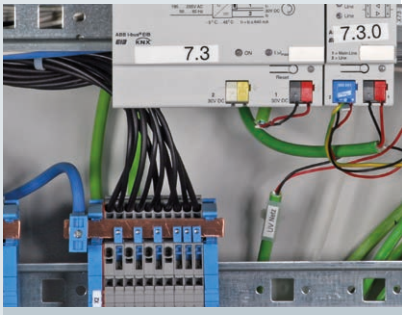
Surge protection for KNX systems

White Paper



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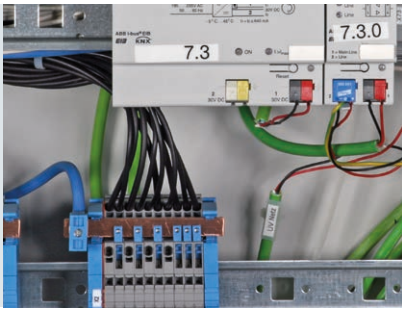

Electrical installations in buildings with complex operator control units, displays and control devices are frequently equipped with an installation bus system. The EIB (European Installation Bus), which was developed at the beginning of the 1990s, is a widely used installation bus system. Today this installation bus system is still the core of a KNX system which is the world's first open standard described in the European EN 50090 standard.
An advantage of the KNX standard is the interoperability between different devices in all industries independent of the manufacturer. Thus, the values of a wind and rain sensor or a temperature and sun sensor can be processed in different building systems. Lighting systems can be switched on or off as needed depending on the light level and different lighting scenarios can be programmed. Consumption values can be recorded and used for load management. These are only some of the many applications where KNX systems can be used. In addition to these advantages, the installation time and the costs of such systems can be considerably reduced.

The smallest installation unit in the bus topology is a line. It consists of max. 64 bus devices (ETS 3 starters). If more than 64 bus devices are required, up to 15 lines can branch off from each main line via a line coupler. The area line connects a maximum of 15 area couplers to each other (**Figure 1**).

The KNX bus is supplied with a safety extra-low voltage (SELV) of max. 29 V. The cable length within a line segment and the length of the bus cable between two bus devices are limited. In case of a maximum length of 1000 m per line segment, the KNX systems may be destroyed by coupling despite of their high dielectric strength.

Moreover, it must be observed that no induction loops are formed when installing the cables. Therefore, the bus and low-voltage cables leading to the bus devices must be installed close to each other (**Figure 2**).
Loops are also formed if a metal construction or pipe is connected to the main earthing busbar (**Figure 3**). Also in this case, it is advisable to install the cables as close as possible to the construction or pipe.

Structure with external lightning protection system

The standard calls for lightning equipotential bonding, therefore all cables at the zone transition from LPZ 0_A to 1 must be protected by lightning current arresters. Since the electromagnetic field inside a structure with external lightning protection system is higher in case of a direct lightning strike than in case of a remote lightning strike, a structure with external lightning protection system must be equipped with surge arresters (**Figure 4**).

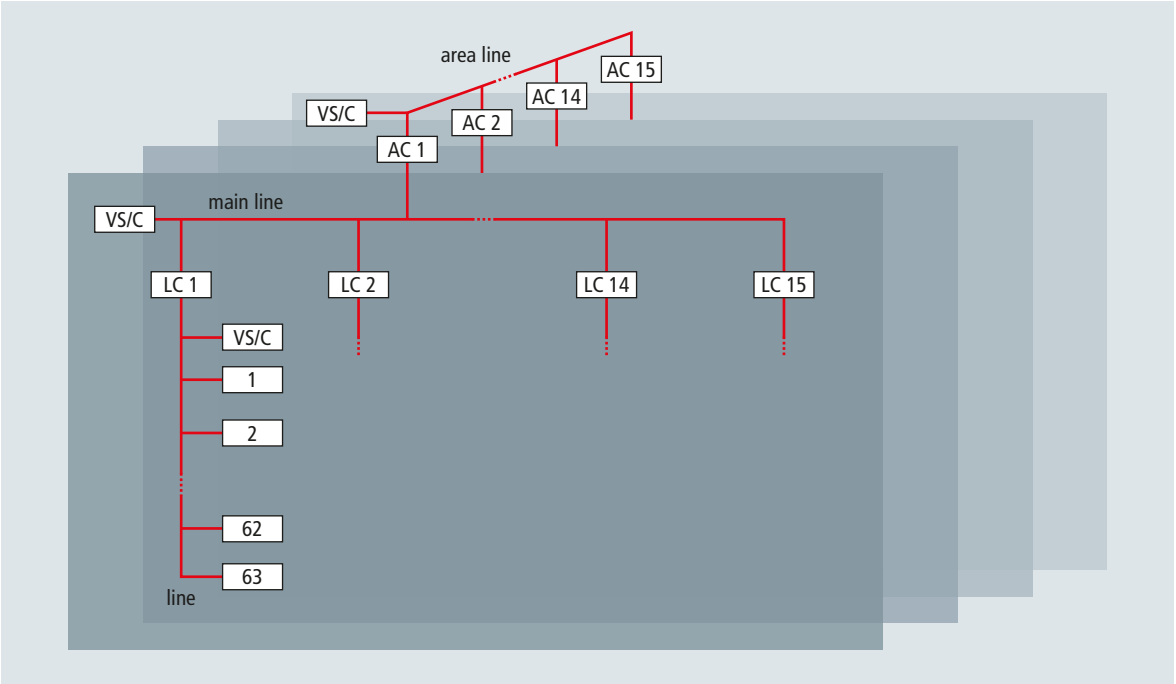

Figure 1 KNX bus topology with maximum number of bus devices per line, maximum number of lines per main line and maximum number of main lines per area line

