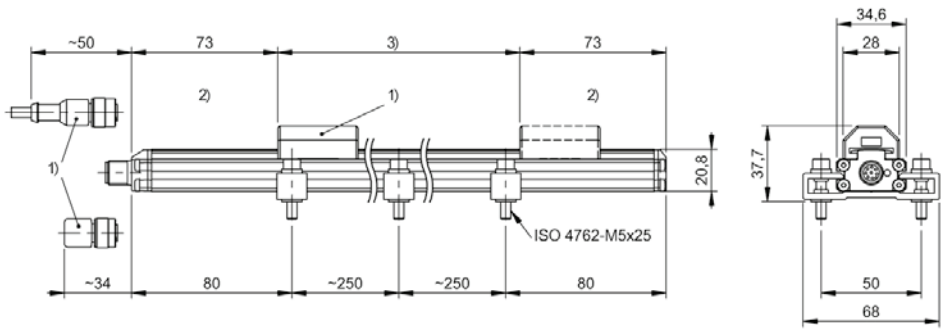
f Style
PF = Flat profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

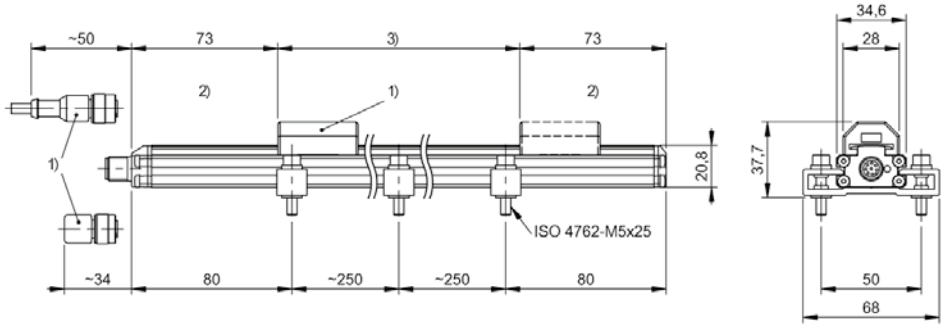
BTL6-A500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



BTL6-G500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



	BTL6 -PF- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...5080 mm
Repeat accuracy	—
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
C = Current output 0.1 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M5080)

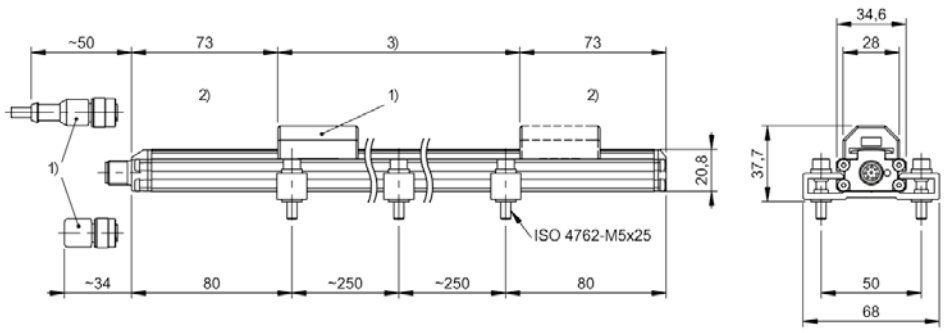
f Style
PF = Flat profile

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

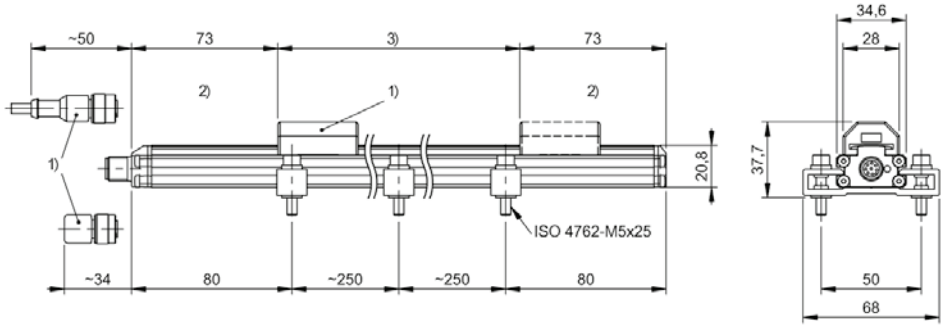
BTL6-E500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



BTL6-C500-Mxxxx-PF-S115

1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length



	BTL6 -PF- SERIES - IO-LINK
Interface	IO-Link
Measuring length	50...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	18...30 VDC
Ambient temperature	-25...70 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
U = IO-Link

b Operating voltage
1 = 18 … 30 V

c + d Interface characteristic 1 + 2
10 = 1 magnet

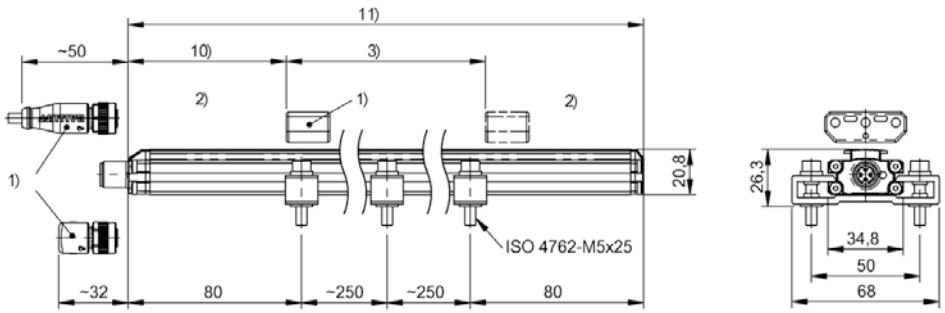
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4572)

f Style
PF = Flat profile

l Connection type
S = Connector

m Connection type characteristic 1
4 = M12x1 connector with 4 pins

BTL6-U110-Mxxxx-PF-S4



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
10) Null point
11) Installation length

	BTL6 -PF- SERIES - VARAN
Interface	Varan
Measuring length	50...4572 mm
Repeat accuracy	≤ 10 µm
Linearity deviation	nnnn = 0050…0500: ± 150 µm nnnn > 0500: ± 0.03% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	0...85 °C
Mechanical configuration	Flat profile - 21 x 35 mm
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Device profile length measuring systems
5 = Device Profile EUROMAP 75

d Interface characteristic 2
V = Varan

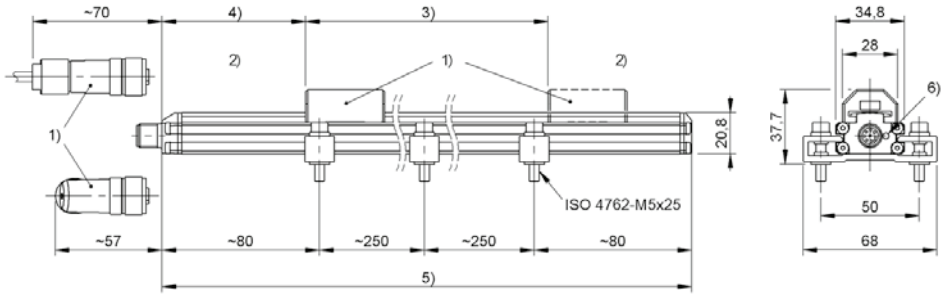
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4572)

f Style
PF = Flat profile

l Connection type
S = Connector

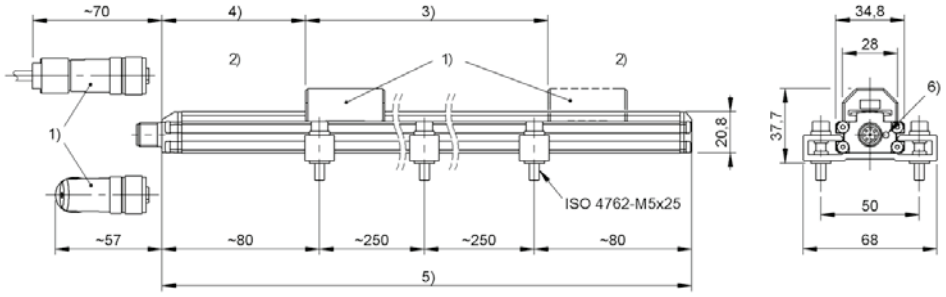
m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL6-V55V-Mxxxx-PF-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Null point
5) Installation length
6) LED function indicator

BTL6-V51V-Mxxxx-PF-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Null point
5) Installation length
6) LED function indicator

	BTL7 -A/B- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

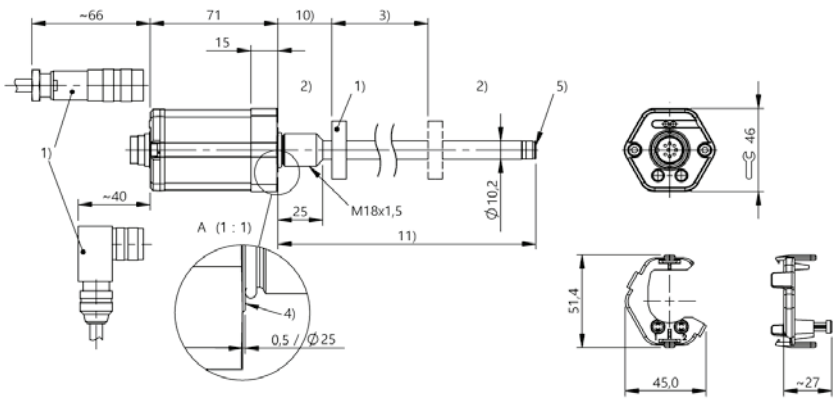
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

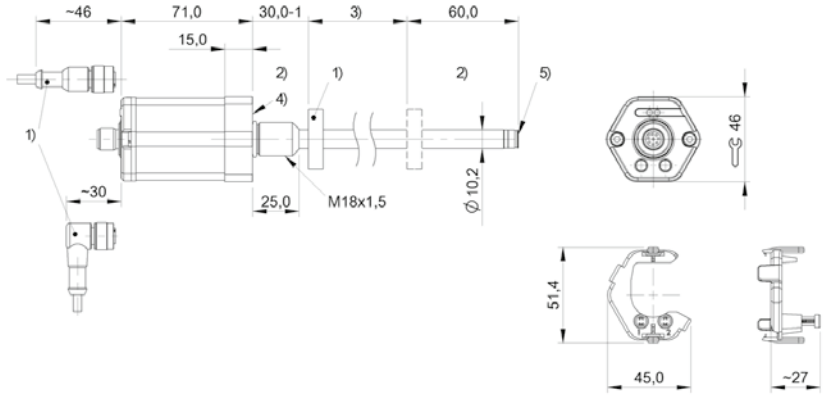
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-B-S32



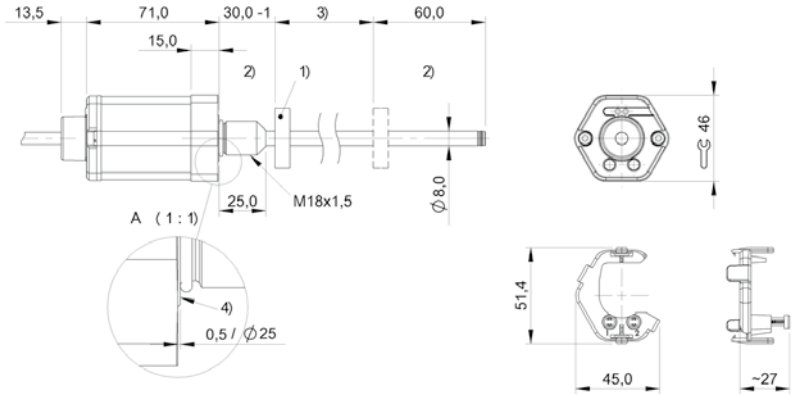
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-A-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-B8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -A/B- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm nnnn = 0501…5500: ± 0.01% FS nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

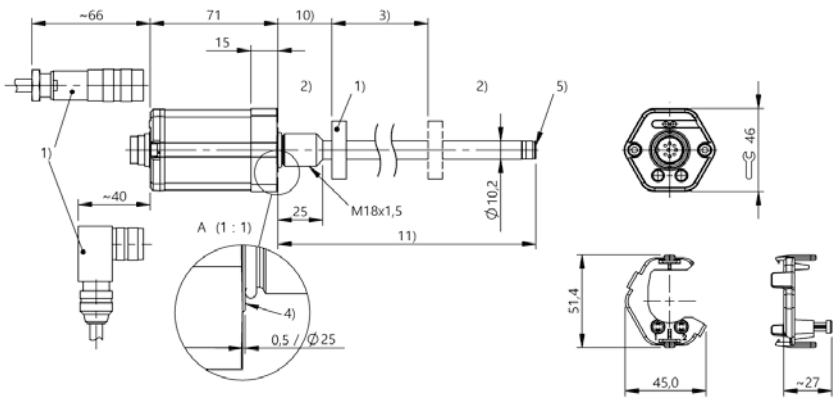
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

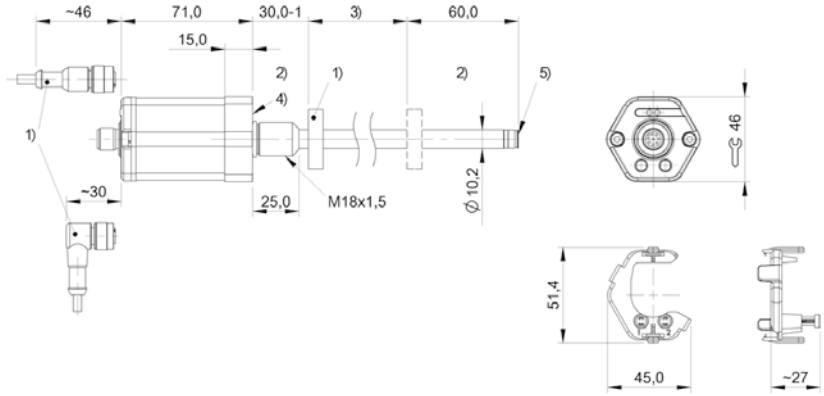
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-B-S32



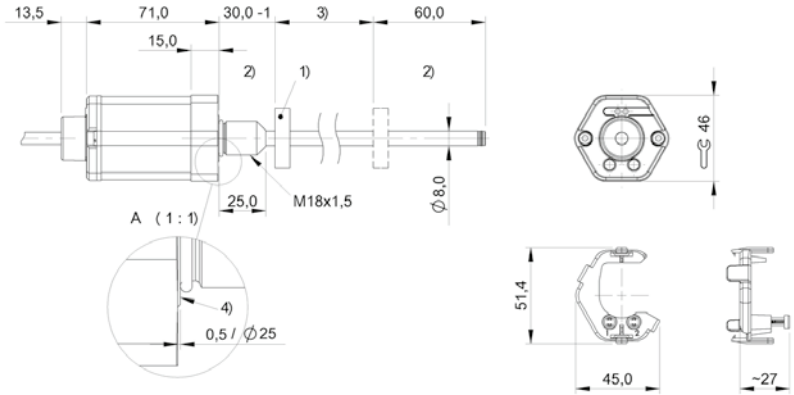
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C500-Mxxxx-A-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-B8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -A/B- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

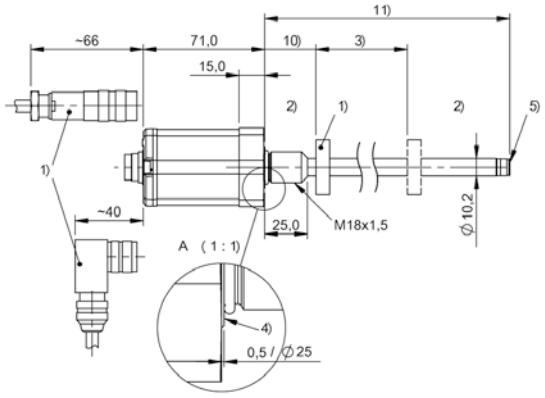
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

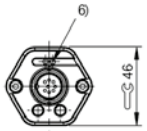
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

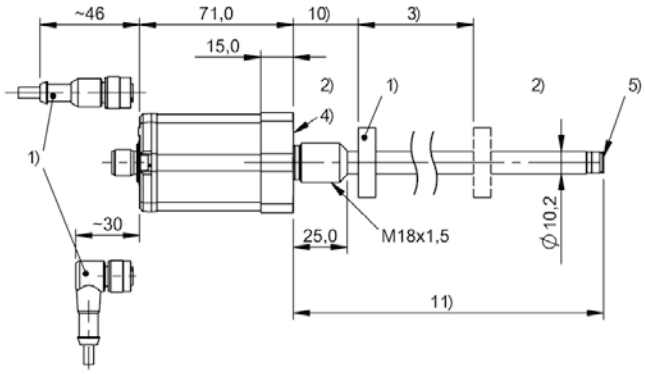
BTL7-P511-Mxxxx-B-S32

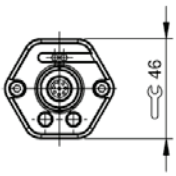




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

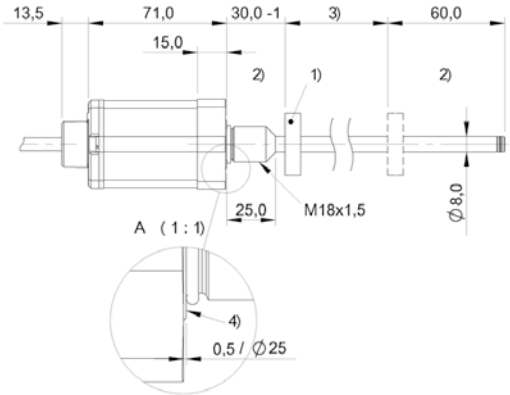
BTL7-P511-Mxxxx-A-S115

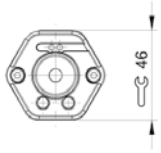




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-B8-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -A/B- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

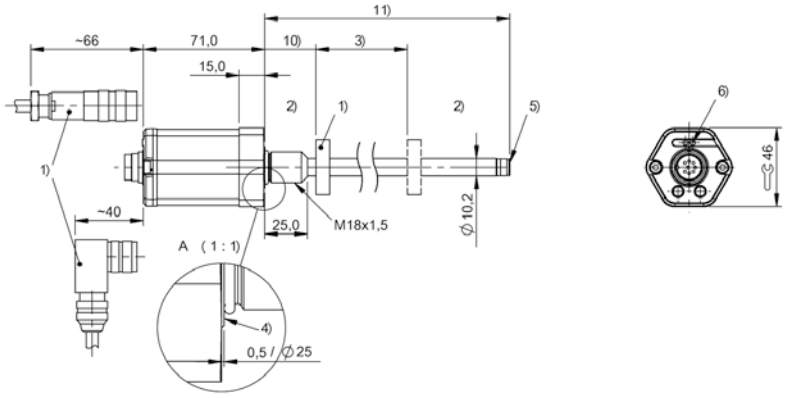
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

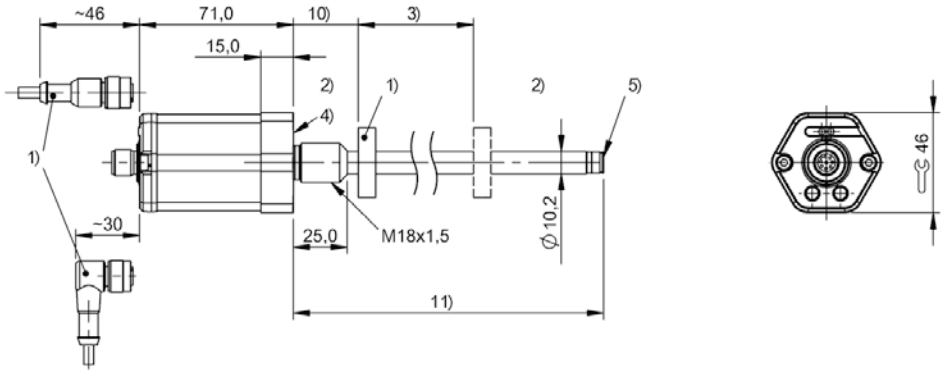
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-B-S32



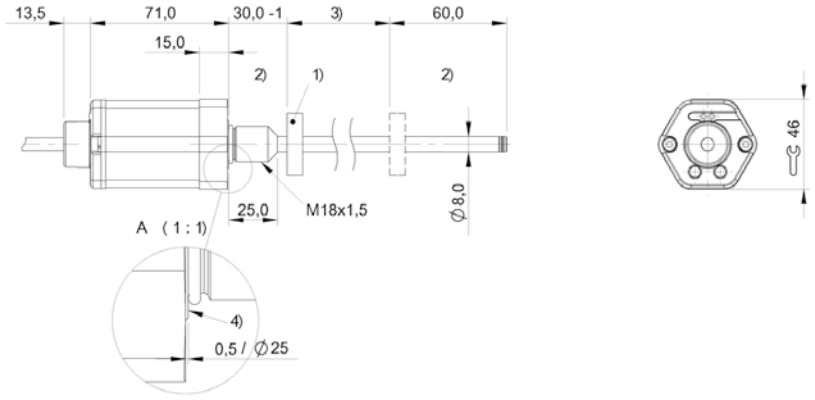
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-A-S115



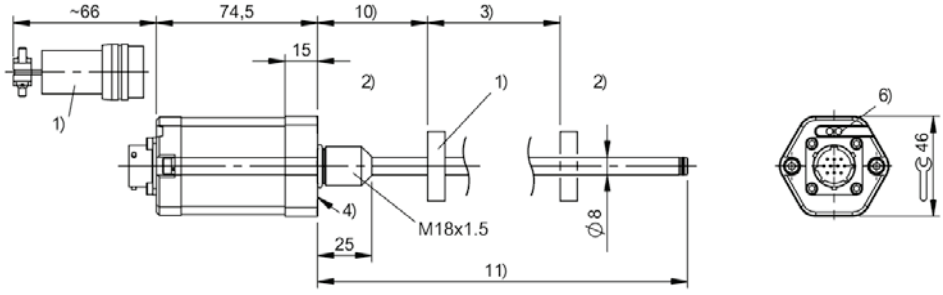
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-B8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

BTL7-S5xxx-Mxxxx-A8-S140



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL6 -A/B- SERIES - IO-LINK
Interface	IO-Link
Measuring length	25...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	± 50 µm
Operating voltage Ub	18...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
U = IO-Link

b Operating voltage
1 = 18 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode

d Interface characteristic 2
1 = COM3, 8 bytes inputs

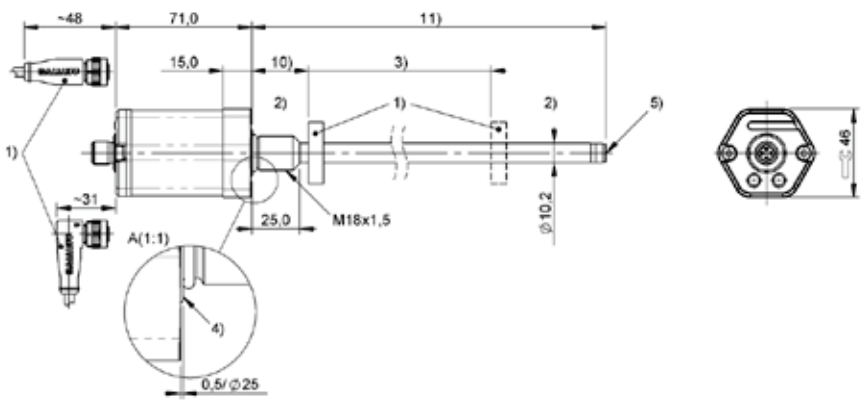
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M4572)

f Style
A = Mounting threads M18x1.5,
for flat seal
B = Mounting threads M18x1.5,
for O-Ring

l Connection type
S = Connector

m Connection type characteristic 1
4 = M12x1 connector with 4 pins

BTL6-U101-Mxxxx-B-S4



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL5 -A/B- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

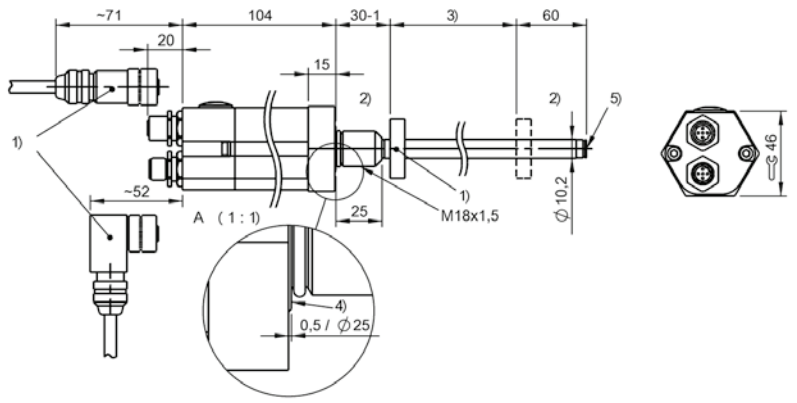
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

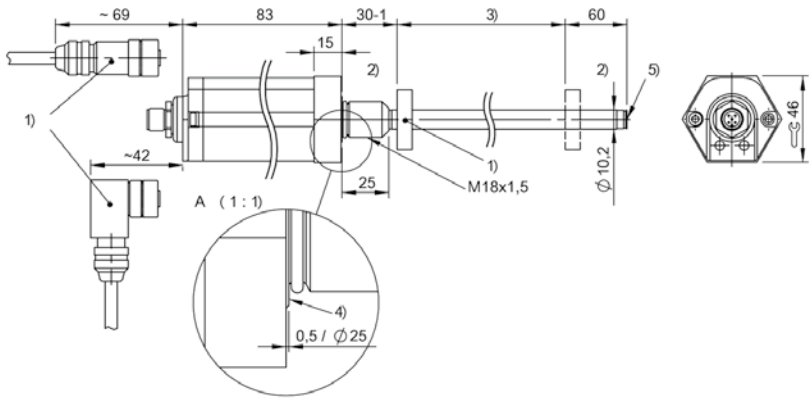
m Connection type characteristic
92 = 1 x M12x1 connector with 5 pins
94 = 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Hxxx-Mxxxx-B-S94



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Hxxx-Mxxxx-B-S92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -A/B- SERIES - PROFINET
Interface	Profinet
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
T = Profinet

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

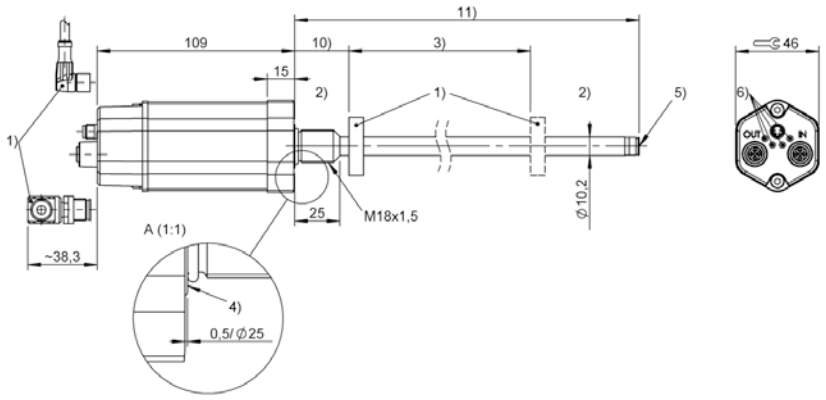
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

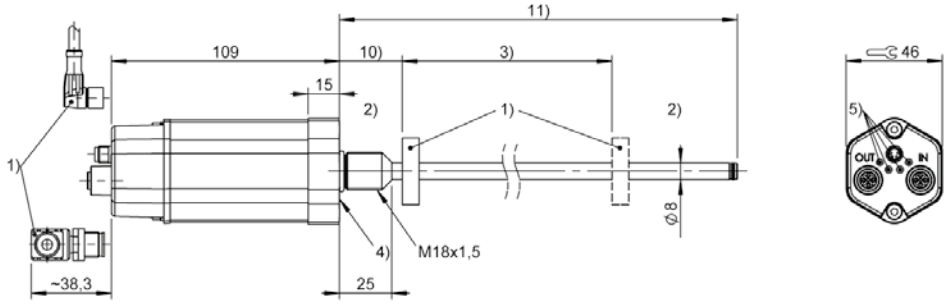
m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50T-Mxxxx-B-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50T-Mxxxx-A8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -A/B- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
D = EtherNet IP

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

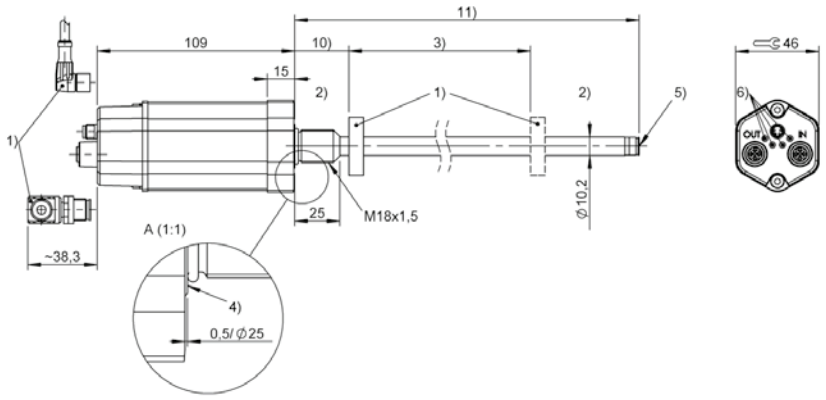
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

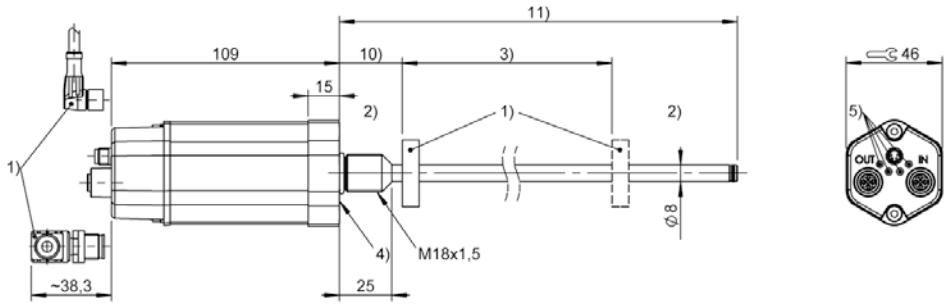
m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50D-Mxxxx-B-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50D-Mxxxx-A8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -A/B- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode
(1 - 16 magnets)

d Interface characteristic 2
E = EtherCAT

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

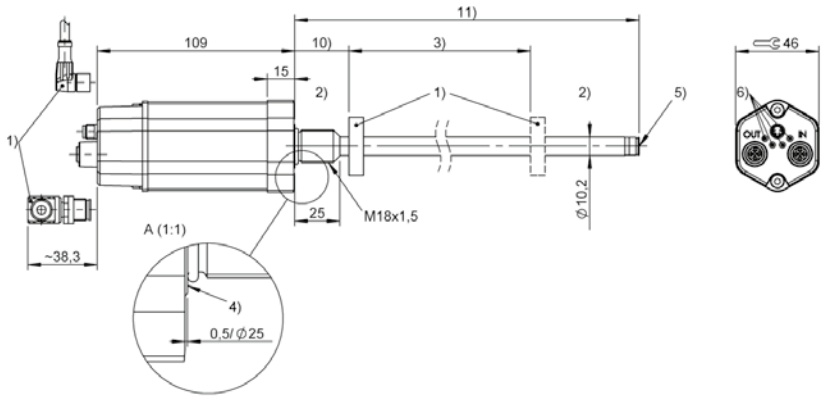
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

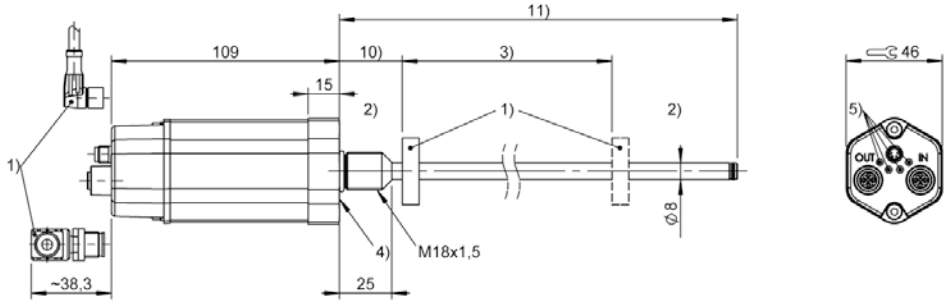
m Connection type characteristic
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50E-Mxxxx-B-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50E-Mxxxx-A8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL5 -A/B- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	—
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
T = Profibus

b Operating voltage
1 = 20 … 28 V

c + d Interface characteristic 1 + 2
10 = 1 magnet
(1 - 4 magnets can be set)

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

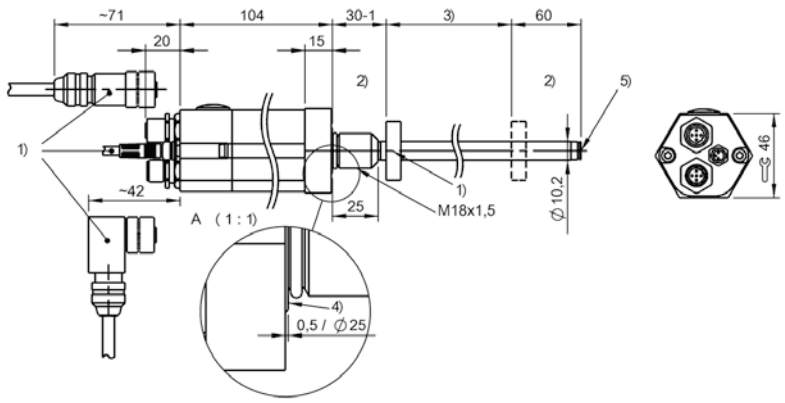
f Style
A = Mounting threads M18x1.5, f or flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic
103 = 1 x M8x1 connector with 3 pins + 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-B-S103



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL6 -A/B- SERIES - VARAN
Interface	Varan
Measuring length	25...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet

d Interface characteristic 2
E = Varan

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M4012: for rod diameter 10.2 mm)

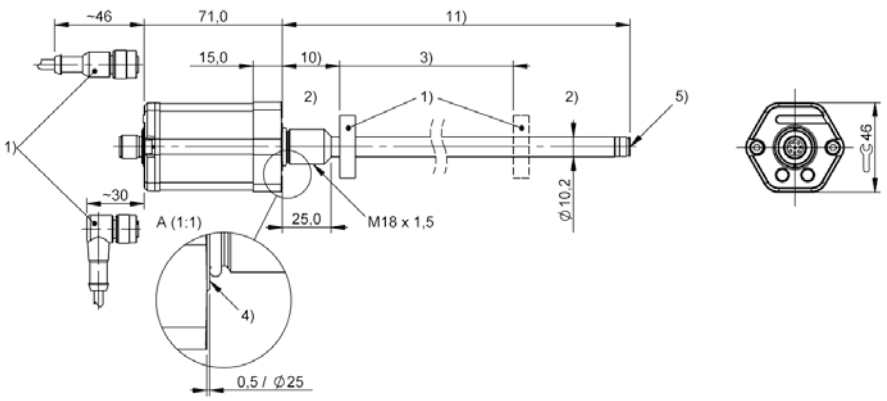
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL-V11V-Mxxxx-B-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -BE/BF- SERIE - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

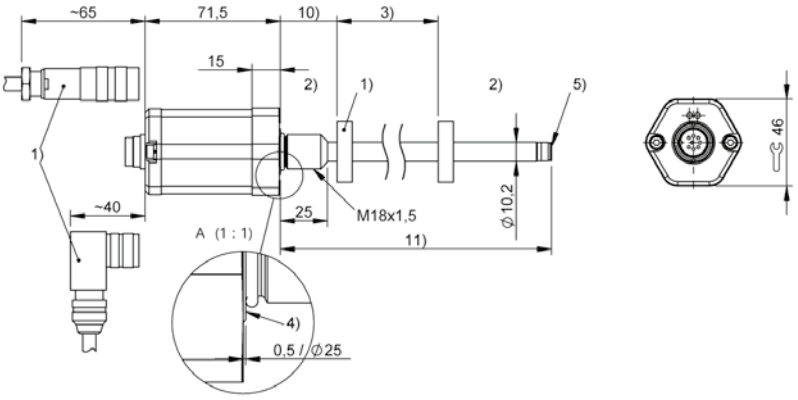
f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

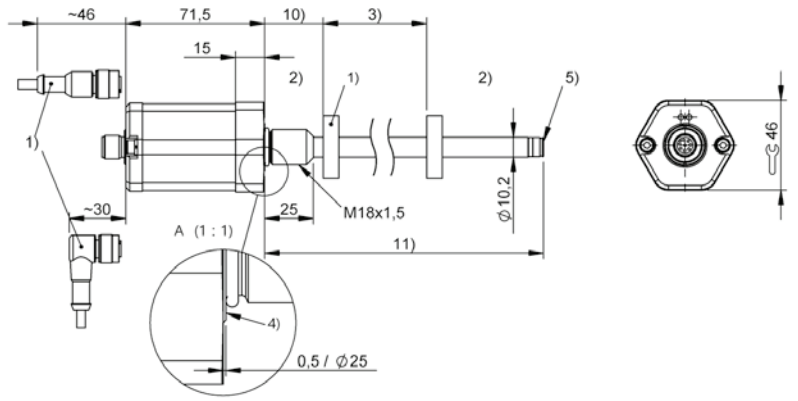
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-BE-S32



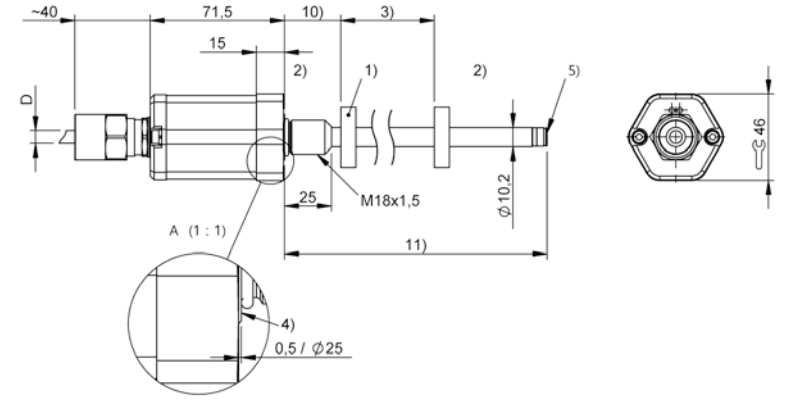
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-BE-S115



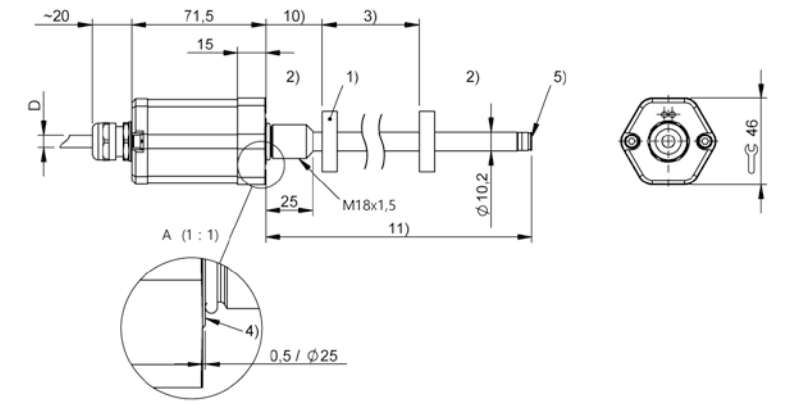
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-BF-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-BE-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -BE/BF- SERIE - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

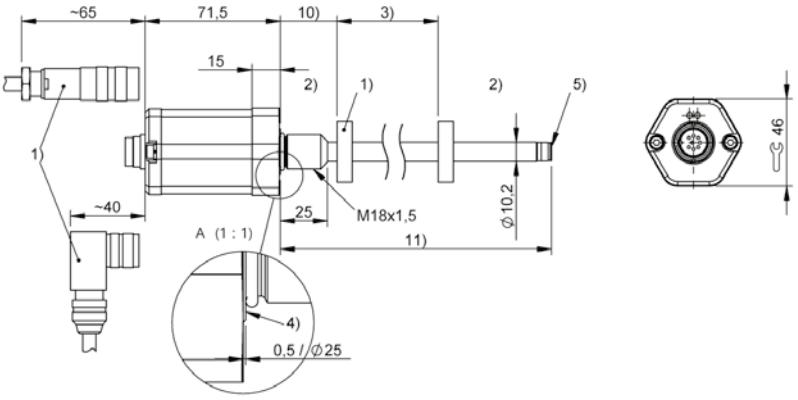
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins

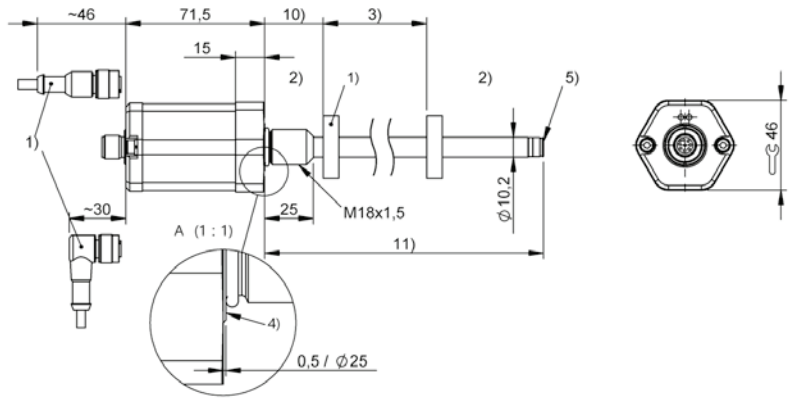
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510-Mxxxx-BE-S32



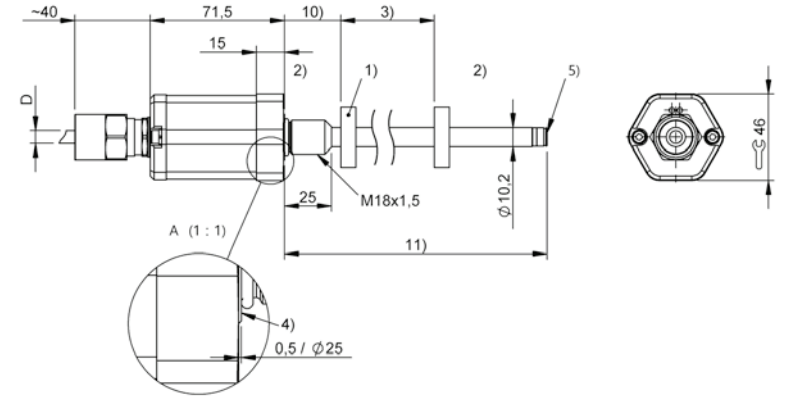
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xx-Mxxxx-BE-S115



