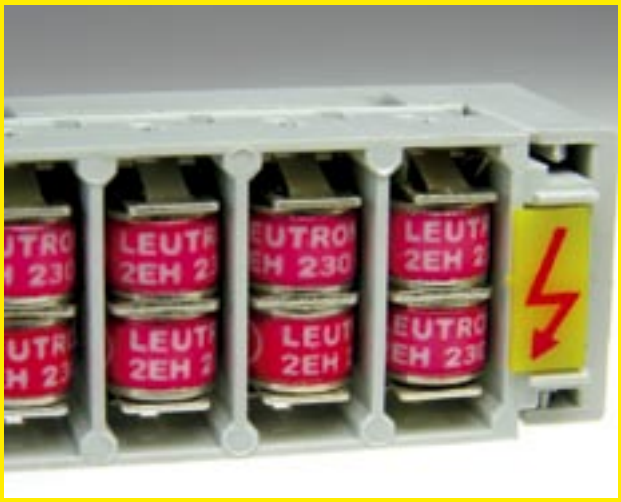
SHORT FORM CATALOGUE 2008

valid **at 01.03.2008**



Lightning and Surge Protective Devices

LEUTRON®

LEUTRON®

Leutron GmbH
Lightning and Surge Protection
Humboldtstrasse 30/32
D-70771 Leinfelden-Echterdingen
Germany

Phone +49(0)711/94771-0
Fax +49(0)711/94771-70
eMail info@leutron.de
www.leutron.de

Valid from 1st March 2008

Table of Contents

Electric Power Supply

Combined arresters (class I T1 + class II T2 + class III T3) ... 5
PowerPro BCD TNC-, TNS- und TT-net ... 5
PowerPro BCD, 2-pole ... 6
Combined arresters (class I T1 + class II T2) ... 6
PowerPro BC TNC-, TNS- und TT-net ... 6
PowerPro BC, 2-pole ... 7
Lightning current arresters (class I T1) ... 7
PowerPro B TNC-, TNS-, TT- und IT-net ... 7
PowerPro B TN-net, 2-pole ... 7
IsoPro B TNC-, TNS- und TT-net ... 8
IsoPro B, 2-pole ... 9
Lightning current arresters (class I T1 + class II T2) ... 10
IsoPro BC, 1-pole ... 10
IsoPro BC TNC-, TNS- und TT-net ... 10
IsoPro BC, 2-pole ... 11
IsoPro Kompakt BC TNC-, TNS- und TT-net (with LED) ... 11

Surge voltage protectors (class II T2), leakage-current-free ... 12
EnerPro C TNC-, TNS- und TT-net (with LED) ... 12
Surge voltage protectors (class II T2), pluggable ... 13
EnerPro C S TNC-, TNS- und TT-net (with failure indicator) ... 13
Protection modules for EnerPro C S ... 14
Surge voltage protectors (class III T3), leakage-current-free ... 15
EnerPro D TN-, TNC-, TNS-und TT-net (with LED) ... 15
EnerPro D TN 24V-230V/16A ... 15
Surge voltage protectors (class III T3) ... 16
Surge voltage protectors (class II T2 + class III T3) ... 16
Surge protection with increased discharge capacity ... 16

Protection of Cathodic Corrosion Protection Systems (CCPS) ... 17
Surge protection of Photovoltaic Systems ... 18
Surge protectors with EMI filter up to 200 A ... 19
Steel housings ... 20
Insulating material housings ... 20
Aluminium housings ... 20

Surge protective devices (SPD) for information technology equipment

SPD with coarse protection (Din-rail) ... 21
SPD with medium and fine protection (Din-rail) ... 21
SPD for Telecommunication ... 23
SPD for RJ-connection ... 23
SPD for D-SUB connection ... 23
SPD for 19"-technology ... 23
SPD for coaxial connection ... 24
SPD for antenna protection up to 5.8 GHz ... 25
Accessories ... 25
SPD for LSA-magazines ... 26
LSA accessories ... 27

Isolating spark-gaps filled with rare gas

Low voltage GDT spark-gaps for indoor use ... 30
Low voltage GDT spark-gaps for outdoor use ... 30
ATEX-certificated low voltage GDT spark-gaps for explosion hazardous zones ... 30
GDT spark-gaps for DIN rail mounting ... 31
Accessories ... 31

Table of contents

Protection systems for current and voltage transformers in HV and MV

Lightning current arresters (class I T1) with thermal monitoring 32

AC-current diverter to protect against AC-corrosion in CCP systems

AC-current diverter up to AC 160A with lightning protection by GDT based spark-gap 33

Measuring and test equipment

Function tester for GDT and GDT based spark-gaps 34
Function tester for MOV and overvoltage protection diodes 34
Universal function tester for GDT, MOV and diodes as well as mixed circuits 35
Portable test equipment for GDT in LSA magazines 35

Gas-filled surge arrester (GDT)

GDT, 2-pole 36
5 x 5 mm, up to 600 V, 5 kA 36
8 x 6 mm, up to 600 V, 10 kA 36
8 x 6 mm, up to 600 V, 20 kA 37
8 x 8 mm, up to 1400 V, 2,5 kA 37
8 x 8 mm, up to 600 V, 20 kA 37
8 x 8 mm, up to 800 V, 5 kA 37
8 x 20 mm, up to 350 V, 20 kA 37
8 x 40 mm, up to 600 V, 20 kA 37
GDT, 3-pole 38
8 x 6 mm, up to 420 V, 10 kA 38
5 x 7,5 mm, up to 350 V, 5 kA 38
8 x 10 mm, up to 350 V, 10 kA 38
8 x 10 mm, up to 600 V, 10 kA 39
8 x 10 mm, up to 500 V, 20 kA 39
Special editions 40
surge protector, 2-pole, 6 x 6 mm, up to 6 GHz, 5 kA 40
Hybrid GDT based spark gap, 3-pole, 230 V 10 kA 40
Overcurrent protection up to 180 mA 40

Artical index, numerical 41
Artical index, alphabetical 46
GDT, Artical index, numerical 51
GDT, Artical index, alphabetical 53
Purchase order form 56
How to find us 57
General Terms and Sales Conditions 58

Combined arresters (class I T1 + class II T2 + class III T3)

PowerPro BCD TNC…TNS…TT

Combined modular multi-polee arrester for lightning (LEMP) and transient (switching-) surge voltage protection (SEMP) of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- ready for use, modular all-in-one protection unit
- hermetically sealed, built-in rare-gas-filled isolated spark gaps
- no blow-out vents, i.e. not requiring any safety distances for installation
- up to 100 kA discharge capacity (10/350 µs)
- high quenching capacity of follow-on short circuit currents
- high insulation resistance R_{iso} > 10 GΩ
- protection level from < 0.75 kV up to 1.0 kV
- no leakage-currents, i.e. allowing installation upstream of power meters
- V-wiring over multi-functional terminals possible
- optional remote contact (FM)
- max. operational availability
- functions independently of atmospheric air pressure and ambient humidity
- high TOV resistance

PowerPro BCD TNC

for TN-C-systems with 230/400 V,
50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BCD TNC 25/75	255 V	1	37 39 90
PP BCD TNC 25/75/FM	255 V	1	37 39 92
PP BCD TNC 25/75-350	350 V	1	38 50 00
PP BCD TNC 25/75/FM-350	350 V	1	38 50 10

PowerPro BCD TNS (4-pole)

for TN(C)-S-systems with 230/400 V,
50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BCD TNS 25/100	255 V	1	37 39 60
PP BCD TNS 25/100/FM	255 V	1	37 39 62
PP BCD TNS 25/100-350	350 V	1	38 50 20
PP BCD TNS 25/100/FM-350	350 V	1	38 50 30

PowerPro BCD TT (4-pole; 3+1 NPE)

for TT-systems with 230/400V,
50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BCD TT 25/100	255 V	1	37 39 30
PP BCD TT 25/100/FM	255 V	1	37 39 32
PP BCD TT 25/100-350	350 V	1	38 50 40
PP BCD TT 25/100/FM-350	350 V	1	38 50 50

PowerPro BCD TT2+1

for single-phase TT-net systems with 230 V,
50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BCD TT2+1 25/100	255 V	1	37 39 34
PP BCD TT2+1 25/100/FM	255 V	1	37 39 36

Combined arresters (class I T1 + class II T2)

PowerPro BCD, 2-pole

Combined modular 2-polee arrester for lightning (LEMP) and transient (switching-) surge voltage protection (SEMP) of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- ready for use, modular all-in-one protection unit
- hermetically sealed, built-in rare-gas-filled isolated spark gaps
- no blow-out vents, i.e. not requiring any safety distances for installation
- up to 100 kA (10/350 µs) lightning impulse current discharge capacity
- high quenching capacity of follow-on short circuit currents
- high insulation resistance R_{iso} > 10 GΩ
- protection level from < 0.75 kV up to 1.0 kV
- V-wiring over multi-functional terminals possible
- no leakage-currents, i.e. allowing installation upstream of power meters
- optional remote contact /FM)
- max. operational availability
- functions independently of atmospheric air pressure and ambient humidity
- high TOV resistance

PowerPro BC TNC…TNS…TT

Combined modular multi-polee arrester For lightning (LEMP) and transient (SEMP) surge voltage protection of low-voltage electrical distribution systems For industrial, commercial and private use. Suitable For the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- ready for use, modular all-in-one protection unit
- hermetically sealed, built-in rare-gas-filled isolated spark gaps
- no blow-out vents, i.e. not requiring any safety distances for installation
- up to 100 kA (10/350 µs) lightning impulse current discharge capacity
- high quenching capacity of follow-on short circuit currents
- high insulation resistance R_{iso} > 10 GΩ
- voltage protection level up to ≤ 2.0 kV
- V-wiring over multi-functional terminals possible
- no leakage-currents, i.e. allowing installation upstream of power meters
- optional remote contact (/FM)
- max. operational availability
- functions independently of atmospheric air pressure and ambient humidity
- high TOV resistance

PowerPro BCD TN

For single-phase TN systems with 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
PP BCD TN 25/50	255 V	1	38 12 14
PP BCD TN 25/50/FM	255 V	1	38 12 15
PP BCD TN 25/50-350	350 V	1	38 50 60
PP BCD TN 25/50/FM-350	350 V	1	38 50 70

PowerPro BC TNC

Complete unit for TN-C systems with 230/400 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
PP BC TNC 25/75	255 V	1	37 39 80
PP BC TNC 25/75/FM	255 V	1	37 39 82
PP BC TNC 25/75-350	350 V	1	38 51 20
PP BC TNC 25/75/FM-350	350 V	1	38 51 30

PowerPro BCD TT1+1

For single-phase TT systems with 230 V, 50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BCD TT1+1 25/100	255 V	1	38 11 34
PP BCD TT1+1 25/100/FM	255 V	1	38 11 35
PP BCD TT1+1 25/100-350	350 V	1	38 50 80
PP BCD TT1+1 25/100/FM-350	350 V	1	38 50 90

PowerPro BC TNC 440

Complete unit for TN-C systems with 400/690 V, 50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BC TNC 440	440 V	1	37 39 81
PP BC TNC 440/FM	440 V	1	37 39 83

NEW

PowerPro BCD TN with LED-display

For single-phase TN systems with 230 V, 50Hz nominal voltage, with two green LCD displays (function control).

type	max.operating voltage AC	pcs	Art.No.
PP BCD TN 25/50/LED	255 V	1	37 12 00
PP BCD TN 25/50/LED/FM	255 V	1	37 12 02
PP BCD TN 25/50/LED-350	350 V	1	38 51 00
PP BCD TN 25/50/LED/FM-350	350 V	1	38 51 10

PowerPro BC TNS

Complete unit For TN-(C)-S-systems with 230/400 V, 50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BC TNS 25/100	255 V	1	37 39 50
PP BC TNS 25/100/FM	255 V	1	37 39 52
PP BC TNS 25/100-350	350 V	1	38 51 40
PP BC TNS 25/100/FM-350	350 V	1	38 51 50

Lightning current arresters (class I T1)

PowerPro BC TT

Complete unit for TT-systems with 230/400 V, 50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BC TT 25/100	255 V	1	37 39 20
PP BC TT 25/100/FM	255 V	1	37 39 22
PP BC TT 25/100-350	350 V	1	38 51 60
PP BC TT 25/100/FM-350	350 V	1	38 51 70

PowerPro BC, 2-pole

Combined modular 2-polee arrester for lightning (LEMP) and transient (SEMP) surge voltage protection of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- ready for use, modular all-in-one protection unit
- hermetically sealed, built-in rare-gas-filled isolated spark gaps
- no blow-out vents, i.e. not requiring any safety distances For installation
- up to 50 kA (10/350 µs) lightning impulse current discharge capacity
- high quenching capacity of follow-on short circuit currents
- high insulation resistance R_{iso} > 10 GΩ
- voltage protection level up to ≤ 2.0 kV
- V-wiring over multi-functional terminals possible
- no leakage-currents, i.e. allowing installation upstream of power meters
- optional remote contact (/FM)
- max. operational availability
- functions independently of atmospheric air pressure and ambient humidity
- high TOV resistance

PowerPro BC TN

Complete all-in-one unit for single-phase TN systems with 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
PP BC TN 25/50	255 V	1	38 12 12
PP BC TN 25/50/FM	255 V	1	38 12 13
PP BC TN 25/50-350	350 V	1	38 51 80
PP BC TN 25/50/FM-350	350 V	1	38 51 90

PowerPro BC TT1+1

Complete all-in-one unit For single-phase TT-systems with 230 V, 50 Hz nominal voltage

type	max.operating voltage AC	pcs	Art.No.
PP BC TT1+1 25/100	255 V	1	38 11 32
PP BC TT1+1 25/100/FM	255 V	1	38 11 33
PP BC TT1+1 25/100-350	350 V	1	38 52 00
PP BC TT1+1 25/100/FM-350	350 V	1	38 52 10

PowerPro B TNC-, TNS-, TT- and IT-Net

PowerPro B TNC 50/100

For 3-ph TN-C power net systems with 400V/230V, 50 Hz nominal voltage. 3-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP)

type	pcs	Art.No.
PP B TNC 50/100	1	37 39 70
PP B TNC 50/100/FM	1	37 39 72
PP B TNC 50/100-350	1	37 41 10
PP B TNC 50/100-350/FM	1	37 41 15

PowerPro B TNC 440

For 3-ph TN-C power net system with 690V/400V 50 Hz nominal voltage. Multi-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TNC 440	1	37 39 64
PP B TNC 440/FM	1	37 39 65

PowerPro B TNS 50/100

For 3-ph TN-S power net system with 400V/230V, 50 Hz nominal voltage. Multi-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TNS 50/100	1	37 39 40
PP B TNS 50/100/FM	1	37 39 42
PP B TNS 50/100-350	1	37 41 20
PP B TNS 50/100-350/FM	1	37 41 25

PowerPro B TNS 440

For 3-ph TN-S power net system with 690V/400V, 50 Hz nominal voltage. Multi-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TNS 440	1	37 39 43
PP B TNS 440/FM	1	37 39 44

PowerPro B TT 50/100

For 3-ph TT power net system with 400V/230V, 50 Hz nominal voltage. Multi-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TT 50/100	1	37 39 10
PP B TT 50/100/FM	1	37 39 12
PP B TT 50/100-350	1	37 41 30
PP B TT 50/100-350/FM	1	37 41 35

PowerPro B TT1+1 50/100

For 1-ph TT (1+NPE) power net system with 200-230 V, 50 Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TT 1+1 50/100	1	38 11 30
PP B TT 1+1 50/100/FM	1	38 11 31

PowerPro B TT2+1 50/100

For 2-ph TT (2+NPE) power net system with 200-230 V, 50 Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TT 2+1 50/100	1	37 39 15
PP B TT 2+1 50/100/FM	1	37 39 17

PowerPro B IT 50/100

For 3-ph IT power net system without N, with 400V/230V, 50 Hz nominal voltage. 3-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B IT 50/100	1	37 39 18
PP B IT 50/100/FM	1	37 39 19

PowerPro B TN-net, 2-pole

PowerPro B TN 50/100

For 1-ph TN power net system with 230V, 50 Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
PP B TN 50/100	1	38 12 10
PP BC TN 50/100/FM	1	38 12 11

IsoPro B TNC-/TNS-/TT-net

IsoPro B TNC 60/100

For 3-ph TN-C power net systems with 400V/230V, 50 Hz nominal voltage. 3-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TNC 60/100	1	38 11 40
IP B TNC 60/100/FM	1	38 11 41

IsoPro B TNC 25/75

For 3-ph TN-C power net systems with 400V/230V, 50 Hz nominal voltage. 3-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TNC 25/75	1	38 12 16
IP B TNC 27/75/FM	1	38 12 17

IsoPro B TNS 60/100

For 3-ph TN-S power net system with 400V/230V, 50 Hz nominal voltage. 4-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TNS 60/100	1	38 11 45
IP B TNS 60/100/FM	1	38 11 46

IsoPro B TNS 25/100

For 3-ph TN-S power net system with 400V/230V, 50 Hz nominal voltage. 4-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TNS 25/100	1	38 12 20
IP B TNS 25/100/FM	1	38 12 21

IsoPro B TT 60/100

For 3-ph TT (3+NPE) power net system with 400V/230V, 50 Hz nominal voltage. 4-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TT 60/100	1	38 11 50
IP B TT 60/100/FM	1	38 11 51

IsoPro B TT 25/100

For 3-ph TT (3+NPE) power net system with 400V/230V, 50 Hz nominal voltage. 4-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TT 25/100	1	38 12 24
IP B TT 25/100/FM	1	38 12 25

IsoPro B, 2-pole

IsoPro B TT1+1 25/100

For 1-ph TT (1+NPE) power net system with 230V, 50Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TT1+1 25/100	1	38 12 28
IP B TT1+1 25/100/FM	1	38 12 29

IsoPro B TT1+1 60/100

For 1-ph TT (1+NPE) power net system with 230V, 50 Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TT1+1 60/100	1	38 11 55
IP B TT1+1 60/100/FM	1	38 11 56

IsoPro B TN 60/100

For 1-ph TN power net system with 230V, 50 Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TN 60/100	1	38 12 32
IP B TN 60/100/FM	1	38 12 33

IsoPro B TN 25/50

For 1-ph TN power net system with 230V, 50 Hz nominal voltage. 2-pole lightning surge protective device to protect industrial and residential low-voltage installations against LEMP and transient voltage surges (TVSS) caused by switching (SEMP).

type	pcs	Art.No.
IP B TN 25/50	1	38 12 36
IP B TN 25/50/FM	1	38 12 37

Lightning current arresters (class I T1 + class II T2)

IsoPro BC, 1-pole

Single polee modular lightning and transient (switching-) surge voltage arrester for the protection of low-voltage electrical distribution systems by industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- based on hermetically sealed, built-in rare gas-filled isolating spark gaps
- no blow-out vents, therefore not requiring any safety distance for installation
- impulse current discharge capacity up to 60 kA (10/350µs) per polee
- high insulation resistance R_{iso} > 10 GΩ
- low voltage protection level up to ≤ 2 kV
- optional remote contact (/Pk) not requiring any additional space For installation

IsoPro BC

Redundant, selective 2-step protective circuit for single-polee application to 230/400 V, 50 Hz nominal voltage systems.

type	max.operating voltage AC	pcs	Art.No.
IsoPro 230/400Tr/25kA-F	255 V	1	37 38 25
IsoPro 230/400Tr/25kA-F/Pk*)	255 V	1	37 38 26
IsoPro 230/400Tr/60kA-F	255 V	1	37 38 30
IsoPro 230/400Tr/60kA-F/Pk*)	255 V	1	55 05 18

*) Pk=potenzialfreier Kontakt

IsoPro BC TNC…TNS…TT

Combined modular multi-polee lightning and transient (switching-) surge voltage arrester for the protection of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- ready-for-connection, modular all-in one unit with all necessary busbars
- based on hermetically sealed, rare gas-filled isolating spark gaps
- no blow-out vents,
- up to 100 kA (10/350 µs) lightning impulse current discharge capacity
- high insulation resistance R_{iso} > 10 GΩ
- low voltage protection level up to ≤ 2 kV
- V-wiring over multifunctional terminals possible
- no leakage-currents, therefore allowing installation upstream of power meters
- optional remote contact (/FM)

IsoPro BC TNC (3-pole)

Complete protection unit for TN-C-systems of 230/400 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IP BC TNC 60/100	255 V	1	38 11 42
IP BC TNC 60/100/FM	255 V	1	38 11 43
IP BC TNC 60/100-350	350 V	1	38 52 80
IP BC TNC 60/100/FM-350	350 V	1	38 52 90
IP BC TNC 25/75	255 V	1	38 12 18
IP BC TNC 25/75/FM	255 V	1	38 12 19
IP BC TNC 25/75-350	350 V	1	38 53 00
IP BC TNC 25/75/FM-350	350 V	1	38 53 10

IsoPro BC TNS (4-pole)

Complete protection unit for TN-(C)-systems of 230/400 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IP BC TNS 60/100	255 V	1	38 11 47
IP BC TNS 60/100/FM	255 V	1	38 11 48
IP BC TNS 60/100-350	350 V	1	38 53 20
IP BC TNS 60/100/FM-350	350 V	1	38 53 30
IP BC TNS 25/100	255 V	1	38 12 22
IP BC TNS 25/100/FM	255 V	1	38 12 23
IP BC TNS 25/100-350	350 V	1	38 53 40
IP BC TNS 25/100/FM-350	350 V	1	38 53 50

IsoPro BC TT (4-pole, 3+1NPE)

Complete protection unit for TT-systems of 230/400 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IP BC TT 60/100	255 V	1	38 11 52
IP BC TT 60/100/FM	255 V	1	38 11 54
IP BC TT 60/100-350	350 V	1	38 53 60
IP BC TT 60/100/FM-350	350 V	1	38 53 70
IP BC TT 25/100	255 V	1	38 12 26
IP BC TT 25/100/FM	255 V	1	38 12 27
IP BC TT 25/100-350	350 V	1	38 53 80
IP BC TT 25/100/FM-350	350 V	1	38 53 90

IsoPro BC, 2-pole

Combined modular 2-pole lightning and transient (switching-) surge voltage arrester for the protection of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- ready-for-connection, all-in one unit including all necessary busbars
- based on hermetically sealed, rare gas-filled isolating spark gaps
- no blow-out vents, therefore not requiring any safety distances
- up to 100 kA (10/350 µs) lightning impulse current discharge capacity
- high insulation resistance R_{iso} > 10 GΩ
- low protection level up to ≤ 2 kV
- V-wiring over multifunctional terminals possible
- no leakage-currents
- optional remote contact (/FM) not requiring any additional space

IsoPro BC TN (2-pole)

Complete protection unit for single-phase TN-net systems of 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IP BC TN 60/100	255 V	1	38 12 34
IP BC TN 60/100/FM	255 V	1	38 12 35
IP BC TN 60/100 -350	350 V	1	38 54 00
IP BC TN 60/100/FM-350	350 V	1	38 54 10
IP BC TN 25/50	255 V	1	38 12 38
IP BC TN 25/50/FM	255 V	1	38 12 39
IP BC TN 25/50-350	350 V	1	38 54 20
IP BC TN 25/50/FM-350	350 V	1	38 54 30

IsoPro BC TT1+1 (2-pole, 1+1NPE)

Complete protection unit for single-phase TT-systems of 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IP BC TT1+1 60/100	255 V	1	38 11 57
IP BC TT1+1 60/100/FM	255 V	1	38 11 58
IP BC TT1+1 60/100-350	350 V	1	38 54 40
IP BC TT1+1 60/100/FM-350	350 V	1	38 54 50
IP BC TT1+1 25/100	255 V	1	38 12 30
IP BC TT1+1 25/100/FM	255 V	1	38 12 31
IP BC TT1+1 25/100-350	350 V	1	38 54 60
IP BC TT1+1 25/100/FM-350	350 V	1	38 54 70

IsoPro Kompakt BC TNC…TNS…TT with LED displays

Multi-pole lightning and transient (switch) surge voltage arrester for the protection of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0A-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- based on hermetically sealed, rare gas-filled isolating spark gaps
- no blow-out vents, therefore not requiring any safety distances
- compact single small housing
- up to 100 kA (8/80 µs) lightning impulse current discharge capacity
- high insulation resistance R_{iso} > 10 GΩ
- low protection level up to ≤ 2 kV
- optical control of each protection line via green LED displays
- optional remote contact (/FM) not requiring any additional installation space

IsoPro Kompakt BC TNC

Complete protection circuit for TN-C-systems of 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IPK BC TNC 275	255 V	1	38 11 70
IPK BC TNC 275/FM	255 V	1	38 11 71
IPK BC TNC 350	350 V	1	38 54 80
IPK BC TNC 350/FM	350 V	1	38 54 90

IsoPro Kompakt BC TNS

Complete protection circuit for TN(C) -S-systems of 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IPK BC TNS 275	255 V	1	38 11 72
IPK BC TNS 275/FM	255 V	1	38 11 73
IPK BC TNS 350	350 V	1	38 55 00
IPK BC TNS 350/FM	350 V	1	38 55 10

IsoPro Kompakt BC TT

Complete protection circuit for TT-systems of 230 V, 50 Hz nominal voltage.

type	max.operating voltage AC	pcs	Art.No.
IPK BC TT 275	255 V	1	38 11 74
IPK BC TT 275/FM	255 V	1	38 11 75
IPK BC TT 350	350 V	1	38 55 20
IPK BC TT 350/FM	350 V	1	38 55 30

Surge voltage protectors (class II T2), leakage-current free

EnerPro C TNC…TNS…TT with green LED display

Multipole surge voltage arrester for the protection of low-voltage electrical distribution systems for industrial, commercial and private use. Suitable for the installation at the 0B-1 boundaries according to the Lightning Protection Zone Concept of IEC 61312. Coordination with upstream installed PowerPro or IsoPro possible.

