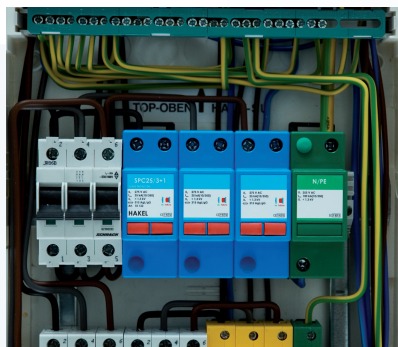




LIGHTNING AND SURGE ARRESTERS - VARISTOR

SPC is lightning and surge arrester type 1+2 according to EN 61643-11. These are recommended for use in the Lightning Protection Zones Concept at the boundaries of LPZ 0 – 1 (according to IEC 1312-1 and EN 62305) for lightning current equipotential bonding and elimination of switching surges that originate in power supply systems entering the building.

The SPC 12,5 is intended for use in TNC systems (1+0 or 3+0). For TNS and TT systems (1+1 or 3+1) the SPC 12,5 is equipped with high energy gas discharge tube for equipotential bonding between N and PE.

The main use of SPC12,5 arrester is in structures of LPL II according to EN 62305, e.g. industrial and administration buildings, schools, supermarkets and cathedrals.

Single-pole MOV lightning and surge arrester



SPC12,5

TYPE
1+2

CLASS
I+II

LPZ
0→1

DS
1

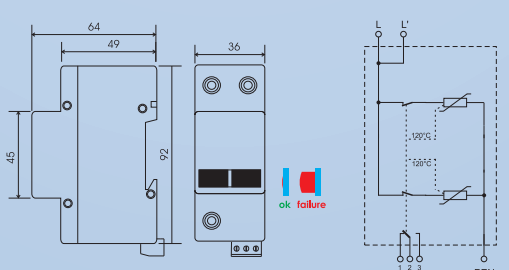
+80°C
-40°C

IP
20

home

industry

Basic circuit diagram of SPC12,5



Type SPC12,5		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350)	I_{imp}	12,5 kA
- charge	Q	6 As
- specific energy	W/R	36 kJ/Ω
Total lightning current (10/350)	I_{total}	12,5 kA
L1→PEN		
Nominal discharge current (8/20)	I_n	25 kA
Voltage protection level at I_{imp}	U_p	<1,2 kV
Response time	t_A	<25 ns
Temporary overvoltage (TOV)	U_T	335 V/5 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	240 g
Lifetime		min.100 000 h
Article number		
SPC12,5		10 744
SPC12,5 DS		10 644



Single-pole MOV + GDT lightning and surge arrester



SPC12,5/1+1

TYPE
1+2

CLASS
I+II

LPZ
0→1

DS
1

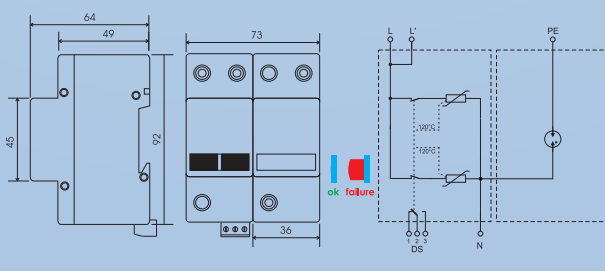
+80°C
-40°C

IP
20

home

industry

Basic circuit diagram of SPC12,5/1+1



Type SPC12,5/1+1		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350) L/N	I_{imp}	12,5 kA
- charge	Q	6 As
- specific energy	W/R	36 kJ/Ω
Lightning impulse current (10/350) N/PE	I_{imp}	25 kA
- charge	Q	12,5 As
- specific energy	W/R	156 kJ/Ω
Total lightning current (10/350)	I_{total}	25 kA
L1+N→PE		
Nominal discharge current (8/20)	I_n	25 kA
Voltage protection level at I_{imp}	U_p	<1,2 kV
Response time L/N	t_A	<25 ns
Response time N/PE	t_A	<100ns
Temporary overvoltage (TOV), L/N	U_T	335 V/5 sec.
Temporary overvoltage (TOV), N/PE	U_T	1200 V/0,2 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	370 g
Lifetime		min.100 000 h
Article number		
SPC12,5/1+1		10 740
SPC12,5 DS/1+1		10 640