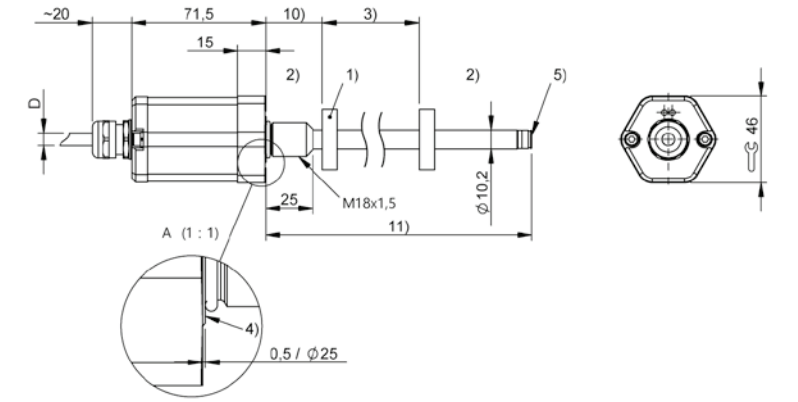
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xx-Mxxxx-BF-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xx-Mxxxx-BE-FA/KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -Y/Z- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, 1x each rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

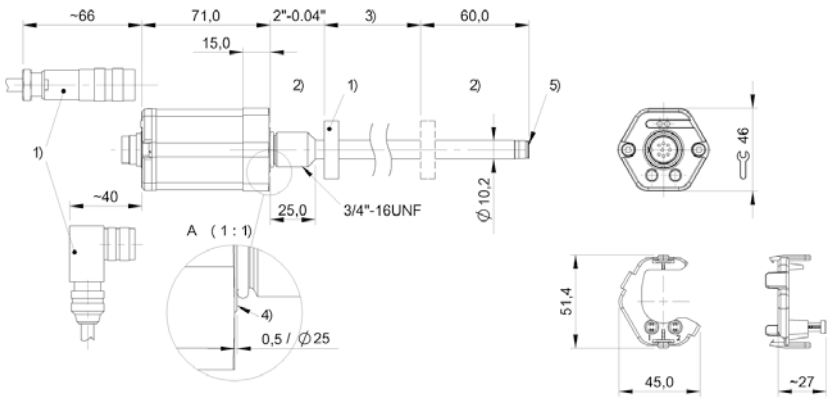
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin

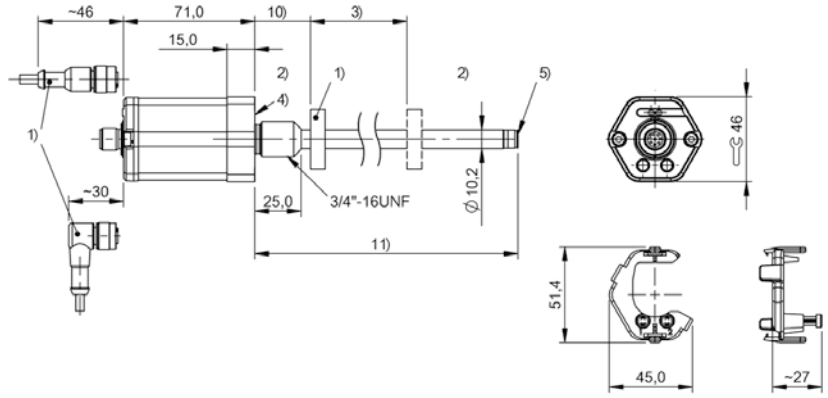
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-Z-S32



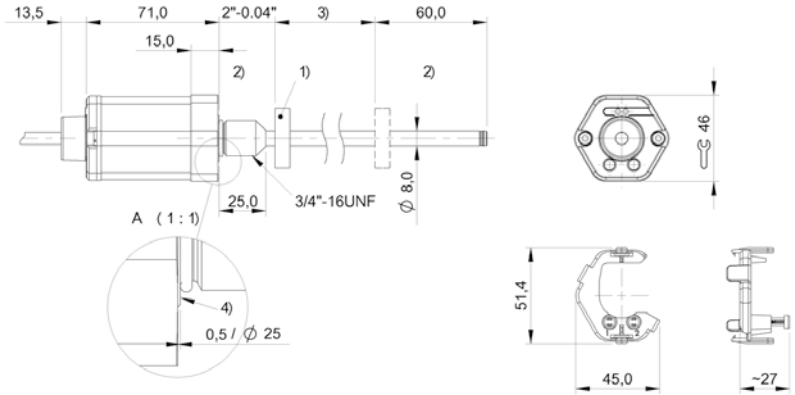
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-G510-Mxxxx-Y-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-Z8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Y/Z- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, 1x each rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

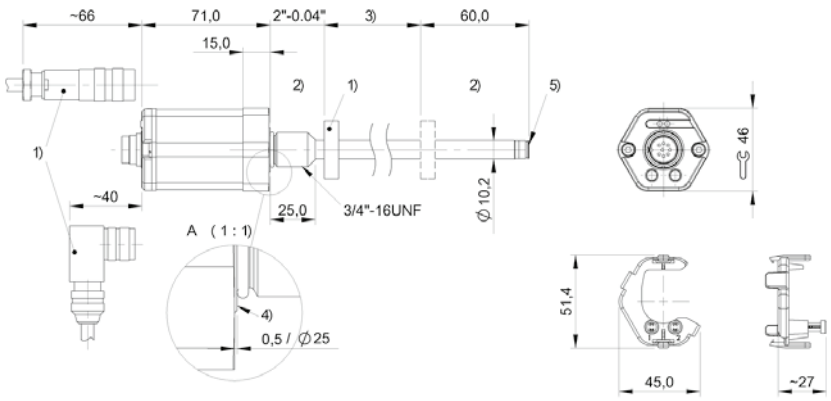
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

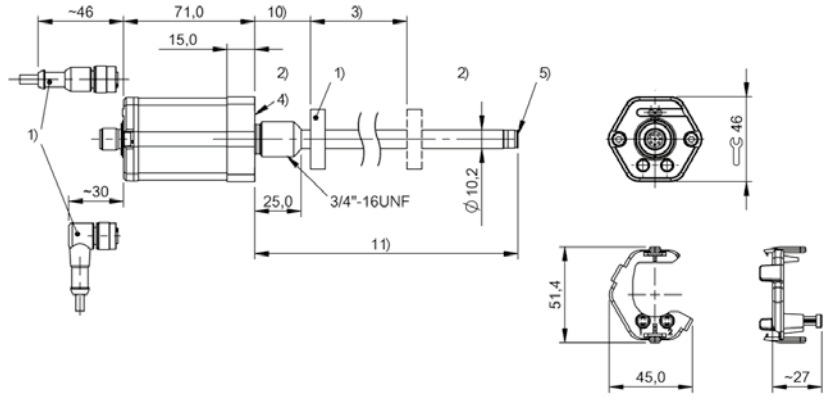
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x1 connector with 6 pins
140 = MS, 10-pin
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-Z-S32



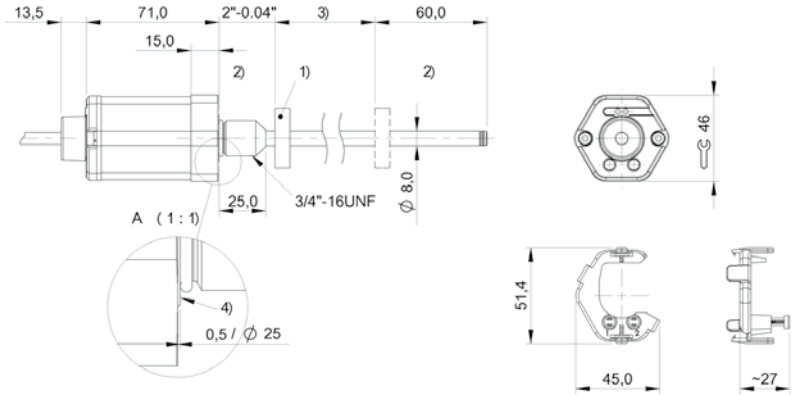
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-C500-Mxxxx-Y-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-Z8-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Y/Z- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

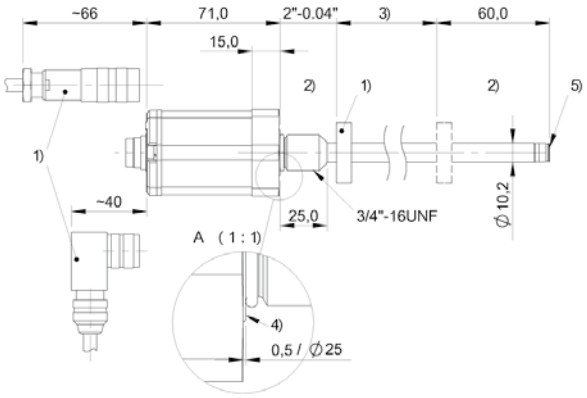
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

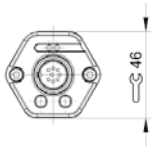
l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins

for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

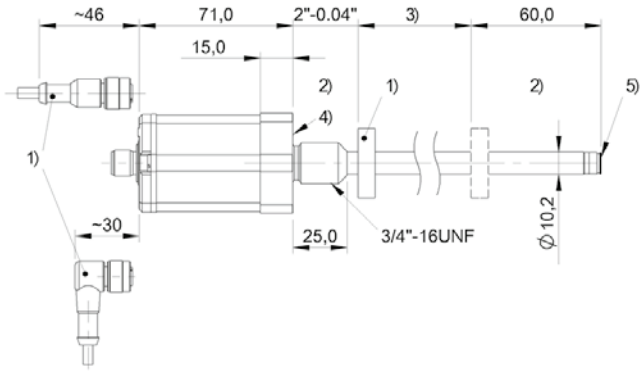
BTL7-P511-Mxxxx-Z-S32

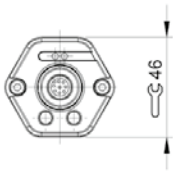




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

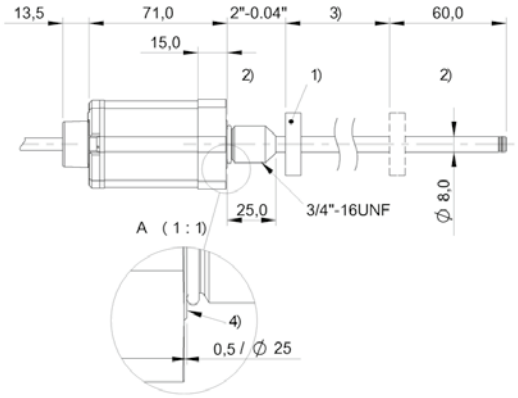
BTL7-P511-Mxxxx-Y-S115

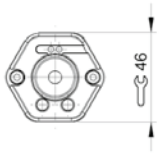




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-Z8-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Y/Z- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 25…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S AND m ≠ 140: IP67 with connector l = S AND m = 140: IP65 with connector l = KA, FA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

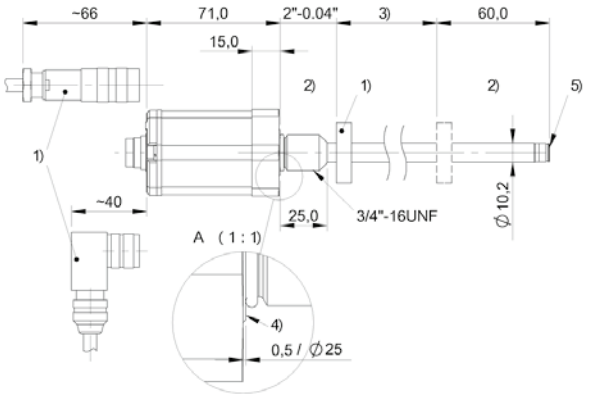
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

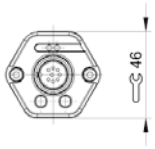
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

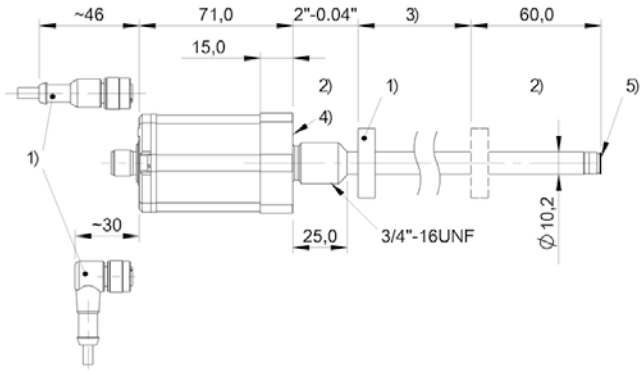
BTL7-S510x-Mxxxx-Z-S32

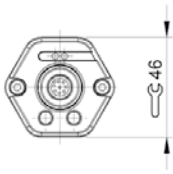




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

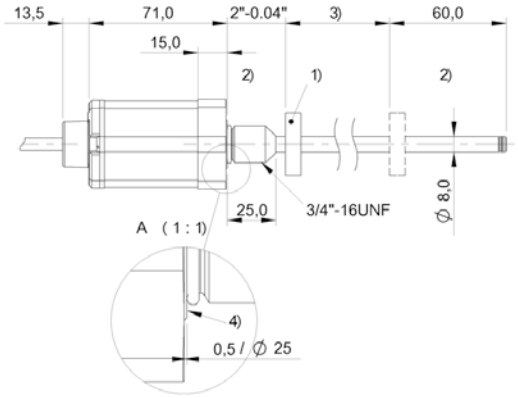
BTL7-S5xxx-Mxxxx-Y-S115

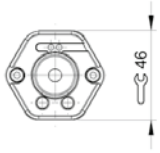




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

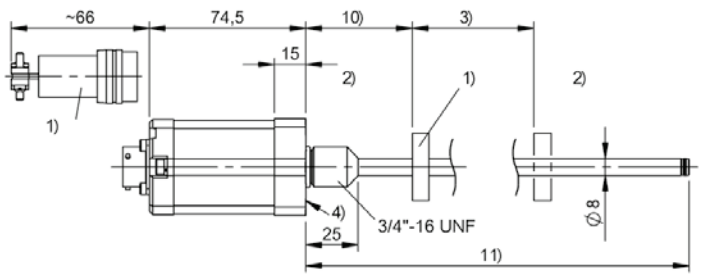
BTL7-S5xxx-Mxxxx-Z8-KAxx

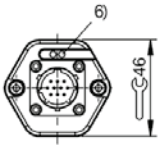




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

BTL7-S5xxx-Mxxxx-Y8-S140





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL6 -Y/Z- SERIES - IO-LINK
Interface	IO-Link
Measuring length	25...4572 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	± 50 µm
Operating voltage Ub	18...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-f-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
U = IO-Link

b Operating voltage
1 = 18 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode

d Interface characteristic 2
1 = COM3, 8 bytes inputs

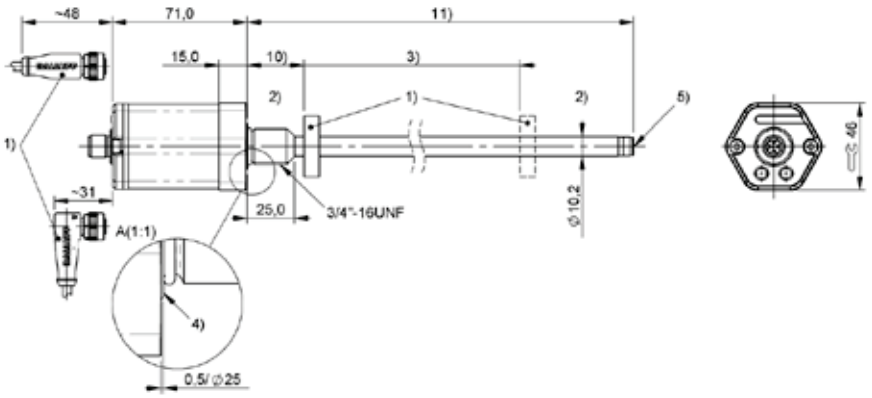
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M4572)

f Style
Y = Inch threads 3/4“-16UNF,
for flat seal
Z = Inch threads 3/4“-16UNF,
for O-Ring

l Connection type
S = Connector

m Connection type characteristic 1
4 = M12x1 connector with 4 pins

BTL6-U101-Mxxxx-Z-S4



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL5 -Y/Z- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	—
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

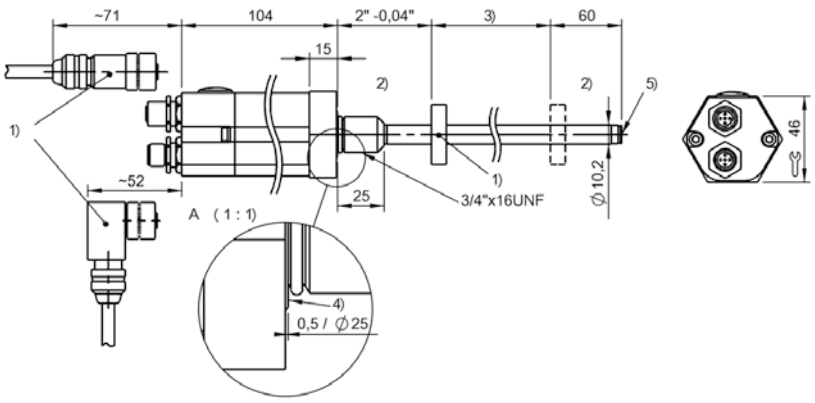
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

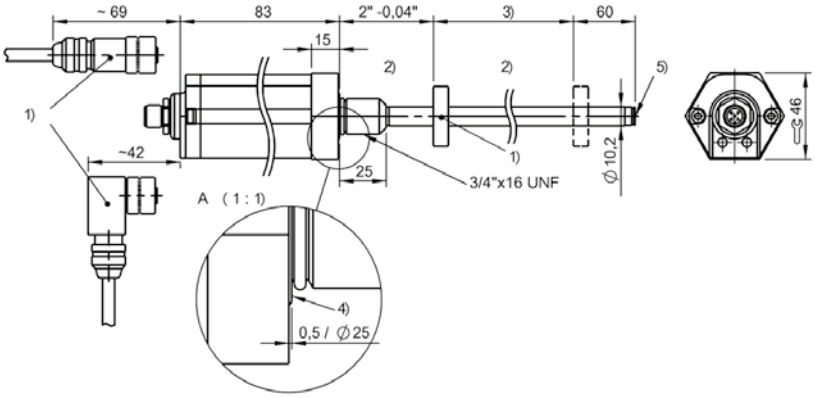
m Connection type characteristic
92 = 1 x M12x1 connector with 5 pins
94 = 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Hxxx-Mxxxx-Z-S94



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Hxxx-Mxxxx-Z-S92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -Y/Z- SERIES - PROFINET
Interface	Profinet
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
T = Profinet

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

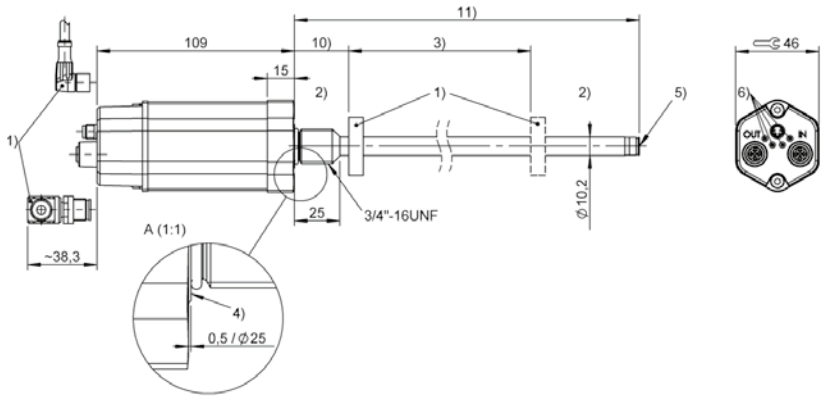
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

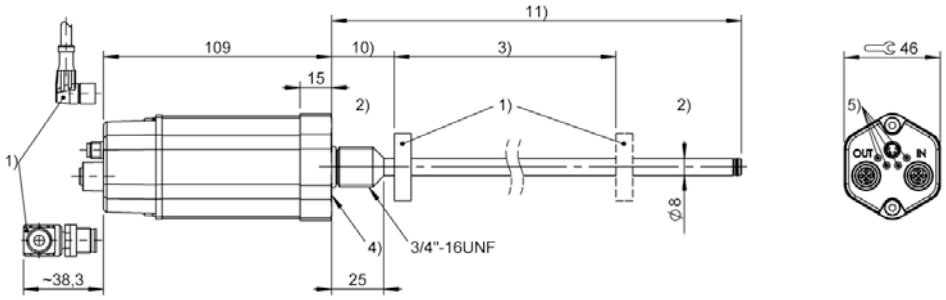
m Connection type characteristic 1
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50T-Mxxxx-Z-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50T-Mxxxx-Y8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -Y/Z- SERIES - ETHERNET/IP
Interface	Ethernet/IP
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
D = EtherNet IP

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

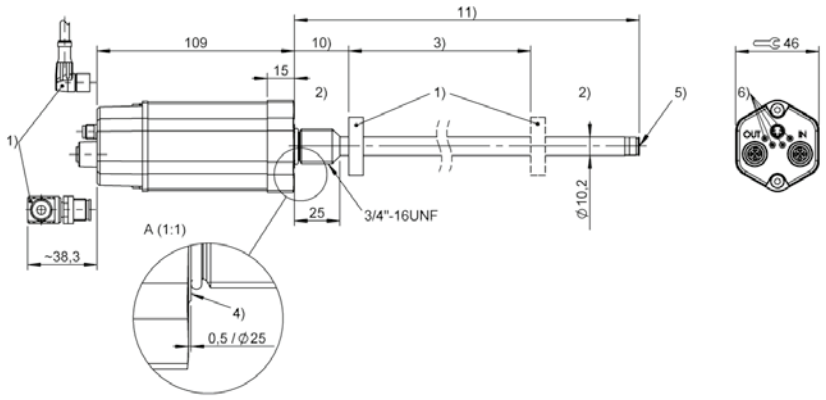
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

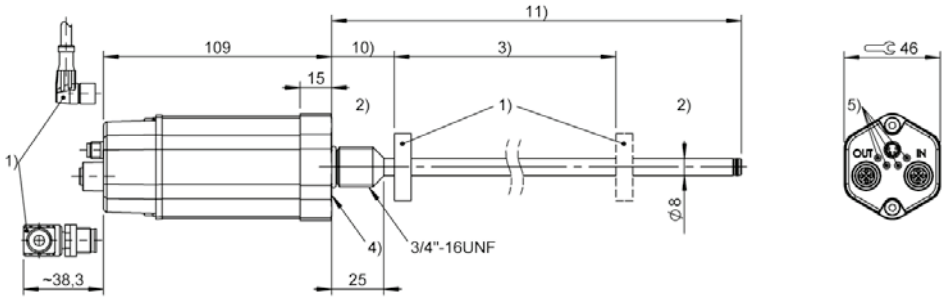
m Connection type characteristic 1
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50D-Mxxxx-Z-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50D-Mxxxx-Y8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL7 -Y/Z- SERIES - ETHERCAT
Interface	EtherCAT
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
V = EtherNet

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = Flexible Magnet Mode (1 - 16 magnets)

d Interface characteristic 2
E = EtherCAT

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

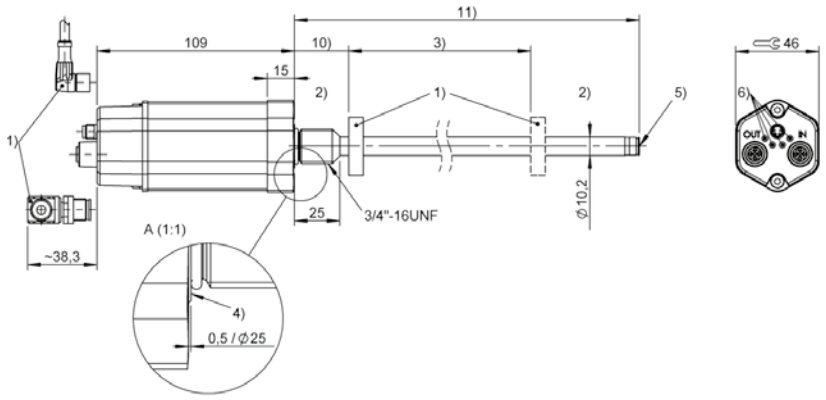
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
C = Connector

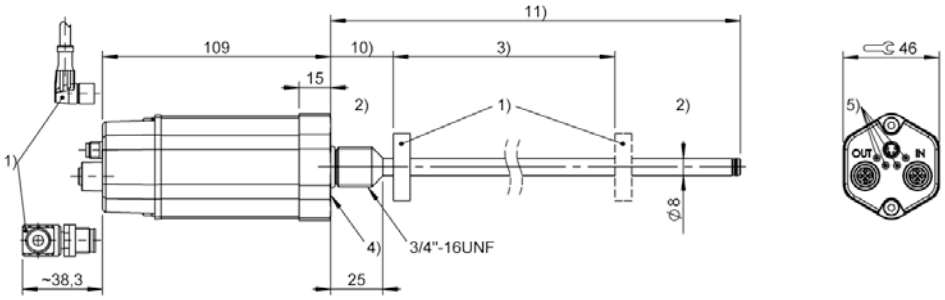
m Connection type characteristic 1
003 = 1 x M8x1 with 4 pins + 2 x M12x1 with 4 pins

BTL7-V50E-Mxxxx-Z-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-V50E-Mxxxx-Y8-C003



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) LED function indicator
10) Null point
11) Installation length

	BTL5 -Y/Z- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...4000 mm
Repeat accuracy	—
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
T = Profibus

b Operating voltage
1 = 20 … 28 V

c + d Interface characteristic 1 + 2
10 = 1 magnet (1 - 4 magnets can be set)

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

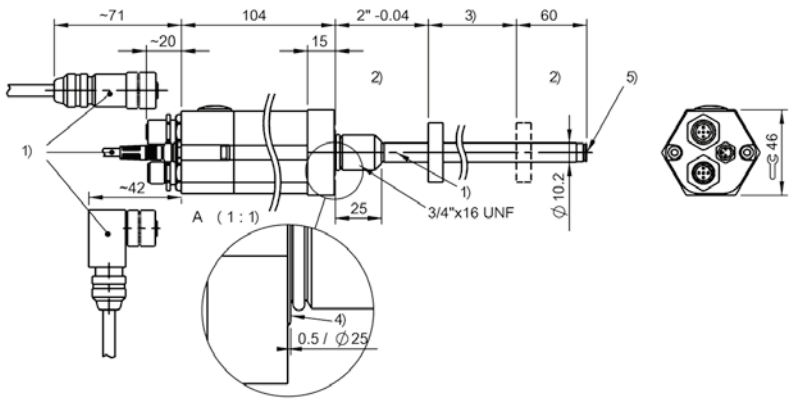
f Style
Y = Inch threads 3/4“-16UNF, f or flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic
103 = 1 x M8x1 connector with 3 pins + 1 x M12x1 connector with 5 pins + 1 x M12x1 female with 5 pins

BTL5-Txxx-Mxxxx-Z-S103



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL6 -Y/Z- SERIES - VARAN
Interface	Varan
Measuring length	25...4012 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	0...70 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67 with connector
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor Generation 6

a interface
V = EtherNet

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet

d Interface characteristic 2
E = Varan

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M4012: for rod diameter 10.2 mm)

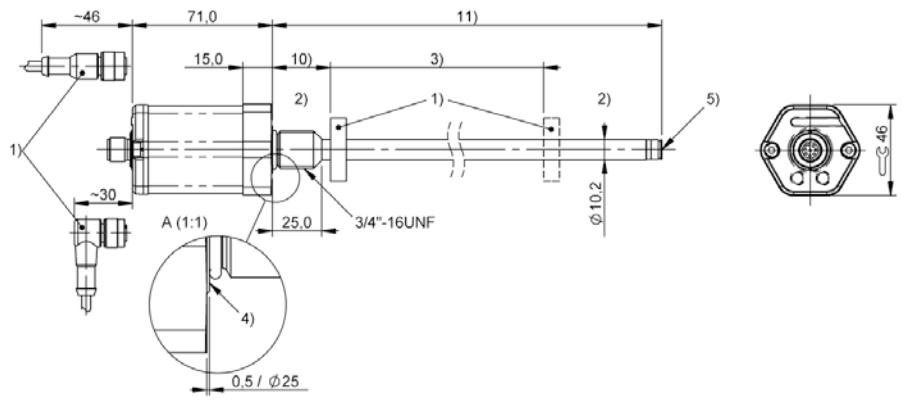
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector

m Connection type characteristic 1
115 = M12x1 connector with 8 pins

BTL-V11V-Mxxxx-Z-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL7 -ZE/ZF- SERIE - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

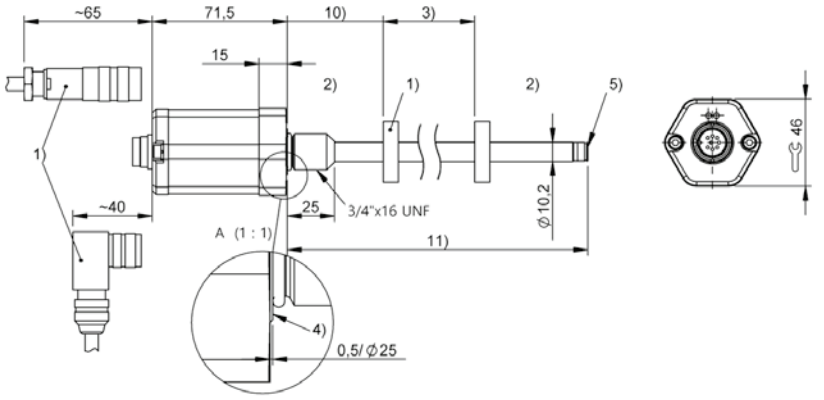
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

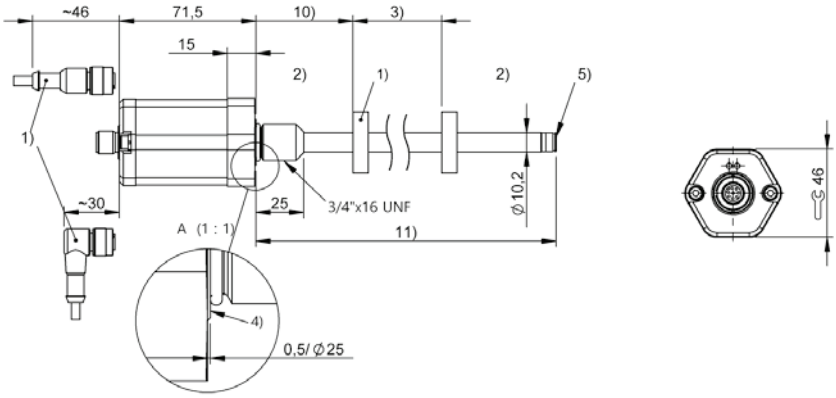
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-ZE-S32



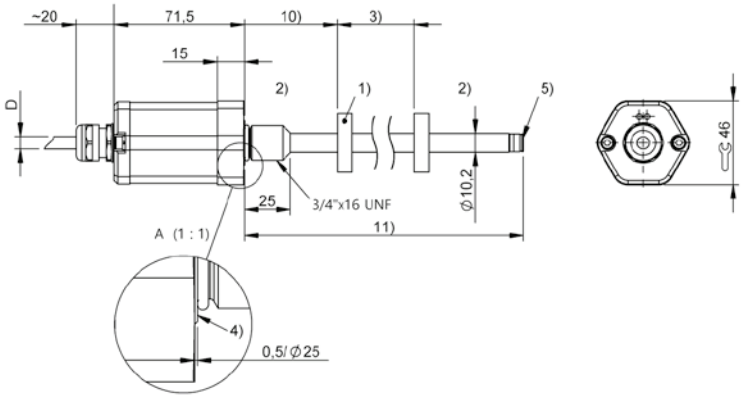
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-ZE-S115



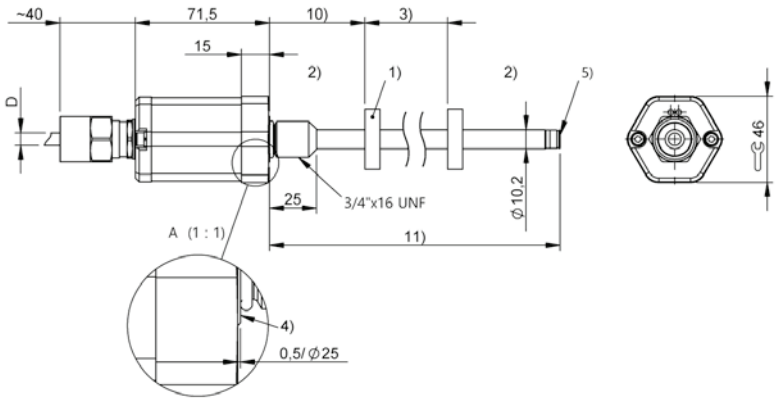
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-ZE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-ZF-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -ZE/ZF- SERIE - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 25…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

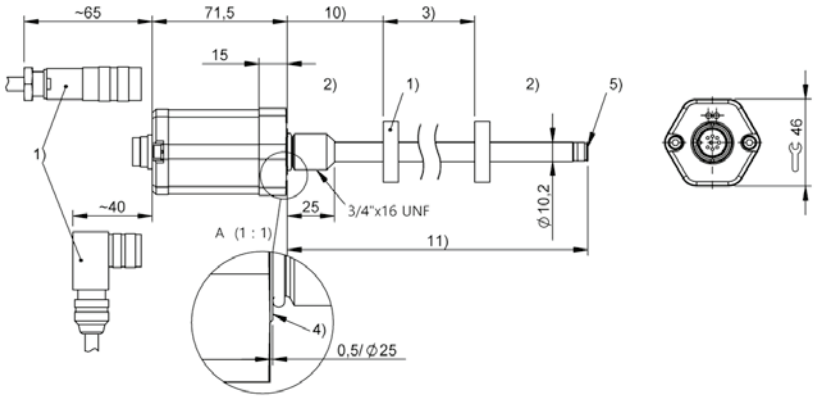
f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

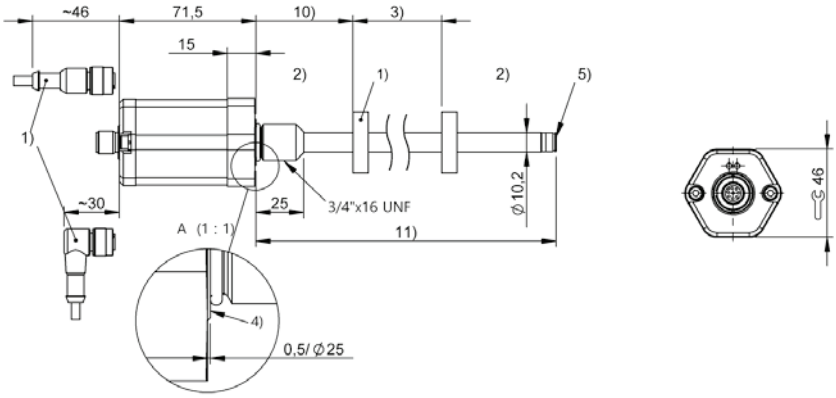
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
140 = MS, 10-pin
147 = M16x0.75 connector with 7 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-ZE-S32



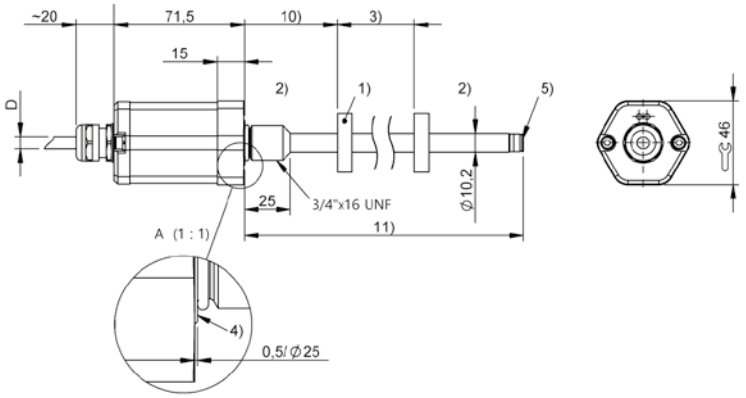
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-ZE-S115



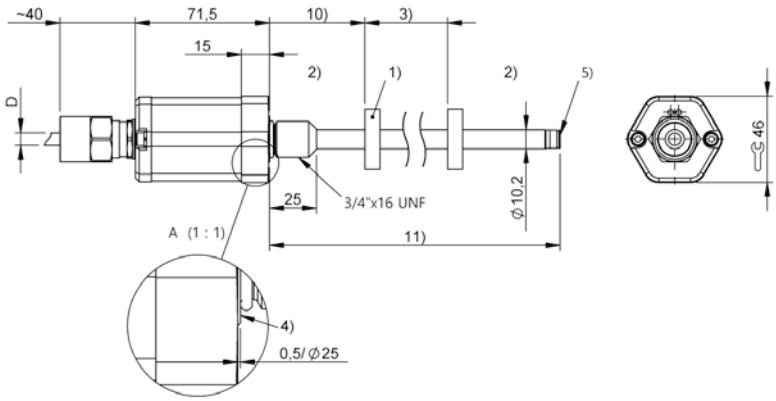
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-ZE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-ZF-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -CD- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...2000 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2000: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
1 = 20 … 28 V
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

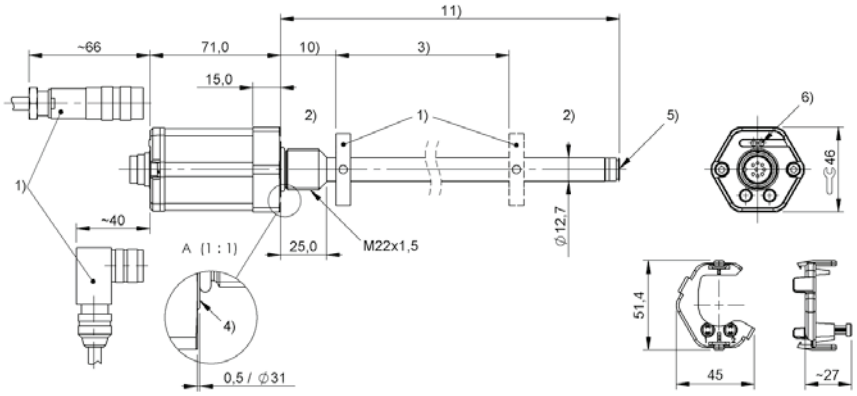
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

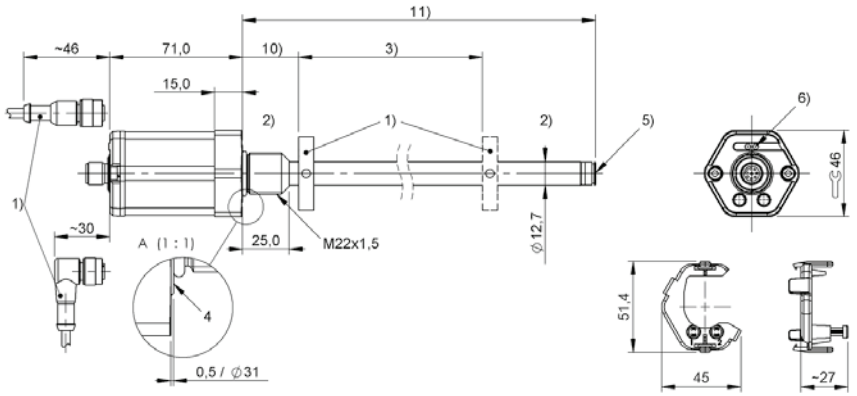
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-CD-S32



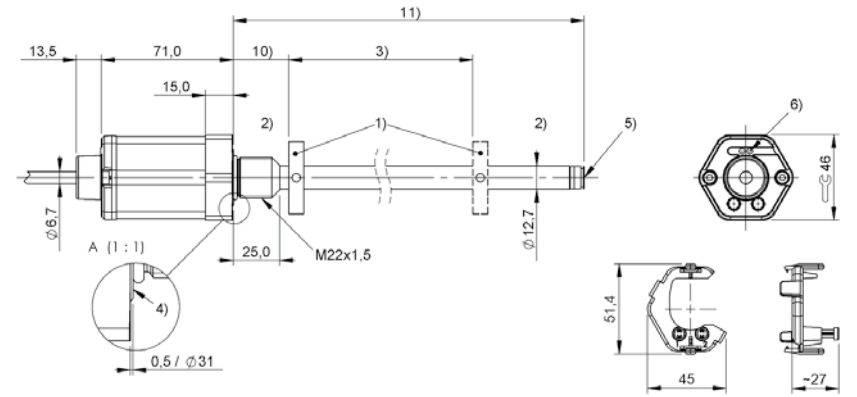
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-G510-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-A510-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...2000 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2000: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

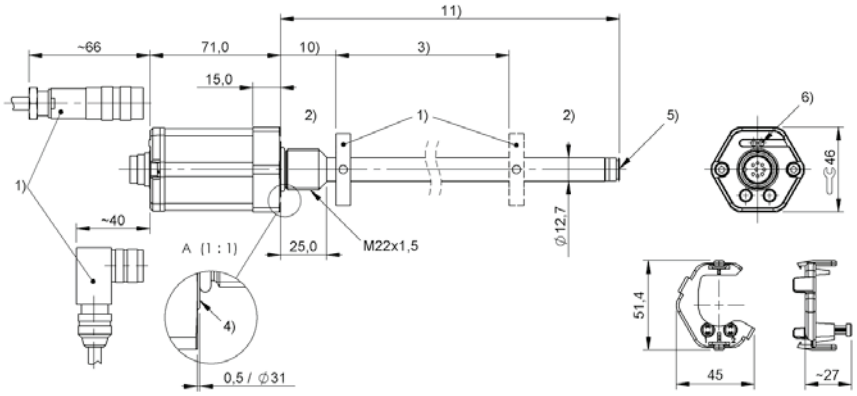
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

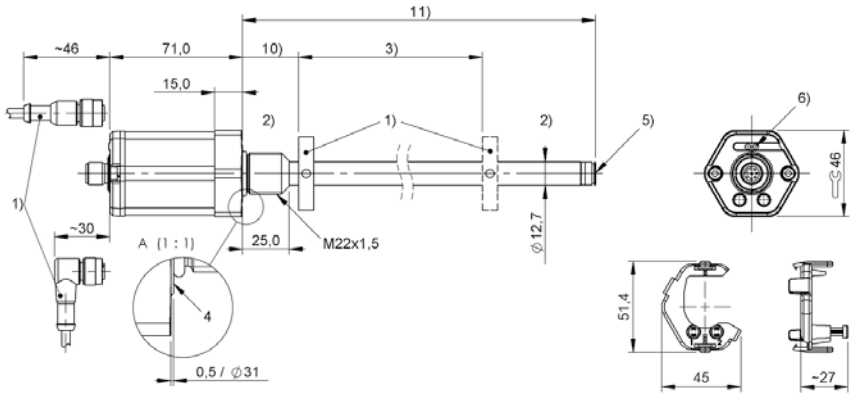
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-CD-S32