- compact housing, safety connection
- surge voltage protector based on isolating spark-gap technology
- coordination with upstream installed lightning current arrester possible
- large multifunctional terminals for 50 mm² cable cross sectional
- leakage-current free to protect foundation grounding system
- optional remote contact (/FM)
- line and arrester function control via green LED

EnerPro C TN (single-phase, L, N)

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

Nom. impulse discharge current (8/20µs) = 15 kA
Max. impulse discharge current (8/20µs) = 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C TN 275	275 V	1	38 12 47
EP C TN 275/FM	275 V	1	38 12 48
EP C TN 350	350 V	1	38 55 40
EP C TN 350/FM	350 V	1	38 55 50

EnerPro C TNC

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

Nom. impulse discharge current (8/20µs)=15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C TNC 275	275 V	1	38 11 76
EP C TNC 275/FM	275 V	1	38 11 77
EP C TNC 350V	350 V	1	38 55 60
EP C TNC 350/FM	350 V	1	38 55 70

EnerPro C TNS

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

Nom. impulse discharge current (8/20µs)=15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C TNS 275	275/480 V	1	38 11 78
EP C TNS 275/FM	275/480 V	1	38 11 79
EP C TNS 350	350 V	1	38 55 80
EP C TNS 350/FM	350 V	1	38 55 90

EnerPro C TT1+1

(single phase, 1x L- N, + 1x N-PE)
2-pole (1+1)surge voltage arrester with NPE spark gap for 230/400 V, 50 Hz nominal voltage systems

Nom. impulse discharge current (8/20µs)=15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C TT1+1 275	275/480 V	1	38 11 82
EP C TT1+1 275/FM	275/480 V	1	38 11 83
EP C TT1+1 350 NEW	350 V	1	38 11 88
EP C TT1+1 350/FM	350 V	1	38 11 91

EnerPro 280Tr

Small size, 2-pole high performance arrester for 230/400 V, 50 Hz nominal voltage systems, for particularly space-saving installation! Size only 1TE (DIN) …17.5 mm!
Nom. impulse discharge current (8/20µs) = 15 kA
Max. impulse discharge current (8/20µs) = 18 kA

type	max.operating voltage AC	pcs	Art.No.
EnerPro280Tr	275 V	1	38 20 28
EnerPro280Tr/Pk	275 V	1	38 20 29

Ener Pro C TT (3-phase, L-N+NPE)

4-pole surge voltage arrester for 230/400 V, 50 Hz nominal voltage systems
Nom. impulse discharge current (8/20µs)=15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C TT 275	275 V	1	38 11 80
EP C TT 275/FM	275 V	1	38 11 81
EP C TT 350 NEW	350 V	1	38 56 00
EP C TT 350/FM	350 V	1	38 56 10

EnerPro C TN 275-D NEW

A surge protective device which makes the protection of 1-ph TN sytems in the sub- distribution panel by only one unit possible.

type	pcs	Art.No.
EP C TN 275-D	1	38 12 52

EnerPro C TN 75
2-pole surge arrester with LED-display

type	pcs	Art.No.
EP C TN 75	1	38 14 00
EP C TN 75/FM	1	38 14 05

Surge voltage protectors (class II T2), pluggable

EnerPro C S TNC…TNS…TT with failure indication
Single- and multi-pole surge voltage arresters for the protection of low-voltage electrical systems for industrial, commercial and private use against transient voltage surges. Suitable for the installation at the 0B-1 boundaries according to the Lightning Protection Zone Concept. Coordination with upstream installed PowerPro or IsoPro possible.

- multipole all-in-one unit: basic socket unit with plugged-in protection modules
- possible to coordinate with upstream installed LEUTRON lightning current arresters
- fitted with multifunctional connection terminals
- optional remote contacts (/FM) installed in the socket unit
- readiness /green signal, protection failure /red signal

EnerPro C S TN
2-pole surge voltage arrester for 230/400 V, 50 Hz nominal voltage systems

Nom. impulse discharge current (8/20µs)=20 kA
Max. impulse discharge current (8/20µs)=40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S TN 275	275 V	1	38 12 40
EP C S TN 275/FM	275 V	1	38 12 41
EP C S TN 350	350 V	1	38 56 20
EP C S TN 350/FM	350 V	1	38 56 30

EnerPro C S TNC
3-pole surge voltage arrester for 230/400 V, 50 Hz nominal voltage systems
Nom. impulse discharge current (8/20µs)=20 kA
Max. impulse discharge current(8/20µs)=40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S TNC 275	275 V	1	38 10 30
EP C S TNC 275/FM	275 V	1	38 10 35
EP C S TNC 350	350 V	1	38 56 40
EP C S TNC 350/FM	350 V	1	38 56 50

EnerPro C S TNS
4-pole voltage arrester for 230/400 V, 50 Hz nominal voltage systems

Nom. impulse discharge current (8/20µs)=20 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S TNS 275	275 V	1	38 10 50
EP C S TNS 275/FM	275 V	1	38 10 55
EP C S TNS 350	350 V	1	38 56 60
EP C S TNS 350/FM	350 V	1	38 56 70

EnerPro C S TT1+1
2-pole (1+1NPE) surge voltage arrester for 230/400 V, 50 Hz nominal voltage systems

Nom. impulse discharge current (8/20µs)=20 kA
Max. impulse discharge current(8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S TT1+1 275	275 V	1	38 10 24
EP C S TT1+1 275/FM	275 V	1	38 10 25
EP C S TT1+1 350	350 V	1	38 56 80
EP C S TT1+1 350/FM	350 V	1	38 56 90

EnerPro C S TT (3L-N,1NPE)
4-pole (3+1NPE) voltage arrester for 230/400 V, 50 Hz nominal voltage systems

Nom. impulse discharge current (8/20µs)=20 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S TT 275	275 V	1	38 10 40
EP C S TT 275/FM	275 V	1	38 10 45
EP C S TT 350	350 V	1	38 57 00
EP C S TT 350/FM	350 V	1	38 57 10

EnerPro C S T 75
1-pole modular surge voltage arrester for max. 75 V operating voltage

Nom. impulse discharge current (8/20µs)=15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S T 75	75 V	1	38 12 60
EP C S T 75/FM	75 V	1	38 12 65

EnerPro C S T 130

1-pole modular surge voltage arrester for max . 130 V operating voltage

Nom. impulse discharge current (8/20µs)= 20 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S T 130	130 V	1	38 12 45
EP C S T 130/FM	130 V	1	38 12 50

EnerPro C S T 275

1-pole modular surge voltage arrester for max 275 V operating voltage

Nom. impulse discharge current (8/20µs)= 20 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S T 275	275 V	1	38 12 70
EP C S T 275/FM	275 V	1	38 12 75

EnerPro C S T 440

1-pole modular surge voltage arrester for max 440 V operating voltage (IT systems).

Nom. impulse discharge current (8/20µs)= 15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S T 440	440 V	1	38 13 00
EP C S T 440/FM	440 V	1	38 13 05

EnerPro C S T 350

1-pole modular surge voltage arrester for max. 350 V operating voltage

Nom. impulse discharge current (8/20µs)= 20 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S T 350	350 V	1	38 57 20
EP C S T 350/FM	350 V	1	38 57 30

EnerPro C S T 550

1-pole modular surge voltage arrester for max 550 V operating voltage

Nom. impulse discharge current (8/20µs)= 15 kA
Max. impulse discharge current (8/20µs)= 40 kA

type	max.operating voltage AC	pcs	Art.No.
EP C S T 550	550 V	1	38 13 10
EP C S T 550/FM	550 V	1	38 13 15

SP C S -N/PE

NEW

According to DIN V VDE V0 100-534:1999-04, an isolating element like a spark-gap must be inserted between neutral conductor "N" and ground terminal "PE", in the case of TT-systems, in either the 1+1 or in the 3+1 circuit.

N-PE surge arrester

type	i_N(8/20)	i_{imp}(10/350)	pcs	Art.No.
SP C S N/PE	20 kA	12 kA	1	38 12 46
SP C S NPE/FM	20 kA	12 kA	1	38 12 58

Replacement protection modules for EnerPro C S

Suitable for all 1-, 2-, 3- and 4-pole arresters of the EnerPro C S series. Replacement of the pluggable modules can be effected without interrupting the supply voltage and without removing the terminal protection cover of the distribution panel.




plug-in modules (MOV)

type	U_N	i_{SN}	pcs	Art.No.
EP C S 75	75 V	15 kA	1	38 12 62
EP C S 130	130 V	15 kA	1	38 12 56
EP C S 275	275 V	20 kA	1	38 12 42
EP C S 350	350 V	20 Ka	1	38 57 40
EP C S 440	440 V	15 kA	1	38 13 02
EP C S 550	550 V	15 kA	1	38 13 12

Surge voltage protectors (class III T3), leakage current-free

EnerPro D TN…TNC...TNS…TT with green LED display

Multipole surge voltage arrester for the protection from transient voltage surges of the power supply units of electronic equipments in switching- and control panels. Also suitable for the power supply protection of sensitive electric devices. Nominal surge discharge current = 5 kA (8/20µs).

- easy-to-handle compact housing requiring a minimum of installation space
- very low longitudinal and transverse voltage protection level; for power consumption up to 16 A
- no leakage currents to grounding system (protects grounder against corrosion!)
- possible to coordinate with upstream installed SPDs
- line function and equipment control by LED
- optional remote contact (/FM)

EP D TN 275 (2-pole, 1 TE…DIN)

max.operating voltage AC = 275 V
line voltage = 230 V AC

type	pcs	Art.No.
EP D TN 275	1	38 12 54
EP D TN 275/FM	1	38 12 55

EP D TNC 275 (3-pole,2 TE…DIN)

max.operating voltage AC = 275 V
line voltage = 230 V/400 V

type	pcs	Art.No.
EP D TNC 275	1	38 05 24
EP D TNC 275/FM	1	38 05 25

EP D TNS 275 (4-pole, 2 TE…DIN)

max.operating voltage AC = 275 V
line voltage = 230 V/400 V

type	pcs	Art.No.
EP D TNS 275	1	38 05 30
EP D TNS 275/FM	1	38 05 31

EP D TT1+1 275 (2-pole, 1 TE…DIN)

Nominal surge discharge current = 5 kA [L-N] (8/20µs)
max.operating voltage AC= 275 V line voltage =230 V

type	pcs	Art.No.
EP D TT1+1 275	1	38 05 38
EP D TT1+1 275 /FM	1	38 05 39

EP D TT2+1 275

Nominal surge discharge current[L-N]= 5 kA, [N-PE]=20 kA
max.operating voltage AC= 275 V ine voltage=230 V/400 V

type	pcs	Art.No.
EP D TT2+1 275	1	38 05 40
EP D TT2+1 275/FM	1	38 05 41

EP D TT 275 (4-pole, 3+1; 2 TE…DIN))

Nominal surge discharge current [L-N]= 5 kA
max.operating voltage AC = 275 V line voltage=230 V/400 V

type	pcs	Art.No.	Preis/St.
EP D TT 275	1	38 05 35	132,40
EP D TT 275/FM	1	38 05 36	175,80

EnerPro D TN 24V-230V/16A

Two-pole surge voltage protective device for the protection from transient voltage surges of the power supply units of electronic equipment in switching and control panels. Nominal surge discharge current =5 kA (8/20µs)

- easy-to-handle compact housing
- longitudinal and transverse voltage protection for power consumption up to 16A
- no leakage currents to grounding system
- possible to coordinate with upstream installed SPD's
- line function and equipment control by LED
- optional remote contact (/FM) not requiring any additional installation space

EP D TN 24V/16A

max.operating voltage = 30 V AC/DC
nominal voltage = 24 V

type	pcs	Art.No.
EP D TN 24V/16A	1	38 05 50
EP D TN 24V/16A/FM	1	38 05 51

EP D TN 48V/16A

max.operating voltage = 60 V AC/DC
nominal voltage = 48 V

type	pcs	Art.No.
EP D TN 48V/16A	1	38 05 53
EP D TN 48V/16A/FM	1	38 05 54

EP D TN 60V/16A

max.operating voltage = 75 V AC/DC
nominal voltage = 60 V

type	pcs	Art.No.
EP D TN 60V/16A	1	38 05 56
EP D TN 60V/16A/FM	1	38 05 57

EP D TN 120V/16A

max.operating voltage AC= 150 V AC/DC
nominal voltage = 120 V AC/DC

type	pcs	Art.No.
EP D TN 120V/16A	1	38 05 59
EP D TN 120V/16A/FM	1	38 05 60

EP D TN 230V/16A

max.operating voltage = 255 V AC/DC
nominal voltage = 230 V AC/DC

type	pcs	Art.No.
EP D TN 230V/16A	1	38 05 62
EP D TN 230V/16A/FM	1	38 05 63

Surge voltage protectors (class III T3)

NEW

Combi Pro S (German 16A "SCHUKO" plug/socket)

Plug-in surge protective devices for the protection of the electric power supply for electronic equipment with a line voltage of 230 V, combined with protection circuit for analogous and digital telephone lines, EDP networks and antenna inputs (TV, Radio, SAT)

- excellent voltage protection level
- extremely quick response-time (25 ns)
- optical function control display by LED
- SCHUKO plug for 230 V AC supply
- available with CEE - AC plug upon request

type	pcs	Art.No.
CPS 230 Fax/Tel	1	32 50 10
CPS 230 ISDN	1	32 50 20
CPS 230 Network	1	32 50 30
CPS 230 SAT	1	32 50 40

EnerPro 220 Zw

Single phase class III T3 surge voltage protective SCHUKO adapter plug/socket for equipment protection.

- optical function control display via LED
- including safety thermal disconnection mechanism

type	pcs	Art.No.
EnerPro 220 Zw	1	60 00 22

NM 220V/5kA

Surge voltage protection module for the protection of single-phase 230 V equipment with max. 16 A power consumption; without LED.

- compact module for built-in installation, screw mounting
- longitudinal and transverse voltage protection
- no leakage current to grounding system due to built in GDT

type	pcs	Art.No.
NM 220V/5kA	1	36 05 22

EnerPro 230 SDU

Single phase surge voltage protective device for the protection of electronic equipment, suitable to retrofit in flush mounted 230 V sockets installed in deep boxes or installation channels.

- acoustic failure signal
- including safety thermal disconnection mechanism

type	pcs	Art.No.
EnerPro 230 SDU	1	24 00 02

Surge voltage protectors (class II T2 +class III T3)

Equipment protection with increased discharge capacity

Single phase, 2-pole surge voltage arrester for increased protection of low-voltage electrical systems for industrial, commercial and private use. Suitable for the installation at the 1-2 boundaries according to the Lightning Protection Zone Concept of IEC 61312.

- compact small size single housing
- for equipment with max. power consumption 16 A AC
- high-performance arrester for single-phase 230 V AC
- possible to coordinate with upstream installed LEUTRON class I T1

EnerPro 220Tr/20kA

Nominal impulse discharge current =20 kA (8/20µs)
Max. operating voltage = 275 V AC
Status control display: LED green (power: on)
Error display signal:LED red (error: on)optional
optional remote contact **(PK)**

type	pcs	Art.No.
EnerPro 220Tr/20kA	1	38 20 22
EnerPro 220Tr/20kA/Pk	1	38 20 23

EnerPro 120CG/EnerPro 230CG

Arrester status control display:
LED green (readiness: on)
Nom. impulse discharge current (8/20µs): 10 kA
Note: for installation on DIN-C or G-rail

type	EnerPro 120CG/10kA	EnerPro 230CG/10kA
max.operating voltage AC	165 V	275 V

type	pcs	Art.No.
EnerPro 120CG/10kA	1	39 10 11
EnerPro 230CG/10kA	1	39 10 22

NM 220V/20kA(without LED!)

Nominal impulse discharge current = 20 kA (8/20µs)

- compact protection module, for built-in
- installation screw mounting (s.o.)
- longitudinal and transverse voltage protection
- no leakage current to grounding system due to built in GDT (s.o.)

type	max.operating voltage	pcs	Art.No.
NM 220V/20kA	275 V	1	36 20 22
NM 220V/20kA/Pk	275 V	1	36 20 23

EnerPro D 230 SM

Universal applicable overvoltage protectio for equipments or device with up to 16A pre-fuse.
2- pole mini- SPD type T3 (fine protection)

type	pcs	Art.No.
EP D 230 SM	1	36 20 30

Cathodic Corrosion Protection Systems (CCPS)

EnerPro 65V/12A-G-Tr

2-pole surge voltage protective device for operating currents up to 12A with an impulse current resistivity of nominal 20 kA (8/20 µs) for particularly sensitive electronic rectifiers on the anode side of CCPS. Two-step protection system: coarse and fine protection. SNAM-execution.

- high performance arrester, max. 65 V DC operating voltage
- including low-pass filter
- direct grounding by special screw
- mounting on DIN-C or G-rail using attached mounting adapter
- max. operating current: 12 A DC

type	max.operating voltage DC	pcs	Art.No.
EnerPro 65V/12A-G-Tr	65 V	1	29 65 12

DataPro2x1-RLC/50V-G-Tr

Two-pole surge voltage protective device for operating currents up to 100 mA with an impulse current resistivity of nominal 20 kA (8/20 µs) for particularly sensitive electronic measuring circuit of CCPS rectifier. Two-step protection system: coarse and fine protection. SNAM-execution.

- high performance arrester, max. 50 V DC operating voltage
- including low-pass filter
- mounting on DIN-C or G-rail using attached mounting adapter

type	max.operating voltage DC	pcs	Art.No.
DataPro 2x1-RLC/50V-G-Tr	50 V	1	29 50 00

EnerPro CV 2P 65V/63A-LED NEW

- direct mounting on 35 mm DIN-C rail
- operating current up to 63 A

also execution without LED

type	max.operating voltage	pcs	Art.No.
EP CV 2P 65V/63A-LED	65 V	1	38 20 80
EP CV 2P 65V/63A/FM-LED	65 V	1	38 20 83
EP CV 2P 65V/63A/FM	65 V	1	38 20 79

EnerPro 65V/12A-Tr

Zweipoleer Überspannungsschutz für Betriebsströme up to 12 A with einer Stoßstrombelastbarkeit von 20 kA (8/20µs) für empfindliche elektronische Geräte. Zweistufiger Aufbau.

- high performance arrester
- max. 65 V DC operating voltage
- mounting on 35 mm DIN-C rail
- max. operating current: 12 A

type	max.operating voltage DC	pcs	Art.No.
EnerPro 65V/12A-Tr	65 V	1	29 60 00
EnerPro 65V/12A-Tr/FM	65 V	1	29 60 02

KatPro RG-440

Complete solution for active Cathodic Corrosion System of a pipe-line.

type	pcs	Art.No.
KatPro RG-440	1	34 30 10

Other available products for cathodic corrosion protection:

PLPro…/A
for AC -current mitigation, caused by induced AC-high voltages , e.g. on pipelines page 33

TC 100 A und TC 500 A
ATEX-approved Ex-protected isolating spark gaps e.g. on pipelines page 30

SGO 70 QA und SGO 350 QA
Isolating spark gaps with cable, for pipeline underground application page 31

DataPro 2x1-RLC/50V-Tr
for data, signal and power supply lines with asymmetrical data transmission, for protection of measuring circuit on the anode side of CCPS rectifier page 21

Photovoltaic Systems

EnerPro 502 / 1002 Tr / EnerPro 503 / 1003-Tr

These LEUTRON arresters serve to protect DC voltage systems. When used in PV-installations, they are installed in the generator connection box and on the DC side of the AC converter.

type	nominal DC voltage	nom. impulse discharge current	pcs	Art.No.
EnerPro 502 Tr	500 V	10 kA	1	38 20 55
EnerPro 502 Tr/Pk	500 V	10 kA	1	38 20 57
EnerPro 802 Tr	800 V	5 kA	1	39 50 04
EnerPro 802 Tr/Pk	800 V	5 kA	1	39 50 05
EnerPro 1002 Tr	1000 V	5 kA	1	39 50 02
EP 502/20kA-Tr	500 V	20 kA	1	39 50 12
EP 802/20kA-Tr	800 V	20 kA	1	39 50 14
EP1002/20kA-Tr	1000 V	20 kA	1	39 50 16
EP 503-Tr	500 V	10 kA	1	39 50 20
EP 803-Tr	800 V	10 kA	1	39 20 26
EP 1003-Tr	1000 V	5 kA	1	39 50 03

EnerPro PH 100

NEW

4-pole class II T2 (category C) surge voltage arrester for the protection of DC charge controllers in photovoltaic and solar energy installations.

- Arrester based on varistors (MOV) and gas discharge tubes (GDT); leakage-current free!
- impulse discharge current limit : 20 kA (8/20 µs)
- solid, compact housing
- multifunctional terminal up to cable cross-sectional of 35-50 mm²

type	nominal DC voltage	nom. impulse discharge current	pcs	Art.No.
EnerPro PH 100	100 V	20 kA	1	39 50 18
EnerPro PH 100/FM	100 V	20 kA	1	39 50 19

EnerPro150Tr/Pk

Surge voltage protector for equipment and installations up to 100 A and 150 V.

- high performance arrester
- function control indication by LED
- built in remote signal contact (NC-contact) with biconnect terminal block (/Pk)
- surge voltage protection via valve-arrester (MOV+GDT); leakage-current free)

type	pcs	Art.No.
EnerPro150 Tr/Pk	1	38 20 25

EnerPro 48V/100A-Tr

Surge voltage protector for equipment power supplies and installations up to 100A and 48V AC/DC.

- high perform. arrester for 48V AC/DC operating voltage
- surge voltage protection via valve arrester (leakage-current free)
- function control indication by LED
- optional pluggable potential free signal contact (/Pk)

type	pcs	Art.No.
EnerPro 48V/100A-Tr	1	38 20 70
EnerPro 48V/100A-Tr/Pk	1	38 20 71

EnerPro…-6A/LED

2-pole surge voltage protector for electric and electronic equipments up to 6A operating current.

type	nom.operating voltage DC	pcs	Art.No.
EnerPro 12V-6A/LED	12 V	1	24 12 02
EnerPro 24V-6A/LED	24 V	1	24 24 02
EnerPro 36V-6A/LED	36 V	1	24 36 02

EnerPro…-20A/LED

NEW

3-pole surge protection u to 20A DC. Overoltage protection of electrical and electronic DC equipments.

type	nom.operating voltage DC	pcs	Art.No.
EP 12V-20A/LED	12 V	1	24 12 03
EP 24V-20A/LED	24 V	1	24 24 03
EP 36V-20A/LED	36 V	1	24 36 03
EP 48V-20A/LED	48 V	1	24 48 03

EnerPro Y PV 1000

NEW

Multi-pole, ready for wiring, pluggable surge arrester SPD class II (type 2) category C.
It is especially designed for the installation in photovoltaic systems to protect the DC-generator circuit in the generator panel.

type	pcs	Art.No.
EP Y PV 1000	1	39 50 30
EP Y PV 1000/FM	1	39 50 31

Protectors with EMI filter up to 200 A

EnerPro Filter

NEW

Combined multi-pole class II T2 and III T3 surge voltage arrester for the protection of multipole 230/400 V TN-mains, with EMI filter. The low-pass EMI filter eliminates high-frequency interferences in the mains caused either by lightning or by switching operations. The impulse current discharge capability can reach up to 25 kA (8/20 µs).

EnerPro Filter 230V/xxA-Tr

For the surge protection in single phase TN power net with very sensitive electronics.
The new developed protective device in only one single unit contains an integrated low-pass filter and a coarse and fine protection circuit by high performance MOV's, with optimized decoupling. All built-in protection components with possible leakage current are galavanical separated from ground potential by a high performance reliable GDT.

type	pcs	Art.No.
EPF 230V/16A-Tr	1	25 30 16
EPF 230V/25A-Tr	1	25 30 17

EnerPro…V-Tr

Two-pole, class II+III, T2+T3 (category C+D) surge voltage with GDT and suppressor diodes for sensitive electronic devices with operating currents up to 6 A. With an impulse current resisitivity of 20 kA (8/20 µs). Two-step coarse and fine protective circuit with integrated low-pass filter.