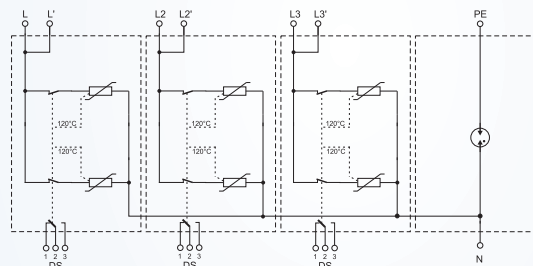


Function of remote monitor terminals

When the SPC12,5 DS is operating correctly, the terminations 1-2 are connected to normally closed contacts, 2-3 are normally open. If the internal varistor component is damaged as a result of thermal overloading, terminations 1-2 will then be open and 2-3 closed.

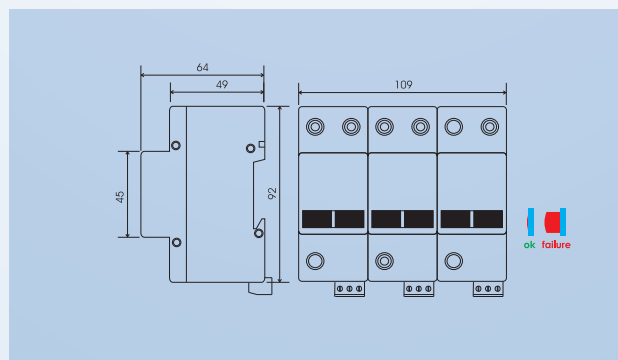
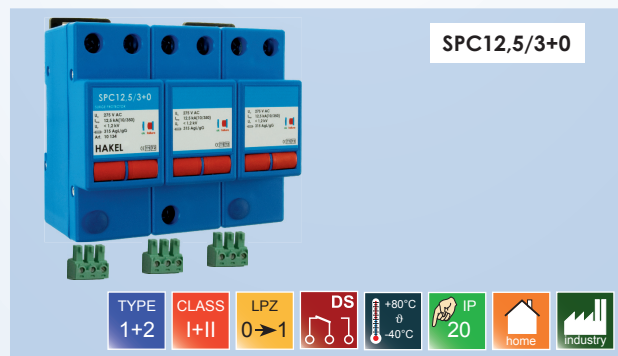
el. strength against surround. circuits	3750 V _{rms}
el. strength against network circuits	3750 V _{rms}
insulation resistance	$2 \times 10^7 \Omega$
max. switching current	~ 0,5 A
max. switching voltage	~ 250 V

Basic circuit diagram of SPC12,5/3+1



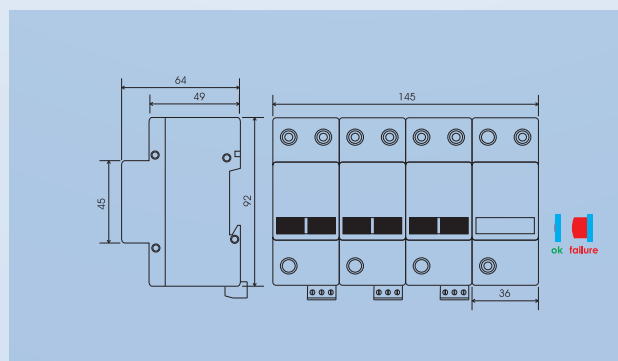
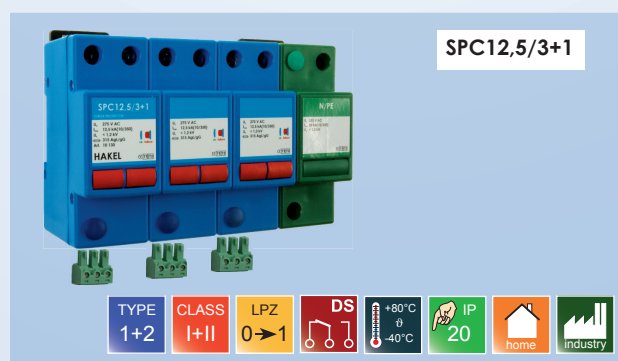
Three-pole MOV lightning and surge arrester

