
Safely transport signals

# SAFE I/O MODULES


The safe I/O modules from Balluff combine safety and automation technology using IO-Link. They provide both sensor and actuator signals as well as safety-relevant information. The best part: all you need for the safety concept in your plant is an infrastructure for implementing industrial safety in your automation processes. The universal IO-Link interface makes integrating industrial safety technology easier than ever.

At Balluff the core of Safety over IO-Link is the Safety Hub with Profisafe for Profinet. Safety switches and sensors, opto-electronic protective devices or safety command devices are quick and easy to incorporate. All you need is standard M12 cables for connecting virtually any safe field device.

Safe communication with the controller level is via Profisafe for Profinet. Together with our safety components the result is an all-round safe system on which you can rely.

**The most important benefits**

- For safety applications up to PLe/SIL3
- Reduce IP addresses
- Standardized wiring concept with M12 cables, safe interlocking devices can be directly connected
- Simple device replacement
- Nearly any safety device can be connected

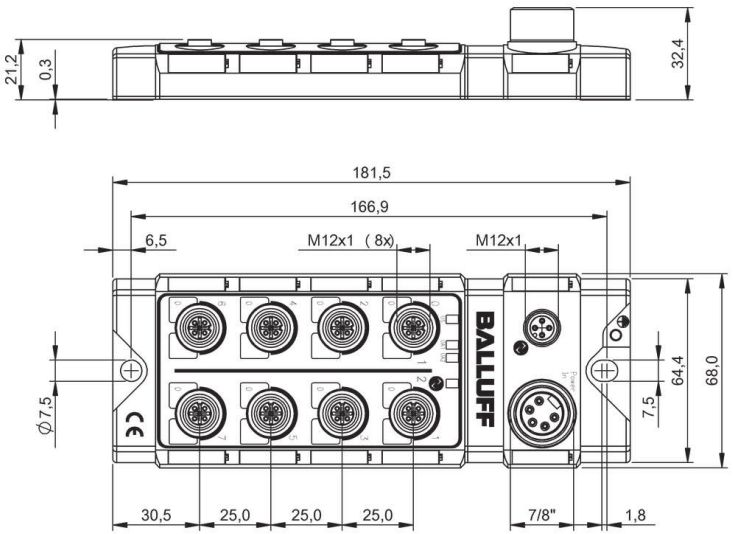
| | BNI0033<br>BNI IOL-252-000-Z013 | BNI003W<br>BNI IOL-252-S01-Z013 | |
|---|---|---|---|
| Performance Level | – | – | |
| Safety category (EN ISO 13849-1) | – | – | |
| SIL (IEC 61508) | – | – | |
| SIL CL (EN 62061) | – | – | |
| Response time max. | – | – | |
| Approval/Conformity | CE | CE | |
| Current sum US, sensor | – | – | |
| Current sum UA, actuator | 9.0 A | 9.0 A | |
| Digital inputs | – | – | |
| Digital outputs | 8x PNP | 8x PNP | |
| Interface | IO-Link 1.0 | IO-Link 1.0 | |
| Connection slots | – | – | |
| Dimension | 68 x 32.4 x 181.5 mm | 68 x 32.4 x 181.5 mm | |
| Ambient temperature | -5...70 °C | -5...70 °C | |
| Protection degree | IP67 | IP67 | |
| Housing material | Zinc, die-cast | Zinc, die-cast | |
| Productview | Page 16 | Page 16 | |



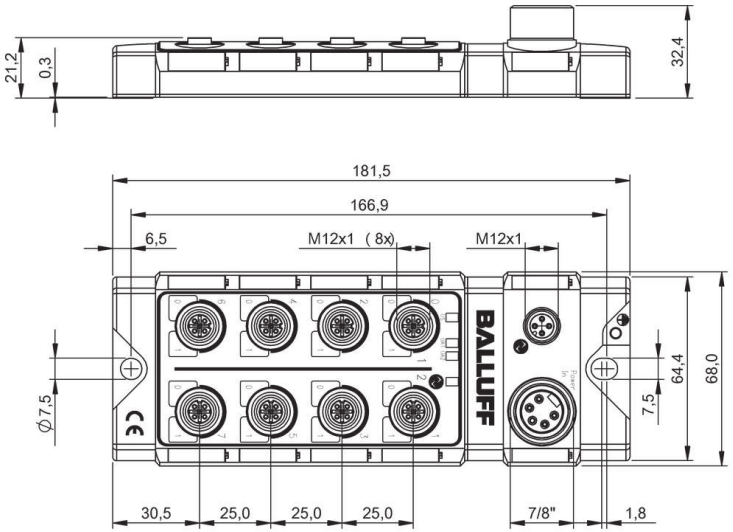


| | BNI0034<br>BNI IOL-256-000-Z013 | BNI003Y<br>BNI IOL-256-S01-Z013 | BNI00CL<br>BNI IOL-355-S02-Z013 | |
|---|---|---|---|---|
| | – | – | d | |
| | – | – | 3 | |
| | – | – | 2 | |
| | – | – | 2 | |
| | – | – | 1 ms | |
| | CE | CE | CE, TÜV, IO-Link, cULus, UL-File E319845, VOL.1 SEC.1 | |
| | – | – | 9 A | |
| | 9.0 A | 9.0 A | 9 A | |
| | – | – | 8x PNP, Type3 | |
| | 16x PNP | 16x PNP | 8x yes | |
| | IO-Link 1.0 | IO-Link 1.0 | IO-Link 1.1 | |
| | – | – | 8x M12x1-Female, 5-pole, A-coded | |
| | 68 x 32.4 x 181.5 mm | 68 x 32.4 x 181.5 mm | 68 x 32.4 x 181.5 mm | |
| | -5...70 °C | -5...70 °C | -5...55 °C | |
| | IP67 | IP67 | IP67 | |
| | Zinc, die-cast | Zinc, die-cast | Die-cast zinc | |
| | Page 16 | Page 16 | Page 17 | |

**Do you need more details?** Our Product Finder at www.balluff.com provides you with product-specific information, including technical drawings, data sheets, user guides and more for each individual product. All items are available for download.



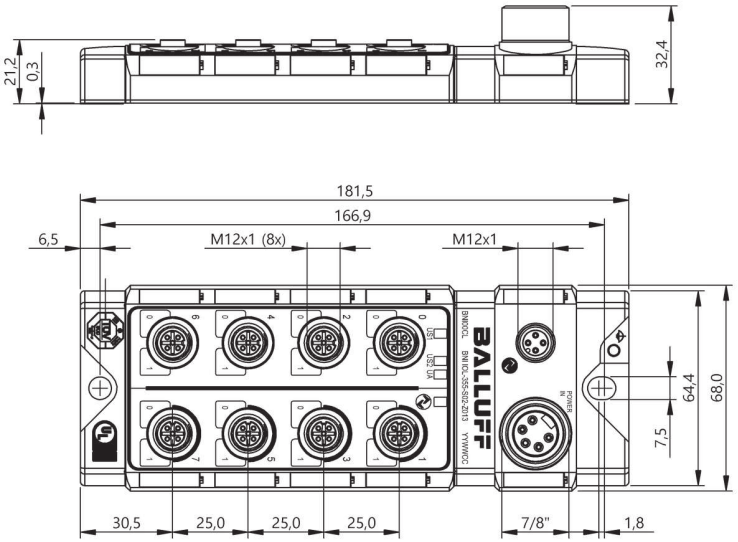

BNI0033, BNI003W




BNI0034, BNI003Y

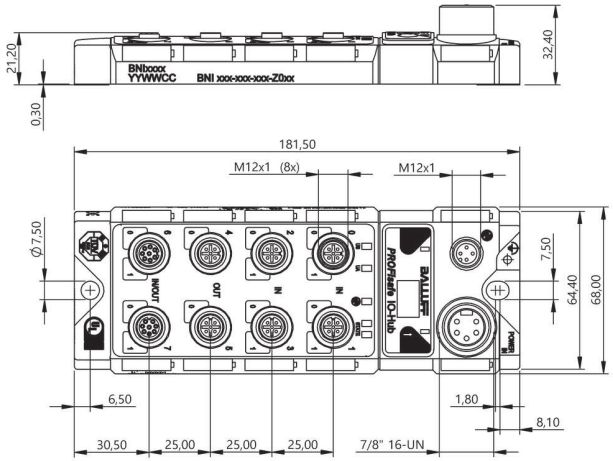







BNI00CL

| | BNI0098<br>BNI IOF-329-P02-Z038 |
|---|---|
| Performance Level | e |
| Safety category (EN ISO 13849-1) | 4 |
| SIL (IEC 61508) | 3 |
| SIL CL (EN 62061) | 3 |
| Response time max. | 20 ms |
| Approval/Conformity | CE, TÜV, cULus, UL-File E319845, VOL.1 SEC.1 |
| Number of safe inputs | 12 |
| Number of safe inputs | 2 |
| Current sum US, sensor | 4.8 A |
| Current sum UA, actuator | 8 A |
| Digital inputs | 12x PNP, Type 3 |
| Interface | PROFIsafe over IO-Link |
| Connection slots | 2x M12x1-Female, 8-pole, A-coded<br>6x M12x1-Female, 5-pole, A-coded |
| Dimension | 68 x 32.4 x 181.5 mm |
| Ambient temperature | -5...55 °C |
| Protection degree | IP67 |
| Housing material | Die-cast zinc |
| Productview | Page 20 |