- high performance AC/DC arrester for 24 V up to 60 V DC operating voltage
- installation either directly on mounting plate or on 35 mm DIN rail

type	max.operating voltage DC	pcs	Art.No.
EnerPro 12V-Tr	12 V	1	24 12 00
EnerPro 24V-Tr	24 V	1	24 24 00
EnerPro 36V-Tr	36 V	1	24 36 00
EnerPro 48V-Tr	48 V	1	24 48 00
EnerPro 60V-Tr	60 V	1	24 60 00

EnerPro-EL/PB

Suitable for applications up to 1400V!
Single-pole surge voltage protector, for use between medium voltage line and discharge grounding point serving as lightning and surge voltage protector.
Application example: in railway systems.

- limit of impulse discharge current: 25 kA (8/20 µs)
- static AC sparkover voltage: > 1540 V
- impulse DC sparkover voltage: < 2800 V
- solid and robust macrolon housing

type	max.operating voltage DC	pcs	Art.No.
EnerPro-EL/PB	1400 V	1	89 40 00

2-pole EnerPro Filter up to 35 A

Combined multi-pole class II T2 and III T3 surge voltage arrester for the protection of multipole 230 V TN-mains, with EMI filter. The low-pass EMI filter eliminates high-frequency interferences in the mains caused either by lightning or by switching operations. The impulse current discharge capability can reach up to 25 kA (8/20 µs).

type	Installation	pcs	Art.No.
EPF 48V/16A-S	vertical	1	25 30 19
EPF 60V/16A-S	vertical	1	25 30 22
EPF 48V/25A-S	vertical	1	25 30 53
EPF 230V/16A-S	vertical	1	25 30 20
EPF 230V/35A-S	vertical	1	25 30 85
EPF 230V/16A-W	horizontal	1	25 30 25

4-pole EnerPro Filter up to 35 A

Combined multi-pole class II T2 and III T3 surge voltage arrester for the protection of multipole 230/400 V TN-mains, with EMI filter (low pass filter)

- leackage current free
- Protects the undamental grounding system against AC-current corrosions.
- For power supplies of sensitive systems equipents and devices.
- The impulse current discharge capability can reach up to 25 kA (8/20 µs).

EPF 230/400V/35A-W

type	Montage	pcs	Art.No.
EPF 230/400V/16A-W	horizontal	1	25 30 45
EPF 230/400V/25A-W	horizontal	1	25 30 80
EPF 230/400V/35A-W	horizontal	1	25 31 00

4-pole EnerPro Filter up to 200 A

Combined multi-pole class II T2 and III T3 surge voltage arrester for the protection of multipole 230/400 V TN-mains, with EMI filter (low pass filter).

- leackage current free
- Protects the undamental grounding system against AC-current corrosions.
- For power supplies of sensitive systems equipents and devices.
- impulse current discharge capability can reach up to 25 kA (8/20 µs)

NEW

EPF 230/400V/200A-E

type	pcs	Art.No.
EPF 230/400V/63A-E	1	25 31 30
EPF 230/400V/100A-E	1	25 31 40
EPF 230/400V/200A-E	1	25 31 60

Insulating material housing

Insulated housing for the installation of lightning and surge voltage protective devices including 35 mm DIN mounting rail with integrated, elastic sealing membrane for cable insertion, cable insertion blind and transparent door.

- ambient protection: IP 54
- with transparent door opening to the side
- lead-sealable
- rated insulation voltage for 400 V AC nom. operation voltage
- grey coloured housing
- dimensions (WxHxD) [mm]

type	WxHxD[mm]	pcs	Art.No.
GE-3TE-IP54	102x197x92	1	89 20 20
GE-6TE-IP54	146x238x111	1	89 20 21
GE-9TE-IP54	200x238x111	1	89 20 22
GE-12TE-IP54	295x333x129	1	89 20 23

Insulated housing for lightning and Surge Protective Devices (SPD) on mounting rail or metal ground plate.

- ambient protection IP 54/IP 65, depending on sealing of cable input
- with transparent door, opening to the top lead-sealable
- grey coloured housing
- dimensions (WxHxD) [mm]

type	WxHxD[mm]	pcs	Art.No.
GE-4TE-IP54/IP65	136x253x115	1	89 20 30
GE-7TE-IP54/IP65	168x253x115	1	89 20 31
GE-10TE-IP54/IP65	217x253x115	1	89 20 32

Housing for lightning current arresters suitable for lightning potential equalization in low voltage systems. Suitable for OA-2 protection levels according to the Lightning Protection Zone Concept of IEC 61312. Also available on request with DIN mounting rail or mounting plate.

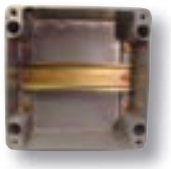
- ambient protection: IP 65
- with transparent cover
- lead-sealable
- grey coloured housing
- dimensions (WxHxD) [mm]

type	WxHxD[mm]	pcs	Art.No.
GE-1-16TE-IP65/150	300x150x170	1	89 20 40
GE-1-16TE-IP65/300	300x300x170	1	89 20 41
GE-1-16TE-IP65/450	300x450x170	1	89 20 42

Aluminium housings

Suitable for installation of surge voltage protective devices on DIN mounting rail.

- ambient protection: IP 65
- housing and cover made from diecast aluminium alloy
- cover containing neoprene seal with round cross-section profile
- dimensions (WxHxD) [mm]



mounting example

type	WxHxD[mm]	pcs	Art.No.
GE-ALU-IP65/122	122x120x80	1	89 20 50
GE-ALU-IP65/220	220x120x90	1	89 20 51
GE-ALU-IP65/160	160x160x90	1	89 20 52
GE-ALU-IP65/260	260x160x90	1	89 20 53

Steel housing

Housing for EPF (w/o illustration)
empty enclosure for 63A and 100A low pass-filter

type	pcs	Art.No.
FAG	1	89 20 60

Surge Protective Devices (SPD) for information technology equipment

SPD with coarse protection (DIN-rail)

Class I T1 (Category B) surge voltage arresters for the lightning protection of data and signal lines with an impulse current resisitivity of 5 kA (10/350 µs). This product group has been designed as surge protective device for installation at the 0A-1 boundaries acc. to the Lightning Protection Zone Concept of IEC 61312. There is a choice between either a single-step or a two-step protection circuit with low-pass filter.

- universal application
- nominal impulse discharge current 5 kA (10/350 µs)
- operating current up to 1.5 A
- mounting directly on mounting plate or on 35 mm DIN rail
- (PE) ground connection for flexible cable of cross section max. 6 mm²
- high performance arrester with GDT + supressor diodes

IsoProData-...(2-pole)

type		pcs	Art.No.
IsoProData-Tr	w/o. Filter	1	27 30 02
IsoProData-150/150V-Tr	with Filter	1	27 03 03

SPD with medium and fine protection (DIN-rail)

DataPro2x1-RLC-Tr

Two-wire (1 pair) surge voltage protector for asymmetrical data- or signal transfer, or power supply lines. This product group has been designed for the surge voltage protection of sensitive electronic equipment. It consists of a 2-step, coarse and fine protective, galvanically isolated circuits, with low-pass filter.

- up to 150V DC operating voltage
- nominal impulse discharge current up to 20 kA (8/20 µs)
- operating current up to 0.5 A
- mounting directly on mounting plate or on 35mm DIN rail

type	nominal voltage DC	pcs	Art.No.
DP2x1-RLC-Tr	150 V	1	27 00 00

DataPro2x1-RLC/50V-Tr

Two-wire (1 pair) surge voltage protector for signal and data line protection. For up to 50 V DC operating voltage equipment with an impulse discharge current resistivity up to 20 kA (8/20µs). This product has been designed for the protection of sensitive electronic equipment against transient surge voltages.

- high-performance arrester
- operating current up to 0.1 A
- mounting on 35 mm DIN rail

type	nominal voltage DC	pcs	Art.No.
DP2x1-RLC/50V-Tr	50 V	1	28 70 50

NEW

DP2-2MB-Tr

Two-wire (1 pair) surge voltage arrester with a 2-step, coarse and fine protective circuit for the protection of data and signal lines.

- high performance arrester for up to 150 V operating voltage
- nominal impulse discharge current resistivity up to 5 kA (8/20 µs)
- operating current up to 0.5 A
- mounting directly on mounting plate or on 35mm DIN rail
- suitable for ≤ 2 MBits/s transfer rate (e.g. ISDN, PCM, etc.)

type	pcs	Art.No.
DP2-2MB-Tr	1	24 00 17

DataPro2x1-...V/...V-Tr

2-wire (1 pair) signal and data line protection with low-pass filter. Surge voltage protector for DC operating voltages from 6 V up to 150 V with an impulse discharge current resistivity of nominal 20 kA (8/20 µs).

- high performance arrester
- operating current up to 0.5 A
- mounting directly on mounting plate or on 35 mm DIN rail

type	nominal voltage DC	pcs	Art.No.
DataPro2x1-6V/6V-Tr	6V	1	27 06 06
DataPro2x1-12V/12V-Tr	12 V	1	27 12 12
DataPro2x115V/15V-Tr	15 V	1	27 15 15
DataPro2x1-24V/24V-Tr	24 V	1	27 24 24
DataPro2x1-30V/30V-Tr	30 V	1	27 30 30
DataPro2x1-36V/36V-Tr	36 V	1	27 36 36
DataPro2x1-48V/48V-Tr	48 V	1	27 48 48
DataPro2x1-60V/60V-Tr	60 V	1	27 60 60
DataPro2x1-80V/80V-Tr	80 V	1	27 80 80
DataPro2x1-150V/150V-Tr	150 V	1	27 04 04

DataPro3x1-..V/..V-Tr

Three-wire signal and data line protection with low-pass filter. Surge voltage protector for DC operating voltages from 6 V DC up to 150 V DC with an impulse discharge current resistivity of 20 kA (8/20 µs).

- high performance arrester for 3 active wires
- operating current up to 0.5 A
- mounting directly on mounting plate or on 35 mm DIN rail

type	nominal voltage DC	pcs	Art.No.
DataPro3x1-12V/12V-Tr	12 V	1	28 12 12
DataPro3x1-15V/15V-Tr	15 V	1	28 15 15
DataPro3x1-24V/24V-Tr	24 V	1	28 24 24
DataPro3x1-30V/30V-Tr	30 V	1	28 30 30
DataPro3x1-36V/36V-Tr	36 V	1	28 36 36
DataPro3x1-48V/48V-Tr	48 V	1	28 48 48
DataPro3x1-60V/60V-Tr	60 V	1	28 60 60
DataPro3x1-150V/150V-Tr	150 V	1	28 04 04

DataPro2x1-..V/..V-0,3 Ω-Tr

NEW

Two-wire (1 pair) surge voltage protection for particularly extensive signal- and bus line lengths. Thanks to the extremely low insertion resistance (impedance only 0.3 Ω) there are practically no signal losses.

- extremely low insertion loss
- nom. impulse discharge current resistivity 20 kA (8/20 µs)
- high operating current up to 1.5 A
- 35 mm DIN rail mounting

type	max.operating voltage	pcs	Art.No.
DP2x1-12V/12V-0,3Ω-Tr	12 V	1	26 12 12
DP2x1-24V/24V-0,3Ω-Tr	24 V	1	26 24 24
DP2x1-36V/36V-0,3Ω-Tr	36 V	1	26 36 36

DataPro2x1-SDSL-Tr

Two-wire (1 pair) surge voltage arrester with a 2-step, coarse and fine protective circuit for data and signal lines. This type is particularly suitable for the protection of 24 V PLC-inputs.

- high performance arrester
- nominal impulse discharge current 5 kA (8/20 µs)
- high transfer rate up to 100 MBit/s suitable also for e.g. DSL data transfer
- nominal current up to 0.5 A
- mounting directly on mounting plate or on 35 mm DIN rail

type	nominal voltage DC	pcs	Art.No.
DataPro2x1-SDSL-Tr	6 V	1	24 00 18
DataPro2x1-24V-SDSL-Tr	24 V	1	24 00 24

DataPro4x1-SDSL-Tr

NEW

Surge voltage arrester with a two-step, coarse and fine protective circuit for 2 pair data or 4-wire signal lines.

- high performance arrester for 6 V operating voltage
- nominal impulse discharge current up to 5 kA (8/20 µs)
- high transfer rate 100 MBit/s
- nominal current up to 0.5 A
- protection level < 600 V
- mounting directly on mounting plate or on hat rail
- terminal connection: IDC (Insulation Displacement Connection)

type	nominal voltage DC	pcs	Art.No.
DataPro4x1-SDSL-Tr	6 V	1	24 00 20

NEW

DataPro2x8-36V/36V-Tr/GO

High performance 36 V DC surge arrester for data and signal (bus) lines of nominal 24 V DC.
For the protection of sensitive input/output of control and monitoring equipments. Excellent useable in e.g. Fire Alarm Central unit (FAC). To this compact protection unit, up to 8 data bus-lines can be connected. The measurement is 45x110x121 mm (space saving unit!). This SPD is equipped with a 2-stage low-pass filter.

type	pcs	Art.No.
DP2x8-36V/36V-Tr/GO	1	27 90 00
DP2x8-36V/36V-Tr/GU	1	27 90 01

Fully shielded signal and data line SPD

DataPro2x1-..V/..V

2-wire (1 pair) shielded surge voltage protectors for operating voltages from 6 V DC up to 60 V DC with an impulse discharge current resistivity of max. 25 kA (8/20 µs). With low pass filter. This product group has been designed for the higher protection of particularly sensitive electronic equipment and safety systems.

- high performance arrester
- operating current up to 0.5 A
- anodized aluminium/stainless steel housing
- optimum separation of unprotected and protected side by centrical grounding point
- mounting directly on metal mounting plate or LEUTRON M4 grounding bar (art. no. 29 70 00)

type	nominal voltage DC	pcs	Art.No.
DP2x1-6V/6V	6 V	1	20 06 06
DP2x1-15V/15V	15 V	1	20 15 15
DP2x1-24V/24V	24 V	1	20 24 24
DP2x1-30V/30V	30 V	1	20 30 30
DP2x1-36V/36V	36 V	1	20 36 36
DP2x1-48V/48V	48 V	1	20 48 48
DP2x1-60V/60V	60 V	1	20 60 60

DataPro2x1-RLC

Two-wire (1 pair) surge voltage protector suitable for universal application and asymmetric data transfer (data, signal and power supply lines). This product has been designed for particularly sensitive electronic equipment and consists of a two-step, coarse and fine , protective circuit with low-pass filter, galvanically isolated.

- arrester for up to 150 V DC operating voltage
- nominal impulse discharge current 25 kA (8/20 µs)
- operating current up to 0.5 A
- mounting directly on metal plate or LEUTRON M4 grounding bar

type	nominal voltage DC	pcs	Art.No.
DP2x1-RLC	150 V	1	20 00 00

DP2-2MB

NEW

Two-wire (1 pair) shielded surge voltage protector with a two-step coarse and fine protective circuit for data-, telecom- and signal wire systems with high speed 2 MBits/s transfer rates (e.g. ISDN, PCM, etc.).

- arrester for up to 150 V DC operating voltage
- nominal impulse discharge current up to 5 kA (8/20 µs)
- operating current up to 0.5A
- mounting directly on metal plate or LEUTRON M4 grounding bar
- **with premium metal housing**

type	nominal voltage DC	pcs	Art.No.
DP2-2MB	150 V	1	89 30 31

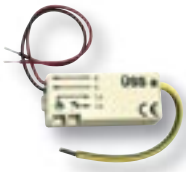
SPD for telecommnunication

DataPro-TAE/NFN-aP

Surge voltage protector for analogous telecommunications lines.

- 2-step, (5-point) coarse and fine protective circuit
- connection code NFN for faxes, modems, answering machines
- for emergency dialling devices
- T- Com standard (Germany)

type	pcs	Art.No.
DataPro-TAE/NFN-aP	1	24 00 04



DataPro-TAE-Modul

Surge voltage protector for analogous communications lines.

- 2-step (5-point) coarse and fine protective circuit
- universal international connection code
- for protection of analogous modems, fax- and answering machines,etc.
- for emergency dialling devices
- for retro-fitting of already installed telecom equipment

type	pcs	Art.No.
DataPro-TAE-Modul	1	24 00 07

DataPro-ISDN-aP

Surge voltage protector for ISDN terminals.

- with one RJ45 socket
- 2-step (5-point) coarse and fine protective circuit with coarse and fine protection
- code-free
- for the protection of ISDN devices

type	pcs	Art.No.
DataPro-ISDN-aP	1	24 00 13

SPD for RJ-connection

DataPro-RJ45-Zw

Surge voltage protector for PC's, servers etc which are connected to a data network (cat. 5) via an adaptor plug.

- 2-step (5-point) coarse and fine protective circuit
- RJ45 socket at both ends
- simple installation
- for shielded and unshielded RJ 45 plugs
- including patch cable with RJ45 – plug on both sides

type	pcs	Art.No.
DataPro-RJ45-Zw	1	24 00 15

DataPro-RJ45-48-Zw

Surge voltage protector for PC's, servers etc which are connected to a data network (cat. 5) via an adaptor plug.

- 2-step (5-point) coarse and fine protective circuit
- RJ45 socket at both ends
- simple installation
- for shielded and unshielded RJ 45 plugs
- including patch cable with RJ45 – plug on both sides
- 100 Mbit/s baudrate

type	pcs	Art.No.
DP-RJ45-48V-Zw	1	24 00 16

SPD for D-SUB connection

Surge voltage protector for serial RS 232/RS422/RS485 interfaces

- pluggable
- protection from longitudinal and transversal surge voltages
- extremely fast response time
- surge voltage fine protection for all active lines
- adaptor plug for simple installation
- suitable for retroactive fitting

type		pcs	Art.No.
DP-RS 232-D9-Zw	plug-in module	1	24 00 30
DP-RS 232-D25-Zw	plug-in module	1	24 00 50
DP-RS 232/422/485-9P	plug-in module	1	24 00 60
DP-RS 485-Tr	Din-rail mounting	1	27 04 85

SPD for 19"-technology

NEW

19" patch panels with metal housing

With up to three protected RJ45 patch panels, 8 ports for installation in any 19" frame:

- completely shielded by metal housing
- only one size: 1 HE (1 HE=470 mm)
- fitted with 8, 16 or 24 port patch panels; RJ45 on both sides

type		pcs	Art.No.
GE-ELG-1x8xRJ45-19"	8 Ports	1	19 40 10
GE-ELG-2x8xRJ45-19"	16 Ports	1	19 40 20
GE-ELG-3x8xRJ45-19"	24 Ports	1	19 40 30

DP8-RLC/19"

Surge voltage protection on printed circuit board with low-pass filter for particularly sensitive measuring equipment, e.g. in meteorological stations as plug-in card for 19″ frames.

- fitted for 8 wires
- max. nominal voltage 170 V DC/120 V AC
- max. current resistivity per wire 350 mA
- total current resistivity per 8-wire filter block: 1.2 A
- voltage protection level: < 400 V
- DC spark-over voltage approx. 230 V DC
- impulse discharge current 20 kA(8/20 µs)

type	pcs	Art.No.
DP8-RLC/19"	1	19 00 08

EP4x2-LC/19"

Surge voltage protection on printed circuit board with low-pass filter for particularly sensitive measuring equipment, e.g. in meteorological stations as plug-in card for19" frames.

- fitted with 4 x 2 pairs of wires
- max. nominal voltage 70 V DC/50 V AC
- max. current resistivity per 1 pair of wires: 4 A
- total current resistivity per 8-path filter block: 2.4 A
- protection level < 600 V
- DC spark-over voltage approx. 230 V DC
- impulse discharge current 2x 10 kA (8/20 µs)

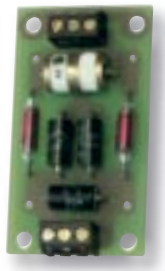
type	pcs	Art.No.
EP4x2-LC/19"	1	19 00 42

ErP58 (grounding plate) (w/o illustration) NEW

For insertion of either DP8-RLC/19″ and/or EP4x2-LC/19″ card.

type	pcs	Art.No.
ErP58	1	19 00 58

Printed circuit board with coarse and fine protection, including filter



Data Pro Z for 1 pair of wires

Is a compact protective circuit on single pc-board 52 x 29 mm) which has been designed for the protection of particularly sensitive electronic equipment.

- compact construction
- universally applicable
- nominal current up to 0.3 A
- many voltage variation possibilities
- high discharge capacity (wire-to-ground 20kA at 8/20 µs)
- maintenance-free

type	nominal voltage DC	pcs	Art.No.
DataPro Z-6V/6V	6 V	1	22 06 06
DataPro Z-12V/12V	12 V	1	22 12 12
DataPro Z-15V/15V	15 V	1	22 15 15
DataPro Z-24V/24V	24 V	1	22 24 24
DataPro Z-30V/30V	30 V	1	22 30 30
DataPro Z-36V/36V	36 V	1	22 36 36
DataPro Z-48V/48V	48 V	1	22 48 48
DataPro Z-60V/60V	60 V	1	22 60 60
DataPro Z-RLC	150 V	1	23 00 00

SPD for coaxial connection

DataPro-GSM-SMA NEW

Lightning protection of antennae for RF-controlled equipment, transmitters and receivers. Surge voltage protection for sensitive GSM modems with SMA-Coax antenna connector.

- high performance arrester
- very small dimensions
- nominal impulse discharge current capability 10 kA (8/20 µs)
- max. operating voltage 10 V, DC
- single-hole installation = grounding point
- high frequency band rate: DC - 2 GHz

type	pcs	Art.No.
DataPro-GSM-SMA	1	54 43 47

DataPro-GSM-FME NEW

Surge voltage protection for sensitive GSM-modems with FME - Coax antenna connector.

- high performance arrester
- nominal impulse discharge current 10 kA (8/20 µs)
- max. operating voltage 10 V, DC
- high frequency band rate: DC - 2 GHz

type	pcs	Art.No.
DataPro-GSM-FME	1	54 43 49

AntPro Koax-GSM-N/230(f/f)

AntPro Koax-GSM-N/230

AntPro Koax-GSM-N/230 NEW

Surge voltage protection for sensitive GSM- and other antenna systems with N-connector.

- high performance arrester
- nominal impulse discharge current 20 kA (8/20 µs)
- impedance 50 Ω
- broadband applic., band rate from DC - 2.5 GHz

type	pcs	Art.No.
AntPro Koax-GSM-N/230	1	04 00 01
AntPro Koax-GSM-N/230(f/f)	1	04 00 04

DataPro Koax-8V-BNC

Surge volt. protect. for electronic equipm., equipped with BNC coaxial connector (BNC/f, BNC/m).

- high performance arrester
- nominal impulse discharge current 10 kA (8/20 µs)
- max. operating voltage 8 V, DC
- for example video-monitoring cameras

type	pcs	Art.No.
DataPro Koax-8V-BNC	1	54 43 46
DataPro Koax-8V-BNC-75Ω	1	54 43 40

SPD for antenna protection up to 5.8 GHz

Lightning current surge protectors for frequencies from 80 MHz up to 2.4 GHz

These products serve as protectors for passive receiver and transmitter antenna.

- high performance antenna protect. by λ/4 stubline
- protects transmitters with antenna up to 500 W output power
- bracket mounting and grounding
- N-connection (m)

type	pcs	Art.No.
AntPro 80 MHz	1	04 00 80
AntPro 150 MHz	1	04 01 50
AntPro 420 MHz	1	04 04 20
AntPro 820 MHz	1	04 08 20
AntPro 2.4 GHz	1	04 24 00

AntPro 5.8 GHz-SMA

- SMA- connector

The functioning principle of gas discharge tubes is to discharge high currents from the inner to the outer conductor onto ground. Once the spark-over voltage level has been exceeded, the gas discharge tube arrester (GDT) installed between inner conductor and outer shield ignites, the surge voltage is dropped down by equipotential bonding.
The max. impulse discharge current is 10 kA (8/20µs) respectively 5 kA (8/20µs), repeated several times.

The spark-over voltage of GDT is specified between 150 -250V. Thanks to the significantly extended frequency range up to nearly 6 GHz, the use of wireless LAN systems at a transmission rate of up to 5.8 GHz is possible.
The surge voltage protectors can be mounted and connected to ground by bulkhead mounting.
Second execution is with reversed polarity.

type	pcs	Art.No.
AntPro 5,8 GHz-SMA	1	04 58 00
AntPro 5,8 GHz-R-SMA	1	04 58 02

SAT/TV

DataPro SAT

Surge voltage protector for Radio/TV or SAT receivers

- high performance antenna protection
- equipped with GDT surge voltage protector
- pluggable by UHF or F - connector
- easy installation

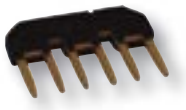
type	pcs	Art.No.
DataPro-SAT (0.8-2.0 GHz)	1	21 00 20
DataPro-Radio/TV (0- 900 MHz)	1	21 00 30

Accessories

Multiple connectors for optimal bridging of the grounding terminals of LEUTRON DataPro2x1…-devices.

