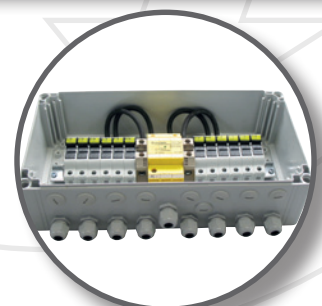
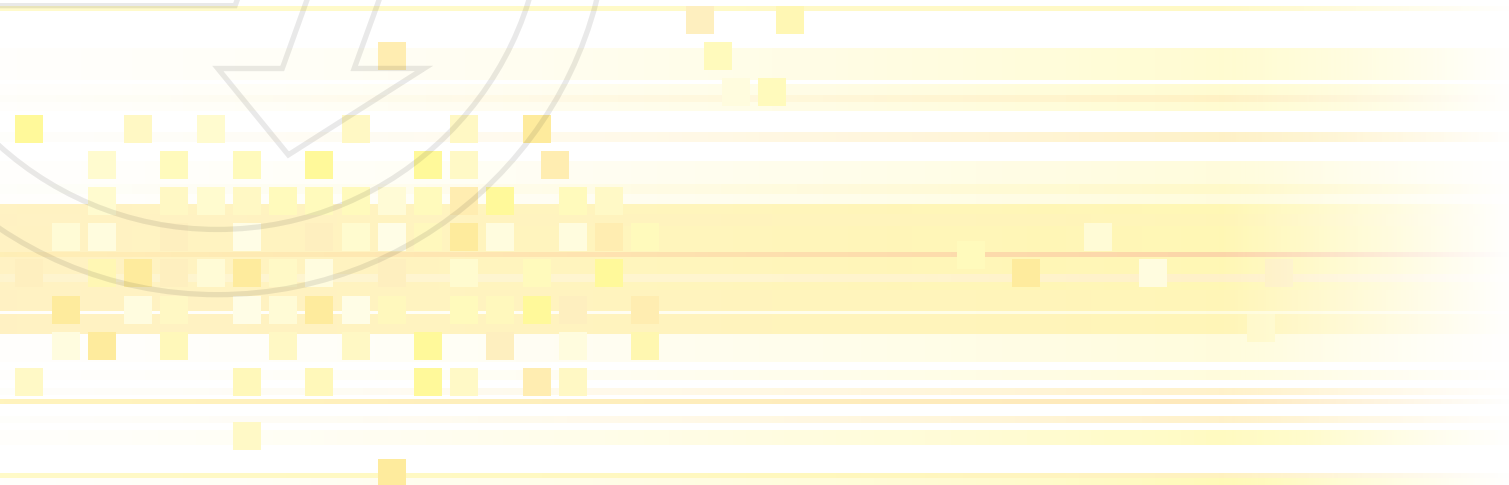


**SHORT FORM CATALOGUE
LIGHTNING AND SURGE PROTECTION
2019/2020**





REMARKS

The Short Form Catalogue is valid from June 1st 2019.

Incidentally our terms and conditions for delivery and payment are valid, read on www.leutron.de
Modifications, errata and errors excepted.



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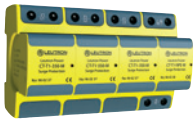
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SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

AC POWER SUPPLY

Lightning current arrester type 1 / CT series



CT-T1/3+1

Lightning current discharge arrester with rare-gas-filled spark gap for the use in three-phase TT and TN-S systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ OA - 1
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1/3+1-350-FM	350 V~	100 kA	96 02 07



CT-T1/2+0

Lightning current discharge arrester with rare-gas-filled spark gap for the use in single-phase TN systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ OA - 1
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1/2+0-350-FM	350 V~	50 kA	96 02 13



CT-T1/3+0

Lightning current discharge arrester with rare-gas-filled spark gap for the use in three-phase TNC systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ OA - 1
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1/3+0-350-FM	350 V~	75 kA	96 02 09



CT-T1/1+1

Lightning current discharge arrester with rare-gas-filled spark gap for the use in single-phase TT and TN systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ OA - 1
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1/1+1-350-FM	350 V~	50 kA	96 02 15



CT-T1/2+1

Multi-pole lightning current arrester (class I) with rare-gas-filled spark gap for 2-phase TT systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ OA - 1
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1/2+1-350-FM	350 V~	100 kA	96 02 11



CT-T1/1+0

Lightning current discharge arrester with rare-gas-filled spark gap for the use between L - N wire. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ OA - 1
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1/1+0-350-FM	350 V~	25 kA	96 02 17

Accessories CT series



Replacement protective plug for lightning current discharge arresters.

Product	Art. No.
CT-T1-350-M	96 02 37
CT-T1-NPE-M	96 02 38



Combined arrester type 1 + 2 for AC / CT series



CT-T1+2/3+1

Lightning current discharge arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use in three-phase TT and TN-S systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ 0A - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2/3+1-350-FM	350 V~	100 kA	96 00 01



CT-T1+2/2+0

Lightning current discharge arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use in single-phase TN systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ 0A - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2/2+0-350-FM	350 V~	50 kA	96 00 07



CT-T1+2/3+0

Lightning current discharge arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use in three-phase TNC systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ 0A - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2/3+0-350-FM	350 V~	75 kA	96 00 03



CT-T1+2/1+1

Lightning current discharge arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use in single-phase TT and TN systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ 0A - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2/1+1-350-FM	350 V~	50 kA	96 00 09



CT-T1+2/2+1

Lightning current discharge arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use in 2-phase TT systems. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ 0A - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2/2+1-350-FM	350 V~	100 kA	96 00 05



CT-T1+2/1+0

Lightning current discharge arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use between L - N wire. They provide extremely high discharge capabilities with at the same time very low protection levels and they also do not need any damageable internal or external electronic trigger.

- Applicable at the boundaries LPZ 0A - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2/1+0-350-FM	350 V~	25 kA	96 00 11

Accessories CT-T1+2



Replacement protective plug for combined lightning current discharge and surge arresters.

Product	Art. No.
CT-T1+2-350-M	96 02 36
CT-T1-NPE-M	96 02 38



SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

AC POWER SUPPLY

Combined arrester type 1+2+3 / CT series



CT-T1+2+3/3+1

Combined surge arrester with rare-gas-filled spark gap and very low protection level < 1.0 kV for the use in three-phase TT and TN-S systems. No leakage currents, thus, allowing installation upstream of power meters.

- Applicable at the boundaries LPZ OA - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2+3/3+1-350-FM	350 V~	100 kA	96 04 01



CT-T1+2+3/1+1

Combined arrester with rare-gas-filled spark gap and very low protection level < 1.0 kV for the use in single-phase TT and TN systems. No leakage currents, thus, allowing installation upstream of power meters.

- Applicable at the boundaries LPZ OA - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2+3/1+1-350-FM	350 V~	50 kA	96 04 17



CT-T1+2+3/3+0

Combined arrester with rare-gas-filled spark gap and very low protection level < 1.0 kV for the use in three-phase TN-C systems. No leakage currents, thus, allowing installation upstream of power meters.

- Applicable at the boundaries LPZ OA - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2+3/3+0-350-FM	350 V~	75 kA	96 04 05



CT-T1+2+3/2+0

Combined arrester with rare-gas-filled spark gap and very low protection level < 1.0 kV for the use in single-phase TN systems. No leakage currents, thus, allowing installation upstream of power meters.

- Applicable at the boundaries LPZ OA - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2+3/2+0-350-FM	350 V~	50 kA	96 04 09



CT-T1+2+3/2+1

Combined arrester with rare-gas-filled spark gap and very low protection level < 1.0 kV for the use in single-phase TN systems. No leakage currents, thus, allowing installation upstream of power meters.

- Applicable at the boundaries LPZ OA - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2+3/2+1-350-FM	350 V~	50 kA	96 04 13



CT-T1+2+3/1+0

Combined arrester with rare-gas-filled spark gap and very low protection level < 1.5 kV for the use between L - N wire. No leakage currents, thus, allowing installation upstream of power meters.

- Applicable at the boundaries LPZ OA - 2
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Remote changeover contact

Product	Uc	Itotal	Art. No.
CT-T1+2+3/1+0-350-FM	350 V~	25 kA	96 04 21

Accessories CT series



Replacement protective plug for lightning current discharge arresters.

Product	Art. No.
CT-T1+2+3-350-M	96 04 25
CT-T1-NPE-M	96 02 38



Lightning current arrester type 1 / PowerPro series



PowerPro B TNS

Multi-pole lightning current arrester type 1 (class I) for 3-phase TN-S systems. The arresters can be installed at the transition OA to 1 according to the lightning protection zones concept.

- Test standard: IEC 61643-11 / EN 61643-11
- High insulation resistance
- High TOV resistance
- High quenching of follow-on short-circuit currents
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP B TNS 50/100/FM	255 V~	100 kA	37 39 42
PP B TNS 50/100/FM-350	350 V~	100 kA	37 41 25
PP B TNS 440/FM	440 V~	100 kA	37 39 44



PowerPro B TT

Multi-pole lightning current arrester for 3-phase TT and TN-S systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP B TT 50/100/FM	255 V~	100 kA	37 39 12
PP B TT 50/100/FM-350	350 V~	100 kA	37 41 35



PowerPro B TT1+1

Combined multi-pole arrester for 1-phase TT systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Degree of protection according to IEC EN 60529: IP 20
- No leakage currents, thus, allowing installation upstream of power meters
- Remote signalling contact (FM): break contact

Product	Uc	Itotal	Art. No.
PP B TT1+1 50/100/FM	255 V~	100 kA	38 11 31



PowerPro B TT2+1

Multi-pole lightning current arrester for 2-phase TT systems.

- With remote signalling contact (FM)

Product	Uc	Itotal	Art. No.
PP B TT2+1 50/100/FM	255 V~	100 kA	37 39 17



PowerPro B TNC

Lightning current discharge arrester with rare-gas-filled spark gap for the use in three-phase TNC systems. Applicable at the boundaries LPZ OA - 1 and higher.

- Test standard: IEC 61643-11 / EN 61643-11
- High quenching of follow-on short-circuit currents
- Remote signalling contact (FM): break contact
- High TOV resistance
- No leakage currents, thus, allowing installation upstream of power meters
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP B TNC 50/100/FM	255 V~	75 kA	37 39 72
PP B TNC 50/100/FM-350	350 V~	75 kA	37 41 15
PP B TNC 440/FM	440 V~	75 kA	37 39 65



PowerPro B TN

Multi-pole lightning current arrester for 1-phase TN systems. The arresters can be installed at the transition OA to 1 according to the lightning protection zones concept.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- No leakage currents, thus, allowing installation upstream of power meters
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP B TN 50/100/FM	255 V~	100 kA	38 12 11
PP B TN 440/FM	440 V~	50 kA	37 39 46



SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

AC POWER SUPPLY

Lightning current arrester type 1 / PowerPro series



PowerPro B IT

Three-pole lightning current arrester for 3-phase IT systems. No leakage currents, thus, allowing installation upstream of power meters.

- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP B IT 50/100/FM	440 V~	100 kA	37 39 19



PowerPro B

Single pole lightning current and SPD based on hermetically sealed gas filled spark-gaps. No leakage currents, thus, allowing installation upstream of power meters.

- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Test standard: IEC 61643-11 / EN 61643-11

Product	Uc	Itotal	Art. No.
PowerPro B-Tr/50kA/Pk	255 V~	50 kA	37 38 40
PP B 50-350/FM	350 V~	50 kA	37 38 85



PowerPro B 25-760

Lightning current arrester for wind energy applications for lightning protection equipotential bonding in 690 V IT systems. No leakage currents, thus, allowing installation upstream of power meters.

- New developed ceramic isolating spark gap
- With remote signalling contact (FM)

Product	Uc	Ipeak	Art. No.
PP B 25-760/FM	690 V~	25 kA	37 45 21

Accessories of PowerPro B and BC



Pin-shaped terminal to enable feed-through wiring (V-wiring) for all surge protection modules with only one clamp per phase.

Product	Art. No.
DAK 2x 16	17 01 10

Combined arrester type 1 + 2 / PowerPro series



PowerPro BC TNS

Combined four-pole arrester for 3-phase TN-S systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP BC TNS 25/100/FM	255 V~	100 kA	37 39 52
PP BC TNS 25/100/FM-350	350 V~	100 kA	38 51 50



PowerPro BC TT

Combined four-pole arrester for 3-phase TT and TN-S systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- High insulation resistance: Riso >10 GΩ
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP BC TT 25/100/FM	255 V~	100 kA	37 39 22
PP BC TT 25/100/FM-350	350 V~	100 kA	38 51 70



PowerPro BC TT+1

Two-pole combined arrester for the protection of low-voltage consumers' installations in industry, business and residential areas against transient surges caused by lightning (LEMP) or switching actions in the network (SEMP). Combined multi-pole arrester for 1-phase TT systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- High TOV resistance
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP BC TT+1 25/100/FM	255 V~	100 kA	38 11 33
PP BC TT+1 25/100/FM-350	350 V~	100 kA	38 52 10



Combined arrester type 1 + 2 / PowerPro series



PowerPro BC TNC

Multi-pole combined modular arresters for the protection of low-voltage consumers' installations in business and residential areas against surges caused by lightning or switching actions in the network. Combined multi-pole arrester for 3-phase TN-C systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20
- Applicable at the boundaries LPZ 0A - 2 and higher

Product	Uc	Itotal	Art. No.
PP BC TNC 25/75/FM	255 V~	75 kA	37 39 82
PP BC TNC 440/FM	440 V~	75 kA	37 39 83
PP BC TNC 25/75/FM-350	350 V~	75 kA	38 51 30

Combined arrester type 1 + 2 + 3 / PowerPro series



PowerPro BCD TNS

Combined four-pole arrester for 3-phase TN-S systems. The installation place of the PowerPro BCD is the main distribution board upstream or downstream of the power meter. According to the lightning protection zones concept in IEC DIN EN 62305 part 1-4 (VDE 0185-305-1-4), it can universally be installed at the transition 0A to 2.

- With remote signalling contact (FM)
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- No leakage currents, thus, allowing installation upstream of power meters

Product	Uc	Itotal	Art. No.
PP BCD TNS 25/100/FM	255 V~	100 kA	37 39 62
PP BCD TNS 25/100/FM-350	350 V~	100 kA	38 50 30



PowerPro BCD TT

Combined multi-pole arrester for 3-phase TT and TN-S systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- 4-pole; 3+1 N-PE
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP BCD TT 25/100/FM	255 V~	100 kA	37 39 32
PP BCD TT 25/100/FM-350	350 V~	100 kA	38 50 50



PowerPro BC TN

Combined multi-pole arrester for 1-phase TN systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
PP BC TN 25/50/FM	255 V~	50 kA	38 12 13
PP BC TN 25/50/FM-350	350 V~	50 kA	38 51 90



PowerPro BC 50

For lightning protection equipotential bonding in 400 V TN-C systems e. g. Wind generator protection.

- Single pole combined arrester type 1 + 2 (37 45 01)
- Combined three-pole Surge Protective Device (SPD), fully prewired (37 45 05)
- For 440/690 V power system voltages
- New developed ceramic isolating spark gap
- Low protection level
- High quenching of follow-on short-circuit currents, self-extinguishing
- Remote signalling contact (FM): break contact

Product	Uc	Iimp	Art. No.
PP BC 50-440/FM	440 V	50 kA	37 45 01
PP BC TNC 50-400/690/FM	440 V	50 kA	37 45 05



PowerPro BCD TT1+1

Combined multi-pole arrester for 1-phase TT systems. Two-pole combined arrester for the protection of low-voltage consumers' installations in industry, business and residential areas against transient surges caused by lightning (LEMP) or switching actions in the network (SEMP).

- No leakage currents, thus, allowing installation upstream of power meters
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Iimp	Art. No.
PP BCD TT1+1 25/100/FM	255 V~	100 kA	38 11 35
PP BCD TT1+1 25/100/FM-350	350 V~	100 kA	38 50 90



SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

AC POWER SUPPLY

Combined arrester type 1 + 2 + 3 / PowerPro series



PowerPro BCD TT2+1

Combined three-pole arrester for 2-phase TT systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
PP BCD TT2+1 25/100/FM	255 V~	100 kA	37 39 36



PowerPro BCD TNC

Combined three-pole arrester for 3-phase TN-C systems. The installation place of the PowerPro BCD is the main distribution board upstream or downstream of the power meter. According to the lightning protection zones concept in IEC DIN EN 62305 part 1-4 (VDE 0185-305-1-4), it can universally be installed at the transition OA to 2.

- Remote signalling contact (FM): break contact
- High quenching of follow-on short-circuit currents
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
PP BCD TNC 25/75/FM	255 V~	75 kA	37 39 92
PP BCD TNC 25/75/FM-350	350 V~	75 kA	38 50 10



PowerPro BCD TN

For single-phase TN systems with 230 V, 50 Hz nominal voltage. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail
- Remote signalling contact (FM): break contact

Product	Uc	Itotal	Art. No.
PP BCD TN 25/50/FM	255 V~	50 kA	38 12 15
PP BCD TN 25/50/FM-350	350 V~	50 kA	38 50 70



PowerPro BCD-Tr

Single pole modular lightning and transient (switching-) surge voltage arrester for the protection of low-voltage electrical distribution systems by industrial, commercial and private use.