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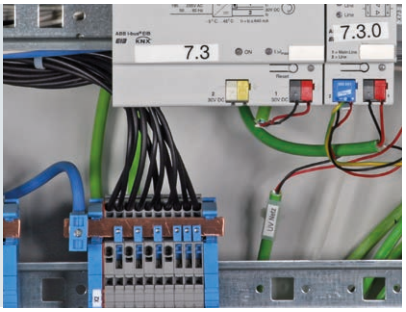


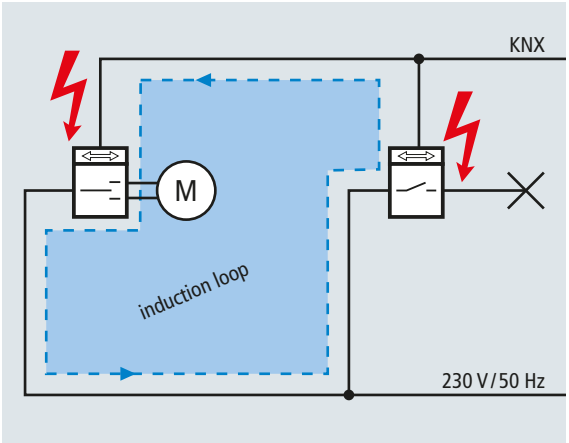


Figure 2 Induction loop formed by two KNX bus devices supplied with low voltage

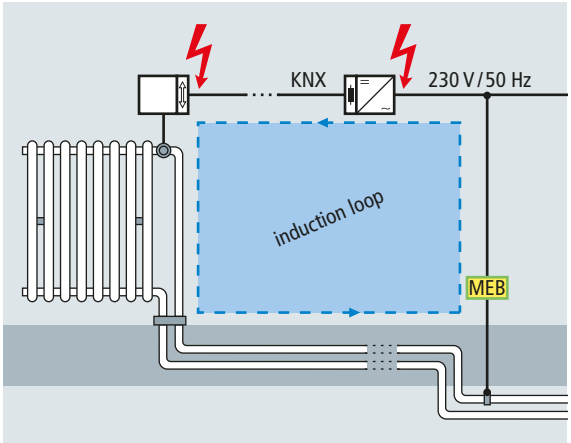
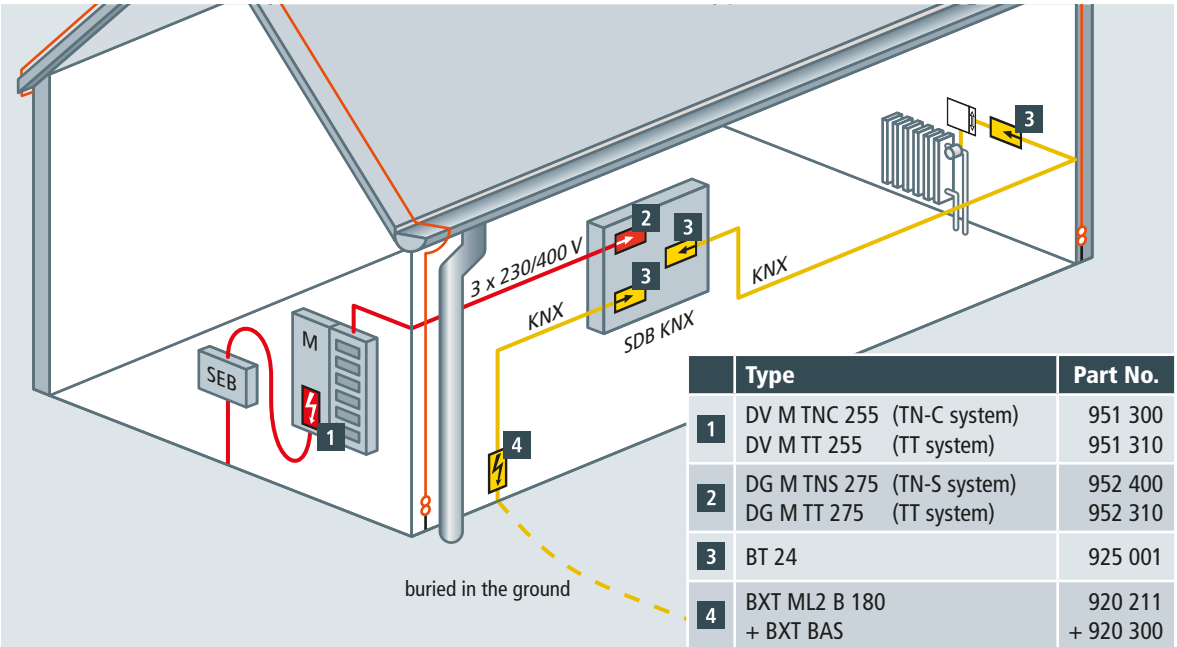


Figure 3 Induction loop formed by one KNX bus device installed at a metal construction or pipe



	Type	Part No.
1	DV M TNC 255 (TN-C system) DV M TT 255 (TT system)	951 300 951 310
2	DG M TNS 275 (TN-S system) DG M TT 275 (TT system)	952 400 952 310
3	BT 24	925 001
4	BXT ML2 B 180 + BXT BAS	920 211 + 920 300

Figure 4 Lightning equipotential bonding at the entrance point of the KNX bus cable into the building and surge protective devices installed at the distribution board of the KNX system and at the actuator of the heater

If the bus cable is routed between different buildings in a lightning current carrying and shielded duct/metal pipe that is earthed on both ends, lightning equipotential bonding does not have to be established for the KNX cable extending beyond the buildings and it is sufficient to install surge arresters (**Figure 5**).