NEW

- terminal bridges fully insulated
- rated cross section per pin : 1.5 mm²



mounting example

type	pcs	Art.No.
grounding bridge "Erdbrücke"	1	17 00 80

Universally applicable busbar connectors

These standard busbars are suitable for connecting the PE grounding terminals of all LEUTRON class I T1 ;+ II T2 ;+ III T3 (category B, BC or BCD) lightning and surge voltage SPD's in the easy-to-handle, 2 TE(DIN) (35mm) compact housing with snap-on clips for 35mm DIN rail mounting and multi-functional terminals for busbar and cable connection.

- single-phase busbars for LEUTRON multifunctional SPD housing
- ideal for V-connection and connecting the PE grounding terminals
- different lengths and number of poles available

type	partition unit (DIN-TE)	pcs	Art.No.
KA 1/2	2	1	17 00 10
KA 1/4	4	1	17 00 20
KA 1/6	6	1	17 00 30
KA 1/8	8	1	17 00 40

NEW

UAS 230-Tr

Universal acoustical signal unit with test button. Can be applied to all SPD with 230V AC nominal voltage.

type	pcs	Art.No.
UAS 230-Tr	1	35 10 30

SPD for LSA-technology

DataPro 1LSA-…

NEW

Surge voltage protective module for 1 wire pairs in LSA (IDC) connection and disconnection modules in measuring and control systems. This product is also available as 5-point coarse and fine protection unit for 10-pairs of wire.

- executions in various voltage ranges
- nominal impulse discharge current 5kA (8/20 µs)
- two-step (5-point), coarse and fine protection

type	nominal voltage DC	pcs	Art.No.
DP 1LSA-5	5 V	1	24 00 31
DP 1LSA-12	12 V	1	24 00 32
DP 1LSA-15	15 V	1	24 00 33
DP 1LSA-24	24 V	1	24 00 34
DP 1LSA-30	30 V	1	24 00 36
DP 1LSA-48	48 V	1	24 00 37
DP 1LSA-60	60 V	1	24 00 38
DP 1LSA-110	110 V	1	24 00 39

DataPro 1LSA…-PTC

NEW

Surge voltage protector for signal and data lines in measuring and control systems.

- two-step (5-point), coarse and fine protection
- surge current protection via PTC thermistors
- high impulse discharge current of 10 kA (8/20 µs)
- suitable both for DC and AC voltage

type	nominal voltage DC	pcs	Art.No.
DP 1LSA-5-PTC	5 V	1	24 00 40
DP 1LSA-12-PTC	12 V	1	24 00 41
DP 1LSA-15-PTC	15 V	1	24 00 42
DP 1LSA-24-PTC	24 V	1	24 00 43
DP 1LSA-48-PTC	48 V	1	24 00 44
DP 1LSA-60-PTC	60 V	1	24 00 45
DP 1LSA-110-PTC	110 V	1	24 00 46

DataPro 1LSA-180FS

NEW

Lightning and surge protection for telecommunication equipment. Pluggable module für 10 pairs LSA disconnection modules of execution 2

type	pcs	Art.No.
DP 1LSA-180FS	1	24 00 47

DataPro 1LSA-T110FS-PTC

NEW

Overvoltage and overcurrent protection for telecommunication and data lines.
Pluggable 1pair protection module for LSA 2/10 disconnection modules execution 2.

type	pcs	Art.No.
DP 1LSA-T110FS-PTC	1	24 00 48

DataPro 1LSA-TK180FS

Blitz- und Überspannungsschutz für Telefonanlagen. Steckbares Modul für LSA Trenn-, Schalt- und Anschlussleisten der Bauform 2.

type	pcs	Art.No.
DP 1LSA-TK180FS	1	24 00 49

DataPro 1LSA-C48FS-PTC

NEW

Overvoltage protection for signal- and data-lines in measuring and control systems.

- Overcurrent protection by PTC thermistors (self resetable thermal fuse)
- High discharge capability of 10kA (8/20µs)
- Suitable for DC and AC voltages

type	nominal voltage DC	pcs	Art.No.
DP 1LSA-C48FS-PTC	48 V	1	24 00 61
DP 1LSA-C60FS-PTC	60 V	1	24 00 62

DataPro 1LSA-C24FS-PTC

NEW

Overvoltage protection for signal- and data-lines in measuring and control systems.

- Overcurrent protection by PTC thermistors (self resetable thermal fuse)
- High discharge capability of 10kA (8/20µs)
- Suitable for DC and AC voltages

type	nominal voltage DC	pcs	Art.No.
DP 1LSA-C5FS-PTC	5 V	1	24 00 63
DP 1LSA-C12FS-PTC	12 V	1	24 00 64
DP 1LSA-C15FS-PTC	15 V	1	24 00 65
DP 1LSA-C24FS-PTC	24 V	1	24 00 66

DataPro 10LSA…(PTC)

NEW

Pluggable surge voltage protection modules for 10-wire pairs for LSA (IDC) connection or disconnection modules.

- surge voltage protector for telecommunication systems
- protection of up to 10 - wire pairs
- 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

type	pcs	Art.No.
DP 10LSA-110	1	24 01 40
DP 10LSA-PTC110	1	24 01 42
DP 10LSA-12V	1	24 00 25
DP 10LSA-PTC-12V	1	24 00 26
DP 10LSA-24V	1	24 00 27
DP 10LSA-PTC-24V	1	24 00 28

LSA-accessories:

LSA 2/10-AN
LSA connection module 10DA (max. 10 kA)
for LSA back-mount frame, -bracket

type	pcs	Art.No.
LSA 2/10-AN	1	24 01 00

LSA 2/10-Tr
LSA disconnection module 10DA (max. 5 kA)
for LSA back-mount frame, -bracket

type	pcs	Art.No.
LSA 2/10-TR	1	24 01 02

LSA 2/10-ER38-rot
LSA-ground module for 38 wires
Ground wire with ring terminal shoe for connection to ground

type	pcs	Art.No.
LSA 2/10-ER38-rot	1	24 01 04
LSA 2/10-ER38-ge/gn	1	24 01 34

LSA surge voltage protection magazine for 2-electrode arresters, 8x6 mm

TelPro LSA 2/10-2E 8x6
empty magazine, bare

type	pcs	Art.No.
TelPro LSA 2/10 8x6	1	24 01 06

TelPro LSA-2EH230-10kA
fitted with 20 pcs. 8x6 mm arresters, 230 V, 10 kA, 10 A

type	pcs	Art.No.
TelPro LSA-2EH230-10kA	1	24 01 13

TelPro LSA-2EH230F-10kA
fitted with 20 pcs 8x6 mm arresters, 230 V 10 kA, 10 A, with integrated fail-safe

type	pcs	Art.No.
TelPro LSA-2EH230F-10kA	1	24 01 14

TelPro LSA-2EL230-20kA
fitted with 20 pcs 8x6 mm arresters, 230 V, 20 kA, 20 A

type	pcs	Art.No.
TelPro LSA-2EL230-20kA	1	24 01 15

TelPro LSA-2EH350-10kA
fitted with 20 pcs 8x6 mm arresters, 350 V, 10 kA, 10 A

type	pcs	Art.No.
TelPro LSA-2EH350-10kA	1	24 01 16

TelPro LSA-2EH90-10kA
fitted with 20 pcs 8x6 mm arresters, 90 V, 10 kA, 10 A

type	pcs	Art.No.
TelPro LSA-2EH90-10kA	1	24 01 17

LSA surge voltage protection magazine for 3-electrode arresters, 8x13(10) mm

TelPro LSA 2/10-3E 8x13
empty magazine, bare

type	pcs	Art.No.
TelPro LSA 2/10-3E 8x13	1	24 01 18

TelPro LSA 2/10-3EH230E-10kA
fitted with 10 pcs 8x13(10) mm arresters, 230 V, 10 kA, 10 A

type	pcs	Art.No.
TelPro LSA 2/10-3EH230E-10kA	1	24 01 19

TelPro LSA-3EH230F1E-10kA
fitted with 10 pcs 8x13(10) mm arresters, 230 V, 10 kA and Fail-Safe

type	pcs	Art.No.
TelPro LSA 2/10-3EH230F1E-10kA	1	24 01 23

TelPro LSA-3EL230E-20kA
fitted with 10 pcs 8x13(10) mm arresters, 230 V, 20 kA, 20 A

type	pcs	Art.No.
TelPro LSA-3EL230E-20kA	1	24 01 24

TelPro LSA-3EL230F1E-20kA
fitted with 10 pcs 8x13(10) mm arresters, 230 V, 20 kA and Fail-Safe

type	pcs	Art.No.
TelPro LSA-3EL230F1E-20kA	1	24 01 25

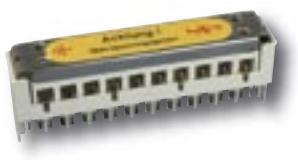
TelPro LSA-3EH90E-10kA
fitted with 10 pcs 8x13(10) mm arresters, 90 V, 10 kA

type	pcs	Art.No.
TelPro LSA-3EH90E-10kA	1	24 01 26

TelPro LSA-3EH90F1E-10kA
fitted with 10 pcs 8x13(10) mm arresters, 90 V, 10 kA and Fail-Safe

type	pcs	Art.No.
TelPro LSA-3EH90F1E-10kA	1	24 01 27

LSA surge voltage protection magazine for 2-electrode arresters, 8x20 mm



TelPro LSA 2/10-2E 8x20
empty magazine, bare

type	pcs	Art.No.
TelPro LSA 2/10-2E 8x20	1	24 01 28

TelPro LSA 2EY230-20kA
fitted with 20 pcs 8x20 mm arresters, 230 V, 20 kA, 20 A

type	pcs	Art.No.
TelPro LSA 2EY230-20kA	1	24 01 29

TelPro LSA 2EY90-20kA
fitted with 20 pcs 8x20mm arresters, 90 V, 20 kA, 20 A

type	pcs	Art.No.
TelPro LSA 2EY90-20kA	1	24 01 31

TelPro LSA 2EY350-20kA
fitted with 20 pcs 8x20 mm arresters 350 V, 20 kA, 20 A

type	pcs	Art.No.
TelPro LSA 2EY350-20kA	1	24 01 32

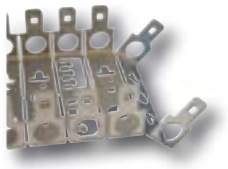
LSA 2/10 KSR
Label holder for LSA 2/10 connection modules and surge voltage protection magazines

type	pcs	Art.No.
LSA 2/10 KSR	1	24 01 08

LSA 2/10 AD
LSA 2/10 magazine cover (transparent plastic)

type	pcs	Art.No.
LSA 2/10 AD	1	24 01 09

LSA 2/10-MV10-25/22
LSA backmount frame 10 x 10DA (modular) stainless metal. Plug space for 10 pcs of LSA 2/10 10DA connection modules (Σ 100DA) 25 mm grid / depth 22 mm, easily detachable upon individual requirements, available up to a size of 78 connection modules.



type	pcs	Art.No.
LSA 2/10-MW10-25/22 10x10 DA	1	24 01 10

LSA 2/10 KS-120
Edge protection profile. Made from plastic, used as cover for spare plug spaces, protection from injuries

type	pcs	Art.No.
LSA 2/10 KS-120	1	24 01 36

LSA DIN ADAPT
LSA 2/10 DIN rail adapter. Adapter metal line with M5 screw thread (without screw). Used to fix backmount frame or connection modules onto 35 mm DIN rails.

type	pcs	Art.No.
LSA DIN ADAPT	1	24 01 37

LSA insertion tool (w/o illustration)
LSA insertion tool for all LSA connection and disconnection modules insert wire to module terminal and cut automatically in one step, for wire diameter of 0.4….0.8mm (AWG 26 up to 20), with isolation: 0.7…2.5mm

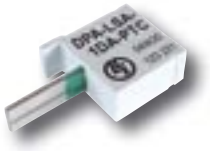
type	pcs	Art.No.
LSA-mounting tool	1	24 01 12

DPA-LSA-1DA-180FS-PTC
Combined PTC-surge current and surge voltage protector with fail-safe, 1DA single wire protection with PTC 145 mA and 3-electrode arrester and Fail-safe

type	pcs	Art.No.
DPA-LSA-1DA-180FS-PTC	1	24 01 20

DataPro-LSA-1DA-PTC

Surge current protection1DA single wire protection with PTC 145mA. Plug into connection modules on the front and grounding-rail



type	pcs	Art.No.
DP-LSA-1DA-PTC	1	24 01 22

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

type	pcs	Art.No.
LSA 2/10-ES	1	24 01 33

surge protection for plug-in magezine

Plug-in magazine SB 230 for HVT71

Magazine suitable for Siemens HTV71, surge voltage protective device including fail-safe.

- nominal DC spark-over voltage 230 V
- nom. imp. curr. dischar. capacity 5kA (8/20 µs)
- nom. imp. curr. dischar. capacity 20kA (8/20 µs)

type	pcs	Art.No.
SB230 Magazin	1	51 41 27

Isolating spark-gaps filled with rare gas

Low voltage GDT spark-gaps for indoor use

Lightning protection by potential equalization

- high quality industrial ceramics
- filled with rare gas, hermetically sealed
- free from radioactive substances!
- extremely low spark-over voltage of 70 V AC~/100 V DC=
- high lightning current discharge capacity of 100 kA (10/350 µs)
- highly reliable and robust
- stable functioning, long service life
- fail-safe behaviour

TSF 100 und TSF 500

	TSF 100	TSF 500
AC spark-over voltage [V]	70	350
DC spark-over voltage [V]	100	500
DC impulse spark-over voltage **(1kV/µs) [V]**	650	950
Light. imp. current resistance **(10/350µs) [kA]**	100	100
pcs	1	1
Art.No.	44 90 69	48 78 01

ATEX certificated spark-gaps for explosion hazardous areas

TC 100 A / TC 500 A

ATEX approved Ex-protection category: for potential equalization at lightning strikes in the EX-area, for example for isolation flanges (joints) of gas-pipelines at Cathodic Corrosion Protection Systems (CCPS), for the lightning protection of Ex-protected electronics e.g. pressure transmitters, etc.

- high quality industrial ceramics
- filled with rare gas, hermetically sealed
- free from radioactive substances!
- extremely low spark-over voltage
- extremely high discharge capacity of 100 kA (10/350µs)
- highly reliable and robust
- stable functioning, long service life
- double fail-safe for highest safety
- TC 100 A/K1 (including connecting cable set)
- **patented product**

	TC 100 A	TC 500 A
AC spark-over voltage **[V]**	70	350
DC spark-over voltage **[V]**	100	500
DC impulse spark-over voltage (1kV/µs) **[V]**	650	950
Light. imp. current resistance **(10/350µs) [kA]**	100	100
pcs	1	1
Art.No.	48 78 30	48 78 50

Low voltage GDT spark-gaps for outdoor use

SGO 70 / SGO 350

Weather-resistant metal/ceramic isolating spark gap with terminal lugs for M8 screw connection. Waterproof moulded in PU cast. Potential equalization at lightning strikes.

- high quality industrial ceramics
- filled with rare gas, hermetically sealed
- free from radioactive substances!
- extremely low spark-over voltage
- extremely high discharge capacity of 100 kA (10/350µs)
- highly reliable, stable functioning
- fail-safe behaviour

	SGO 70	SGO 350
AC spark-over voltage **[V]**	70	350
DC spark-over voltage **[V]**	100	500
DC impulse spark-over voltage (1kV/µs) **[V]**	650	950
Light. imp. current resistance **(10/350µs) [kA]**	100	100
pcs	1	1
Art.No.	47 21 17	47 22 13

Lightning protection by potential equalization

- high quality industrial ceramics
- filled with rare gas, hermetically sealed
- free from radioactive substances!
- extremely low spark-over voltage of 70 V AC~/100 V DC=
- high lightning current discharge capacity of 100 kA (10/350 µs)
- highly reliable and robust
- stable functioning, long service life
- fail-safe behaviour

TA 100 C and TA 500 C

	TA 100 C	TA 500 C
AC spark-over voltage **[V]**	70	350
DC spark-over voltage **[V]**	100	500
DC impulse spark-over voltage **(1kV/µs) [V]**	650	950
Light. imp. current resistance **(10/350µs) [kA]**	100	100
pcs	1	1
Art.No.	48 78 14	48 78 27

SGO 70 QA / SGO 350 QA

for underground use at insulated metal pipe lines

Waterproof isolating spark-gap for underground installation (soil). Moulded in PU diecast, with cables. Potential equalization of CCPS isolation flanges (joints) at lightning strikes.

- high quality industrial ceramics
- filled with rare gas, hermetically sealed
- free from radioactive substances!
- extremely low spark-over voltage
- extremely high discharge capacity of 100 kA
- highly reliable, stable functioning
- fail-safe behaviour
- including 2m connection cables with 25mm²
- SNAM execution

	SGO 70 QA	SGO 350 QA
AC spark-over voltage **[V]**	70	350
DC spark-over voltage **[V]**	100	500
DC impulse spark-over voltage (1kV/µs) **[V]**	650	950
Light. imp. current resistance **(10/350µs) [kA]**	100	100
pcs	1	1
Art.No.	47 21 04	47 21 11

GDT spark-gaps for DIN rail mounting

TSF 100-Tr and TSF 500-Tr

For TN-C-system with 230/400 V, 50 Hz nominal voltage.

- AC spark-over voltage : 70 V
- DC spark-over voltage : 100 V bzw. 500 V
- DC impulse spark-over voltage (1kV/µs): 650 V
- Light. imp. current resistance **(10/350µs)**: 100 kA

type	pcs	Art.No.
TSF 100-Tr	1	44 90 80
TSF 500-Tr	1	44 90 85

Accessories:

Connecting brackets made from hot-dip zinc galvanized steel
Straight or bent brackets with 20 mm diameter hole*

type		pcs	Art.No.
IF3	straight	1	82 30 16
IF1	bent	1	82 30 11
*holes for flange screws with other diameters upon request			

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

type	length [mm]	pcs	Art.No.
K1/150	150	1	49 51 06
K1/300	300	1	49 51 08
K1/600	600	1	49 51 11

Lightning Protection of current and voltage transformers in High Voltage and Medium Voltage mains

Lightning current protective SPD (class I) with thermal monitoring

TF…Tr/Th-Pk

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

- extremely high impulse and AC current resistivity
- lightning impulse current discharge capacity 100 kA (10/350µs)
- no blow-out vents, therefore no safety distances required for installation.
- high insulation resistance R_{iso} > 10 GΩ
- very long service life
- optional potential free remote signal contact (/PK)

	TF 100 Tr/Th-Pk	TF 500 Tr	TF 500 Tr/Th-Pk	TF 2000 Tr/Th-Pk
AC spark-over voltage [V]	70	350	350	1414
Impulse DC spark-over voltage[V]	650	1000	1000	3000
Impulse current resistance [kA]	100	100	100	100
DC spark-over voltage [V]	100	500	500	2000
pcs	1	1	1	1
Art.No.	53 43 72	53 43 98	53 43 85	55 04 11

Once the secondary current circuit of the current transformer under load is opened, the transformer is connected to the current circuit as an inductive resistor, the whole primary current is transformed into a magnetizing current. The core reaches saturation limit already at very low primary current. The voltage which forms at the secondary terminals shows significant peaks (i.e. circa 50 kV peak value in a 60 VA n>20, I_{2N}=1 A transformer,).*

Consequently, this creates a health hazard for human beings, potential damages or even destruction of the secondary coil insulation or possible insulation damages to the equipment installed downstream. By limiting the voltage level in the opened secondary circuit with the help of high-performance isolating spark-gaps, which are inserted between the secondary terminals, these unwanted effects can be eliminated.

*Source: Siemens

AC-current diverter to protect against AC-corrosion in CCP systems

AC-current diverter up to AC 160A with lightning protection by GDT based spark-gap

PLPro…A

NEW

Active (cathodic) **corrosion protection** means that the equipment to be protected is secured durably by active interference into the electrochemical process of corrosion. A power rectifier is inserted between the equipment to be protected, such as a pipe line, and an anode which serves as grounding unit.

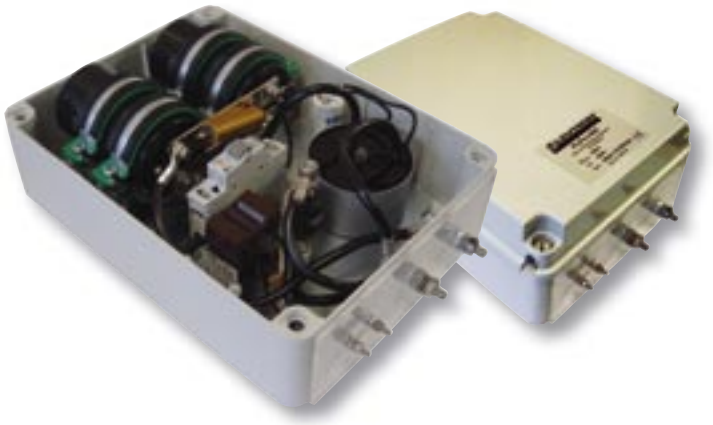
Starting from the (+)anode, a **protective DC - current** from Cathodic Corrosion Protection System (CCPS) flows towards the negative (-) loaded blank iron(steel) points at the defective parts in the sheathing, penetrates them and flows back to the rectifier via the protected equipment. During this process, the metal-ground-potential at the bare metal surface is reduced to such a level that a **material loss cannot take place.**

This protection cannot always be guaranteed for pipe systems which are in the interference area of **transformer stations, high-voltage transmission lines or AC - railway systems**. Additionally, dangerous AC - voltage peaks above 50 V may occur which effectively disable the Cathodic Corrosion Protection.
For such cases, an AC-Diverter like **PLPro..A** is an efficient protective device, as it mitigates the AC current in pipe lines at low impedance (e.g. at 50 Hz few mΩ) to the ground, thus avoiding any unwanted dangerous voltages and protecting the pipe line with the CCP rectifier durably and efficiently.

- integrated lightning and surge current protection up to 100 kA (10/350 µs)
- high AC - current discharge capability
- maintenance-free, free from liquid substances
- safety switch for discharging the capacitors before measurements

LEUTRON AC - current diverter PLPro…A can be ordered upon demand for a variety of operating conditions. Basically, it consists of 5 elements:

1. AC - current mitigation unit, consisting of power-capacitors (2 pcs. per 40A).
2. Surge voltage protective device (fine protection) for the capacitors.
3. Mitigation current measuring unit, 50/100 A AC - current transformer (display upon request).
4. 10 kHz low pass filter barrier, prevents discharge of the 10 kHz frequency signal from pipe leakage detectors towards ground.
5. Lightning current protection (coarse protection) thanks to 100 kA (10/350 µs) rare gas-filled isolating spark-gaps with low spark-over voltage.



type	max. continuous AC-mitigation current	pcs	Art.No.
PLPro-40A	40	1	55 04 24
PLPro-80A	80	1	55 04 25
PLPro-120A	120	1	55 04 26
PLPro-160A	160	1	55 04 27

Measuring and test equipment

Function tester for GDT and GDT based spark-gaps

H35

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.

LEUTRON type H35 is suitable for functional tests of gas discharge tubes and isolating spark gaps.

- digital measuring device with large LCD display
- 9V battery operated or optional by power pack
- comprehensive accessories included

GDT-test adapter ADE/FGH

GDT-test adapter ADE/E

Function tester for MOV and overvoltage protection diodes

H45

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.

LEUTRON type H45 can be used for quick and reliable functional testing of surge voltage protectors with varistors, zener-, transzorp- and suppressor- diodes as well as other electronic surge voltage protective elements whose let-through voltage is specified at a current level of mA. (see DIN VDE 0845, part 2/draft).

- digital measuring device with large LCD display
- 9V battery operated or optional by power pack
- comprehensive accessories included

type	pcs	Art.No.
H 35	1	87 00 10
H 45	1	16 02 00
accessories		
calibration	1	87 00 30
GDT-test adapter ADE/FGH	1	87 00 60
GDT-test adapter ADE/E	1	87 00 70

included:
1 ever-ready carrier bag
1 test cable kit (2 test cables of 1 m length each)
2 safety insulated test clips
1 external power supply pack 230 V / 8-12 V

Univesal function tester for GDT. MOV and diodes as well as mixed circuits

NEW

H65

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.

LEUTRON type H65 can be used for quick and reliable functional testing of surge voltage protectors with varistors, zener-, transzorp- and suppressor- diodes as well as other electronic surge voltage protective elements whose let-through voltage is specified at a current level of mA. (see DIN VDE 0845, part 2/draft).

- digital measuring device with large LCD display
- 9V battery operated or optional by power pack
- comprehensive accessories included

type	pcs	Art.No.
H65	1	87 01 50
accessories:		
calibration	1	87 00 30
GDT test adapter ADE/FGH	1	87 00 60
GDT test adapter ADE/E	1	87 00 70

included:
1 ever-ready carrier bag
1 test cable kit (2 test cables of 1 m length each)
2 safety insulated test clips
1 external power supply pack 230 V / 8-12 V

Portable test equipment for GDT in LSA magazines

NEW

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).
At each test cycle each GDT arrester inserted in a magazine, the spark-over voltage in both polarities is analysed and compared with the tolerance values, adjusted in the test program.