BNI0098





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**For high plant safety**

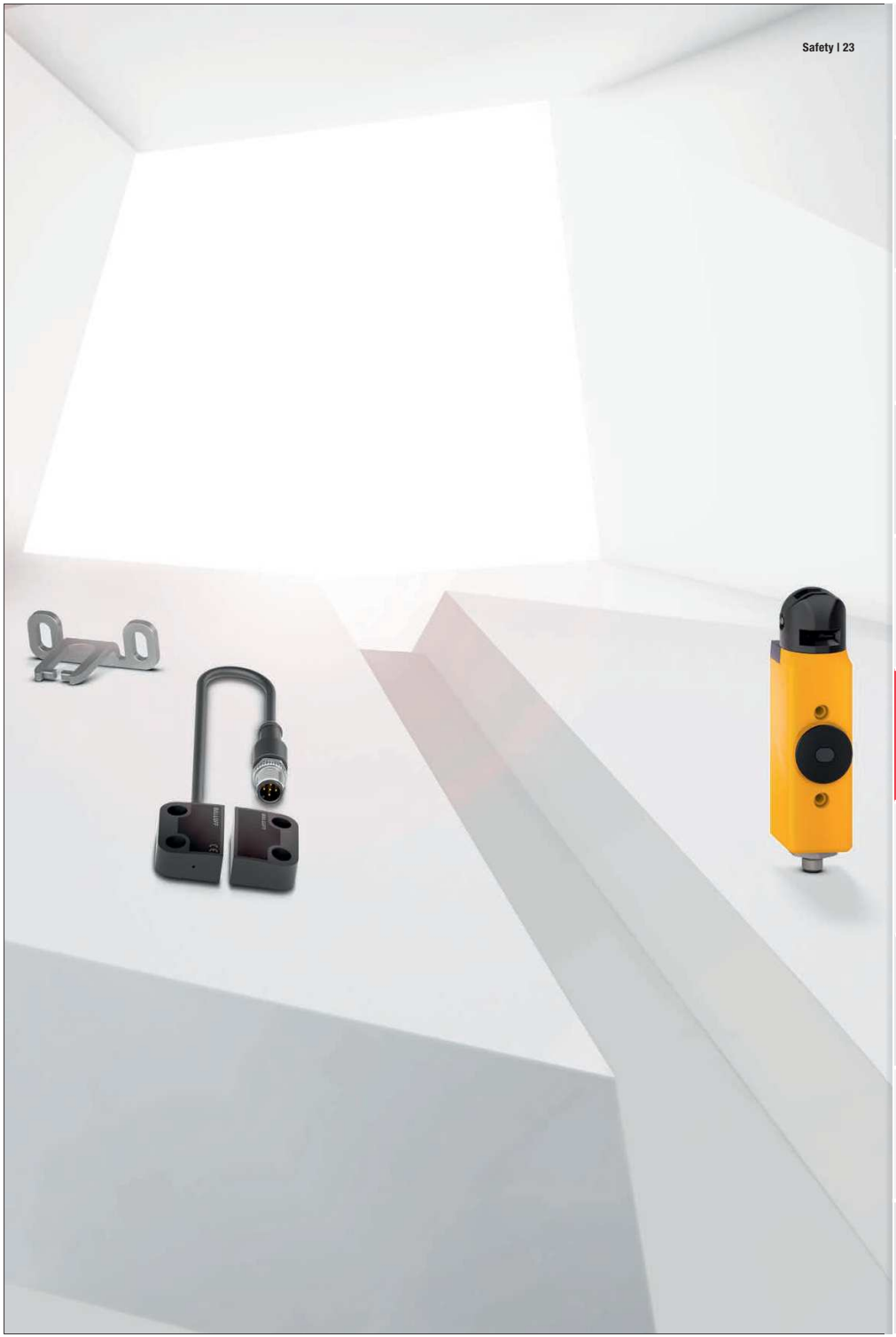
# SAFETY SWITCHES AND SAFETY SENSORS

Balluff safety switches and safety sensors are designed for many different application situations. Our safe switches and sensors protect both man and machine alike. The safety switches and sensors offer you a variety of operating principles:
Inductive for non-contact safe detection of position and end-of-travel of metallic objects, electromechanical such as REED or RFID-based for access or position security for both personal and machine protection.

You save time and money thanks to universal M12 standard cables. You also avoid wiring errors, gain a clear overview and ensure reliable monitoring.

**The most important benefits**

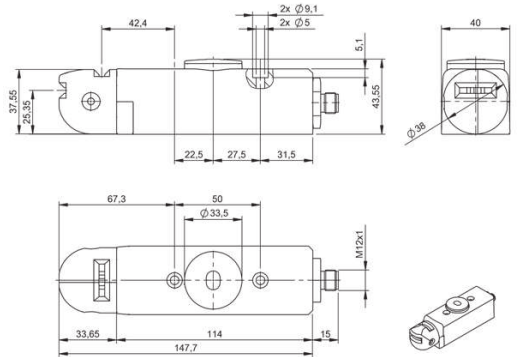
- Safety switches and sensors for a variety of applications
- Rugged housing versions with LED function indicator
- Suitable for safety applications up to PLe/SIL3
- Savings of time and money plus prevention of errors thanks to standardized M12 connection technology
- Reduced installation expense and space requirements
- Also suitable for heavy protective equipment
- Manipulation-resistant
- Insensitive to vibration and imprecise door guides



| | BID0005<br>BID F101-2M100-M20ZZ0-S92 |
|---|---|
| B10d (EN ISO 13849-1) | 5 million Switching operations |
| Coding level (EN ISO 14119) | low |
| Approval/Conformity | TÜV NRTL, CE, RoHS, TÜV |
| Operating principle | mechanical - force, contact |
| No of contacts | 2x positive opening |
| Utilization category | AC-15, DC -13 |
| Approach direction | laterally + above |
| Life expectancy mechanical | 1 million Switching operations |
| Connection | M12x1-Male, 5-pole, A-coded |
| Dimension | 40 x 147.7 x 43.5 mm |
| Ambient temperature | 0...40 °C |
| Protection degree | IP65 |
| Housing material | Aluminum |
| Productview | Page 25 |








BID0005



| | BES0577<br>BES M30EP-PFC12F-S04G-D12 | BES057A<br>BES Q40ZU-PFC15B-S04G-D12 | BES057C<br>BES Q40ZU-PFC20F-S04G-D12 | |
|---|---|---|---|---|
| Performance Level | e | e | e | |
| Safety category (EN ISO 13849-1) | 3 | 3 | 3 | |
| SIL (IEC 61508) | 3 | 3 | 3 | |
| SIL CL (EN 62061) | 3 | 3 | 3 | |
| Response time max. | 200 ms | 200 ms | 200 ms | |
| Approval/Conformity | CE, TÜV, cULus | CE, TÜV, cULus | CE, TÜV, cULus | |
| Operating principle | non-contact (inductive) | non-contact (inductive) | non-contact (inductive) | |
| Approach direction | any to sensing surface | any to sensing surface | any to sensing surface | |
| Assured switch on distance Sao | 12 mm | 15 mm | 20 mm | |
| Assured switch off distance Sar | 30 mm | 30 mm | 45 mm | |
| Connection | M12x1-Male, 4-pole, A-coded | M12x1-Male, 4-pole, A-coded | M12x1-Male, 4-pole, A-coded | |
| Switching output | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | |
| Installation | non-flush | Shielded on one side | non-flush | |
| Dimension | Ø 30 x 80 mm | 40 x 66 mm | 40 x 66 mm | |
| Ambient temperature | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | -25...60 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | |
| Protection degree | IP68, IP69K | IP67 | IP67 | |
| Housing material | Stainless steel (1.4404) | Die-cast zinc | Die-cast zinc | |
| Productview | Page 28 | Page 28 | Page 28 | |









| | BES0574<br>BES M12EN-PFC40F-S04G-D11 | BES0575<br>BES M18EN-PFC80F-S04G-D11 | BES0576<br>BES M18MN-PFC50B-S04G-D11 | BES0578<br>BES M30EN-PFC15F-S04G-D11 | BES0579<br>BES M30MN-PFC10B-S04G-D11 |
|---|---|---|---|---|---|
| | d | d | d | d | d |
| | 2 | 2 | 2 | 2 | 2 |
| | 2 | 2 | 2 | 2 | 2 |
| | 2 | 2 | 2 | 2 | 2 |
| | 1 ms | 1 ms | 1 ms | 1 ms | 1 ms |
| | CE, TÜV, cULus | CE, TÜV, cULus | CE, TÜV, cULus | CE, TÜV, cULus | CE, TÜV, cULus |
| | non-contact (inductive) | non-contact (inductive) | non-contact (inductive) | non-contact (inductive) | non-contact (inductive) |
| | any to sensing surface | any to sensing surface | any to sensing surface | any to sensing surface | any to sensing surface |
| | 4 mm | 8 mm | 5 mm | 15 mm | 10 mm |
| | 6 mm | 12 mm | 7 mm | 22 mm | 15 mm |
| | M12x1-Male, 4-pole, A-coded | M12x1-Male, 4-pole, A-coded | M12x1-Male, 4-pole, A-coded | M12x1-Male, 4-pole, A-coded | M12x1-Male, 4-pole, A-coded |
| | PNP OSSD, PNP normally closed (NC) | PNP OSSD, PNP normally closed (NC) | PNP OSSD, PNP normally closed (NC) | PNP OSSD, PNP normally closed (NC) | PNP OSSD, PNP normally closed (NC) |
| | non-flush | non-flush | for flush mounting | non-flush | for flush mounting |
| | Ø 12 x 70 mm | Ø 18 x 70.5 mm | Ø 18 x 70.5 mm | Ø 30 x 70 mm | Ø 30 x 70 mm |
| | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years | -25...70 °C, for service life ≤ 10 years<br>10…40 °C, for service life ≤ 20 years |
| | IP67 | IP67 | IP67 | IP67 | IP67 |
| | Stainless steel (1.4404) | Stainless steel (1.4571) | Brass | Stainless steel (1.4571) | Brass |
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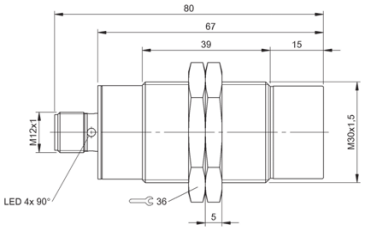
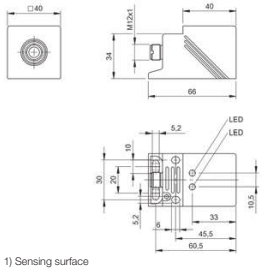
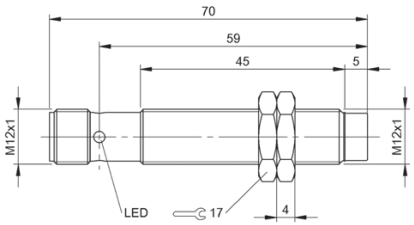