Structure without external lightning protection system

If there is a risk of nearby lightning strikes, it is advisable to install lightning current carrying combined arresters at the entrance point into the building to protect the incoming power cable (**Figure 6**).

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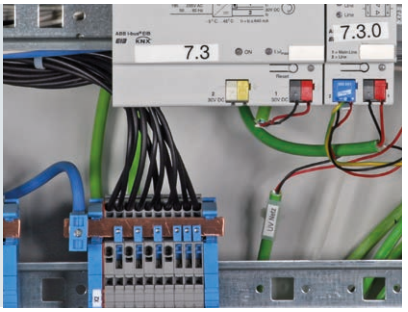
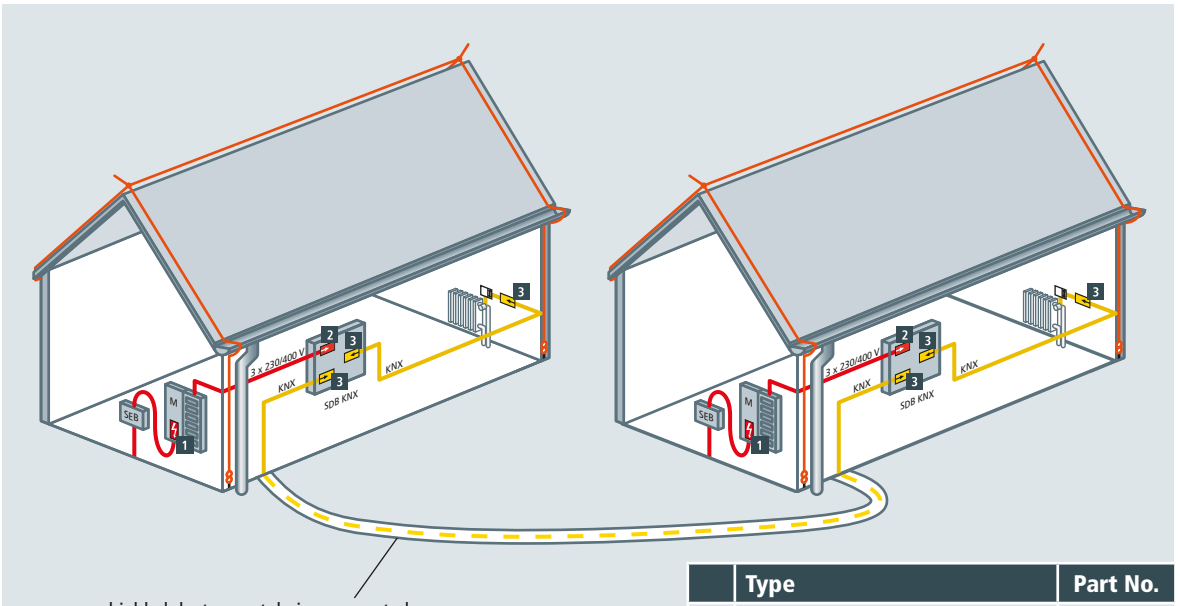
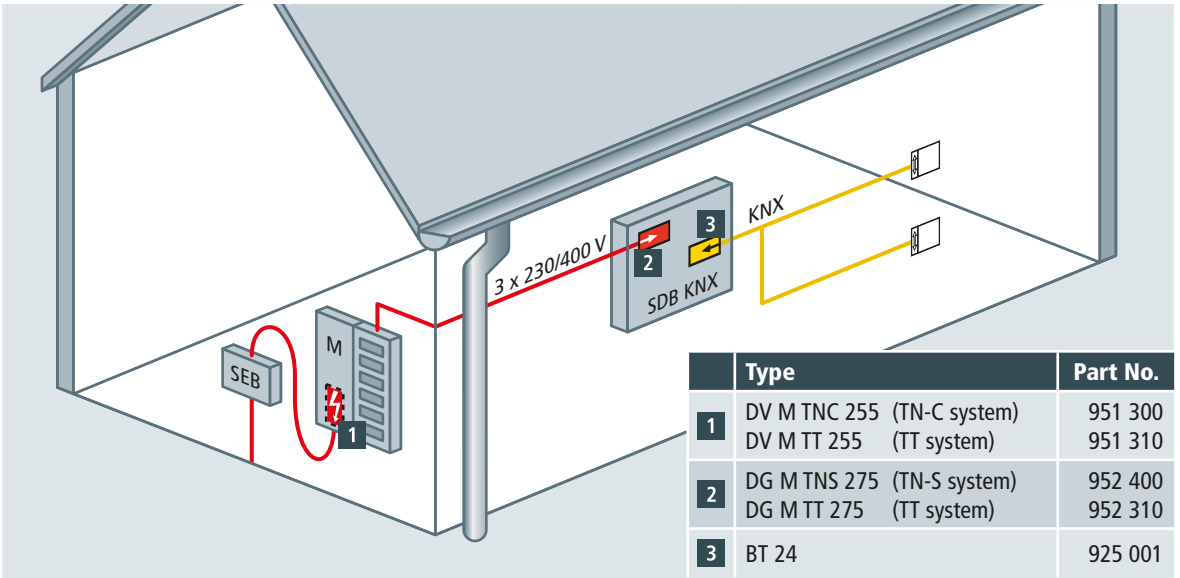