- Test standard: IEC 61643-11 / EN 61643-11
- Applicable at the boundaries LPZ OA - 1 and higher
- With remote signalling contact

Product	Uc	Iimp	Art. No.
PowerPro BCD-Tr/25kA/PK	255 V~	25 kA	37 38 60
PP BCD-Tr/25kA/FM-350	350 V~	25 kA	37 38 62
PP BCD 25-350/FM	350 V~	25 kA	37 38 89
PP BCD 27kA/FM-350	350 V~	27 kA	37 38 68



PowerPro BCD-Tr/VA

Leakage-current free version to protect the foundation grounding electrode against AC-caused corrosion. Single-pole lightning current arrester. Used as equipotential bonding lightning surge protection in different kind of power net systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
PP BCD-Tr/25kA-VA/FM	255 V~	25 kA	37 38 61



PowerPro BCD TT/LED

Combined four-pole arrester for 3-phase TT and TN-S systems. Optical function control display by LED.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Not leakage current free

Product	Uc	Itotal	Art. No.
PP BCD TT 100/LED/FM	255 V~	100 kA	37 39 59

Accessories of PowerPro BCD



Pin-shaped terminal to enable feed-through wiring (V-wiring) for all surge protection modules with only one clamp per phase.

Product	Art. No.
DAK 2x 16	17 01 10



Combined arrester type 1 + 2 + 3 / PowerPro series with LED



PowerPro BCD TNC LED

Combined three-pole arrester for 3-phase TN-C systems.
Optical function control display by LED.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Not leakage current free

Product	Uc	I _{total}	Art. No.
PP BCD TNC 75/LED/FM	255 V~	75 kA	37 39 57

Lightning current arrester type 1 / IsoPro series



IsoPro B TNS

Four-pole lightning current arrester type 1 (class I) for 3-phase TN-S systems. For the protection of low-voltage consumers' installations in business and residential areas against surges caused by lightning or switching actions in the network. No leakage currents, thus, allowing installation upstream of power meters.

- Rare-gas-filled spark gap, hermetically sealed
- High insulation resistance
- Remote signalling contact (FM): break contact

Product	Uc	I _{total}	Art. No.
IP B TNS 25/100/FM	255 V~	100 kA	38 12 21
IP B TNS 60/100/FM	255 V~	100 kA	38 11 46



PowerPro BCD TN/LED

Combined two-pole arrester for 1-phase TN systems. With two green LED (function control).

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Not leakage current free

Product	Uc	I _{total}	Art. No.
PP BCD TN 25/50/LED/FM	255 V~	50 kA	37 12 02
PP BCD TN 25/50/LED/FM-350	350 V~	50 kA	38 51 10



IsoPro B TT

Four-pole lightning current arrester for 3-phase TT and TN-S systems. 3-phase TN-S systems. For the protection of low-voltage consumers' installations in business and residential areas against surges caused by lightning or switching actions in the network. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail

Product	Uc	I _{total}	Art. No.
IP B TT 25/100/FM	255 V~	100 kA	38 12 25
IP B TT 60/100/FM	255 V~	100 kA	38 11 51



PowerPro BCD-Tr-LED

Single pole SPD for use as equipotential bonding lightning surge protection in different kind of power net systems.
Optical function control display by LED.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Not leakage current free

Product	Uc	I _{total}	Art. No.
PowerPro BCD-Tr/25kA-LED	255 V~	25 kA	37 38 49



IsoPro B TT1+1

Two-pole lightning current arrester for 1-phase TT systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail

Product	Uc	I _{total}	Art. No.
IP B TT1+1 25/50/FM	255 V~	50 kA	38 12 29
IP B TT1+1 60/100/FM	255 V~	100 kA	38 11 56



SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

AC POWER SUPPLY

Lightning current arrester type 1 / IsoPro series



IsoPro B TNC

Three-pole lightning current arrester for 3-phase TN-C systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
IP B TNC 25/75/FM	255 V~	75 kA	38 12 17
IP B TNC 60/100/FM	255 V~	100 kA	38 11 41



IsoPro B TN

Two-pole lightning current arrester for 1-phase TN systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
IP B TN 25/50/FM	255 V~	50 kA	38 12 37
IP B TN 60/100/FM	255 V~	100 kA	38 12 33



IsoPro B

Single pole lightning current discharge arrester (class I) with rare-gas-filled spark gap for the use in single-phase TT and TN systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
IP B 25/FM	255 V~	25 kA	55 05 00
IP B 60/FM	255 V~	60 kA	55 04 95

Accessories of IsoPro B and BC



Pin-shaped terminal to enable feed-through wiring (V-wiring) for all surge protection modules with only one clamp per phase.

Product	Art. No.
DAK 2x 16	17 01 10

Combined arrester type 1 + 2 for AC / IsoPro series



IsoPro BC TNS

Combined four-pole arrester for 3-phase TN-S systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
IP BC TNS 25/100/FM	255 V~	100 kA	38 12 23
IP BC TNS 25/100/FM-350	350 V~	100 kA	38 53 50
IP BC TNS 60/100/FM	255 V~	100 kA	38 11 48
IP BC TNS 60/100/FM-350	350 V~	100 kA	38 53 30



IsoPro BC TT

Combined four-pole arrester for 3-phase TT and TN-S systems. The arresters can be installed at the transition OA to 2 according to the lightning protection zones concept. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- 4-polig; 3+1 NPE
- Mounting on 35 mm DIN rail

Product	Uc	Itotal	Art. No.
IP BC TT 25/100/FM	255 V~	100 kA	38 12 27
IP BC TT 25/100/FM-350	350 V~	100 kA	38 53 90
IP BC TT 60/100/FM	255 V~	100 kA	38 11 54
IP BC TT 60/100/FM-350	350 V~	100 kA	38 53 70



IsoPro BC TT1+1

Combined two-pole arrester for 1-phase TT systems. No leakage currents, thus, allowing installation upstream of power meters.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	Itotal	Art. No.
IP BC TT1+1 25/100/FM	255 V~	100 kA	38 12 31
IP BC TT1+1 25/100/FM-350	350 V~	100 kA	38 54 70
IP BC TT1+1 60/100/FM	255 V~	100 kA	38 11 58
IP BC TT1+1 60/100/FM-350	350 V~	100 kA	38 54 50



Combined arrester type 1 + 2 for AC / IsoPro series



IsoPro BC TNC

Combined three-pole arrester for 3-phase TN-C systems.
Applicable at the boundaries LPZ 0A - 2.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- High insulation resistance
- Mounting on 35 mm DIN rail

Product	Uc	I _{total}	Art. No.
IP BC TNC 25/75/FM	255 V~	75 kA	38 12 19
IP BC TNC 25/75/FM-350	350 V~	75 kA	38 53 10
IP BC TNC 60/100/FM	255 V~	100 kA	38 11 43
IP BC TNC 60/100/FM -350	350 V~	100 kA	38 52 90

Combined arrester type 1 + 2 for AC / IsoPro pluggable



IsoProS

Three pole, pluggable combined lightning and surge arrester, for example for 3-phase TN-C systems. Mechanical status indicator: State of the surge protective device is optically indicated.

- Test standard: IEC 61643-11 / EN 61643-11
- Place of installation: main distributor
- High lightning impulse discharge current of 12.5 kA (10/350 μs) per pole
- Remote changeover contact
- With high performed MOV

Product	Uc	I _{imp}	Art. No.
IPS T1+2/4+0-300-FM	300 V~	12,5 kA	38 16 25
IPS T1+2/3+1-300-FM	300 V~	12,5 kA	38 16 29
IPS T1+2/3+0-300-FM	300 V~	12,5 kA	38 16 19



IsoPro BC TN

Combined two-pole arrester for 1-phase TN systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Mounting on 35 mm DIN rail

Product	Uc	I _{total}	Art. No.
IP BC TN 25/50/FM	255 V~	50 kA	38 12 39
IP BC TN 25/50/FM-350	350 V~	50 kA	38 54 30
IP BC TN 60/100/FM	255 V~	100 kA	38 12 35
IP BC TN 60/100/FM-350	350 V~	100 kA	38 54 10



IsoProS G

Four pole pluggable combined lightning and surge arrester, for example for 3-phase TN-S systems. SPD based on varistors (MOV) and gas discharge tubes (GDT) in serie. Mechanical status indicator: State of the surge protective device is optically indicated.

- Leakage current free
- Test standard: IEC 61643-11 / EN 61643-11
- Place of installation: main distributor
- High lightning impulse discharge current of 12.5 kA (10/350 μs) per pole
- Remote changeover contact
- With high performed MOV

Product	Uc	I _{imp}	Art. No.
IPS G T1+2/4+0-300-FM	300 V~	12,5 kA	38 16 23
IPS G T1+2/3+1-300-FM	300 V~	12,5 kA	38 16 27
IPS G T1+2/3+0-300-FM	300 V~	12,5 kA	38 16 17



IsoPro BC

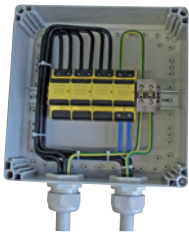
Single-pole combined arrester type 1+2 (class I+II).

- Test standard: IEC 61643-11 / EN 61643-11
- Remote signalling contact (FM): break contact
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	I _{imp}	Art. No.
IP BC 25/FM	255 V~	25 kA	37 38 26
IP BC 25/FM-350	350 V~	25 kA	55 05 19
IP BC 60/FM	255 V~	60 kA	55 05 18
IP BC 60/FM-350	350 V~	60 kA	55 05 21



Connection boxes for pre-counter section



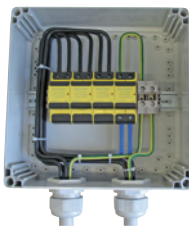
AK-T1

Connection boxes in the pre-counter section for the use in 3-phase TT /TNS or TN systems according to DIN VDE 0100-443 und -534 (79 00 05).

Connection boxes in pre-counter section for the use in TN systems according to DIN VDE 0100-443 und -534 (79 00 10).

- Test standard: IEC 61643-11 / EN 61643-11.
- With remote changeover contact
- No leakage current
- Degree of protection according to IEC EN 60529: IP 66
- Applicable at the boundaries LPZ OA - 1

Product	Uc	I _{total}	Art. No.
AK-T1/3+1-FM	350 V~	100 kA	79 00 05
AK-T1/2+0-FM	350 V~	50 kA	79 00 10



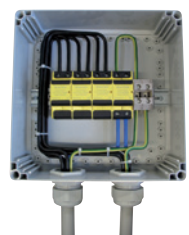
AK-T1+2

Connection boxes in the pre-counter section for the use in 3 phase TT or TNS systems according to DIN VDE 0100-443 and -534 (79 00 15)

Connection boxes in pre-counter section for the use in TN systems according to DIN VDE 0100-443 und -534 (79 00 20).

- Test standard: IEC 61643-11 / EN 61643-11.
- With remote changeover contact
- No leakage current
- Degree of protection according to IEC EN 60529: IP 66
- Applicable at the boundaries LPZ OA - 2

Product	Uc	I _{total}	Art. No.
AK-T1+2/3+1-FM	350 V~	100 kA	79 00 15
AK-T1+2/2+0-FM	350 V~	50 kA	79 00 20



AK-T1+2+3

Connection boxes in the pre-counter section for the use in 3 phase TT or TNS systems according to DIN VDE 0100-443 und -534 (79 00 25).

Connection boxes in pre-counter section for the use in TN systems according to DIN VDE 0100-443 and -534 (79 00 30).

- Test standard: IEC 61643-11 / EN 61643-11.
- With remote changeover contact
- No leakage current
- Degree of protection according to IEC EN 60529: IP 66
- Applicable at the boundaries LPZ OA - 2

Product	Uc	I _{total}	Art. No.
AK-T1+2+3/3+1-FM	350 V~	100 kA	79 00 25
AK-T1+2+3/2+0-FM	350 V~	50 kA	79 00 30

SPD type 2 for AC power supplies / EL series



EL-T2/4+0

Fully pluggable surge protective arrester for the use in three-phase TNS systems.

- Test standard: IEC 61643-11 / EN 61643-11.
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	Uc	I _{max}	TE	Art. No.
EL-T2/4+0-130-FM	130 V~	40 kA	4 TE	38 81 01
EL-T2/4+0-275-FM	275 V~	40 kA	4 TE	38 81 02
EL-T2/4+0-350-FM	350 V~	40 kA	4 TE	38 81 03
EL-T2/4+0-440-FM	440 V~	40 kA	4 TE	38 81 04



EL-T2/3+1

Fully pluggable surge protective arrester for the use in three-phase TT and TNS systems.

- Test standard: IEC 61643-11 / EN 61643-11.
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	Uc	I _{max}	TE	Art. No.
EL-T2/3+1-130-FM	130 V~	40 kA	4 TE	38 81 15
EL-T2/3+1-275-FM	275 V~	40 kA	4 TE	38 81 16
EL-T2/3+1-350-FM	350 V~	40 kA	4 TE	38 81 17
EL-T2/3+1-440-FM	440 V~	40 kA	4 TE	38 81 18



EL-T2/3+0

Fully pluggable surge protective arrester for the use in three-phase TNC systems.

- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	Uc	I _{max}	TE	Art. No.
EL-T2/3+0-130-FM	130 V~	40 kA	3 TE	38 81 29
EL-T2/3+0-275-FM	275 V~	40 kA	3 TE	38 81 30
EL-T2/3+0-350-FM	350 V~	40 kA	3 TE	38 81 31
EL-T2/3+0-440-FM	440 V~	40 kA	3 TE	38 81 32



SPD type 2 for AC power supplies / EL series



EL-T2/2+1

Pluggable SPD type 2 / class II for 2 -pole TT systems with code.

- Test standard: IEC 61643-11 / EN 61643-11.
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	Uc	Imax	TE	Art. No.
EL-T2/2+1-75-FM	75 V~	30 kA	3 TE	38 81 42
EL-T2/2+1-130-FM	130 V~	40 kA	3 TE	38 81 43
EL-T2/2+1-275-FM	275 V~	40 kA	3 TE	38 81 44
EL-T2/2+1-350-FM	350 V~	40 kA	3 TE	38 81 45
EL-T2/2+1-440-FM	440 V~	40 kA	3 TE	38 81 46
EL-T2/2+1-550-FM	550 V~	40 kA	3 TE	38 81 47
EL-T2/2+1-750-FM	750 V~	40 kA	3 TE	38 81 48



EL-T2/1+1

Fully pluggable surge protective arrester for the use in single-phase TT and TN systems.

- Test standard: IEC 61643-11 / EN 61643-11.
- With remote changeover contact
- Mounting on 35 mm DIN rail

Product	Uc	Imax	TE	Art. No.
EL-T2/1+1-130-FM	130 V~	40 kA	2 TE	38 81 71
EL-T2/1+1-275-FM	275 V~	40 kA	2 TE	38 81 72
EL-T2/1+1-350-FM	350 V~	40 kA	2 TE	38 81 73
EL-T2/1+1-440-FM	440 V~	40 kA	2 TE	38 81 74

EL-T2/0+1-NPE

NPE surge protective device



- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail

Product	Uc	Imax	TE	Art. No.
EL-T2/0+1-NPE	260 V~	40 kA	1 TE	38 81 98



EL-T2/2+0

Fully pluggable surge protective arrester for the use in single-phase TN systems.

- Test standard: IEC 61643-11 / EN 61643-11.
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	Uc	Imax	TE	Art. No.
EL-T2/2+0-130-FM	130 V~	40 kA	2 TE	38 81 57
EL-T2/2+0-275-FM	275 V~	40 kA	2 TE	38 81 58
EL-T2/2+0-350-FM	350 V~	40 kA	2 TE	38 81 59
EL-T2/2+0-440-FM	440 V~	40 kA	2 TE	38 81 60



EL-T2/1+0

Fully pluggable surge protective arrester for the use between L - N wires.

- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	Uc	Imax	TE	Art. No.
EL-T2/1+0-75-FM	75 V~	30 kA	1 TE	38 81 84
EL-T2/1+0-130-FM	130 V~	40 kA	1 TE	38 81 85
EL-T2/1+0-275-FM	275 V~	40 kA	1 TE	38 81 86
EL-T2/1+0-350-FM	350 V~	40 kA	1 TE	38 81 87
EL-T2/1+0-440-FM	440 V~	40 kA	1 TE	38 81 88
EL-T2/1+0-550-FM	550 V~	40 kA	1 TE	38 81 89
EL-T2/1+0-750-FM	750 V~	40 kA	1 TE	38 81 90

Accessories of EL-T2

Plug-in modules with MOV



Product	Art. No.
EL-T2-75-M	38 80 00
EL-T2-130-M	38 80 01
EL-T2-275-M	38 80 02
EL-T2-350-M	38 80 03
EL-T2-440-M	38 80 04
EL-T2-550-M	38 80 05
EL-T2-750-M	38 80 06
EL-T2-NPE-M	38 80 07



SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

AC POWER SUPPLY

SPD type 2 for AC power supplies / EnerPro series



EnerPro C TNS

Compact and leakage-current free 4-pole surge arrester, e.g. for a 3-phase TN system.

- Test standard: IEC 61643-11 / EN 61643-11
- Monitoring of conductor and arrester
- With remote signalling contact (FM)

Product	Uc	I _{max}	Art. No.
EP C TNS 275/FM	275/480 V~	40 kA	38 11 79
EP C TNS 350/FM	275/480 V~	40 kA	38 55 90



EnerPro C TNC

Compact and leakage-current free 3-pole surge arrester, e.g. for a 3-phase TN-C system.

- Test standard: IEC 61643-11 / EN 61643-11
- Monitoring of conductor and arrester
- With remote signalling contact (FM)

Product	Uc	I _{max}	Art. No.
EP C TNC 275/FM	275/480 V~	40 kA	38 11 77
EP C TNC 350/FM	275/480 V~	40 kA	38 55 70



EnerPro C TT

Compact and leakage-current free 4-pole surge arrester, e.g. for a 3-phase TT and TN-S system.