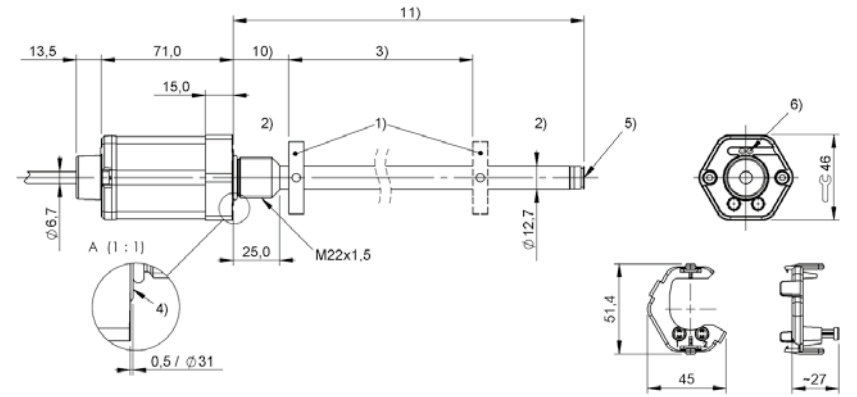
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-C500-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-E570-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…2000: ± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

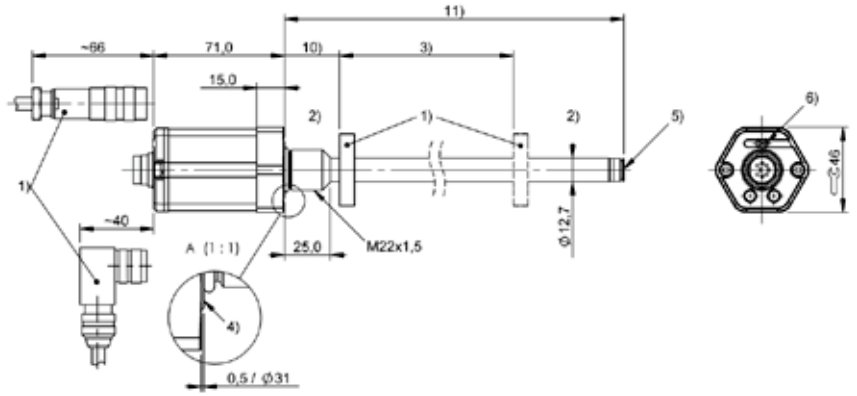
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

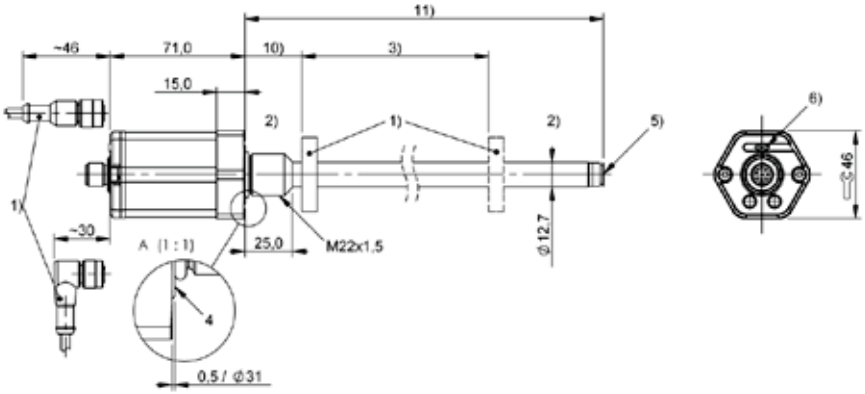
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-CD-S32



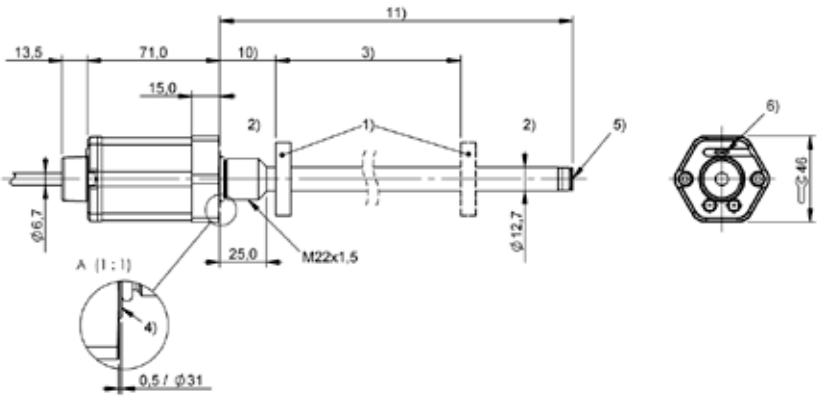
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD- SERIES - SSI
Interface	SSI
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

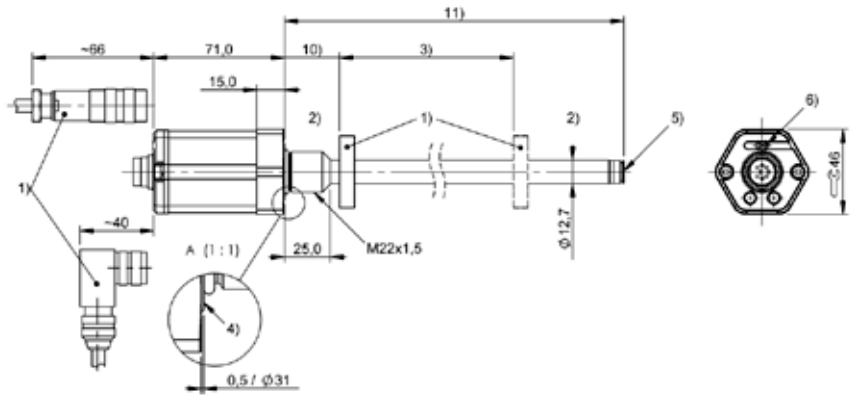
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

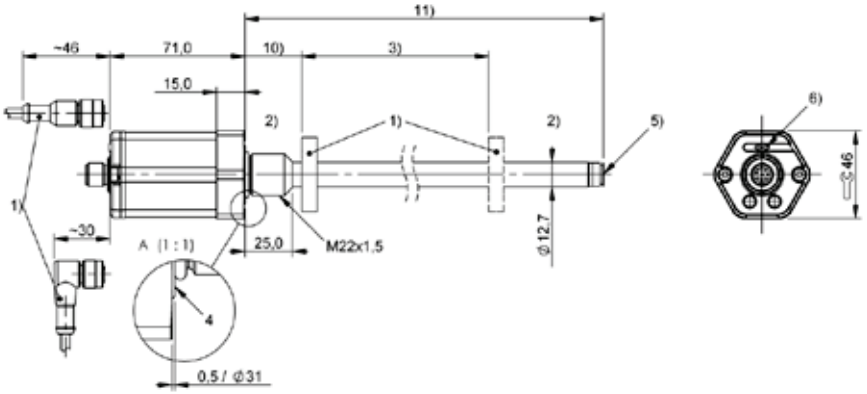
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-CD-S32



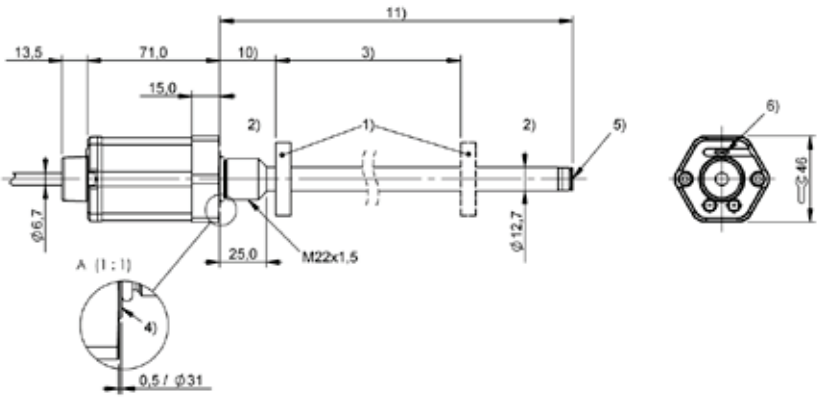
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CE- SERIE - DIGITAL
Interface	Digital pulse
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…2000: ± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

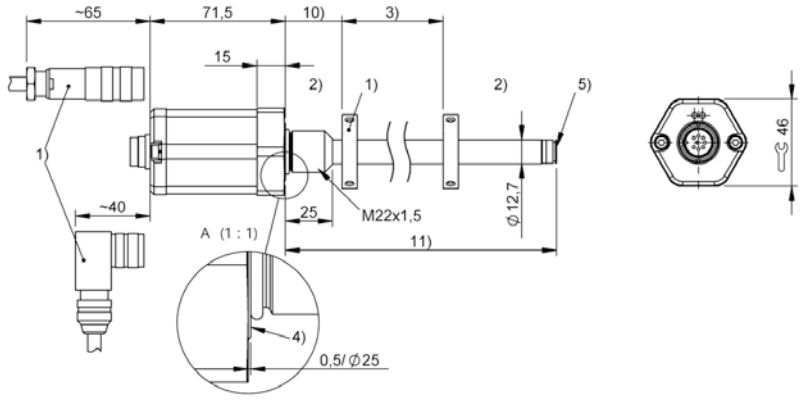
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, f or O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

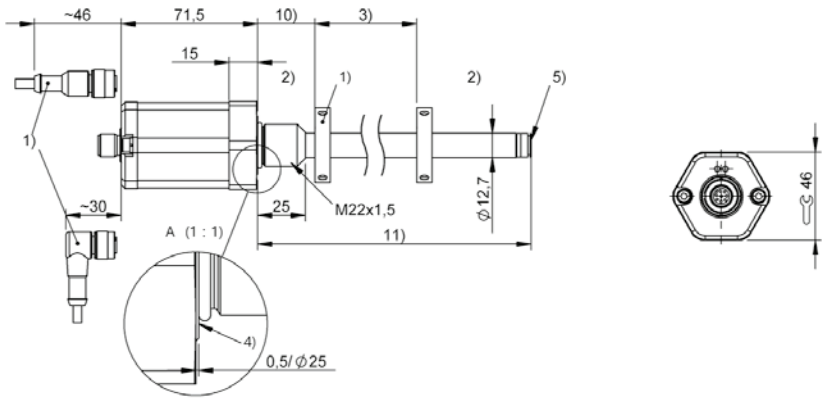
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-P511-Mxxxx-CE-S32



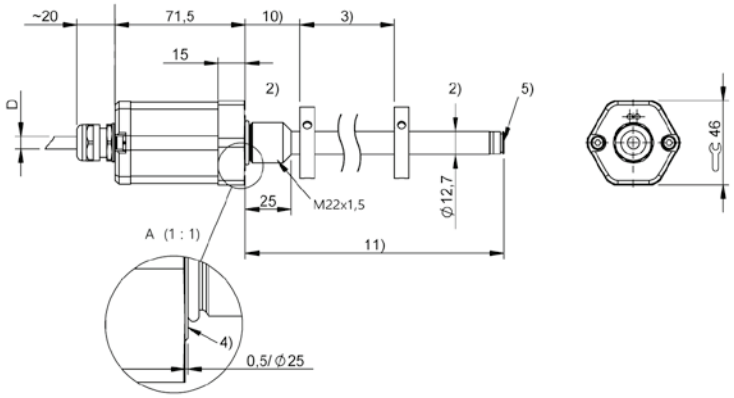
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-CE-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-CE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -CE- SERIE - SSI
Interface	SSI
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M22 threads
Housing material	Stainless steel (1.4404)
IP rating	IP69K
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

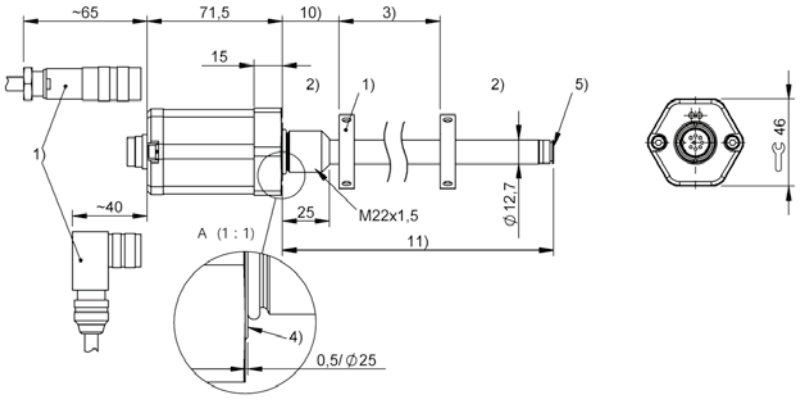
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

f Style
CD = Mounting threads M22x1.5, for O-Ring

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

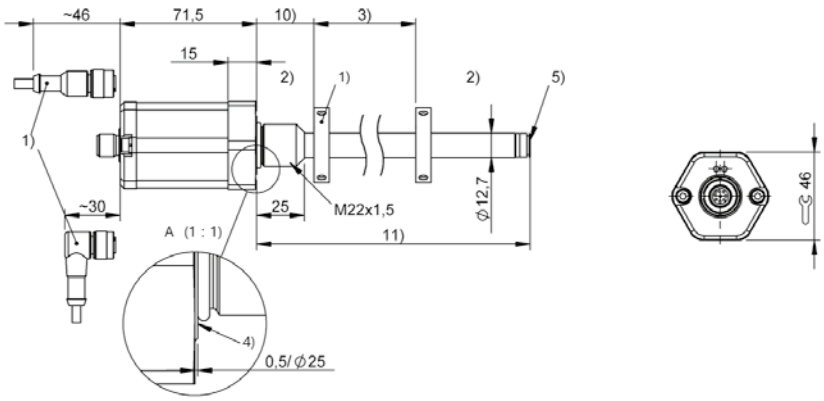
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510-Mxxxx-CE-S32



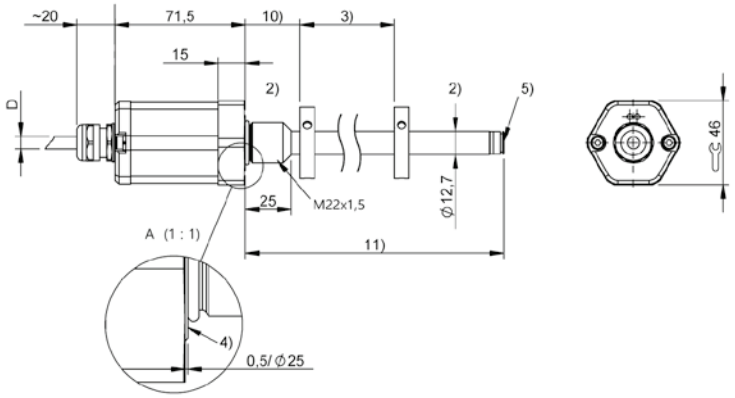
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xx-Mxxxx-CE-S115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xx-Mxxxx-CE-KA/FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

	BTL7 -H- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

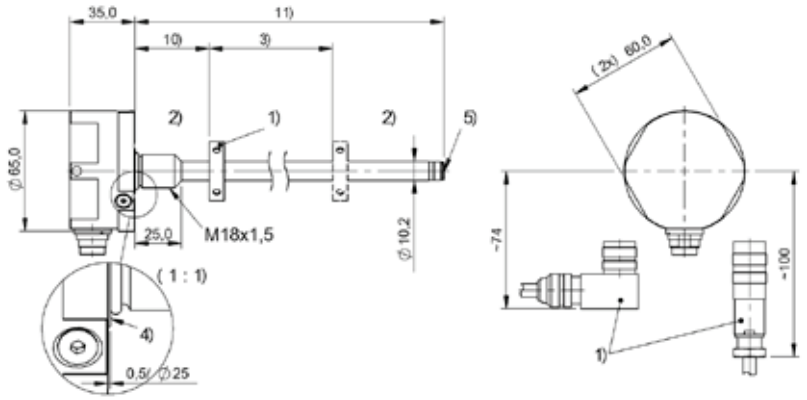
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

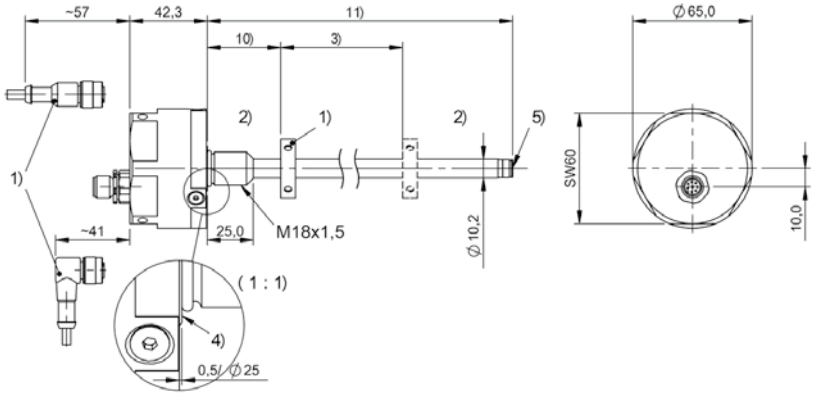
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-H-SR32



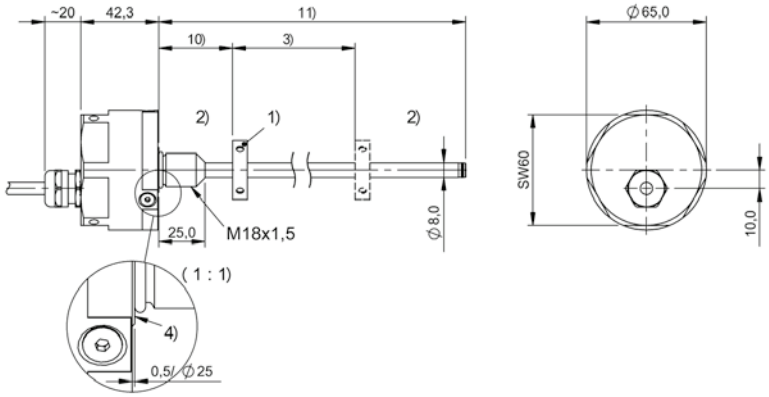
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-H-S115



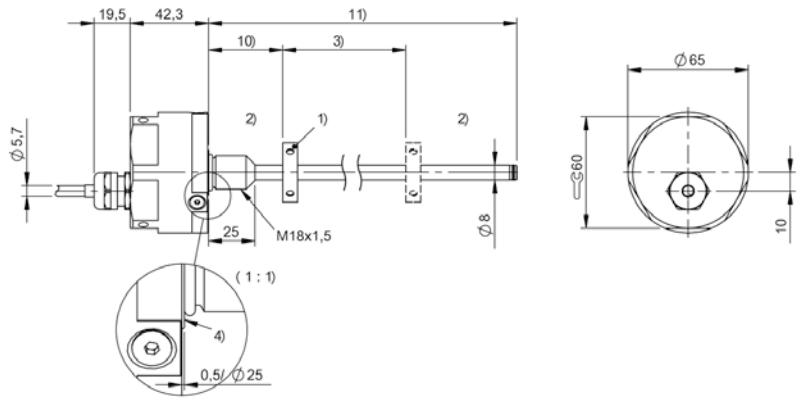
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-H8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-G510-Mxxxx-H8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -H- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

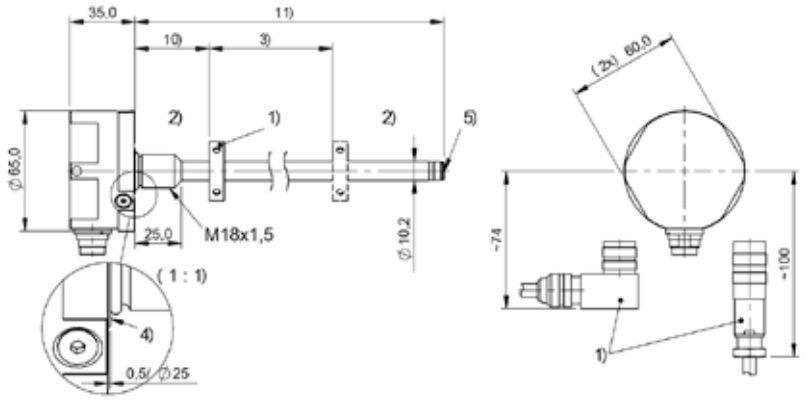
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

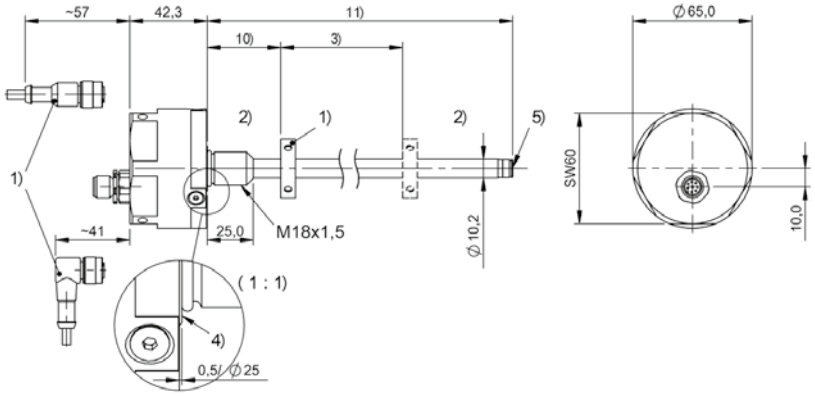
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-H-SR32



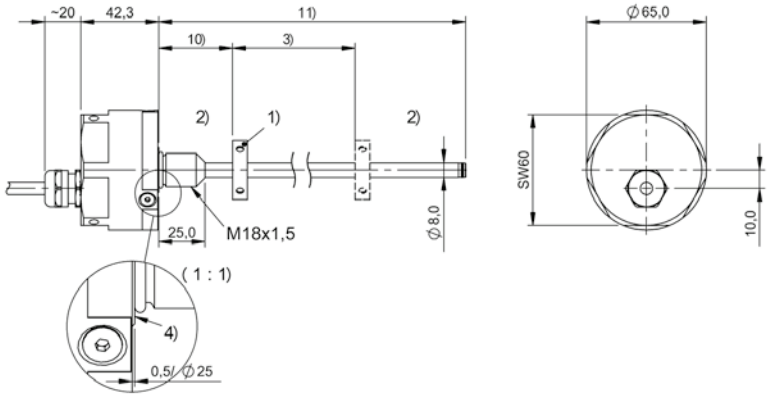
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-H-S115



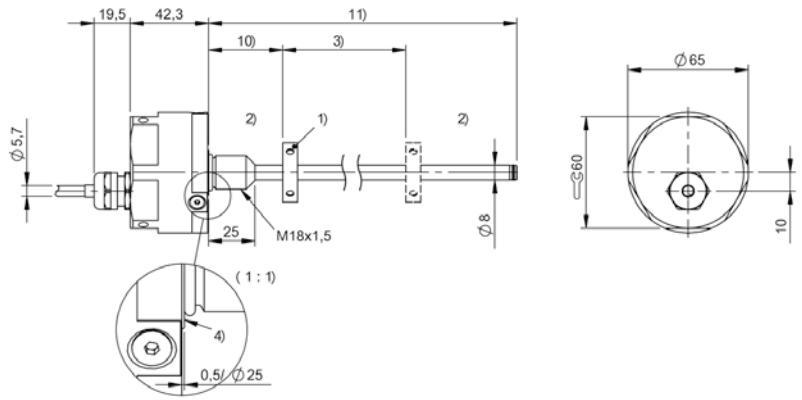
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-H8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-C500-Mxxxx-H8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -H- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

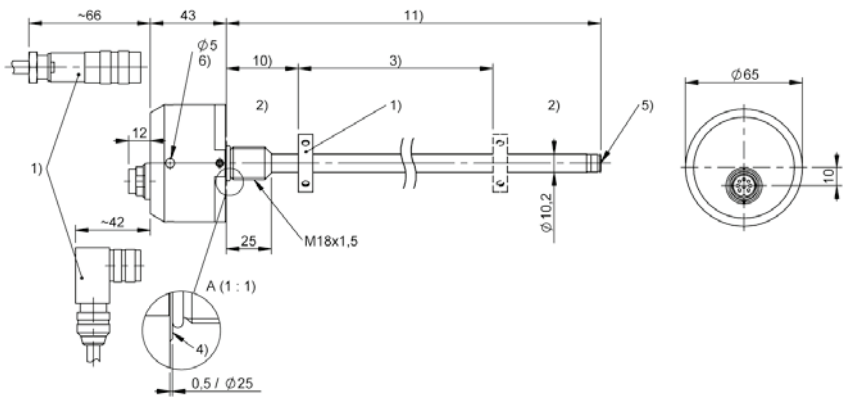
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

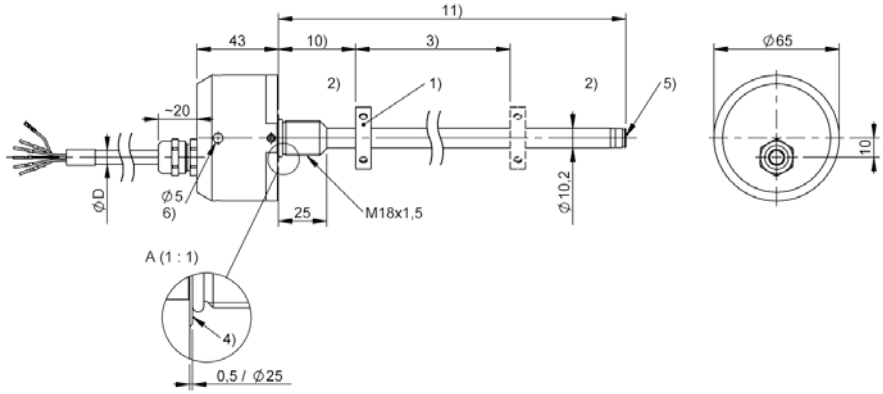
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-H-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-H-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -H- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

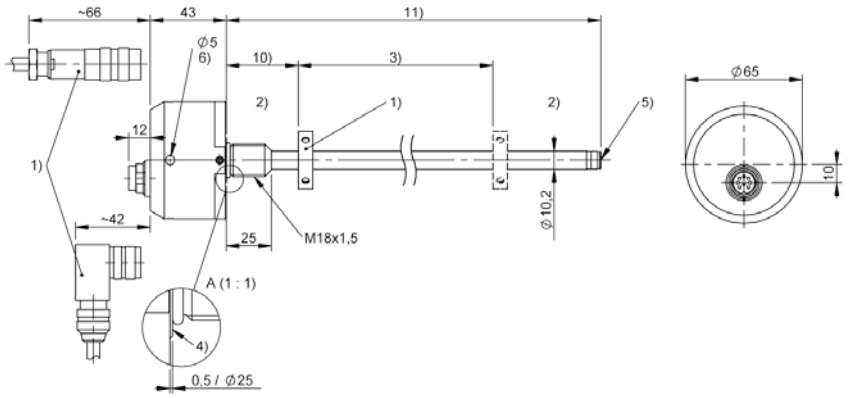
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

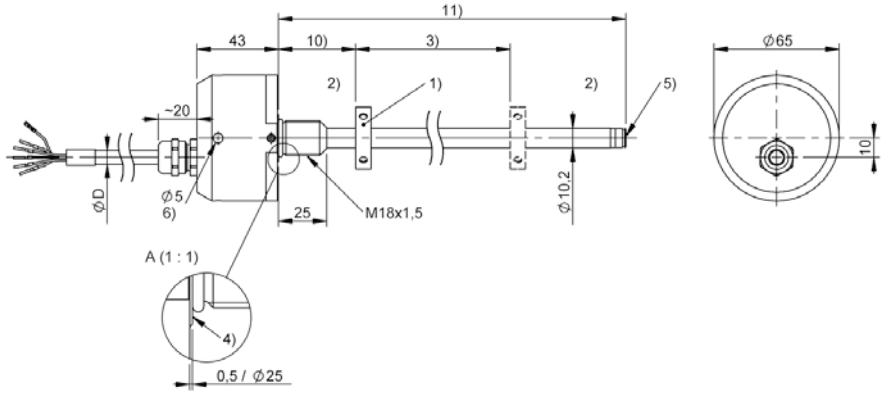
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-H-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-H-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -H- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

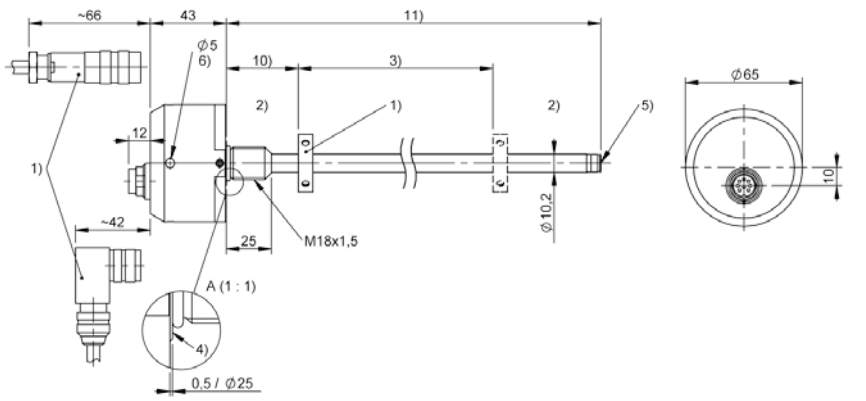
f Style
H = Compact rod, mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

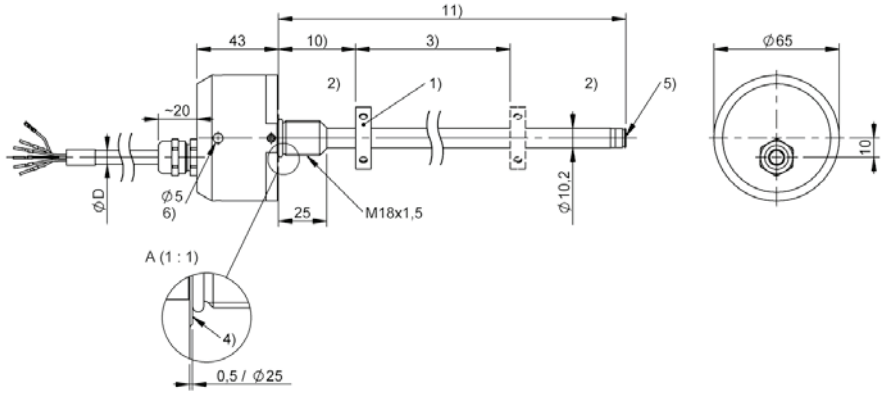
m Connection type characteristic
for connector:
92 = M12x1 connector with 5 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Hxxx-Mxxxx-H-SR92



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Hxxx-Mxxxx-H-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -W- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

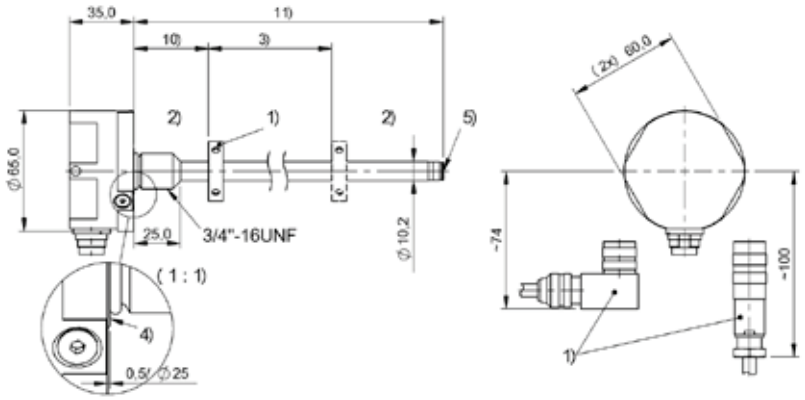
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

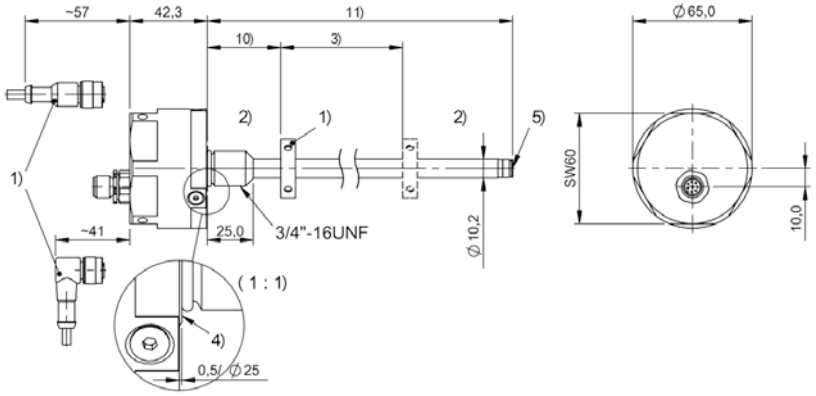
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-W-SR32



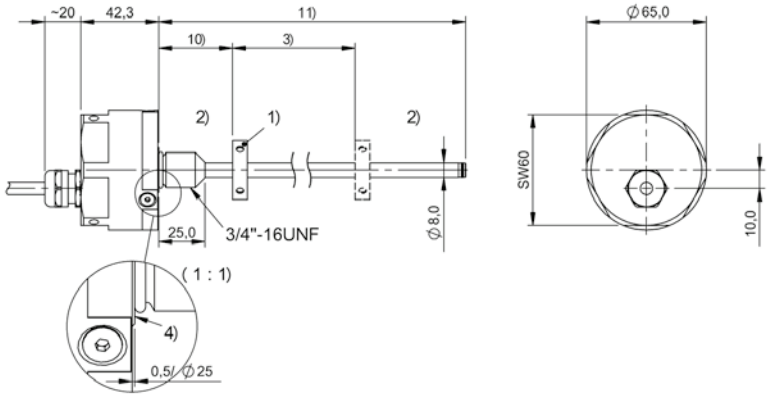
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-W-S115



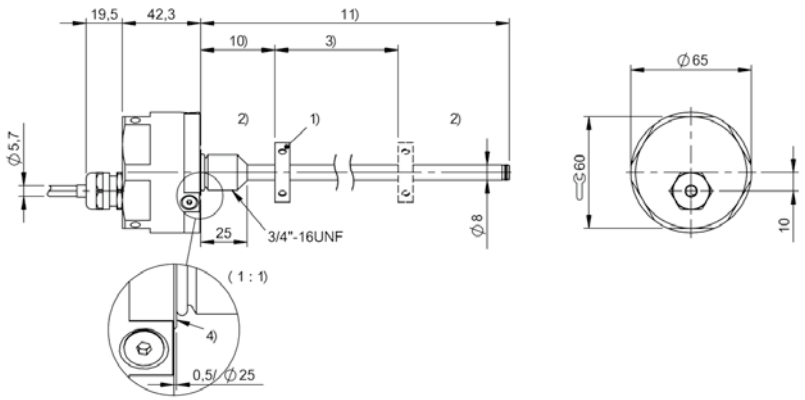
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-W8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-G510-Mxxxx-W8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -W- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S, SR: IP67 with connector l = K, KA, F, FA: IP68
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

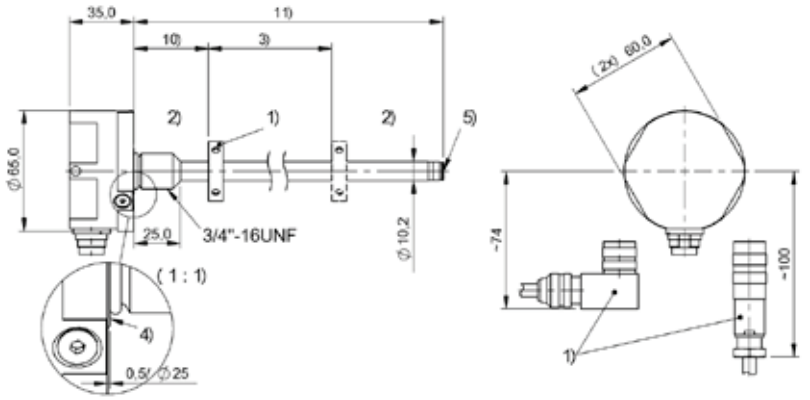
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins

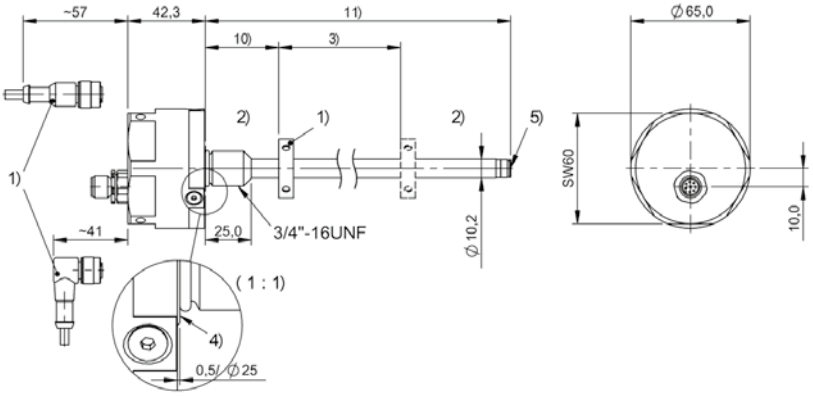
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-W-SR32



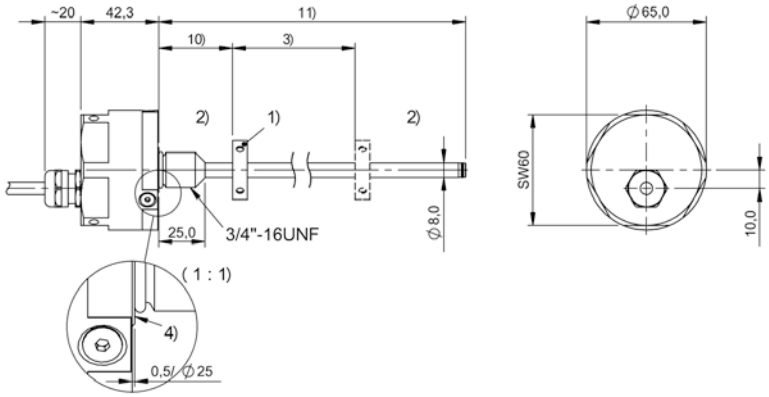
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-W-S115



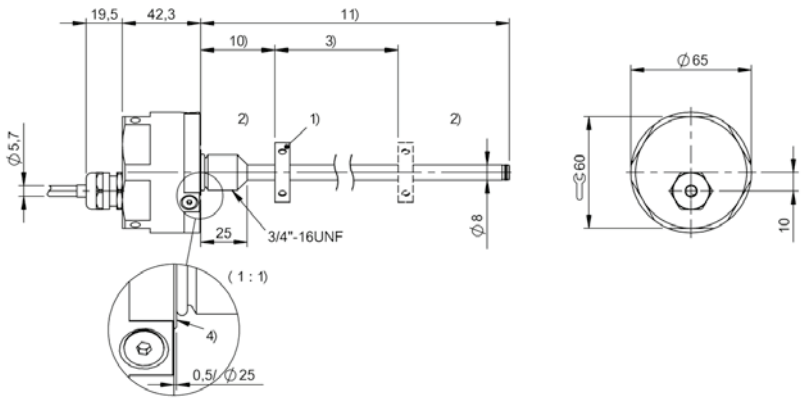
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-W8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-C500-Mxxxx-W8-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -W- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm (M0050…M4000)

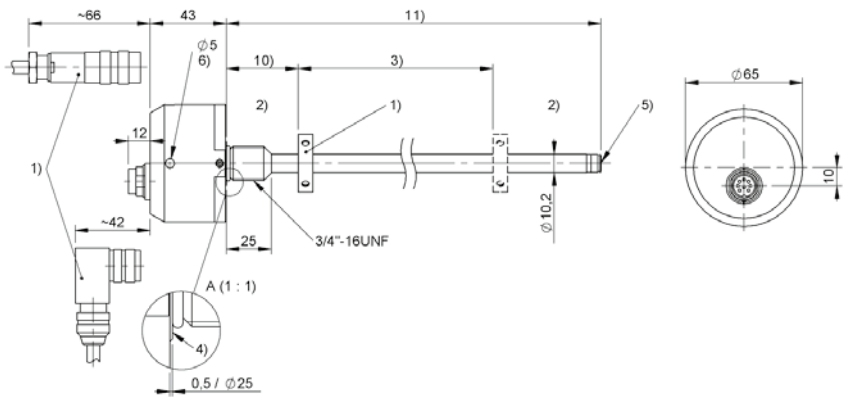
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

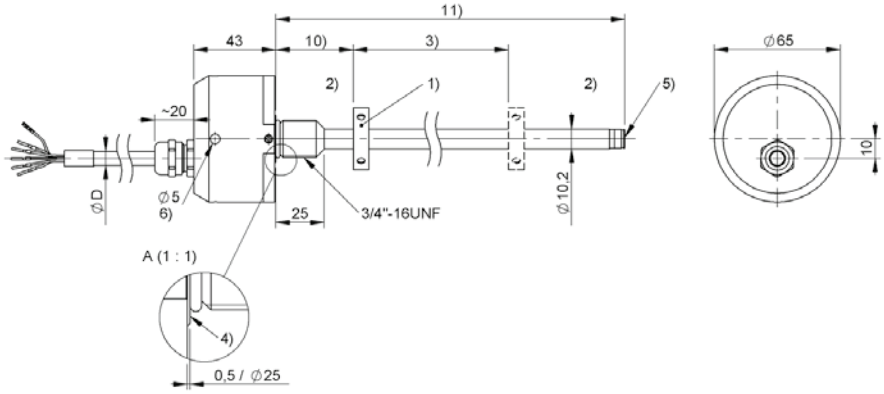
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-W-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-W-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -W- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

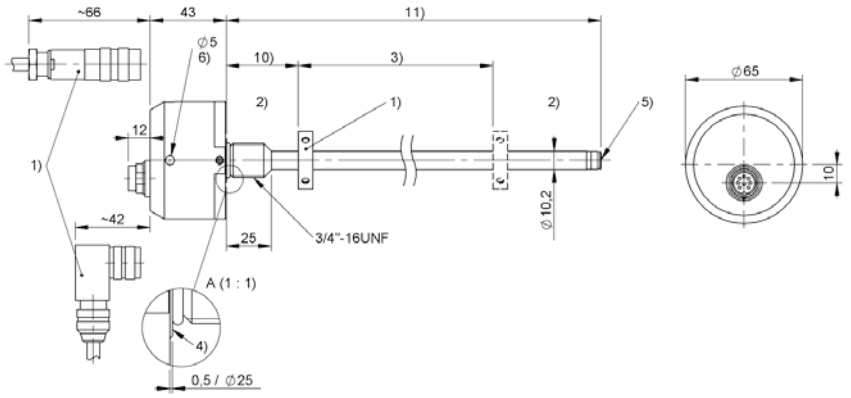
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