	Type	Part No.
1	DV M TNC 255 (TN-C system) DV M TT 255 (TT system)	951 300 951 310
2	DG M TNS 275 (TN-S system) DG M TT 275 (TT system)	952 400 952 310
3	BT 24	925 001

Figure 5 Lightning equipotential bonding is not required for the KNX cable due to zone expansion



	Type	Part No.
1	DV M TNC 255 (TN-C system) DV M TT 255 (TT system)	951 300 951 310
2	DG M TNS 275 (TN-S system) DG M TT 275 (TT system)	952 400 952 310
3	BT 24	925 001

Figure 6 Lightning current arresters installed in the main power supply system and surge arresters installed at the distribution board of the KNX system

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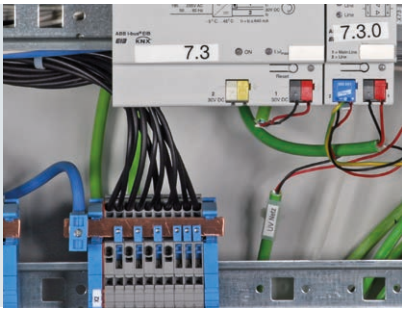
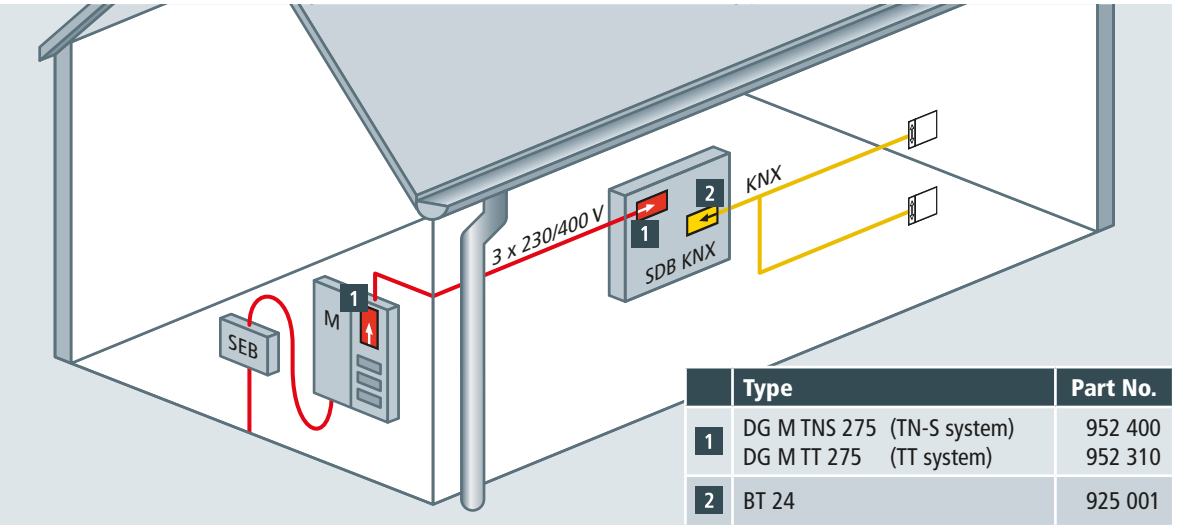




	Type	Part No.
1	DG M TNS 275 (TN-S system) DG M TT 275 (TT system)	952 400 952 310
2	BT 24	925 001

Figure 7 Surge protective devices installed at the main distribution board and at the distribution board of the KNX system

Independent of the point of strike, surge protective devices always have to be installed at the distribution board of the KNX system (**Figures 6 and 7**).

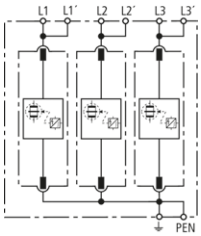
Due to the high dielectric strength of the bus cable, it is unlikely that short bus cables with isolated sensors (e.g. in a socket outlet combination without earthed installation devices) are destroyed. In this case, it is not necessary to install surge arresters directly at the bus devices (**Figures 6 and 7**).

DEHNventil

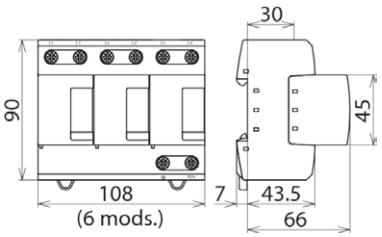
DV M TNC 255 (951 300)

- Prewired combined type 1 and type 2 spark-gap-based lightning current and surge arrester consisting of a base part and plug-in protection modules
- Maximum system availability due to RADAX Flow follow current limitation
- Capable of protecting terminal equipment

Figure without obligation



Basic circuit diagram DV M TNC 255



Dimension drawing DV M TNC 255

Modular combined lightning current and surge arrester for protecting TN-C systems against surges.