If tolerances are not matched the test cycle is stopped automatically and an error is indicated in the display.

Via a seriell interface connector (COM) the test equipment can be connected to a PC and with help of the included software, the test protocolls can be stored and printed out with a standard printer.

type	pcs	Art.No.
A46	1	87 01 00

Gas-filled surge arrester (GDT)

Two-electrode types

type	pcs	Art.No.	
2EM 90	**2000**	**95 10 00**	**90 V**
2EM 90 Q	**100**	**95 10 01**	**90 V with wire**
2EM 90 Q SMD	**900**	**95 10 02**	**90 V SMD with wire**
2EM 90F Q	**100**	**95 10 03**	**90 V with wire, FS**
2EM 230	**2500**	**95 10 04**	**230 V**
2EM 230 Q	**100**	**95 10 05**	**230 V with wire**
2EM 230 Q SMD	900	95 10 06	230 V, SMD with wire
2EM 230F Q	100	95 10 07	230 V with wire, FS
2EM 350	2500	95 10 08	350 V
2EM 350 Q	**100**	**95 10 09**	**350 V with wire**
2EM 600	2500	95 10 10	600 V
2EM 600 Q	**100**	**95 10 11**	**600 V with wire**
2EM 600 Q SMD	**900**	**95 10 12**	**600 V SMD with wire**

**Dimension: ø 5 x 5 mm
from 90 V up to 600 V,
discharge capacity 5 kA**

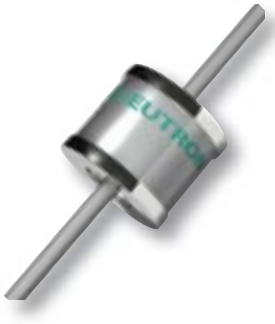
**Dimension: ø 8 x 6 mm
from 90 V up to 600 V
discharge capacity 10 kA**

type	pcs	Art.No.	
2EL 90	1000	95 10 16	90 V
2EL 90 Q	**500**	**95 10 18**	**90 V with wire**
2EL 90 Q SMD	350	95 10 19	90 V, SMD
2EL 150	1000	95 10 21	150 V
2EL 150 Q	500	95 10 23	150 V with wire
2EL 230	**100**	**95 10 25**	**230 V**
2EL 230 Q	**500**	**95 10 28**	**230 V with wire**
2EL 250	**1000**	**95 10 32**	**230 V**
2EL 250 Q	500	95 10 34	250 V with wire
2EL 250 Q SMD	350	95 10 35	250 V, SMD
2EL 350	**1000**	**95 10 37**	**350 V**
2EL 350 Q	**500**	**95 10 39**	**350 V with wire**
2EL 420	1000	95 10 41	420 V
2EL 500 Q	**500**	**95 10 43**	**500 V with wire**
2EL 600	**1000**	**95 10 45**	**600 V**
2EL 600 Q	**500**	**95 10 47**	**600 V with wire**

type	pcs	Art.No.	
2EH 90	**1000**	**95 10 15**	**90 V**
2EH 90 Q	**500**	**95 10 17**	**90 V with wire**
2EH 150	1000	95 10 20	150 V
2EH 150 Q	500	95 10 22	150 V with wire
2EH 230	**4000**	**95 10 24**	**230 V**
2EH 230F	**100**	**95 10 26**	**230 V**
2EH 230 Q	**500**	**95 10 27**	**230 V with wire**
2EH 230F Q	100	95 10 29	230 V with wire, FS
2EH 230 Q SMD	350	95 10 30	230 V, SMD
2EH 250	**1000**	**95 10 31**	**250 V**
2EH 250 Q	500	95 10 33	250 V with wire
2EH 350	**1000**	**95 10 36**	**350 V**
2EH 350 Q	500	95 10 38	350 V with wire
2EH 420	1000	95 10 40	420 V
2EH 420 Q	500	95 10 42	420 V with wire
2EH 600	**1000**	**95 10 44**	**600 V**
2EH 600 Q	**500**	**95 10 46**	**600 V with wire**

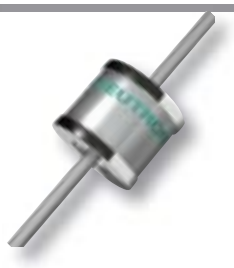
**Dimension: ø 8 x 6 mm
from 90 V up to 600 V
discharge capacity 20 kA**

type	pcs	Art.No.	
2EU 800	1000	95 10 50	800 V
2EU 800 Q	500	95 10 51	800 V with wire
2EU 1000	100	95 10 52	1000 V
2EU 1000 Q	**500**	**95 10 53**	**1000 V with wire**
2EU 1200	1000	95 10 54	1200 V
2EU 1200 Q	500	95 10 55	1200 V with wire
2EU 1400	1000	95 10 56	1400 V
2EU 1400 Q	500	95 10 57	1400 V with wire



Dimension: ø 8 x 8 mm
from 800 V up to 1400V
discharge capacity 10 kA

type	pcs	Art.No.	
2EU 1600	1000	95 10 58	1600 V
2EU 1600 Q	500	95 10 59	1600 V with wire
2EU 2500 Q	500	95 10 60	2500 V with wire
2EU 3500 Q	500	95 10 61	3500 V with wire
2EU 4500 Q	500	95 10 62	4500 V with wire



Dimension: ø 8 x 8 mm
from 1600 V up to 4500 V
discharge capacity 2.5kA

Dimension: ø 8 x 8 mm
from 90 V up to 600 V
discharge capacity: 20 kA

type	pcs	Art.No.	
2EJ 90	**1000**	**95 10 70**	**90 V**
2EJ 150	**1000**	**95 10 72**	**150 V**
2EJ 230	**1000**	**95 10 74**	**230 V**
2EJ 350	**1000**	**95 10 76**	**350 V**
2EJ 420	1000	95 10 78	420 V
2EJ 500	**1000**	**95 10 80**	**500 V**
2EJ 600	1000	95 10 82	600 V

Dimension: ø 8 x 8 mm
from 270 V up to 800 V
discharge capacity: 5 kA

type	pcs	Art.No.	
2EJ 270 Q	500	95 10 65	Follow-on curr.ent 270 V with wire
2EJ 470 Q	500	95 10 66	Follow-on curr.ent 470 V with wire
2EJ 800 Q	500	95 10 67	Follow-on curr.ent 800 V with wire

type	pcs	Art.No.	
2EY 90	**100**	**95 10 86**	**90 V**
2EY 150	100	95 10 87	150 V
2EY 170	100	95 10 88	170 V
2EY 230	**100**	**95 10 89**	**230 V**
2EY 350	100	95 10 90	350 V

Dimension: ø 8 x 20 mm, 600 V, discharge capacity : 10kA

type	pcs	Art.No.	
2EY 600	**100**	**95 10 91**	**600 V**

execution F

Dimension: ø 8 x 20 mm
90 up to 600 V
discharge capacity : 20 kA

type	pcs	Art.No.	
2EY 90 E	**100**	95 10 94	90 V
2EY 230 E	**100**	**95 10 97**	**230 V**
2EY 350 E	**100**	95 10 98	350 V
2EY 600 E	**100**	**95 10 99**	**600 V**

execution E

Three-electrode types

type	pcs	Art.No.	
3ET 90	**2500**	**95 13 00**	**90 V**
3ET 90 Q	250	95 13 01	90 V with wire
3ET 90 E	500	95 13 02	90 V with pin
3ET 230	**2500**	**95 13 03**	**230 V**
3ET 230 Q	**250**	**95 13 04**	**230 V with wire**
3ET 230 E	**500**	**95 13 05**	**230 V with pin**
3ET 230 F1 E	500	95 13 12	230 V with pins, upper FS
3ET 230 EM	**500**	**95 13 80**	**230 V with middlepin**
3ET 230 F1 EM	500	95 13 81	230 V middlepin, upper FS
3ET 230 F1T EM	**500**	**95 13 82**	**230 V middlepin, upper FS**
3ET 350	2500	95 13 06	350 V
3ET 350 Q	**500**	**95 13 07**	**350 V with wire**
3ET 350 E	**500**	**95 13 08**	**350 V with pin**
3ET 420	2500	95 13 09	420 V
3ET 420 Q	250	95 13 10	420 V with wire
3ET 420 E	500	95 13 11	420 V with pin

Dimension: ø 6 x 8 mm
from 90 V up to 420 V
discharge capacity : 10 kA

Dimension: ø 5 x 7,5 mm
from 90 up to 350 V
discharge capacity : 5 kA

type	pcs	Art.No.	
3EM 90	500	95 13 14	90 V
3EM 90 E	500	95 13 15	90 V with pins
3EM 230	**500**	**95 13 16**	**230 V**
3EM 230 E	500	95 13 17	230 V with pins
3EM 230F	**500**	**95 13 18**	**230 V with FS**
3EM 350	**500**	**95 13 20**	**350 V**
3EM 230 Q	**250**	**95 13 21**	**350 V with wire**

type	pcs	Art.No.	
3EHT 90 E	500	95 14 00	90 V midlle pin
3EHT 90 F4 E	500	95 14 01	90 V m. pins,m,.FS
3EHT 230 E	500	**95 14 02**	**230 V m. pins**
3EHT 230 F4 E	500	**95 14 03**	**230 V m. pins, m.u.FS**
3EHT 230 F1 E	500	**95 14 08**	**230 V m. pins, m.o.FS**
3EHT 250 E	500	95 14 04	250 V m. pins
3EHT 250 F4 E	500	95 14 05	250 V m. pins, m.u.FS
3EHT 350 E	500	95 14 06	350 V m. pins
3EHT 350 F4 E	500	95 14 07	350 V m. pins, m.u.FS

Dimension: ø 8 x 10 mm
from 90 V up to 350 V
discharge capacity : 10 kA

type	pcs	Art.No.	
3EH 90	**2000**	**95 13 23**	**90 V**
3EH 90F	**500**	**95 13 24**	**90 V with FS**
3EH 90 Q	**200**	**95 13 25**	**90 V m. wire**
3EH 90 E	**500**	**95 13 26**	**90 V m. pins**
3EH 90F1 E	**500**	**95 13 27**	**90 V m. pins, m. o. FS**
3EH 90F4 E	**500**	**95 13 28**	**90 V m. pins, m. u. FS**
3EH 230	**2000**	**95 13 29**	**230 V**
3EH 230F	500	95 13 31	230 V m. FS
3EH 230 Q	**250**	**95 13 32**	**230 V m. wire**
3EH 230F4 Q	**250**	**95 13 34**	**230 V m. wire, m. u. FS**
3EH 230 E	**500**	**95 13 36**	**230 V m. pins**
3EH 230F1 E	**500**	**95 13 38**	**230 V m. pins, m. o. FS**
3EH 230F4 E	**500**	**95 13 40**	**230 V m. pins, m. u. FS**
3EH230QSMD	300	95 13 42	230 V SMD with wire
3EH 250	2000	95 13 43	250 V
3EH 250F	**500**	**95 13 45**	**250 V m. FS**
3EH 250 E	500	95 13 48	250 V m. pins
3EH 250F4 E	500	95 13 51	250 V m. pin, m. u. FS
3EH 350	**2000**	**95 13 53**	**350 V**
3EH 350F	**500**	**95 13 55**	**350 V m. FS**
3EH 350 Q	250	95 13 57	350 V m. wire
3EH 350 E	500	95 13 59	350 V m. pins
3EH 350F1 E	500	95 13 61	350 V m. pins, m. o. FS
3EH 350F4 E	500	95 13 63	350 V m. pins, m. u. F S
3EH 420F	500	95 13 66	420 V m. FS
3EH 420 Q	250	95 13 68	420V m. wire
3EH 420 E	500	95 13 70	420 V m. pins
3EH 600 Q	250	95 13 74	600 V m. wire
3EH 600 E	**500**	**95 13 75**	**600 V m. pins**
3EH 600 F1E	500	95 13 76	600 V m. pins, m. o. FS
3EH 600 E	**500**	**95 13 77**	**600 V m. pins**

Dimension: ø 8 x 10 mm
from 90 V up to 600 V
discharge capacity : 10 kA

Dimension: ø 8 x 10 mm
from 230 V up to 500 V
discharge capacity : 20 kA

type	pcs	Art.No.	
3EL 230	500	95 13 30	230 V
3EL 230 Q	**250**	**95 13 33**	**230 V m. wire**
3EL 230F4 Q	**250**	**95 13 35**	**230 V m. wire, m. u. FS**
3EL 230 E	**500**	**95 13 37**	**230 V m. pins**
3EL 230F1 E	**500**	95 13 39	230 V m. pins, m. o. FS
3EL 230F4 E	**500**	**95 13 41**	**230 V m. pins, m. u. FS**
3EL 250F	500	95 13 46	250 V m. FS
3EL 250	**2000**	**95 13 44**	**250 V**
3EL 250 Q	250	95 13 47	250 V m. wire
3EL 250 E	**500**	**95 13 49**	**250 V m. pins**
3EL 250F1 E	500	95 13 50	250 V m. pins, m. o. FS
3EL 250F4 E	500	95 13 52	250 V m. pins, m. u. FS
3EL 350	**2000**	**95 13 54**	**350 V**
3EL 350 F	**500**	**95 13 56**	**350 V m. FS**
3EL 350 Q	**250**	**95 13 58**	**350 V m. wire**
3EL 350 E	**500**	**95 13 60**	**350 V m. pins**
3EL 350F1 E	**500**	**95 13 62**	**350 V m. pins, m. o. FS**
3EL 350F4 E	**500**	**95 13 64**	**350 V m. pins, m. u. FS**
3EL 420	2000	95 13 65	420 V
3EL 420F	500	95 13 67	420 V m. FS
3EL 420Q	250	95 13 69	420 V m. wire
3EL 420 E	**500**	**95 13 71**	**420 V m.pins**
3EL 420F4 E	500	95 13 72	420 V m. pins, m. u. FS
3EL 500 E	**500**	**95 13 73**	**500 V m. pins**

type	pcs	Art.No.
2ST 230 EK	500	95 11 90

For high frequency protection up to 6 GHz, KOAX GDT 2-pole
Dimension: ø 6 x 6 mm
discharge capacity : 5kA

Remarks to table on gas discharge tubes:

1.) articles printed in "bold" are main types (certain stock available)
2.) abbreviations: **FS** Fail - Safe
SMT Surface Mounting Technology
SMD Surface Mounting Device
3.) dimensions for GDT are indicated in diameter x length, in mm, for the button only

The minimum quantity per order required is 1000 pieces resp. packaging units.

Hybrid - GDT, 3EV…E series

NEW

Hermetically sealed, rare gas-filled gas discharge tubes in metal/ceramics execution for telecommunications applications. Equipped with varistors and fail-safe device..

- high quality industrial ceramics
- filled with rare gas, hermetically sealed
- free from radioactive substances!
- high discharge capacity of 10 kA
- highly reliable
- stable functioning
- long service life
- extremely low spark-over voltage of < 350 V, at 1 kV µs

type	DC spark-over voltage	pcs	Art.No.
3EV 230F1 E	230 V	500	95 14 10

PTC- ID series

NEW

Protects from surge currents in Telecom applications coming from AC-current interferences caused by unwanted contact or induction as well as low-level lightning currents. Polymeric PTC fuse with automatic reset-function and solderable lead free pins.

- high quality polymer construction
- current blocking function
- lead-free, tinned pins
- stable and reliable functioning
- max. interrupt voltage 250 V AC
- max. nominal voltage 60 V DC
- max. hold current 120, 145 resp. 180 mA
- max. interrupt current 3 A at 120, 145 mA type, 10 A at 180 mA type

type	pcs	Art.No.
PTC-ID-120mA-US-B05	500	95 59 00
PTC-ID-145mA-US-B05	500	95 59 01
PTC-ID-180mA-U-B05	500	95 59 02
PTC-ID-180mA-US-B	500	95 59 03

Art.No.	product name	pcs	page
04 00 01	AntPro Koax-GSM-N/230	1	24
04 00 04	AntPro Koax-GSM-N/230 (f/f)	1	24
04 00 80	AntPro 80 MHz	1	25
04 01 50	AntPro 150 MHz	1	25
04 04 20	AntPro 420 MHz	1	25
04 08 20	AntPro 820 MHz	1	25
04 24 00	AntPro 2,4 GHz	1	25
04 58 00	AntPro 5,8 GHz-SMA	1	25
04 58 02	AntPro 5,8 GHz-R-SMA	1	25
16 02 00	H45	1	34
17 00 10	KA1/2	1	25
17 00 20	KA1/4	1	25
17 00 30	KA1/6	1	25
17 00 40	KA1/8	1	25
19 00 08	DP8-RLC/19"	1	24
19 00 42	EP4x2-LC/19"	1	24
19 00 58	ErP58	1	24
19 40 10	GE-ELG-1x8xRJ45-19"	1	23
19 40 20	GE-ELG-2x8xRJ45-19"	1	23
19 40 30	GE-ELG-3x8xRJ45-19"	1	23
20 00 00	DP2x1-RLC	1	22
20 06 06	DP2x1-6V/6V	1	22
20 15 15	DP2x1-15V/15V	1	22
20 24 24	DP2x1-24V/24V	1	22
20 30 30	DP2x1-30V/30V	1	22
20 36 36	DP2x1-36V/36V	1	22
20 48 48	DP2x1-48V/48V	1	22
20 60 60	DP2x1-60V/60V	1	22
21 00 20	DataPro-SAT(0,8-2,0Ghz)	1	25
21 00 30	DataPro-Radio/TV (0-300Mhz)	1	25
22 06 06	DataPro Z-6V/6V	1	24
22 12 12	DataPro Z-12V/12V	1	24
22 15 15	DataPro Z-15V/15V	1	24
22 24 24	DataPro Z-24V/24V	1	24
22 30 30	DataPro Z-30V/30V	1	24
22 36 36	DataPro Z-36V/36V	1	24
22 48 48	DataPro Z-48V/48V	1	24
22 60 60	DataPro Z-60V/60V	1	24
23 00 00	DataPro Z-RLC	1	24
24 00 02	EnerPro 230 SDU	1	16
24 00 04	DataPro-TAE/NFN-aP	1	23
24 00 07	DataPro-TAE-Modul	1	23
24 00 13	DataPro-ISDN-aP	1	23
24 00 15	DataPro-RJ45-Zw	1	23
24 00 16	DP-RJ45-48V-Zw	1	23
24 00 17	DP2-2MB-Tr	1	21
24 00 18	DataPro2x1-SDSL-Tr	1	22
24 00 20	DataPro4x1-SDSL-Tr	1	22
24 00 24	DataPro2x1-24V-SDSL-Tr	1	22
24 00 25	DP 10LSA-12V	1	26
24 00 26	DP 10LSA-PTC-12V	1	26
24 00 27	DP 10LSA-24V	1	26
24 00 28	DP 10LSA-PTC-24V	1	26
24 00 30	DP-RS 232-D9-Zw	1	23
24 00 31	DP 1LSA-5	1	26
24 00 32	DP 1LSA-12	1	26
24 00 33	DP 1LSA-15	1	26
24 00 34	DP 1LSA-24	1	26
24 00 36	DP 1LSA-30	1	26
24 00 37	DP 1LSA-48	1	26
24 00 38	DP 1LSA-60	1	26
24 00 39	DP 1LSA-110	1	26
24 00 40	DP 1LSA-5-PTC	1	26
24 00 41	DP 1LSA-12-PTC	1	26
24 00 42	DP 1LSA-15-PTC	1	26
24 00 43	DP 1LSA-24-PTC	1	26
24 00 44	DP 1LSA-48-PTC	1	26
24 00 45	DP 1LSA-60-PTC	1	26
24 00 46	DP 1LSA-110-PTC	1	26
24 00 47	DP 1LSA-180FS	1	26
24 00 48	DP 1LSA-T110FS-PTC	1	26
24 00 49	DP 1LSA-TK180FS	1	26
24 00 50	DP-RS 232-D25-Zw	1	23
24 00 60	DP-RS 232/422/485-9P	1	23
24 00 61	DP 1LSA-C48FS-PTC	1	26
24 00 62	DP 1LSA-C60FS-PTC	1	26
24 00 63	DP 1LSA-C5FS-PTC	1	26
24 00 64	DP 1LSA-C12FS-PTC	1	26
24 00 65	DP 1LSA-C15FS-PTC	1	26
24 00 66	DP 1LSA-C24FS-PTC	1	26
24 01 00	LSA 2/10-AN	1	27
24 01 02	LSA 2/10-TR	1	27
24 01 04	LSA 2/10-ER38-rot	1	27
24 01 06	TelPro LSA 2/10-2E 8x6	1	27
24 01 08	LSA 2/10 KSR	1	28
24 01 09	LSA 2/10 AD	1	28
24 01 10	LSA 2/10-MW10-25/22	1	28
24 01 12	LSA- mounting tool	1	28
24 01 13	TelPro LSA 2EH230-10kA	1	28
24 01 14	TelPro LSA-2EH230F-10kA	1	28
24 01 15	TelPro LSA-2EL230-20kA	1	28
24 01 16	TelPro LSA-2EH350-10kA	1	28
24 01 17	TelPro LSA-2EH90-10kA	1	28
24 01 18	TelPro LSA 2/10-3E 8x13	1	28
24 01 19	TelPro LSA 2/10-3EH230E-10kA	1	27
24 01 20	DPA-LSA-1DA-180FS-PTC	1	28
24 01 22	DPA-LSA-1DA-PTC	1	29
24 01 23	TelPro LSA-3EH230F1E-10kA	1	27
24 01 24	TelPro LSA-3EL230E-20kA	1	27
24 01 25	TelPro LSA-3EL230F1E-20kA	1	27

Art.No.	product name	pcs	page
24 01 26	TelPro LSA-3EH90E-10kA	1	27
24 01 27	TelPro LSA-3EH90F1E-10kA	1	28
24 01 28	TelPro LSA 2/10-2E 8x20	1	28
24 01 29	TelPro LSA-2EY230-20kA	1	28
24 01 31	TelPro LSA-2EY90-20kA	1	28
24 01 32	TelPro LSA-2EY350-20kA	1	28
24 01 33	LSA 2/10-ES	1	29
24 01 34	LSA 2/10-ER38-ge/gn	1	27
24 01 36	LSA 2/10 KS-120	1	28
24 01 37	LSA DIN ADAPT	1	28
24 01 40	DP 10LSA-110	1	26
24 01 42	DP 10LSA-PTC110	1	26
24 12 00	EnerPro 12V-Tr	1	19
24 12 02	EnerPro 12V-6A/LED	1	18
24 12 03	EP 12V-20A/LED	1	18
24 24 00	EnerPro 24V-Tr	1	19
24 24 02	EnerPro 24V-6A/LED	1	18
24 24 03	EP 24V-20A/LED	1	18
24 36 00	EnerPro 36V-Tr	1	19
24 36 02	EnerPro 36V-6A/LED	1	18
24 36 03	EP 36V-20A/LED	1	18
24 48 00	EnerPro 48V-Tr	1	19
24 48 03	EP 48V-20A/LED	1	18
24 60 00	EnerPro 60V-Tr	1	19
25 30 16	EPF 230V/16A-Tr	1	19
25 30 17	EPF 230V/25A-Tr	1	19
25 30 19	EPF 48V/16A-S	1	19
25 30 20	EPF 230V/16A-S	1	19
25 30 22	EPF 60V/16A-S	1	19
25 30 25	EPF 230V/16A-W	1	19
25 30 45	EPF 230/400V/16A-W	1	19
25 30 53	EPF 48V/25A-S	1	19
25 30 80	EPF 230/400V/25A-W	1	19
25 30 85	EPF 230V/35A-S	1	19
25 31 00	EPF 230/400V/35A-W	1	19
25 31 30	EPF 230/400V/63A-E	1	19
25 31 40	EPF 230/400V/100A-E	1	19
25 31 60	EPF 230/400V/200A-E	1	19
26 12 12	DP2x1-12V/12V-0,3 Ω-Tr	1	22
26 24 24	DP2x1-24V/24V-0,3 Ω-Tr	1	22
26 36 36	DP2x1-36V/36V-0,3 Ω-Tr	1	22
27 00 00	DP2x1-RLC-Tr	1	21
27 03 03	IsoProData-150V/150V-Tr	1	21
27 04 04	DP2x1-150V/150V-Tr	1	21
27 04 85	DP-RS485-Tr	1	23
27 06 06	DP2x1-6V/6V-Tr	1	21
27 12 12	DP2x1-12V/12V-Tr	1	21
27 15 15	DP2x1-15V/15V-Tr	1	21
27 24 24	DP2x1-24V/24V-Tr	1	21
27 30 02	IsoProData-Tr	1	21