**BES0577**

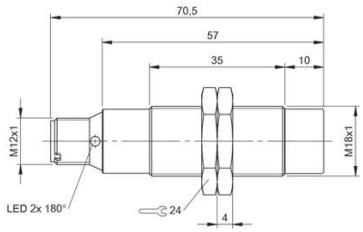



1) Sensing surface

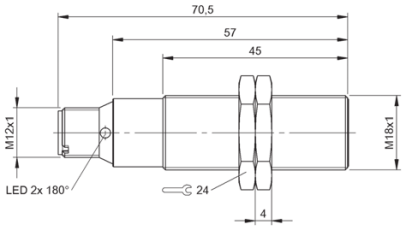
**BES057A, BES057C**



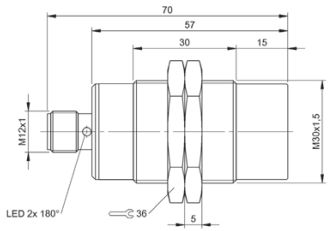

**BES0574**



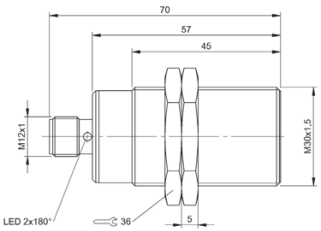

**BES0575**




**BES0576**




**BES0578**




**BES0579**

| | BID000T<br>BID R01K-4M100 | |
|---|---|---|
| B10d (EN ISO 13849-1) | – | |
| Coding level (EN ISO 14119) | low | |
| Approval/Conformity | CE, cULus | |
| Operating principle | non-contact (magnetic) | |
| No of contacts | – | |
| Approach direction | – | |
| Life expectancy mechanical | – | |
| Assured switch on distance Sao | 5 mm | |
| Assured switch off distance Sar | – | |
| Connection | – | |
| Dimension | 26 x 36 x 13 mm | |
| Ambient temperature | -25...70 °C | |
| Protection degree | – | |
| Housing material | Thermoplastic, glass-fibre reinforced | |
| Productview | Page 32 | |





| | BID0007<br>BID R01K-4M100-M20ZZ0-EP00,2-S92 | |
|---|---|---|
| | NC at 20% contact load 25 mil. Switching operations | |
| | – | |
| | CE, cULus | |
| | non-contact (magnetic) | |
| | 2x NC | |
| | vertrical to the active surface | |
| | 100 million Switching operations | |
| | 5 mm | |
| | 15 mm | |
| | Cable with connector, M12x1, 5-pin, 20 cm, PUR | |
| | 26 x 36 x 13 mm | |
| | -25...70 °C | |
| | IP67 | |
| | Thermoplastic, glass-fibre reinforced | |
| | Page 32 | |

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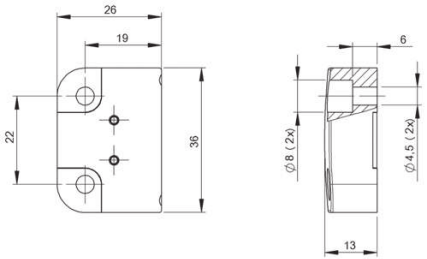
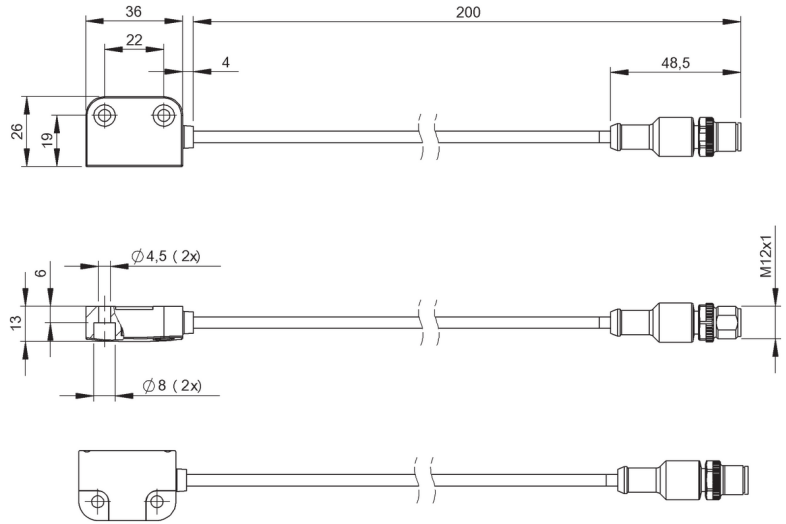



BID000T




BID0007

| | BID000W<br>BID Q02K-4R300 | BID000U<br>BID R02K-4R300 | |
|---|---|---|---|
| Performance Level | – | – | |
| Safety category (EN ISO 13849-1) | – | – | |
| SIL (IEC 61508) | – | – | |
| SIL CL (EN 62061) | – | – | |
| Coding level (EN ISO 14119) | – | – | |
| Response time max. | – | – | |
| Approval/Conformity | TÜV, cULus, CE | TÜV, cULus, CE | |
| Operating principle | – | – | |
| Approach direction | – | – | |
| Actuator retention force | – | – | |
| Assured switch on distance Sao | – | – | |
| Assured switch off distance Sar | – | – | |
| Connection | – | – | |
| Switching output | – | – | |
| Installation | any | any | |
| Dimension | 22 x 7 x 9 mm | 39.2 x 18 x 29.5 mm | |
| Ambient temperature | -25...65 °C | -25...65 °C | |
| IP rating | – | – | |
| Housing material | Thermoplast | Thermoplast | |
| Productview | Page 38 | Page 38 | |





| | BID0008<br>BID R02K-4R100-O20ZZ0-EP00,2-S92 | BID0009<br>BID R02K-4R300-O20ZZ0-EP00,2-S92 | BID000Y<br>BID R03K-4R300 | BID000C<br>BID R03K-4R100-O20ZZ0-S92 |
|---|---|---|---|---|
| | e | e | – | e |
| | 4 | 4 | – | 4 |
| | 3 | 3 | – | 3 |
| | 3 | 3 | – | 3 |
| | low | high | – | low |
| | 100 ms | 100 ms | – | 100 ms |
| | TÜV, cULus, CE | TÜV, cULus, CE | CE, cULus, TÜV, Ecolab | CE, cULus, TÜV, Ecolab |
| | non-contact (RFID) | non-contact (RFID) | non-contact (RFID) | non-contact (RFID) |
| | any to the active surface or laterally | any to the active surface or laterally | – | any to sensing surface |
| | – | – | 0 N | 0 N |
| | 4 mm<br>8 mm | 4 mm<br>8 mm | – | 10 mm |
| | 18 mm | 18 mm | – | 20 mm |
| | Cable with connector, M12x1, 5-pin, 25 cm, PUR | Cable with connector, M12x1, 5-pin, 25 cm, PUR | – | Connector, M12x1, 5-pin |
| | 2x PNP OSSD | 2x PNP OSSD | – | 2x PNP OSSD |
| | for flush mounting | for flush mounting | any | for flush mounting |
| | 39.2 x 18 x 29.5 mm | 39.2 x 18 x 29.5 mm | 91 x 25 x 22 mm | 106 x 25 x 22 mm |
| | -25...65 °C | -25...65 °C | -25...70 °C | -25...70 °C |
| | IP65, IP67 | IP65, IP67 | – | IP65, IP67, IP69 |
| | Thermoplast | Thermoplast | Thermoplastic, glass-fibre reinforced | Thermoplastic, glass-fibre reinforced |
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| | BID000F<br>BID R03K-4R300-020ZZ0-S92 | BID000Z<br>BID R03K-4R3S0 | |
|---|---|---|---|
| Performance Level | e | – | |
| Safety category (EN ISO 13849-1) | 4 | – | |
| SIL (IEC 61508) | 3 | – | |
| SIL CL (EN 62061) | 3 | – | |
| Coding level (EN ISO 14119) | high | – | |
| Response time max. | 100 ms | – | |
| Approval/Conformity | CE, cULus, TÜV, Ecolab | CE, cULus, TÜV, Ecolab | |
| Operating principle | non-contact (RFID) | non-contact (RFID) | |
| Approach direction | any to sensing surface | – | |
| Actuator retention force | 0 N | 18 N | |
| Assured switch on distance Sao | 10 mm | – | |
| Assured switch off distance Sar | 20 mm | – | |
| Connection | Connector, M12x1, 5-pin | – | |
| Switching output | 2x PNP OSSD | – | |
| Installation | for flush mounting | any | |
| Dimension | 106 x 25 x 22 mm | 91 x 25 x 22 mm | |
| Ambient temperature | -25...70 °C | -25...70 °C | |
| Protection degree | IP65, IP67, IP69 | – | |
| Housing material | Thermoplastic, glass-fibre reinforced | Thermoplastic, glass-fibre reinforced | |
| Productview | Page 39 | Page 39 | |





| | BID000E<br>BID R03K-4R1S0-020ZZ0-S92 | BID000H<br>BID R03K-4R3S0-020ZZ0-S92 | | |
|---|---|---|---|---|
| | e | e | | |
| | 4 | 4 | | |
| | 3 | 3 | | |
| | 3 | 3 | | |
| | low | high | | |
| | 100 ms | 100 ms | | |
| | CE, cULus, TÜV, Ecolab | CE, cULus, TÜV, Ecolab | | |
| | non-contact (RFID) | non-contact (RFID) | | |
| | any to sensing surface | any to sensing surface | | |
| | 18 N | 18 N | | |
| | 10 mm | 10 mm | | |
| | 20 mm | 20 mm | | |
| | Connector, M12x1, 5-pin | Connector, M12x1, 5-pin | | |
| | 2x PNP OSSD | 2x PNP OSSD | | |
| | for flush mounting | for flush mounting | | |
| | 106 x 25 x 22 mm | 106 x 25 x 22 mm | | |
| | -25...70 °C | -25...70 °C | | |
| | IP65, IP67, IP69 | IP65, IP67, IP69 | | |
| | Thermoplastic, glass-fibre reinforced | Thermoplastic, glass-fibre reinforced | | |
| | Page 39 | Page 39 | | |