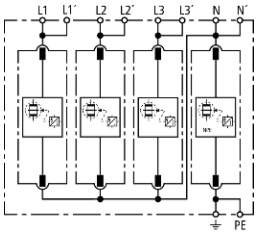
Type Part No.	DV M TNC 255 951 300
SPD according to EN 61643-11 / IEC 61643-11	type 1 + type 2 / class I + class II
Energy coordination with terminal equipment (≤ 5 m)	type 1 + type 2 + type 3
Nominal a.c. voltage (U_N)	230 / 400 V (50 / 60 Hz)
Max. continuous operating a.c. voltage (U_C)	264 V (50 / 60 Hz)
Lightning impulse current (10/350 µs) [L1+L2+L3-PEN] (I_{total})	75 kA
Specific energy [L1+L2+L3-PEN] (W/R)	1.40 MJ/ohms
Lightning impulse current (10/350 µs) [L-PEN] (I_{imp})	25 kA
Specific energy [L-PEN] (W/R)	156.25 kJ/ohms
Nominal discharge current (8/20 µs) [L-PEN]/[L1+L2+L3-PEN] (I_n)	25 / 75 kA
Voltage protection level (U_P)	≤ 1.5 kV
Follow current extinguishing capability a.c. (I_{fi})	50 kA_{rms}
Follow current limitation / Selectivity	no tripping of a 20 A gL/gG fuse up to 50 kA_{rms} (prosp.)
Response time (t_A)	≤ 100 ns
Max. backup fuse (L) up to I_K = 50 kA_{rms}	315 A gG
Max. backup fuse (L-L')	125 A gG
Temporary overvoltage (TOV) (U_T) – Characteristic	440 V / 120 min. – withstand
Operating temperature range [parallel] / [series] (T_U)	-40 °C ... +80 °C / -40 °C ... +60 °C
Operating state / fault indication	green / red
Number of ports	1
Cross-sectional area (L1, L1', L2, L2', L3, L3', PEN, ⏚) (min.)	10 mm^2 solid / flexible
Cross-sectional area (L1, L2, L3, PEN) (max.)	50 mm^2 stranded / 35 mm^2 flexible
Cross-sectional area (L1', L2', L3', ⏚) (max.)	35 mm^2 stranded / 25 mm^2 flexible
For mounting on	35 mm DIN rails acc. to EN 60715
Enclosure material	thermoplastic, red, UL 94 V-0
Place of installation	indoor installation
Degree of protection	IP 20
Capacity	6 module(s), DIN 43880
Approvals	KEMA, VDE, UL, VdS
	Use in switchgear installations with prospective short-circuit

DEHNventil

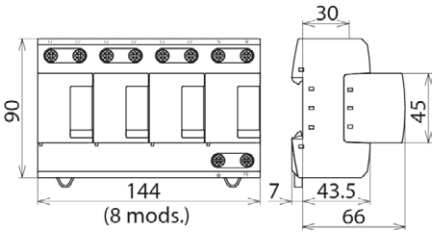
DV M TT 255 (951 310)

- Prewired spark-gap-based type 1 and type 2 combined lightning current and surge arrester consisting of a base part and plug-in protection modules
- Maximum system availability due to RADAX Flow follow current limitation
- Capable of protecting terminal equipment

Figure without obligation



Basic circuit diagram DV M TT 255



Dimension drawing DV M TT 255

Modular combined lightning current and surge arrester for TT and TN-S systems ("3+1" circuit).

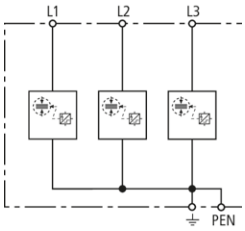
Type Part No.	DV M TT 255 951 310
SPD according to EN 61643-11 / IEC 61643-11	type 1 + type 2 / class I + class II
Energy coordination with terminal equipment (≤ 5 m)	type 1 + type 2 + type 3
Nominal a.c. voltage (U_N)	230 / 400 V (50 / 60 Hz)
Max. continuous operating a.c. voltage [L-N] (U_C)	264 V (50 / 60 Hz)
Max. continuous operating a.c. voltage [N-PE] ($U_{C\ (N-PE)}$)	255 V (50 / 60 Hz)
Lightning impulse current (10/350 µs) [L1+L2+L3+N-PE] (I_{total})	100 kA
Specific energy [L1+L2+L3+N-PE] (W/R)	2.50 MJ/ohms
Lightning impulse current (10/350 µs) [L-N]/[N-PE] (I_{imp})	25 / 100 kA
Specific energy [L-N]/[N-PE] (W/R)	156.25 kJ/ohms / 2.50 MJ/ohms
Nominal discharge current (8/20 µs) [L-N]/[N-PE] (I_n)	25 / 100 kA
Voltage protection level [L-N]/[N-PE] (U_P)	≤ 1.5 / ≤ 1.5 kV
Follow current extinguishing capability [L-N]/[N-PE] (I_{fi})	50 kA_{rms} / 100 A_{rms}
Follow current limitation / Selectivity	no tripping of a 20 A gL/gG fuse up to 50 kA_{rms} (prosp.)
Response time (t_A)	≤ 100 ns
Max. backup fuse (L) up to I_K = 50 kA_{rms}	315 A gG
Max. backup fuse (L-L')	125 A gG
Temporary overvoltage (TOV) [L-N] (U_T) – Characteristic	440 V / 120 min. – withstand
Temporary overvoltage (TOV) [N-PE] (U_T) – Characteristic	1200 V / 200 ms – withstand
Operating temperature range [parallel] / [series] (T_U)	-40 °C ... +80 °C / -40 °C ... +60 °C
Operating state / fault indication	green / red
Number of ports	1
Cross-sectional area (L1, L1', L2, L2', L3, L3', N, N', PE, ⏚) (min.)	10 mm^2 solid / flexible
Cross-sectional area (L1, L2, L3, N, PE) (max.)	50 mm^2 stranded / 35 mm^2 flexible
Cross-sectional area (L1', L2', L3', N', ⏚) (max.)	35 mm^2 stranded / 25 mm^2 flexible
For mounting on	35 mm DIN rails acc. to EN 60715
Enclosure material	thermoplastic, red, UL 94 V-0
Place of installation	indoor installation
Degree of protection	IP 20
Capacity	8 module(s), DIN 43880
Approvals	KEMA, VDE, UL, VdS
Extended technical data:	Use in switchgear installations with prospective short-circuit currents of more than 50 kA_{rms} (tested by the German VDE)
– Max. prospective short-circuit current	100 kA_{rms} (220 kA_{peak})
– Limitation / Extinction of mains follow currents	up to 100 kA_{rms} (220 kA_{peak})
– Max. backup fuse (L) up to I_K = 100 kA_{rms}	315 A gL/gG
Weight	1,27 kg
Customs tariff number	85363030
GTIN	4013364108172
PU	1 pc(s)

