



MULTI-POLE LIGHTNING CURRENT AND SURGE ARRESTERS

CLASS I / (B+C)

CONNECTIONS: 3+0, 4+0, 3+1

$I_{imp} = 25 \text{ kA (10/350)}/\text{pole}$

COMPACT HOUSING



ISPRO-K BS(R) 75 (3 + 0)



The ISPRO BS(R) 75 (3 + 0) series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

The (3 + 0) range is intended to be used on TNC three phase networks with PEN conductor.

The circuit topology consists of three varistor stages each protected by a thermal disconnection device. Each three phase unit comprises a total of three high performance dual MOV blocks, providing a high surge rating suitable for primary service entrance applications.

A unique indicator monitors all disconnectors and brings up a common status flag if any one stage should fail.

Category IEC/EN/VDE	Class I/Type 1/B+C
Location of use	Main distribution boards
Protection modes	L-PEN
Protection element	High Energy MOVs
High surge discharge ratings	$I_{imp} = 25 \text{ kA/pole}$, $I_{max} = 100 \text{ kA/pole}$
Internal protection and safety	Separate thermal disconnector for each MOV block
Status indication	Mechanical flag + remote contacts (R)
Housing	Compact design



Technical data

Type	ISPRO-K BS(R) 75/xxx (3 + 0)						
	150	275	320	385	440		
Standards	IEC-61643-1						
Max. continuous operating voltage (AC/DC)	U_c	V	150/200	275/350	320/420	385/500	440/580
Nominal discharge current (8/20)	I_n	kA	25 per pole				
Max. discharge current (8/20)	I_{max}	kA	100 per pole				
Impulse current (10/350)	I_{imp}	kA	25 per pole				
Impulse current (L1+L2+L3-PEN)	I_{imp}	kA	75				
Specific energy		kJ/Ω	156 per pole				
Charge		As	12,5				10
Protection level	U_p	kV	< 0,8	< 1,4	< 1,4	< 1,9	< 2,2
Residual Voltage at I_{imp}	U_{res}		< 0,8	< 1,3	< 1,3	< 1,6	< 1,9
Follow current	I_f		NO				
Response time	t_A	ns	25				
Residual current at U_c	I_{PE}	mA	2,5				
Thermal protection			YES				
Terminal screw torque		Nm	max. 4,5				
Back-up fuse gL (if mains > 250 A)		A	250				
Short-circuit withstand current (50 Hz)		kA	25				
Temperature range		° C	-40 ... +80				
Terminal cross section	solid	mm ²	35				
	stranded		25				
Mounting			35 mm wide mounting rail in accordance with EN 60715				
Degree of protection			IP 20				
Housing material			thermoplastic; extinguishing degree UL 94 V-0				
Dimensions DIN 43880			3TE			8TE	
Weight per unit		kg	0,400	0,570	0,570	0,726	0,729

OVERVOLTAGE PROTECTION



ISPRO-K BS(R) 75 (3 + 0)

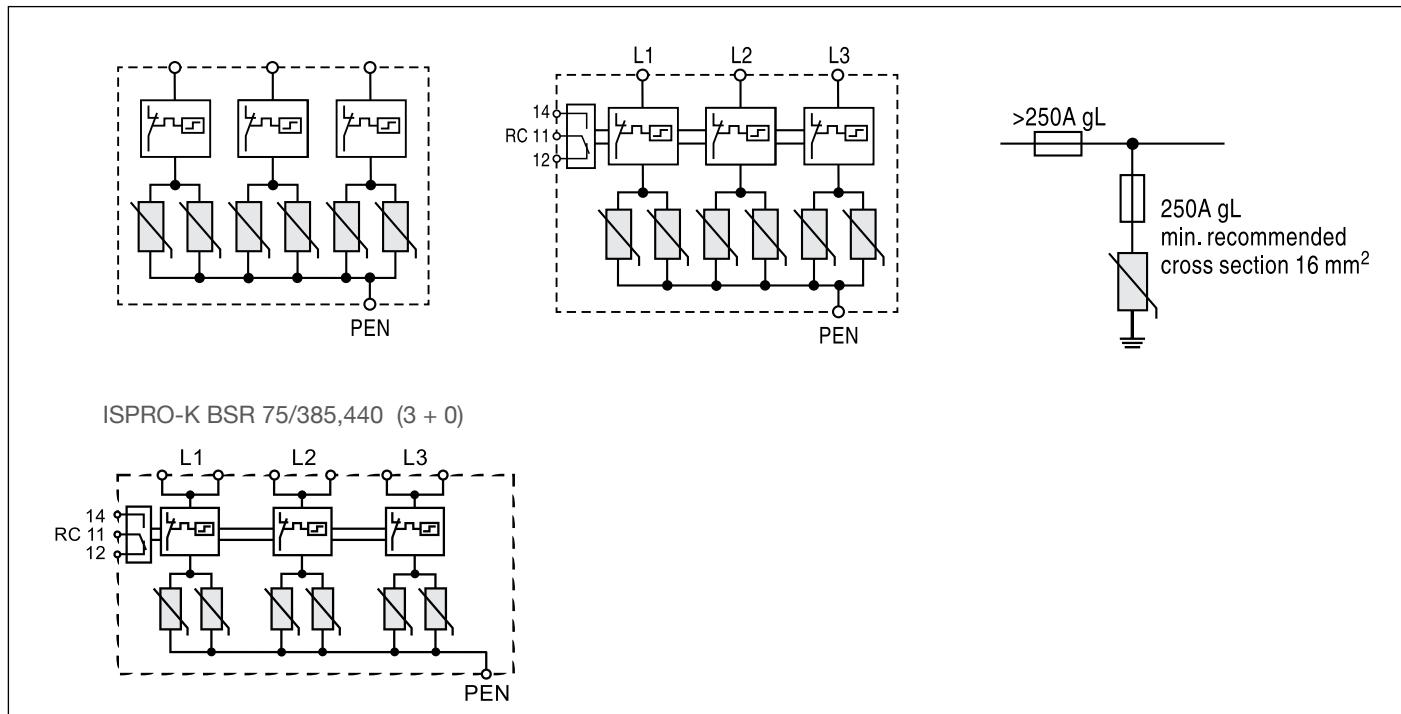
ISPRO-K BSR 75 (3 + 0) (with remote contacts)							
Remote contacts			YES				
Contact ratings AC	250 V		A	0,5			
	125 V			3			
Terminal cross section		mm ²	max. 1,5				
Remote terminal torque		Nm	0,25				
Weight per unit		kg	0,405	0,575	0,575	0,731	0,797