- Test standard: IEC 61643-11 / EN 61643-11
- Monitoring of conductor and arrester
- With remote signalling contact (FM)

Product	Uc	Art. No.
EP C TT 275/FM	275/480 V~	38 11 81
EP C TT 350/FM	350 V~	38 56 10



EnerPro C TN

Compact and leakage-current free 2-pole surge arrester, e.g. for a 1-phase TN system.

- Monitoring of conductor and arrester
- With remote signalling contact (FM)

Product	Uc	I _{max}	Art. No.
EP C TN 75/FM	75 V~	40 kA	38 14 05
EP C TN 275/FM	275/480 V~	40 kA	38 12 48
EP C TN 350/FM	275/480 V~	40 kA	38 55 50



EnerPro C TT1+1

Compact and leakage-current free 2-pole surge arrester, e.g. for a 1-phase TT and TN system.

- Test standard: IEC 61643-11 / EN 61643-11
- Monitoring of conductor and arrester
- Remote signalling contact (FM): break contact

Product	Uc	Art. No.
EP C TT1+1 275/FM	275/480 V~	38 11 83
EP C TT1+1 350/FM	350 V~	38 11 91



EnerPro C TN 275-D

Compact and leakage-current free 2-pole surge arrester with looped-in wiring, e.g. for the protection of TN systems by applying only one module in the sub-distribution board. Looped-in wiring (in series) max. nominal current 16A.

- Monitoring of conductor and arrester
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail (EN 60715)

Product	Uc	I _{max}	Art. No.
EP C TN 275-D	275 V~	40 kA	38 12 52



SPD type 2 for AC power supplies / EnerPro series



EnerPro C IT 2P

2-pole surge voltage arrester for 230/400 V, 50 Hz nominal voltage systems.

- Optical function control display by LED
- Remote signalling contact (FM): break contact
- Degree of protection according to IEC EN 60529: IP 20
- Test standard: IEC 61643-11 / EN 61643-11

Product	Uc	I _{max}	Art. No.
EP C IT 2P/FM	440 V~	30 kA	38 15 01



EnerPro282Tr-M

- No blow-out vents, thus, not requiring any safety clearance to other installations
- Leakage current-free
- Optical function control display by LED
- With potential-free remote signalling contact (PK)

Product	Uc	I _n	Art. No.
EnerPro 282Tr-M/Pk	230 / 400 V~	40 kA	38 20 45



EnerPro C IT 3P

Three pole SPD type 2 (class II) without N for IT systems.

- Optical function control display by LED
- Remote signalling contact (FM): break contact
- Test standard: IEC 61643-11 / EN 61643-11
- Degree of protection according to IEC EN 60529: IP 20

Product	Uc	I _{max}	Art. No.
EP C IT 3P/FM	440 V~	30 kA	38 15 11



EnerPro284Tr-M

- Optical function control display by LED
- No blow-out vents, thus, not requiring any safety clearance to other installations

Product	Uc	I _{max}	Art. No.
EnerPro 284Tr-M/Pk	230 / 400 V~	40 kA	38 20 43



EnerPro 280Tr

Zweipoliger, schmaler und leckstromfreier Überspannungsableiter z. B. für ein 1-phasiges TN-System. Nur 1 TE nach DIN 43880.

- Leakage current free
- Optical function control display by LED
- With potential-free remote signalling contact (PK)
- Test standard: IEC 61643-11 / EN 61643-11

Product	Uc	I _n	Art. No.
EnerPro 280Tr/Pk	275/480 V~	15 kA	38 20 29



SPD type 3 for AC power supplies



CT-T3/xxV-16A-FM

Pluggable 2-pole surge arrester type 3 (class III) for TN systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- Line function and equipment control by LED
- Leakage current free
- Remote signalling contact: break contact
- Test standard: IEC 61643-21 / EN 61643-21

Product	Uc	IL	Art. No.
CT-T3/24V-16A-FM	30 V~	16 A	38 00 13
CT-T3/48V-16A-FM	60 V~	16 A	38 00 16
CT-T3/60V-16A-FM	75 V~	16 A	38 00 19
CT-T3/120V-16A-FM	150 V~	16 A	38 00 22
CT-T3/230V-16A-FM	255 V~	16 A	38 00 25
CT-T3/275V-16A-FM	275 V~	16 A	38 00 28



CT-T3/xxV-25A-FM

Pluggable 2-pole surge arrester type 3 (class III) for TN systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- Line function and equipment control by LED
- Leakage current free
- Remote signalling contact: break contact
- Test standard: IEC 61643-21 / EN 61643-21

Product	Uc	IL	Art. No.
CT-T3/24V-25A-FM	30 V~	25 A	38 00 14
CT-T3/48V-25A-FM	60 V~	25 A	38 00 17
CT-T3/60V-25A-FM	75 V~	25 A	38 00 20
CT-T3/120V-25A-FM	150 V~	25 A	38 00 23
CT-T3/230V-25A-FM	255 V~	25 A	38 00 26
CT-T3/275V-25A-FM	275 V~	25 A	38 00 29



EnerPro D TNS 275

Compact 4-pole surge arrester, e.g. for 3-phase TN-S systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- With remote signalling contact (FM)
- Test standard: IEC 61643-11 / EN 61643-11
- Line function and equipment control by LED
- With remote signalling contact (FM)

Product	Uc	IL	I _{max}	Art. No.
EP D TNS 275/FM	275 V~	16 A	8 kA	38 05 31



EnerPro D TT 275

Compact 4-pole surge arrester, e.g. for 3-phase TT and TN-S systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- 3+1 circuit
- With remote signalling contact (FM)
- Test standard: IEC 61643-11 / EN 61643-11
- Line function and equipment control by LED

Product	Uc	IL	I _{max}	Art. No.
EP D TT 275/FM	275 V~	16 A	8 kA	38 05 36



EnerPro D TT1+1 275

Compact 2-pole surge arrester, e.g. for 1-phase TT and TN systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- 1+1 circuit
- With remote signalling contact (FM)
- Test standard: IEC 61643-11 / EN 61643-11
- Line function and equipment control by LED

Product	Uc	IL	I _{max}	Art. No.
EP D TT1+1 275/FM	275 V~	16 A	8 kA	38 05 39



EnerPro D TT2+1 275

Compact 3-pole surge arrester, e.g. for 2-phase TT and TN systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- 2+1 circuit
- With remote signalling contact (FM)
- Test standard: IEC 61643-11 / EN 61643-11
- Line function and equipment control by LED

Product	Uc	IL	I _{max}	Art. No.
EP D TT2+1 275/FM	275 V~	16 A	8 kA	38 05 41



SPD type 3 for AC power supplies



EnerPro D TNC 275

Compact 3-pole surge arrester, e.g. for 3-phase TN-C systems. The SPD is applicable at the transition 2-3 according to the lightning protection zones concept.

- No leakage current to PE (leakage current free)
- Monitoring of conductor and arrester via LED
- With remote signalling contact (FM)
- Test standard: IEC 61643-11 / EN 61643-11

Product	Uc	IL	I _{max}	Art. No.
EP D TNC 275/FM	275 V~	16 A	8 kA	38 05 25



EnerPro D IT

Surge Arrester type 3 (IEC SPD class III for up to 16 A fuse size). EP D IT 2P is a two pole SPD for single phase IT systems without N line.

- High insulation resistance Risol: >10 GΩ
- No leakage currents to PE (Leakage current-free)
- Optical function control display by LED

Product	Uc	IL	I _{max}	Art. No.
EP D IT 2P/FM	440 V~	16 A	8 kA	38 05 71



EnerPro D TN

Compact 2-pole surge arrester for rated voltages from 24 up to 230 V.

Variants with 16 A und 25 A operating current available.

- With remote signalling contact (FM)
- Practical compact housing with minimum space requirement
- No leakage currents to PE (Leakage current-free)
- Line function and equipment control by LED: monitoring of conductor and arrester

Product	Uc	IL	I _{max}	Art. No.
EP D TN 24V/16A/FM	30 V~	16 A	8 kA	38 05 51
EP D TN 24V/25A-FM	30 V~	25 A	8 kA	38 05 55
EP D TN 48V/16A/FM	60 V~	16 A	8 kA	38 05 54
EP D TN 48V/25A-FM	60 V~	25 A	8 kA	38 05 58
EP D TN 60V/16A/FM	75 V~	16 A	8 kA	38 05 57
EP D TN 60V/25A-FM	75 V~	16 A	8 kA	38 05 65
EP D TN 120V/16A/FM	150 V~	16 A	8 kA	38 05 60
EP D TN 120V/25A-FM	150 V~	25 A	8 kA	38 05 67
EP D TN 230V/16A/FM	255 V~	16 A	8 kA	38 05 63
EP D TN 230V/25A-FM	255 V~	25 A	8 kA	38 05 69
EP D TN 275/FM	275 V~	16 A	8 kA	38 12 55
EP D TN 275/25A-FM	275 V~	25 A	8 kA	38 05 48



EnerPro 220Tr/20kA

Two-pole compact SPD with a discharge capacity of 20 kA (8/20 μs) and disconnection device without interruption of the power supply (red LED).

- Leakage current-free
- With potential-free remote signalling contact (Pk)

Product	Uc	IL	Art. No.
EnerPro 220Tr/20kA/Pk	275 V~	16 A	38 20 23



EnerPro 150Tr/Pk

Surge protection for equipment and installations up to 100 A and 150 V. Optical function control display by LED.

- High performance arrester for 150 V operating voltage
- With potential-free remote signalling contact (Pk)
- Valve arrester SPD (leakage-current free)

Product	Uc	Art. No.
EnerPro 150Tr/Pk	170 V~	38 20 25

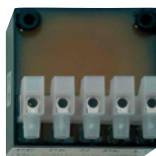


NM 220V/5kA

Surge voltage protection module for the protection of single-phase 230 V equipment with max. 16 A power consumption. Compact module for equipment installation.

- Applicable at the boundaries LPZ 2 - 3
- Test standard: IEC 61643-11 / EN 61643-11
- Protection against longitudinal and transverse voltages
- No leakage current to PE (leakage current free)

Product	IL	Art. No.
NM 220V/5kA	16 A	36 05 22



NM 220V/20kA

Kompaktes Überspannungsschutz-Modul zum Schutz für einphasige 230 V-Verbraucher, 16 A (Geräteeinbau).

- Applicable at the boundaries LPZ 2 - 3
- Protection against longitudinal and transverse voltages
- No leakage current to PE (leakage current free)
- Test standard: IEC 61643-11 / EN 61643-11

Product	IL	Art. No.
NM 220V/20kA/Pk	16 A	36 20 23



SPD type 3 for AC power supplies



EnerPro-T3/230 KM

Surge arrester for installation systems and terminal equipment with optical fault indication (LED). Universal device for use in cable ducts and holder boxes.

- Applicable at the boundaries LPZ 2 -3
- Test standard: IEC 61643-11 / EN 61643-11
- Class III 2-pole mini SPD (fine protection)
- Protection against longitudinal and transverse voltages for loads up to 16 A

Product	Uc	IL	I _{max}	Art. No.
EP-T3/230 KM-10kA	255 V~	16 A	10 kA	36 20 41
EP-T3/230 KM-20kA	255 V~	16 A	20 kA	36 20 42
EP-T3/230 KM-10kA-v	255 V~	16 A	10 kA	36 20 43
EP-T3/230 KM-20kA-v	255 V~	16 A	20 kA	36 20 44



EP-T3/230 SDU

Two-pole surge arrester for the protection of electrical devices, for the retrofitting of deep 230 V flush-mounted boxes.

- Applicable at the boundaries LPZ 2-3
- Test standard: IEC 61643-11 / EN 61643-11
- Acoustic failure signal
- Including disconnection mechanism

Product	IL	I _{max}	Art. No.
EP-T3/230 SDU	16 A	5 kA	36 20 40



CPS-F 230/RJ45/RJ11

Pluggable combined overvoltage protection for electrical and electronic devices with supply voltage of 230 V. Application for analogue and digital telephone lines, IT and networks.

- Complete optical monitoring of conductor and arrester by LED
- Protection of Telephon/Fax/Modem with RJ11 jack
- Protection of ethernet or ISDN with RJ45 jack
- Test standard: IEC 61643-11 / EN 61643-11

Product	IL	I _{max}	Art. No.
CPS-F 230/RJ45/RJ11	16 A	3 kA	32 50 45



DC power supply



EnerPro 48V/100A-Tr

Surge voltage protector for equipment power supplies and installations up to 100 A and 48 V (60 V) DC. A very low protection level allows the use as SPD class III.

- High performance surge protector
- Valve arrester SPD (leakage-current free)
- Optical function control display by LED
- With potential-free remote signalling contact (PK)

Product	UN	Uc	I _{max}	Art. No.
EnerPro 48V/100A-Tr/Pk	48 V=	60 V=	30 kA	38 20 71
EnerPro 60V/100A-Tr/Pk	60 V=	75 V=	30 kA	38 20 76



EnerPro 6A/LED

Surge voltage arrester for electrical and electronic devices in looped-in wiring, with disconnection device without interruption of the power supply. A very low protection level allows the use as SPD class III.

- Two-pole SPD for operating current up to 6 A
- With filter

Product	Uc	U _{max}	IL	Art. No.
EnerPro 12V-6A/LED	12 V	15 V	6 A	24 12 02
EnerPro 24V-6A/LED	24 V	27 V	6 A	24 24 02
EnerPro 36V-6A/LED	36 V	40 V	6 A	24 36 02



EnerPro 20A/LED

Two-pole SPD for operating current up to 20 A in looped-in wiring, with disconnection device without interruption of the power supply.

- Surge voltage protection for electrical and electronic devices
- With filter

Product	Uc	U _{max}	IL	Art. No.
EP 12V-20A/LED	12 V	15 V	20 A	24 12 03
EP 24V-20A/LED	24 V	27 V	20 A	24 24 03
EP 36V-20A/LED	36 V	40 V	20 A	24 36 03
EP 48V-20A/LED	48 V	53 V	20 A	24 48 03



EnerPro V-Tr

Two-pole class II and III SPD with gas-filled surge arrester (GDT) and suppressor diodes for operating currents up to 6 A.

- Two-step protective circuit with integrated low-pass filter
- High performance surge protector for operating voltage of 12 V up to 60 V DC
- Mounting directly on mounting plate or on 35 mm DIN rail
- With filter

Product	UN	Uc	IL	Art. No.
EnerPro 12V-Tr	12 V=	15 V=	6 A	24 12 00
EnerPro 24V-Tr	24 V=	27 V=	6 A	24 24 00
EnerPro 36V-Tr	36 V=	40 V=	6 A	24 36 00
EnerPro 48V-Tr	48 V=	53 V=	6 A	24 48 00
EnerPro 60 V-Tr	60 V=	85 V=	6 A	24 60 00



EP-T2/220VDC-16A-FM

Compact and leakage-current free 1-pole surge arrester class II for nominal voltage DC of 220 V and rated load current of 16 A.

- Test standard: IEC 61643-11 / EN 61643-11
- Practical compact housing with minimum space requirement
- Leakage current free
- Remote signalling contact: break contact

Product	UN	IL	Art. No.
EP-T2/220VDC-16A-FM	220 V=	16 A	38 06 11



Surge arresters for Photovoltaic Installations



PowerPro PV 800

When applied in PV installations, these devices are placed inside the connection box of the solar generator and on the DC side of the inverter.

- Two-pole combined lightning current and surge arrester dc, class I and II.
- Applicable at the LPZ transition point OA-1 and higher
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- With remote signalling contact (FM)

Product	UocSTC	Uc	Iimp	Art. No.
PP PV 800/FM	800 V=	850 V=	12,5 kA	37 44 01



PowerPro PV 1000

When applied in PV installations, these devices are placed inside the connection box of the solar generator and on the DC side of the inverter.

- Two-pole combined lightning current and surge arrester dc, class I and II.
- Applicable at the LPZ transition point OA-1 and higher
- Test standard: IEC 61643-11 / EN 61643-11
- With remote signalling contact (FM)
- Mounting on 35 mm DIN rail

Product	UocSTC	Uc	Iimp	Art. No.
PP PV 1000/FM	1000 V=	1100 V=	12,5 kA	37 44 03



CT PV-T2/2-0

Fully pluggable surge protective arrester for the use in photovoltaic applications. Suitable fuse-free earthed photovoltaic applications with system voltages up to 600 or 1000 V DC.

- Applicable at the boundaries LPZ 0B - 1 and higher
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	UOC max.	Uc	Art. No.
CT PV-T2/2-0/600-FM	≤ 600 V=	600 V=	96 02 21
CT PV-T2/2-0/1000-FM	≤ 1000 V=	1000 V=	96 02 23

Accessories of PowerPro PV 1000 und PV 800



Pin-shaped terminal to enable feed-through wiring (V-wiring) for all surge protection modules with only one clamp per phase, such as PP PV 800 and 1000 and other SPDs for power supply systems.

Product	Art. No.
DAK 2x 16	17 01 10



CT PV-T2/2+1

Fully pluggable surge protective arrester for the use in photovoltaic applications. Suitable for insulated and earthed photovoltaic applications with system voltages up to 600 or 1000 V DC.

- Applicable at the boundaries LPZ 0B - 1 and higher
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	UOC max.	Uc	Art. No.
CT PV-T2/2+1/600-FM	≤ 600 V=	600 V=	96 02 25
CT PV-T2/2+1/1000-FM	≤ 1000 V=	1000 V=	96 02 27



CT PV-T2/2+GDT

Fully pluggable and leakage-free surge protective arrester for the use in photovoltaic applications. Suitable for insulated photovoltaic applications with system voltages up to 600 or 1000 V DC.