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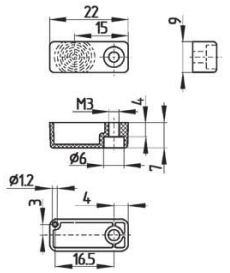
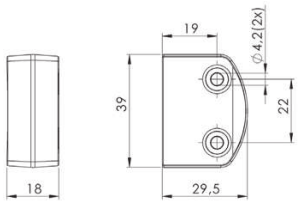
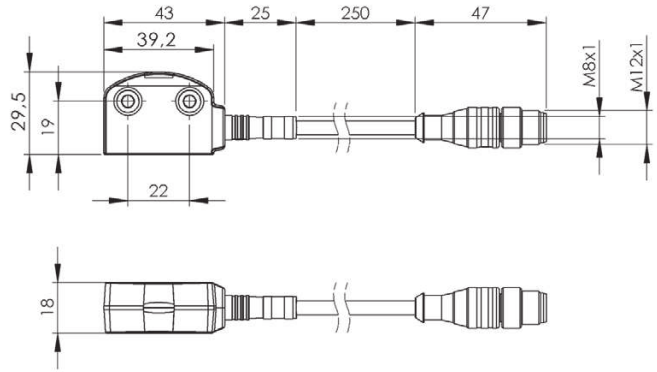



BID000W



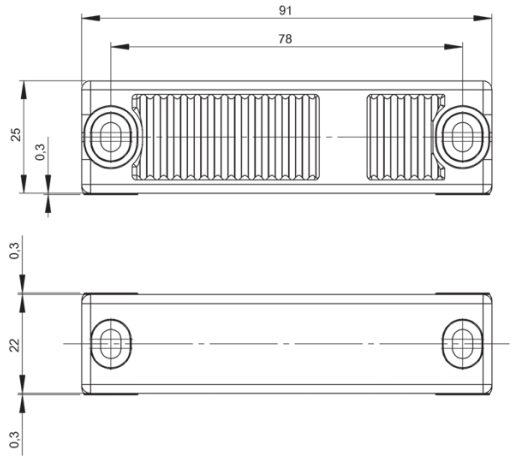

BID000U



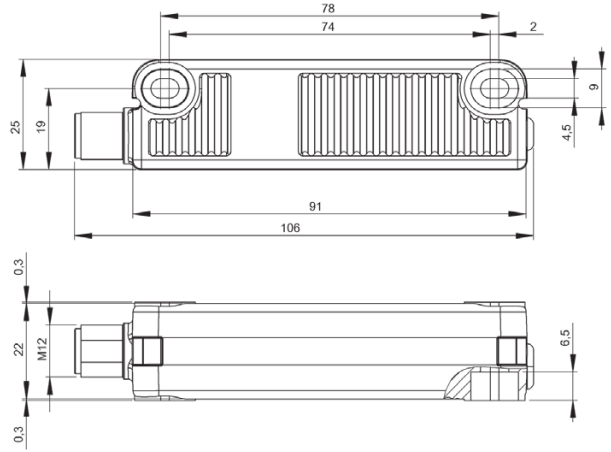

BID0008, BID0009








BID000Y, BID000Z




BID000C, BID000F, BID000E, BID000H

**Safe personal protection for interaction between man and machine**

# OPTO-ELECTRONIC PROTECTIVE DEVICES

Flexible production places high demands on safety when man and machine work so closely together.
This interplay must not ever compromise the safety of employees.
Opto-electronic protective devices such as light curtains from Balluff provide safe solutions that also enable great flexibility. Another benefit to you: by using light curtains that consist of multiple parallel light beams, you save space since they can replace cumbersome guard fence constructions or assemblies of multiple through-beam sensors.

**The most important benefits**

- Finger, hand and body detection for convenient and fast interaction between man and machine
- Defined protected area with infrared protection field – suitable for safety applications up to PLe SIL3
- Safe machine stoppage in safety-critical applications
- Better space utilization by eliminating the need for protective fence structures
- High level of manipulation protection

| | BLG000A<br>BLG 4A-015-600-014-001-SX | BLG000C<br>BLG 4A-030-600-014-001-SX | BLG000E<br>BLG 4A-045-600-014-001-SX | |
|---|---|---|---|---|
| Performance Level | e | e | e | |
| Safety category (EN ISO 13849-1) | 4 | 4 | 4 | |
| SIL (IEC 61508) | 3 | 3 | 3 | |
| SIL CL (EN 62061) | 3 | 3 | 3 | |
| Response time max. | 11 ms | 15 ms | 18 ms | |
| Approval/Conformity | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | |
| Operating principle | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | |
| Detection capability | 14 mm | 14 mm | 14 mm | |
| Protective field height (Hp) | 150 mm | 300 mm | 450 mm | |
| Range | 6 m | 6 m | 6 m | |
| Connection 1 | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | |
| Connection 2 | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | |
| Switching output | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | |
| Dimension | 32.3 x 233.3 x 37 mm | 32.3 x 383.2 x 37 mm | 32.3 x 533.2 x 37 mm | |
| Ambient temperature | 0...55 °C | 0...55 °C | 0...55 °C | |
| Protection degree | IP65 | IP65 | IP65 | |
| Housing material | Aluminum | Aluminum | Aluminum | |
| Productview | Page 46 | Page 46 | Page 47 | |

| BLG000F<br>BLG 4A-060-600-014-001-SX | BLG000H<br>BLG 4A-075-600-014-001-SX | BLG000J<br>BLG 4A-090-600-014-001-SX | BLG000K<br>BLG 4A-105-600-014-001-SX | BLG000L<br>BLG 4A-120-600-014-001-SX |
|---|---|---|---|---|
| e | e | e | e | e |
| 4 | 4 | 4 | 4 | 4 |
| 3 | 3 | 3 | 3 | 3 |
| 3 | 3 | 3 | 3 | 3 |
| 22 ms | 25 ms | 29 ms | 33 ms | 36 ms |
| TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE |
| non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) |
| 14 mm | 14 mm | 14 mm | 14 mm | 14 mm |
| 600 mm | 750 mm | 900 mm | 1050 mm | 1200 mm |
| 6 m | 6 m | 6 m | 6 m | 6 m |
| Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded |
| Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male | Receiver: M12x1-Male |
| 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD |
| 32.3 x 683.2 x 37 mm | 32.3 x 833.2 x 37 mm | 32.3 x 983.2 x 37 mm | 32.3 x 1133.2 x 37 mm | 32.3 x 1283.3 x 37 mm |
| 0...55 °C | 0...55 °C | 0...55 °C | 0...55 °C | 0...55 °C |
| IP65 | IP65 | IP65 | IP65 | IP65 |
| Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Page 47 | Page 48 | Page 48 | Page 49 | Page 49 |



**Do you need more details?** Our Product Finder at www.balluff.com provides you with product-specific information, including technical drawings, data sheets, user guides and more for each individual product. All items are available for download.

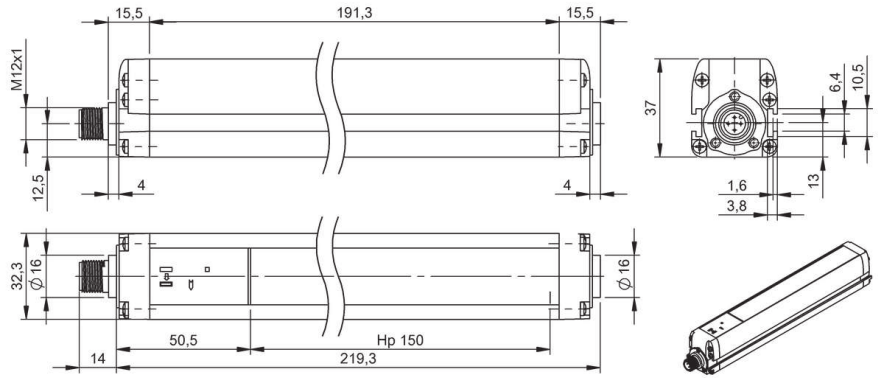
| | BLG000R<br>BLG 4A-135-600-014-001-SX | BLG000M<br>BLG 4A-150-600-014-001-SX | BLG000N<br>BLG 4A-165-600-014-001-SX | |
|---|---|---|---|---|
| Performance Level | e | e | e | |
| Safety category (EN ISO 13849-1) | 4 | 4 | 4 | |
| SIL (IEC 61508) | 3 | 3 | 3 | |
| SIL CL (EN 62061) | 3 | 3 | 3 | |
| Response time max. | 40 ms | 43 ms | 47 ms | |
| Approval/Conformity | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | |
| Operating principle | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | |
| Detection capability | 14 mm | 14 mm | 14 mm | |
| Protective field height (Hp) | 1350 mm | 1500 mm | 1650 mm | |
| Range | 6 m | 6 m | 6 m | |
| Connection 1 | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | |
| Connection 2 | Receiver: M12x1-Male | Receiver: M12x1-Male | Receiver: M12x1-Male | |
| Switching output | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | |
| Dimension | 32.3 x 1433.2 x 37 mm | 32.3 x 1583.3 x 37 mm | 32.3 x 1733.3 x 37 mm | |
| Ambient temperature | 0...55 °C | 0...55 °C | 0...55 °C | |
| Protection degree | IP65 | IP65 | IP65 | |
| Housing material | Aluminum | Aluminum | Aluminum | |
| Productview | Page 50 | Page 50 | Page 51 | |