DEHNshield

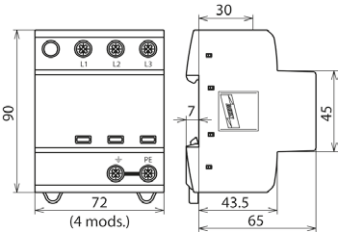
DSH TNC 255 (941 300)

- Application-optimised and prewired type 1 and type 2 spark-gap-based combined lightning current and surge arrester
- Space-saving arrester for compact and simply equipped electrical installations with reduced technical requirements
- Capable of protecting terminal equipment

Figure without obligation



Basic circuit diagram DSH TNC 255



Dimension drawing DSH TNC 255

Application-optimised and prewired combined lightning current and surge arrester for TN-C systems.

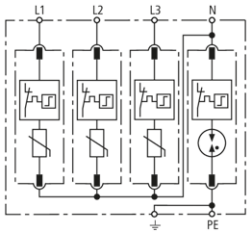
Type Part No.	DSH TNC 255 941 300
SPD according to EN 61643-11 / IEC 61643-11	type 1 + type 2 / class I + class II
Energy coordination with terminal equipment (≤ 5 m)	type 1 + type 2 + type 3
Nominal a.c. voltage (U_N)	230 / 400 V (50 / 60 Hz)
Max. continuous operating a.c. voltage (U_C)	255 V (50 / 60 Hz)
Lightning impulse current (10/350 µs) [L1+L2+L3-PEN] (I_{total})	37.5 kA
Specific energy [L1+L2+L3-PEN] (W/R)	352.00 kJ/ohms
Lightning impulse current (10/350 µs) [L-PEN] (I_{imp})	12.5 kA
Specific energy [L-PEN] (W/R)	39.06 kJ/ohms
Nominal discharge current (8/20 µs) [L-PEN]/[L1+L2+L3-PEN] (I_n)	12.5 / 37.5 kA
Nominal discharge current (8/20 µs) [L/N-PE]/[L1+L2+L3+N-PE] (I_n)	I kA
Voltage protection level (U_P)	≤ 1.5 kV
Follow current extinguishing capability a.c. (I_{fi})	25 kA_{rms}
Follow current limitation / Selectivity	no tripping of a 32 A gL/gG fuse up to 25 kA_{rms} (prosp.)
Response time (t_A)	≤ 100 ns
Max. mains-side overcurrent protection	160 A gL/gG
Temporary overvoltage (TOV) [L-N] (U_T) – Characteristic	440 V / 120 min. – withstand
Operating temperature range (T_U)	-40 °C ... +80 °C
Operating state / fault indication	green / red
Number of ports	1
Cross-sectional area (L1, L2, L3, PEN) (min.)	1.5 mm^2 solid / flexible
Cross-sectional area (L1, L2, L3, PEN) (max.)	35 mm^2 stranded / 25 mm^2 flexible
For mounting on	35 mm DIN rails acc. to EN 60715
Enclosure material	thermoplastic, red, UL 94 V-0
Place of installation	indoor installation
Degree of protection	IP 20
Capacity	4 module(s), DIN 43880
Approvals	KEMA, VDE, UL
Weight	386 g
Customs tariff number	85363030
GTIN	4013364133556
PU	1 pc(s)

DEHNguard

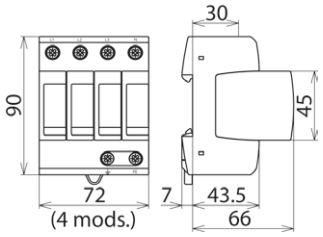
DG M TT 275 (952 310)

- Prewired complete unit consisting of a base part and plug-in protection modules
- High discharge capacity due to heavy-duty zinc oxide varistors / spark gaps
- High reliability due to "Thermo Dynamic Control" SPD monitoring device

Figure without obligation



Basic circuit diagram DG M TT 275



Dimension drawing DG M TT 275

Modular surge arrester for use in TT and TN-S systems ("3+1" circuit).