- Applicable at the boundaries LPZ 0B - 1 and higher
- Leakage current-free
- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail
- With remote changeover contact

Product	UOC max.	Uc	Art. No.
CT PV-T2/2+GDT/600-FM	≤ 600 V=	600 V=	96 02 29
CT PV-T2/2+GDT/1000-FM	≤ 1000 V=	1000 V=	96 02 31

Accessories of CT PV-T2



Replacement protective plug for DC surge arresters typ 2.

Product	Art. No.
CT PV-T2-600-M	96 02 46
CT PV-T2-1000-M	96 02 47
CT PV-T2-GDT-M	96 02 48



Surge arresters for Photovoltaic Installations



EnergPro 803/1003-Tr

Surge arrester for PV installations, with looped-in wiring. When used in PV-installations, they are installed in the generator connection box and on the DC side of the AC converter.

- Test standard: IEC 61643-11 / EN 61643-11
- Mounting on 35 mm DIN rail

Product	UocSTC	Uc	Art. No.
EP 803Tr	800 V=	895 V=	39 50 26
EP 1003Tr	1000 V=	1000 V=	39 50 03



EnergPro 802Tr and 1002Tr

These devices (class II) provide overvoltage protection for the dc part in PV installations. When used in PV-installations, they are installed in the generator connection box and on the DC side of the AC converter.

- With potential-free remote signalling contact (Pk)
- Function control indication via LED

Product	Uc	UocSTC	Art. No.
EnergPro 802Tr/Pk	800 V=	880 V=	39 50 05
EnergPro 1002Tr	1000 V=	1000 V=	39 50 02



EnergPro 802/1002-Tr with 20kA

These devices (class II) provide overvoltage protection for the dc part in PV installations. When used in PV-installations, they are installed in the generator connection box and on the DC side of the AC converter.

- Test standard: IEC 61643-11 / EN 61643-11
- Function control indication via LED

Product	UocSTC	Uc	In	Art. No.
EP 802/20kA-Tr	800 V=	1000 V=	20 kA	39 50 14
EP 1002/20kA-Tr	1000 V=	1000 V=	20 kA	39 50 16

Accessories

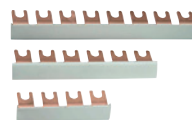


UAS 230-Tr

All-purpose acoustic signalling device with test key for all surge protection devices with the nominal voltage of UN=230 V.

- For monitoring of remote contacts of surge protection devices
- Mounting on 35 mm DIN rail

Product	Uc	Art. No.
UAS 230-Tr	240 V=	35 10 30

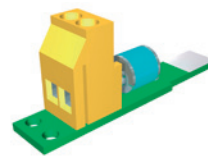


All-purpose busbars

The all-purpose busbar is designed to connect the earthing of arrester class II and III lightning and surge voltage components.

- All-purpose busbar for multi-function terminals
- For an optimal bridging of the grounding terminals
- Available in different lengths

Product	Art. No.
KA 1TE-1/3	17 00 13
KA 1TE-1/2	17 00 15
KA 1TE-1/4	17 00 25
KA 1TE-1/6	17 00 31
KA 2TE-1/3	17 00 35
KA 2TE-1/4	17 00 41



AK35 GDT230

The solution allows for a subsequent high-resistance and leakage current-free earthing with a gas-filled surge arrester (GDT) against earth at the EP protective devices.

- Equipped with two-pole gas-filled surge arrester 2EL 230Q
- Screw-type terminal
- Terminals are internally connected

Product	Art. No.
AK35 GDT230	17 01 00



DAK 2x16

Pin-shaped terminal to enable feed-through wiring (V-wiring) for all surge protection modules with only one clamp per phase, such as PP PV 800 and 1000 and other SPDs for power supply systems.

- Looped-in wiring for SPD with only one terminal
- Connection of max. 2x 16 mm² fine-stranded
- Conformed by standard looped-in wiring (V connected)

Product	Art. No.
DAK 2x 16	17 01 10



SURGE PROTECTION FOR MEASURING SYSTEMS AND AUTOMATIC CONTROL DEVICES

PLUGGABLE SPD FOR MCR APPLICATIONS

Pluggable SPD with high discharge capability

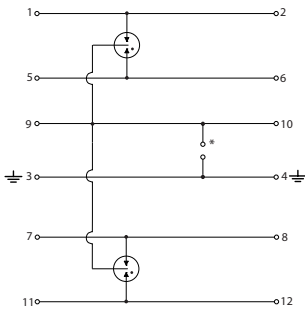


MP 2x2 GDT ST

Fully pluggable two-parts lightning current discharge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 4 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 2x2 GDT ST	180 V	180/120 V	2 A	97 00 07
MP 2x2 GDT ST-350	350 V	350/255 V	2 A	97 00 08



MP 2x2 GDT ST

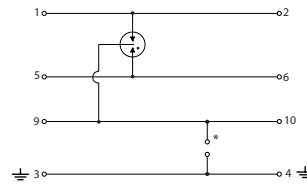


MP 1x2 GDT ST

Fully pluggable two-parts lightning current discharge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 2 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 GDT ST	180 V	180/120 V	2 A	97 00 10



MP 1x2 GDT ST

Accessories of MP 2x2 GDT ST



Different base parts provide either direct or indirect earthing of the signal: The MP Base 2x2 is not connected to 9/10 of DIN rail (galvanic insulation). The MP Base 2x2 GDT has a gas discharge tube linked between the connectors 9/10 and the DIN rail and earth connector. Therefore a galvanic insulation between the signal line and the earth connection (PE) can be reached. The MP Base 2x2 GND is connected by a bridge to DIN rail (no galvanic insulation).



For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 2x2	97 00 03
MP Base 2x2 GDT	97 00 04
MP Base 2x2 GND	97 00 92
EMV-FKL	26 09 90

Accessories of MP 1x2 GDT ST



Different base parts provide either direct or indirect earthing of the signal: The MP Base 1x2 is not connected to 9/10 of DIN rail (galvanic insulation). The MP Base 1x2 GDT has a gas discharge tube linked between the connectors 9/10 and the DIN rail and earth connector. Therefore a galvanic insulation between the signal line and the earth connection (PE) can be reached. The MP Base 1x2 GND is connected by a bridge to DIN rail (no galvanic insulation).



For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 1x2	97 00 97
MP Base 1x2 GDT	97 00 98
MP Base 1x2 GND	97 00 94
EMV-FKL	26 09 90



Pluggable SPD with high discharge capability and low protection level for MCR applications

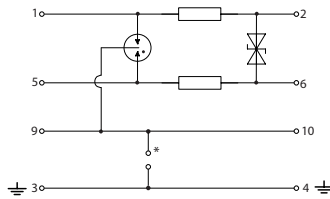
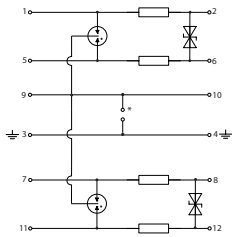


MP 2x2 GDT/Ad-Ad ST

Fully pluggable two-parts combined surge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 4 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ 0B - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 2x2 GDT+5V-Ad-Ad ST	5 V	6/4 V	0,5 A	97 00 11
MP 2x2 GDT+12V-Ad-Ad ST	12 V	15/11 V	0,5 A	97 00 12
MP 2x2 GDT+24V-Ad-Ad ST	24 V	33/23 V	0,5 A	97 00 13
MP 2x2 GDT+36V-Ad-Ad ST	36 V	45/32 V	0,5 A	97 00 14
MP 2x2 GDT+48V-Ad-Ad ST	48 V	54/38 V	0,5 A	97 00 15
MP 2x2 GDT+60V-Ad-Ad ST	60 V	70/49 V	0,5 A	97 00 16
MP 2x2 GDT+170V-Ad-Ad ST	170 V	170/120 V	0,5 A	97 00 17



MP 2x2 GDT/Ad-Ad ST

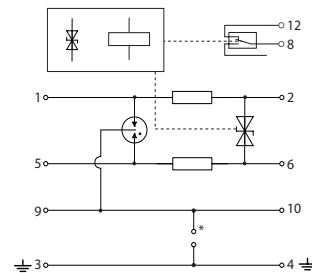


MP 1x2 GDT/Ad-Ad-FM

Fully pluggable two-parts arrester with remote signaling contact for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 2 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ 0B - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm
- No external power supply necessary
- No additional controller needed
- Remote signalling contact: break contact

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 GDT+12V-Ad-Ad-FM	12 V	15/11 V	0,5 A	97 00 57
MP 1x2 GDT+24V-Ad-Ad-FM	24 V	33/23 V	0,5 A	97 00 58
MP 1x2 GDT+36V-Ad-Ad-FM	36 V	45/32 V	0,5 A	97 00 59



MP 1x2 GDT/Ad-Ad-FM



MP 1x2 GDT/Ad-Ad ST

Fully pluggable two-parts combined surge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 2 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ 0B - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 GDT+5V-Ad-Ad ST	5 V	6/4 V	0,5 A	97 00 18
MP 1x2 GDT+12V-Ad-Ad ST	12 V	15/11 V	0,5 A	97 00 19
MP 1x2 GDT+24V-Ad-Ad ST	24 V	33/23 V	0,5 A	97 00 20
MP 1x2 GDT+36V-Ad-Ad ST	36 V	45/32 V	0,5 A	97 00 21
MP 1x2 GDT+48V-Ad-Ad ST	48 V	54/38 V	0,5 A	97 00 22
MP 1x2 GDT+60V-Ad-Ad ST	60 V	70/49 V	0,5 A	97 00 23
MP 1x2 GDT+170V-Ad-Ad ST	170 V	170/120 V	0,5 A	97 00 24

Accessories of MP 1x2 GDT/Ad-Ad-FM



Plug-in socket with remote signal contact. The MP Base 1x2-R-FM is not connected to 9/10 (GND) of DIN rail. Shield connectors are not linked with DIN rail or earth connector: galvanic insulation PE.



For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 1x2-R-FM	97 00 06
EMV-FKL	26 09 90



SURGE PROTECTION FOR MEASURING SYSTEMS AND AUTOMATIC CONTROL DEVICES

PLUGGABLE SPD FOR MCR APPLICATIONS

Pluggable SPD with high discharge capability and low protection level for MCR applications

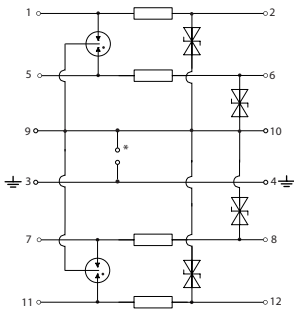


MP 2x2 GDT/Ad-Pg ST

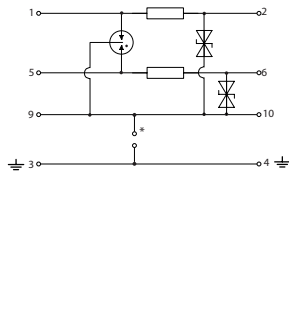
Fully pluggable two-parts combined surge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 4 signal lines with common ground
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 2x2 GDT+5V-Ad-Pg ST	5 V	6/4 V	0,5 A	97 00 25
MP 2x2 GDT+12V-Ad-Pg ST	12 V	15/11 V	0,5 A	97 00 26
MP 2x2 GDT+24V-Ad-Pg ST	24 V	33/23 V	0,5 A	97 00 27
MP 2x2 GDT+36V-Ad-Pg ST	36 V	45/32 V	0,5 A	97 00 28
MP 2x2 GDT+48V-Ad-Pg ST	48 V	54/38 V	0,5 A	97 00 29
MP 2x2 GDT+60V-Ad-Pg ST	60 V	70/49 V	0,5 A	97 00 30
MP 2x2 GDT+170V-Ad-Pg ST	170 V	170/120 V	0,5 A	97 00 31



MP 2x2 GDT/Ad-Pg ST



MP 1x2 GDT/Ad-Pg ST

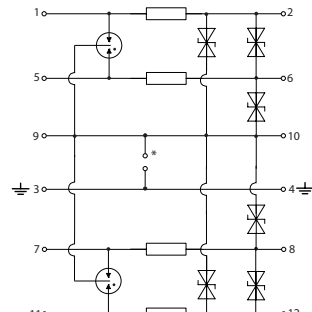


MP 2x2 GDT/Ad-Ad-Pg ST

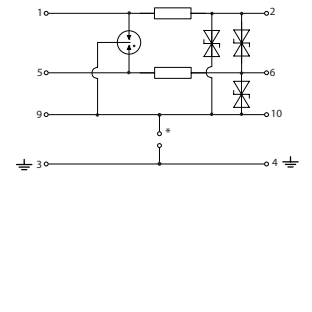
Fully pluggable two-parts combined surge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 4 signal lines with common ground
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 2 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 2x2 GDT+5V-Ad-Ad-Pg ST	5 V	6/4 V	0,5 A	97 00 39
MP 2x2 GDT+12V-Ad-Ad-Pg ST	12 V	15/11 V	0,5 A	97 00 40
MP 2x2 GDT+24V-Ad-Ad-Pg ST	24 V	33/23 V	0,5 A	97 00 41
MP 2x2 GDT+36V-Ad-Ad-Pg ST	36 V	45/32 V	0,5 A	97 00 42
MP 2x2 GDT+48V-Ad-Ad-Pg ST	48 V	54/38 V	0,5 A	97 00 43
MP 2x2 GDT+60V-Ad-Ad-Pg ST	60 V	70/49 V	0,5 A	97 00 44
MP 2x2 GDT+170V-Ad-Ad-Pg ST	170 V	170/120 V	0,5 A	97 00 45



MP 2x2 GDT/Ad-Ad-Pg ST



MP 1x2 GDT/Ad-Ad-Pg ST



MP 1x2 GDT/Ad-Pg ST

Fully pluggable two-parts combined surge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 2 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 1 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 GDT+5V-Ad-Pg ST	5 V	6/4 V	0,5 A	97 00 32
MP 1x2 GDT+12V-Ad-Pg ST	12 V	15/11 V	0,5 A	97 00 33
MP 1x2 GDT+24V-Ad-Pg ST	24 V	33/23 V	0,5 A	97 00 34
MP 1x2 GDT+36V-Ad-Pg ST	36 V	45/32 V	0,5 A	97 00 35
MP 1x2 GDT+48V-Ad-Pg ST	48 V	54/38 V	0,5 A	97 00 36
MP 1x2 GDT+60V-Ad-Pg ST	60 V	70/49 V	0,5 A	97 00 37
MP 1x2 GDT+170V-Ad-Pg ST	170 V	170/120 V	0,5 A	97 00 38



MP 1x2 GDT/Ad-Ad-Pg ST

Fully pluggable two-parts combined surge arrester for signal lines. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Protective circuit for 2 signal lines with common ground
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OA - 2 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 GDT+5V-Ad-Ad-Pg ST	5 V	6/4 V	0,5 A	97 00 46
MP 1x2 GDT+12V-Ad-Ad-Pg ST	12 V	15/11 V	0,5 A	97 00 47
MP 1x2 GDT+24V-Ad-Ad-Pg ST	24 V	33/23 V	0,5 A	97 00 48
MP 1x2 GDT+36V-Ad-Ad-Pg ST	36 V	45/32 V	0,5 A	97 00 49
MP 1x2 GDT+48V-Ad-Ad-Pg ST	48 V	54/38 V	0,5 A	97 00 50
MP 1x2 GDT+60V-Ad-Ad-Pg ST	60 V	70/49 V	0,5 A	97 00 51
MP 1x2 GDT+170V-Ad-Ad-Pg ST	170 V	170/120 V	0,5 A	97 00 52



Accessories of MP 2x2 GDT/Ad-Ad ST, MP 2x2 GDT/Ad-Pg ST and MP 2x2 GDT/Ad-Ad-Pg ST



Different base parts provide either direct or indirect earthing of the signal: The MP Base 2x2-R is not connected to 9/10 of DIN rail (galvanic insulation). The MP Base 2x2-R GDT has a gas discharge tube linked between the connectors 9/10 and the DIN rail and earth connector. Therefore a galvanic insulation between the signal line and the earth connection (PE) can be reached. The MP Base 2x2-R GND is connected by a bridge to DIN rail (no galvanic insulation).



EMV-FKL: For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 2x2-R	97 00 00
MP Base 2x2-R GDT	97 00 01
MP Base 2x2-R GND	97 00 91
EMV-FKL	26 09 90

Pluggable SPD for high frequency MCR applications

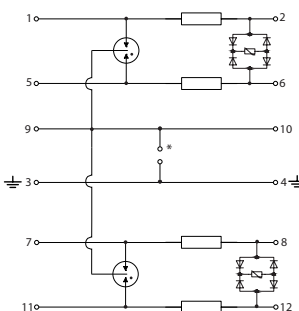


MP 2x2 HF ST

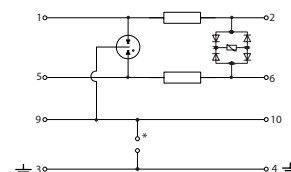
Fully pluggable two-parts combined surge arrester for signal lines for high frequency applications such as bus systems or video transmission. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Max. operating frequency 70 MHz
- Protective circuit for 4 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm
- Applicable at the boundaries LPZ OB - 1 and higher

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 2x2 5V-HF ST	5 V	6/4 V	0,5 A	97 10 50
MP 2x2 24V-HF ST	24 V	33/23 V	0,5 A	97 10 51



MP 2x2 HF ST



MP 1x2 HF ST

Accessories of MP 1x2 GDT/Ad-Ad ST, MP 1x2 GDT/Ad-Pg ST and MP 1x2 GDT/Ad-Ad-Pg ST



Different base parts provide either direct or indirect earthing of the signal: The MP Base 1x2-R is not connected to 9/10 of DIN rail (galvanic insulation). The MP Base 1x2-R GDT has a gas discharge tube linked between the connectors 9/10 and the DIN rail and earth connector. Therefore a galvanic insulation between the signal line and the earth connection (PE) can be reached. The MP Base 1x2-R GND is connected by a bridge to DIN rail (no galvanic insulation).