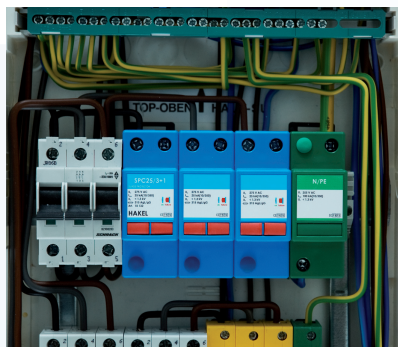
Type SPC12,5/3+0		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350)	I_{imp}	12,5 kA
- charge	Q	6 As
- specific energy	W/R	36 kJ/Ω
Total lightning current (10/350)	I_{total}	37,5 kA
L1+L2+L3→PEN		
Nominal discharge current (8/20)	I_n	25 kA
Voltage protection level at I_{imp}	U_p	<1,2 kV
Response time	t_A	<25 ns
Temporary overvoltage (TOV)	U_T	335 V/5 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	720 g
Lifetime		min.100 000 h
Article number		
SPC12,5/3+0		10 734
SPC12,5 DS/3+0		10 634



Three-pole MOV + GDT lightning and surge arrester

Type SPC12,5/3+1		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350) L/N	I_{imp}	12,5 kA
- charge	Q	6 As
- specific energy	W/R	36 kJ/Ω
Lightning impulse current (10/350) N/PE	I_{imp}	50 kA
- charge	Q	25 As
- specific energy	W/R	625 kJ/Ω
Total lightning current (10/350)	I_{total}	50 kA
L1+L2+L3+N→PE		
Nominal discharge current (8/20)	I_n	25 kA
Voltage protection level at I_{imp}	U_p	<1,2 kV
Response time L/N	t_A	<25 ns
Response time N/PE	t_A	<100ns
Temporary overvoltage (TOV), L/N	U_T	335 V/5 sec.
Temporary overvoltage (TOV), N/PE	U_T	1200 V/0,2 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	1030 g
Lifetime		min.100 000 h
Article number		
SPC12,5/3+1		10 730
SPC12,5 DS/3+1		10 630





LIGHTNING AND SURGE ARRESTERS - VARISTOR

The SPC25 is intended for use in TNC systems (1+0 or 3+0). For TNS and TT systems (1+1 or 3+1) the SPC25 is equipped with high energy gas discharge tube for equipotential bonding between N and PE.

The main use of SPC12,5 arrester is in structures of LPL I according to EN 62305, e.g. hospitals, banks, mobile operator stations, water-stations, power plants, airport buildings for air traffic control and all structures with explosive risk.

To be installed in the main switchboard.

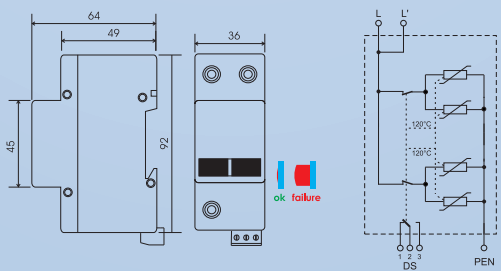
Single-pole MOV lightning and surge arrester



SPC25

TYPE 1+2 CLASS I+II LPZ 0→1 DS +80°C -40°C IP 20 industry

Basic circuit diagram of SPC25



Type SPC25		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350)	I_{imp}	25 kA
- charge	Q	12,5 As
- specific energy	W/R	156 kJ/Ω
Total lightning current (10/350) L1→PEN	I_{total}	25 kA
Nominal discharge current (8/20)	I_n	50 kA
Voltage protection level at I_{imp}	U_p	<1,3 kV
Response time	t_A	<25 ns
Temporary overvoltage (TOV)	U_T	335 V/5 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	300 g
Lifetime		min.100 000 h
Article number		
SPC25		10 746
SPC25 DS		10 646