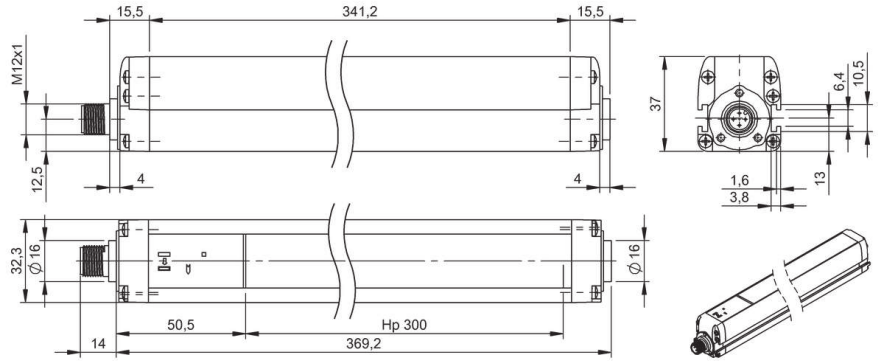




| | BLG000P<br>BLG 4A-180-600-014-001-SX | | | | |
|---|---|---|---|---|---|
| | e | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 3 | | | | |
| | 50 ms | | | | |
| | TÜV, cULus, CE | | | | |
| | non-contact (photoelectric) | | | | |
| | 14 mm | | | | |
| | 1800 mm | | | | |
| | 6 m | | | | |
| | Emitter: M12x1-Male, A-coded | | | | |
| | Receiver: M12x1-Male | | | | |
| | 2x PNP OSSD | | | | |
| | 32.3 x 1883.3 x 37 mm | | | | |
| | 0...55 °C | | | | |
| | IP65 | | | | |
| | Aluminum | | | | |
| | Page 51 | | | | |



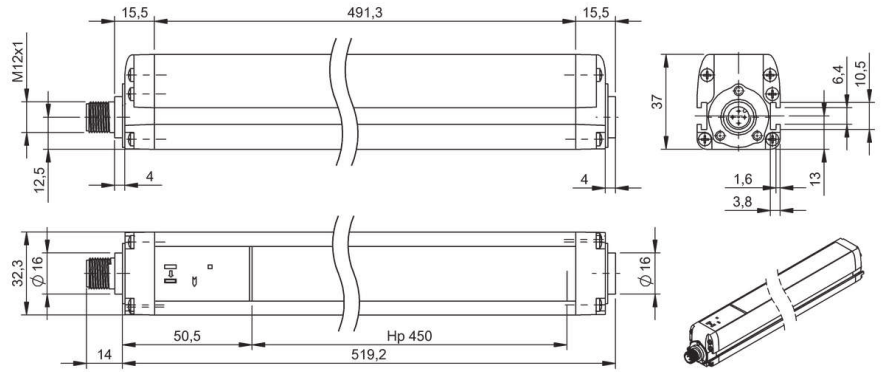

BLG000A



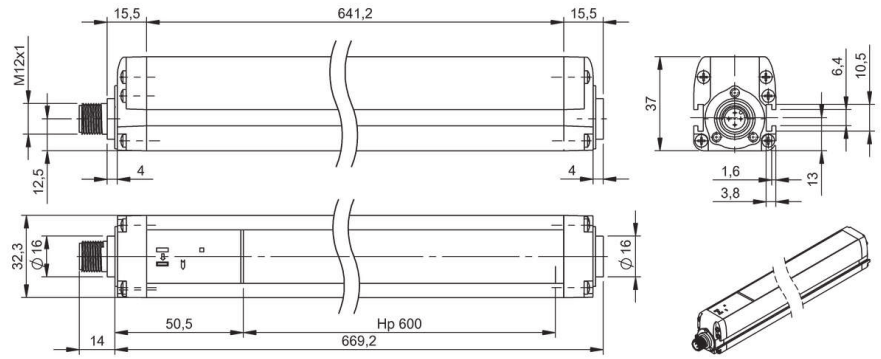

BLG000C





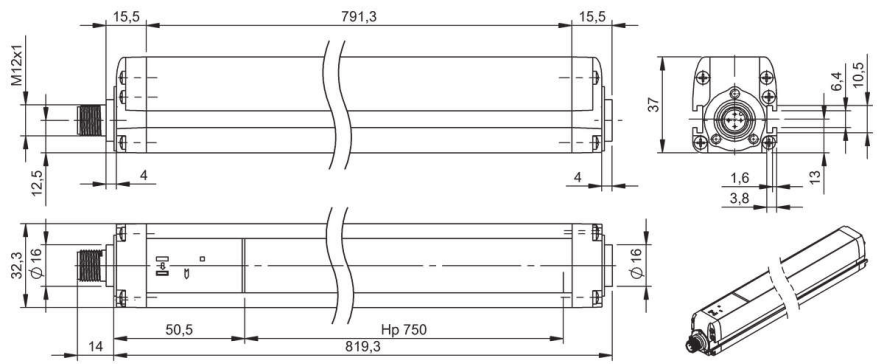



BLG000E

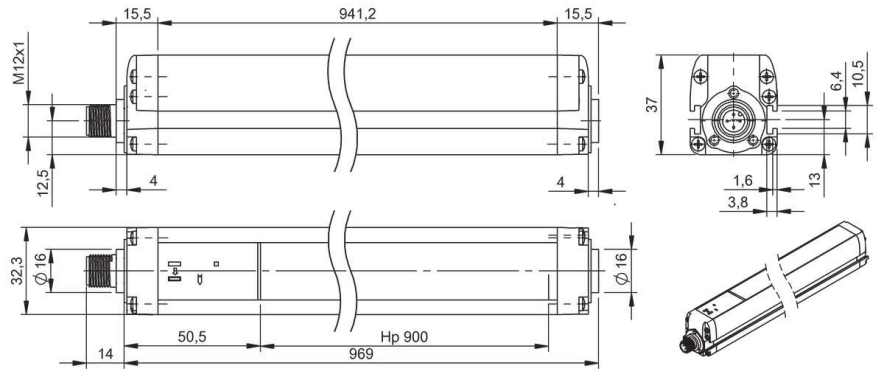



BLG000F

**Do you need more details?** Our Product Finder at www.balluff.com provides you with product-specific information, including technical drawings, data sheets, user guides and more for each individual product. All items are available for download.