Art.No.	product name	pcs	page
27 30 30	DP2x1-30V/30V-Tr	1	21
27 36 36	DP2x1-36V/36V-Tr	1	21
27 48 48	DP2x1-48V/48V-Tr	1	21
27 60 60	DP2x1-60V/60V-Tr	1	21
27 80 80	DP2x1 80V/80V-Tr	1	21
27 90 00	DP2x8-36V/36V-Tr/GO	1	22
27 90 01	DP2x8-36V/36V-Tr/GU	1	22
28 04 04	DP3x1-150V/150V-Tr	1	21
28 12 12	DP3x1-12V/12V-Tr	1	21
28 15 15	DP3x1-15V/15V-Tr	1	21
28 24 24	DP3x1-24V/24V-Tr	1	21
28 30 30	DP3x1-30V/30V-Tr	1	21
28 36 36	DP3x1-36V/36V-Tr	1	21
28 48 48	DP3x1-48V/48V-Tr	1	21
28 60 60	DP3x1-60V/60V-Tr	1	21
28 70 50	DP2x1-RLC/50V-Tr	1	21
29 50 00	DataPro 2x1-RLC/50V-G-Tr	1	17
29 60 00	EnerPro 65V/12A-Tr	1	17
29 60 02	EnerPro 65V/12A-Tr/FM	1	17
29 65 12	EnerPro 65V/12A-G-Tr	1	17
32 50 10	CPS 230 Fax/Tel	1	16
32 50 20	CPS 230 ISDN	1	16
32 50 30	CPS 230 Network	1	16
32 50 40	CPS 230 SAT	1	16
34 30 10	KatPro RG-440	1	17
35 10 30	UAS 230-Tr	1	25
36 05 22	NM 220V/5kA	1	16
36 20 22	NM 220V/20kA	1	17
36 20 23	NM 220V/20kA/Pk	1	17
35 20 30	EP D 230 SM	1	17
37 12 00	PP BCD TN 25/50/LED	1	6
37 12 02	PP BCD TN 25/50/LED/FM	1	6
37 38 25	IsoPro 230/400Tr/25kA-F	1	10
37 38 26	IsoPro 230/400Tr/25kA-F/Pk	1	10
37 38 30	IsoPro 230/400Tr/60kA-F	1	10
37 39 10	PP B TT 50/100	1	8
37 39 12	PP B TT 50/100/FM	1	8
37 39 15	PP B TT2+1 50/100	1	8
37 39 17	PP B TT2+1 50/100/FM	1	8
37 39 18	PP IT 50/100	1	8
37 39 19	PP IT 50/100/FM	1	8
37 39 20	PP BC TT 25/100	1	7
37 39 22	PP BC TT 25/100/FM	1	7
37 39 30	PP BCD TT 25/100	1	5
37 39 32	PP BCD TT 25/100/FM	1	5
37 39 34	PP BCD TT2+1 25/100	1	5
37 39 36	PP BCD TT2+1 25/100/FM	1	5
37 39 40	PP B TNS 50/100	1	7
37 39 42	PP B TNS 50/100/FM	1	7
37 39 43	PP B TNS 440	1	7

Art.No.	product name	pcs	page
37 39 44	PP B TNS 440/FM	1	7
37 39 50	PP BC TNS 25/100	1	6
37 39 52	PP BC TNS 25/100/FM	1	6
37 39 60	PP BCD TNS 25/100	1	5
37 39 62	PP BCD TNS 25/100FM	1	5
37 39 64	PP B TNC 440	1	7
37 39 65	PP B TNC 440/FM	1	7
37 39 70	PP B TNC 50/100	1	7
37 39 72	PP B TNC 50/100/FM	1	7
37 39 80	PP BC TNC 25/75	1	6
37 39 81	PP BC TNC 440V	1	6
37 39 82	PP BC TNC 25/75/FM	1	6
37 39 83	PP BC TNC 440V/FM	1	6
37 39 90	PP BCD TNC 25/75	1	5
37 39 92	PP BCD TNC 25/75/FM	1	5
37 41 10	PP B TNC 50/100-350	1	7
37 41 15	PP B TNC 50/100/FM-350	1	7
37 41 20	PP B TNS 50/100-350	1	7
37 41 25	PP B TNS 50/100/FM-350	1	7
37 41 30	PP B TT 50/100-350	1	8
37 41 35	PP B TT 50/100/FM-350	1	8
38 05 24	EP D TNC 275	1	15
38 05 25	EP D TNC 275/FM	1	15
38 05 30	EP D TNS 275	1	15
38 05 31	EP D TNS 275/FM	1	15
38 05 35	EP D TT 275	1	15
38 05 36	EP D TT 275/FM	1	15
38 05 38	EP D TT1+1 275	1	15
38 05 39	EP D TT1+1 275/FM	1	15
38 05 40	EP D TT2+1 275	1	15
38 05 41	EP D TT2+1 275/FM	1	15
38 05 50	EP D TN 24V/16A	1	15
38 05 51	EP D TN 24V/16A/FM	1	15
38 05 53	EP D TN 48V/16A	1	15
38 05 54	EP D TN 48V/16A/FM	1	15
38 05 56	EP D TN 60V/16A	1	15
38 05 57	EP D TN 60V/16A/FM	1	15
38 05 59	EP D TN 120V/16A	1	16
38 05 60	EP D TN 120V/16A/FM	1	16
38 05 62	EP D TN 230V/16A	1	16
38 05 63	EP D TN 230V/16A/FM	1	16
38 10 24	EP C S TT1+1 275	1	13
38 10 25	EP C S TT1+1 275/FM	1	13
38 10 30	EP C S TNC 275	1	13
38 10 35	EP C S TNC 275/FM	1	13
38 10 40	EP C S TT 275	1	13
38 10 45	EP C S TT 275/FM	1	13
38 10 50	EP C S TNS 275	1	13
38 10 55	EP C S TNS 275/FM	1	13
38 11 30	PP B TT1+1 50/100	1	8

Art.No.	product name	pcs	page
38 11 31	PP B TT1+1 50/100/FM	1	8
38 11 32	PP BC TT1+1 25/100	1	7
38 11 33	PP BC TT1+1 25/100/FM	1	7
38 11 34	PP BCD TT1+1 25/100	1	6
38 11 35	PP BCD TT1+1 25/100/FM	1	6
38 11 40	IP B TNC 60/100	1	8
38 11 41	IP B TNC 60/100/FM	1	8
38 11 42	IP BC TNC 60/100	1	10
38 11 43	IP BC TNC 60/100/FM	1	10
38 11 45	IP B TNS 60/100	1	8
38 11 46	IP B TNS 60/100/FM	1	8
38 11 47	IP BC TNS 60/100	1	10
38 11 48	IP BC TNS 60/100/FM	1	10
38 11 50	IP B TT 60/100	1	9
38 11 51	IP B TT 60/100/FM	1	9
38 11 52	IP BC TT 60/100	1	10
38 11 54	IP BC TT 60/100/FM	1	10
38 11 55	IP B TT1+1 60/100	1	9
38 11 56	IP B TT1+1 60/100/FM	1	9
38 11 57	IP BC TT1+1 60/100	1	11
38 11 58	IP BC TT1+1 60/100/FM	1	11
38 11 70	IPK BC TNC 275	1	11
38 11 71	IPK BC TNC 275/FM	1	11
38 11 72	IPK BC TNS 275	1	11
38 11 73	IPK BC TNS 275/FM	1	11
38 11 74	IPK BC TT 275	1	11
38 11 75	IPK BC TT 275/FM	1	11
38 11 76	EP C TNC 275	1	12
38 11 77	EP C TNC 275/FM	1	12
38 11 78	EP C TNS 275	1	12
38 11 79	EP C TNS 275/FM	1	12
38 11 80	EP C TT 275	1	12
38 11 81	EP C TT 275/FM	1	12
38 11 82	EP C TT1+1 275	1	12
38 11 83	EP C TT1+1 275/FM	1	12
38 11 88	EP C TT1+1 350	1	12
38 11 91	EP C TT1+1 350/FM	1	12
38 12 10	PP B TN 50/100	1	8
38 12 11	PP B TN 50/100/FM	1	8
38 12 12	PP BC TN 25/50	1	7
38 12 13	PP BC TN 25/50/FM	1	7
38 12 14	PP BCD TN 25/50	1	6
38 12 15	PP BCD TN 25/50/FM	1	6
38 12 16	IP B TNC 25/75	1	8
38 12 17	IP B TNC 25/75/FM	1	8
38 12 18	IP BC TNC 25/75	1	10
38 12 19	IP BC TNC 25/75/FM	1	10
38 12 20	IP B TNS 25/100	1	9
38 12 21	IP B TNS 25/100/FN	1	9
38 12 22	IP BC TNS 25/100	1	10

Art.No.	product name	pcs	page
38 12 23	IP BC TNS 25/100/FM	1	10
38 12 24	IP B TT 25/100	1	9
38 12 25	IP B TT 25/100/FM	1	9
38 12 26	IP BC TT 25/100	1	10
38 12 27	IP BC TT 25/100/FM	1	10
38 12 28	IP B TT1+1 25/100	1	9
38 12 29	IP B TT1+1 25/100/FM	1	9
38 12 30	PP BC TT1+1 25/100	1	11
38 12 31	PP BC TT1+1 25/100/FM	1	11
38 12 32	IP B TN 60/100	1	9
38 12 33	IP B TN 60/100/FM	1	9
38 12 34	IP BC TN 60/100	1	11
38 12 35	IP BC TN 60/100/FM	1	11
38 12 36	IP B TN 25/50	1	9
38 12 37	IP B TN 25/50/FM	1	9
38 12 38	IP BC TN 25/50	1	11
38 12 39	IP BC TN 25/50/FM	1	11
38 12 40	EP C S TN 275	1	13
38 12 41	EP C S TN 275/FM	1	13
38 12 42	EP C S 275	1	14
38 12 45	EP C S T 130	1	14
38 12 46	SP C S-N/PE	1	14
38 12 47	EP C TN 275	1	12
38 12 48	EP C TN 275/FM	1	12
38 12 50	EP C S T 130/FM	1	14
38 12 52	EP C TN 275-D	1	12
38 12 54	EP D TN 275	1	15
38 12 55	EP D TN 275/FM	1	15
38 12 56	EP C S 130	1	14
38 12 58	SP C S-NPE/FM	1	14
38 12 60	EP C S T 75	1	13
38 12 62	EP C S 75	1	14
38 12 65	EP C S T 75/FM	1	13
38 12 70	EP C S T 275	1	14
38 12 75	EP C S T 275/FM	1	14
38 13 00	EP C S T 440	1	14
38 13 02	EP C S 440	1	14
38 13 05	EP C S T 440/FM	1	14
38 13 10	EP C S T 550	1	14
38 13 12	EP C S 550	1	14
38 13 15	EP C S T 550/FM	1	14
38 14 00	EP C TN 75	1	13
38 14 05	EP C TN 75/FM	1	13
38 20 22	EnerPro 220Tr/20kA	1	16
38 20 23	EnerPro 220Tr/20kA/Pk	1	16
38 20 25	EnerPro 150Tr/Pk	1	18
38 20 28	EnerPro 280Tr	1	12
38 20 29	EnerPro 280Tr/Pk	1	12
38 20 55	EnerPro 502 Tr	1	18
38 20 57	EnerPro 502 Tr/Pk	1	18

Art.No.	product name	pcs	page
38 20 70	EnerPro 48V/100A-Tr	1	18
38 20 71	EnerPro 48V/100A-Tr/Pk	1	18
38 20 79	EP CV 2P 65V/63A/FM	1	17
38 20 80	EP CV 2P 65V/63A-LED	1	17
38 20 83	EP CV 2P 65V/63A/FM-LED	1	17
38 50 00	PP BCD TNC 25/75-350	1	5
38 50 10	PP BCD TNC 25/75/FM-350	1	5
38 50 20	PP BCD TNS 25/100-350	1	5
38 50 30	PP BCD TNS 25/100/FM-350	1	5
38 50 40	PP BCD TT 25/100-350	1	5
38 50 50	PP BCD TT 25/100/FM-350	1	5
38 50 60	PP BCD TN 25/50-350	1	6
38 50 70	PP BCD TN 25/50/FM-350	1	6
38 50 80	PP BCD TT1+1 25/100-350	1	6
38 50 90	PP BCD TT1+1 25/100/FM-350	1	6
38 51 00	PP BCD TN 25/50/LED-350	1	6
38 51 10	PP BCD TN 25/50/LED/FM-350	1	6
38 51 20	PP BC TNC 25/75-350	1	6
38 51 30	PP BC TNC 25/75/FM-350	1	6
38 51 40	PP BC TNS 25/100-350	1	6
38 51 50	PP BC TNS 25/100/FM-350	1	6
38 51 60	PP BC TT 25/100-350	1	7
38 51 70	PP BC TT 25/100/FM-350	1	7
38 51 80	PP BC TN 25/50-350	1	7
38 51 90	PP BC TN 25/50/FM-350	1	7
38 52 00	PP BC TT1+1 25/100-350	1	7
38 52 10	PP BC TT1+1 25/100/FM-350	1	7
38 52 80	IP BC TNC 60/100-350	1	10
38 52 90	IP BC TNC 60/100/FM-350	1	10
38 53 00	IP BC TNC 25/75-350	1	10
38 53 10	IP BC TNC 25/75/FM-350	1	10
38 53 20	IP BC TNS 60/100-350	1	10
38 53 30	IP BC TNS 60/100/FM-350	1	10
38 53 40	IP BC TNS 25/100-350	1	10
38 53 50	IP BC TNS 25/100/FM-350	1	10
38 53 60	IP BC TT 60/100-350	1	10
38 53 70	IP BC TT 60/100/FM-350	1	10
38 53 80	IP BC TT 25/100-350	1	10
38 53 90	IP BC TT 25/100/FM-350	1	10
38 54 00	IP BC TN 60/100-350	1	11
38 54 10	IP BC TN 60/100/FM-350	1	11
38 54 20	IP BC TN 25/50-350	1	11
38 54 30	IP BC TN 25/50/FM-350	1	11
38 54 40	IP BC TT1+1 60/100-350	1	11
38 54 50	IP BC TT1+1 60/100/FM-350	1	11
38 54 60	IP BC TT1+1 25/100-350	1	11
38 54 70	IP BC TT1+1 25/100/FM-350	1	11
38 54 80	IPK BC TNC 350	1	11
38 54 90	IPK BC TNC 350/FM	1	11
38 55 00	IPK BC TNS 350	1	11

Preise ohne MwSt.

Art. index, numerical

Art.No.	product name	pcs	page
38 55 10	IPK BC TNS 350/FM	1	11
38 55 20	IPK BC TT 350	1	11
38 55 30	IPK BC TT 350V/FM	1	11
38 55 40	EP C TN 350	1	12
38 55 50	EP C TN 350/FM	1	12
38 55 60	EP C TNC 350	1	12
38 55 70	EP C TNC 350/FM	1	12
38 55 80	EP C TNS 350	1	12
38 55 90	EP C TNS 350/FM	1	12
38 56 00	EP C TT 350	1	12
38 56 10	EP C TT 350/FM	1	12
38 56 20	EP C S TN 350	1	13
38 56 30	EP C S TN 350/FM	1	13
38 56 40	EP C S TNC 350	1	13
38 56 50	EP C S TNC 350/FM	1	13
38 56 60	EP C S TNS 350	1	13
38 56 70	EP C S TNS 350/FM	1	13
38 56 80	EP C S TT1+1 350	1	13
38 56 90	EP C S TT1+1 350/FM	1	13
38 57 00	EP C S TT 350	1	13
38 57 10	EP C S TT 350/FM	1	13
38 57 20	EP C S T 350	1	14
38 57 30	EP C S T 350/FM	1	14
38 57 40	EP C S 350	1	14
39 10 11	EnerPro 120CG/10kA	1	16
39 10 22	Ener Pro 230CG/10kA	1	16
39 50 02	EnerPro 1002 Tr	1	18
39 50 03	EP 1003-Tr	1	18
39 50 04	EnerPro 802 Tr	1	18
39 50 05	EnerPro 802 Tr/PK	1	18
39 50 12	EP 502/20kA-Tr	1	18
39 50 14	EP 802/20kA-Tr	1	18
39 50 16	EP 1002/20kA-Tr	1	18
39 50 18	EnerPro PH 100	1	18
39 50 19	EnerPro PH 100/FM	1	18
39 50 20	EP 503-Tr	1	18
39 50 26	EP 803-Tr	1	18
39 50 30	EP Y PV 1000	1	18
39 50 31	EP Y PV 1000/FM	1	18
44 90 69	TSF 100	1	30
44 90 80	TSF 100-Tr	1	31
44 90 85	TSF 500-Tr	1	31
47 21 04	SGO 70 QA	1	31
47 21 11	SGO 350 QA	1	31
47 21 17	SGO 70	1	30
47 22 13	SGO 350	1	30
48 78 01	TSF 500	1	30
48 78 14	TA 100 C	1	30
48 78 27	TA 500 C	1	30
48 78 30	TC 100 A	1	30
48 78 50	TC 500 A	1	30
49 51 06	K1/150	1	31
49 51 08	K1/300	1	31
49 51 11	K1/600	1	31
51 41 27	SB 230 magazin	1	29
53 43 72	TF 100 Tr/Th-Pk	1	32
53 43 85	TF 500 Tr/Th-Pk	1	32
53 43 98	TF 500 Tr	1	32
54 43 40	DataPro Koax-8V-BNC-75Ohm	1	24
54 43 46	DataPro Koax-8V-BNC	1	24
54 43 47	DataPro-GSM-SMA	1	24
54 43 49	DataPro-GSM-FME	1	24
55 04 11	TF 2000 Tr/Th-Pk	1	32
55 04 24	PLPro-40A	1	33
55 04 25	PLPro-80A	1	33
55 04 26	PLPro-120A	1	33
55 04 27	PLPro-160A	1	33
55 05 18	IsoPro 230/400Tr/60kA-F/Pk	1	10
60 00 22	EnerPro 220 Zw	1	16
82 30 11	IF1	1	31
82 30 16	IF3	1	31
87 00 10	H35	1	34
87 00 30	calibration	1	34
87 00 60	GDT-test adapter ADE/FGH	1	34
87 00 70	Test adapter ADE/E	1	34
87 01 00	A46	1	35
87 01 50	H65	1	35
89 20 20	GE-3TE-IP54	1	20
89 20 21	GE-6TE-IP54	1	20
89 20 22	GE-9TE-IP54	1	20
89 20 23	GE-12TE-IP54	1	20
89 20 30	GE-4TE-IP54/IP65	1	20
89 20 31	GE-7TE-IP54/IP65	1	20
89 20 32	GE-10TE- IP54/IP65	1	20
89 20 40	GE-1-16TE IP65/150	1	20
89 20 41	GE-1-16TE IP65/300	1	20
89 20 42	GE-1-16TE IP65/450	1	20
89 20 50	GE-ALU-IP65/122	1	20
89 20 51	GE-ALU-IP65/220	1	20
89 20 52	GE-ALU-IP65/160	1	20
89 20 53	GE-ALU-IP65/260	1	20
89 20 60	FAG	1	20
89 30 31	DP2-2MB	1	22
89 40 00	EnerPro-EL/PB	1	19

Preise ohne MwSt.

product name	Art.No.	pcs	page
AntPro Koax-GSM-N/230	04 00 01	1	24
A46	87 01 00	1	35
AntPro 150 MHz	04 01 50	1	25
AntPro 2,4 GHz	04 24 00	1	25
AntPro 420 MHz	04 04 20	1	25
AntPro 5.8 GHz-R-SMA	04 58 02	1	25
AntPro 5.8 GHz-SMA	04 58 00	1	25
AntPro 80 MHz	04 00 80	1	25
AntPro 820 MHz	04 08 20	1	25
AntPro Koax-GSM-N/230 (f/f)	04 00 04	1	24
CPS 230 Fax/Tel	32 50 10	1	16
CPS 230 ISDN	32 50 20	1	16
CPS 230 Network	32 50 30	1	16
CPS 230 SAT	32 50 40	1	16
DataPro 2x1-RLC/50V-G-Tr	29 50 00	1	17
DataPro Koax-8V-BNC	54 43 46	1	24
DataPro Koax-8V-BNC-75Ohm	54 43 40	1	24
DataPro Z-12V/12V	22 12 12	1	24
DataPro Z-15V/15V	22 15 15	1	24
DataPro Z-24V/24V	22 24 24	1	24
DataPro Z-30V/30V	22 30 30	1	24
DataPro Z-36V/36V	22 36 36	1	24
DataPro Z-48V/48V	22 48 48	1	24
DataPro Z-60V/60V	22 60 60	1	24
DataPro Z-6V/6V	22 06 06	1	24
DataPro Z-RLC	23 00 00	1	24
DataPro2x1-24V-SDSL-Tr	24 00 24	1	22
DataPro2x1-SDSL-Tr	24 00 18	1	22
DataPro4x1-SDSL-Tr	24 00 20	1	22
DataPro-GSM-FME	54 43 49	1	24
DataPro-GSM-SMA	54 43 47	1	24
DataPro-ISDN-aP	24 00 13	1	23
DataPro-Radio/TV (0-900Mhz)	21 00 30	1	25
DataPro-RJ45-Zw	24 00 15	1	23
DataPro-SAT(0.8-2.0Ghz)	21 00 20	1	25
DataPro-TAE/NFN-aP	24 00 04	1	23
DataPro-TAE-Modul	24 00 07	1	23
DP 10LSA-110	24 01 40	1	26
DP 10LSA-12V	24 00 25	1	26
DP 10LSA-24V	24 00 27	1	26
DP 10LSA-PTC110	24 01 42	1	26
DP 10LSA-PTC-12V	24 00 26	1	26
DP 10LSA-PTC-24V	24 00 28	1	26
DP 1LSA-110	24 00 39	1	26
DP 1LSA-110-PTC	24 00 46	1	26
DP 1LSA-12	24 00 32	1	26
DP 1LSA-12-PTC	24 00 41	1	26
DP 1LSA-15	24 00 33	1	26
DP 1LSA-15-PTC	24 00 42	1	26
DP 1LSA-180FS	24 00 47	1	26

product name	Art.No.	pcs	page
DP 1LSA-24	24 00 34	1	26
DP 1LSA-24-PTC	24 00 43	1	26
DP 1LSA-30	24 00 36	1	26
DP 1LSA-48	24 00 37	1	26
DP 1LSA-48-PTC	24 00 44	1	26
DP 1LSA-5	24 00 31	1	26
DP 1LSA-5-PTC	24 00 40	1	26
DP 1LSA-60	24 00 38	1	26
DP 1LSA-60-PTC	24 00 45	1	26
DP 1LSA-C12FS-PTC	24 00 64	1	26
DP 1LSA-C15FS-PTC	24 00 65	1	26
DP 1LSA-C24FS-PTC	24 00 66	1	26
DP 1LSA-C48FS-PTC	24 00 61	1	26
DP 1LSA-C5FS-PTC	24 00 63	1	26
DP 1LSA-C60FS-PTC	24 00 62	1	26
DP 1LSA-T110FS-PTC	24 00 48	1	26
DP 1LSA-TK180FS	24 00 49	1	26
DP2-2MB	89 30 31	1	22
DP2-2MB-Tr	24 00 17	1	21
DP2x1 80V/80V-Tr	27 80 80	1	21
DP2x1-12V/12V-0.3 Ω-Tr	26 12 12	1	22
DP2x1-12V/12V-Tr	27 12 12	1	21
DP2x1-150V/150V-Tr	27 04 04	1	21
DP2x1-15V/15V	20 15 15	1	22
DP2x1-15V/15V-Tr	27 15 15	1	21
DP2x1-24V/24V	20 24 24	1	22
DP2x1-24V/24V-0,3 Ω-Tr	26 24 24	1	22
DP2x1-24V/24V-Tr	27 24 24	1	21
DP2x1-30V/30V	20 30 30	1	22
DP2x1-30V/30V-Tr	27 30 30	1	21
DP2x1-36V/36V	20 36 36	1	22
DP2x1-36V/36V-0,3 Ω-Tr	26 36 36	1	22
DP2x1-36V/36V-Tr	27 36 36	1	21
DP2x1-48V/48V	20 48 48	1	22
DP2x1-48V/48V-Tr	27 48 48	1	21
DP2x1-60V/60V	20 60 60	1	22
DP2x1-60V/60V-Tr	27 60 60	1	21
DP2x1-6V/6V	20 06 06	1	22
DP2x1-6V/6V-Tr	27 06 06	1	21
DP2x1-RLC	20 00 00	1	22
DP2x1-RLC/50V-Tr	28 70 50	1	21
DP2x1-RLC-Tr	27 00 00	1	21
DP2x8-36V/36V-Tr/GO	27 90 00	1	22
DP2x8-36V/36V-Tr/GU	27 90 01	1	22
DP3x1-12V/12V-Tr	28 12 12	1	21
DP3x1-150V/150V-Tr	28 04 04	1	21
DP3x1-15V/15V-Tr	28 15 15	1	21
DP3x1-24V/24V-Tr	28 24 24	1	21
DP3x1-30V/30V-Tr	28 30 30	1	21
DP3x1-36V/36V-Tr	28 36 36	1	21