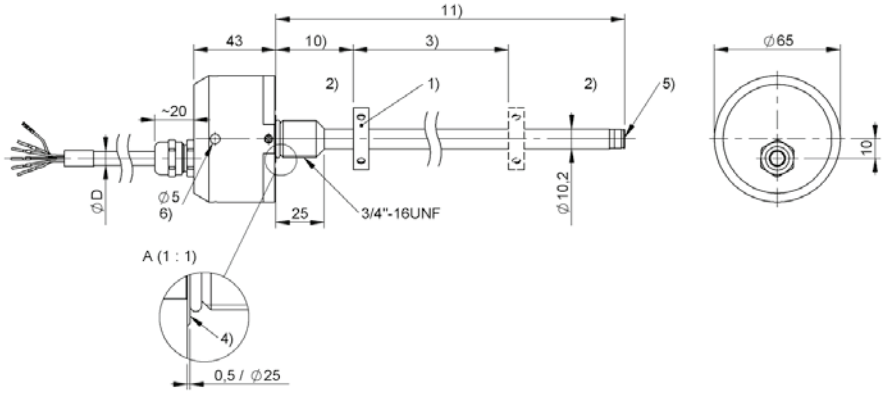
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-W-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-W-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -W- SERIES - CANOPEN
Interface	CANopen
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	±30 µm
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcd-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
H = CANopen

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
1 = 1 magnet
2 = 2 magnets
3 = 4 magnets

d Interface characteristic 2
Data transmission rate:
0 = 1 MBaud
1 = 800 MBaud
2 = 500 kBaud
3 = 250 kBaud
4 = 125 kBaud
5 = 100 kBaud
6 = 50 kBaud
7 = 25 kBaud
8 = 10 kBaud

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

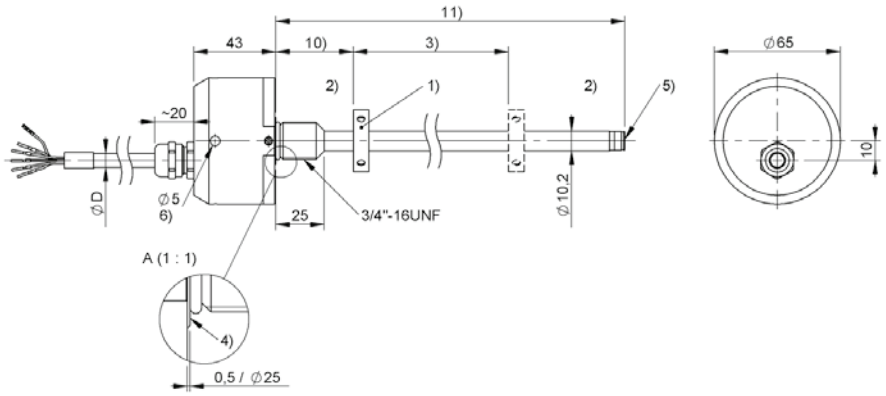
f Style
W = Compact rod, threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
S = Connector, axial
SR = Connector, radial
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

m Connection type characteristic 1
for connector:
92 = M12x1 connector with 5 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Hxxx-Mxxxx-W-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -HB- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

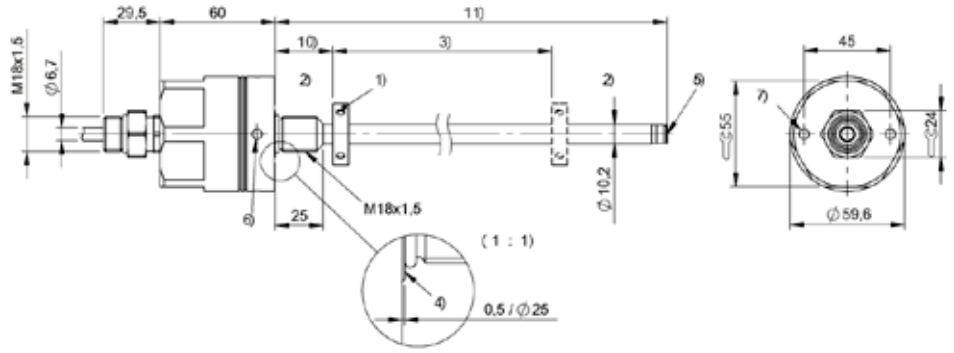
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

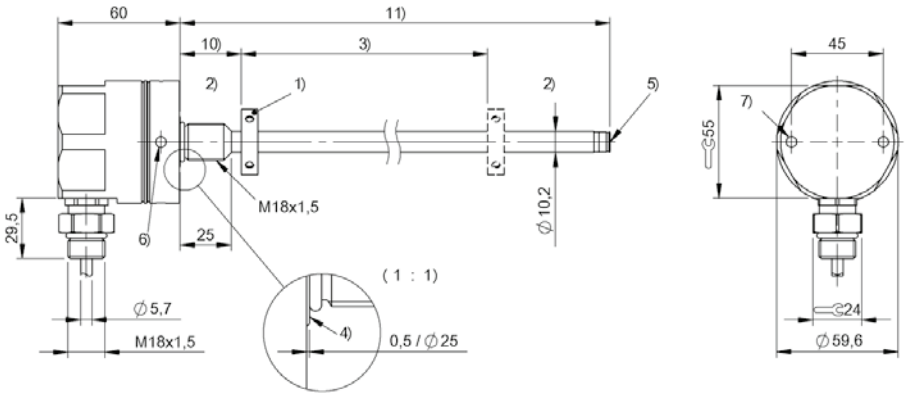
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-HB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-G510-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL7 -HB- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

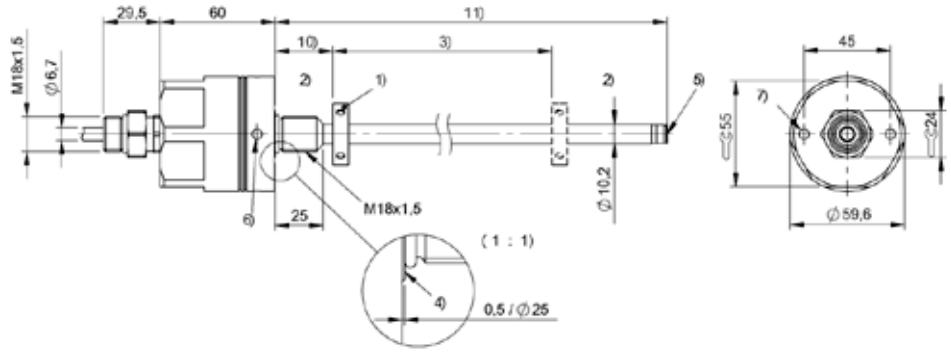
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

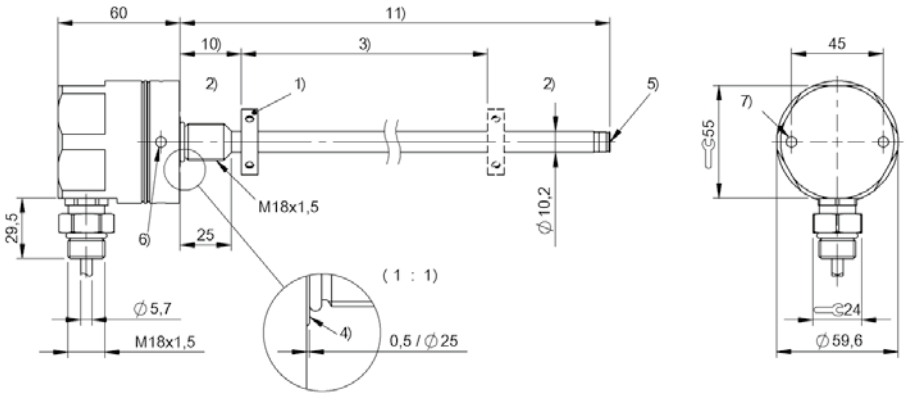
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-HB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-C570-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL5 -HB- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized)

b Operating voltage
1 = 20 … 28 V

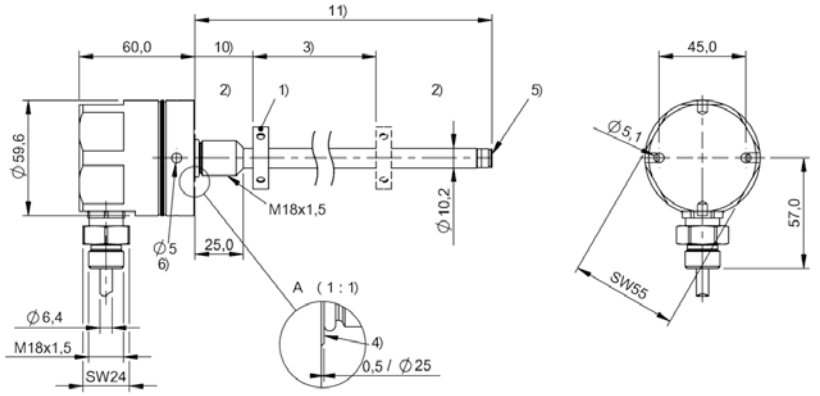
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

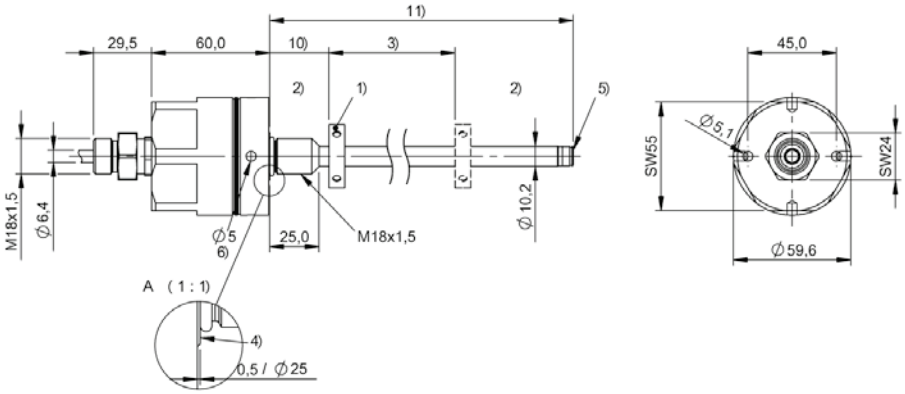
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-HB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -HB- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

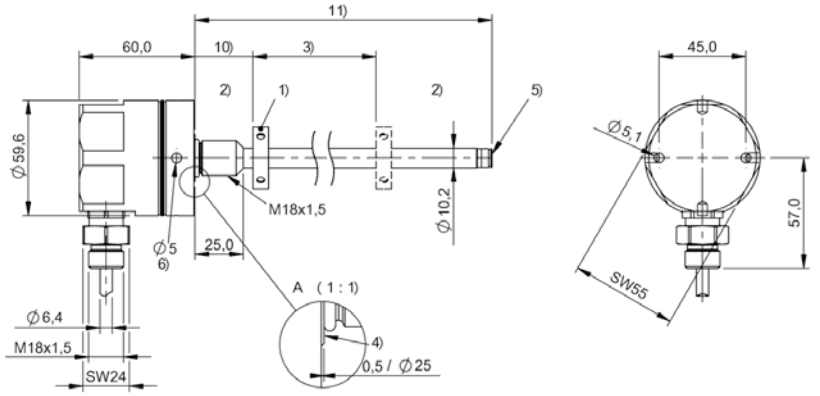
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
HB = Pro Compact, Mounting threads M18x1.5, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

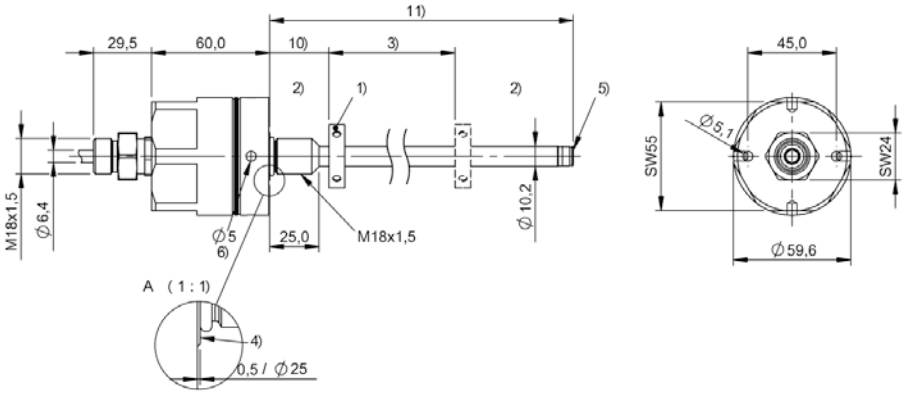
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-HB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-HB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -WB- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

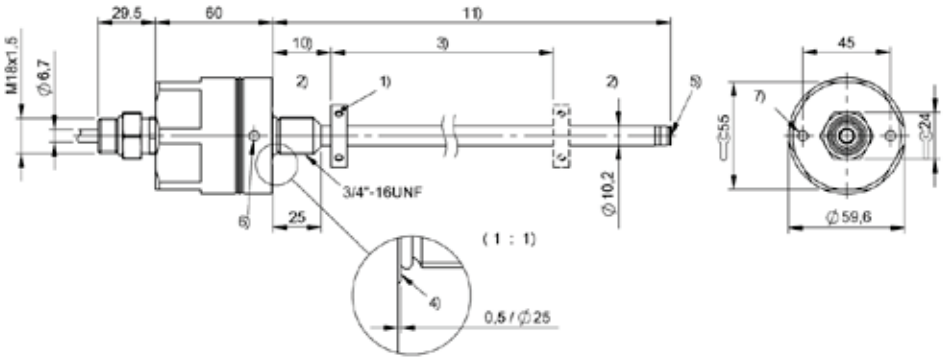
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
WB = Pro Compact inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

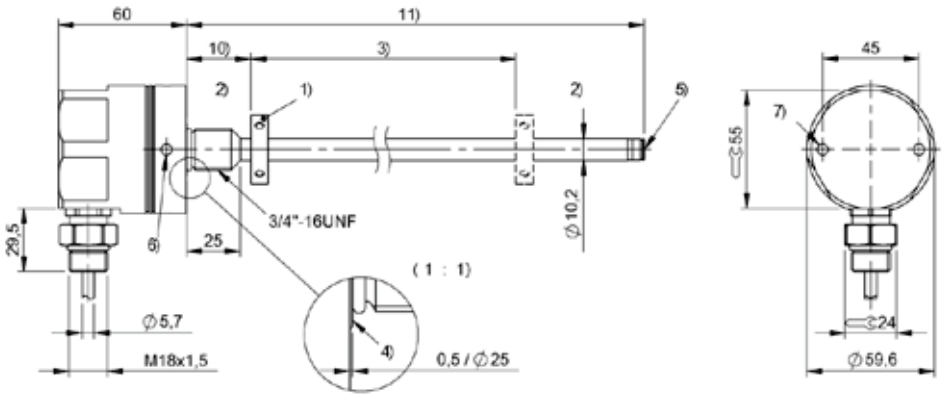
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-WB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-G510-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL7 -WB- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	l = K, KA: CE + cULus + EAC + WEEE l = F, FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

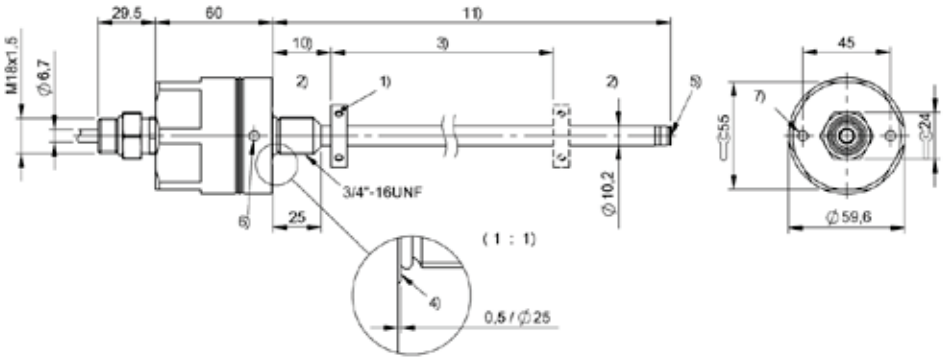
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

f Style
WB = Pro Compact, inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

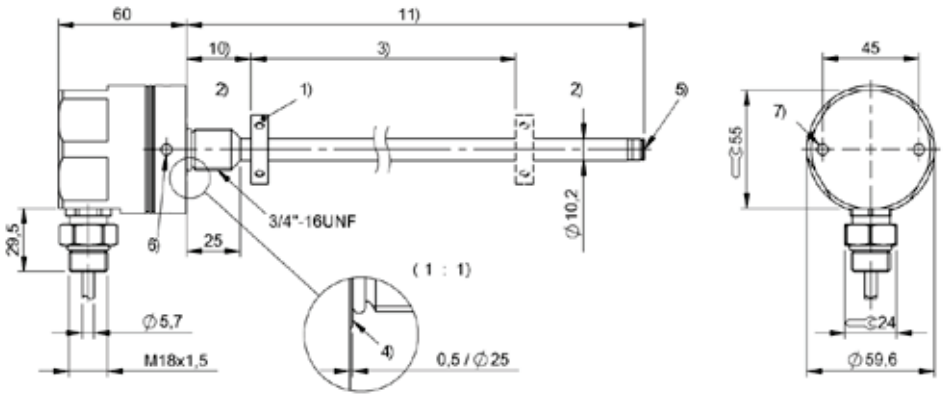
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-WB-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

BTL7-C570-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
7) Ø 5.1 for face wrench
10) Null point
11) Installation length

	BTL5 -WB- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

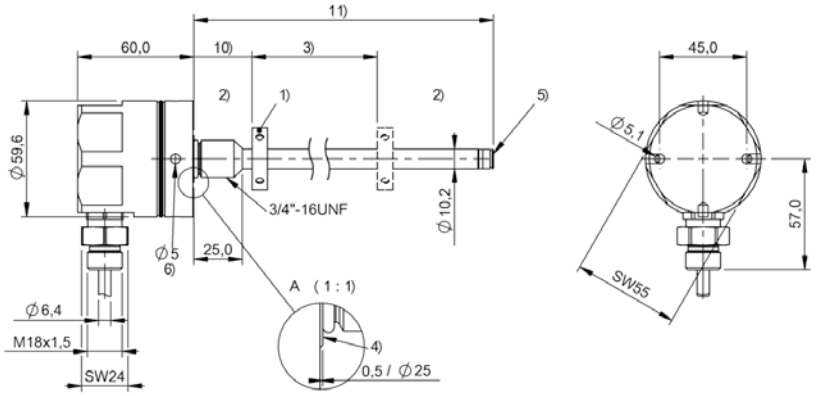
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
WB = Pro Compact, inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

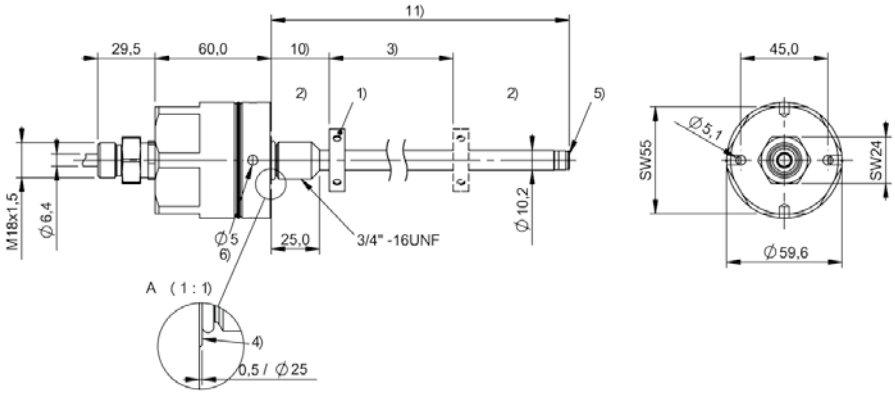
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-P1-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-P1-Mxxxx-WB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL5 -WB- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Stainless steel (1.4305)
IP rating	IP68/IP69K
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-f-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

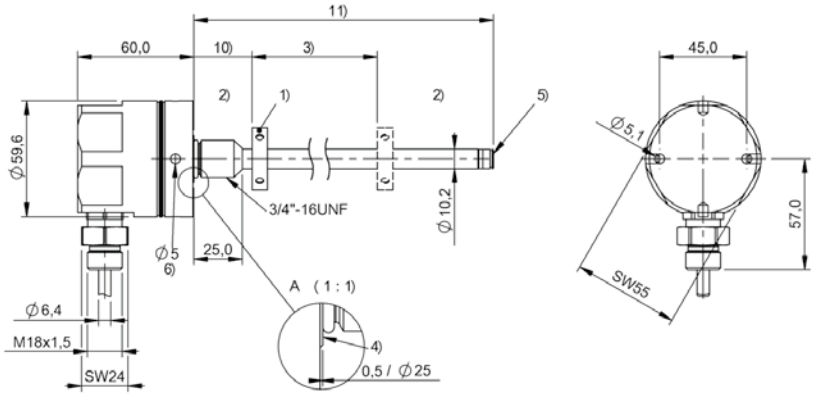
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
WB = Pro Compact, inch threads 3/4“-16UNF, for O-Ring

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)
F = Cable out radial (PTFE)
FA = Cable out axial (PTFE)

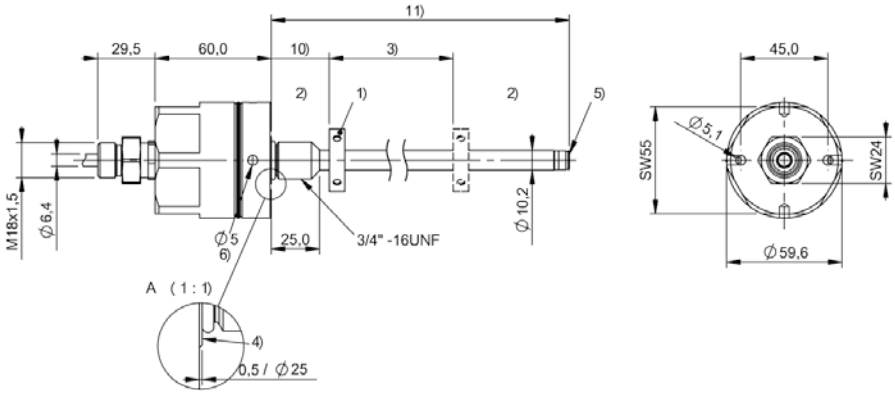
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-WB-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-WB-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) for C-spanner Ø 58-62
10) Null point
11) Installation length

	BTL7 -K- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0025…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	l = K: CE + cULus + EAC + WEEE l = F: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

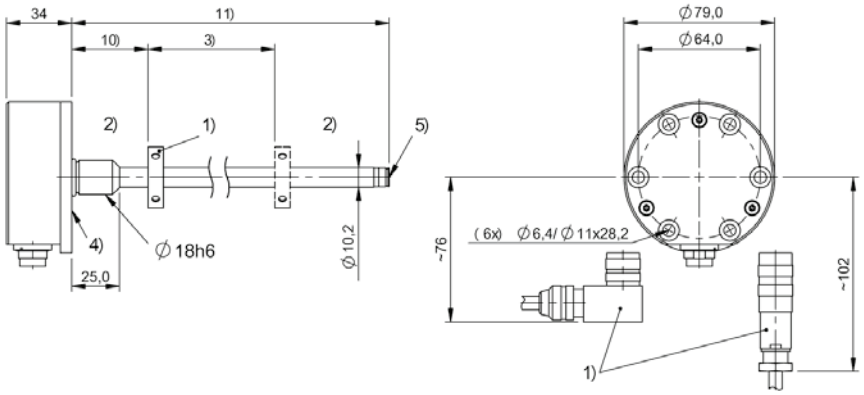
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector
K = Cable out radial (PUR)
F = Cable out radial (PTFE)

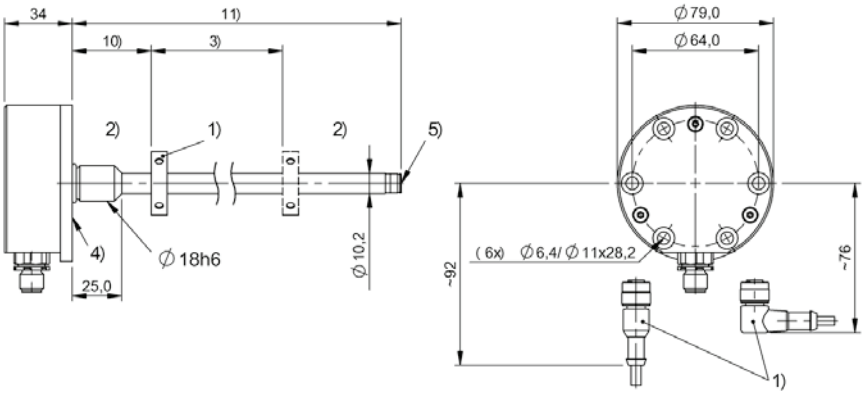
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-K-SR32



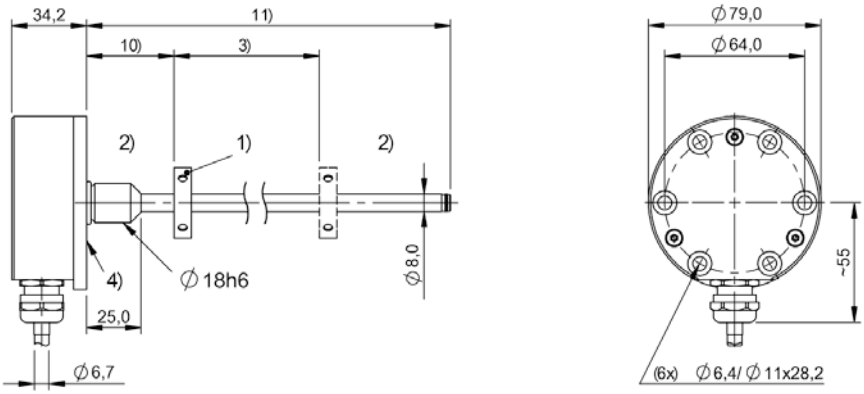
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-K-SR115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-K8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -K- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	l = K: CE + cULus + EAC + WEEE l = F: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fg-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M7620: for rod diameter 10.2 mm)

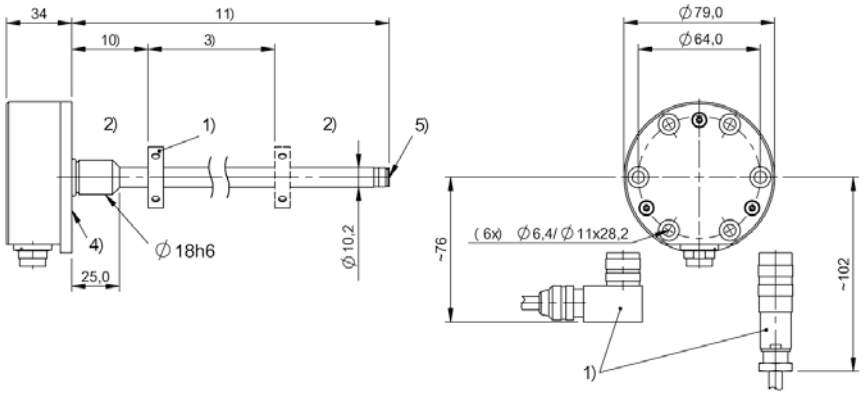
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector
K = Cable out radial (PUR)
F = Cable out radial (PTFE)

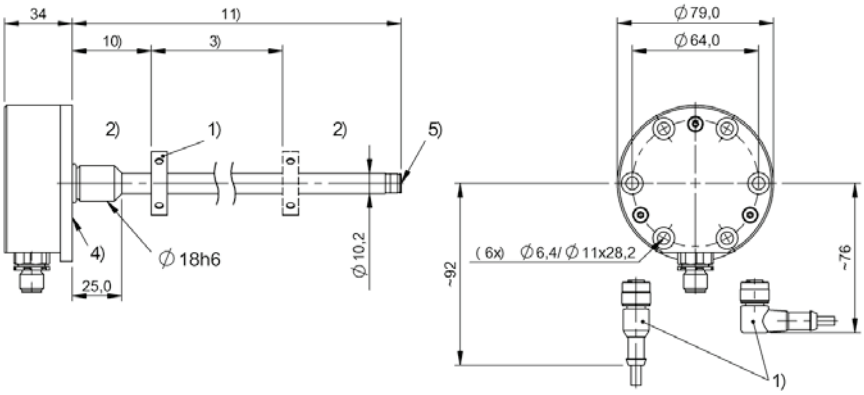
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
115 = M12x1 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-K-SR32



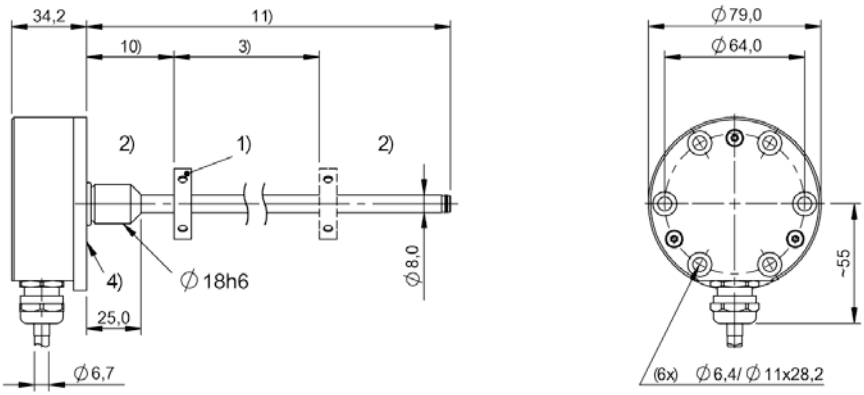
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-K-SR115



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-K8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -K- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-ab-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

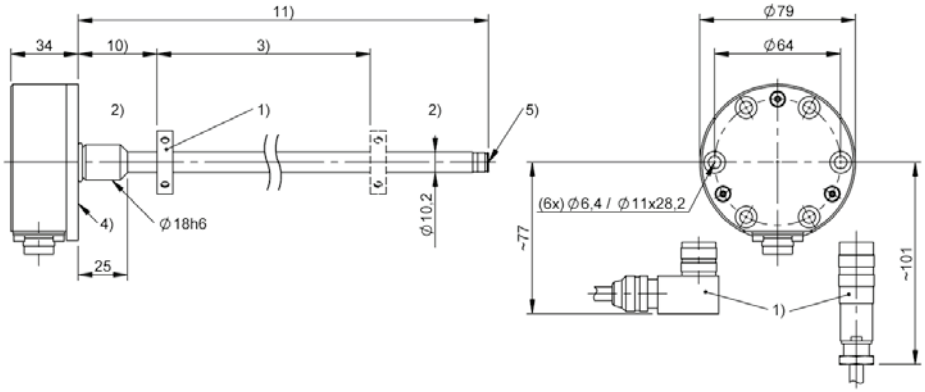
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector, radial
K = Cable out radial (PUR)

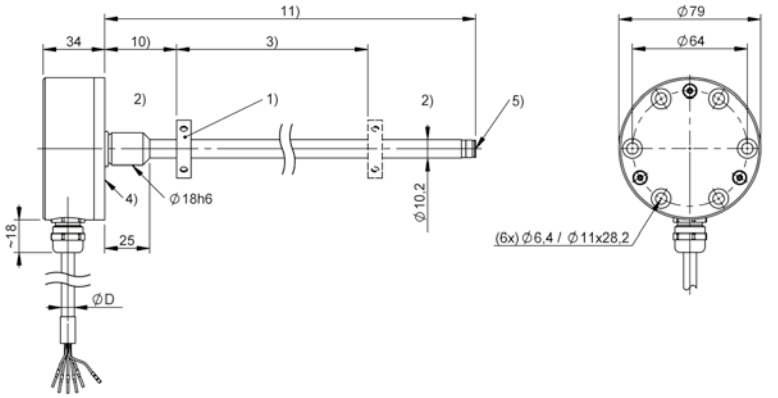
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-A11-Mxxxx-K-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-G11-Mxxxx-K8-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

	BTL5 -K- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...28 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE cULus EAC WEEE
Ex category	—

BTL5-abcde-Mnnnn-fg-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

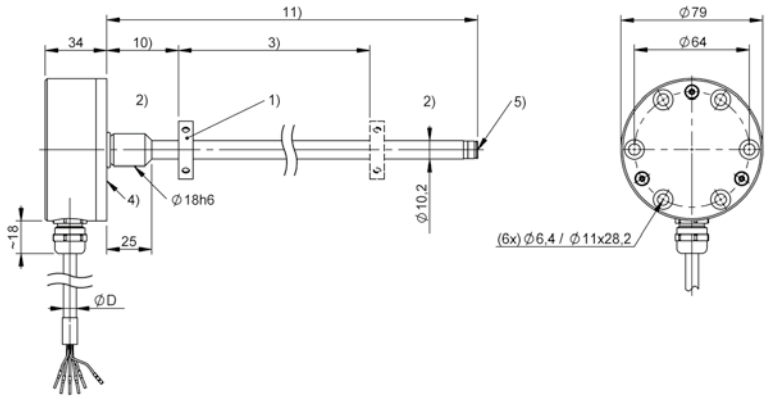
f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
SR = Connector, radial
K = Cable out radial (PUR)

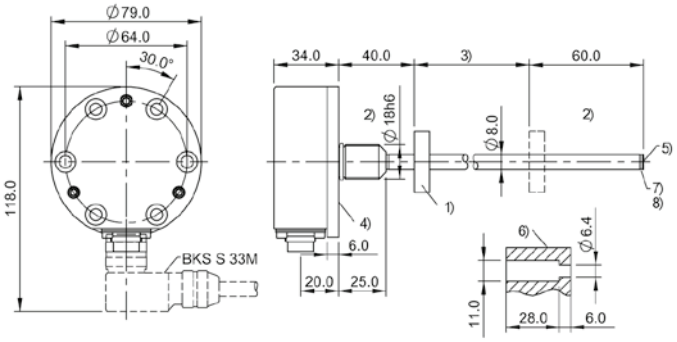
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL5-Sxxxx-Mxxxx-K-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-K8-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Detail locating hole. (6x)
7) Lockwasher
8) Ø9 DIN 6799

	BTL7 -SF- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 1 1/2“ Tri Clamp
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	CE 3-A EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

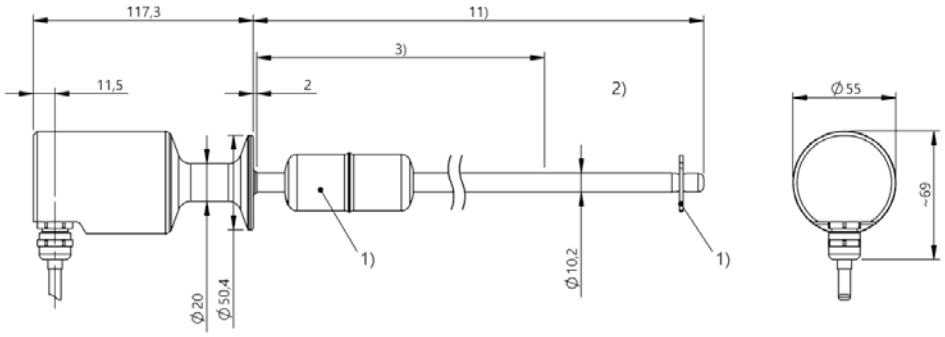
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2500: for rod diameter
10.2 mm)

f Style
SF = Level transducer, 1.5“ Tri-Clamp

l Connection type
F = Cable out radial (PTFE)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-SF-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
11) Installation length

	BTL7 -SF- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 1 1/2“ Tri Clamp
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	CE 3-A EAC WEEE
Ex category	—

BTL7-abcd-Mnnnn-f-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

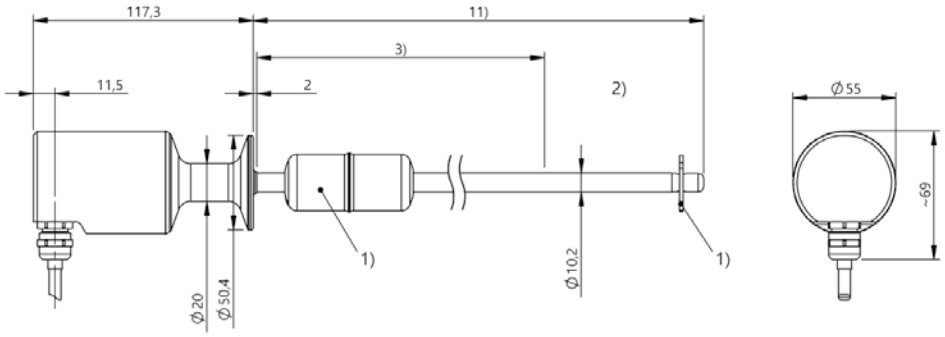
Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2500: for rod diameter 10.2 mm)

f Style
SF = Level transducer, 1.5“ Tri-Clamp

l Connection type
F = Cable out radial (PTFE)

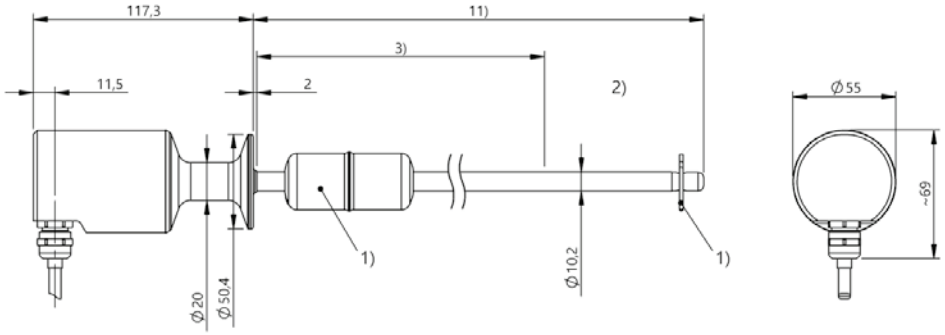
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-SF-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
11) Installation length

BTL7-C570-Mxxxx-SF-Fxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
11) Installation length

	BTL6 -E- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...2000 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS (typ.± 0.02% FS)
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 48h7 fit
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	l = KA: CE + cULus + EAC + WEEE l = LA: CE + EAC + WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
A = Voltage output 0 ... 10 V
B = Voltage output 0 ... 5 V/0.25 ... 4.75 V/0.5 ... 4.5 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
02 = 1 output, only if a = B, then 0.25 ... 4.75 V
03 = 1 output, only if a = B, then 0.5 ... 4.5 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M1016: for rod diameter 8 mm)
(M0050…M2000: for rod diameter 10.2 mm)

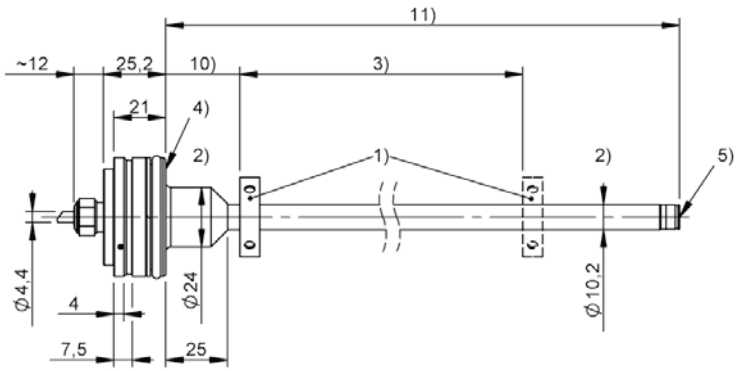
f Style
E2 = Mounting flange 18h6

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
KA = Cable (PUR)
LA = Leads (TPE-E)

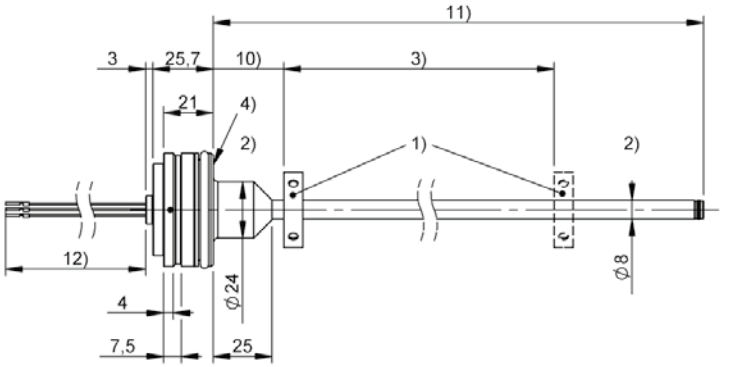
m Connection type characteristic 1
for leads (length in meters):
0,07, 0,15, 0,20, 0,30
for cable (length in meters):
02, 05, 10, 15, 20

BTL6-A500-Mxxxx-E2-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length
12) Cable length

BTL6-B500-Mxxxx-E28-LAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length
12) Cable length

	BTL6 -E- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...2000 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS (typ.± 0.02% FS)
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 48h7 fit
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	l = KA: CE + cULus + EAC + WEEE l = LA: CE + EAC + WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor
Generation 6

a interface
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M1016: for rod diameter 8 mm)
(M0050…M2000: for rod diameter 10.2 mm)

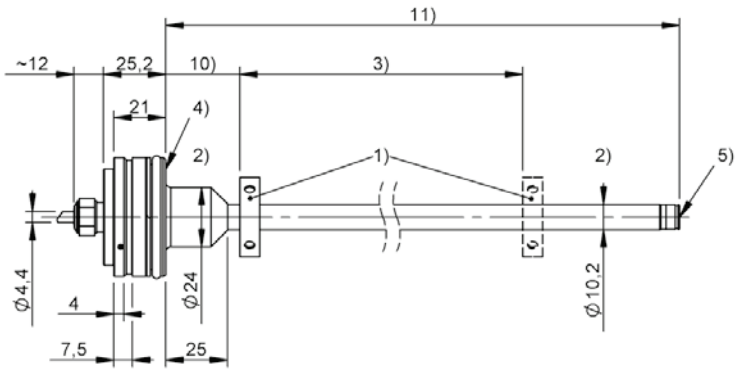
f Style
E2 = Mounting flange 18h6

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
KA = Cable (PUR)
LA = Leads (TPE-E)