M102

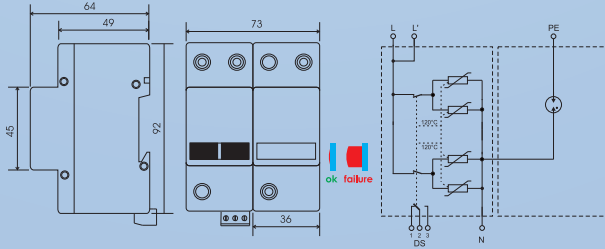
Single-pole MOV + GDT lightning and surge arrester



SPC25/1+1

TYPE 1+2 CLASS I+II LPZ 0→1 DS +80°C -40°C IP 20 industry

Basic circuit diagram of SPC25/1+1

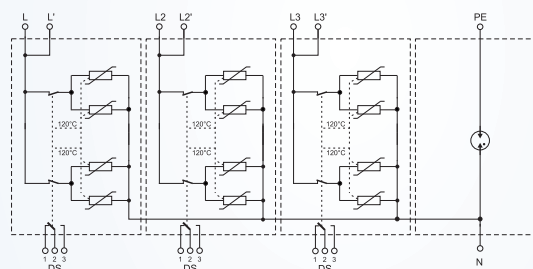


Typ SPC25/1+1		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350) L/N	I_{imp}	25 kA
- charge	Q	12,5 As
- specific energy	W/R	156 kJ/Ω
Lightning impulse current (10/350) N/PE	I_{imp}	50 kA
- charge	Q	25 As
- specific energy	W/R	625 kJ/Ω
Total lightning current (10/350) L1+N→PE	I_{total}	50 kA
Nominal discharge current (8/20)	I_n	50 kA
Voltage protection level at I_{imp}	U_p	<1,3 kV
Response time L/N	t_A	<25 ns
Response time N/PE	t_A	<100ns
Temporary overvoltage (TOV), L/N	U_T	335 V/5 sec.
Temporary overvoltage (TOV), N/PE	U_T	1200 V/0,2 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	460 g
Lifetime		min.100 000 h
Article number		
SPC25/1+1		10 742
SPC25 DS/1+1		10 642

**Function of remote monitor terminals**

When the SPC25 DS is operating correctly, the terminations 1-2 are connected to normally closed contacts, 2-3 are normally open. If the internal varistor component is damaged as a result of thermal overloading, terminations 1-2 will then be open and 2-3 closed.

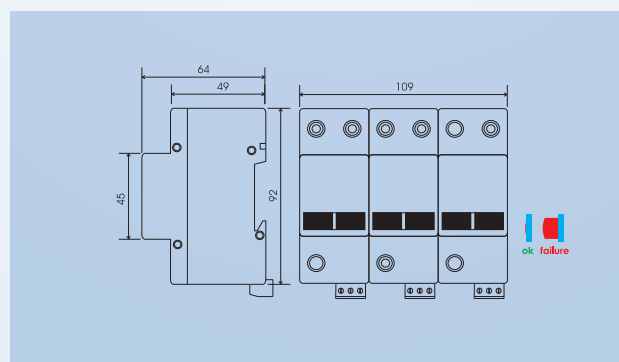
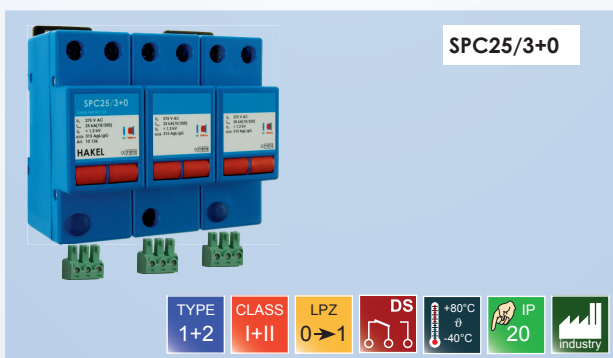
el. strength against surround. circuits	3750 V _{rms}
el. strength against network circuits	3750 V _{rms}
insulation resistance	$2 \times 10^7 \Omega$
max. switching current	~ 0,5 A
max. switching voltage	~ 250 V