EMV-FKL: For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 1x2-R	97 00 95
MP Base 1x2-R GDT	97 00 96
MP Base 1x2-R GND	97 00 93
EMV-FKL	26 09 90



MP 1x2 HF ST

Fully pluggable two-parts combined surge arrester for signal lines for high frequency applications such as bus systems or video transmission. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Max. operating frequency 70 MHz
- Nominal current 0,5 A
- Protective circuit for 2 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 2 and higher
- Mounting on 35 mm DIN rail
- Enclosure material: thermoplastic
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 5V-HF ST	5 V	6/4 V	0,5 A	97 10 52
MP 1x2 24V-HF ST	24 V	33/23 V	0,5 A	97 10 53



SURGE PROTECTION FOR MEASURING SYSTEMS AND AUTOMATIC CONTROL DEVICES

PLUGGABLE SPD FOR MCR APPLICATIONS

Pluggable SPD for high frequency MCR applications

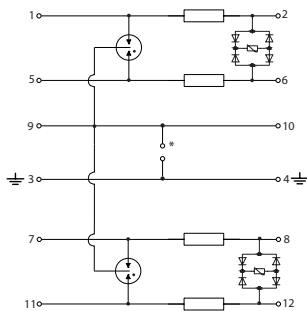


MP 2x2-170-HF ST

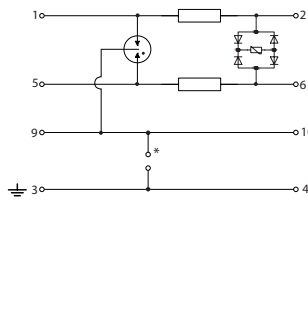
Fully pluggable two-parts combined surge arrester for signal lines for high frequency applications such as bus systems or video transmission. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Max. operating frequency 170 MHz
- Nominal current 1.0 A
- Protective circuit for 4 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm
- Applicable at the boundaries LPZ OB - 1 and higher

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 2x2 5V-170-HF ST	5 V	6/4 V	1 A	97 10 54
MP 2x2 24V-170-HF ST	24 V	33/23 V	1 A	97 10 55



MP 2x2-170 HF ST



MP 1x2-170 HF ST



MP 1x2-170 HF ST

Fully pluggable two-parts combined surge arrester for signal lines for high frequency applications such as bus systems or video transmission. The protective module can be removed for test or maintenance purposes without changing the line impedance and therefore influencing the signal level. The base part can remain in the installation without manipulating or removing any wire.

- Max. operating frequency 170 MHz
- Nominal current 1.0 A
- Protective circuit for 2 signal lines without reference to ground potential
- Test standard: IEC 61643-21 / EN 61643-21
- Applicable at the boundaries LPZ OB - 2 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP 1x2 5V-170-HF ST	5 V	6/4 V	1 A	97 10 56
MP 1x2 24V-170-HF ST	24 V	33/23 V	1 A	97 10 57

Accessories of MP 2x2 HF ST and MP 2x2-170-HF ST



Different base parts provide either direct or indirect earthing of the signal: The MP Base 2x2-R HF is not connected to 9/10 of DIN rail (galvanic insulation). The MP Base 2x2-R GDT HF has a gas discharge tube linked between the connectors 9/10 and the DIN rail and earth connector. Therefore a galvanic insulation between the signal line and the earth connection (PE) can be reached. The MP Base 2x2-R GND HF is connected by a bridge to DIN rail (no galvanic insulation).



EMV-FKL: For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 2x2-R HF	97 00 99
MP Base 2x2-R GDT HF	97 01 00
MP Base 2x2-R GND HF	97 01 01
EMV-FKL	26 09 90

Accessories of MP 1x2 HF ST and MP 1x2-170 HF ST



Different base parts provide either direct or indirect earthing of the signal: The MP Base 1x2-R HF is not connected to 9/10 of DIN rail (galvanic insulation). The MP Base 1x2-R GDT HF has a gas discharge tube linked between the connectors 9/10 and the DIN rail and earth connector. Therefore a galvanic insulation between the signal line and the earth connection (PE) can be reached. The MP Base 1x2-R GND HF is connected by a bridge to DIN rail (no galvanic insulation).



EMV-FKL: For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic.

Product	Art. No.
MP Base 1x2-R HF	97 01 02
MP Base 1x2-R GDT HF	97 01 03
MP Base 1x2-R GND HF	97 01 04
EMV-FKL	26 09 90



One-piece SPD for MCR applications for high frequency



DataPro 2x1-SDSL-Tr

Surge voltage arrester with a two-step circuit to protect two single wires in data and signal lines. The arrester is especially designed for 24 V SPS input lines. It is suited for high-frequency and very fast data transmission. The arrester is applicable at the LPZ transition point OB-2 and higher. Alternatively, direct and indirect earthing is possible.

- High performance surge protector
- Lightning impulse current 5 kA (10/350 µs)
- Transfer rate 100 Mbit/s
- Nominal current max. 500 mA
- Mounting directly on DIN rail
- fG > 300 MHz

Product	UN	IL	Art. No.
DataPro 2x1-SDSL-Tr	6 V=	0,5 A	24 00 18
DataPro 2x1-24V-SDSL-Tr	24 V=	0,5 A	24 00 24

One-piece SPD with high discharge capability



IsoProData-Tr

One-piece lightning current discharge arrester for signal lines with a discharge capability for use the at the building entry.

- Protective circuit for 2 signal lines without reference to ground potential
- Applicable at the boundaries LPZ OA - 1 and higher
- Lightning current 5 kA (10/350 µs) per wire
- Test standard: IEC 61643-21 / EN 61643-21
- Space required for installation: 17.5 mm
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20

Product	UN	Uc	IL	Art. No.
IsoProData-Tr	150 V=	170 V=	120 V~	27 30 02



DataPro 4x1-SDSL-Tr

Surge voltage arrester with a two-step circuit to protect two pairs of wires or four single wires with signal common.

- High performance surge arrester for 6 V and 24 V operating voltage
- Nominal impulse discharge current 5 kA (8/20 µs)
- Transfer rate 100 Mbit/s
- Nominal current max. 500 mA
- Mounting directly on DIN rail
- For fast dataline signals
- fG > 300 MHz
- High-resistance shield grounding via shield terminal possible.

Product	IL	Art. No.
DataPro 4x1-SDSL-Tr	0,5 A	24 00 20

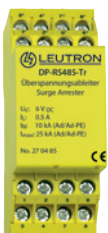


MP RK GDT

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines without reference to ground potential
- Applicable at the boundaries LPZ OB - 1 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK GDT	180 V	180/120 V	2,0 A	97 10 03



DataPro RS485-Tr

Surge arrester for RS485-interface.

- Mounting on 35 mm DIN rail
- Inflammability class according to UL 94 V0
- Degree of protection according to IEC EN 60529: IP 20

Product	UN	Uc	Art. No.
DP RS485-Tr	5 V=	6 V=	27 04 85

Accessories of MP RK

Cover of terminal blocks of series MP (5 pcs.=1PU)



Product	Art. No.
MP RK-AB	97 10 02



SURGE PROTECTION FOR MEASURING SYSTEMS AND AUTOMATIC CONTROL DEVICES

ONE-PIECE SPD FOR MCR APPLICATIONS

One-piece SPD with high discharge capability and low protection level



MP RK GDT/Ad-Ad-Pg

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines with common ground
- Applicable at the boundaries LPZ OB - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK GDT+5V-Ad-Ad-Pg	5 V	6/4 V	0,5 A	97 10 18
MP RK GDT+12V-Ad-Ad-Pg	12 V	15/11 V	0,5 A	97 10 19
MP RK GDT+24V-Ad-Ad-Pg	24 V	33/23 V	0,5 A	97 10 20
MP RK GDT+36V-Ad-Ad-Pg	36 V	45/32 V	0,5 A	97 10 21
MP RK GDT+48V-Ad-Ad-Pg	48 V	54/38 V	0,5 A	97 10 22
MP RK GDT+60V-Ad-Ad-Pg	60 V	70/49 V	0,5 A	97 10 23
MP RK GDT+170V-Ad-Ad-Pg	170 V	170/120 V	0,5 A	97 10 24



MP RK GDT/Ad-Pg

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines with common ground
- Applicable at the boundaries LPZ OB - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK GDT+5V-Ad-Pg	5 V	6/4 V	0,5 A	97 10 11
MP RK GDT+12V-Ad-Pg	12 V	15/11 V	0,5 A	97 10 12
MP RK GDT+24V-Ad-Pg	24 V	33/23 V	0,5 A	97 10 13
MP RK GDT+36V-Ad-Pg	36 V	45/32 V	0,5 A	97 10 14
MP RK GDT+48V-Ad-Pg	48 V	54/38 V	0,5 A	97 10 15
MP RK GDT+60V-Ad-Pg	60 V	70/49 V	0,5 A	97 10 16
MP RK GDT+170V-Ad-Pg	170 V	170/120 V	0,5 A	97 10 17



MP RK GDT/Ad-Ad

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines without reference to ground potential
- Applicable at the boundaries LPZ OB - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK GDT+5V-Ad-Ad	5 V	6/4 V	0,5 A	97 10 04
MP RK GDT+12V-Ad-Ad	12 V	15/11 V	0,5 A	97 10 05
MP RK GDT+24V-Ad-Ad	24 V	33/23 V	0,5 A	97 10 06
MP RK GDT+36V-Ad-Ad	36 V	45/32 V	0,5 A	97 10 07
MP RK GDT+48V-Ad-Ad	48 V	54/38 V	0,5 A	97 10 08
MP RK GDT+60V-Ad-Ad	60 V	70/49 V	0,5 A	97 10 09
MP RK GDT+170V-Ad-Ad	170 V	170/120 V	0,5 A	97 10 10



One-piece SPD with low protection level



MP RK/Ad-Ad

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines without reference to ground potential
- Applicable at the boundaries LPZ 1 - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK 5V-Ad-Ad	5 V	6/4 V	2,0 A	97 10 25
MP RK 12V-Ad-Ad	12 V	15/11 V	2,0 A	97 10 26
MP RK 24V-Ad-Ad	24 V	33/23 V	2,0 A	97 10 27
MP RK 36V-Ad-Ad	36 V	45/32 V	2,0 A	97 10 28
MP RK 48V-Ad-Ad	48 V	54/38 V	2,0 A	97 10 29
MP RK 60V-Ad-Ad	60 V	70/49 V	2,0 A	97 10 30
MP RK 170V-Ad-Ad	170 V	170/120 V	2,0 A	97 10 31



MP RK/Ad-Ad-Pg

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines with common ground
- Applicable at the boundaries LPZ 1 - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK 5V-Ad-Ad-Pg	5 V	6/4 V	2,0 A	97 10 39
MP RK 12V-Ad-Ad-Pg	12 V	15/11 V	2,0 A	97 10 40
MP RK 24V-Ad-Ad-Pg	24 V	33/23 V	2,0 A	97 10 41
MP RK 36V-Ad-Ad-Pg	36 V	45/32 V	2,0 A	97 10 42
MP RK 48V-Ad-Ad-Pg	48 V	54/38 V	2,0 A	97 10 43
MP RK 60V-Ad-Ad-Pg	60 V	70/49 V	2,0 A	97 10 44
MP RK 170V-Ad-Ad-Pg	170 V	170/120 V	2,0 A	97 10 45



MP RK/Ad-Pg

Terminal blocks with integrated surge protection can optimize the used space in a control cabinet and at the same time provide high level protection for terminal equipment and devices.

- Protective circuit for 2 signal lines with common ground
- Applicable at the boundaries LPZ 1 - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail
- 6.2 mm DIN rail module
- Earthing via DIN rail or connector

Product	UN	Uc _{DC/AC}	IL	Art. No.
MP RK 5V-Ad-Pg	5 V	6/4 V	2,0 A	97 10 32
MP RK 12V-Ad-Pg	12 V	15/11 V	2,0 A	97 10 33
MP RK 24V-Ad-Pg	24 V	33/23 V	2,0 A	97 10 34
MP RK 36V-Ad-Pg	36 V	45/32 V	2,0 A	97 10 35
MP RK 48V-Ad-Pg	48 V	54/38 V	2,0 A	97 10 36
MP RK 60V-Ad-Pg	60 V	70/49 V	2,0 A	97 10 37
MP RK 170V-Ad-Pg	170 V	170/120 V	2,0 A	97 10 38

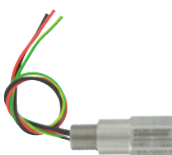
Accessories of MP RK



Cover of terminal blocks of series MP (5 pcs.=1PU)

Product	Art. No.
MP RK-AB	97 10 02

SPD for field devices



MSR-M20

The protection device is a unique unit providing a level of protection for field-mounted transmitters that is far in excess of the With transient protection facilities available from the transmitter manufacturers - without involving any additional wiring, conduit modifications or other expensive extras.

- Applicable at the LPZ transition point OB-2 and higher
- Easy mounting directly
- Low impedance series connection avoids signal degradation of the loop
- Intrinsically safe and flameproof
- Test standard: IEC 61643-21 / EN 61643-21
- Earthing via metal housing
- Length of connecting line

Product	UN	Uc	IL	Art. No.
MSR-M20-24V	24 V	32 V=	1,5 A	97 20 11



SPD for communication networks



DataPro RJ45-CAT6

Compact surge protective module for the protection of data networks, and network devices such as hubs, switches, server and desktop computer. The adaptor plug style provides an easy application in cable ducts or directly at the terminal equipment.

- Suitable for Cat. 6 / class E applications (up to Gbit Ethernet)
- Applicable at the boundaries LPZ 0B - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- All 8 signal lines (4 pair of wires) are protected simultaneously.
- RJ45 SPD for PoE (Power over Ethernet)
- Mounting on 35 mm DIN rail

Product	UN	Uc	IL	Art. No.
DP RJ45-CAT6-48V-Tr	48 V=	48 V	1.000 mA	24 00 05



DataPro 1xRJ45-PoE-Alu

Compact surge protective module for the protection of data networks, and network devices such as hubs, switches, server and desktop computer. The adaptor plug style provides an easy application in cable ducts or directly at the terminal equipment.

- Suitable for Cat. 5 / class D applications (up to Gbit Ethernet)
- Applicable at the boundaries LPZ 0B - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Compatible to 10Base T / 100Base T
- RJ45 SPD for PoE (Power over Ethernet)
- All 8 signal lines (4 pair of wires) are protected simultaneously.

Product	UN	Uc	IL	Art. No.
DP 1xRJ45-PoE-Alu	48 V=	60 V	650 mA	24 00 21



DataPro RJ45-48V-Tr

Compact surge protective module for the protection of data networks, and network devices such as hubs, switches, server and desktop computer. The adaptor plug style provides an easy application in cable ducts or directly at the terminal equipment.

- Suitable for Cat. 5 / class D applications (up to Gbit Ethernet)
- Compatible to 10Base T / 100Base T
- Applicable at the boundaries LPZ 1 - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail (EN 60715)
- RJ45 SPD for PoE (Power over Ethernet)
- All 8 signal lines (4 pair of wires) are protected simultaneously.

Product	UN	Uc	Art. No.
DataPro RJ45-48V-Tr	48 V=	57 V=	23 90 00



DataPro RJ45 (f/f)

Compact surge protective module for the protection of data networks, and network devices such as hubs, switches, server and desktop computer. The adaptor plug style provides an easy application in cable ducts or directly at the terminal equipment.

- Suitable for Cat. 5 / class D applications (up to Gbit Ethernet)
- Applicable at the boundaries LPZ 0B - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Compatible to 10Base T / 100Base T
- All 8 signal lines (4 pair of wires) are protected simultaneously.

Product	UN	Uc	Art. No.
DP RJ45 f/f	6 V=	8 V=	24 00 11



DataPro RJ11/RJ12-48V-Tr

Compact surge protective module for the protection of data networks, and network devices such as hubs, switches, server and desktop computer. The adaptor plug style provides an easy application in cable ducts or directly at the terminal equipment.

- Suitable for Cat. 5 / class D applications (up to Gbit Ethernet)
- Compatible to 10Base T / 100Base T
- Applicable at the boundaries LPZ 1 - 2 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting on 35 mm DIN rail (EN 60715)
- RJ11/RJ12 SPD for PoE (Power over Ethernet)
- All 6 signal lines (3 pair of wires) are protected simultaneously

Product	UN	Uc	Art. No.
DP RJ11/RJ12-48V-Tr	48 V=	57 V=	23 90 06



DataPro x8RJ45-19"

Compact surge protective module in 19" housing with only 1 HE (45 mm) for the protection of data networks and network devices such as hubs, switches, server and desktop computer. Easy installation and wiring in all 19" distribution and server racks possible.

- Applicable at the boundaries LPZ 1 - 2 and higher
- Fully shielded 19" housing can be equipped with up to 24 RJ45 protection ports.
- Suitable for Cat. 5 / class D applications (up to Gbit Ethernet)
- Compatible to 10Base T / 100Base T
- Test standard: IEC 61643-21 / EN 61643-21
- Additional modules for the protection of up to 24 ports can be installed Withly
- All 8 signal lines (4 pair of wires) are protected simultaneously.