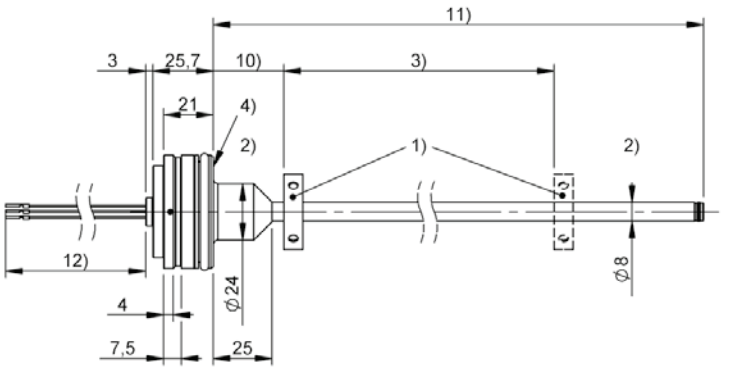
m Connection type characteristic 1
for leads (length in meters):
0,07, 0,15, 0,20, 0,30
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL6-E500-Mxxxx-E2-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length
12) Cable length

BTL6-E500-Mxxxx-E28-LAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length
12) Cable length

	BTL6 -E- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	50...2000 mm
Repeat accuracy	≤ 30 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS (typ.± 0.02% FS)
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 48h7 fit
Housing material	Stainless steel (1.4404)
IP rating	IP67
Approval/Conformity	l = KA: CE + cULus + EAC + WEEE l = LA: CE + EAC + WEEE
Ex category	—

BTL6-abcd-Mnnnn-fg-lm

BTL6
Magnetostrictive linear position sensor Generation 6

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = Digital start/stop interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M1016: for rod diameter 8 mm)
(M0050…M2000: for rod diameter 10.2 mm)

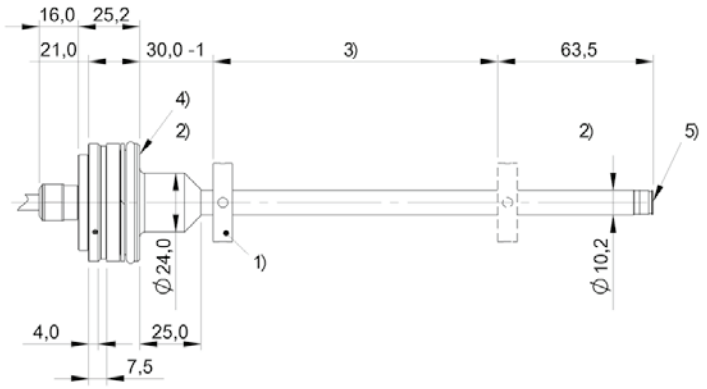
f Style
E2 = Mounting flange 18h6

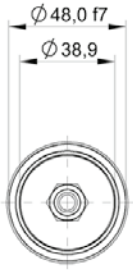
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

l Connection type
KA = Cable (PUR)
LA = Leads (TPE-E)

m Connection type characteristic 1
for leads (length in meters):
0,07, 0,15, 0,20, 0,30
for cable (length in meters):
02, 05, 10, 15, 20, 30

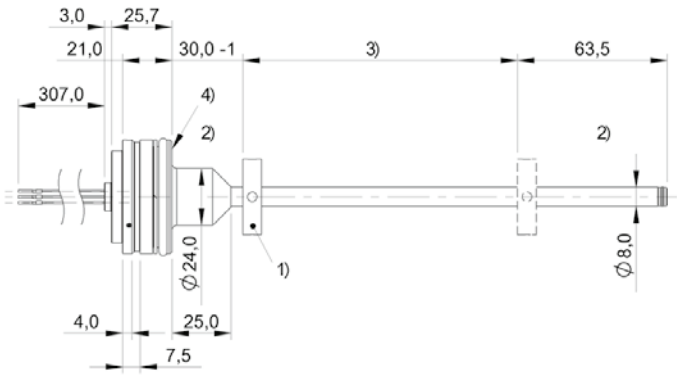
BTL6-P510-Mxxxx-E2-KAxx

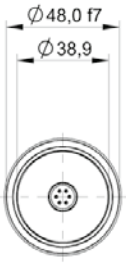




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL6-P510-Mxxxx-E28-LAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -TB- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

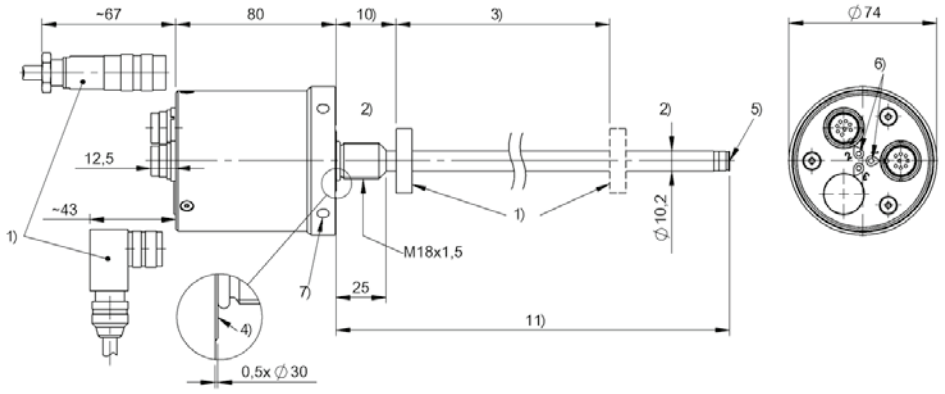
f Form factor
TB = Mounting threads M18x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

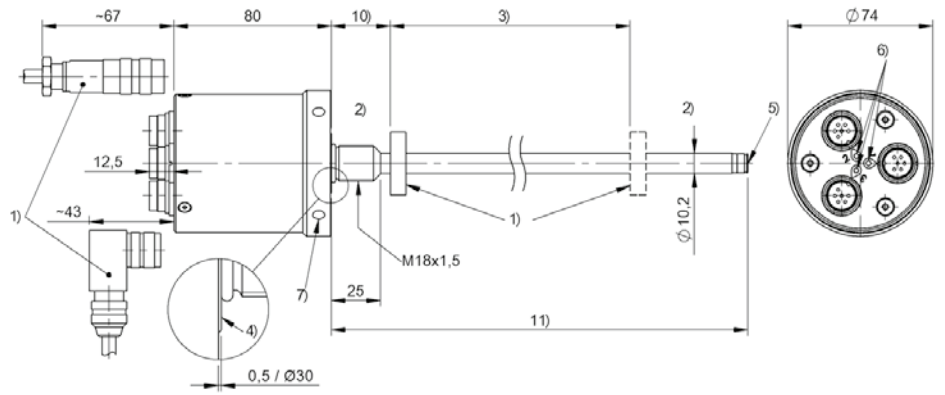
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-A504-Mxxxx-TB2-S32



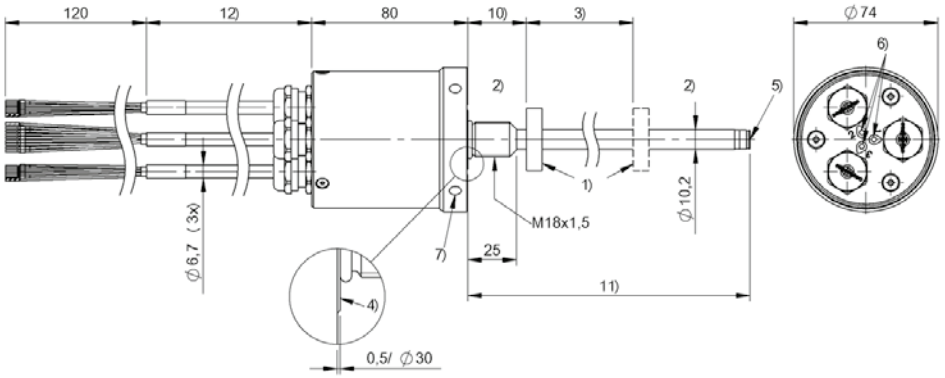
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-G505-Mxxxx-TB3-S135



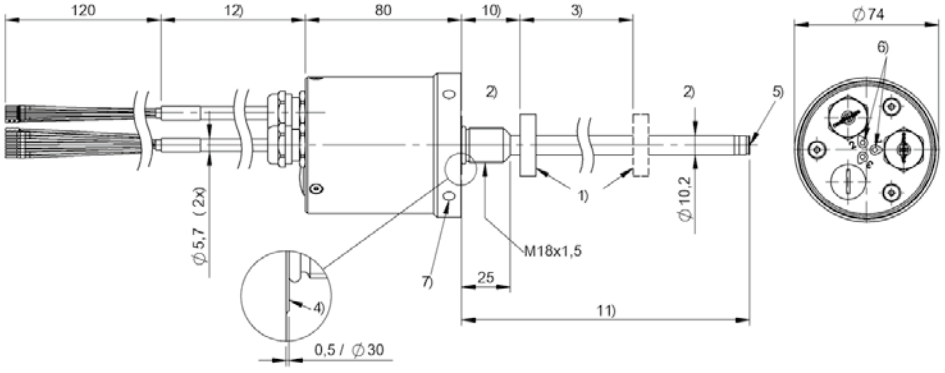
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-A505-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-G504-Mxxxx-TB2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TB- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

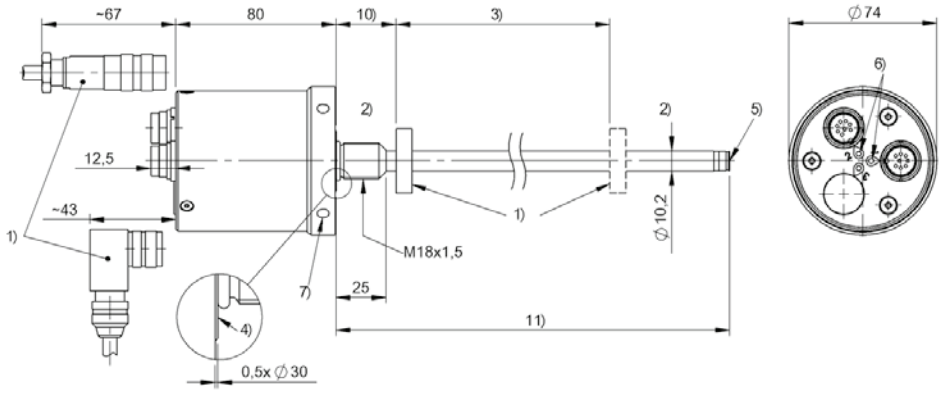
f Form factor
TB = Mounting threads M18x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

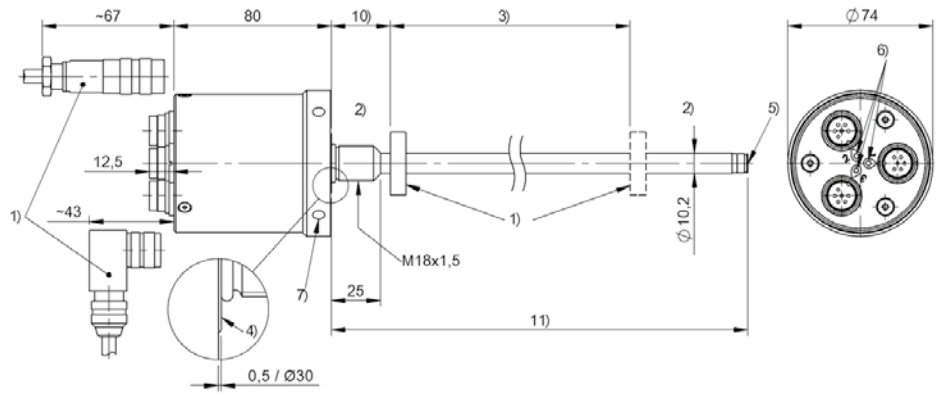
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TB2-S32



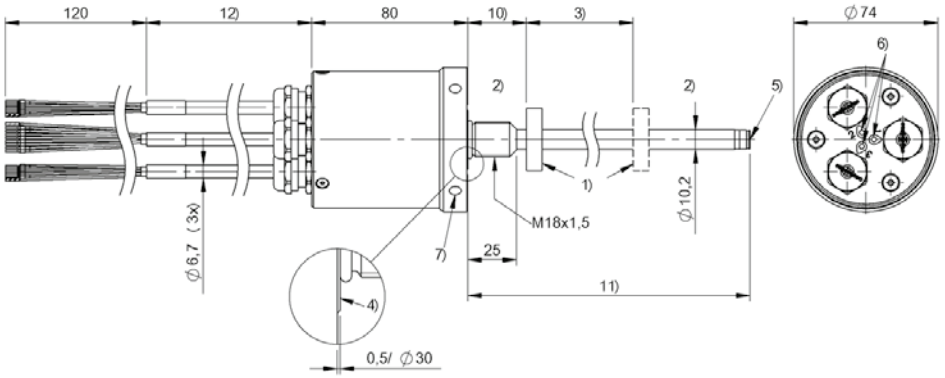
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TB3-S135



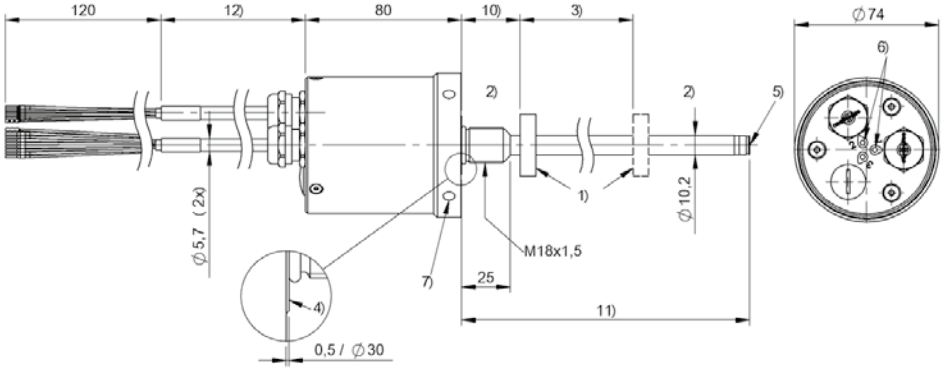
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TB2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TB- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TB = Mounting threads M18x1.5, for O-Ring

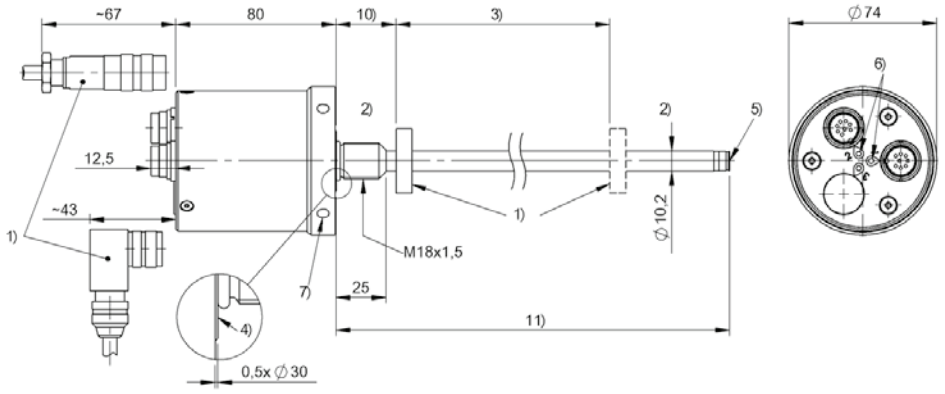
h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

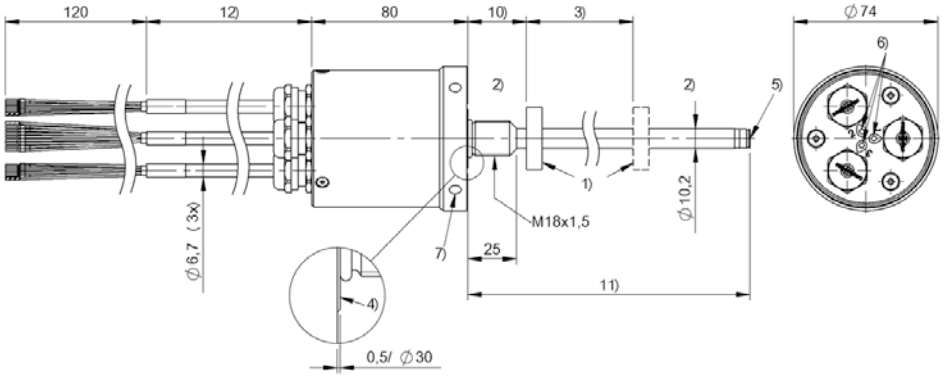
for cable (length in meters):
02, 05, 10,
15, 20 (only when h = 2 and Mnnnn < 2541 mm

BTL7-P511-Mxxxx-TB2-S32



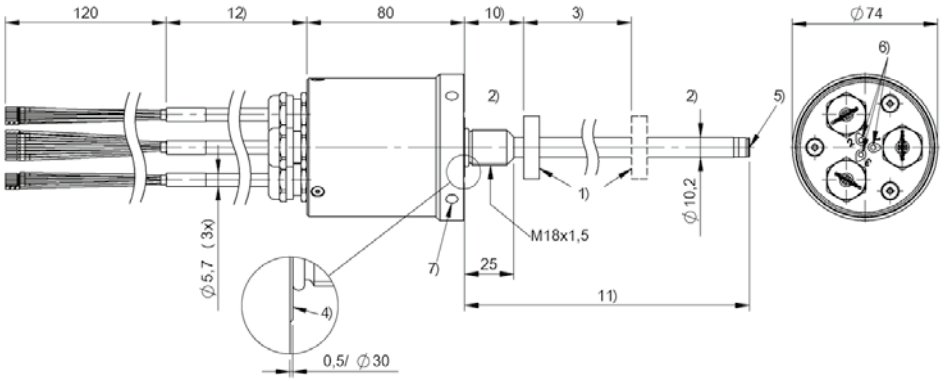
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-P511-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-P511-Mxxxx-TB3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TB- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…5500: ± 200 µm d = 6, 8: nnnn = 25…5500: ± 4 LSB nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SS

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TB = Mounting threads M18x1.5, for O-Ring

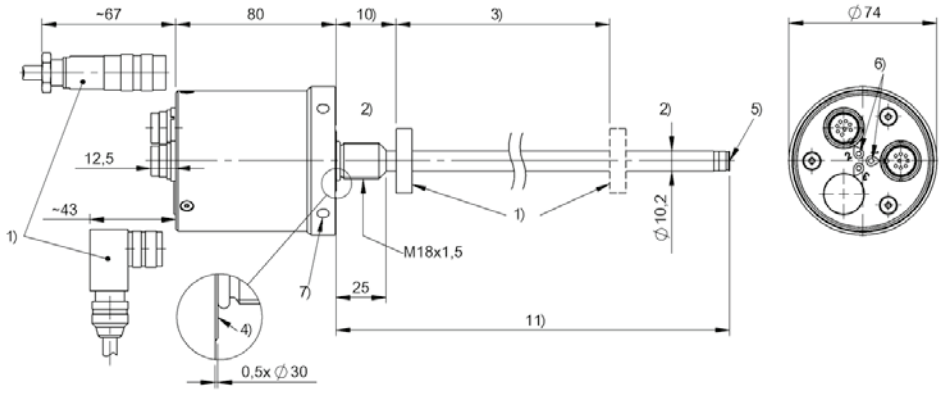
g Form factor characteristic
- = Rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

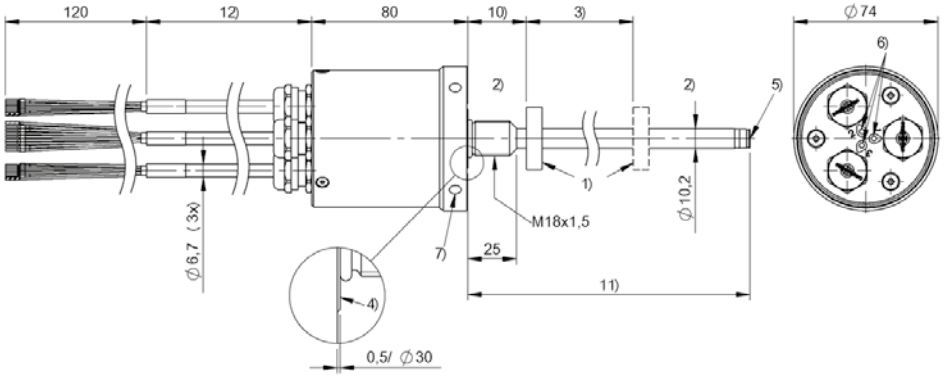
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-S5xxD-Mxxxx-TB2-S32



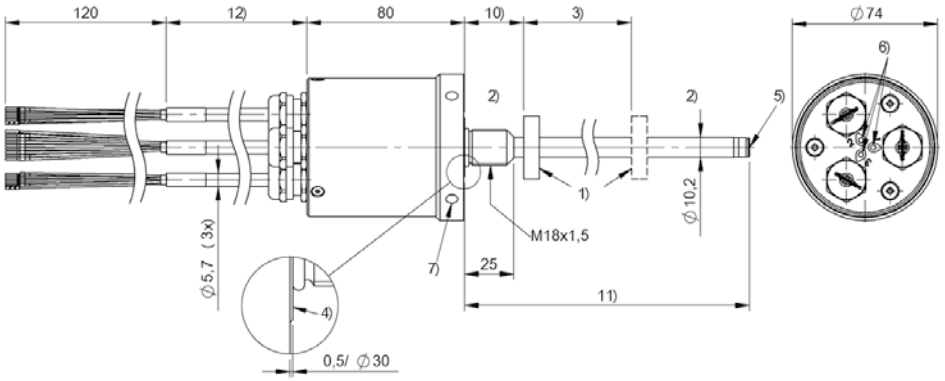
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-S5xxD-Mxxxx-TB3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-S5xxD-Mxxxx-TB3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

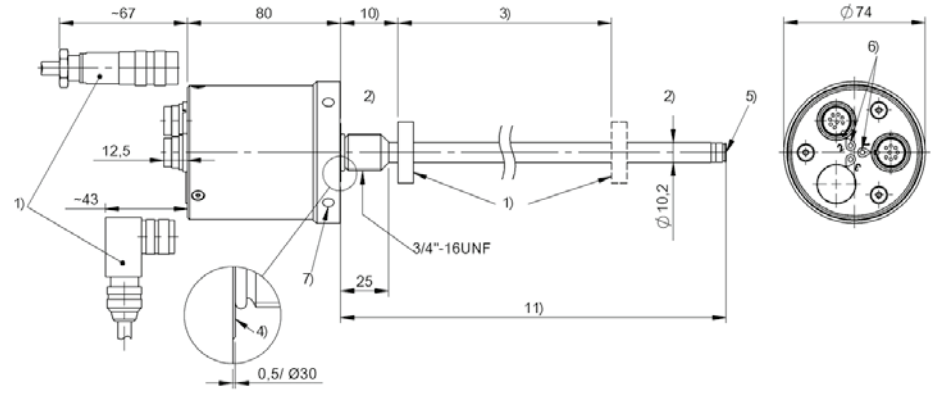
f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

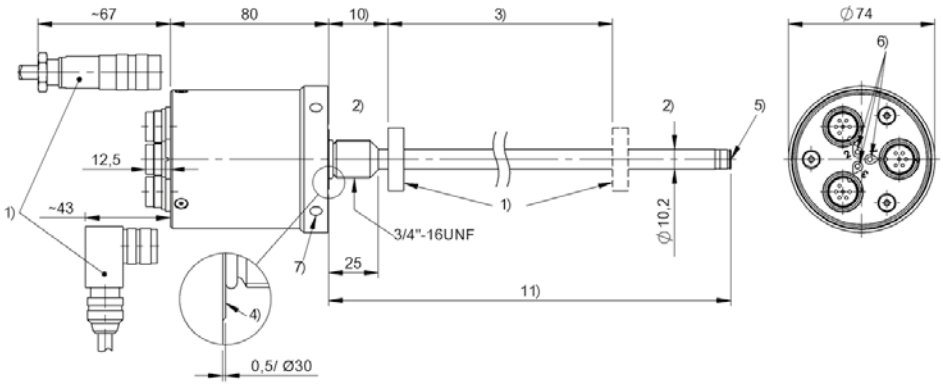
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-A504-Mxxxx-TZ2-S32



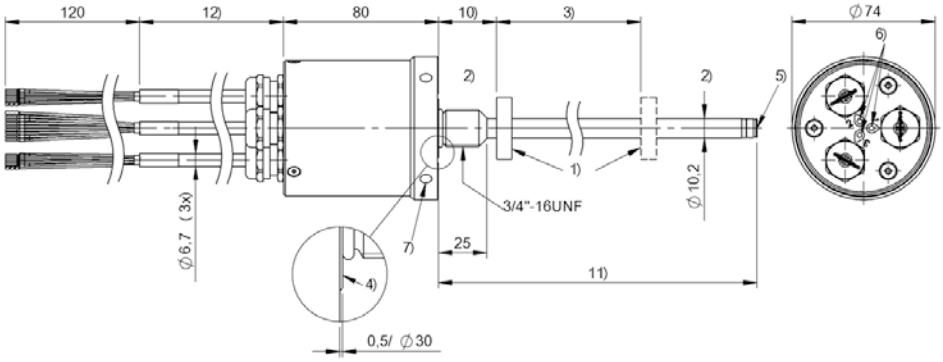
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-G505-Mxxxx-TZ3-S135



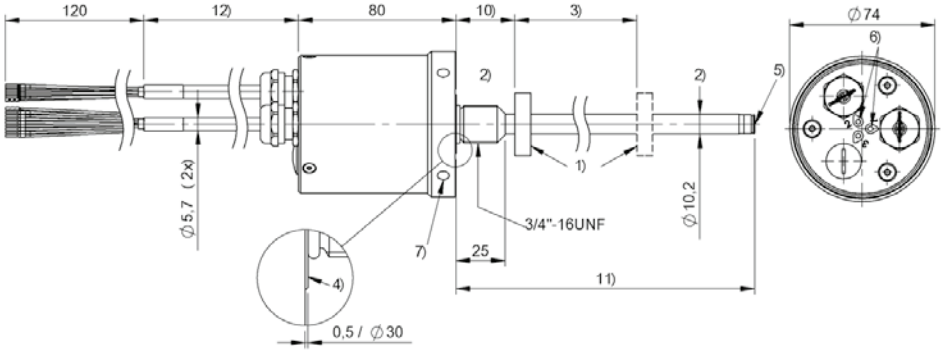
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-A505-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-G504-Mxxxx-TZ2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 500: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 500: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

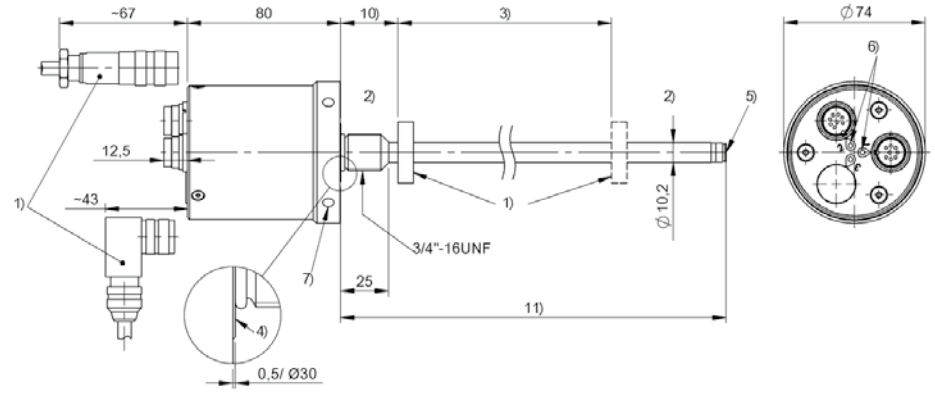
f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

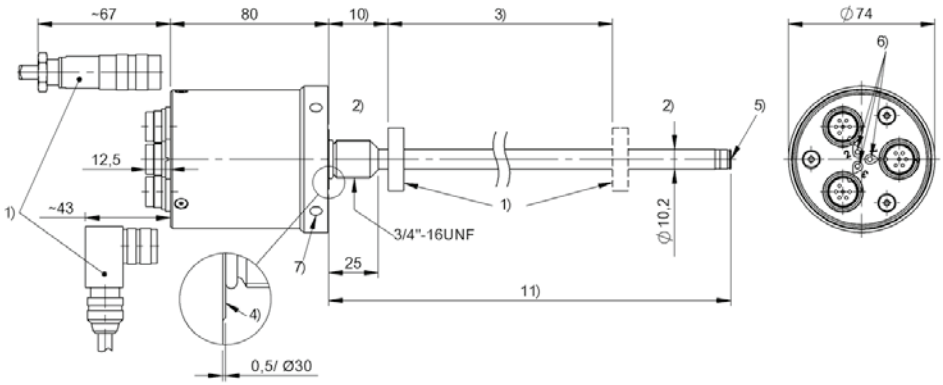
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TZ2-S32



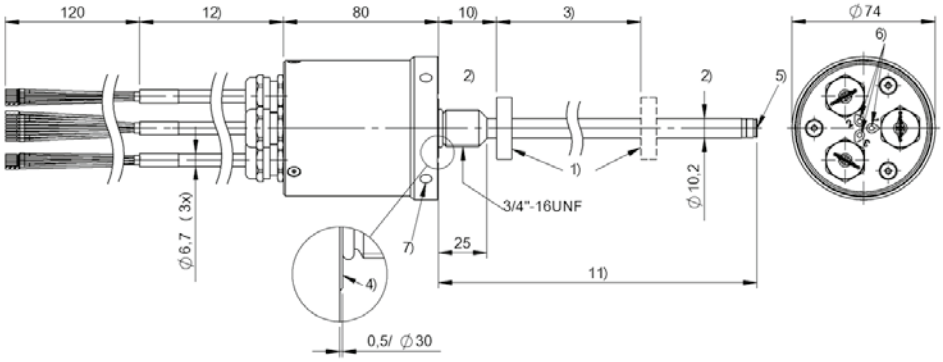
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TZ3-S135



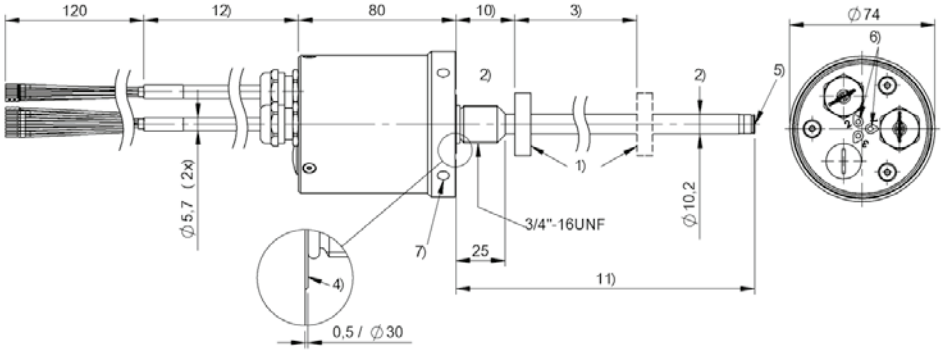
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TZ2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

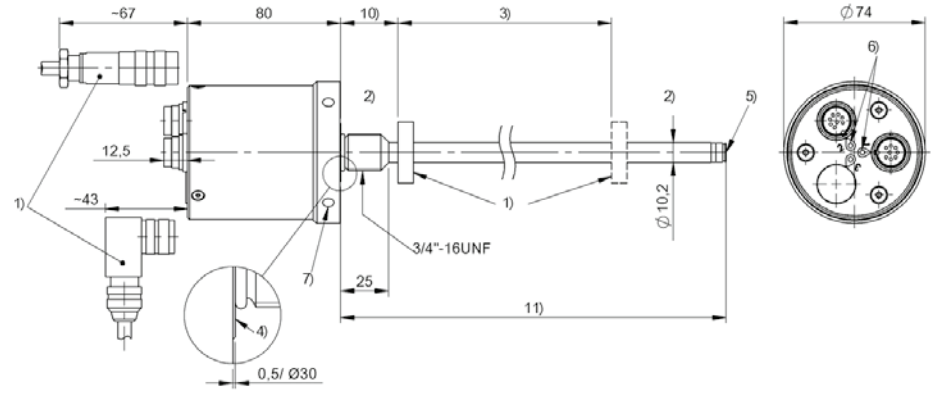
f Form factor
TZ = Threads 3/4““-16UNF, for O-Ring

h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

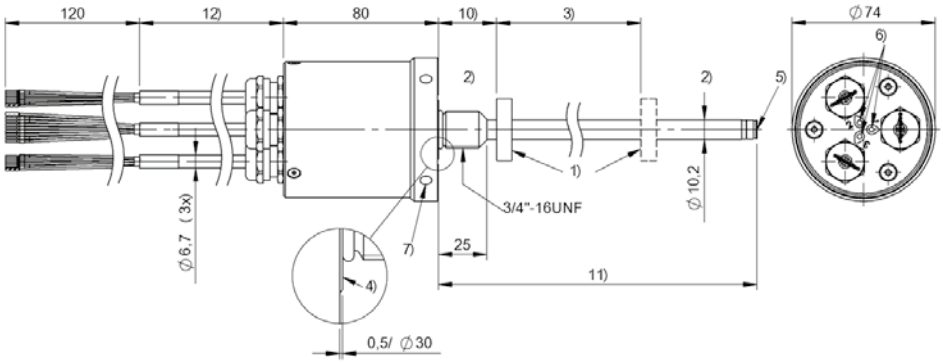
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10,
15, 20 (only when h = 2 and Mnnnn < 2541 mm

BTL7-P511-Mxxxx-TZ2-S32



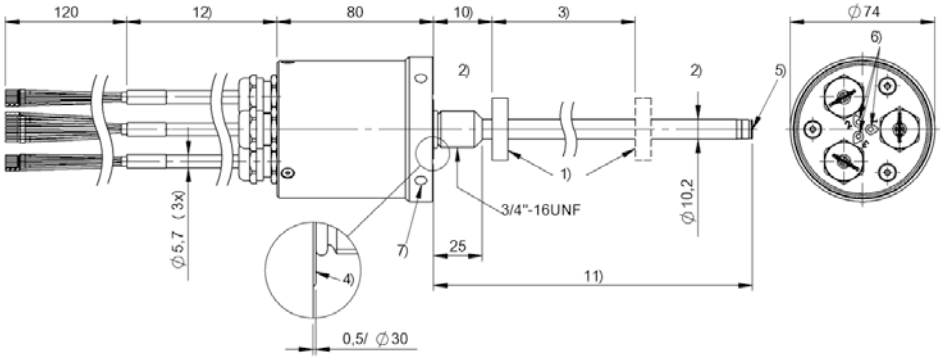
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-P511-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-P511-Mxxxx-TZ3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…5500: ± 200 µm d = 6, 8: nnnn = 25…5500: ± 4 LSB nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

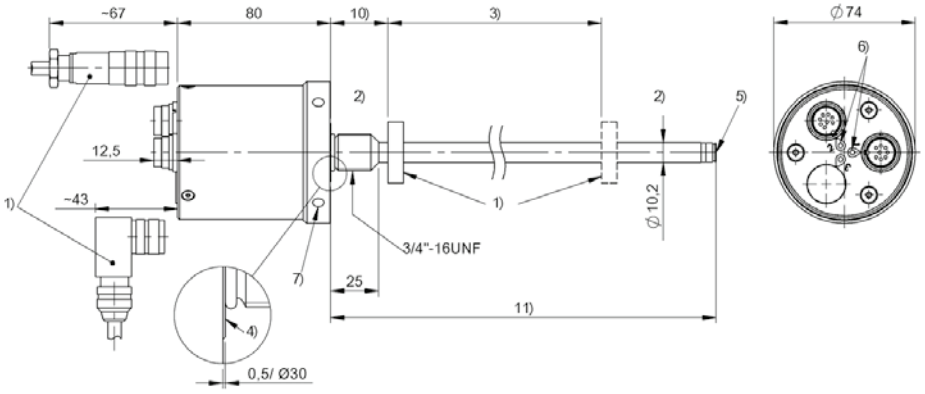
g Form factor characteristic
rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

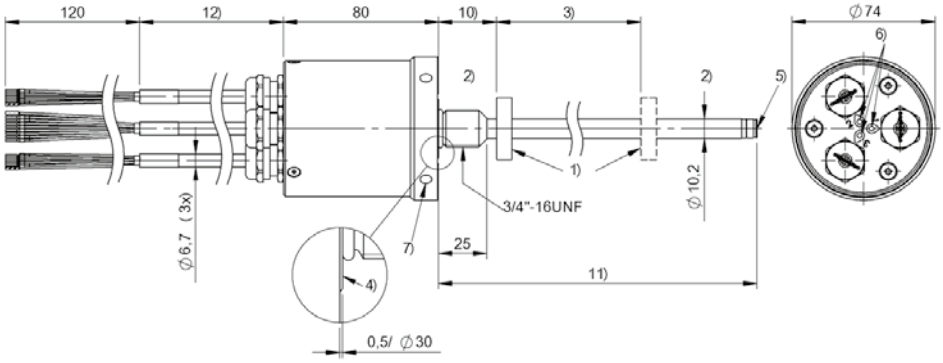
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-S5xxD-Mxxxx-TZ2-S32



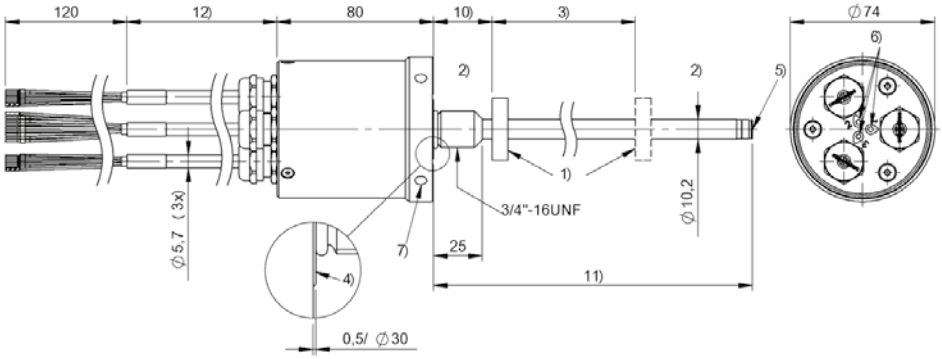
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-S5xxD-Mxxxx-TZ3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-S5xxD-Mxxxx-TZ3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TK- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fgh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TK = plug-in flange 18h6,, for O-Ring

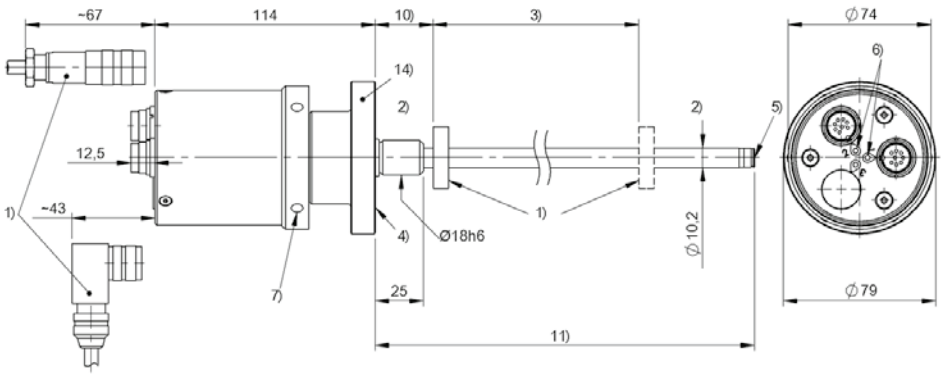
g Form factor characteristic
- = Rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

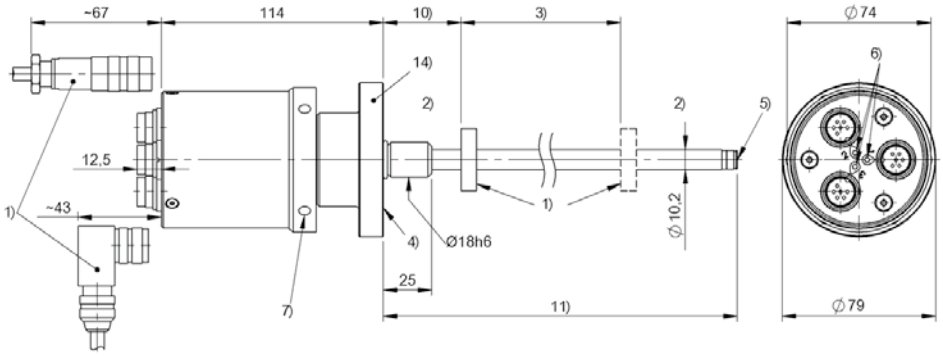
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-A504-Mxxxx-TK2-S32



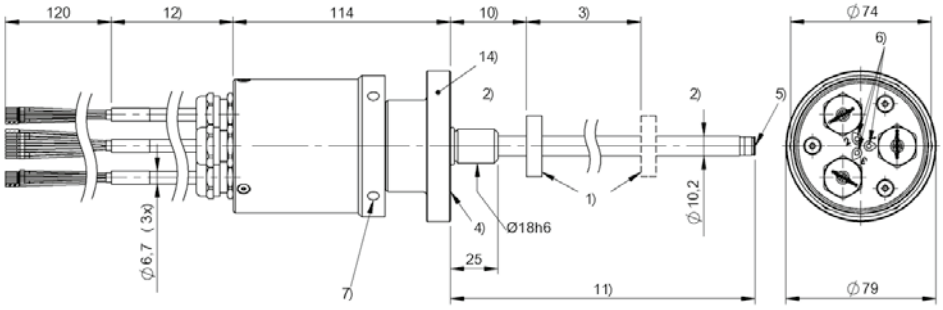
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-G505-Mxxxx-TK3-S135



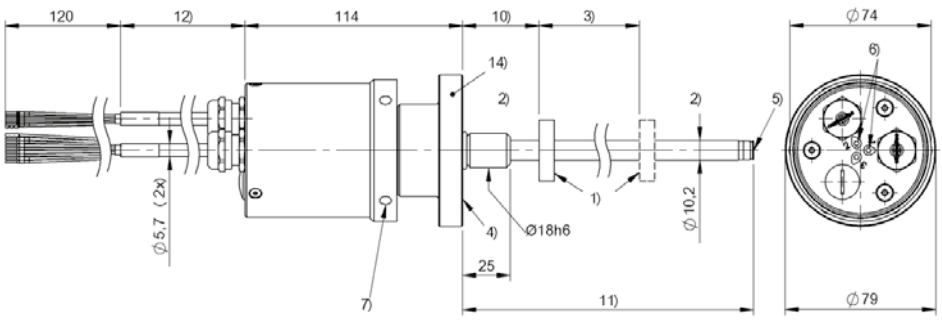
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-A505-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-G504-Mxxxx-TK2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TK- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