Basic circuit diagram of SPC25/3+1**Three-pole MOV lightning and surge arrester**

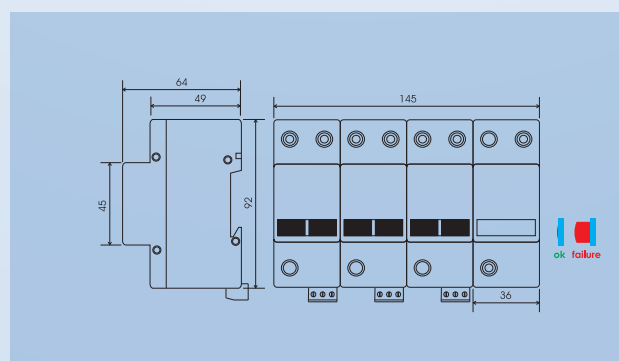
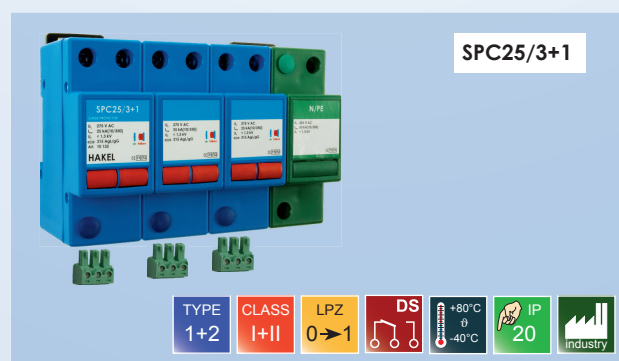
Type SPC25/3+0		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350)	I_{imp}	25 kA
- charge	Q	12,5 As
- specific energy	W/R	156 kJ/Ω
Total lightning current (10/350)	I_{total}	75 kA
L1+L2+L3→PEN		
Nominal discharge current (8/20)	I_n	50 kA
Voltage protection level at I_{imp}	U_p	<1,3 kV
Response time	t_A	<25 ns
Temporary overvoltage (TOV)	U_T	335 V/5 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	900 g
Lifetime		min.100 000 h
Article number		
SPC25/3+0		10 736
SPC25 DS/3+0		10 636



M.102

**Three-pole MOV + GDT lightning and surge arrester**

Type SPC25/3+1		
Max. continuous operating voltage	U_c	275 V AC
Lightning impulse current (10/350) L/N	I_{imp}	25 kA
- charge	Q	12,5 As
- specific energy	W/R	156 kJ/Ω
Lightning impulse current (10/350) N/PE	I_{imp}	100 kA
- charge	Q	50 As
- specific energy	W/R	2500 kJ/Ω
Total lightning current (10/350)	I_{total}	100 kA
L1+L2+L3+N→PE		
Nominal discharge current (8/20)	I_n	50 kA
Voltage protection level at I_{imp}	U_p	<1,3 kV
Response time L/N	t_A	<25 ns
Response time N/PE	t_A	<100ns
Temporary overvoltage (TOV), L/N	U_T	335 V/5 sec.
Temporary overvoltage (TOV), N/PE	U_T	1200 V/0,2 sec.
Max. back-up fuse		315 AgL/gG
Max. back-up fuse ("V" connection)		63 AgL/gG
Short-circuit withstand capability at max.back-up fuse	I_p	80 kA _{rms}
Weight	m	1125 g
Lifetime		min.100 000 h
Article number		
SPC25/3+1		10 732
SPC25 DS/3+1		10 632