product name	Art.No.	pcs	page
DP3x1-48V/48V-Tr	28 48 48	1	21
DP3x1-60V/60V-Tr	28 60 60	1	21
DP8-RLC/19"	19 00 08	1	24
DPA-LSA-1DA-180FS-PTC	24 01 20	1	28
DPA-LSA-1DA-PTC	24 01 22	1	29
DP-RJ45-48V-Zw	24 00 16	1	23
DP-RS 232/422/485-9P	24 00 60	1	23
DP-RS 232-D25-Zw	24 00 50	1	23
DP-RS 232-D9-Zw	24 00 30	1	23
DP-RS485-Tr	27 04 85	1	23
EnerPro 1002 Tr	39 50 02	1	18
EnerPro 120CG/10kA	39 10 11	1	16
EnerPro 12V-6A/LED	24 12 02	1	18
EnerPro 12V-Tr	24 12 00	1	19
EnerPro 150Tr/Pk	38 20 25	1	18
EnerPro 220 Zw	60 00 22	1	16
EnerPro 220Tr/20kA	38 20 22	1	16
EnerPro 220Tr/20kA/Pk	38 20 23	1	16
EnerPro 230 SDU	24 00 02	1	16
EnerPro 230CG/10kA	39 10 22	1	16
EnerPro 24V-6A/LED	24 24 02	1	18
EnerPro 24V-Tr	24 24 00	1	19
EnerPro 280Tr	38 20 28	1	12
EnerPro 280Tr/Pk	38 20 29	1	12
EnerPro 36V-6A/LED	24 36 02	1	18
EnerPro 36V-Tr	24 36 00	1	19
EnerPro 48V/100A-Tr	38 20 70	1	18
EnerPro 48V/100A-Tr/Pk	38 20 71	1	18
EnerPro 48V-Tr	24 48 00	1	19
EnerPro 502 Tr	38 20 55	1	18
EnerPro 502 Tr/Pk	38 20 57	1	18
EnerPro 60V-Tr	24 60 00	1	19
EnerPro 65V/12A-G-Tr	29 65 12	1	17
EnerPro 65V/12A-Tr	29 60 00	1	17
EnerPro 65V/12A-Tr/FM	29 60 02	1	17
EnerPro 802 Tr	39 50 04	1	18
EnerPro 802 Tr/PK	39 50 05	1	18
EnerPro PH 100	39 50 18	1	18
EnerPro PH 100/FM	39 50 19	1	18
EnerPro-EL/PB	89 40 00	1	19
EP 1002/20kA-Tr	39 50 16	1	18
EP 1003-Tr	39 50 03	1	18
EP 12V-20A/LED	24 12 03	1	18
EP 24V-20A/LED	24 24 03	1	18
EP 36V-20A/LED	24 36 03	1	18
EP 48V-20A/LED	24 48 03	1	18
EP 502/20kA-Tr	39 50 12	1	18
EP 503-Tr	39 50 20	1	18
EP 802/20kA-Tr	39 50 14	1	18
EP 803-Tr	39 50 26	1	18

product name	Art.No.	pcs	page
EP C S 130	38 12 56	1	14
EP C S 275	38 12 42	1	14
EP C S 350	38 57 40	1	14
EP C S 440	38 13 02	1	14
EP C S 550	38 13 12	1	14
EP C S 75	38 12 62	1	14
EP C S T 130	38 12 45	1	14
EP C S T 130/FM	38 12 50	1	14
EP C S T 275	38 12 70	1	14
EP C S T 275/FM	38 12 75	1	14
EP C S T 350	38 57 20	1	14
EP C S T 350/FM	38 57 30	1	14
EP C S T 440	38 13 00	1	14
EP C S T 440/FM	38 13 05	1	14
EP C S T 550	38 13 10	1	14
EP C S T 550/FM	38 13 15	1	14
EP C S T 75	38 12 60	1	13
EP C S T 75/FM	38 12 65	1	13
EP C S TN 275	38 12 40	1	13
EP C S TN 275/FM	38 12 41	1	13
EP C S TN 350	38 56 20	1	13
EP C S TN 350/FM	38 56 30	1	13
EP C S TNC 275	38 10 30	1	13
EP C S TNC 275/FM	38 10 35	1	13
EP C S TNC 350	38 56 40	1	13
EP C S TNC 350/FM	38 56 50	1	13
EP C S TNS 275	38 10 50	1	13
EP C S TNS 275/FM	38 10 55	1	13
EP C S TNS 350	38 56 60	1	13
EP C S TNS 350/FM	38 56 70	1	13
EP C S TT 275	38 10 40	1	13
EP C S TT 275/FM	38 10 45	1	13
EP C S TT 350	38 57 00	1	13
EP C S TT 350/FM	38 57 10	1	13
EP C S TT1+1 275	38 10 24	1	13
EP C S TT1+1 275/FM	38 10 25	1	13
EP C S TT1+1 350	38 56 80	1	13
EP C S TT1+1 350/FM	38 56 90	1	13
EP C TN 275	38 12 47	1	12
EP C TN 275/FM	38 12 48	1	12
EP C TN 275-D	38 12 52	1	12
EP C TN 350	38 55 40	1	12
EP C TN 350/FM	38 55 50	1	12
EP C TN 75	38 14 00	1	13
EP C TN 75/FM	38 14 05	1	13
EP C TNC 275	38 11 76	1	12
EP C TNC 275/FM	38 11 77	1	12
EP C TNC 350	38 55 60	1	12
EP C TNC 350/FM	38 55 70	1	12
EP C TNS 275	38 11 78	1	12

product name	Art.No.	pcs	page
EP C TNS 275/FM	38 11 79	1	12
EP C TNS 350	38 55 80	1	12
EP C TNS 350/FM	38 55 90	1	12
EP C TT 275	38 11 80	1	12
EP C TT 275/FM	38 11 81	1	12
EP C TT 350	38 56 00	1	12
EP C TT 350/FM	38 56 10	1	12
EP C TT1+1 275	38 11 82	1	12
EP C TT1+1 275/FM	38 11 83	1	12
EP C TT1+1 350	38 11 88	1	12
EP C TT1+1 350/FM	38 11 91	1	12
EP CV 2P 65V/63A/FM	38 20 79	1	17
EP CV 2P 65V/63A/FM-LED	38 20 83	1	17
EP CV 2P 65V/63A-LED	38 20 80	1	17
EP D 230 SM	35 20 30	1	17
EP D TN 120V/16A	38 05 59	1	16
EP D TN 120V/16A/FM	38 05 60	1	16
EP D TN 230V/16A	38 05 62	1	16
EP D TN 230V/16A/FM	38 05 63	1	16
EP D TN 24V/16A	38 05 50	1	15
EP D TN 24V/16A/FM	38 05 51	1	15
EP D TN 275	38 12 54	1	15
EP D TN 275/FM	38 12 55	1	15
EP D TN 48V/16A	38 05 53	1	15
EP D TN 48V/16A/FM	38 05 54	1	15
EP D TN 60V/16A	38 05 56	1	15
EP D TN 60V/16A/FM	38 05 57	1	15
EP D TNC 275	38 05 24	1	15
EP D TNC 275/FM	38 05 25	1	15
EP D TNS 275	38 05 30	1	15
EP D TNS 275/FM	38 05 31	1	15
EP D TT 275	38 05 35	1	15
EP D TT 275/FM	38 05 36	1	15
EP D TT1+1 275	38 05 38	1	15
EP D TT1+1 275/FM	38 05 39	1	15
EP D TT2+1 275	38 05 40	1	15
EP D TT2+1 275/FM	38 05 41	1	15
EP Y PV 1000	39 50 30	1	18
EP Y PV 1000/FM	39 50 31	1	18
EP4x2-LC/19"	19 00 42	1	24
EPF 230/400V/100A-E	25 31 40	1	19
EPF 230/400V/16A-W	25 30 45	1	19
EPF 230/400V/200A-E	25 31 60	1	19
EPF 230/400V/25A-W	25 30 80	1	19
EPF 230/400V/35A-W	25 31 00	1	19
EPF 230/400V/63A-E	25 31 30	1	19
EPF 230V/16A-S	25 30 20	1	19
EPF 230V/16A-Tr	25 30 16	1	19
EPF 230V/16A-W	25 30 25	1	19
EPF 230V/25A-Tr	25 30 17	1	19
EPF 230V/35A-S	25 30 85	1	19
EPF 48V/16A-S	25 30 19	1	19
EPF 48V/25A-S	25 30 53	1	19
EPF 60V/16A-S	25 30 22	1	19
ErP58	19 00 58	1	24
FAG	89 20 60	1	20
GDT-test adapter ADE/FGH	87 00 60	1	34
GE-10TE- IP54/IP65	89 20 32	1	20
GE-1-16TE IP65/150	89 20 40	1	20
GE-1-16TE IP65/300	89 20 41	1	20
GE-1-16TE IP65/450	89 20 42	1	20
GE-12TE-IP54	89 20 23	1	20
GE-3TE-IP54	89 20 20	1	20
GE-4TE-IP54/IP65	89 20 30	1	20
GE-6TE-IP54	89 20 21	1	20
GE-7TE-IP54/IP65	89 20 31	1	20
GE-9TE-IP54	89 20 22	1	20
GE-ALU-IP65/122	89 20 50	1	20
GE-ALU-IP65/160	89 20 52	1	20
GE-ALU-IP65/220	89 20 51	1	20
GE-ALU-IP65/260	89 20 53	1	20
GE-ELG-1x8xRJ45-19"	19 40 10	1	23
GE-ELG-2x8xRJ45-19"	19 40 20	1	23
GE-ELG-3x8xRJ45-19"	19 40 30	1	23
H35	87 00 10	1	34
H45	16 02 00	1	34
H65	87 01 50	1	35
IF1	82 30 11	1	31
IF3	82 30 16	1	31
IP B TN 25/50	38 12 36	1	9
IP B TN 25/50/FM	38 12 37	1	9
IP B TN 60/100	38 12 32	1	9
IP B TN 60/100/FM	38 12 33	1	9
IP B TNC 25/75	38 12 16	1	8
IP B TNC 25/75/FM	38 12 17	1	8
IP B TNC 60/100	38 11 40	1	8
IP B TNC 60/100/FM	38 11 41	1	8
IP B TNS 25/100	38 12 20	1	9
IP B TNS 25/100/FN	38 12 21	1	9
IP B TNS 60/100	38 11 45	1	8
IP B TNS 60/100/FM	38 11 46	1	8
IP B TT 25/100	38 12 24	1	9
IP B TT 25/100/FM	38 12 25	1	9
IP B TT 60/100	38 11 50	1	9
IP B TT 60/100/FM	38 11 51	1	9
IP B TT1+1 25/100	38 12 28	1	9
IP B TT1+1 25/100/FM	38 12 29	1	9
IP B TT1+1 60/100	38 11 55	1	9
IP B TT1+1 60/100/FM	38 11 56	1	9
IP BC TN 25/50	38 12 38	1	11

product name	Art.No.	pcs	page
IP BC TN 25/50/FM	38 12 39	1	11
IP BC TN 25/50/FM-350	38 54 30	1	11
IP BC TN 25/50-350	38 54 20	1	11
IP BC TN 60/100	38 12 34	1	11
IP BC TN 60/100/FM	38 12 35	1	11
IP BC TN 60/100/FM-350	38 54 10	1	11
IP BC TN 60/100-350	38 54 00	1	11
IP BC TNC 60/100/FM-350	38 52 90	1	10
IP BC TNC 25/75	38 12 18	1	10
IP BC TNC 25/75/FM	38 12 19	1	10
IP BC TNC 25/75/FM-350	38 53 10	1	10
IP BC TNC 25/75-350	38 53 00	1	10
IP BC TNC 60/100	38 11 42	1	10
IP BC TNC 60/100/FM	38 11 43	1	10
IP BC TNC 60/100-350	38 52 80	1	10
IP BC TNS 25/100	38 12 22	1	10
IP BC TNS 25/100/FM	38 12 23	1	10
IP BC TNS 25/100/FM-350	38 53 50	1	10
IP BC TNS 25/100-350	38 53 40	1	10
IP BC TNS 60/100	38 11 47	1	10
IP BC TNS 60/100/FM	38 11 48	1	10
IP BC TNS 60/100/FM-350	38 53 30	1	10
IP BC TNS 60/100-350	38 53 20	1	10
IP BC TT 25/100	38 12 26	1	10
IP BC TT 25/100/FM	38 12 27	1	10
IP BC TT 25/100/FM-350	38 53 90	1	10
IP BC TT 25/100-350	38 53 80	1	10
IP BC TT 60/100	38 11 52	1	10
IP BC TT 60/100/FM	38 11 54	1	10
IP BC TT 60/100/FM-350	38 53 70	1	10
IP BC TT 60/100-350	38 53 60	1	10
IP BC TT1+1 25/100/FM-350	38 54 70	1	11
IP BC TT1+1 25/100-350	38 54 60	1	11
IP BC TT1+1 60/100	38 11 57	1	11
IP BC TT1+1 60/100/FM	38 11 58	1	11
IP BC TT1+1 60/100/FM-350	38 54 50	1	11
IP BC TT1+1 60/100-350	38 54 40	1	11
IPK BC TNC 275	38 11 70	1	11
IPK BC TNC 275/FM	38 11 71	1	11
IPK BC TNC 350	38 54 80	1	11
IPK BC TNC 350/FM	38 54 90	1	11
IPK BC TNS 275	38 11 72	1	11
IPK BC TNS 275/FM	38 11 73	1	11
IPK BC TNS 350	38 55 00	1	11
IPK BC TNS 350/FM	38 55 10	1	11
IPK BC TT 275	38 11 74	1	11
IPK BC TT 275/FM	38 11 75	1	11
IPK BC TT 350	38 55 20	1	11
IPK BC TT 350V/FM	38 55 30	1	11
IsoPro 230/400Tr/25kA-F	37 38 25	1	10
IsoPro 230/400Tr/25kA-F/Pk	37 38 26	1	10
IsoPro 230/400Tr/60kA-F	37 38 30	1	10
IsoPro 230/400Tr/60kA-F/Pk	55 05 18	1	10
IsoProData-150V/150V-Tr	27 03 03	1	21
IsoProData-Tr	27 30 02	1	21
K1/150	49 51 06	1	31
K1/300	49 51 08	1	31
K1/600	49 51 11	1	31
KA1/2	17 00 10	1	25
KA1/4	17 00 20	1	25
KA1/6	17 00 30	1	25
KA1/8	17 00 40	1	25
Kalibrierung (calibration)	87 00 30	1	34
KatPro RG-440	34 30 10	1	17
LSA 2/10 AD	24 01 09	1	28
LSA 2/10 KS-120	24 01 36	1	28
LSA 2/10 KSR	24 01 08	1	28
LSA 2/10-AN	24 01 00	1	27
LSA 2/10-ER38-ge/gn	24 01 34	1	27
LSA 2/10-ER38-rot	24 01 04	1	27
LSA 2/10-ES	24 01 33	1	29
LSA 2/10-MW10-25/22	24 01 10	1	28
LSA 2/10-TR	24 01 02	1	27
LSA- mounting tool	24 01 12	1	28
LSA DIN ADAPT	24 01 37	1	28
NM 220V/20kA	36 20 22	1	17
NM 220V/20kA/Pk	36 20 23	1	17
NM 220V/5kA	36 05 22	1	16
PLPro-120A	55 04 26	1	33
PLPro-160A	55 04 27	1	33
PLPro-40A	55 04 24	1	33
PLPro-80A	55 04 25	1	33
PP B TN 50/100	38 12 10	1	8
PP B TN 50/100/FM	38 12 11	1	8
PP B TNC 440	37 39 64	1	7
PP B TNC 440/FM	37 39 65	1	7
PP B TNC 50/100	37 39 70	1	7
PP B TNC 50/100/FM	37 39 72	1	7
PP B TNC 50/100/FM-350	37 41 15	1	7
PP B TNC 50/100-350	37 41 10	1	7
PP B TNS 440	37 39 43	1	7
PP B TNS 440/FM	37 39 44	1	7
PP B TNS 50/100	37 39 40	1	7
PP B TNS 50/100/FM	37 39 42	1	7
PP B TNS 50/100/FM-350	37 41 25	1	7
PP B TNS 50/100-350	37 41 20	1	7
PP B TT 50/100	37 39 10	1	8
PP B TT 50/100/FM	37 39 12	1	8
PP B TT 50/100/FM-350	37 41 35	1	8
PP B TT 50/100-350	37 41 30	1	8

product name	Art.No.	pcs	page
PP B TT1+1 50/100	38 11 30	1	8
PP B TT1+1 50/100/FM	38 11 31	1	8
PP B TT2+1 50/100	37 39 15	1	8
PP B TT2+1 50/100/FM	37 39 17	1	8
PP BC TN 25/50	38 12 12	1	7
PP BC TN 25/50/FM	38 12 13	1	7
PP BC TN 25/50/FM-350	38 51 90	1	7
PP BC TN 25/50-350	38 51 80	1	7
PP BC TNC 25/75	37 39 80	1	6
PP BC TNC 25/75/FM	37 39 82	1	6
PP BC TNC 25/75/FM-350	38 51 30	1	6
PP BC TNC 25/75-350	38 51 20	1	6
PP BC TNC 440V	37 39 81	1	6
PP BC TNC 440V/FM	37 39 83	1	6
PP BC TNS 25/100	37 39 50	1	6
PP BC TNS 25/100/FM	37 39 52	1	6
PP BC TNS 25/100/FM-350	38 51 50	1	6
PP BC TNS 25/100-350	38 51 40	1	6
PP BC TT 25/100	37 39 20	1	7
PP BC TT 25/100/FM	37 39 22	1	7
PP BC TT 25/100/FM-350	38 51 70	1	7
PP BC TT 25/100-350	38 51 60	1	7
PP BC TT1+1 25/100	38 11 32	1	7
PP BC TT1+1 25/100	38 12 30	1	11
PP BC TT1+1 25/100/FM	38 11 33	1	7
PP BC TT1+1 25/100/FM	38 12 31	1	11
PP BC TT1+1 25/100/FM-350	38 52 10	1	7
PP BC TT1+1 25/100-350	38 52 00	1	7
PP BCD TNC 25/75-350	38 50 00	1	5
PP BCD TNC 25/75/FM-350	38 50 10	1	5
PP BCD TN 25/50	38 12 14	1	6
PP BCD TN 25/50/FM	38 12 15	1	6
PP BCD TN 25/50/FM-350	38 50 70	1	6
PP BCD TN 25/50/LED	37 12 00	1	6
PP BCD TN 25/50/LED/FM	37 12 02	1	6
PP BCD TN 25/50/LED/FM-350	38 51 10	1	6
PP BCD TN 25/50/LED-350	38 51 00	1	6
PP BCD TN 25/50-350	38 50 60	1	6
PP BCD TNC 25/75	37 39 90	1	5
PP BCD TNC 25/75/FM	37 39 92	1	5
PP BCD TNS 25/100	37 39 60	1	5
PP BCD TNS 25/100/FM-350	38 50 30	1	5
PP BCD TNS 25/100-350	38 50 20	1	5
PP BCD TNS 25/100FM	37 39 62	1	5
PP BCD TT 25/100	37 39 30	1	5
PP BCD TT 25/100/FM	37 39 32	1	5
PP BCD TT 25/100/FM-350	38 50 50	1	5
PP BCD TT 25/100-350	38 50 40	1	5
PP BCD TT1+1 25/100	38 11 34	1	6
PP BCD TT1+1 25/100/FM	38 11 35	1	6

product name	Art.No.	pcs	page
PP BCD TT1+1 25/100/FM-350	38 50 90	1	6
PP BCD TT1+1 25/100-350	38 50 80	1	6
PP BCD TT2+1 25/100	37 39 34	1	5
PP BCD TT2+1 25/100/FM	37 39 36	1	5
PP IT 50/100	37 39 18	1	8
PP IT 50/100/FM	37 39 19	1	8
test adapter ADE/E	87 00 70	1	34
SB 230 magazin	51 41 27	1	29
SGO 350	47 22 13	1	30
SGO 350 QA	47 21 11	1	31
SGO 70	47 21 17	1	30
SGO 70 QA	47 21 04	1	31
SP C S-N/PE	38 12 46	1	14
SP C S-NPE/FM	38 12 58	1	14
TA 100 C	48 78 14	1	30
TA 500 C	48 78 27	1	30
TC 100 A	48 78 30	1	30
TC 500 A	48 78 50	1	30
TelPro LSA 2/10-2E 8x20	24 01 28	1	28
TelPro LSA 2/10-2E 8x6	24 01 06	1	27
TelPro LSA 2/10-3E 8x13	24 01 18	1	28
TelPro LSA 2/10-3EH230E-10kA	24 01 19	1	27
TelPro LSA 2EH230-10kA	24 01 13	1	28
TelPro LSA-2EH230F-10kA	24 01 14	1	28
TelPro LSA-2EH350-10kA	24 01 16	1	28
TelPro LSA-2EH90-10kA	24 01 17	1	28
TelPro LSA-2EL230-20kA	24 01 15	1	28
TelPro LSA-2EY230-20kA	24 01 29	1	28
TelPro LSA-2EY350-20kA	24 01 32	1	28
TelPro LSA-2EY90-20kA	24 01 31	1	28
TelPro LSA-3EH230F1E-10kA	24 01 23	1	27
TelPro LSA-3EH90E-10kA	24 01 26	1	27
TelPro LSA-3EH90F1E-10kA	24 01 27	1	28
TelPro LSA-3EL230E-20kA	24 01 24	1	27
TelPro LSA-3EL230F1E-20kA	24 01 25	1	27
TF 100 Tr/Th-Pk	53 43 72	1	32
TF 2000 Tr/Th-Pk	55 04 11	1	32
TF 500 Tr	53 43 98	1	32
TF 500 Tr/Th-Pk	53 43 85	1	32
TSF 100	44 90 69	1	30
TSF 100-Tr	44 90 80	1	31
TSF 500	48 78 01	1	30
TSF 500-Tr	44 90 85	1	31
UAS 230-Tr	35 10 30	1	25

Art.No.	product name	pcs	page
95 10 00	2EM 90	2500	36
95 10 01	2EM 90 Q	100	36
95 10 02	2EM 90 Q SMD	900	36
95 10 03	2EM 90F Q	100	36
95 10 04	2EM 230	2500	36
95 10 05	2EM 230 Q	100	36
95 10 06	2EM 230 Q SMD	900	36
95 10 07	2EM 230F Q	100	36
95 10 08	2EM 350	2500	36
95 10 09	2EM 350 Q	100	36
95 10 10	2EM 600	2500	36
95 10 11	2EM 600 Q	100	36
95 10 12	2EM 600 Q SMD	900	36
95 10 15	2EH 90	1000	36
95 10 16	2EL 90	1000	36
95 10 17	2EH 90 Q	500	36
95 10 18	2EL 90 Q	500	36
95 10 19	2EL 90 Q SMD	350	36
95 10 20	2EH 150	1000	36
95 10 21	2EL 150	1000	36
95 10 22	2EH 150 Q	500	36
95 10 23	2EL 150 Q	500	36
95 10 24	2EH 230	4000	36
95 10 25	2EL 230	100	36
95 10 26	2EH 230F	100	36
95 10 27	2EH 230 Q	500	36
95 10 28	2EL 230 Q	500	36
95 10 29	2EH 230F Q	100	36
95 10 30	2EH 230 Q SMD	350	36
95 10 31	2EH 250	1000	36
95 10 32	2EL 250	1000	36
95 10 33	2EH 250 Q	500	36
95 10 34	2EL 250 Q	500	36
95 10 35	2EL 250 Q SMD	350	36
95 10 36	2EH 350	1000	36
95 10 37	2EL 350	1000	36
95 10 38	2EH 350 Q	500	36
95 10 39	2EL 350 Q	500	36
95 10 40	2EH 420	1000	36
95 10 41	2EL 420	1000	36
95 10 42	2EH 420 Q	500	36
95 10 43	2EL 500 Q	500	36
95 10 44	2EH 600	1000	36
95 10 45	2EL 600	1000	36
95 10 46	2EH 600 Q	500	36
95 10 47	2EL 600 Q	500	36
95 10 50	2EU 800	1000	37
95 10 51	2EU 800 Q	500	37
95 10 52	2EU 1000	100	37
95 10 53	2EU 1000 Q	500	37
95 10 54	2EU 1200	1000	37
95 10 55	2EU 1200 Q	500	37
95 10 56	2EU 1400	1000	37
95 10 57	2EU 1400 Q	500	37
95 10 58	2EU 1600	500	37
95 10 59	2EU 1600 Q	500	37
95 10 60	2EU 2500 Q	500	37
95 10 61	2EU 3500 Q	500	37
95 10 62	2EU 4500 Q	500	37
95 10 65	2EJ 270 Q	500	37
95 10 66	2EJ 470 Q	500	37
95 10 67	2EJ 800 Q	500	37
95 10 70	2EJ 90	1000	37
95 10 72	2EJ 150	1000	37
95 10 74	2EJ 230	1000	37
95 10 76	2EJ 350	1000	37
95 10 78	2EJ 420	1000	37
95 10 80	2EJ 500	1000	37
95 10 82	2EJ 600	1000	37
95 10 86	2EY 90	100	37
95 10 87	2EY 150	100	37
95 10 88	2EY 170	100	37
95 10 89	2EY 230	100	37
95 10 90	2EY 350	100	37
95 10 91	2EY 600	100	37
95 10 94	2EY 90 E	100	37
95 10 97	2EY 230 E	100	37
95 10 98	2EY 350 E	100	37
95 10 99	2EY 600 E	100	37
95 11 90	2ST 230 EK	500	40
95 13 00	3ET 90	2500	38
95 13 01	3ET 90 Q	250	38
95 13 02	3ET 90 E	500	38
95 13 03	3ET 230	2500	38
95 13 04	3ET 230 Q	250	38
95 13 05	3ET 230 E	500	38
95 13 06	3ET 350	2500	38
95 13 07	3ET 350 Q	500	38
95 13 08	3ET 350 E	500	38
95 13 09	3ET 420	2500	38
95 13 10	3ET 420 Q	250	38
95 13 11	3ET 420 E	500	38
95 13 12	3ET 230 F1 E	500	38
95 13 14	3EM 90	500	38
95 13 15	3EM 90 E	500	38
95 13 16	3EM 230	500	38
95 13 17	3EM 230 E	500	38
95 13 18	3EM 230F	500	38
95 13 20	3EM 350	500	38
95 13 21	3EM 230 Q	250	38