Product	UN	Uc	IL	Art. No.
DP 1x8RJ45-19"	6 V=	8,1 V=	100 mA	19 40 13
DP 2x8RJ45-19"	6 V=	8,1 V=	100 mA	19 40 23
DP 3x8RJ45-19"	6 V=	8,1 V=	100 mA	19 40 33
DP 4x8RJ45-19"	6 V=	8,1 V=	100 mA	19 40 43
DP 5x8RJ45-19"	6 V=	8,1 V=	100 mA	19 40 53
DP 6x8RJ45-19"	6 V=	8,1 V=	100 mA	19 40 63



SPD for communication networks



DataPro 8xRJ45-6V-WG

Compact surge protective module in a wall housing for the protection of data networks and network devices such as hubs, switches, server and desktop computer.

- Applicable at the boundaries LPZ 1 - 2 and higher
- RJ45 wall housing for eight ports
- Suitable for Cat. 5 / class D applications (up to Gbit Ethernet)
- Compatible to 10Base T / 100Base T
- Test standard: IEC 61643-21 / EN 61643-21
- All 8 signal lines (4 pair of wires) are protected simultaneously.

Product	UN	Uc	IL	Art. No.
DP 8xRJ45-6V-WG	6 V=	8,1 V=	100 mA	19 40 50
DP 8xRJ45-6x6V/2x48V-WG	6x 6 / 2x 48 V=	8,1 V=	100 mA	19 40 51

Protection of telecommunication



DataPro-TAE/NFN-aP

Surge protective device in a housing for surface mounting for the protection of analog telecommunication wires such as analog TAE or DSL interfaces.

- For analog telephone lines
- Fax, modem, answering machine
- Emergency dialling devices
- Applicable at the boundaries LPZ 0B - 2 and higher
- TAE connector, code NFN
- Standard of the German Telekom
- Test standard: IEC 61643-21 / EN 61643-21
- 2-stage, (5-point) coarse and fine protective circuit

Product	UN	Uc	Art. No.
DataPro-TAE/NFN-aP	60 V=	185 V=	24 00 04

Surge Protective Device with D-sub Terminals



DataPro RS

Surge voltage arrester for serial interfaces RS232/RS422/RS485. The multi pole surge protective plug adapter make serial interfaces of computers or control systems secure of transient overvoltages.

- Pluggable surge voltage fine protection
- Protection against transverse surges as well as longitudinal surges
- Very quick response time
- Surge protection of all active lines
- Easy installation as adapter plug/socket
- Suitable for retrofitting
- Integrated earthing conductor

Product	UN	Uc	Art. No.
DP RS 232/422/485-9P	15 V=	17 V=	24 00 60



SURGE PROTECTION FOR INFORMATION TECHNOLOGY AND TELECOMMUNICATION INSTALLATIONS

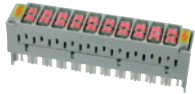
SURGE PROTECTIVE DEVICES FOR LSA MOUNTING

SPD according to test category D1+C2



TelPro LSA 2/10-2E 8x6

LSA surge voltage protection for two-electrode arresters (8x6 mm) for LSA (IDC) connection and disconnection modules.



- Empty and filled magazines
- Magazines are fitted with 20 gas-filled surge arresters (GDT) each
- Integrated fail-safe function

Product	UagN	Uas	Art. No.
TelPro LSA 2/10-2E 8x6	-	-	24 01 06
TelPro LSA-2EH230-10kA	230 V=	< 650 V	24 01 13
TelPro LSA-2EH230F-10kA	230 V=	< 650 V	24 01 14
TelPro LSA-2EL230-20kA	230 V=	< 550 V	24 01 15
TelPro LSA-2EH350-10kA	350 V=	< 800 V	24 01 16
TelPro LSA-2EH90-10kA	90 V=	< 550 V	24 01 17



TelPro LSA 2/10-3E 8x13

LSA surge voltage protection for three-electrode arresters (8x13 mm or 8x10 mm) for LSA (IDC) connection and disconnection modules.



- Empty and filled magazines
- Magazines are fitted with 10 gas-filled surge arrester (GDT) each
- Integrated fail-safe function

Product	UagN	Uas	Art. No.
TelPro LSA 2/10-3E 8x13	-	-	24 01 18
TelPro LSA 2/10-3EH230E-10kA	230 V=	< 650 V	24 01 19
TelPro LSA-3EH230F1E-10kA	230 V=	< 650 V	24 01 23
TelPro LSA-3EL230E-20kA	230 V=	< 550 V	24 01 24
TelPro LSA-3EL230F1E-20kA	230 V=	< 550 V	24 01 25
TelPro LSA-3EH90E-10kA	90 V=	< 550 V	24 01 26
TelPro LSA-3EH90F1E-10kA	90 V=	< 550 V	24 01 27



MTH/MTL Series

The surge protection magazines of series MTH and MTL are fitted with high quality gas discharge tubes. The are available in variations of 90 V ac and 230 V ac executions. They are designed specially for HVT 71 application of Siemens main distribution in telecom and datat line systems. The integrated fail-safe behaviour protects against dangerous ac influences.

- Magazines are fitted with 10 gas-filled surge arrester (GDT) each
- Stable performance, long service life
- Impulse current resistance 10 kA or 20 kA per line

Product	UagN	Uas	In	Art. No.
MTH 90	90 V=	< 550 V	10/5 kA	95 15 00
MTH 230	230 V=	< 650 V	10/5 kA	95 15 01
MTL 90	90 V=	< 550 V	20/5 kA	95 15 02
MTL 230	230 V=	< 650 V	20/5 kA	95 15 03

SPD according to test category C2+C1



DataPro 1LSA

Surge voltage protective module for one pair of wires for measuring and control systems, in LSA (IDC) disconnection modules. The protective module provides coarse and fine protection in LSA systems (construction form 2). Surge voltage protection connector for 1DA, with fail-safe contact.

- Versions for various voltage levels
- Two-step, coarse and fine protection
- Fail-safe thermal overload protection

Product	UN	Uc	Uc	Art. No.
DP 1LSA-5	5 V=	6 V=	4 V~	24 00 31
DP 1LSA-12	12 V=	14 V=	10 V~	24 00 32
DP 1LSA-15	15 V=	19 V=	12 V~	24 00 33
DP 1LSA-24	24 V=	29 V=	20 V~	24 00 34
DP 1LSA-30	30 V=	33 V=	23 V~	24 00 36
DP 1LSA-48	48 V=	80 V=	56 V~	24 00 37
DP 1LSA-60	60 V=	100 V=	70 V~	24 00 38
DP 1LSA-110	110 V=	180 V=	123 V~	24 00 39



DataPro 1LSA + PTC

Surge protection device for data and signal lines in measuring systems and automatic control devices. Surge voltage protection connector for 1 DA, with surge current protection via PTC thermistors and fail-safe contact for LSA (IDC) disconnection modules.

- Coarse and fine protection
- Surge current protection via PTC thermistors
- Suitable for DC and AC application
- Fail-safe thermal overload protection

Product	UN	Uc	Uc	Art. No.
DP 1LSA-5-PTC	5 V=	6 V=	4 V~	24 00 40
DP 1LSA-12-PTC	12 V=	14 V=	10 V~	24 00 41
DP 1LSA-24-PTC	24 V=	29 V=	20 V~	24 00 43
DP 1LSA-48-PTC	48 V=	80 V=	56 V~	24 00 44
DP 1LSA-60-PTC	60 V=	100 V=	70 V~	24 00 45
DP 1LSA-110-PTC	110 V=	180 V=	123 V~	24 00 46
DP 1LSA-T110FS-PTC	110 V=	180 V=		24 00 48



DataPro 1LSA-TK180FS

Lightning and surge protection for telephone installations. Pluggable module for LSA (IDC) disconnection modules. Surge voltage protection connector for 1 DA, for ADSL, ISDN UK0 or a/b lines, with fail-safe contact.

Product	UN	Uc	UagN	Art. No.
DP 1LSA-TK180FS	110 V=	180 V=	230 ±20% V=	24 00 49



SPD according to test category C2+C1



DataPro 1LSA-CxxFS-PTC

Surge voltage protection connector for 1 DA with surge current protection via PTC thermistors and fail-safe contact for higher frequency transmission range for measuring systems and automatic control devices, for LSA (IDC) disconnection modules.

- Surge current protection via PTC thermistors
- High impulse discharge current of 10 kA (8/20 μs)
- Suitable for DC and AC application

Product	UN	Uc	Uc	Art. No.
DP 1LSA-C5FS-PTC	5 V=	6 V=	o.A. V~	24 00 63
DP 1LSA-C12FS-PTC	12 V=	14 V=	10 V~	24 00 64
DP 1LSA-C15FS-PTC	15 V=	19 V=	12 V~	24 00 65
DP 1LSA-C24FS-PTC	24 V=	29 V=	20 V~	24 00 66
DP 1LSA-C48FS-PTC	48 V=	80 V=	56 V~	24 00 61
DP 1LSA-C60FS-PTC	60 V=	100 V=	70 V~	24 00 62



DataPro 10LSA

Pluggable surge arrester for telecommunication lines with 10 pair of wires (DA) for LSA (IDC) disconnection modules.

- Surge arrester for telecommunications
- Protection for up to 10 pair of wires (DA)
- Integrated coarse and fine protection
- Surge voltage protection against longitudinal and transverse voltages

Product	UN	Uc	Uc	Art. No.
DP 10LSA-12V	12 V=	14 V=	10 V~	24 00 25
DP 10LSA-24V	24 V=	29 V=	21 V~	24 00 27
DP 10LSA-110	110 V=	180 V=	110 V~	24 01 40



DataPro 10LSA-PTC

Surge voltage arrester with surge current protection via PTC thermistors.

Designed for telecommunication lines as a pluggable module with 10 pairs of wires (DA) for LSA (IDC) disconnection modules.

- Surge arrester for telecommunications
- Protection for up to 10 pair of wires (DA)
- Integrated coarse and fine protection
- Surge voltage protection against longitudinal and transverse voltages
- PTC surge current protection at DP 10LSA-PTC-110 and DP 10LSA-PTC12V

Product	UN	Uc	Uc	Art. No.
DP 10LSA-PTC-12V	12 V=	14 V=	10 V~	24 00 26
DP 10LSA-PTC-24V	24 V=	29 V=	21 V~	24 00 28
DP 10LSA-PTC 110	110 V=	180 V=	180 V~	24 01 42

Accessories for LSA mounting



LSA Disconnection Module

Each module can hold 10 DA at the cable and allocation side. To be equipped with surge voltage protection connectors (coarse and fine protection) DP 1LSA or DP 10LSA. Applicable at the LPZ transition point 1-2 and higher.

Product	Art. No.
LSA 2/10-TR	24 01 02



LSA Connection Module

Each module can hold 10 DA at the cable and allocation side for a permanent connection. LSA magazines filled with gas-filled surge arresters can be plugged in. The connection module is grey.

Product	Art. No.
LSA 2/10-AN	24 01 00



LSA Ground Module

To connect 38 earthing connectors and shields.

Product	Art. No.
LSA 2/10-ER38-rot	24 01 04



LSA 2/10 KSR

LSA 2/10 hinged label holder (plastic)

Product	Art. No.
LSA 2/10 KSR	24 01 08



LSA 2/10 AD

Magazine cover for protection against dust and unwanted contact

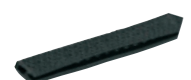
Product	Art. No.
LSA 2/10 KSR	24 01 09



LSA 2/10-ES

Grounding rail, for 10DA connection modules serving as connection between LSA backmount frame and 1 DA surge voltage (+surge current) - protection connector

Product	Art. No.
LSA 2/10-ES	24 01 33



LSA 2/10 KS-120

LSA edge protection profile for backmount frame (plastic) length: 120 mm

Product	Art. No.
LSA 2/10 KS-120	24 01 36



LSA 2/10-MW10-25/22

LSA backmount frame 10 x 10DA (modular). Plug space for 10 pcs of LSA 2/10 10DA connection modules 25 mm grid / depth 22 mm

Product	Art. No.
LSA 2/10-MW10-25/22	24 01 10



SPD with BNC connector



DataPro Koax-8V-BNC

Lightning and surge protection for coaxial signal lines with BNC connector for the use at the building entry.

- High performance surge protector
- Applicable at the building entry at the boundaries LPZ OA-1 and higher
- For video surveillance cameras
- Connector according to IEC 61169-8
- Grounding via connected earthing wire 0.75 mm², L=ca.30 mm
- Test standard: IEC 61643-21 / EN 61643-21

Product	Uc	f0	Art. No.
DataPro Koax-8V-BNC	8 V=	0 - 60 MHz	54 43 46
DataPro Koax-8V-BNC-75 Ohm	8 V=	60 MHz	54 43 40



DataPro Koax BNC

Surge protection device for coaxial signal lines with BNC connectors and very high frequencies. The discharge current arrester can be mounted in and earthed in a mounting plate.

- Surge protection device for extremely high frequencies up to 6 GHz
- Applicable at the boundaries LPZ OB - 1 and higher
- Connector according to IEC 61169-8
- Earthing via metal housing
- Test standard: IEC 61643-21 / EN 61643-21

Product	f0	Art. No.
DP Koax BNC 500hm	0 - 6000 MHz	54 43 30

SPD with SMA connector



AntPro 5,8GHz-SMA

Surge protection device for coaxial signal lines with SMA connectors. The very high frequency range of up to 6 GHz enables the use in wireless LAN and similar applications. The discharge current arrester can be mounted in and earthed in a mounting plate.

- Surge protection device for extremely high frequencies up to 6 GHz
- Applicable at the boundaries LPZ OB - 1 and higher
- Connector according to IEC 61169-8
- Earthing via metal housing
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting with angle bracket or in mounting plate possible
- Second version with inverse polarity (inner conductor is socket instead of plug)

Product	f0	Art. No.
AntPro 5,8GHz-SMA	0 - 6000 MHz	04 58 00
AntPro 5,8GHz-R-SMA	0 - 6000 MHz	04 58 02

SPD with FME connector



DataPro FME-AD

Surge voltage protection for sensitive GSM modems with FME antenna connector. The set contains an discharge current arrester with SMA connector and a frequency range up to 6 GHz and adapters for FME connectors.

- High performance surge arrester for broadband applications with frequency ranges from DC up to 6 GHz.
- Applicable at the boundaries LPZ OB - 1 and higher
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting with angle bracket or in mounting plate possible

Product	f0	Art. No.
DP FME-AD	0 - 6000 MHz	16 05 20

SPD with N connector



AntPro Lambda/4 N

Surge protective device in maintenance-free Lambda/4 style with band-pass filter characteristic. Therefore a very good transmission characteristic combined with high attenuation of the disturbances can be reached. Remote antenna power supply is not possible because of the short-circuit characteristic for low-frequency signals.

- High performance Lambda/4 Stubline for antenna protection without interruption of the useful signal
- Suitable for TETRA and GSM installations
- Applicable at the building entry at the boundaries LPZ OA-1 and higher
- Connector according to IEC 61169-16
- Test standard: IEC 61643-21 / EN 61643-21

Product	f0	Art. No.
AntPro Lambda/4 N 0.51GHz	380 - 512 MHz	04 00 20
AntPro Lambda/4 N 2.0GHz	1700 - 2300 MHz	04 00 23



AntPro Lambda/4 N (f/f)

Surge protective device in maintenance-free Lambda/4 style with band-pass filter characteristic. Therefore a very good transmission characteristic combined with high attenuation of the disturbances can be reached. Remote antenna power supply is not possible because of the short-circuit characteristic for low-frequency signals.

- High performance Lambda/4 Stubline for antenna protection without interruption of the useful signal
- Suitable for TETRA and GSM installations
- Applicable at the building entry at the boundaries LPZ OA-1 and higher
- Connector according to IEC 61169-16
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting with angle bracket or in mounting plate possible

Product	f0	Art. No.
AntPro Lambda/4 N 0.51GHz (f/f)	380 - 512 MHz	04 00 21



SPD with N connector



AntPro Koax-GSM-N/230

AntPro Koax-GSM-N was designed for the coarse protection of highly sensitive electronic HF amplifiers, e.g., for GSM aerial systems with GSM aerial cable RG213/U (max. 180 W at max. 1 GHz, Ø 10.5 mm). High performance surge arrester for broadband applications with frequency ranges from DC up to 2.5 GHz.

- Applicable at the boundaries LPZ 0B - 1 and higher
- Connector according to IEC 61169-8
- Test standard: IEC 61643-21 / EN 61643-21
- The f/f version can be mounted in a mounting plate or with an angle bracket

Product	f0	Art. No.
AntPro Koax-GSM-N/230	0 - 2500 MHz	04 00 01
AntPro Koax-GSM-N/230(f/f)	0 - 2500 MHz	04 00 04



AntPro 6GHz-N

The devices are medium sized, precision, weatherproof connectors supplied with a screw coupling. Special design techniques for this series of connectors have resulted in excellent levels of performance with regard to return loss (VSWR) and intermodulation distortion.

- N surge suppressor male (m)-male (m) with gas discharge arrester
- N surge suppressor male (m)-female (f) with gas discharge arrester
- Recommended coupling torque: 4-6 Nm
- Test standard: IEC 61643-21 / EN 61643-21

Product	f0	Art. No.
AntPro 6GHz-N(m/f)	0 - 6000 MHz	04 00 10
AntPro 6GHz-N(f/f)	0 - 6000 MHz	04 00 11

SPD with DIN 7/16 connector



DataPro Koax 7/16

DataPro Koax 7/16 was developed for the coarse protection of highly sensitive RF amplifiers with DIN 7/16 connectors such as amplifiers for GSM antenna systems. High performance surge arrester for broadband applications with frequency ranges from DC up to 2.5 GHz.