Application table									
Type	Art. No.	Former type	TE	Weight (g)	No. of poles	Circuit	I_{imp}/I_{total} (kA)	U_c (V) L-N/N-PE	Mode of protection
Industrial buildings, administration buildings, schools, supermarkets and cathedrals.									
SPC12,5	10 744	SPC 1.1 - 60 SPC 1.1 - 90	2	240	1	1+0	12,5/-	275/-	L/N, L/PEN, L/PE
SPC12,5 DS	10 644	SPC 1.1 - 60 DS SPC 1.1 - 90 DS	2	240	1	1+0	12,5/-	275/-	L/N, L/PEN, L/PE
SPC12,5/1+1	10 740	SPC 1-60 SPC 1-90 SPC 1.0 - 60 SPC 1.0 - 90	4	370	2	1+1	12,5/25	275/255	L/N, N/PE
SPC12,5 DS/1+1	10 640	SPC 1 - 60 DS SPC 1 - 90 DS SPC1.0-60 DS SPC1.0-90 DS	4	370	2	1+1	12,5/25	275/255	L/N, N/PE
SPC12,5/3+0	10 734	SPC 3.1 - 60 SPC 3.1 - 90	6	720	3	3+0	12,5/-	275/-	L/PEN
SPC12,5 DS/3+0	10 634	SPC 3.1 - 60 DS SPC 3.1 - 90 DS	6	720	3	3+0	12,5/-	275/-	L/PEN
SPC12,5/3+1	10 730	SPC 3 - 60 SPC 3 - 90 SPC 3.0 - 60 SPC 3.0 - 90	8	1030	4	3+1	12,5/50	275/255	L/N, N/PE
SPC12,5 DS/3+1	10 630	SPC 3 - 60 DS SPC 3 - 90 DS SPC3.0-60 DS SPC3.0-90 DS	8	1030	4	3+1	12,5/50	275/255	L/N, N/PE

Application table									
Type	Art. No.	Former type	TE	Weight (g)	No. of poles	Circuit	I_{imp}/I_{total} (kA)	U_c (V) L-N/N-PE	Mode of protection
Hospitals, banks, mobile operator stations, water-stations, power plants, airport buildings for air traffic control and all structures with explosive risk.									
SPC25	10 746	SPC 1.1 - 120 SPC 1.1 - 150	2	300	1	1+0	25/-	275/-	
SPC25 DS	10 646	SPC 1.1 - 120 DS SPC 1.1 - 150 DS	2	300	1	1+0	25/-	275/-	L/N, L/PEN, L/PE
SPC25/1+1	10 742	SPC 1 - 120 SPC 1 - 150 SPC 1.0 - 120 SPC 1.0 - 150	4	460	2	1+1	25/50	275/255	L/N, N/PE
SPC25 DS/1+1	10 642	SPC 1 - 120 DS SPC 1 - 150 DS SPC1.0-120 DS SPC1.0-150 DS	4	460	2	1+1	25/50	275/255	L/N, N/PE
SPC25/3+0	10 736	SPC 3.1 - 120 SPC 3.1 - 150	6	900	3	3+0	25/-	275/-	L/PEN
SPC25 DS/3+0	10 636	SPC 3.1 - 120 DS SPC 3.1 - 150 DS	6	900	3	3+0	25/-	275/-	L/PEN
SPC25/3+1	10 732	SPC 3 - 120 SPC 3 - 150 SPC 3.0 - 120 SPC 3.0 - 150	8	1125	4	3+1	25/100	275/255	L/N, N/PE
SPC25 DS/3+1	10 632	SPC 3 - 120 DS SPC 3 - 150 DS SPC3.0-120 DS SPC3.0-150 DS	8	1125	4	3+1	25/100	275/255	L/N, N/PE

TE - dividing unit (17,5 mm)

Housing material - Polyamide PA6

Recommended cable cross-sections of the connected conductors (at tightening torque of clamps 4Nm)

35 mm² (solid), 25 mm² (flexible)