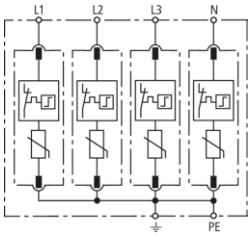
Type Part No.	DG M TT 275 952 310
SPD according to EN 61643-11 / IEC 61643-11	type 2 / class II
Nominal a.c. voltage (U_N)	230 / 400 V (50 / 60 Hz)
Max. continuous operating a.c. voltage [L-N] (U_C)	275 V (50 / 60 Hz)
Max. continuous operating a.c. voltage [N-PE] (U_C)	255 V (50 / 60 Hz)
Nominal discharge current (8/20 µs) (I_n)	20 kA
Max. discharge current (8/20 µs) (I_{max})	40 kA
Lightning impulse current (10/350 µs) [N-PE] (I_{imp})	12 kA
Voltage protection level [L-N] (U_P)	≤ 1.5 kV
Voltage protection level [L-N] at 5 kA (U_P)	≤ 1 kV
Voltage protection level [N-PE] (U_P)	≤ 1.5 kV
Follow current extinguishing capability [N-PE] (I_{fi})	100 A_{rms}
Response time [L-N] (t_A)	≤ 25 ns
Response time [N-PE] (t_A)	≤ 100 ns
Max. mains-side overcurrent protection	125 A gG
Short-circuit withstand capability for max. mains-side overcurrent protection (I_{SCCR})	50 kA_{rms}
Temporary overvoltage (TOV) [L-N] (U_T) – Characteristic	335 V / 5 sec. – withstand
Temporary overvoltage (TOV) [L-N] (U_T) – Characteristic	440 V / 120 min. – safe failure
Temporary overvoltage (TOV) [N-PE] (U_T) – Characteristic	1200 V / 200 ms – withstand
Operating temperature range (T_U)	-40 °C ... +80 °C
Operating state / fault indication	green / red
Number of ports	1
Cross-sectional area (min.)	1.5 mm^2 solid / flexible
Cross-sectional area (max.)	35 mm^2 stranded / 25 mm^2 flexible
For mounting on	35 mm DIN rails acc. to EN 60715
Enclosure material	thermoplastic, red, UL 94 V-0
Place of installation	indoor installation
Degree of protection	IP 20
Capacity	4 module(s), DIN 43880
Approvals	KEMA, VDE, UL, VdS
Weight	450 g
Customs tariff number	85363030
GTIN	4013364108479
PU	1 pc(s)

DEHNguard

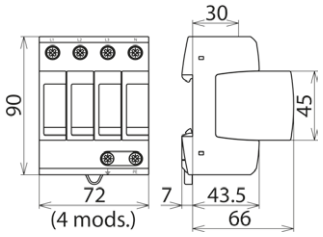
DG M TNS 275 (952 400)

- Prewired complete unit consisting of a base part and plug-in protection modules
- High discharge capacity due to heavy-duty zinc oxide varistors / spark gaps
- High reliability due to "Thermo Dynamic Control" SPD monitoring device

Figure without obligation



Basic circuit diagram DG M TNS 275



Dimension drawing DG M TNS 275

Modular surge arrester for use in TN-S systems.

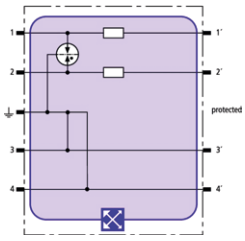
Type Part No.	DG M TNS 275 952 400
SPD according to EN 61643-11 / IEC 61643-11	type 2 / class II
Nominal a.c. voltage (U_N)	230 / 400 V (50 / 60 Hz)
Max. continuous operating a.c. voltage (U_C)	275 V (50 / 60 Hz)
Nominal discharge current (8/20 µs) (I_n)	20 kA
Max. discharge current (8/20 µs) (I_{max})	40 kA
Voltage protection level (U_P)	≤ 1.5 kV
Voltage protection level at 5 kA (U_P)	≤ 1 kV
Response time (t_A)	≤ 25 ns
Max. mains-side overcurrent protection	125 A gG
Short-circuit withstand capability for max. mains-side overcurrent protection (I_{SCCR})	50 kA_{rms}
Temporary overvoltage (TOV) (U_T) – Characteristic	335 V / 5 sec. – withstand
Temporary overvoltage (TOV) (U_T) – Characteristic	440 V / 120 min. – safe failure
Operating temperature range (T_U)	-40 °C ... +80 °C
Operating state / fault indication	green / red
Number of ports	1
Cross-sectional area (min.)	1.5 mm^2 solid / flexible
Cross-sectional area (max.)	35 mm^2 stranded / 25 mm^2 flexible
For mounting on	35 mm DIN rails acc. to EN 60715
Enclosure material	thermoplastic, red, UL 94 V-0
Place of installation	indoor installation
Degree of protection	IP 20
Capacity	4 module(s), DIN 43880
Approvals	KEMA, VDE, UL, VdS
Weight	443 g
Customs tariff number	85363030
GTIN	4013364108455
PU	1 pc(s)

BLITZDUCTOR XT

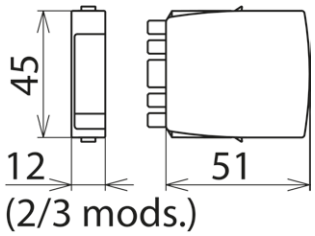
BXT ML2 B 180 (920 211)

- LifeCheck SPD monitoring function
- Two-pole lightning equipotential bonding with four terminals for shield and/or functional earthing
- For installation in conformity with the lightning protection zone concept at the boundaries from 0_A – 1 and higher

Figure without obligation



Basic circuit diagram BXT ML2 B 180



Dimension drawing BXT ML2 B 180

Space-saving two-pole lightning current arrester module with LifeCheck feature and shield earthing for almost all applications. For use in conjunction with downstream TYPE 2 P1 surge arresters or combined lightning current and surge arresters with a lower or equal voltage level. If LifeCheck detects thermal or electrical overload, the arrester has to be replaced. This status is indicated contactlessly by the DEHNrecord LC / SCM / MCM reader.