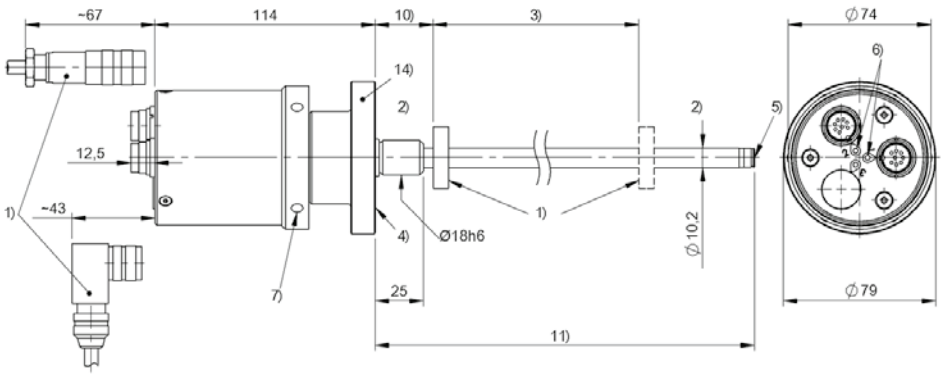
f Form factor
TK = plug-in flange 18h6,, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

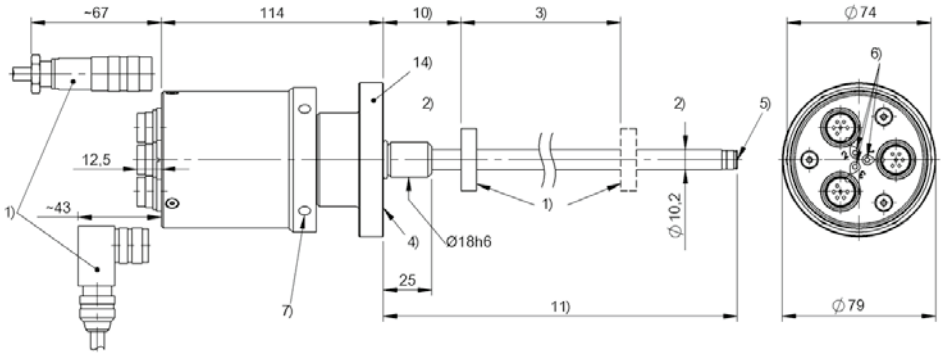
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
135 = M16x0.75 connector with 6 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TK2-S32



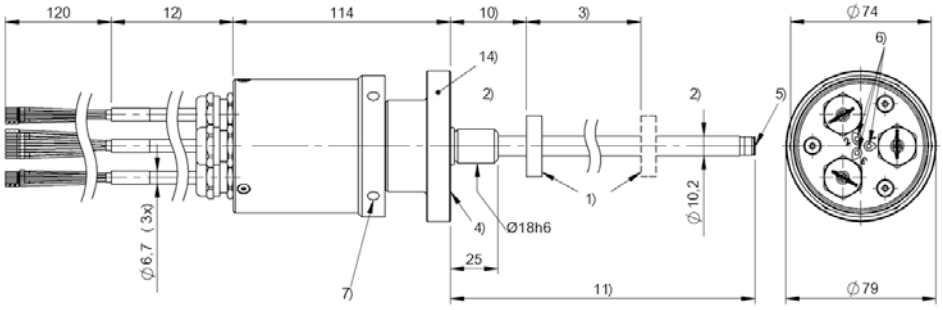
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-C505-Mxxxx-TK3-S135



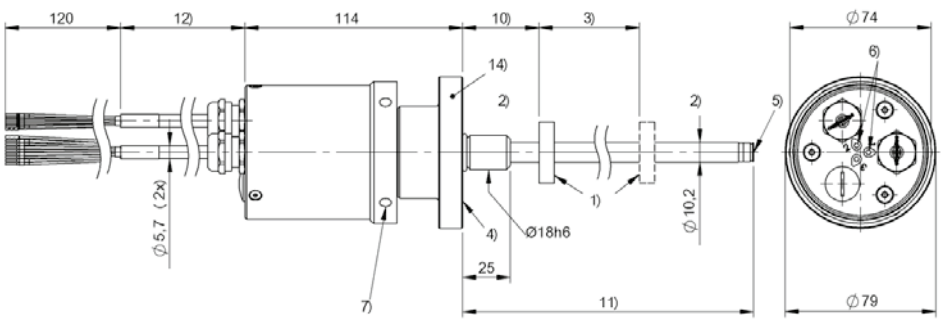
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-E505-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-C504-Mxxxx-TK2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TK- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

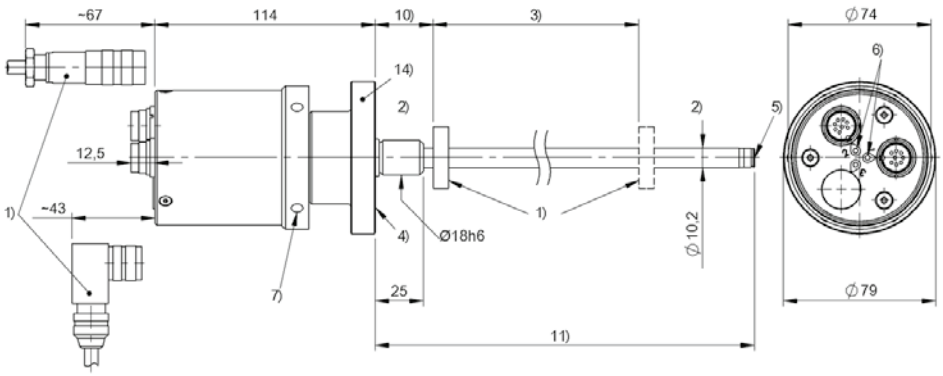
f Form factor
TK = plug-in flange 18h6,, for O-Ring

h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

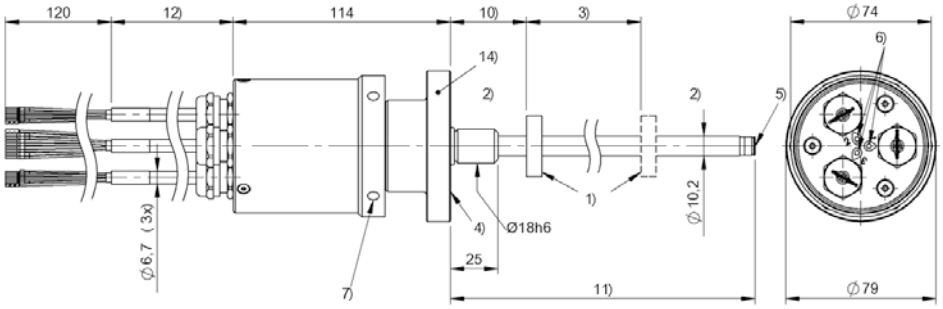
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10

BTL7-P511-Mxxxx-TK2-S32



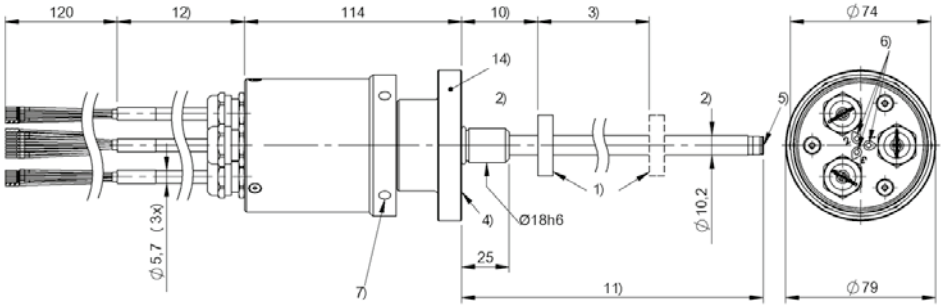
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-P511-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-P511-Mxxxx-TK3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TK- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…5500: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…5500: ± 200 µm d = 6, 8: nnnn = 25…5500: ± 4 LSB nnnn > 5500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TK = plug-in flange 18h6,, for O-Ring

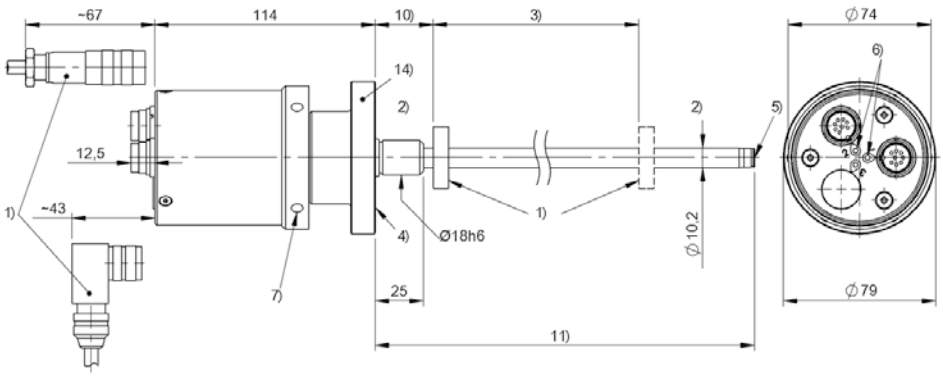
g Form factor characteristic
- = Rod diameter 10.2 mm

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

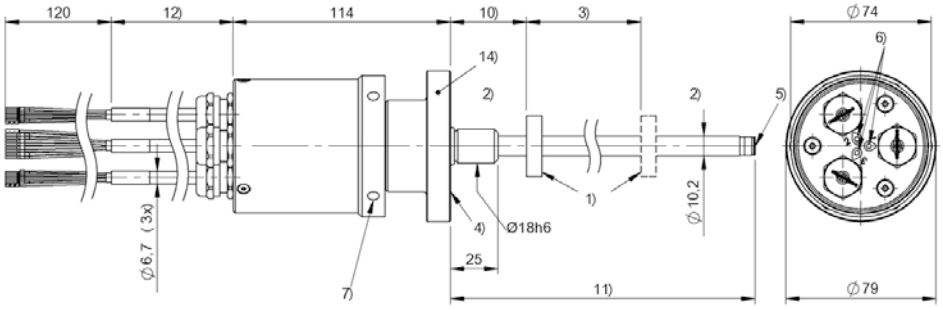
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-S5xxD-Mxxxx-TK2-S32



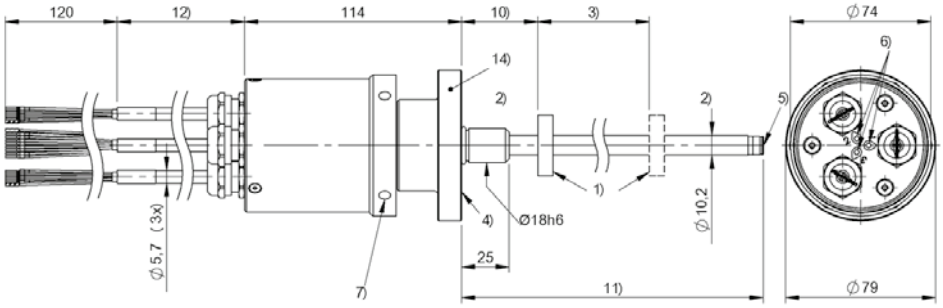
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
14) not installed

BTL7-S5xxD-Mxxxx-TK3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

BTL7-S5xxD-Mxxxx-TK3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length
14) not installed

	BTL7 -TT- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...3250 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 240: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 240: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fgh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

f Form factor
TT = Mounting threads M30x1.5, for O-Ring

g Form factor characteristic
- = Rod diameter 21 mm

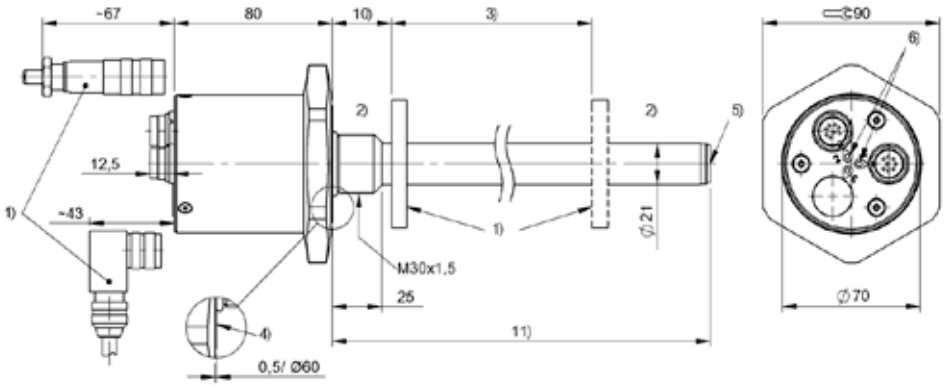
h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

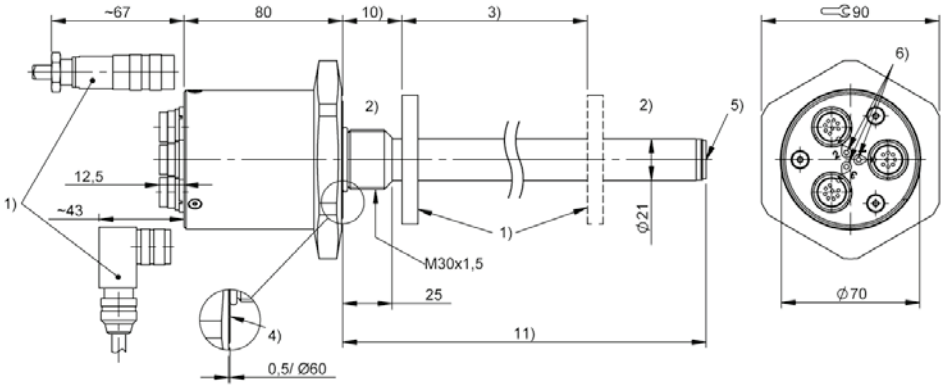
for cable (length in meters):
02, 05, 10

BTL7-A504-Mxxxx-TT2-S32



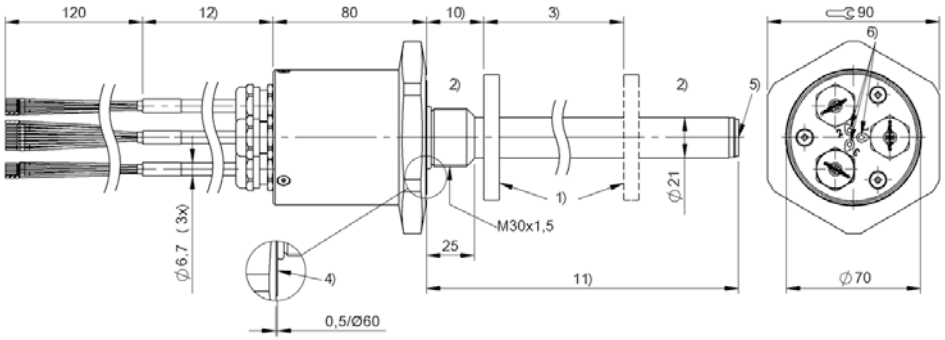
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-G505-Mxxxx-TT3-S32



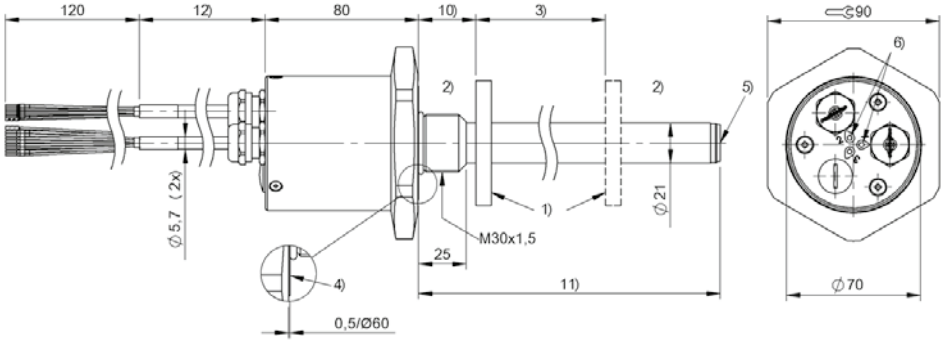
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-A505-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-G504-Mxxxx-TT2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -TT- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...3250 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	nnnn ≤ 240: l = S, KA: CE + cULus + EAC + GL + WEEE l = FA: CE + EAC + GL + WEEE nnnn > 240: l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

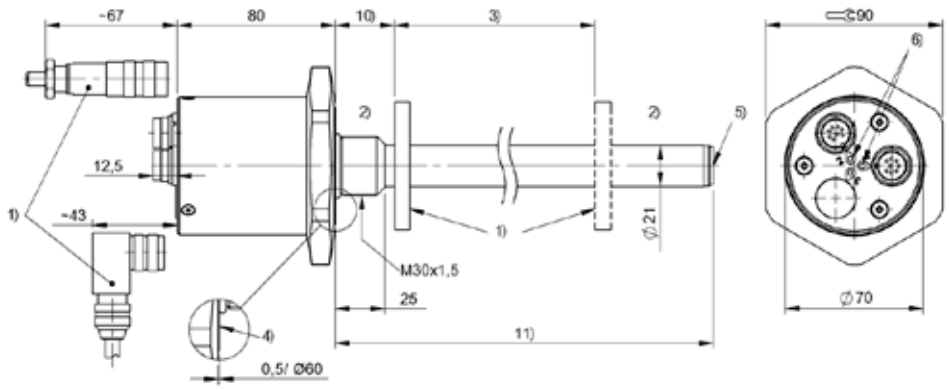
f Form factor
TT = Mounting threads M30x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

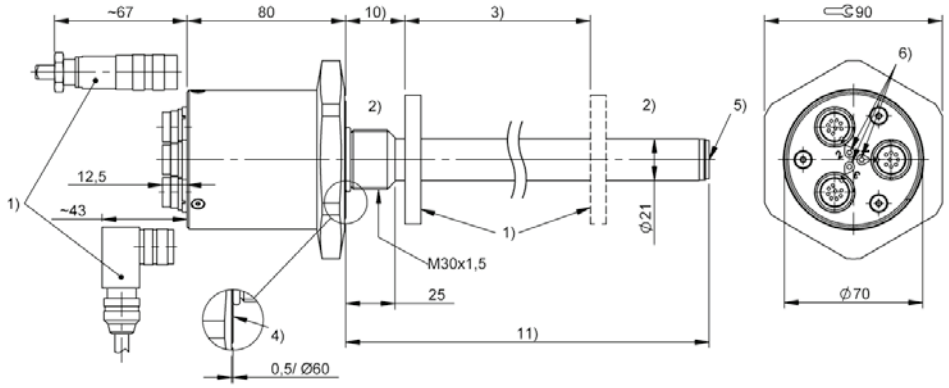
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10

BTL7-E504-Mxxxx-TT2-S32



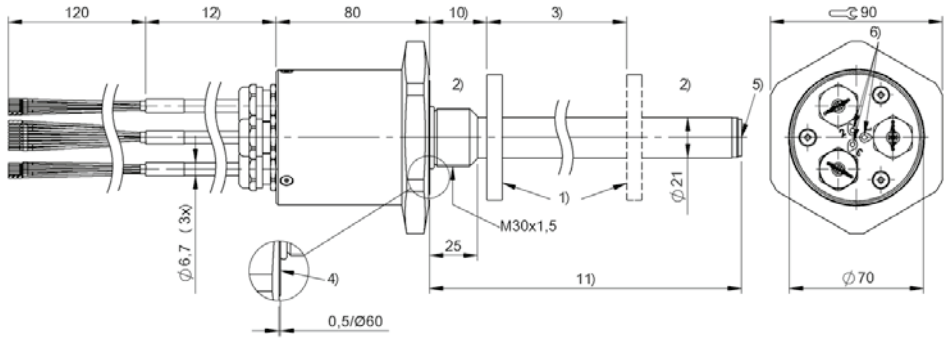
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TT3-S32



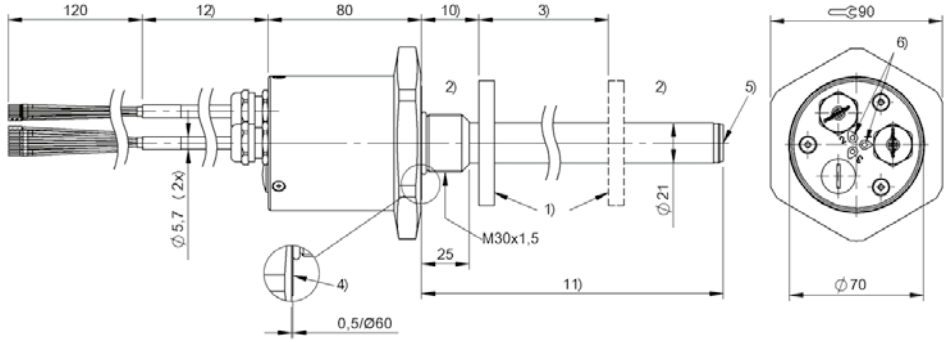
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TT2-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -TT- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7, 9: nnnn = 25…2000: ± 60 µm nnnn = 2001…3250: ± 200 µm d = 4, 5: nnnn = 25…2000: ± 4 LSB nnnn = 2001…3250: ± 200 µm d = 6, 8: nnnn = 25…3250: ± 4 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcde-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm
9 = 0.5 µm

e Interface characteristic 3
D = Synchronous / configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

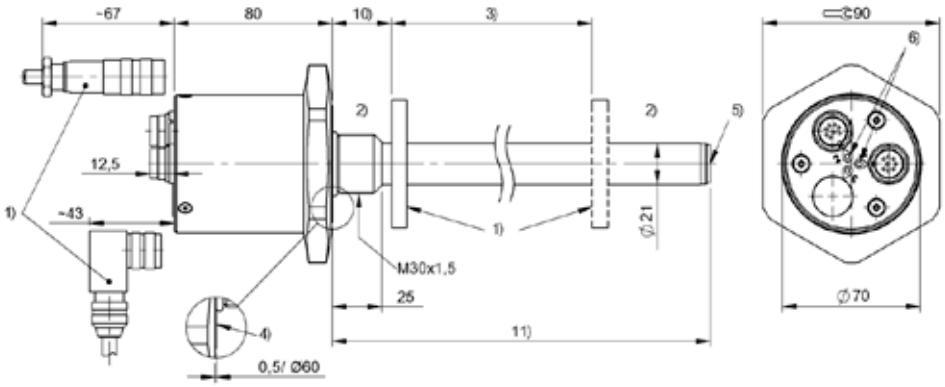
f Form factor
TT = Mounting threads M30x1.5, for O-ring, rod diameter 21 mm

h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

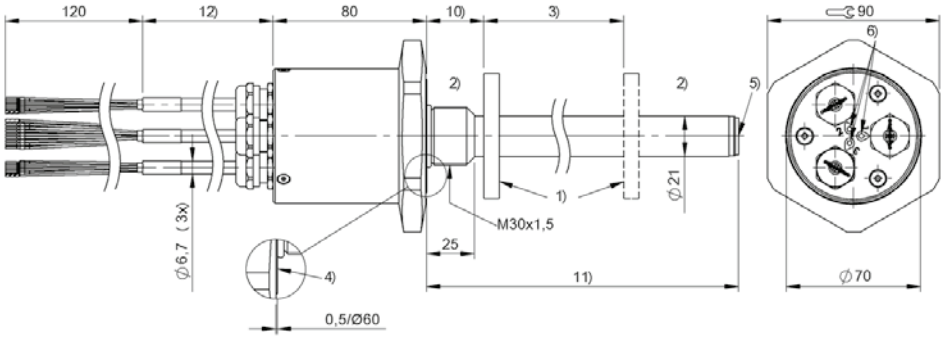
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10

BTL7-S5xxD-Mxxxx-TT2-S32



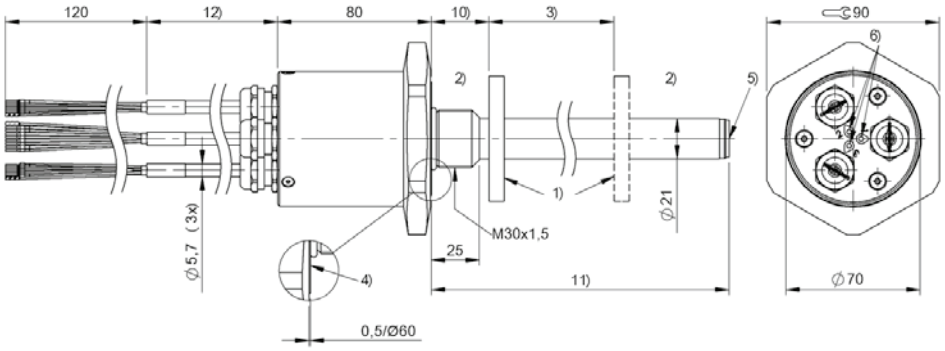
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxD-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-S5xxD-Mxxxx-TT3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -TT- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…2000: ± 60 µm nnnn = 2001…3250: ± 200 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening M30 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	l = S, KA: CE + cULus + EAC + WEEE l = FA: CE + EAC + WEEE
Ex category	—

BTL7-abcd-Mnnnn-fh-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a Interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M3250)

f Form factor
TT = Mounting threads M30x1.5, for O-ring, rod diameter 21 mm

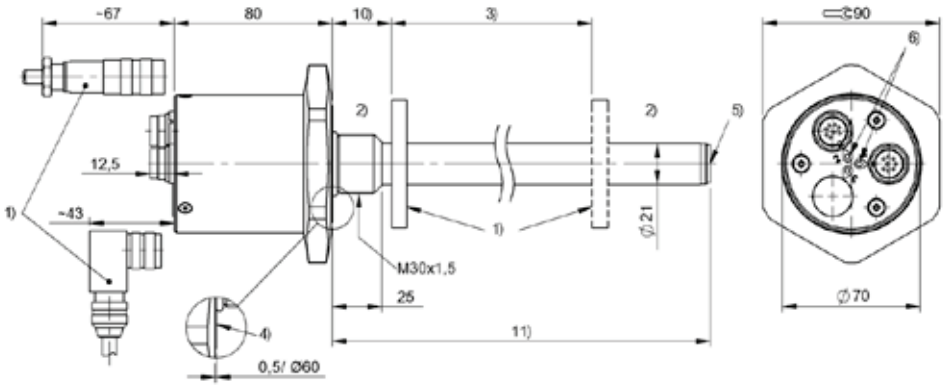
h Redundancy
2 = 2 times redundant
3 = 3 times redundant

l Connection type
S = Connector
KA = Cable (PUR)
FA = Cable (PTFE)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

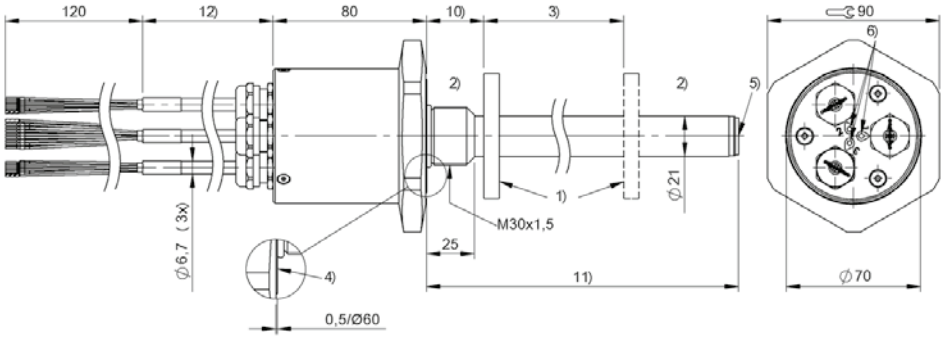
for cable (length in meters):
02, 05, 10

BTL7-P511-Mxxxx-TT2-S32



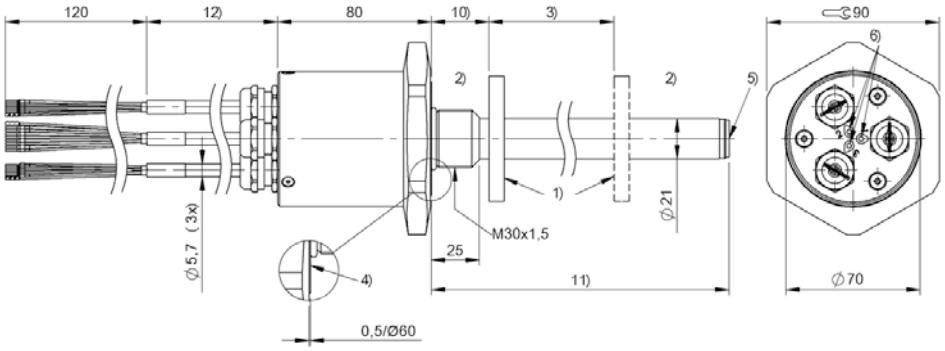
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-P511-Mxxxx-TT3-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

BTL7-P511-Mxxxx-TT3-FAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length
12) Cable length

	BTL7 -B-DEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
B = Mounting threads M18x1.5, for O-Ring

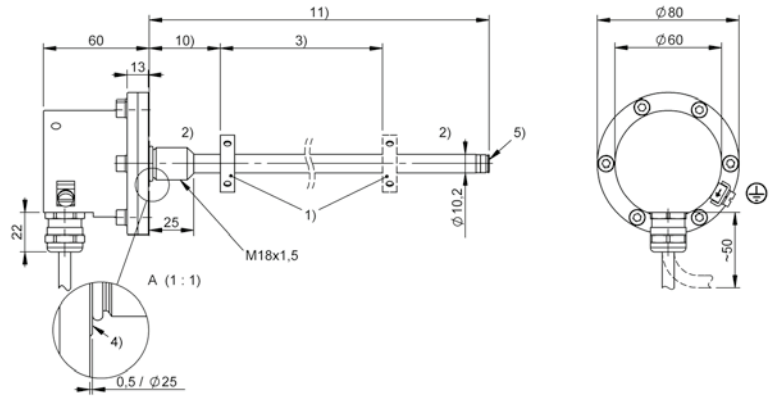
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

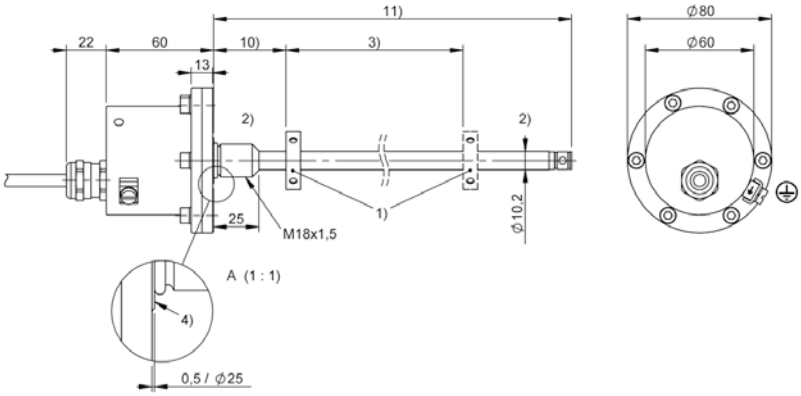
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-B-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-B-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -B-DEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
B = Mounting threads M18x1.5, for O-Ring

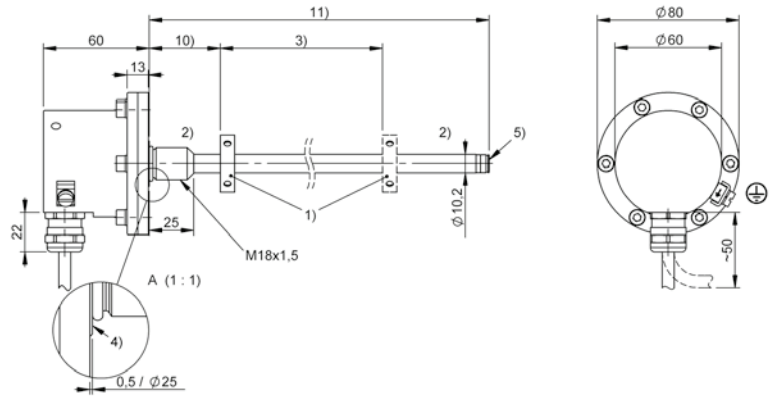
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

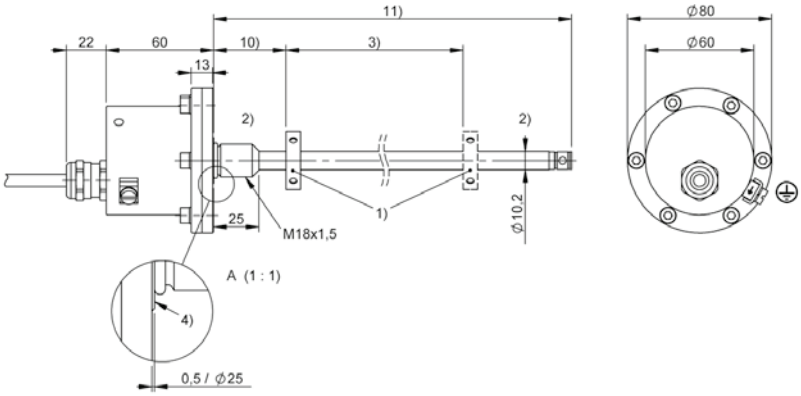
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-B-DEXB-K05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-B-DEXA-KA05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -B-DEX- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-ab-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

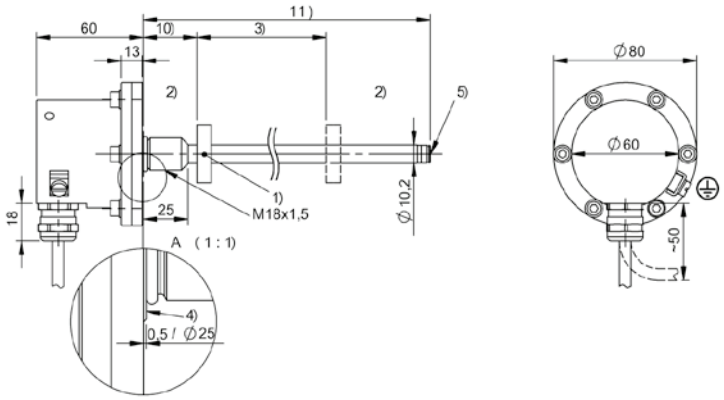
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

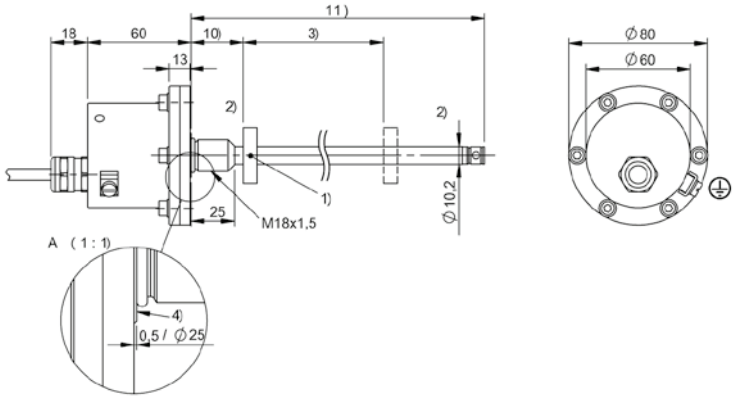
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Px-Mxxxx-B-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-Px-Mxxxx-B-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -B-DEX- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-abcde-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 26 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

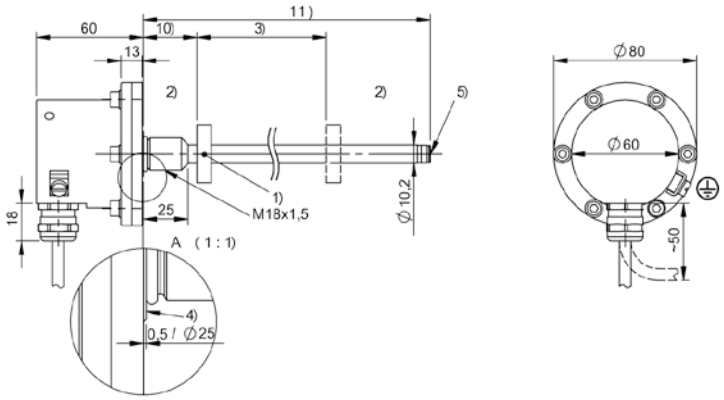
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

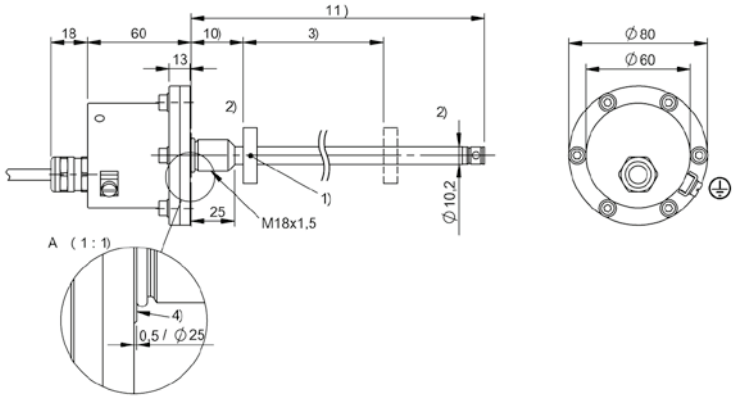
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Sxxxx-Mxxxx-B-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL5-Sxxxx-Mxxxx-B-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -B-DEX- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 10 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
T = PROFIBUS DP

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = Flexible number of magnets

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

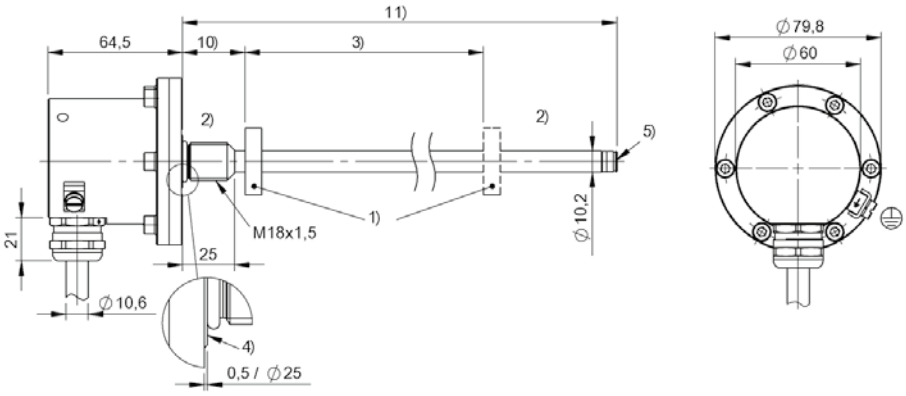
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A/D = float plug
B/E = short plug

l Connection type
K = Cable out radial (PUR) / only for variant characteristic A or B
KA = Cable out axial (PUR) / only for variant characteristic A or B
ZA1K = Wiring chamber for attachment cover / only for variant characteristic D or E

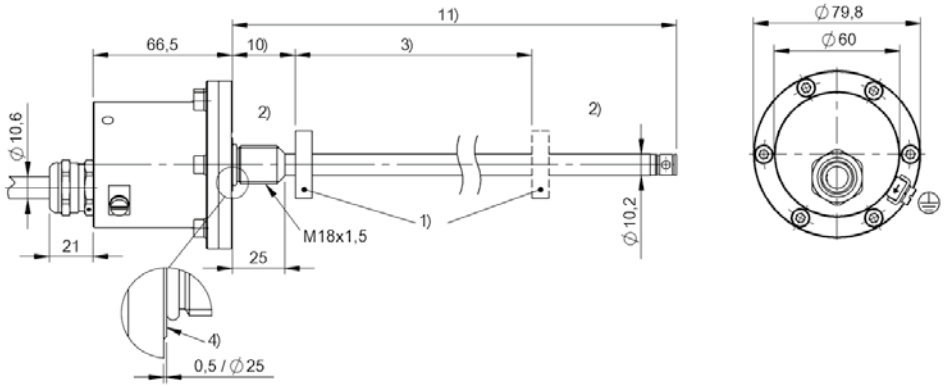
m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50

BTL7-T500-Mxxxx-B-DEXB-Kxx



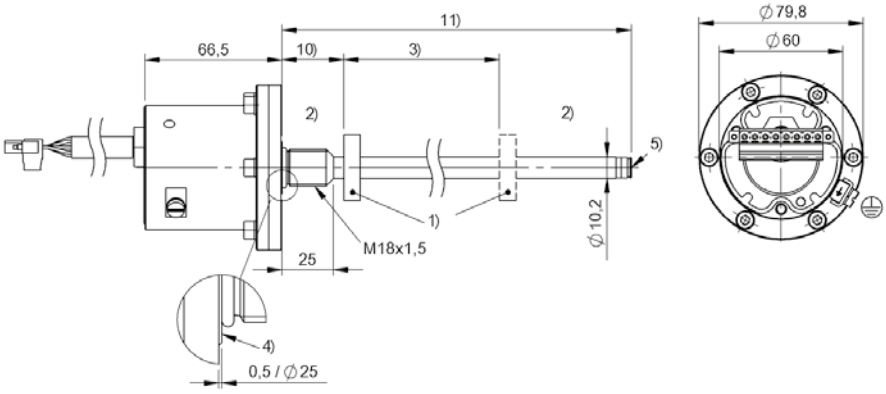
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-B-DEXA-KAxx



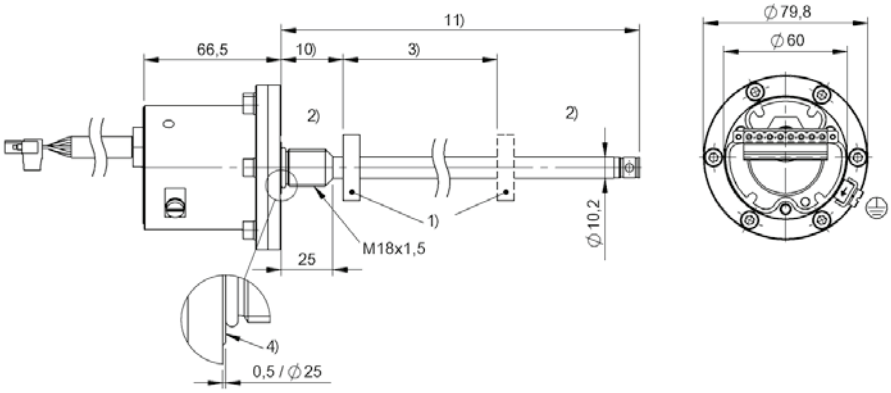
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-T500-Mxxxx-B-DEXE-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-B-DEXD-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -Z-DEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