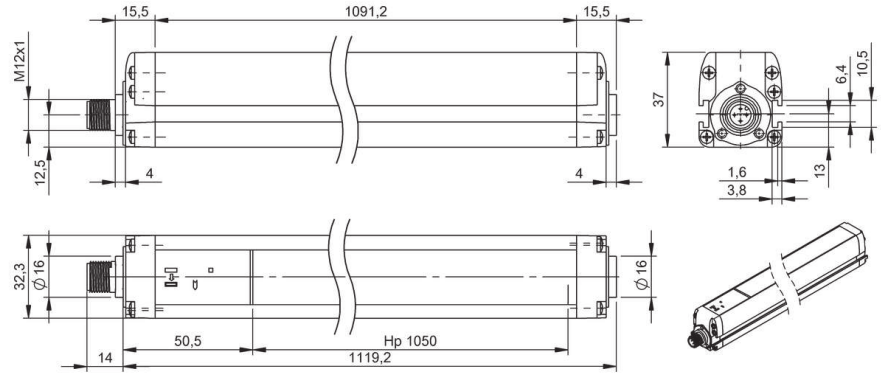

**BLG000H**



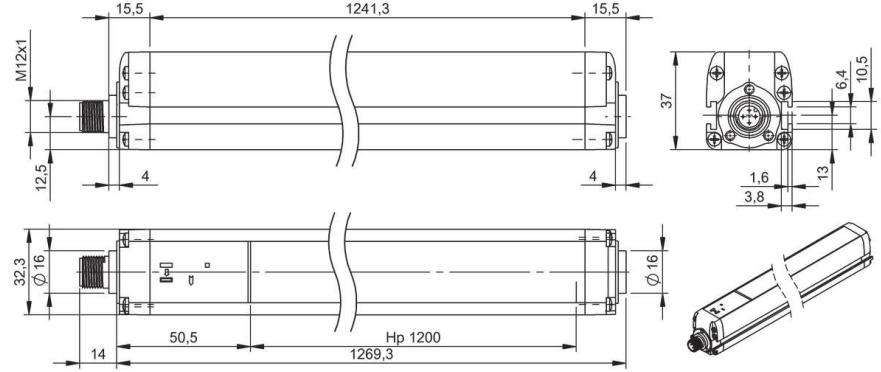

**BLG000J**



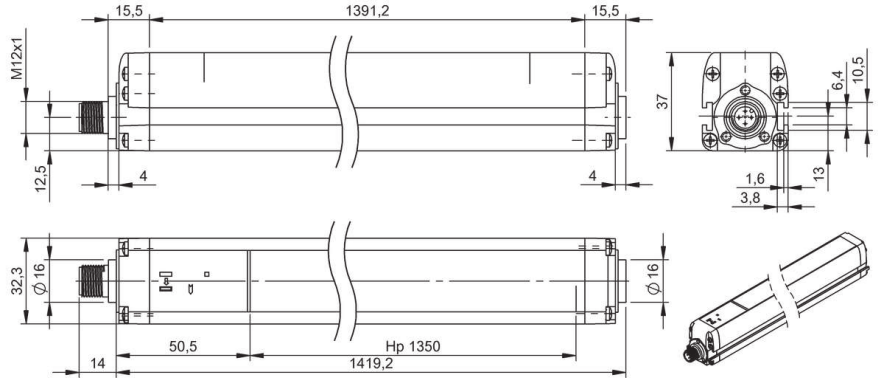




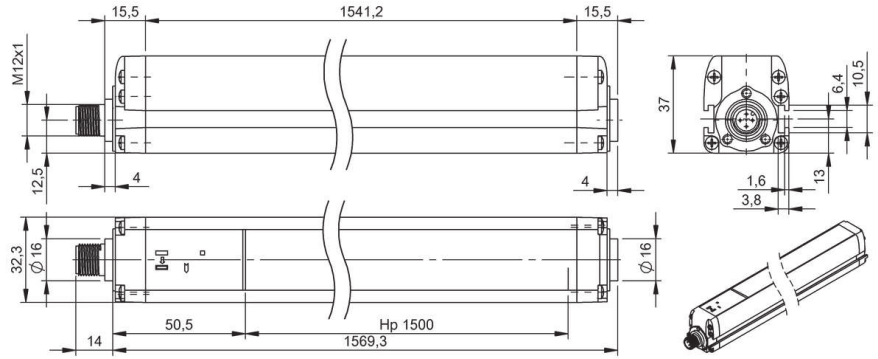

**BLG000K**




**BLG000L**



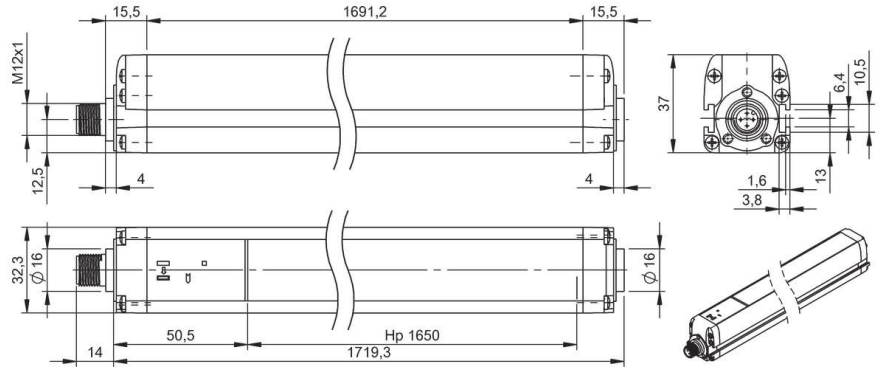

**BLG000R**



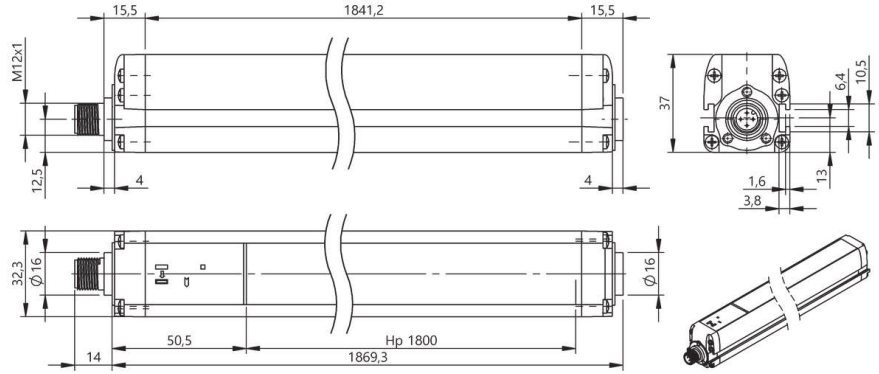

**BLG000M**








**BLG000N**




**BLG000P**

| | BLG000T<br>BLG 4A-015-19X-030-001-SX | BLG000U<br>BLG 4A-030-19X-030-001-SX | BLG000W<br>BLG 4A-045-19X-030-001-SX | |
|---|---|---|---|---|
| Performance Level | e | e | e | |
| Safety category (EN ISO 13849-1) | 4 | 4 | 4 | |
| SIL (IEC 61508) | 3 | 3 | 3 | |
| SIL CL (EN 62061) | 3 | 3 | 3 | |
| Response time max. | 9 ms | 11 ms | 13 ms | |
| Approval/Conformity | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | |
| Operating principle | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | |
| Detection capability | 30 mm | 30 mm | 30 mm | |
| Protective field height (Hp) | 150 mm | 300 mm | 450 mm | |
| Range | 19 m | 19 m | 19 m | |
| Connection 1 | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | |
| Connection 2 | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | |
| Switching output | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | |
| Dimension | 32.3 x 233.3 x 37 mm | 32.3 x 383.2 x 37 mm | 32.3 x 533.2 x 37 mm | |
| Ambient temperature | 0...55 °C | 0...55 °C | 0...55 °C | |
| Protection degree | IP65 | IP65 | IP65 | |
| Housing material | Aluminum | Aluminum | Aluminum | |
| Productview | Page 56 | Page 56 | Page 57 | |





| | BLG000Y<br>BLG 4A-060-19X-030-001-SX | BLG000Z<br>BLG 4A-075-19X-030-001-SX | BLG0010<br>BLG 4A-090-19X-030-001-SX | BLG0011<br>BLG 4A-105-19X-030-001-SX | BLG0012<br>BLG 4A-120-19X-030-001-SX |
|---|---|---|---|---|---|
| | e | e | e | e | e |
| | 4 | 4 | 4 | 4 | 4 |
| | 3 | 3 | 3 | 3 | 3 |
| | 3 | 3 | 3 | 3 | 3 |
| | 14 ms | 16 ms | 18 ms | 19 ms | 21 ms |
| | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE |
| | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) |
| | 30 mm | 30 mm | 30 mm | 30 mm | 30 mm |
| | 600 mm | 750 mm | 900 mm | 1050 mm | 1200 mm |
| | 19 m | 19 m | 19 m | 19 m | 19 m |
| | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded |
| | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male |
| | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD |
| | 32.3 x 683.2 x 37 mm | 32.3 x 833.2 x 37 mm | 32.3 x 983.2 x 37 mm | 32.3 x 1133.2 x 37 mm | 32.3 x 1283.3 x 37 mm |
| | 0...55 °C | 0...55 °C | 0...55 °C | 0...55 °C | 0...55 °C |
| | IP65 | IP65 | IP65 | IP65 | IP65 |
| | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| | Page 57 | Page 58 | Page 58 | Page 59 | Page 59 |

**Do you need more details?** Our Product Finder at www.balluff.com provides you with product-specific information, including technical drawings, data sheets, user guides and more for each individual product. All items are available for download.



| | BLG0013<br>BLG 4A-135-19X-030-001-SX | BLG0014<br>BLG 4A-150-19X-030-001-SX | BLG0015<br>BLG 4A-165-19X-030-001-SX | |
|---|---|---|---|---|
| Performance Level | e | e | e | |
| Safety category (EN ISO 13849-1) | 4 | 4 | 4 | |
| SIL (IEC 61508) | 3 | 3 | 3 | |
| SIL CL (EN 62061) | 3 | 3 | 3 | |
| Response time max. | 23 ms | 25 ms | 26 ms | |
| Approval/Conformity | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE | |
| Operating principle | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) | |
| Detection capability | 30 mm | 30 mm | 30 mm | |
| Protective field height (Hp) | 1350 mm | 1500 mm | 1650 mm | |
| Range | 19 m | 19 m | 19 m | |
| Connection 1 | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | |
| Connection 2 | Receiver: M12x1-Male | Receiver: M12x1-Male | Receiver: M12x1-Male | |
| Switching output | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD | |
| Dimension | 32.3 x 1433.2 x 37 mm | 32.3 x 1583.3 x 37 mm | 32.3 x 1733.3 x 37 mm | |
| Ambient temperature | 0...55 °C | 0...55 °C | 0...55 °C | |
| Protection degree | IP65 | IP65 | IP65 | |
| Housing material | Aluminum | Aluminum | Aluminum | |
| Productview | Page 60 | Page 60 | Page 61 | |

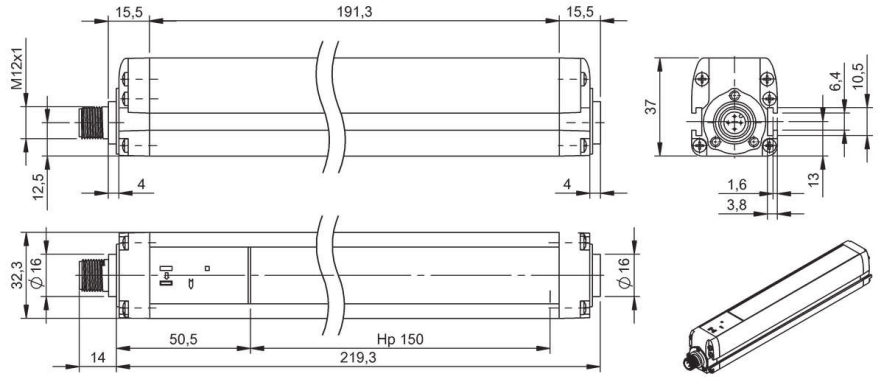




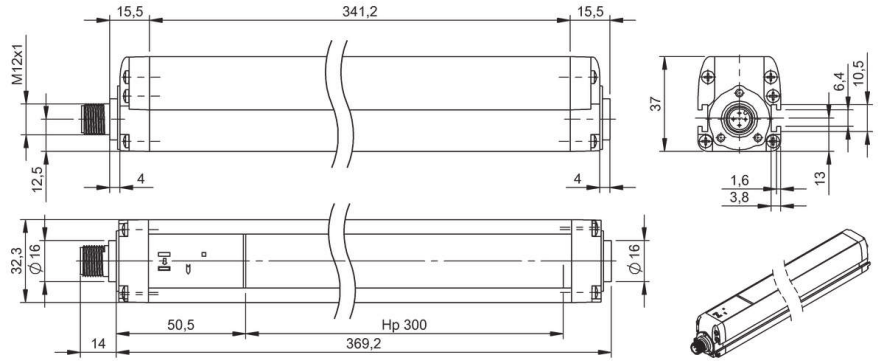


| | BLG0016<br>BLG 4A-180-19X-030-001-SX | | | | |
|---|---|---|---|---|---|
| | e | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 3 | | | | |
| | 28 ms | | | | |
| | TÜV, CE, cULus | | | | |
| | non-contact (photoelectric) | | | | |
| | 30 mm | | | | |
| | 1800 mm | | | | |
| | 19 m | | | | |
| | Emitter: M12x1-Male, A-coded | | | | |
| | Receiver: M12x1-Male | | | | |
| | 2x PNP OSSD | | | | |
| | 32.3 x 1883.3 x 37 mm | | | | |
| | 0...55 °C | | | | |
| | IP65 | | | | |
| | Aluminum | | | | |
| | Page 61 | | | | |