Art.No.	product name	pcs	page
95 13 23	3EH 90	2000	39
95 13 24	3EH 90F	500	39
95 13 25	3EH 90 Q	200	39
95 13 26	3EH 90 E	500	39
95 13 27	3EH 90F1 E	500	39
95 13 28	3EH 90F4 E	500	39
95 13 29	3EH 230	2000	39
95 13 30	3EL 230	500	39
95 13 31	3EH 230F	500	39
95 13 32	3EH 230 Q	250	39
95 13 33	3EL 230 Q	250	39
95 13 34	3EH 230F4 Q	250	39
95 13 35	3EL 230F4 Q	250	39
95 13 36	3EH 230 E	500	39
95 13 37	3EL 230 E	500	39
95 13 38	3EH 230F1 E	500	39
95 13 39	3EL 230F1 E	500	39
95 13 40	3EH 230F4 E	500	39
95 13 41	3EL 230F4 E	500	39
95 13 42	3EH230QSMD	300	39
95 13 43	3EH 250	2000	39
95 13 44	3EL 250	2000	39
95 13 45	3EH 250F	500	39
95 13 46	3EL 250F	500	39
95 13 47	3EL 250 Q	250	39
95 13 48	3EH 250 E	500	39
95 13 49	3EL 250 E	500	39
95 13 50	3EL 250F1 E	500	39
95 13 51	3EH 250F4 E	500	39
95 13 52	3EL 250F4 E	500	39
95 13 53	3EH 350	2000	39
95 13 54	3EL 350	2000	39
95 13 55	3EH 350F	500	39
95 13 56	3EL 350 F	500	39
95 13 57	3EH 350 Q	250	39
95 13 58	3EL 350 Q	250	39
95 13 59	3EH 350 E	500	39
95 13 60	3EL 350 E	500	39
95 13 61	3EH 350F1 E	500	39
95 13 62	3EL 350F1 E	500	39
95 13 63	3EH 350F4 E	500	39
95 13 64	3EL 350F4 E	500	39
95 13 65	3EL 420	2000	39
95 13 66	3EH 420F	500	39
95 13 67	3EL 420F	500	39
95 13 68	3EH 420 Q	250	39
95 13 69	3EL 420Q	250	39
95 13 70	3EH 420 E	500	39
95 13 71	3EL 420 E	500	39
95 13 72	3EL 420F4 E	500	39

Art.No.	product name	pcs	page
95 13 73	3EL 500 E	500	39
95 13 74	3EH 600 Q	250	39
95 13 75	3EH 600 E	500	39
95 13 76	3EH 600 F1E	500	39
95 13 77	3EH 600 E	500	39
95 13 80	3ET 230 EM	500	38
95 13 81	3ET 230 F1 EM	500	38
95 13 82	3ET 230 F1T EM	500	38
95 14 00	3EHT 90 E	500	38
95 14 01	3EHT 90 F4 E	500	38
95 14 02	3EHT 230 E	500	38
95 14 03	3EHT 230 F4 E	500	38
95 14 04	3EHT 250 E	500	38
95 14 05	3EHT 250 F4 E	500	38
95 14 06	3EHT 350 E	500	38
95 14 07	3EHT 350 F4 E	500	38
95 14 08	3EHT 230 F1 E	500	38
95 14 10	3EV 230F1 E	500	40
95 59 00	PTC-ID-120mA-US-B05	500	40
95 59 01	PTC-ID-145mA-US-B05	500	40
95 59 02	PTC-ID-180mA-U-B05	500	40
95 59 03	PTC-ID-180mA-US-B	500	40

product name	Art.No.	pcs	page
2EH 150	95 10 20	1000	36
2EH 150 Q	95 10 22	500	36
2EH 230	95 10 24	4000	36
2EH 230 Q	95 10 27	500	36
2EH 230 Q SMD	95 10 30	350	36
2EH 230F	95 10 26	100	36
2EH 230F Q	95 10 29	100	36
2EH 250	95 10 31	1000	36
2EH 250 Q	95 10 33	500	36
2EH 350	95 10 36	1000	36
2EH 350 Q	95 10 38	500	36
2EH 420	95 10 40	1000	36
2EH 420 Q	95 10 42	500	36
2EH 600	95 10 44	1000	36
2EH 600 Q	95 10 46	500	36
2EH 90	95 10 15	1000	36
2EH 90 Q	95 10 17	500	36
2EJ 150	95 10 72	1000	37
2EJ 230	95 10 74	1000	37
2EJ 270 Q	95 10 65	500	37
2EJ 350	95 10 76	1000	37
2EJ 420	95 10 78	1000	37
2EJ 470 Q	95 10 66	500	37
2EJ 500	95 10 80	1000	37
2EJ 600	95 10 82	1000	37
2EJ 800 Q	95 10 67	500	37
2EJ 90	95 10 70	1000	37
2EL 150	95 10 21	1000	36
2EL 150 Q	95 10 23	500	36
2EL 230	95 10 25	100	36
2EL 230 Q	95 10 28	500	36
2EL 250	95 10 32	1000	36
2EL 250 Q	95 10 34	500	36
2EL 250 Q SMD	95 10 35	350	36
2EL 350	95 10 37	1000	36
2EL 350 Q	95 10 39	500	36
2EL 420	95 10 41	1000	36
2EL 500 Q	95 10 43	500	36
2EL 600	95 10 45	1000	36
2EL 600 Q	95 10 47	500	36
2EL 90	95 10 16	1000	36
2EL 90 Q	95 10 18	500	36
2EL 90 Q SMD	95 10 19	350	36
2EM 230	95 10 04	2500	36
2EM 230 Q	95 10 05	100	36
2EM 230 Q SMD	95 10 06	900	36
2EM 230F Q	95 10 07	100	36
2EM 350	95 10 08	2500	36
2EM 350 Q	95 10 09	100	36
2EM 600	95 10 10	2500	36

product name	Art.No.	pcs	page
2EM 600 Q	95 10 11	100	36
2EM 600 Q SMD	95 10 12	900	36
2EM 90	95 10 00	2500	36
2EM 90 Q	95 10 01	100	36
2EM 90 Q SMD	95 10 02	900	36
2EM 90F Q	95 10 03	100	36
2EU 1000	95 10 52	100	37
2EU 1000 Q	95 10 53	500	37
2EU 1200	95 10 54	1000	37
2EU 1200 Q	95 10 55	500	37
2EU 1400	95 10 56	1000	37
2EU 1400 Q	95 10 57	500	37
2EU 1600	95 10 58	500	37
2EU 1600 Q	95 10 59	500	37
2EU 2500 Q	95 10 60	500	37
2EU 3500 Q	95 10 61	500	37
2EU 4500 Q	95 10 62	500	37
2EU 800	95 10 50	1000	37
2EU 800 Q	95 10 51	500	37
2EY 150	95 10 87	100	37
2EY 170	95 10 88	100	37
2EY 230	95 10 89	100	37
2EY 230 E	95 10 97	100	37
2EY 350	95 10 90	100	37
2EY 350 E	95 10 98	100	37
2EY 600	95 10 91	100	37
2EY 600 E	95 10 99	100	37
2EY 90	95 10 86	100	37
2EY 90 E	95 10 94	100	37
2ST 230 EK	95 11 90	500	40
3EH 230	95 13 29	2000	39
3EH 230 E	95 13 36	500	39
3EH 230 Q	95 13 32	250	39
3EH 230F	95 13 31	500	39
3EH 230F1 E	95 13 38	500	39
3EH 230F4 E	95 13 40	500	39
3EH 230F4 Q	95 13 34	250	39
3EH 250	95 13 43	2000	39
3EH 250 E	95 13 48	500	39
3EH 250F	95 13 45	500	39
3EH 250F4 E	95 13 51	500	39
3EH 350	95 13 53	2000	39
3EH 350 E	95 13 59	500	39
3EH 350 Q	95 13 57	250	39
3EH 350F	95 13 55	500	39
3EH 350F1 E	95 13 61	500	39
3EH 350F4 E	95 13 63	500	39
3EH 420 E	95 13 70	500	39
3EH 420 Q	95 13 68	250	39
3EH 420F	95 13 66	500	39

product name	Art.No.	pcs	page
3EH 600 E	95 13 75	500	39
3EH 600 E	95 13 77	500	39
3EH 600 F1E	95 13 76	500	39
3EH 600 Q	95 13 74	250	39
3EH 90	95 13 23	2000	39
3EH 90 E	95 13 26	500	39
3EH 90 Q	95 13 25	200	39
3EH 90F	95 13 24	500	39
3EH 90F1 E	95 13 27	500	39
3EH 90F4 E	95 13 28	500	39
3EH230QSMD	95 13 42	300	39
3EHT 230 E	95 14 02	500	38
3EHT 230 F1 E	95 14 08	500	38
3EHT 230 F4 E	95 14 03	500	38
3EHT 250 E	95 14 04	500	38
3EHT 250 F4 E	95 14 05	500	38
3EHT 350 E	95 14 06	500	38
3EHT 350 F4 E	95 14 07	500	38
3EHT 90 E	95 14 00	500	38
3EHT 90 F4 E	95 14 01	500	38
3EL 230	95 13 30	500	39
3EL 230 E	95 13 37	500	39
3EL 230 Q	95 13 33	250	39
3EL 230F1 E	95 13 39	500	39
3EL 230F4 E	95 13 41	500	39
3EL 230F4 Q	95 13 35	250	39
3EL 250	95 13 44	2000	39
3EL 250 E	95 13 49	500	39
3EL 250 Q	95 13 47	250	39
3EL 250F	95 13 46	500	39
3EL 250F1 E	95 13 50	500	39
3EL 250F4 E	95 13 52	500	39
3EL 350	95 13 54	2000	39
3EL 350 E	95 13 60	500	39
3EL 350 F	95 13 56	500	39
3EL 350 Q	95 13 58	250	39
3EL 350F1 E	95 13 62	500	39
3EL 350F4 E	95 13 64	500	39
3EL 420	95 13 65	2000	39
3EL 420 E	95 13 71	500	39
3EL 420F	95 13 67	500	39
3EL 420F4 E	95 13 72	500	39
3EL 420Q	95 13 69	250	39
3EL 500 E	95 13 73	500	39
3EM 230	95 13 16	500	38
3EM 230 E	95 13 17	500	38
3EM 230 Q	95 13 21	250	38
3EM 230F	95 13 18	500	38
3EM 350	95 13 20	500	38
3EM 90	95 13 14	500	38

product name	Art.No.	pcs	page
3EM 90 E	95 13 15	500	38
3ET 230	95 13 03	2500	38
3ET 230 E	95 13 05	500	38
3ET 230 EM	95 13 80	500	38
3ET 230 F1 E	95 13 12	500	38
3ET 230 F1 EM	95 13 81	500	38
3ET 230 F1T EM	95 13 82	500	38
3ET 230 Q	95 13 04	250	38
3ET 350	95 13 06	2500	38
3ET 350 E	95 13 08	500	38
3ET 350 Q	95 13 07	500	38
3ET 420	95 13 09	2500	38
3ET 420 E	95 13 11	500	38
3ET 420 Q	95 13 10	250	38
3ET 90	95 13 00	2500	38
3ET 90 E	95 13 02	500	38
3ET 90 Q	95 13 01	250	38
3EV 230F1 E	95 14 10	500	40
PTC-ID-120mA-US-B05	95 59 00	500	40
PTC-ID-145mA-US-B05	95 59 01	500	40
PTC-ID-180mA-U-B05	95 59 02	500	40
PTC-ID-180mA-US-B	95 59 03	500	40

Purchase Order

Fax-No. +49(0)7 11-9 4771-70

Leutron GmbH
Humboldtstrasse 30
D-70771 Leinfelden-Echterdingen

Art.-No.	product name/description	pcs	

With the present purchase order we acknowledge the General Terms and Conditions of Leutron GmbH.

company _____

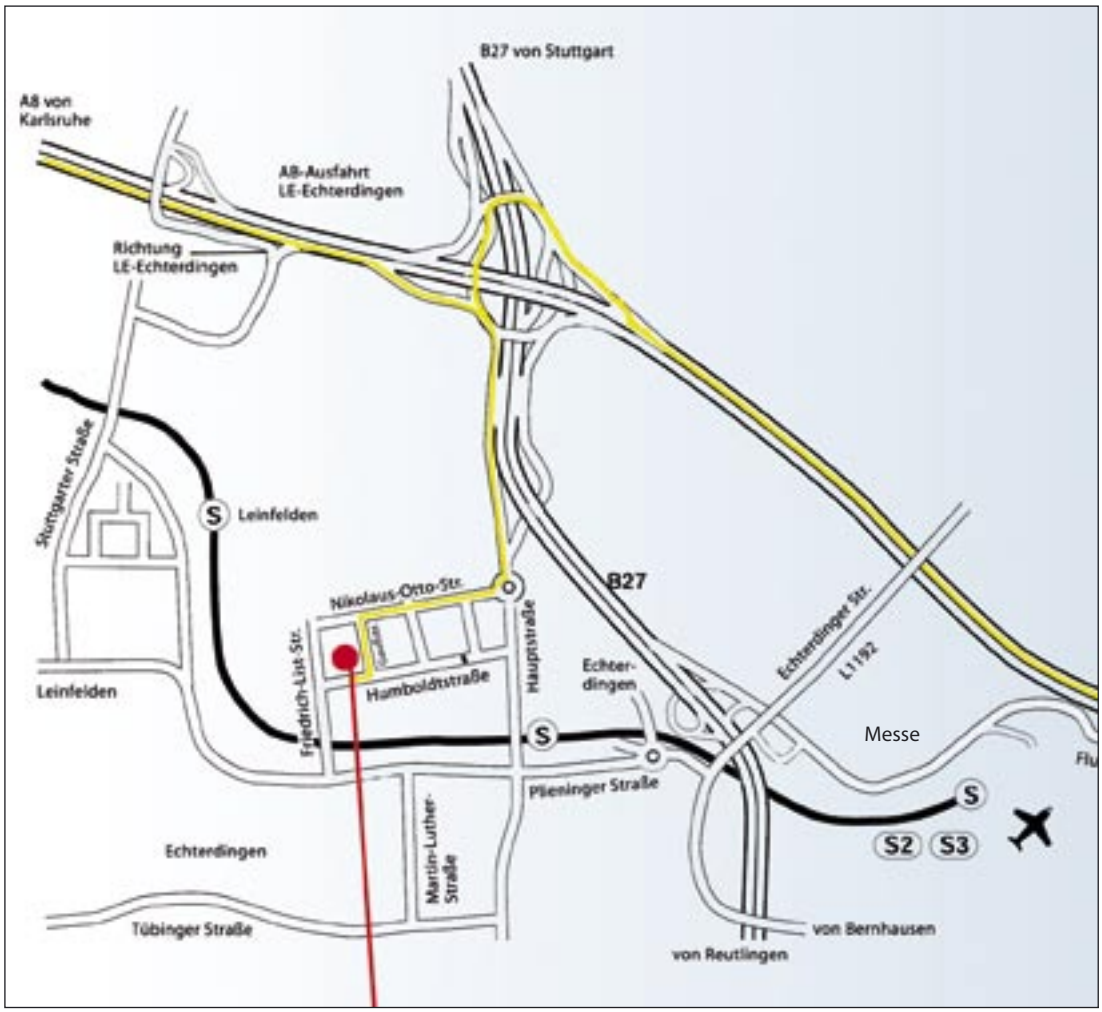
street adress _____ **customer number** _____

ZIP code/location _____

date _____ **signature** _____ **your order number** _____

please copy and fax

How to find us: Leutron GmbH, Leinfelden-Echterdingen, Germany



Leutron GmbH, Humboldtstrasse 30/32, 70771 Leinfelden-Echterdingen

Using the A8 motorway from Munich (1):
Leave at exit “Leinfelden-Echterdingen”
Using the A8 motorway from Karlsruhe (2)
Leave at exit “Leinfelden-Echterdingen” and follow the signs to Leinfelden-Echterdingen.

1. Validity
The terms and conditions set forth herein and on the face of this document shall constitute the entire agreement between Buyer and Leutron GmbH. Any provision or condition which is in any way different from or in addition to these terms and conditions shall not be valid.

2. Offers, conclusions of contracts and deliveries
2.1. An order passed by a customer constitutes a binding offer. This offer can either be accepted by transmitting an order acknowledgement within four weeks after receipt or by sending the ordered material to Buyer within the same period of time.
2.2. Technical documents such as illustrations, drawings, product descriptions or similar are only approximate indications subject to modifications wherever and whenever Seller deems this necessary under the condition that the technical function is not affected in a negative way.
2.3. All technical documents remain Seller's intellectual property and must neither be copied nor duplicated nor divulged to third parties in any possible way nor must they be used for manufacturing of works in whole or in part. Technical documents submitted without subsequent order must be restored without delay.
2.4. Buyer is liable to communicate any relevant legal, official or other regulations that may affect the proper fulfilment of the contract. Should Buyer fail to do this thus causing damages to Seller, Seller shall have the right to claim compensation for damages or to cancel the contract in question.

3. Prices and payment terms
3.1. Prices ex works, package and insurance included without VAT.
3.2. Payment terms are either net 30 days after invoice date or by L/C as agreed.
3.3. If Buyer fails to fulfil the terms of payment, Seller reserves the right to claim interests for late payment at the rate of 4 % above the Bundesbank (German Federal Reserve Bank) discount rate being valid at the time unless Buyer can prove that Seller suffered no or less loss or damage.
3.4. Seller reserves the right to adjust prices for contracts with a delivery time of more than 4 months according to increases in raw material costs or in personnel costs due to modified wage agreements incurred during this period of time. Should the price increase exceed 5 %, Buyer shall have the right to cancel the contract.
3.5. Any rights for compensation shall only be valid if established as legally binding, uncontested and accepted by Seller.

4. Deliveries
4.1. Seller is only obliged to deliver consignments if Buyer has fulfilled his all acts and duties related to it on time and correctly.
4.2. In the event of delayed delivery by Seller, his obligation to compensate for damages incurred shall be restricted to 50% of the forseeable damage in the event of minor negligence. Any further damage compensation can only be claimed if the delay in delivery is due to gross negligence or premeditation.

5. Material control and approval, liability to check and notify of possible complaints
5.1. Quality control prior to dispatch is carried out according to Seller's test standards at his expenses. Any further control tests, especially control checks at the place of destination, shall only be carried out by Seller if agreed in writing beforehand.
5.2. If the material supplied is found to be defective or lacks specific guaranteed properties, Seller shall be liable to mend the defective or incomplete material within an appropriate delay, excluding any further or future rights of claim by Buyer. If Seller fails to mend the defective or incomplete material even after an appropriate respite has been granted or if the defect or incomplete material has not been mended satisfactorily, Buyer shall be entitled to cancel the contract or to claim a reduction of the originally agreed price.
5.3. Buyer is liable to check the material immediately upon arrival and to notify in writing about possible evident defects within 5 working days after receipt. There is no liability of notification about possible complaints in cases where it is Seller's duty to carry out material tests upon arrival at destination, whilst Buyer is still liable to notify about possible complaints after the test on incoming material has been completed.

6. Warranty
6.1. Seller shall be liable, at his discretion, to either replace or remedy a defect for which he has to take responsibility. In case of replacement of the defective material, Seller shall bear all costs incurred , especially transport, man-hours and material costs involved, unless these are increased by the fact that the material has been transferred to a location different from its original place of delivery. All parts being replaced become Seller's property.
6.2. If the defects are not mended satisfactorily or if Seller is not prepared or able to mend or replace the defective material or if Seller fails to mend or repair within the usual delays as set for reasons caused by Seller, Buyer shall be entitled to cancel the contract or claim a reduction of the originally agreed price.
6.3. Seller shall not be liable for damages if these are caused by extraordinary external conditions such as corrosion, dusting, electromagnetic noises, static discharges, faulty or incorrect construction or installation. The same applies if the defects are due to the fact that Buyer or Third Parties have modified or repaired the article supplied without our prior written consent.

7. Liability
7.1. Seller shall not be liable for any further claims from Buyer, especially for prejudices resulting from impossibility, delay, positive infringement, culpa in contrahendo, tort or for replacement due to violation of industrial property rights unless they have been caused by Seller, one of his legal representatives or agents in a grossly negligent or wilful way. This exclusion of liability shall not apply if Buyer claims compensation of damages for lack of a guaranteed material property according to §§ 463, 480II of the German Civil Code, BGB (Bürgerliches Gesetzbuch).
7.2. In case Seller shall violate an elementary contractual liability through gross negligence, his liability shall be limited to the typical forseeable damage.
7.3. Seller's liability shall not extend to damages following torts or criminal acts (such as robbery, theft or breaking and entering) committed to persons, the property or assets of the contractual party or third parties. Further excluded are damage compensation claims resulting from consecutive damages. i.e. non-functioning of the equipment, breaking and entering, costs incurred by intervention of police, brigade or security surveillance services upon alarm indication, unless compulsory legal regulations about liability for premeditation or gross negligence conflict with the present limitation of liabilty.

8. Passage of risks, transport and insurance
8.1. The risk and responsibility for the material supplied passes to Buyer upon submission to the person or company charged with its transport or upon leaving our stocks for dispatch purposes.
8.2. If the material is ready for dispatch, but dispatch itself is delayed for reasons outside our responsibility, the passage of risk takes place with the notification to Buyer that material is ready for dispatch.
8.3. The transport of the material will be performed for account and risk of Buyer. Any insurance covering potential damages of any kind shall have to be effected by Buyer. Should Seller be obliged to effect an insurance due to an explicit prior agreement, this will be done for account and risk of Buyer.

9. Retention of title
9.1. Seller reserves the right of possession on the material purchased until settlement of all claims towards Buyer, regardless of their legal title or ground, including future or restricted claims which could also result from contracts agreed simultaneously or at a later stage, even if specifically defined claims have already been settled.
9.2. Buyer is entitled to re-sell the material under legal reserve in the course of his normal business activities. Any claims resulting from the re-sale of the material under legal reserve shall be ceded by Buyer to Seller already at this point in time for the total value invoiced for the material in question. Buyer shall remain entitled to substantiate his own claims even after this cession. We warrant to refrain from substantiating our cession rights as long as Buyer meets his payment obligations resulting from the proceeds as made, does exceed his payment period and particularly does not verge on insolvency. Buyer shall be obliged to notify Seller immediately if third parties gain access to the material under legal reserve.
9.3. If the total value of securities exceeds Seller's claims by more than 20 %, Seller shall liberate at his discretion an adequate amount of securities upon request by Buyer.

10. Place of performance and jurisdiction
10.1. Place of performance shall be Leinfelden-Echterdingen.
10.2. The laws of the Federal Republic of Germany shall apply to the legal relationship between Seller and Buyer with the exception of cases covered by the UN Convention on the International Sale of Goods (CISG).
10.3. If Buyer is a fully qualified commercialist, a legal entity according to the public law or a specially defined legal public body, the place of jurisdiction for all claims or contests arising from the contractual relationship shall be Stuttgart, Germany. Seller reserves the right, however, to state a claim against Buyer at the place of jurisdiction of his residence.
10.4. Collateral agreements, reserves, supplements and modifications are subject to Sellers written confirmation.
10.5. In case one of the above mentioned stipulations should be legally invalid, this will not affect the remaining stipulations.

11. Warranty
11.1 Seller's warranty for defective products covers a period of 24 months from date of invoice, taking into consideration the stipulations under point 6 of the present General Terms and Sales Conditions.

LEUTRON GmbH
Lightning and Surge Protection
Humboldtstrasse 30/32
D-70771 Leinfelden-Echterdingen

Phone: +49 (0)7 11 / 9 47 71-0
Fax: +49 (0)7 11 / 9 47 71-70
info@leutron.de
www.leutron.de