- Applicable at the boundaries LPZ 0B - 1 and higher
- Connector according to IEC 61169-4
- Test standard: IEC 61643-21 / EN 61643-21

Product	f0	Art. No.
DP Koax 7/16	0 - 2500 MHz	10 10 00

SPD with DIN 7/16 connector



DataPro Koax 7/16 (f/f)

DataPro Koax 7/16 was developed for the coarse protection of highly sensitive RF amplifiers with DIN 7/16 connectors such as amplifiers for GSM antenna systems. High performance surge arrester for broadband applications with frequency ranges from DC up to 2.5 GHz.

- Applicable at the boundaries LPZ 0B - 1 and higher
- Connector according to IEC 61169-4
- Test standard: IEC 61643-21 / EN 61643-21
- Mounting with angle bracket or in mounting plate possible

Product	f0	Art. No.
DP Koax 7/16 (f/f)	0 - 2500 MHz	10 10 01



AntPro -7/16

Surge protective device in maintenance-free Lambda/4 style with band-pass filter characteristic. Therefore a very good transmission characteristic combined with high attenuation of the disturbances can be reached. Remote antenna power supply is not possible because of the short-circuit characteristic for low-frequency signals.

- High performance Lambda/4 Stubline for antenna protection without interruption of the useful signal
- Suitable for TETRA installations (380 - 470 MHz)
- Applicable at the building entry at the boundaries LPZ 0A-1 and higher
- Connector according to IEC 61169-4
- Test standard: IEC 61643-21 / EN 61643-21

Product	f0	Art. No.
AntPro Lambda/4 7/16 0.42GHz	380 - 512 MHz	04 04 25



AntPro Lambda/4 7/16 TRI

Surge protective device in maintenance-free Lambda/4 style with band-pass filter characteristic. Therefore a very good transmission characteristic combined with high attenuation of the disturbances can be reached. Remote antenna power supply is not possible because of the short-circuit characteristic for low-frequency signals.

- High performance Lambda/4 Stubline for antenna protection without interruption of the useful signal
- Suitable for 800/900 MHz and 1800/1900 MHz-GSM and UMTS systems
- Connector according to IEC 61169-4
- Applicable at the building entry at the boundaries LPZ 0A-1 and higher
- Test standard: IEC 61643-21 / EN 61643-21

Product	f0	Art. No.
AntPro Lambda/4 7/16 TRI	806 - 960 / 1710 - 2200 MHz	04 00 30
AntPro Lambda/4 7/16 TRI (f/f)	806 - 960 / 1710 - 2200 MHz	04 00 31



EMC FILTER WITH INTEGRATED SURGE PROTECTION LINE FILTER UP TO 200A

EnerPro Filter up to 200 A



EnerPro Filter for mounting rail

For overvoltage protection at single-pole TN systems with very sensitive electrical devices. Suitable for the application in single-phase TN systems. The protective circuit with filter contains an optimal decoupling between its medium protection (varistors) and its fine protection (varistors).

- Applicable at the boundaries LPZ 0B - 2 and higher
- All leakage current-afflicted elements are galvanically isolated from earth by a gas-filled surge arrester (GDT).
- Test standard: IEC 61643-11 / EN 61643-11

Product	UN	Uc	IL	Art. No.
EPF 230V/16A-Tr2-FM	230 V~	275 V~	16 A	25 30 09
EPF 230V/25A-Tr2-FM	230 V~	275 V~	25 A	25 30 11



EnerPro Filter up to 35 A, two-pole

For overvoltage protection at single-pole TN systems with very sensitive electrical devices. Suitable for the application in single-phase TN systems.

- Applicable at the boundaries LPZ 0B - 2 and higher
- The low-pass filter eliminates high-frequency electromagnetic interferences caused by lightning or switching actions in the network.
- Test standard: IEC 61643-11 / EN 61643-11
- Maximum impulse discharge current of 20 kA (8/20 μ s)

Product	UN	Uc	IL	Art. No.
EPF 48V/16A-S	48 V=	70 V=	16 A	25 30 19
EPF 60V/16A-S	60 V=	70 V=	16 A	25 30 22
EPF 48V/25A-S	48 V=	70 V=	25 A	25 30 53
EPF 230V/16A-S	230 V~	275 V~	16 A	25 30 20
EPF 230V/35A-S	230 V~	275 V~	35 A	25 30 85
EPF 230V/16A-W	230 V~	275 V~	16 A	25 30 25



EnerPro Filter up to 35 A, four-pole

For overvoltage protection at single-pole TN systems with very sensitive electrical devices. Suitable for the application in three-phase 230/400V TN systems.

- Applicable at the boundaries LPZ 0B - 2 and higher
- 4-pole
- Leakage current-free
- Test standard: IEC 61643-11 / EN 61643-11
- Protects foundation earthing electrode against AC-caused corrosion
- To protect the supply of sensible equipment and installations
- Maximum impulse discharge current of 20 kA (8/20 μ s)

Product	Uc	IL	Art. No.
EPF 230/400V/16A-W	275/480 V~	16 A	25 30 45
EPF 230/400V/25A-W	480 V~	25 A	25 30 80
EPF 230/400V/35A-W	275/480 V~	35 A	25 31 00



EnerPro Filter up to 200A, 4-pole

For overvoltage protection at single-pole TN systems with very sensitive electrical devices. Suitable for the application in three-phase 230/400V TN systems.

- Applicable at the boundaries LPZ 0B - 2 and higher
- 4-pole
- Leakage current-free
- Test standard: IEC 61643-11 / EN 61643-11
- Protects foundation earthing electrode against AC-caused corrosion
- To protect the supply of sensible equipment and installations

Product	Uc	IL	Art. No.
EPF 230/400V/63A-E	275 / 480 V~	63 A	25 31 30
EPF 230/400V/100A-E	275 / 480 V~	100 A	25 31 40
EPF 230/400V/200A-E	275 / 480 V~	200 A	25 31 60



MCR technology with integrated low-pass filter



IsoProData 150V/150V-Tr

EMC filter for data and signal lines combined with surge protection enables smooth operation of sensitive electronic equipment in rough environment.

- Signal and data line protection with low-pass filter
- Protective circuit for 2 signal lines without reference to ground potential
- Lightning current 5 kA (10/350 μ s) per wire
- Applicable at the boundaries LPZ 0A - 2 and higher
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20
- Space required for installation: 17.5 mm

Product	UN	U _{DC}	U _{AC}	Art. No.
IsoProData 150V/150V-Tr	150 V=	160 V=	112 V~	27 03 03



DataPro 3x1 for DIN rail mounting

EMC filter for data and signal lines combined with surge protection enables smooth operation of sensitive electronic equipment in rough environment.

- Signal and data line protection with low-pass filter
- Protective circuit for 3 signal lines with common ground
- Maximum nominal current 500 mA
- Applicable at the boundaries LPZ 0B - 2 and higher
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20
- Space required for installation: 17.5 mm

Product	UN	U _{DC}	U _{AC}	Art. No.
DP 3x1-12V/12V-Tr	12 V=	13,6 V=	12 V~	28 12 12-A
DP 3x1-15V/15V-Tr	15 V=	17 V=	12 V~	28 15 15-A
DP 3x1-24V/24V-Tr	24 V=	20 V~	28 V=	28 24 24-A
DP 3x1-30V/30V-Tr	30 V=	33 V=	22 V~	28 30 30-A
DP 3x1-36V/36V-Tr	36 V=	40 V=	29 V~	28 36 36-A
DP 3x1-48V/48V-Tr	48 V=	53 V=	37 V~	28 48 48-A
DP 3x1-60V/60V-Tr	60 V=	64 V=	45 V~	28 60 60-A
DP 3x1-150V/150V-Tr	150 V=	160 V=	112 V~	28 04 04-A



DataPro 2x1 for DIN rail mounting

EMC filter for data and signal lines combined with surge protection enables smooth operation of sensitive electronic equipment in rough environment.

- Signal and data line protection with low-pass filter
- Protective circuit for 2 signal lines with common ground
- Maximum nominal current 500 mA
- Applicable at the boundaries LPZ 0B - 2 and higher
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20
- Space required for installation: 17.5 mm

Product	UN	U _{DC}	U _{AC}	Art. No.
DP 2x1-6V/6V-Tr	6 V=	7 V=	5 V~	27 06 06-A
DP 2x1-12V/12V-Tr	12 V=	13,6 V=	10 V~	27 12 12-A
DP 2x1-15V/15V-Tr	15 V=	17 V=	12 V~	27 15 15-A
DP 2x1-24V/24V-Tr	24 V=	28 V=	20 V~	27 24 24-A
DP 2x1-30V/30V-Tr	30 V=	33 V=	22 V~	27 30 30-A
DP 2x1-36V/36V-Tr	36 V=	40 V=	29 V~	27 36 36-A
DP 2x1-48V/48V-Tr	48 V=	53 V=	37 V~	27 48 48-A
DP 2x1-60V/60V-Tr	60 V=	64 V=	45 V~	27 60 60-A
DP 2x1-80V/80V-Tr	80 V=	85 V=	60 V~	27 80 80-A
DP 2x1-150V/150V-Tr	150 V=	160 V=	112 V~	27 04 04-A



DataPro 2x1 0,30hm-Tr

EMC filter for data and signal lines combined with surge protection enables smooth operation of sensitive electronic equipment in rough environment. Lightning current and surge voltage protection for particularly long signal and bus lines. Thanks to the extremely low volume resistance (impedance only 0.3 Ω) no noteworthy signal losses occur. It is a combined arrester to protect two single wires. Applicable at the LPZ transition point 0A-1 and higher.

- Signal and data line protection with low-pass filter
- Very low volume resistance
- Protective circuit for 2 signal lines with common ground
- Maximum operating current 1.5 A
- Applicable at the boundaries LPZ 0A - 2 and higher
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20
- Space required for installation: 17.5 mm

Product	UN	U _{DC}	U _{AC}	Art. No.
DP 2x1-12V/12V-0,3 Ω -Tr	12 V=	28 V=	20 V~	26 12 12
DP 2x1-24V/24V-0,3 Ω -Tr	24 V=	33 V=	22 V~	26 24 24
DP 2x1-30V/30V-0,3 Ω -Tr	30 V=	35 V=	25 V~	26 30 30
DP 2x1-36V/36V-0,3 Ω -Tr	36 V=	40 V=	29 V~	26 36 36
DP 2x1-60V/60V-0,3 Ω -Tr	60 V=	64 V=	45 V~	26 60 60



MCR technology with integrated low-pass filter



DataPro 2x1-RLC/50V-Tr

For overvoltage protection at single-pole TN systems with very sensitive electrical devices. Surge voltage protector for electrical equipment with an operating voltage of up to 50 V DC, with an impulse current withstand strength of 20 kA (8/20 μ s).

- Signal and data line protection with low-pass filter
- Protective circuit for 2 signal lines without reference to ground potential
- Maximum nominal current 100 mA
- Applicable at the boundaries LPZ OB - 2 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	Uc	Art. No.
DP 2x1-RLC/50V-Tr	50 V=	28 70 50



DataPro 2x8-36V/36V-Tr/GO

Designed to protect sensitive input and output interfaces at electrical devices. Suitable, e.g., for fire alarm systems. Alternatively, GO or GU version to provide clear wiring (GO = protected side on top, GU = protected side at the bottom).

- High performance surge protector
- Dimensions only 45 x 110 x 121 mm
- Merging of eight lines
- Two-stage low-pass filter

Product	UN	Uc _{DC}	Uc _{AC}	Art. No.
DP 2x8-36V/36V-Tr/GO	< 36 V=	40 V=	28 V~	27 90 00
DP 2x8-36V/36V-Tr/GU	< 36 V=	40 V=	28 V~	27 90 01



DataPro 2x1-RLC-Tr

EMC filter for data and signal lines combined with surge protection enables smooth operation of sensitive electronic equipment in rough environment.

- Signal and data line protection with low-pass filter
- Operating voltage up to 150 V DC
- Protective circuit for 2 signal lines with common ground
- Maximum nominal current 500 mA
- Nominal impulse discharge current 20 kA (8/20 μ s)
- Mounting on 35 mm DIN rail
- Degree of protection according to IEC EN 60529: IP 20
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC}	Uc _{AC}	Art. No.
DP 2x1-RLC-Tr	150 V=	170 V=	120 V~	27 00 00



DataPro2-2MB-Tr

EMC filter for data and signal lines combined with surge protection enables smooth operation of sensitive electronic equipment in rough environment.

- Signal and data line protection with low-pass filter
- Applicable for transmission rates of 2 MBit/s (ISDN, PCM)
- Maximum nominal current 500 mA
- Applicable at the boundaries LPZ OB - 2 and higher
- Mounting on 35 mm DIN rail
- Space required for installation: 17.5 mm

Product	UN	Uc _{DC}	Uc _{AC}	Art. No.
DP2-2MB-Tr	150 V=	170 V=	120 V~	24 00 17



Function tester for MOV, GDT and GDT based spark-gaps



H35 (GDT Tester)

For testing of the spark-over voltage of lightning- and surge voltage arresters. Digital measuring device with large LCD display. Mobile and easy-to-handle, usable for the service area.

- Digital measuring instrument with large LCD display
- 9V battery operation or net work power unit
- Measuring adapter (With) for all popular GDTs
- Automatic fixing of indicated value
- Scope of delivery includes: 1 carrying case, 1 test leads (2 pieces 1m each), 2 test terminals, 1 external power supply 230V

Product	Art. No.
H35	87 00 10



H45 (MOV Tester)

For testing of the spark-over voltage of lightning- and surge voltage arresters. Digital measuring device with large LCD display. Mobile and easy-to-handle, usable for the service area.

- Digital measuring instrument with large LCD display
- 9V battery operation or net work power unit
- comprehensive accessories included
- Automatic fixing of indicated value
- Scope of delivery includes: 1 carrying case, 1 test leads (2 pieces 1m each), 2 test terminals, 1 external power supply 230V

Product	Art. No.
H45	16 02 00



H65 (GDT and MOV tester)

For the testing of spark over voltage of lightning and surge voltage arresters, e.g. metal oxide varistors (MOV) and gas-filled surge arrester (GDT) or individually MOV and GDT. It is a mobile, easy-to-handle and microprocessor operated digital meter with a large LCD display for maintenance.

- Digital measuring instrument with large LCD display
- 9V battery operation or net work power unit
- Measuring adapter (With) for all popular GDTs
- Automatic fixing of indicated value
- Scope of delivery includes: 1 carrying case, 1 test leads (2 pieces 1m each), 2 test terminals, 1 external power supply 230V

Product	Art. No.
H65	87 01 50

Portable test equipment for GDT in LSA magazines



A46

For testing of LSA arrester magazines equipped with GDT. The whole test equipment is fixed in a portable case with place for a lot of accessories (e.g. AC- adapter, test adapter for different kind of GDT magazines).

- PC connection
- Individual tester can be stored in a PC or printed via included software
- Other test adapters are available on request
- Mobile device in aluminium protection case

Product	Art. No.
A46	87 01 00



Pulse counter

For the potential-free measurement of discharge currents of surge protective devices. Easy snap-on installation on the earth conductor with the help of an two-piece ring core.

- Pulse counting assembly in 1.5 TE DIN rail-mounted device
- including twisted sensor cable (length 1 m)
- Batteries are included in the delivery scope
- Push button to adjust the meter reading (e.g. after battery change)

Product	Art. No.
LC 1	87 00 05

Accessories of H35, H45 and H65



GDT Test adapter ADE/FGH for 2-pole GDT, 8x8 mm, 8x6 mm and 8 x 20 mm



for GDT of form E

Product	Art. No.
GDT Adapter ADE/FGH	87 00 60
Adapter ADE/E	87 00 70



Flexible mounting



TSF series

Rare-gas-filled spark gap for the lightning protection equipotential bonding, the insulation of electrically separated parts and the bridging of insulating flanges of gas pipelines. For internal or similar applications.

- High-quality industrial ceramics
- Rare-gas filled, hermetically sealed
- Free from radioactive substances
- High lightning current discharge capacity of 100 kA (10/350 µs) (class H)
- High reliability, robust
- Stable performance, long service life
- Fail-safe characteristic
- Test standard EN 62561-3:2018-02

Product	UagN	Uaw	Art. No.
TSF 50		50 ±15%	44 90 60
TSF 100	100 ±20% V=	70 ±20% V	44 90 69
TSF 500	500 ±15% V=	350 ±15% V	48 78 01



SGO 70 and 350

Rare-gas-filled spark gap for the lightning protection equipotential bonding, the insulation of electrically separated parts and the bridging of insulating flanges of gas pipelines. Weather-resistant, moulded metal/ceramic isolating spark gap with terminal lugs for M8 screw connection. Waterproof moulded in polyurethan diecast.

- High-quality industrial ceramics
- Rare-gas filled, hermetically sealed
- Free from radioactive substances
- High lightning current discharge capacity of 100 kA (10/350 µs) (class H)
- Extremely low sparkover voltage
- Highly reliable, robust and waterproof
- Fail-safe characteristic
- Stable performance, long service life
- Test standard EN 62561-3:2018-02

Product	UagN	Uaw	Art. No.
SGO 70	100 ±20% V=	70 ±20% V	47 21 17
SGO 350	500 ±15% V=	350 ±15% V	47 22 13

Accessories of TSF series



For solid fixation of isolation spark gaps TSF100 and TSF500 at the installation.

Product	Art. No.
TSF-H1	44 91 75



TA 100 C and 500 C

Rare-gas-filled spark gap for the lightning protection equipotential bonding, the insulation of electrically separated parts and the bridging of insulating flanges of gas pipelines. The product is for outdoor use where a high level of protection against lightning and other climatic influences as well as mechanical stress is needed.