**Do you need more details?** Our Product Finder at www.balluff.com provides you with product-specific information, including technical drawings, data sheets, user guides and more for each individual product. All items are available for download.



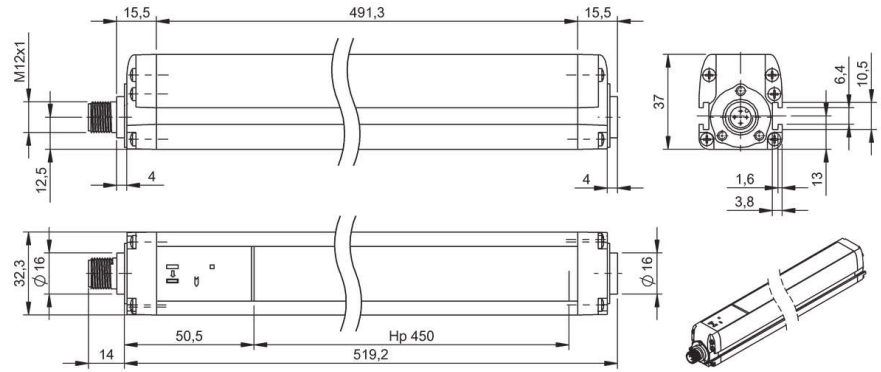

**BLG000T**



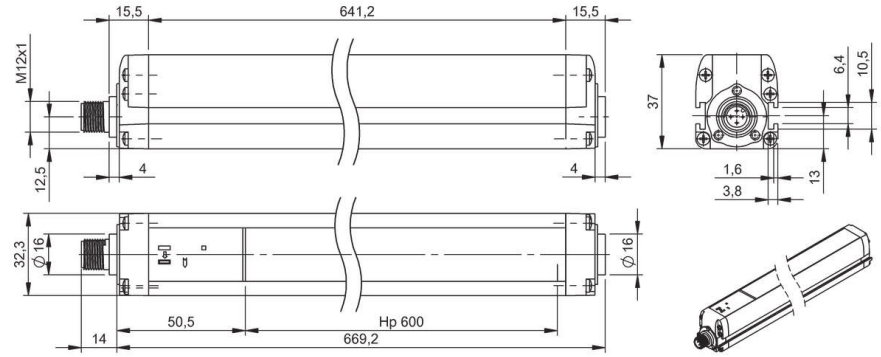

**BLG000U**



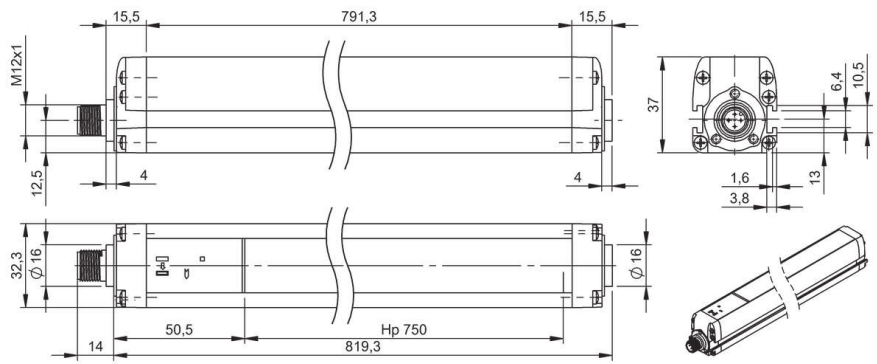




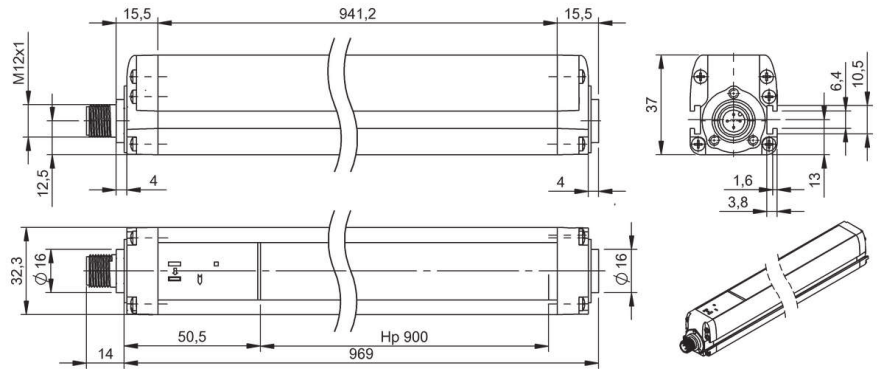

**BLG000W**




**BLG000Y**



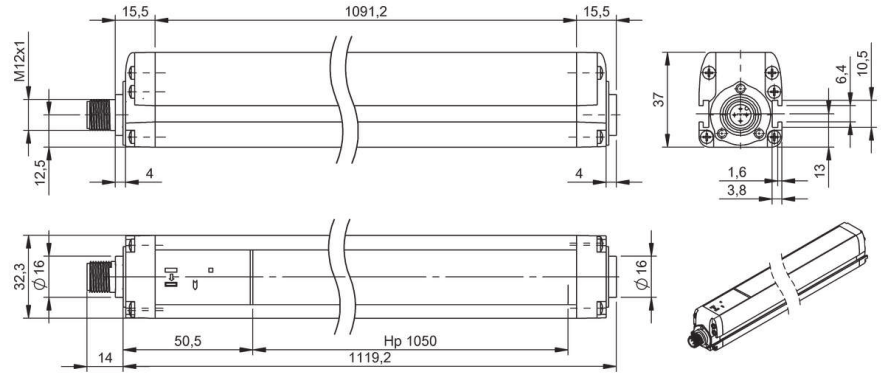

BLG000Z



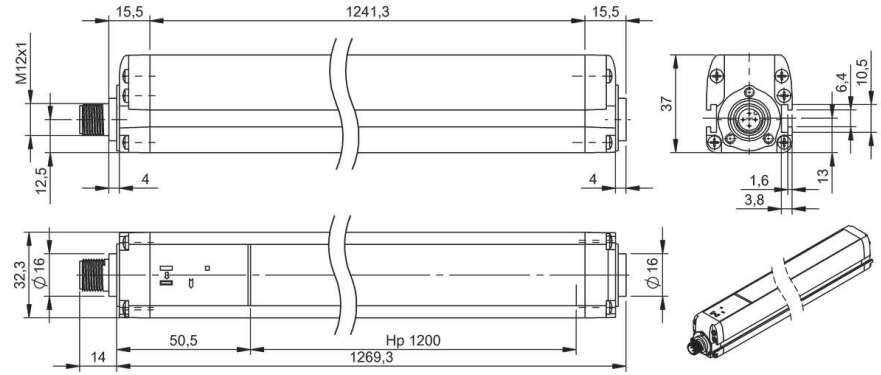

BLG0010



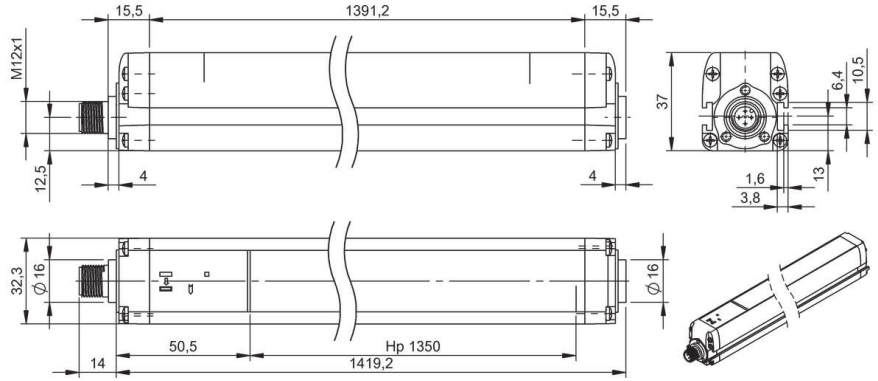




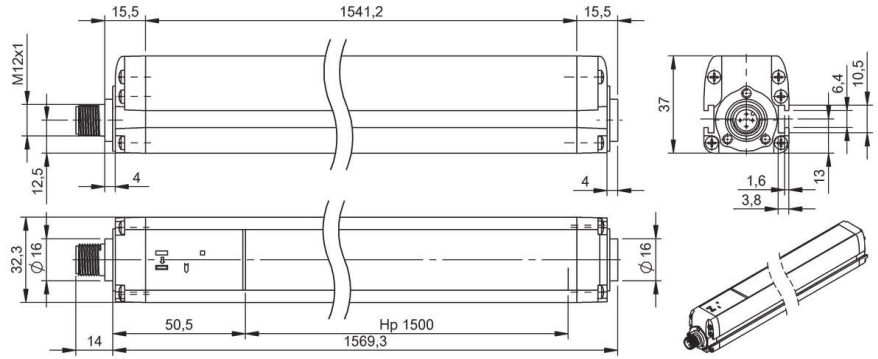

BLG0011




BLG0012



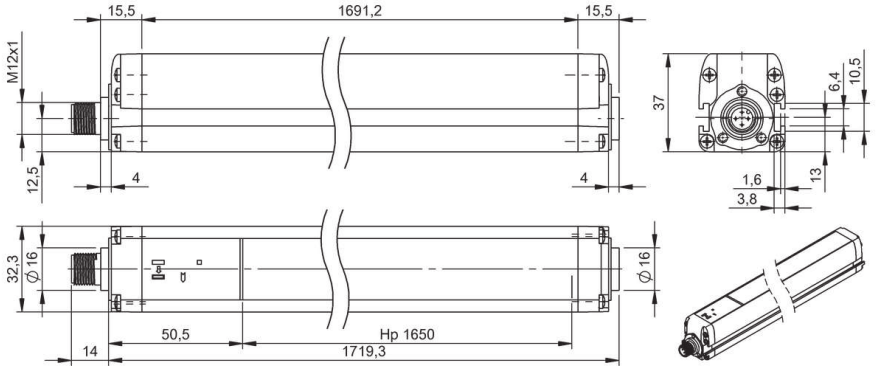

BLG0013



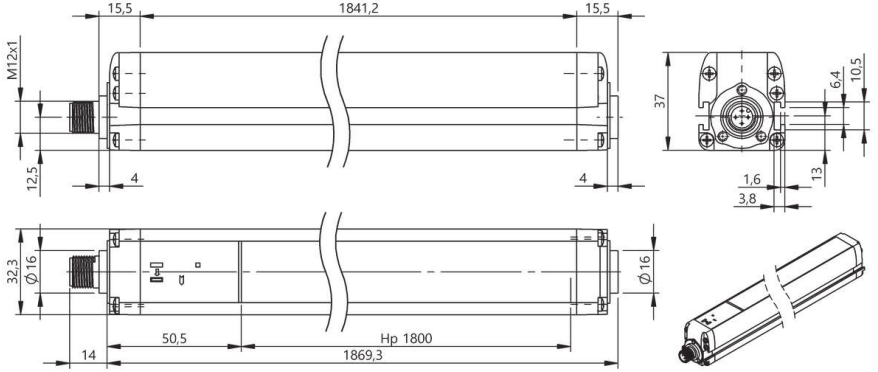

BLG0014








BLG0015




BLG0016

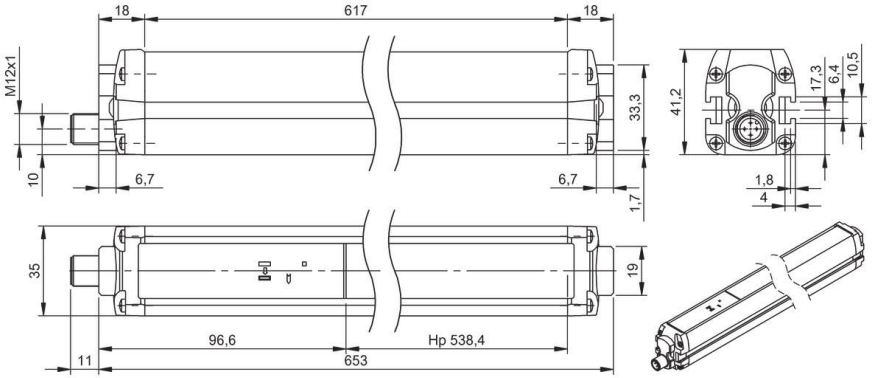
| | BLG0006<br>BLG 4A-050-50X-B02-001-SX | |
|---|---|---|
| Performance Level | e | |
| Safety category (EN ISO 13849-1) | 4 | |
| SIL (IEC 61508) | 3 | |
| SIL CL (EN 62061) | 3 | |
| Response time max. | 14 ms | |
| Approval/Conformity | TÜV, cULus, CE | |
| Operating principle | non-contact (photoelectric) | |
| Light beams, number | 2 | |
| Protective field height (Hp) | 515 mm | |
| Range | 50 m | |
| Connection 1 | Emitter: M12x1-Male, A-coded | |
| Connection 2 | Receiver: M12x1-Male, A-coded | |
| Switching output | 2x PNP OSSD | |
| Dimension | 35 x 664 x 41.2 mm | |