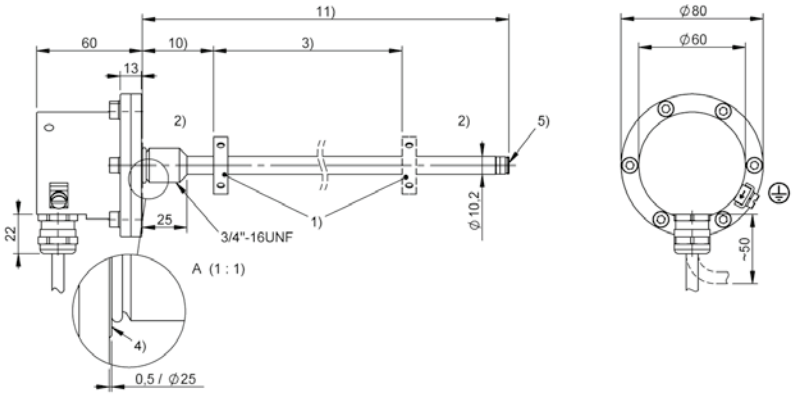
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

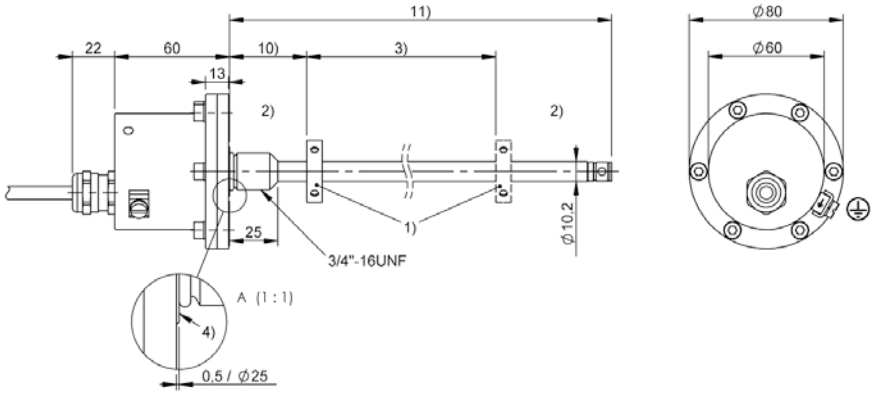
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-Z-DEXB-K05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-Z-DEXA-KA05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -Z-DEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

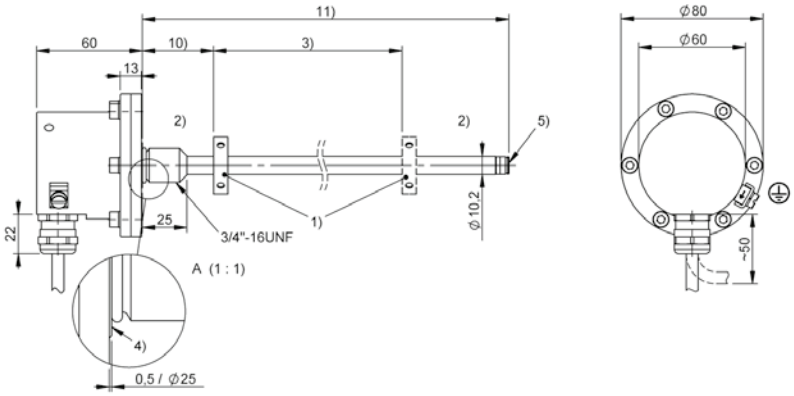
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

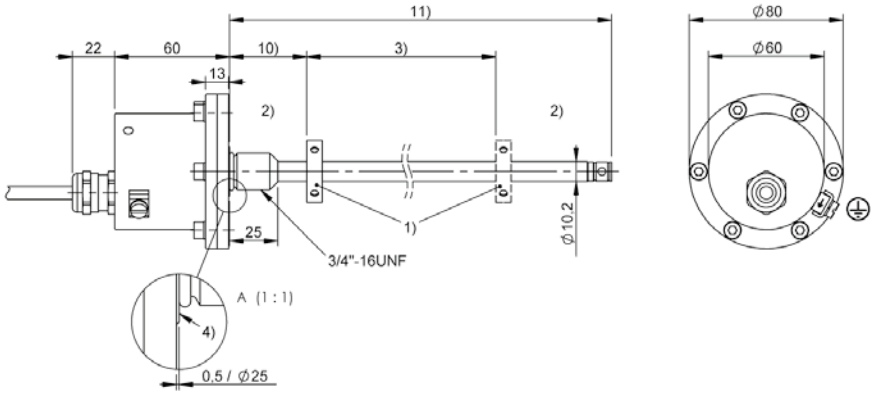
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-Z-DEXB-K05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-Z-DEXA-KA05



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -Z-DEX- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-ab-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

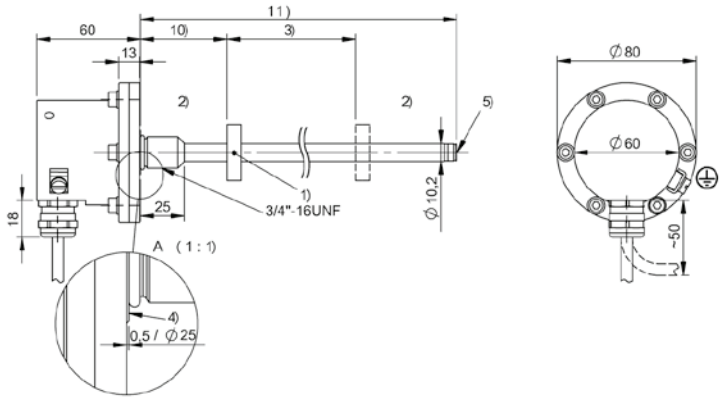
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

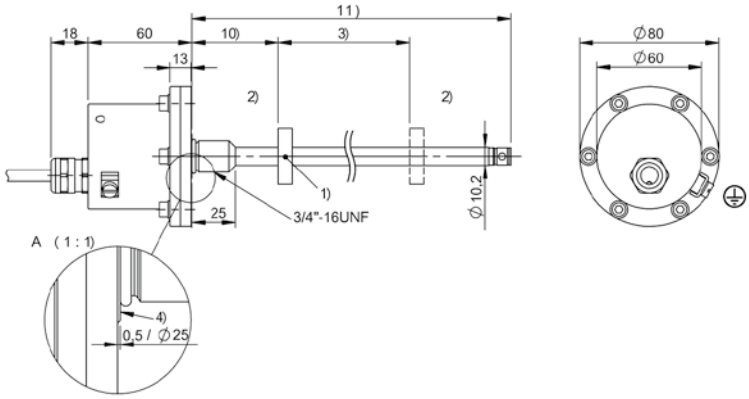
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Px-Mxxxx-Z-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Px-Mxxxx-Z-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL5 -Z-DEX- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-abcde-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

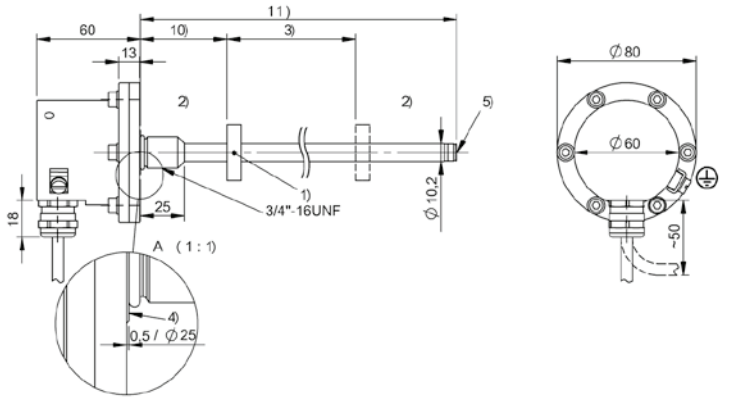
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)
KA = Cable out axial (PUR)

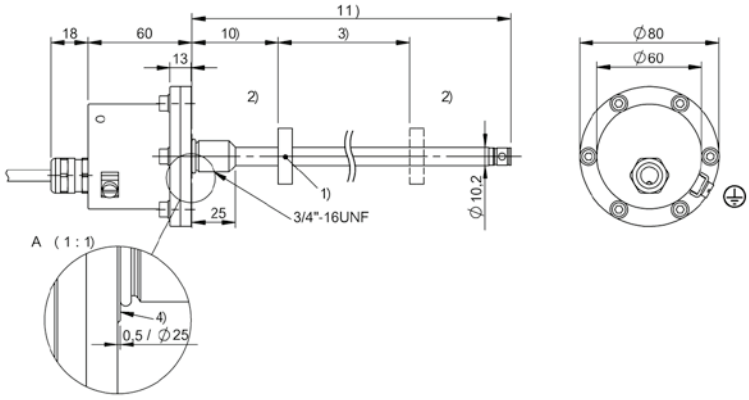
m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

BTL5-Sxxxx-Mxxxx-Z-DEXB-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Sxxxx-Mxxxx-Z-DEXA-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-DEX- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 10 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
T = PROFIBUS DP

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = Flexible number of magnets

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
Z = Inch threads 3/4“-16UNF, for O-Ring

g Form factor characteristic
- = Rod diameter 10.2 mm

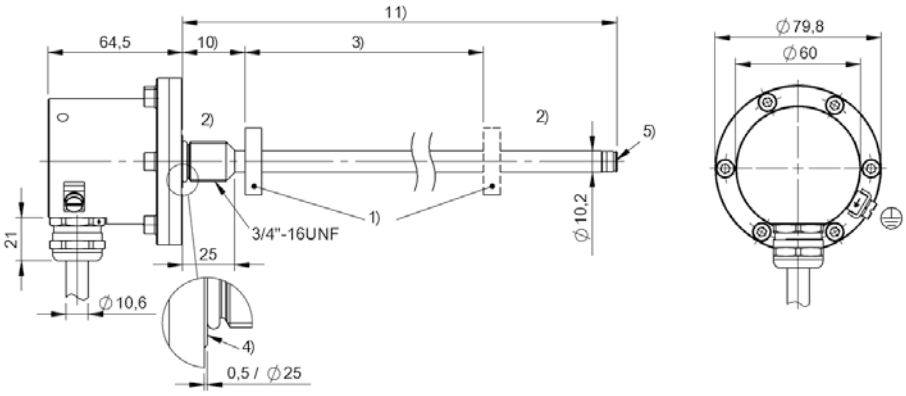
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A/D = float plug
B/E = short plug

l Connection type
K = Cable out radial (PUR) / only for variant characteristic A or B
KA = Cable out axial (PUR) / only for variant characteristic A or B
ZA1K = Wiring chamber for attachment cover / only for variant characteristic D or E

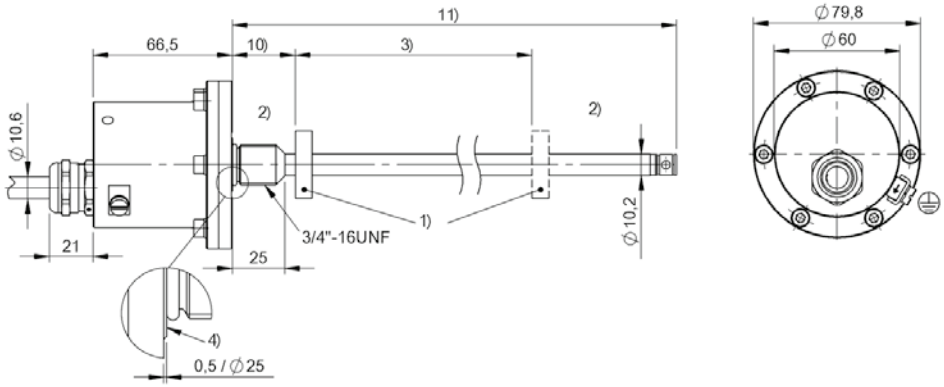
m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50

BTL7-T500-Mxxxx-Z-DEXB-Kxx



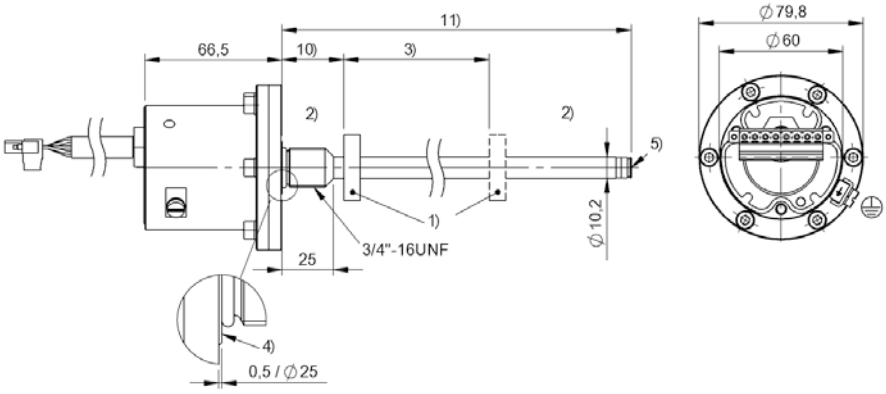
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-Z-DEXA-KAxx



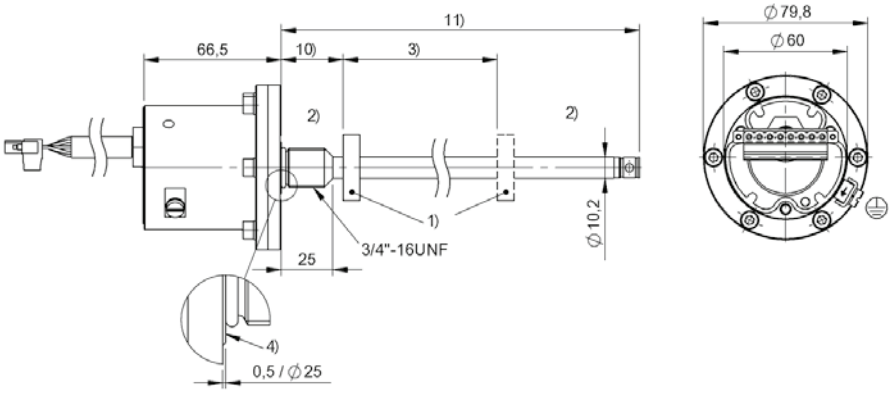
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-T500-Mxxxx-Z-DEXE-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-Z-DEXD-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -J-DEX-A/B- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
J = Flange 18h6

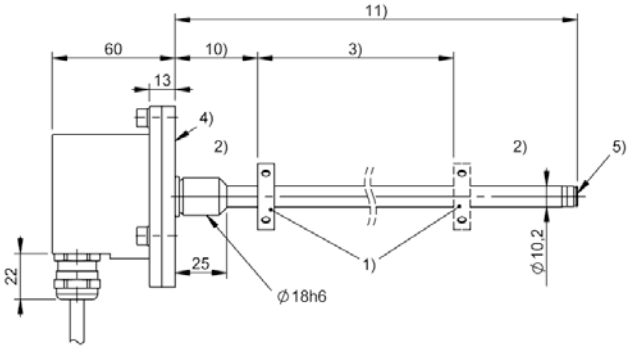
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

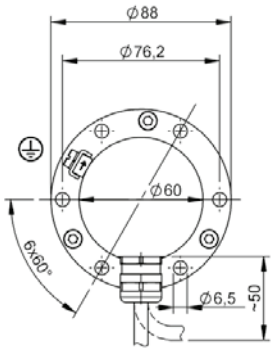
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 30

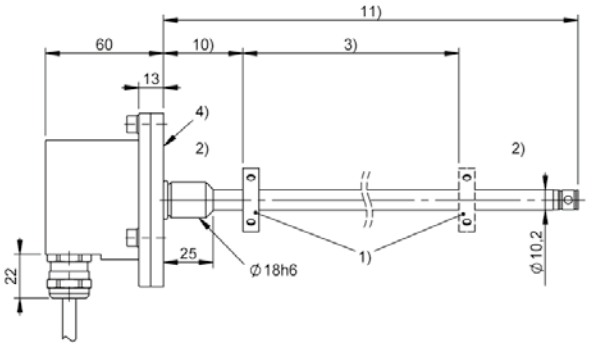
BTL7-A510-Mxxxx-J-DEXB-Kxx

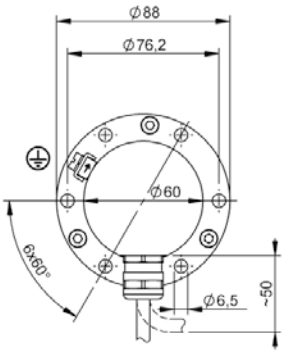




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -J-DEX-A/B- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
J = Flange 18h6

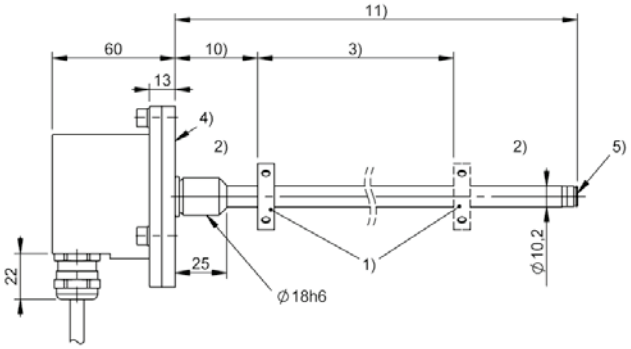
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

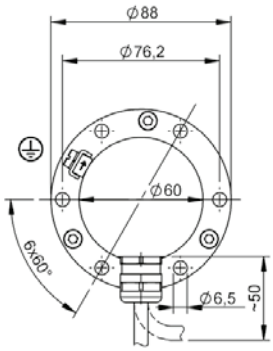
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

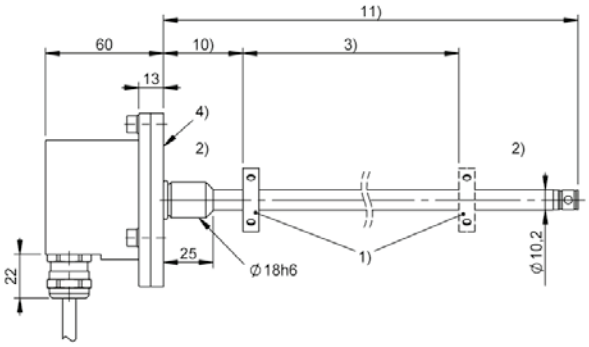
BTL7-E500-Mxxxx-J-DEXB-Kxx

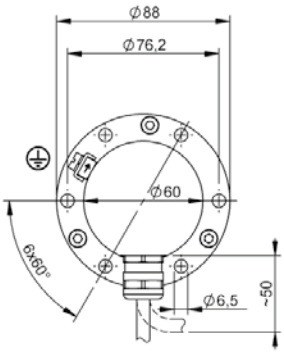




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL5 -J-DEX-A/B- SERIES - SSI
Interface	SSI
Measuring length	25...4000 mm
Repeat accuracy	± 1 LSB
Linearity deviation	d = 1, 2, 3, 7: nnnn = 25…4000: ± 30µm d = 4, 5, 6, 8 nnnn = 25…4000: ± 2 LSB
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-abcde-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor Generation 5

a interface
S = SSI

b Operating voltage
1 = 20 … 28 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
J = Flange 18h6

g Form factor characteristic
- = Rod diameter 10.2 mm

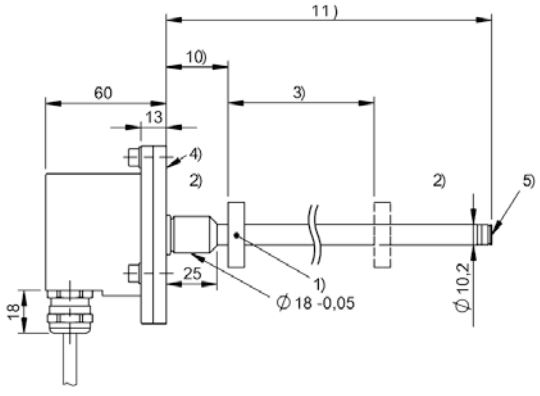
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

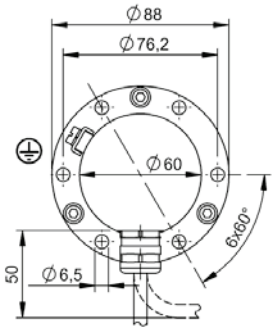
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

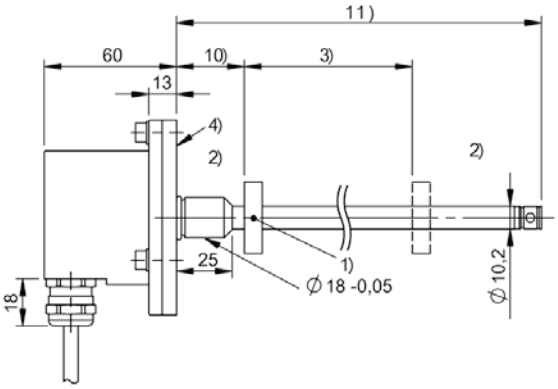
BTL5-Sxxxx-Mxxxx-J-DEXB-Kxx

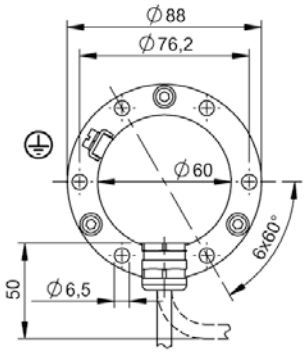




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Sxxxx-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL5 -J-DEX-A/B- SERIES - DIGITAL
Interface	Start/Stop
Measuring length	25...4000 mm
Repeat accuracy	2 µm
Linearity deviation	nnnn = 0025…0500: ± 100 µm, nnnn > 0500: ± 0.02% FS
Operating voltage Ub	20...26 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP67
Approval/Conformity	CE EAC IECEx KC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc

BTL5-ab-Mnnnn-fg-ij-lm

BTL5
Magnetostrictive linear position sensor
Generation 5

a interface
P = Digital pulse interface (falling edge stabilized)
M = Digital pulse interface (rising edge stabilized

b Operating voltage
1 = 20 … 28 V

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0050…M4000)

f Style
J = Flange 18h6

g Form factor characteristic
- = Rod diameter 10.2 mm

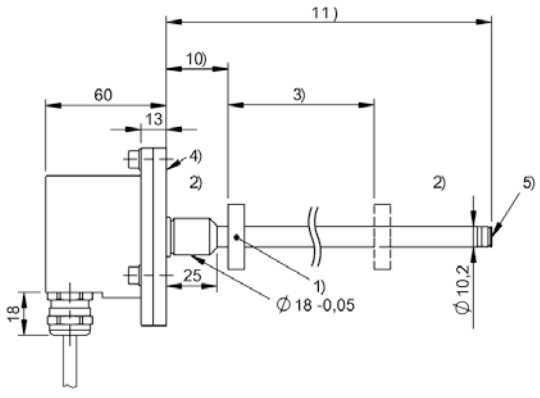
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

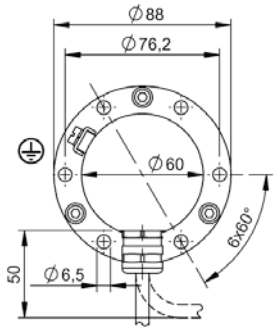
j Variant characteristic
A = float plug
B = short plug

l Connection type
K = Cable out radial (PUR)

m Connection type characteristic 1
(length in meters)
02, 05, 10, 15, 20, 30

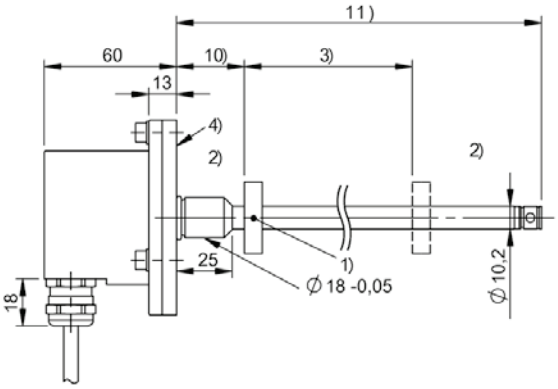
BTL5-Px-Mxxxx-J-DEXB-Kxx

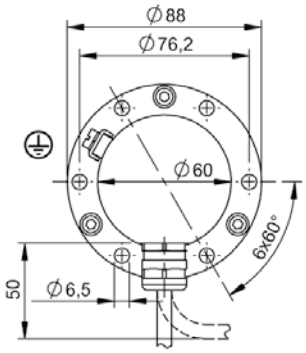




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL5-Px-Mxxxx-J-DEXA-Kxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -J-DEX-A/B/D/E- SERIES - PROFIBUS
Interface	Profibus
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 10 µm
Linearity deviation	nnnn = 0050…5500: ± 30 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE IECEx WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
T = PROFIBUS DP

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = Flexible number of magnets

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Style
J = Flange 18h6

g Form factor characteristic
- = Rod diameter 10.2 mm

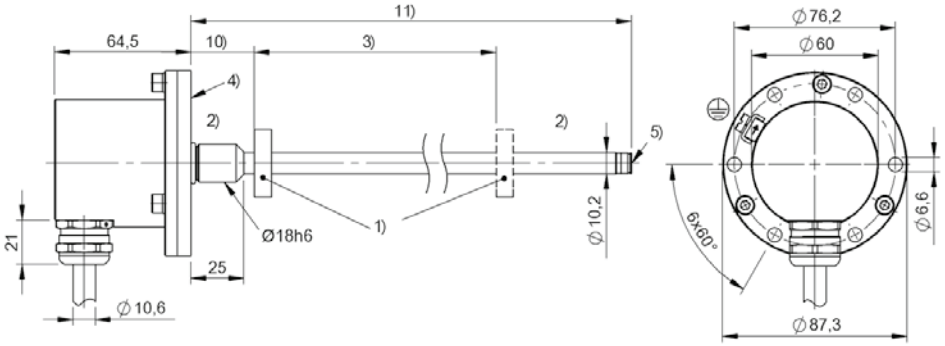
i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
A/D = float plug
B/E = short plug

l Connection type
K = Cable out radial (PUR) / only for variant characteristic A or B
ZA1K = Wiring chamber for attachment cover / only for variant characteristic D or E

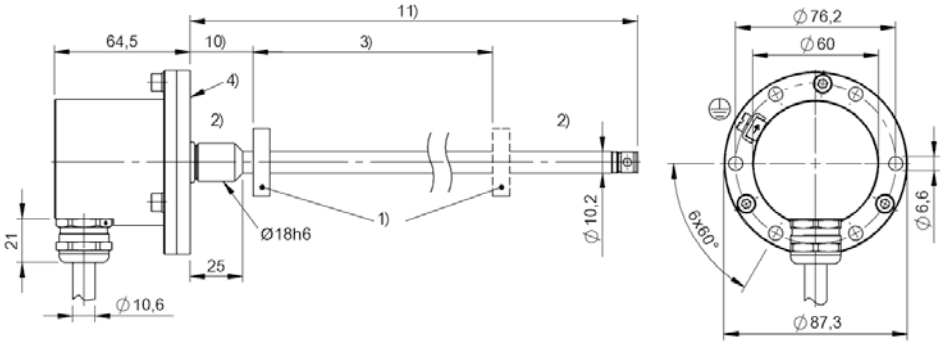
m Connection type characteristic 1
for cable (length in meters):
02, 05, 10, 15, 20, 50

BTL7-T500-Mxxxx-J-DEXB-Kxx



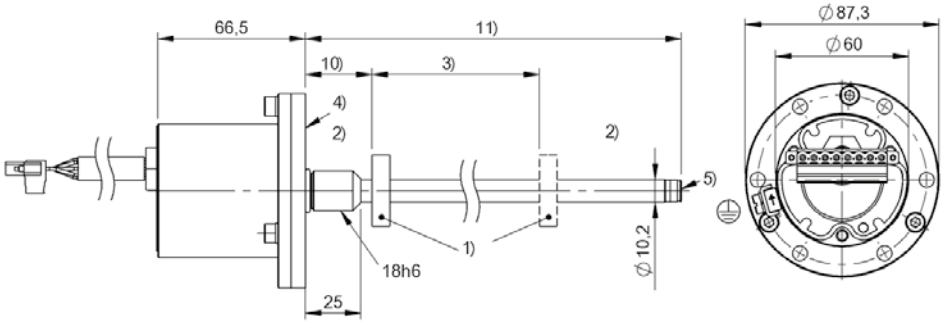
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-J-DEXA-Kxx



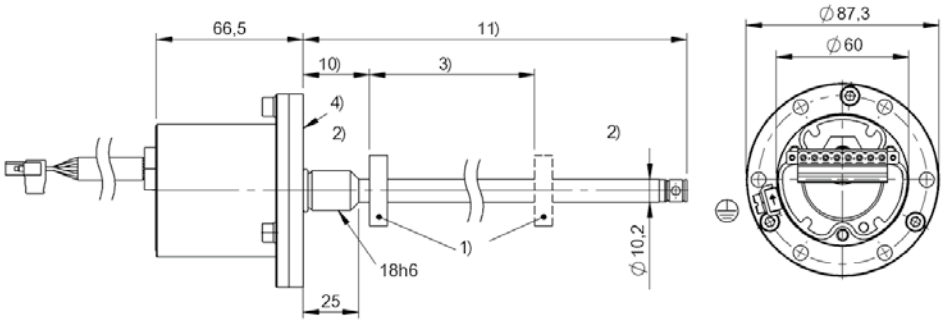
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

BTL7-T500-Mxxxx-J-DEXE-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-T500-Mxxxx-J-DEXD-ZA1K



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -J-DEXC- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...7620 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

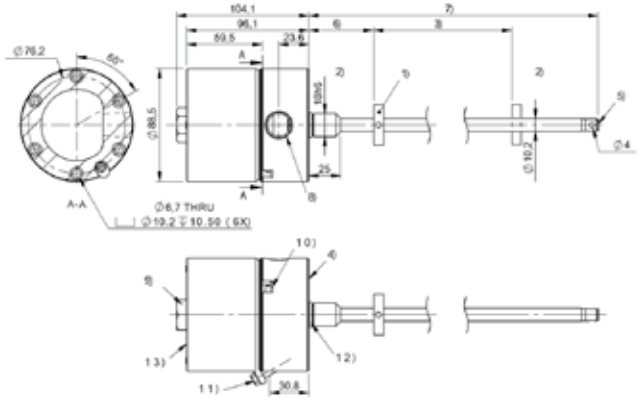
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

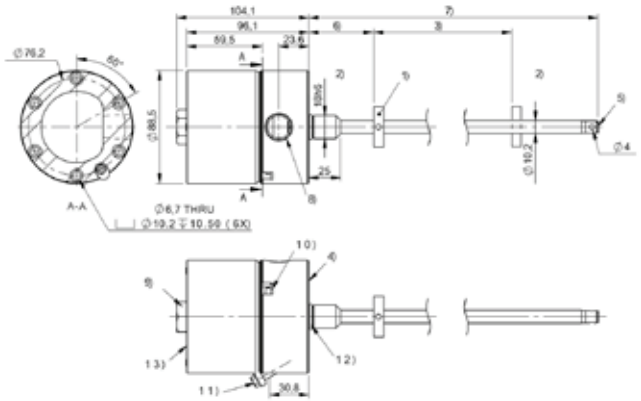
l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-A501-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

BTL7-G510-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -J-DEXC- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

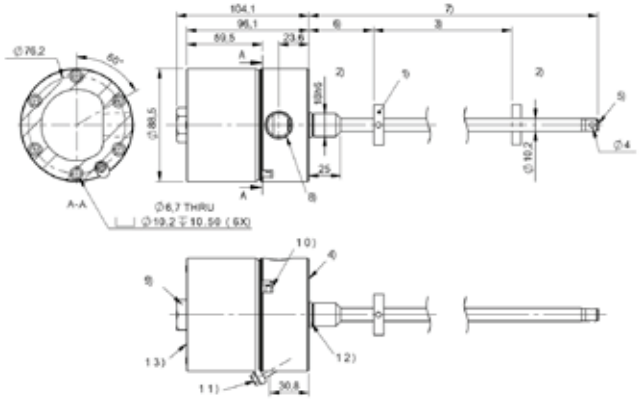
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

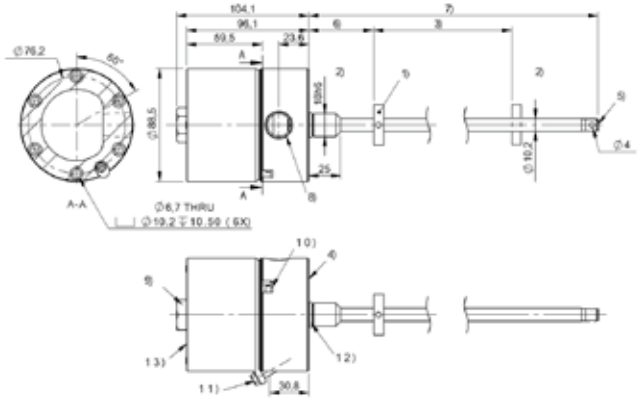
l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-E501-Mxxxx-J-DEXC-TA12



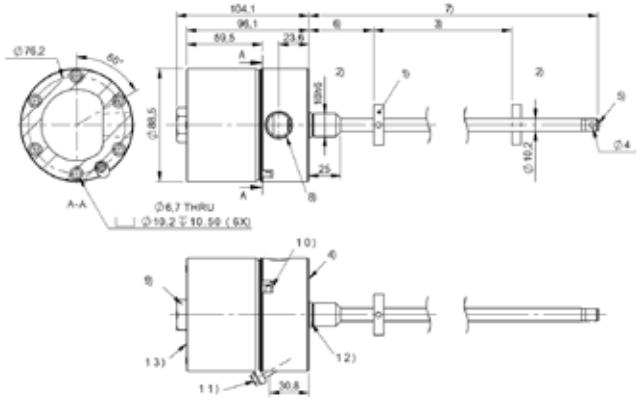
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

BTL7-E500-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

BTL7-E570-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -J-DEXC- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	nnnn = 0025…5500: ± 50 µm, nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcd-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

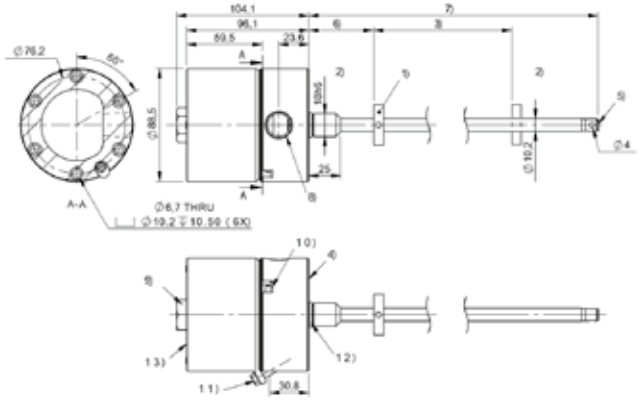
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-P511-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -J-DEXC- SERIES - SSI
Interface	SSI
Measuring length	25...7620 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: nnnn = 50…5500: ± 30µm d = 4, 5, 6, 8 nnnn = 50…5500: ± 2 LSB nnnn > 5500: ± 0.02% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...80 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	—
IP rating	IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 1G (EPL Ga), ATEX: 2G (EPL Gb), ATEX: 3G (EPL Gc), ATEX: 1D (EPL Da), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Ga, IECEx: EPL Gb, IECEx: EPL Gc, IECEx: EPL Da, IECEx: EPL Db, IECEx: EPL Dc, NEC 500: Class I, Division 1, NEC 500: Class I, Division 2, NEC 500: Class II, Division 1, NEC 500: Class II, Division 2, NEC 500/505: Class III, NEC 505: Class I, Zone 1

BTL7-abcde-Mnnnn-f-ij-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

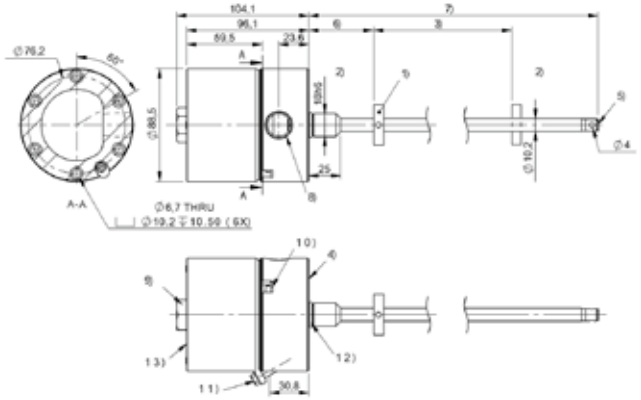
f Style
J = Flange 18h6

i Variant
DEX = Ignition protection category „d“ / pressure-proof encapsulation

j Variant characteristic
C = float plug

l + m connection type + connection type characteristic 1
TA12 = Clamp with 1/2“-14 NPT (cable entry)

BTL7-S5xxx-Mxxxx-J-DEXC-TA12



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) Null point
7) Installation length
8) 1/2" - 14 NPT (cable entry)
9) 15/16" or 24 mm wrench
10) External Housing GND
11) Cover fastening screw
12) O-ring
13) Part label, metal

	BTL7 -B-NEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	I = S: IP67 with connector I = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

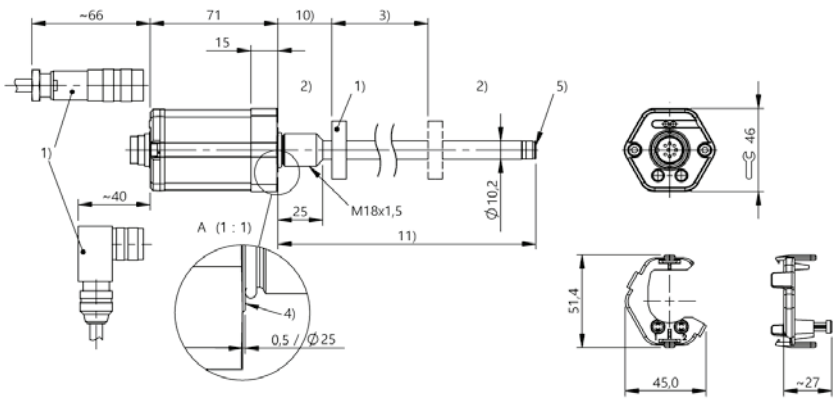
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

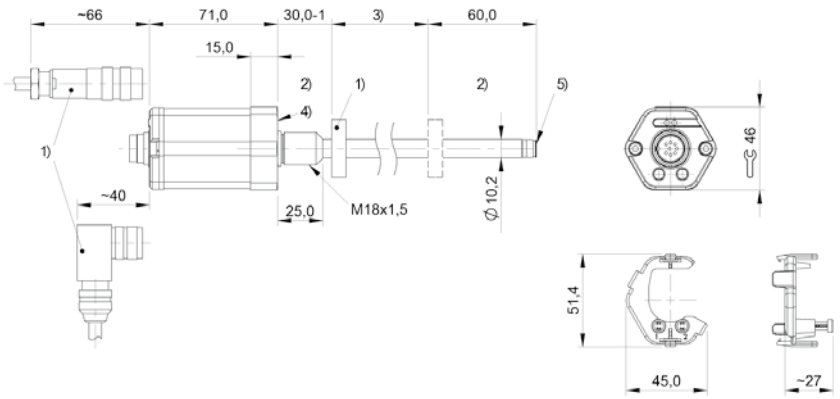
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-B-NEX-S32



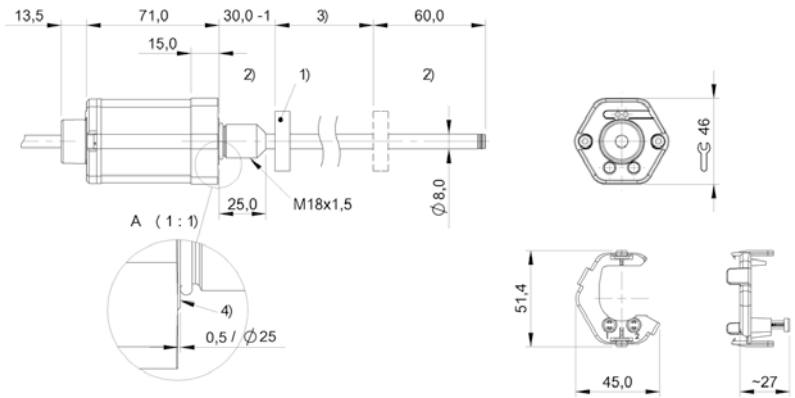
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-A-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-B8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -B-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...5500 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

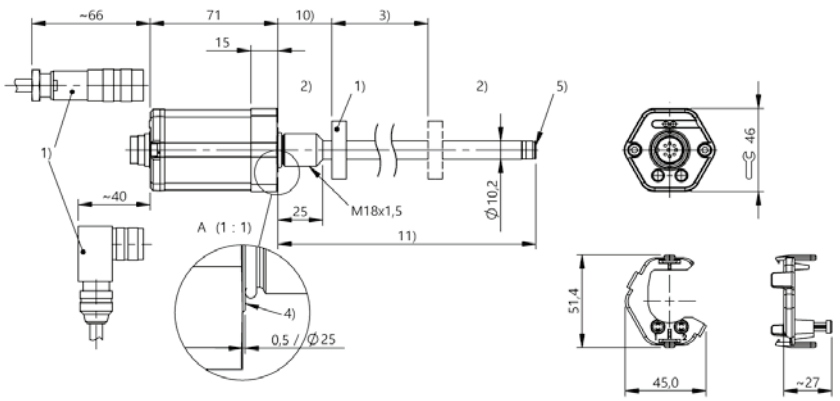
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

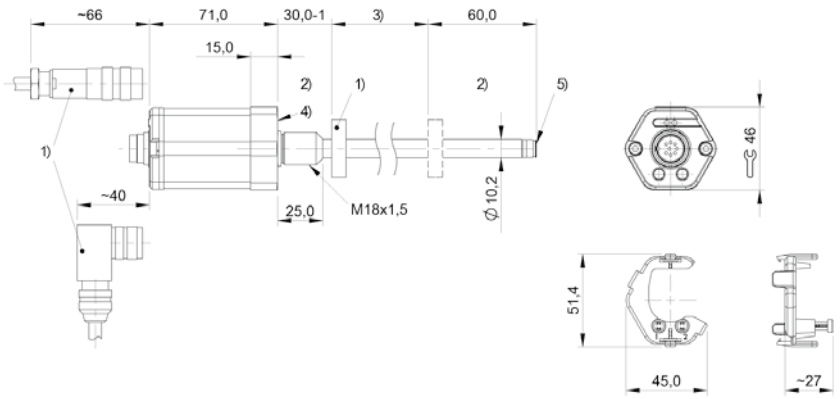
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-B-NEX-S32