- High-quality industrial ceramics
- Rare-gas filled, hermetically sealed
- Free from radioactive substances
- High discharge capacity up to 100 kA
- Highly reliable, robust and waterproof
- Extremely low sparkover voltage
- Stable performance, long service life
- Fail-safe characteristic
- Test standard EN 62561-3:2018-02

Product	UagN	Uaw	Art. No.
TA 100 C	100 ±20% V=	70 ±20% V	48 78 14
TA 500 C	500 ±15% V=	350 ±15% V	48 78 27



SGO 70 QA / SGO 350 QA

Rare-gas-filled spark gap for the lightning protection equipotential bonding, the insulation of electrically separated parts and the bridging of insulating flanges of gas pipelines. Waterproof isolating spark-gap for underground installation (soil). Moulded in PU diecast, with cables.

- High-quality industrial ceramics
- Rare-gas filled, hermetically sealed
- Free from radioactive substances
- High discharge capacity up to 100 kA
- Extremely low sparkover voltage
- Highly reliable, stable functioning
- Fail-safe characteristic
- SNAM execution
- Test standard EN 62561-3:2018-02
- Including 2m connection cables with 25mm²

Product	UagN	Uaw	Art. No.
SGO 70 QA	100 ±20% V=	70 ±20% V	47 21 04
SGO 350 QA	500 ±15% V=	350 ±15% V	47 21 11

Accessories of TA 100 C TA 500 C and TC 100 A/TC 500 A



Connecting brackets made from hot-dip zinc galvanized steel. Other variants on request.

Product	Art. No.
IF3 22-F	82 30 16
IF1 22-W	82 30 11



HSCS

This high-performance short circuit switch is a rare-gas-filled spark gap for the lightning protection equipotential bonding, the insulation of electrically separated parts and the bridging of insulating flanges of gas pipelines. For internal or similar applications.

- High-quality industrial ceramics
- Rare-gas filled, hermetically sealed
- Free from radioactive substances
- High lightning current discharge capacity of 100 kA (10/350 μs) (class H)
- High reliability, robust
- Stable performance, long service life
- Fail-safe characteristic
- Test standard EN 62561-3:2018-02

Product	U _{agN}	U _{aw}	Art. No.
HSCS-100-FM	100 ±20% V=	70 ±20% V	48 78 07
HSCS-500-FM	500 ±15% V=	350 ±15% V	48 78 08

ATEX-certificated for explosion hazardous zones



TC 100 A / TC 500 A

ATEX approved Ex-protection category. Lightning protective equipotential bonding in hazardous areas, e. g. insulating flanges at gas pipelines, at cathodic corrosion protection and protection of pressure transmitters.

- High-quality industrial ceramics
- Rare-gas filled, hermetically sealed
- Free from radioactive substances
- Extremely low sparkover voltage
- High discharge capacity up to 100 kA
- High reliability, robust
- Stable performance, long service life
- Fail-safe behaviour (twofold)
- Patented product
- Test standard EN 62561-3:2018-02

Product	U _{agN}	U _{aw}	Art. No.
TC 100 A	100 ±20% V=	70 ±20% V	48 78 30
TC 100 A-K1/300	100 ±20% V=	70 ±20% V	49 51 07
TC 100 A-K1/500	100 ±20% V=	70 ±20% V	49 51 00
TC 500 A	500 ±15% V=	350 ±15% V	48 78 50

DIN rail mounting



TF for DIN rail mounting

Protects measuring transformers; lightning and surge voltage protector for 1A respectively 5A cores in current transformers.

- Very high impulse and AC current resistivity
- No blow-out vents, thus, not requiring any safety clearance to other installations
- High insulation resistance R_{isol}: >10 GΩ
- Very long service life
- Lightning impulse current discharge capacity 100 kA (10/350 μs)
- Remote signal contact (PK)

Product	U _{ag}	U _{aw}	Art. No.
TF 100Tr/Th-Pk	100 ±20% V=	70 ±20% V~	53 43 72
TF 500-Tr	500 ±20% V=	350 ±20% V	53 43 98
TF 500Tr/Th-Pk	500 ±20% V=	350 ±20% V~	53 43 85
TF 2000Tr/Th-Pk	2000 (-10%/+20%) V=	1414 (-10%/+20%) V~	55 04 11



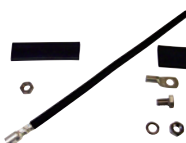
TSF for DIN rail

Rare-gas-filled spark gap for the lightning protection equipotential bonding, the insulation of electrically separated parts and the bridging of insulating flanges of gas pipelines.

- AC spark-over voltage : 70 V
- DC spark-over voltage : 100 V or 500 V
- DC impulse spark-over voltage (1kV/μs): 650 V
- Light. imp. current resistance (10/350 μs): 100 kA
- Mounting on 35 mm DIN rail
- Test standard EN 62561-3:2018-02
- Degree of protection according to IEC EN 60529: IP 20

Product	U _{agN}	U _{aw}	Art. No.
TSF 50-Tr	50 ±20% V=	50 ±20% V	44 90 76
TSF 100-Tr	100 ±20% V=	70 ±20% V	44 90 80
TSF 500-Tr	500 ±20% V=	350 ±20% V	44 90 85

Accessories of TC 100 A / TC 500 A



Connecting cable set K1 for TC 100 A and TC 500 A spark gaps.

Product	Art. No.
K1/150	49 51 06
K1/300	49 51 08
K1/600	49 51 11



AC-current diverter up to AC 80A with lightning protection



PLPro

With an active cathodic corrosion protection the installation is permanently protected against the electrochemical process of corrosion. For that matter a grid supplied rectifier is inserted between the installation (e.g. a pipeline) and an anode that serves as earth electrode.

- AC discharge current: 40 or 80 A
- Several PLPro devices can be connected in parallel to raise the total discharge current
- Maintenance-free, without liquids
- No disturbance of search signals
- Monitoring of discharge current with integrated current transformer possible
- Integrated lightning and surge current protection up to 100 kA (10/350 μ s)
- Safety switch for discharging the capacitors

Product	U _{max}	IA	Art. No.
PLPro-40A-IV	25 V=	40 A~	55 04 40
PLPro-40A-IV HSCS-500-FM	25 V=	40 A~	55 04 39
PLPro-80A-IV	25 V=	80 A~	55 04 41

Arresters for Cathodic Corrosion Protection Systems



EnerPro CV 2P xxV/63A-LED

These devices are predominantly used for cathodic corrosion protection systems at gas and oil pipelines with bitumen insulation layer.

- Mounting directly on DIN rail
- Operating current up to 63 A
- Version with and without LED available
- Leakage current-free

Product	U _c	Art. No.
EP CV 2P 65V/63A/FM	65 V=	38 20 79
EP CV 2P 65V/63A/FM-LED	65 V=	38 20 83
EP CV 2P 100V/63A/FM-LED	125 V=	38 20 87
EP CV 2P 100V/63A/FM	125 V=	38 20 89



EnerPro 65V/12A-Tr

Two-pole USP for operating currents up to 12 A and a nominal impulse discharge current of 20 kA (8/20 μ s) for sensitive electrical devices.

- Two-stage design
- High performance surge protector
- Mounting on 35 mm DIN rail
- Operating current: 12 A
- Maximum acceptable DC continuous operating voltage of 65 V DC
- With filter
- With remote signalling contact (FM)

Product	U _c	IL	Art. No.
EnerPro 65V/12A-Tr/FM	65 V=	12 A	29 60 02



EnerPro 65V/20A-Tr

Two-pole USP for operating currents up to 20 A and a nominal impulse discharge current of 20 kA (8/20 μ s) for sensitive electrical devices.

- Two-stage design
- High performance surge protector
- Mounting on 35 mm DIN rail
- Operating current: 20 A
- Maximum acceptable DC continuous operating voltage of 65 V DC
- With filter
- With remote signalling contact (FM)

Product	U _c	IL	Art. No.
EnerPro 65V/20A-Tr/FM	65 V=	20 A	29 60 11



Generator Connection Box without strand fuses



GAK 2+2

Generator connection box for maximum 2x five terminal points for two MPP tracker.

Application: to protect inverter with two MPP trackers or two inverter with each one MPP tracker.

Take attention to manufacturer's requirement about the maximum reverse current in any parallel connection of solar panels.

- Housing of surface mounting (300 x 200 x 132 mm) / IP66
- 2x 5 terminal points (e. g. 2x 2 input terminal and 2x 2 output terminal)
- Two arrester with 800 or 1000 V, T2 or T1+ T2
- Variants with remote signalling contact also available (on request)
- Terminals can be used as points of measurement

Product	SPD Type	Art. No.
GAK 2+2/2+2/2xT2 800V-FM	Type 2 / class II	80 01 21
GAK 2+2/2+2/2xT2 1000V-FM	Type 2 / class II	80 01 23
GAK 2+2/2+2/2xT1+T2 800V-FM	Type 1 + 2 / class I + II	80 01 31
GAK 2+2/2+2/2xT1+T2 1000V-FM	Type 1 + 2 / class I + II	80 01 54
PV DC 2.800-2-FM	Type 1 + 2 / class I + II	80 01 41



GAK 3x1

Generator Connection Boxes for middle or big sized PV systems. They are free combinable and for high generator power.

- Housing of surface mounting are UV resistant / IP 66
- Terminals can be used as points of measurement
- Remote signal contacts are already connected

Product	SPD Type	Art. No.
GAK 3x1/3x1/3xT1+2 1000V-FM	Type 1 + 2 / class I + II	80 01 33
GAK 4x3/4xT1+T2 1000V-FM	Type 1 + 2 / class I + II	80 01 64

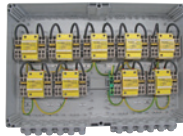


GAK 6x1

For 6 strings dc 1000 V. Generator Connection Boxes for middle or big sized PV systems. They are free combinable and for high generator power.

- Housing of surface mounting are UV resistant / IP 66
- Terminals can be used as points of measurement

Product	SPD Type	Art. No.
GAK 6x1/6x1/6x T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 01 35

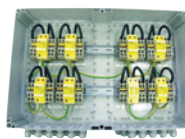


GAK 9x1

For 9 strings dc 1000 Volt. Generator Connection Boxes for middle or big sized PV systems. They are free combinable and for high generator power.

- Housing of surface mounting are UV resistant / IP 66
- Terminals can be used as points of measurement
- Remote signal contacts are already connected

Product	SPD Type	Art. No.
GAK 9x1/9x1/9x T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 01 80



GAK 8x2

Generator Connection Boxes for middle or big sized PV systems. They are free combinable and for high generator power. GAK with eight combined arrester type 1+2 with mit 800 or 1000 Volt for max. 8x 2 strings.

- Double cable routing
- Remote signal contacts are already connected

Product	SPD Type	Art. No.
PV DC 8.800-8-FM	Type 1 + 2 / class I + II	80 01 78
GAK 8x2/8x2/8x T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 01 56



PV DC 3

Generator Connection Boxes for middle or big sized PV systems. They are free combinable and for high generator power.

- Housing of surface mounting are UV resistant (300 x 200 x 132 mm) / IP66
- With remote signalling contact (FM)
- Double cable routing
- Terminals can be used as points of measurement

Product	SPD Type	Art. No.
PV DC 3.800-3-S2-FM	Type 1 + 2 / class I + II	80 01 77
PV DC 3.800-3-FM	Type 2 / class II	80 01 76



With reverse current fuse



GAK x2 T1+T2 1000V-DSK

Generator connection box with fuse holders to take dc string fuses on plus or minus side. For PV systems to protect the inverter.

- Housing of surface mounting are UV resistant / IP 66
- per SPD each 2 fuse holder on both side for minus and plus side
- Terminals can be used as points of measurement
- With remote signalling contact (FM)

Product	SPD Type	Art. No.
GAK 1x2 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 44
GAK 2x2 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 43
GAK 3x2 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 42
GAK 4x2 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 41
GAK 6x2 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 40

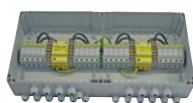


GAK x3 T1+T2 1000V-DSK

Generator connection box with fuse holders to take dc string fuses on plus or minus side. For PV systems to protect the inverter.

- Housing of surface mounting are UV resistant / IP 66
- per SPD each 3 fuse holder on both side for minus and plus side
- Terminals can be used as points of measurement
- With remote signalling contact (FM)

Product	SPD Type	Art. No.
GAK 1x3 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 47
GAK 2x3 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 48
GAK 4x3 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 49



GAK 2x5 T1+T2 1000V-DSK

Generator connection box with fuse holders to take dc string fuses on plus or minus side. For PV systems to protect the inverter with two MPP trackers.

- Housing of surface mounting are UV resistant / IP 66
- Input/output: parallel 5 strings in, 5 strings out
- Two combined arrester Type 1 + 2 with 1000 V dc
- With remote signalling contact (FM)

Product	SPD Type	Art. No.
GAK 2x5 T1+T2 1000V-DSK-FM	Type 1 + 2 / class I + II	80 04 50



GAK 1x T1+T2 1000V

Generator connection box with fuse holders to take dc string fuses on plus or minus side. For PV systems to protect the inverter with one MPP tracker.

- Housing of surface mounting are UV resistant / IP 66
- For one MPP tracker
- With remote signalling contact (FM)

Product	SPD Type	Art. No.
GAK 1x1 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 45
GAK 1x6 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 51
GAK 1x12 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 54

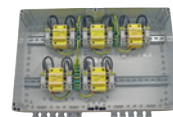


GAK 2x T1+T2 1000V

Generator connection box with fuse holders to take dc string fuses on plus or minus side. For PV systems to protect the inverter with two MPP trackers.

- Two combined arrester Type 1 + 2 with 1000 V dc
- For two MPP tracker
- With remote signalling contact (FM)

Product	SPD Type	Art. No.
GAK 2x1 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 46
GAK 2x3 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 52
GAK 2x4 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 53



GAK 5x1 T1+T2 1000V

Generator connection box with fuse holders to take dc string fuses on plus or minus side. For PV systems to protect the inverter with five MPP trackers.

- Housing of surface mounting are UV resistant / IP 66
- Input/output: parallel 1 string in, 1 string out
- Five combined arrester Type 1 + 2 with 1000 V dc
- For five MPP tracker
- With remote signalling contact (FM)

Product	SPD Type	Art. No.
GAK 5x1 T1+T2 1000V-FM	Type 1 + 2 / class I + II	80 04 55



Complete protection of inverter



PV AC-DC

Complete overvoltage protection for inverters. Mounting it directly nearby inverter is advantageous.

- AC side: SPD Type 2
- DC side: Combined arrester Type 1 + Type 2
- Signal line and data line: IEC category C1/C2/C3

Product	Art. No.
PV AC-DC 1.1-800-FM	80 01 43
PV AC-DC 3.1-1000-FM	80 01 45
PV AC-DC 1.1-1000-FM	80 01 81
PV AC-DC 1.2-800-FM	80 01 82
PV AC-DC 3.3-1000-FM	80 01 83

Protection of inverter rectifier AC side



GAK AC

Generator connection box for three phase TNS system.
Application: e. g. at PV systems to protect the AC side of the inverter.

- Housing of surface mounting (300 x 200 x 132 mm) / IP66
- Fitted with SPD type 1+2 PP BC TNS 25/100

Product	Type	Art. No.
GAK AC-3 T1+T2-FM	Type 1 + 2 / class I + II	80 01 84

Accessories of Generator connection boxes



String fuses

String fuses for PV modules:

Product	Art. No.
ST-Si/4A	17 01 51
ST-Si/8A	17 01 52
ST-Si/10A	17 01 53
ST-Si/12A	17 01 54
ST-Si/20A	17 01 56



E-Membran M12

Ventilation device, with membran to ventilate the generator connection box in an optimal way.

Product	Art. No.
E-Membran M12	17 01 40

Special Edition



PV DC 1/1

Generator connection box for maximum one string for one MPP tracker. For connection with MC4 connectors.
Application: to protect inverter with one MPP tracker in PV systems.

- Housing of surface mounting (200 x 200 x 132 mm) / IP66
- Input / Output: one string for plus and one for minus
- One combined arrester type 1+2 with 1000 V

Product	Type	Art. No.
PV DC 1/1 1xT1+2 1000V/MC4-FM	Type 1 + 2 / class I + II	80 01 79

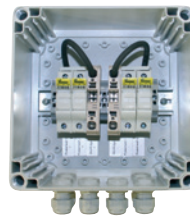


GAK 2x2 Zw

Application: e. g. for PV systems to merge the modul connection strings and forwarding to the inverter.

- without SPD
- Housing of surface mounting are UV resistant / IP 66

Product	Art. No.
GAK 2x2 1000V/30A	80 01 67



Fuse Combiner Box

- Housing of surface mounting are UV resistant / IP 66
- 12A-fuses, up to 1000 V DC
- Protection of battery systems in Photovoltaic systems

Product	Art. No.
Fuse Combiner Box	80 01 72



DAK 2x 16

Pin-shaped terminal to enable feed-through wiring (V-wiring) for all surge protection modules with only one clamp per phase, such as PP PV 800 and 1000 and other SPDs for power supply systems.

- Looped-in wiring for SPD with only one connection terminal.
- Connection of 2 lines at only one terminal possible
- Connection of max. 2x 16 mm² fine-stranded
- Conformed by standard looped-in wiring (V connected)
- Acc. to DIN VDE 0100-534

Product	Art. No.
DAK 2x 16	17 01 10



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SURGE PROTECTION FOR POWER SUPPLY SYSTEMS

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