Type Part No.	BXT ML2 B 180 920 211
SPD monitoring system	LifeCheck
SPD class	TYPE 1
Nominal voltage (U_N)	180 V
Max. continuous operating d.c. voltage (U_C)	180 V
Max. continuous operating a.c. voltage (U_C)	127 V
Nominal current at 45 °C (I_L)	1.2 A
D1 Total lightning impulse current (10/350 µs) (I_{imp})	10 kA
D1 Lightning impulse current (10/350 µs) per line (I_{imp})	2.5 kA
C2 Total nominal discharge current (8/20 µs) (I_n)	20 kA
C2 Nominal discharge current (8/20 µs) per line (I_n)	10 kA
Voltage protection level line-line for I_{imp} D1 (U_p)	≤ 600 V
Voltage protection level line-PG for I_{imp} D1 (U_p)	≤ 550 V
Voltage protection level line-line at 1 kV/µs C3 (U_p)	≤ 650 V
Voltage protection level line-PG at 1 kV/µs C3 (U_p)	≤ 550 V
Series resistance per line	0.4 ohm(s)
Capacitance line-line (C)	≤ 16 pF
Capacitance line-PG (C)	≤ 16 pF
Operating temperature range (T_U)	-40 °C ... +80 °C
Degree of protection (plugged-in)	IP 20
Pluggable into	BXT BAS / BSP BAS 4 base part
Earthing via	BXT BAS / BSP BAS 4 base part
Enclosure material	polyamide PA 6.6
Colour	yellow
Test standards	IEC 61643-21 / EN 61643-21, UL 497B
SIL classification	up to SIL3 *)
ATEX approvals	DEKRA 11ATEX0089 X: II 3 G Ex nA IIC T4 Gc
IECEx approvals	DEK 11.0032X: Ex nA IIC T4 Gc
CSA & USA Hazloc approvals (1)	2516389: Class I Div. 2 GP A, B, C, D T4
CSA & USA Hazloc approvals (2)	2516389: Class I Zone 2, AEx nA IIC T4
Approvals	CSA, GOST, VdS
Weight	23 g
Customs tariff number	85363010
GTIN	4013364120570
PU	1 pc(s)

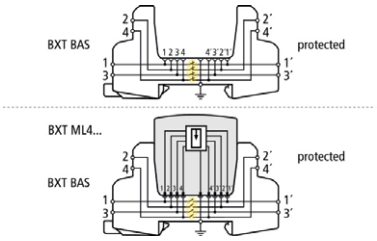
*) For more detailed information, please visit www.dehn-international.com.

BLITZDUCTOR XT

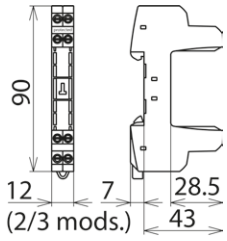
BXT BAS (920 300)

- Four-pole version for universal use with all types of BSP and BXT / BXTU protection modules
- No signal interruption if the protection module is removed
- Universal design without protection elements

Figure without obligation



Basic circuit diagram with and without plugged-in module



Dimension drawing BXT BAS

The BLITZDUCTOR XT base part is a very space-saving and universal four-pole feed-through terminal for the insertion of a protection module without signal interruption if the protection module is removed. The snap-in mechanism at the supporting foot of the base part allows the protection module to be safely earthed via the DIN rail. Since no components of the protective circuit are situated in the base part, only the protection modules must be maintained.

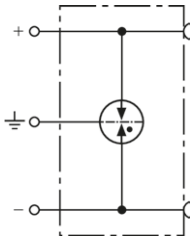
Type Part No.	BXT BAS 920 300
Operating temperature range (T_U)	-40 °C ... +80 °C
Degree of protection	IP 20
For mounting on	35 mm DIN rails acc. to EN 60715
Connection (input / output)	screw / screw
Signal disconnection	no
Cross-sectional area, solid	0.08-4 mm^2
Cross-sectional area, flexible	0.08-2.5 mm^2
Tightening torque (terminals)	0.4 Nm
Earthing via	35 mm DIN rails acc. to EN 60715
Enclosure material	polyamide PA 6.6
Colour	yellow
ATEX approvals	DEKRA 11ATEX0089 X: II 3 G Ex nA IIC T4 Gc *)
IECEx approvals	DEK 11.0032X: Ex nA IIC T4 Gc *)
Approvals	CSA, VdS, UL, GOST
Weight	34 g
Customs tariff number	85369010
GTIN	4013364109179
PU	1 pc(s)

*) only in connection with an approved protection module

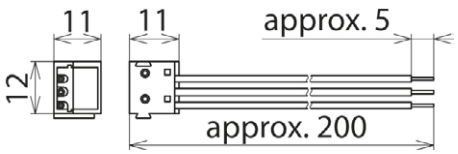
BUStector

BT 24 (925 001)

Figure without obligation



Basic circuit diagram BT 24



Dimension drawing BT 24

Type Part No.	BT 24 925 001
SPD class	TYPE 2
Nominal voltage (U_n)	24 V
Max. continuous operating d.c. voltage (U_C)	45 V
Nominal current (I_L)	6 A
D1 Lightning impulse current (10/350 µs) per line	1 kA
C2 Nominal discharge current per line (I_n)	5 kA
Voltage protection level line-line for I_n C2	≤ 1200 V
Voltage protection level line-PG for I_n C2	≤ 650 V
Voltage protection level line-line at 1 kV/µs C3	≤ 750 V
Voltage protection level line-PG at 1 kV/µs C3	≤ 500 V
Cut-off frequency line-line	70 MHz
Capacitance line-line	≤ 10 pF
Capacitance line-PG	≤ 10 pF
Operating temperature range (T_U)	-40 °C ... +80 °C
Degree of protection	IP 20
Connection	spring contacts (Ø1 mm) / connecting leads (Ø0.8 mm)
Earthing via	lead (0.75 mm^2), 200 mm long
Enclosure material	thermoplastic
Colour	blue
Test standards	IEC 61643-21
Approvals	EIBA certification No. Z 32/1399/95
Weight	10 g
Customs tariff number	85363010
GTIN	4013364047365
PU	1 pc(s)

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