| Ambient temperature | -10...55 °C | |
| Protection degree | IP65 | |
| Housing material | Aluminum | |
| Productview | Page 64 | |



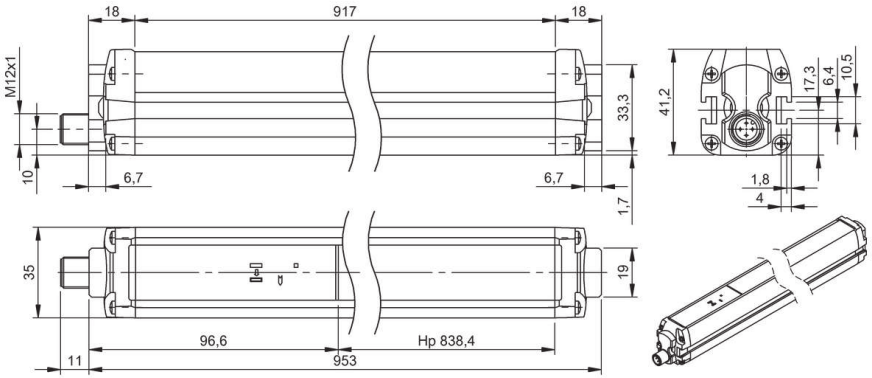


| | BLG0007<br>BLG 4A-080-50X-B03-001-SX | BLG0008<br>BLG 4A-090-50X-B04-001-SX | BLG0009<br>BLG 4A-120-50X-B04-001-SX |
|---|---|---|---|
| | e | e | e |
| | 4 | 4 | 4 |
| | 3 | 3 | 3 |
| | 3 | 3 | 3 |
| | 14 ms | 16 ms | 16 ms |
| | TÜV, cULus, CE | TÜV, cULus, CE | TÜV, cULus, CE |
| | non-contact (photoelectric) | non-contact (photoelectric) | non-contact (photoelectric) |
| | 3 | 4 | 4 |
| | 815 mm | 915 mm | 1215 mm |
| | 50 m | 50 m | 50 m |
| | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded | Emitter: M12x1-Male, A-coded |
| | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male, A-coded | Receiver: M12x1-Male |
| | 2x PNP OSSD | 2x PNP OSSD | 2x PNP OSSD |
| | 35 x 964 x 41.2 mm | 35 x 1064 x 41.2 mm | 35 x 1364 x 41.2 mm |
| | -10...55 °C | -10...55 °C | -10...55 °C |
| | IP65 | IP65 | IP65 |
| | Aluminum | Aluminum | Aluminum |
| | Page 64 | Page 65 | Page 65 |

**Do you need more details?** Our Product Finder at www.balluff.com provides you with product-specific information, including technical drawings, data sheets, user guides and more for each individual product. All items are available for download.



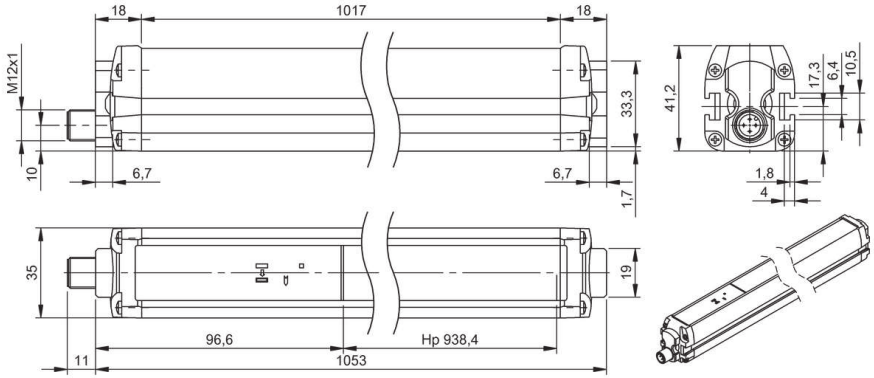

BLG0006



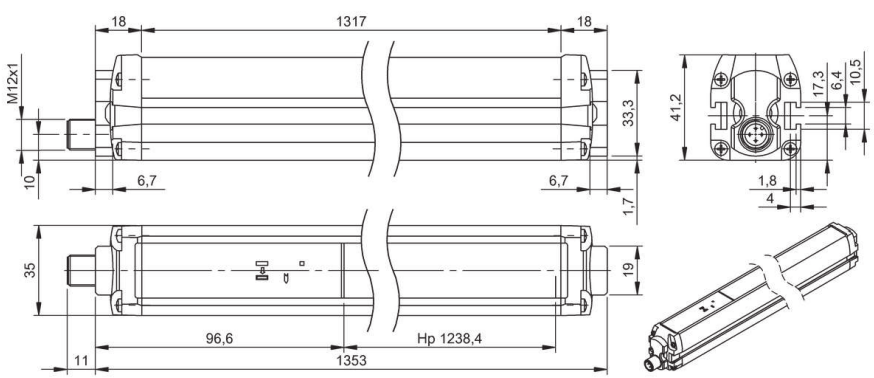

BLG0007








BLG0008




BLG0009