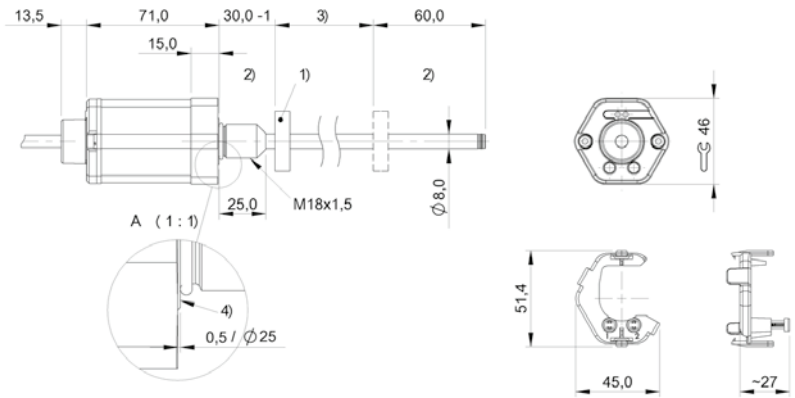
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C500-Mxxxx-A-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-B8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -B-NEX- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

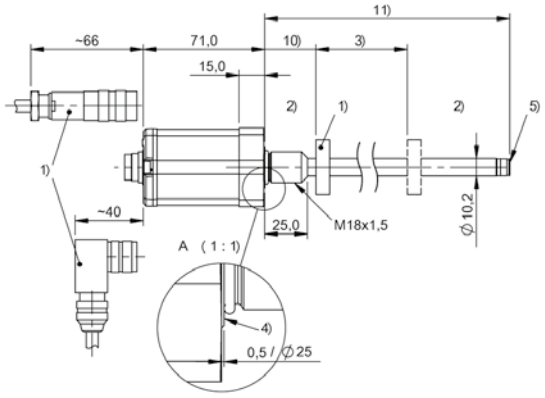
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

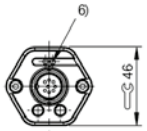
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

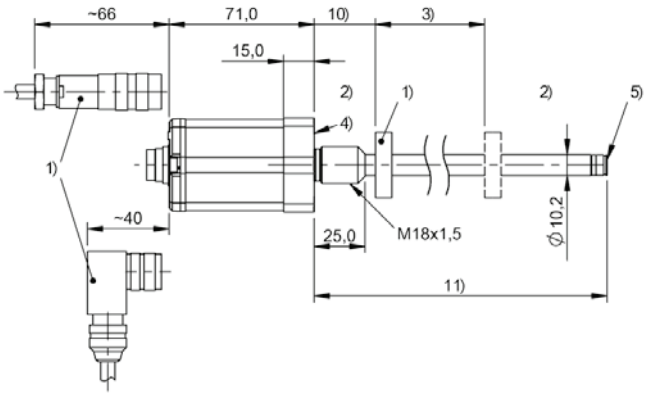
BTL7-P511-Mxxxx-B-NEX-S32

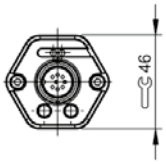




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

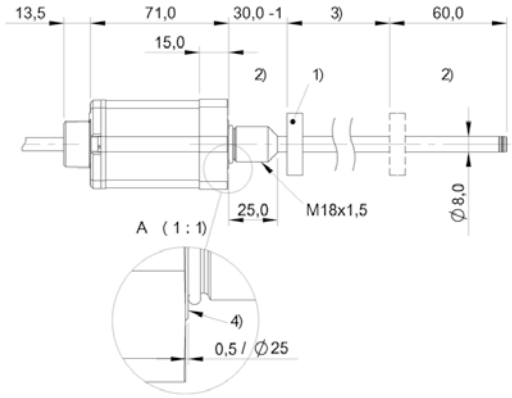
BTL7-P511-Mxxxx-A-NEX-S32

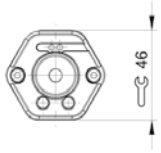




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-P511-Mxxxx-B8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -B-NEX- SERIES - SSI
Interface	SSI
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcde-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
A = Mounting threads M18x1.5, for flat seal
B = Mounting threads M18x1.5, for O-Ring

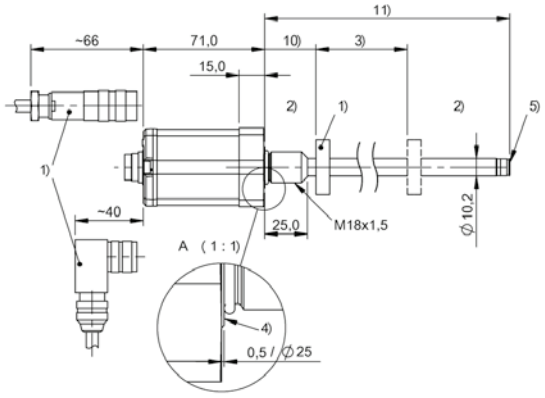
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

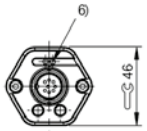
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

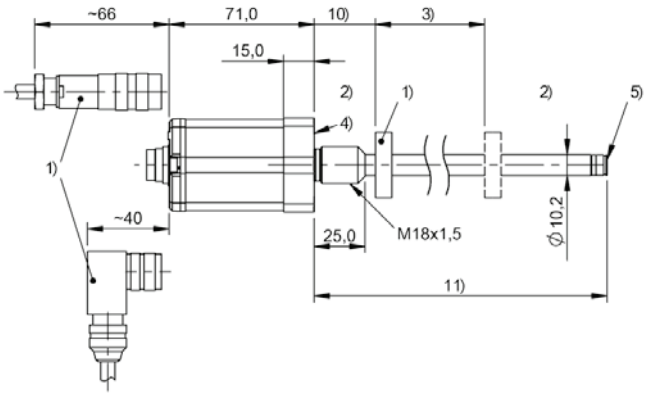
BTL7-S510x-Mxxxx-B-NEX-S32

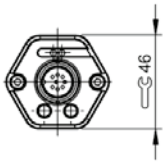




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

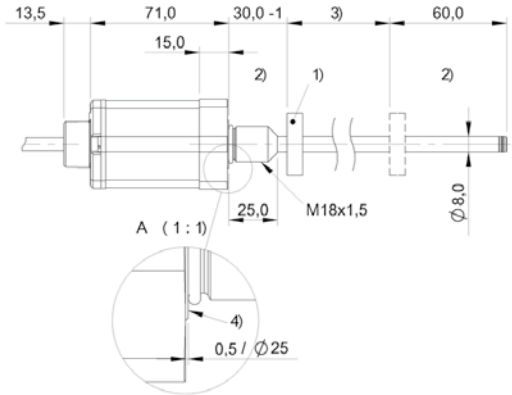
BTL7-S5xxx-Mxxxx-A-NEX-S32

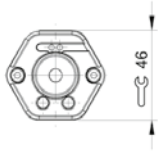




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-B8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
10 = 2 outputs, 1x each rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, f or O-Ring

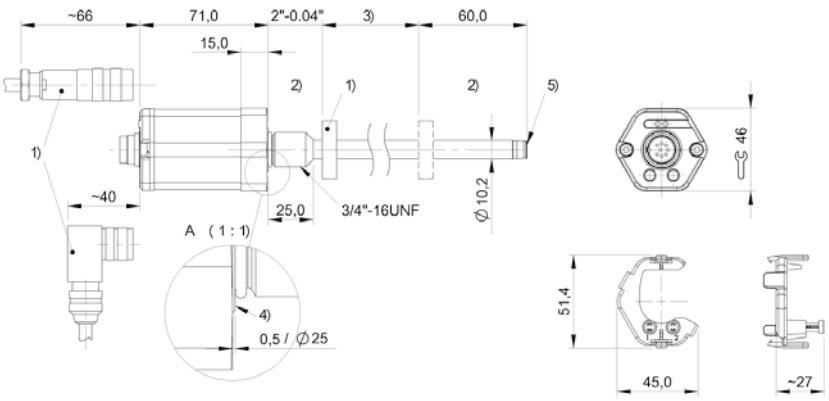
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

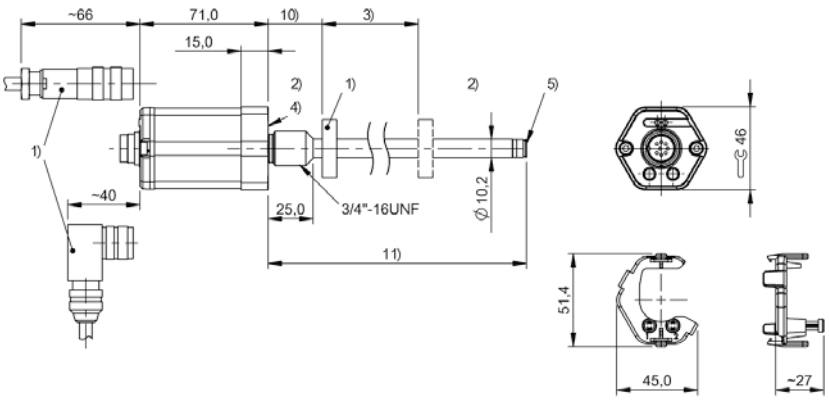
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A501-Mxxxx-Z-NEX-S32



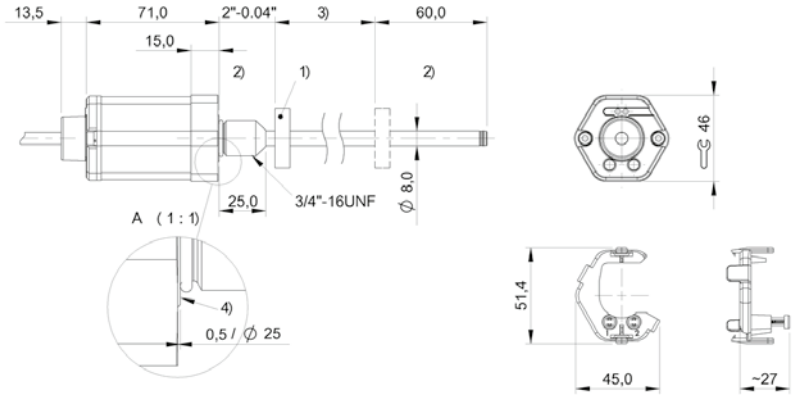
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-G510-Mxxxx-Y-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-A510-Mxxxx-Z8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...5500 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, 1x each rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

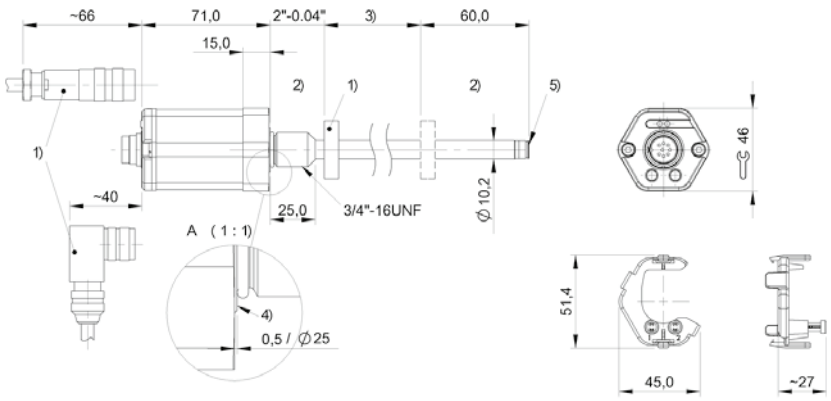
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

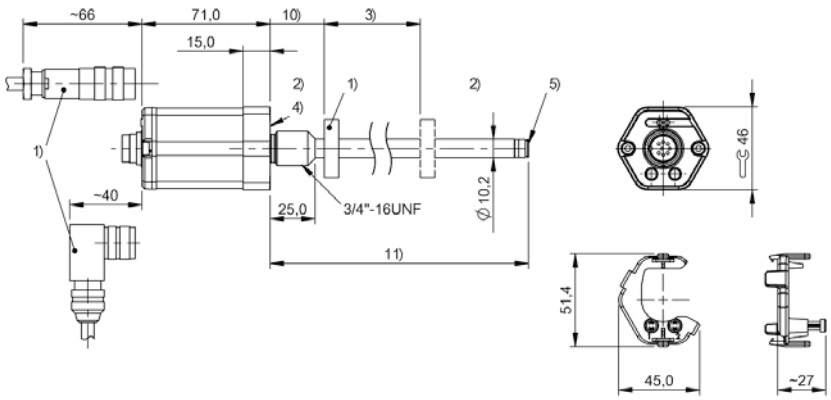
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-Z-NEX-S32



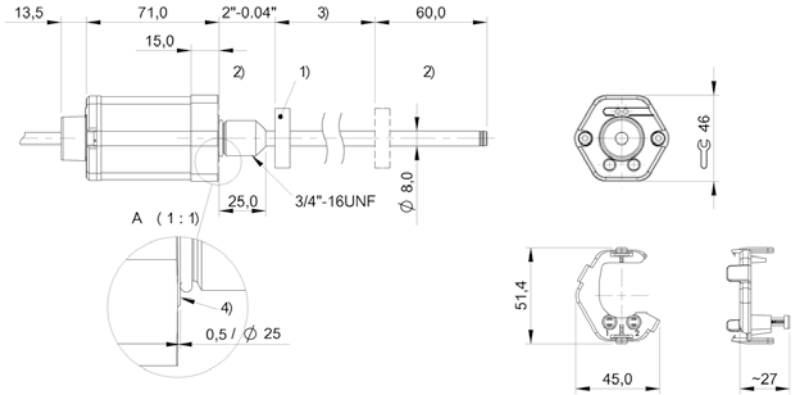
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-C500-Mxxxx-Y-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-E570-Mxxxx-Z8-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - DIGITAL
Interface	Digital pulse
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	± 50 µm
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
P = Digital pulse interface

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
1 = Digital start/stop interface

d Interface characteristic 2
1 = DPI/IP communication interface

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

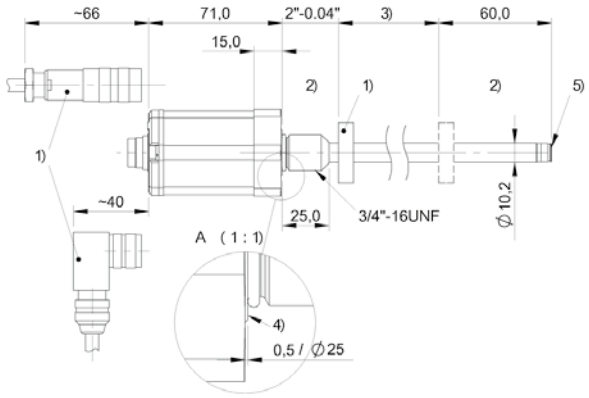
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

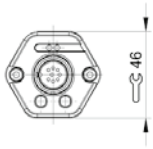
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

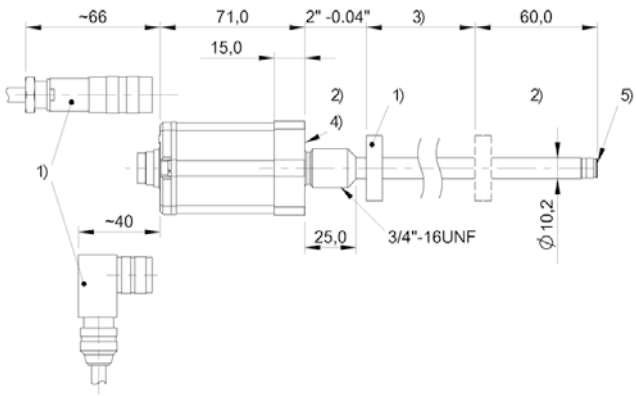
BTL7-P511-Mxxxx-Z-NEX-S32

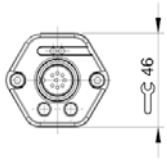




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

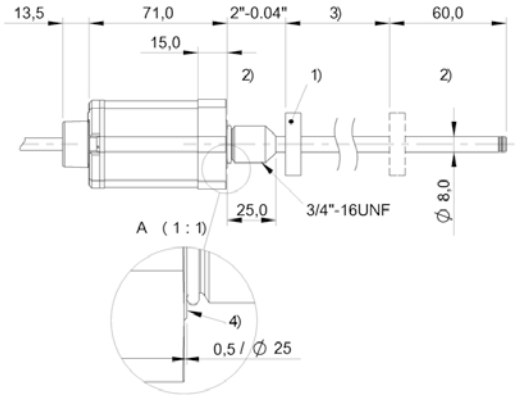
BTL7-P511-Mxxxx-Y-NEX-S32

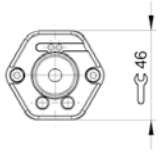




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-P511-Mxxxx-Z8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -Z-NEX- SERIES - SSI
Interface	SSI
Measuring length	25...5500 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcde-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
Y = Inch threads 3/4“-16UNF, for flat seal
Z = Inch threads 3/4“-16UNF, for O-Ring

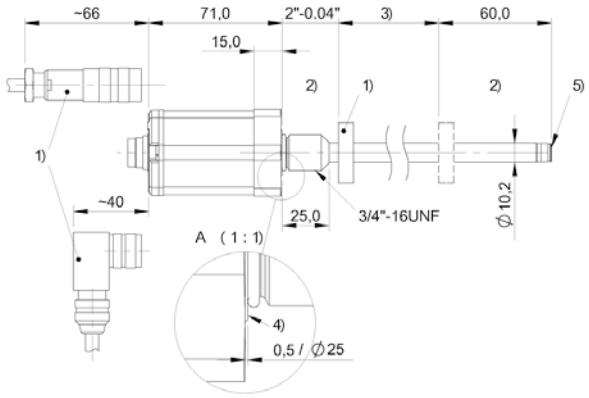
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

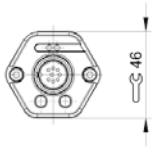
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

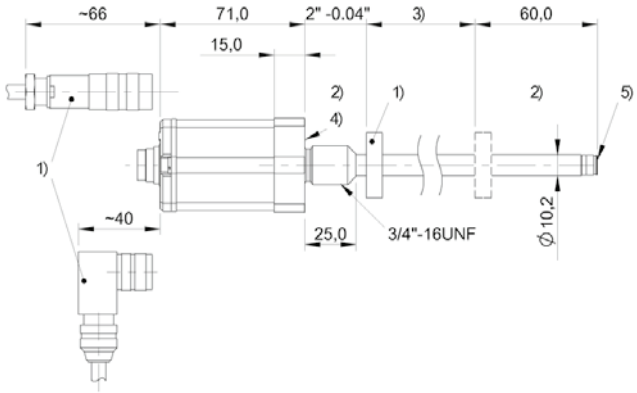
BTL7-S510x-Mxxxx-Z-NEX-S32

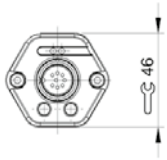




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

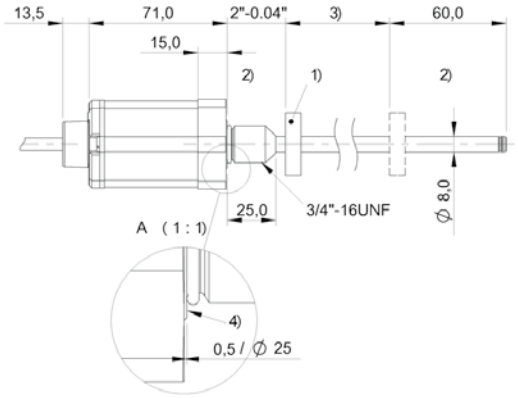
BTL7-S5xxx-Mxxxx-Y-NEX-S32

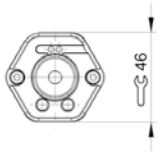




1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep

BTL7-S5xxx-Mxxxx-Z8-NEX-KAxx





1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface

	BTL7 -CD-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...2000 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…2000: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-f-i-lm

BTL7
Magnetostrictive linear position sensor Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
01 = 2 outputs, each 1 x rising/falling settable/programmable
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

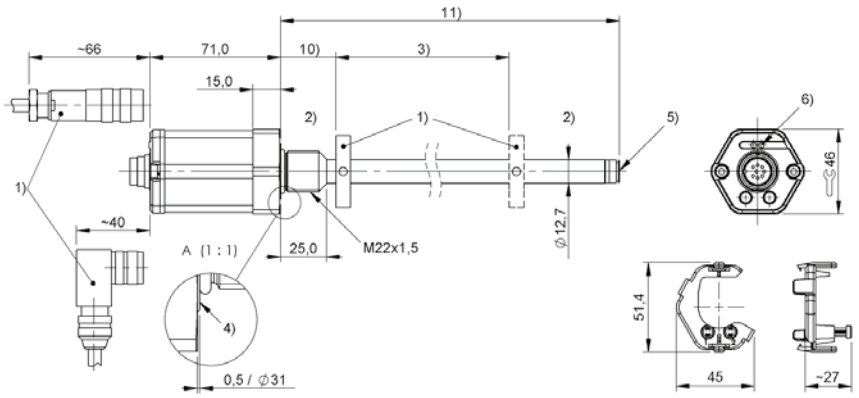
f Style
CD = Mounting threads M22x1.5, for O-Ring

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

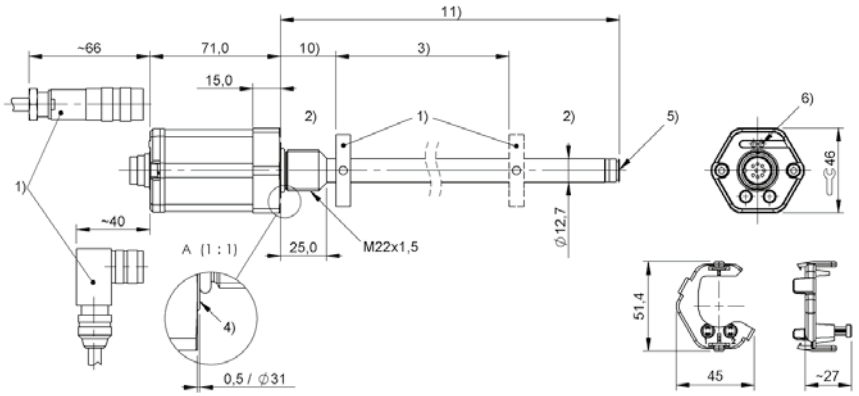
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E501-Mxxxx-CD-NEX-S32



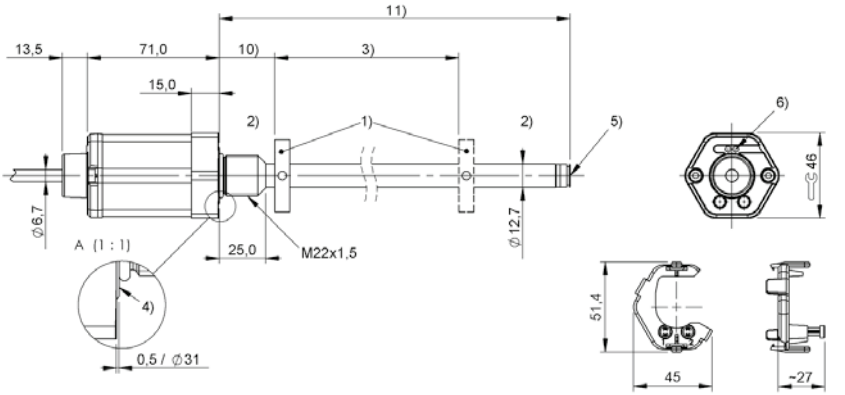
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-C500-Mxxxx-CD-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-E570-Mxxxx-CD-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -CD-NEX- SERIES - SSI
Interface	SSI
Measuring length	25...2000 mm
Repeat accuracy	≤ ± 5 µm
Linearity deviation	d = 1, 2, 3, 7: ± 30µm, d = 4, 5, 6, 8: ± 2 LSB
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M22 threads
Housing material	Aluminum, Anodized
IP rating	l = S: IP67 with connector l = KA: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcde-Mnnnn-f-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
S = SSI

b Operating voltage
5 = 10 … 30 V

c Interface characteristic 1
0 = 24 bits, binary, rising
1 = 24 bits, gray, rising
2 = 24 bits, binary, falling
3 = 24 bits, gray, falling
6 = 25 bits, binary, rising
7 = 25 bits, gray, rising
8 = 25 bits, binary, falling
9 = 25 bits, gray, falling
A = 26 bits, binary, rising
B = 26 bits, gray, rising
C = 26 bits, binary, falling
D = 26 bits, gray, falling

d Interface characteristic 2
1 = 1 µm
2 = 5 µm
3 = 10 µm
4 = 20 µm
5 = 40 µm
6 = 100 µm
7 = 2 µm
8 = 50 µm

e Interface characteristic 3
B = Synchronous mode
- = Asynchronous mode

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M2000)

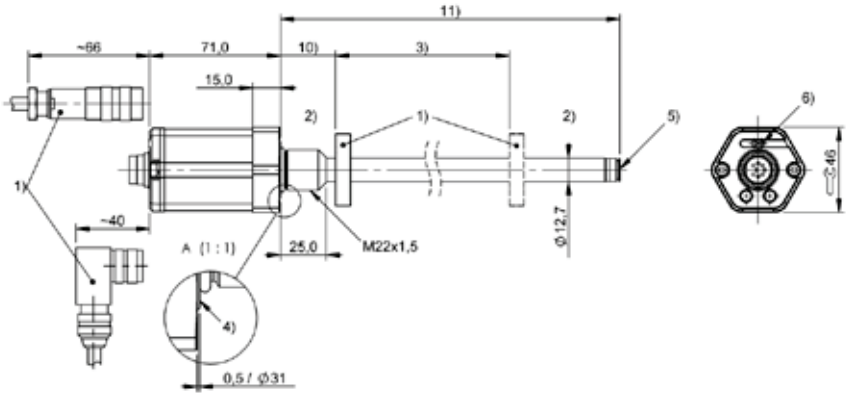
f Style
CD = Mounting threads M22x1.5, for O-Ring

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

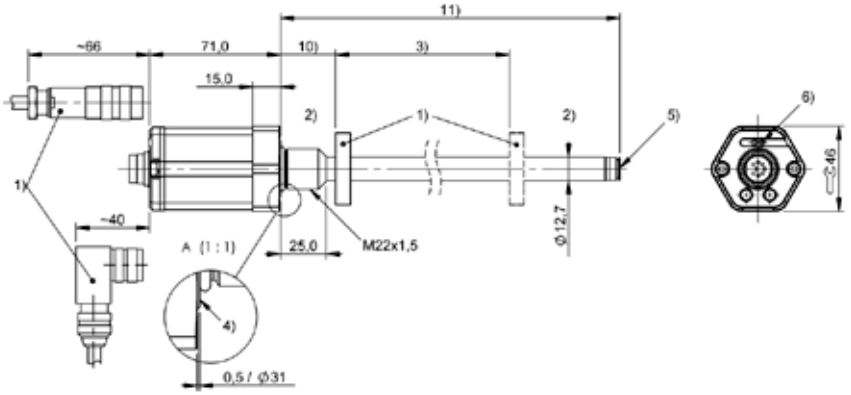
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30, 50, 100

BTL7-S510x-Mxxxx-CD-NEX-S32



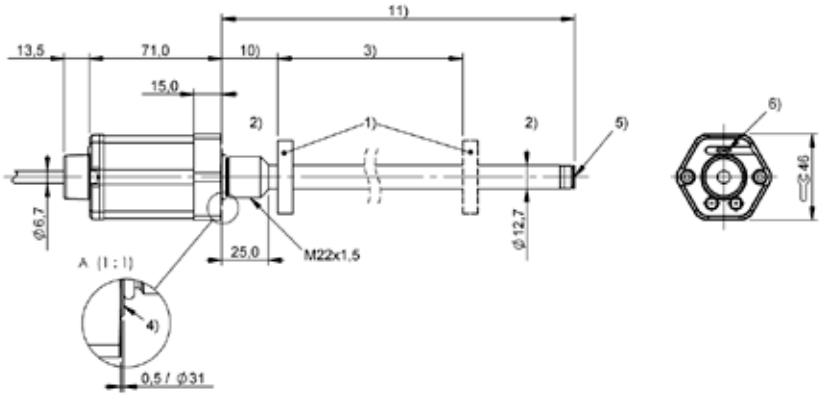
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-NEX-S32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

BTL7-S5xxx-Mxxxx-CD-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
10) Null point
11) Installation length

	BTL7 -K-NEX- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
A = Voltage output 0 ... 10 V
G = voltage output -10 ... 10 V

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
10 = 2 outputs, each 1 x rising/falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

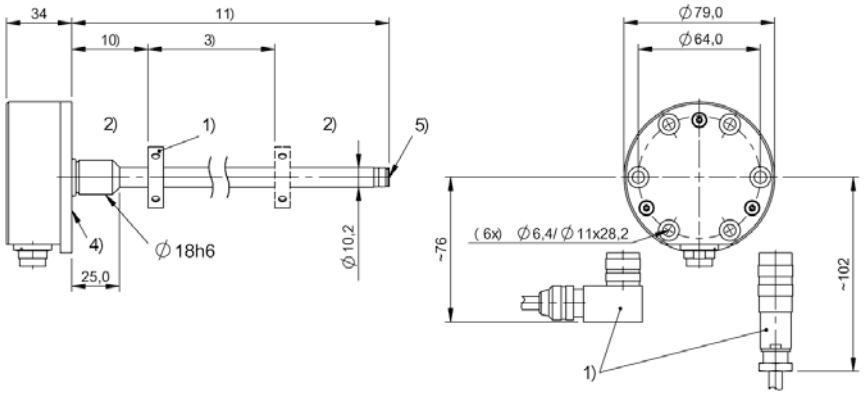
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
SR = Connector
K = Cable out radial (PUR)

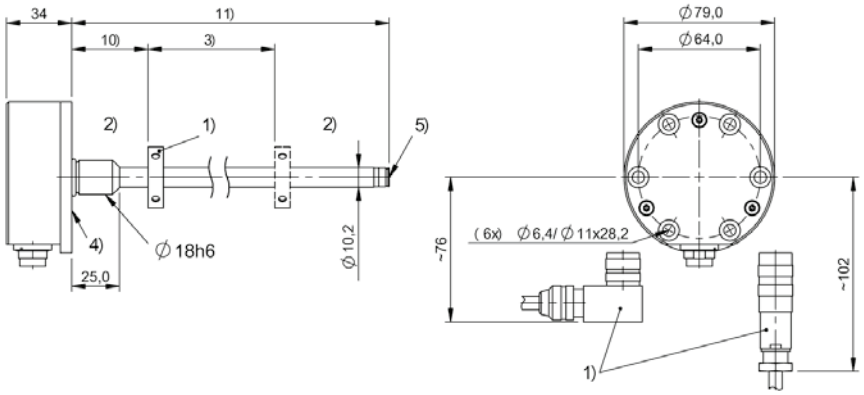
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 30

BTL7-A510-Mxxxx-K-NEX-SR32



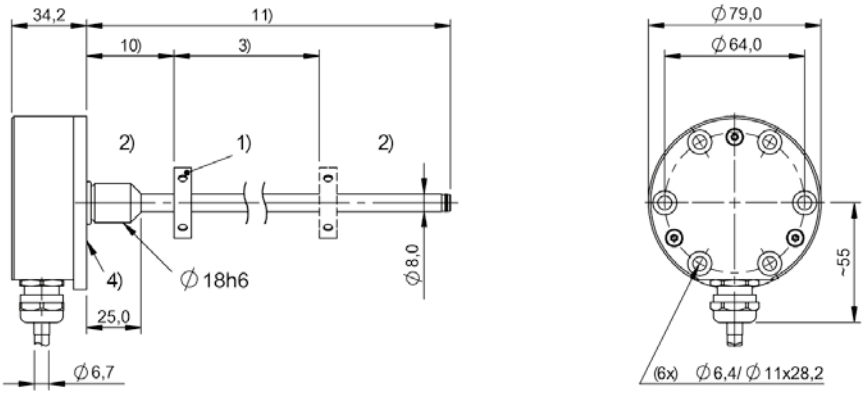
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-G510-Mxxxx-K-NEX-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-A510-Mxxxx-K8-NEX-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -K-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...5500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050…0500: ± 50 µm, nnnn = 0501…5500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 18h6 fit
Housing material	Stainless steel (1.4305)
IP rating	l = S: IP67 with connector l = K: IP68
Approval/Conformity	CE CSA IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fg-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
00 = 1 output, rising
70 = 1 output, falling

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M1016: for rod diameter 8 mm)
(M0025…M5500: for rod diameter 10.2 mm)

f Style
K = Compact rod, plug-in flange 18h6, for O-Ring

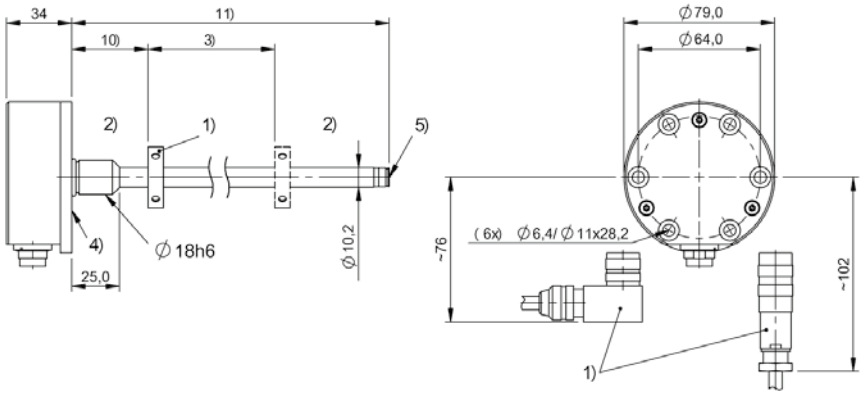
g Form factor characteristic
8 = Rod diameter 8 mm
- = Rod diameter 10.2 mm

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
SR = Connector
K = Cable out radial (PUR)

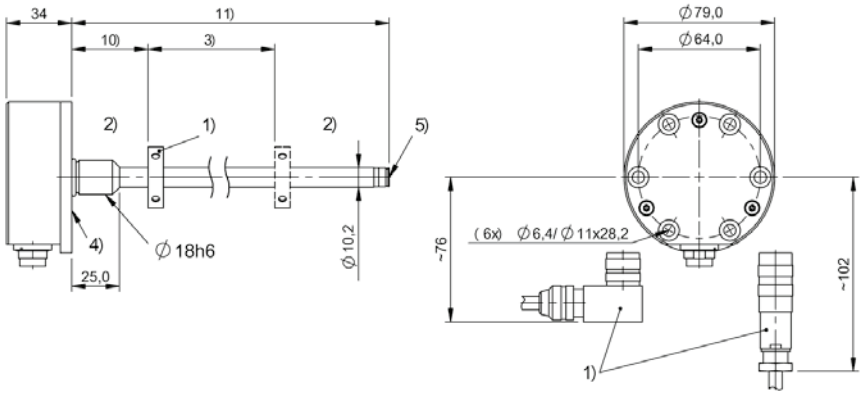
m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20, 50, 100

BTL7-E500-Mxxxx-K-NEX-SR32



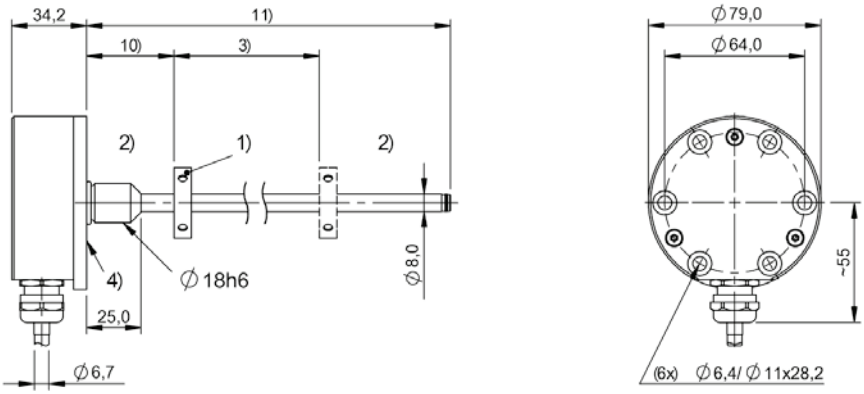
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-C570-Mxxxx-K-NEX-SR32



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
10) Null point
11) Installation length

BTL7-E570-Mxxxx-K8-NEX-Kxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
10) Null point
11) Installation length

	BTL7 -TB-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening M18 threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fh-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TB = Mounting threads M18x1.5, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

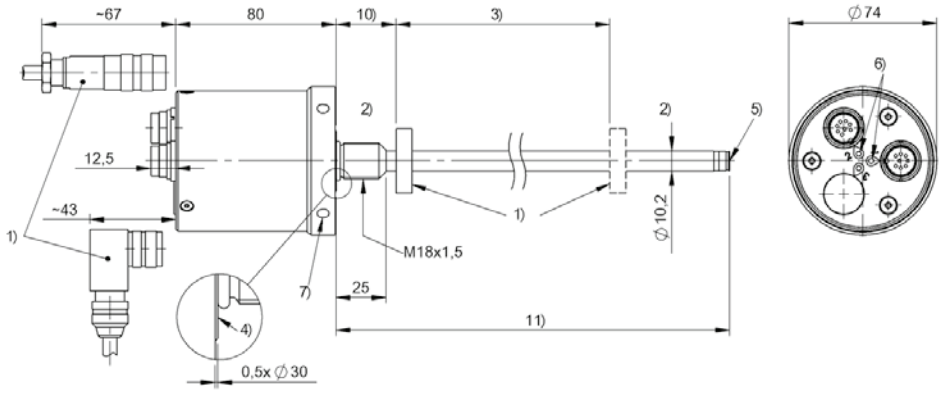
i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins

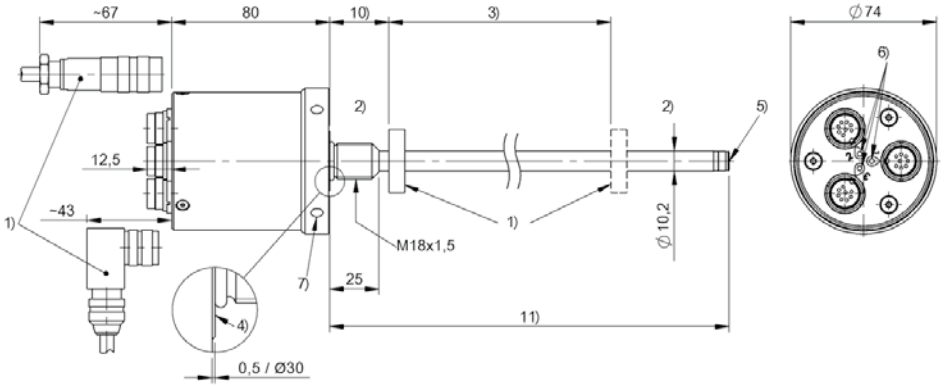
for cable (length in meters):
02, 05, 10, 15, 20

BTL7-E504-Mxxxx-TB2-NEX-S32



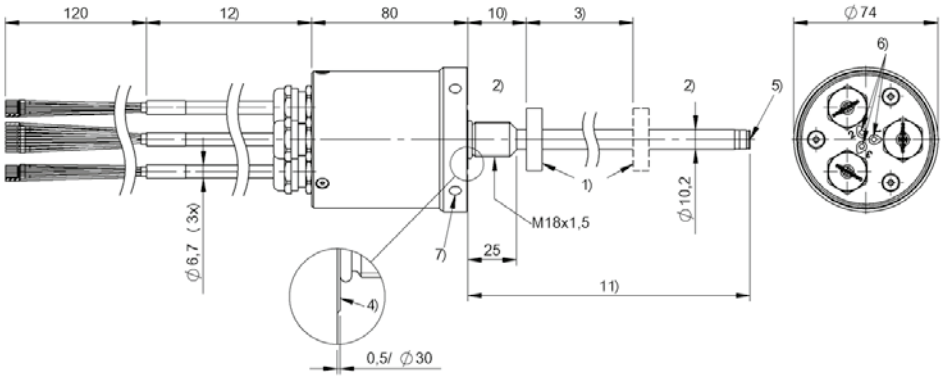
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-C505-Mxxxx-TB3-NEX-S32



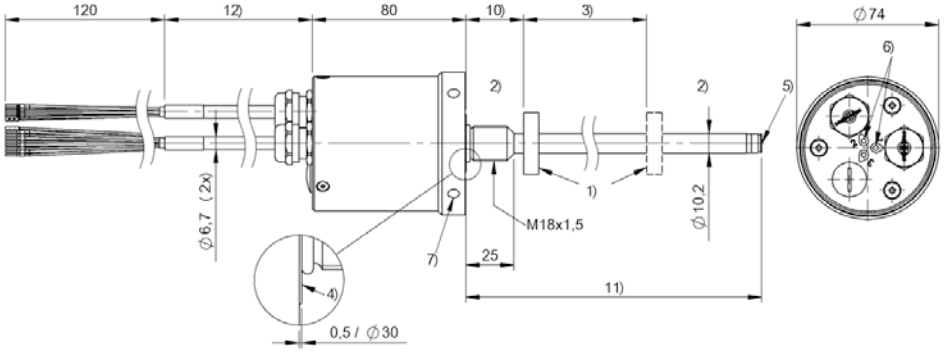
1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length

BTL7-E505-Mxxxx-TB3-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

BTL7-C504-Mxxxx-TB2-NEX-KAxx



1) not included in scope of delivery
2) Non-usable area
3) Nominal length = Measuring length
4) Mounting surface
5) Internal threads M4x4/6 deep
6) LED function indicator
7) Ø6.1 for hook wrench Ø74
10) Null point
11) Installation length
12) Cable length

	BTL7 -TZ-NEX- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	25...7620 mm
Repeat accuracy	± 5 µm
Linearity deviation	nnnn = 0050…0500: ± 200 µm, nnnn > 0500: ± 0.04% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...60 °C
Mechanical configuration	Fastening 3/4“ threads
Housing material	Aluminum, Anodized
IP rating	IP67
Approval/Conformity	CE IECEx EAC WEEE
Ex category	ATEX: 3G (EPL Gc), ATEX: 2D (EPL Db), ATEX: 3D (EPL Dc), IECEx: EPL Gc, IECEx: EPL Db, IECEx: EPL Dc

BTL7-abcd-Mnnnn-fh-i-lm

BTL7
Magnetostrictive linear position sensor
Generation 7

a interface
C = Current output 0 ... 20 mA
E = Current output 4 ... 20 mA

b Operating voltage
5 = 10 … 30 V

c + d Interface characteristic 1 + 2
04 = 1 output rising, configurable
05 = 1 output falling, configurable

Mnnnn Nominal length (4-position)
M0500 = metric in mm
(M0025…M7620: for rod diameter 10.2 mm)

f Form factor
TZ = Threads 3/4“-16UNF, for O-Ring

h Redundant
2 = 2 times redundant
3 = 3 times redundant

i Variant
NEX = Ignition class „nA“ and „tb“

l Connection type
S = Connector
KA = Cable (PUR)

m Connection type characteristic 1
for connector:
32 = M16x0.75 connector with 8 pins
for cable (length in meters):
02, 05, 10, 15, 20