Connection diagram

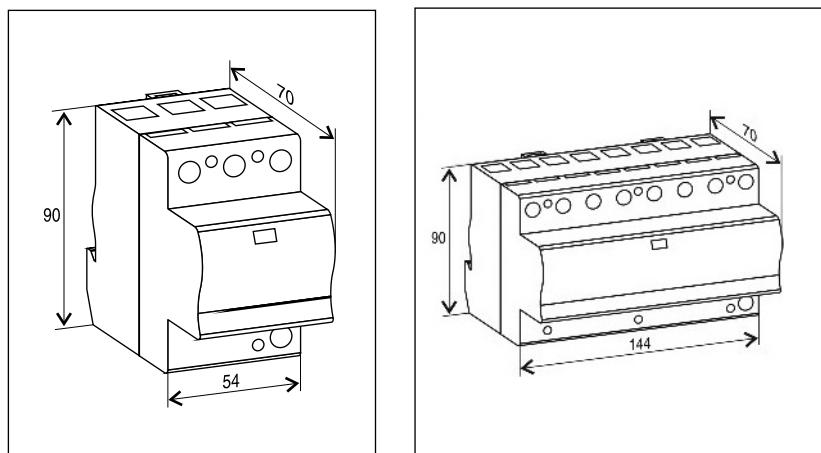
ISPRO-K BS 75/150-320 (3 + 0)

ISPRO-K BSR 75/150-320 (3 + 0)

Selection of back-up fuse



Dimensions



ISPRO-K BS(R) 100 (4 + 0)



The ISPRO-K BS(R) 100 (4 + 0) series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

The (4 + 0) range is intended to be used on TNS three phase networks with separate N and PE conductors.

The circuit topology consists of four varistor stages each protected by a thermal disconnection device. Each three phase unit comprises a total of four high performance dual MOV blocks, providing a high surge rating suitable for primary service entrance applications.

A unique indicator monitors all thermal disconnectors and brings up a common status flag if any one stage should fail.

Category IEC/EN/VDE	Class I/Type 1/B+C	
Location of use	Main distribution boards	
Protection modes	L/N-PE	
Protection element	High Energy MOVs	
High surge discharge ratings	$I_{imp} = 25 \text{ kA/pole}$, $I_{max} = 100 \text{ kA/pole}$	
Internal protection and safety	Separate thermal disconnector for each MOV block	
Status indication	Mechanical flag + remote contacts (R)	
Housing	Compact design	



Technical data

Type	ISPRO-K BS(R) 100/xxx (4 + 0)						
	150	275	320	385	440		
Standards	IEC-61643-1						
Max. continuous operating voltage (AC/DC)	U_c	V	150/200	275/350	320/420	385/500	440/580
Nominal discharge current (8/20)	I_n	kA		25 per pole			
Max. discharge current (8/20)	I_{max}	kA		100 per pole			
Impulse current (10/350)	I_{imp}	kA		25 per pole			
Impulse current (L1+L2+L3-PEN)	I_{imp}	kA		100			
Specific energy		kJ/Ω	156 per pole				
Charge		As	12,5				
Protection level	U_p	kV	< 0,8	< 1,4	< 1,4	< 1,9	< 2,2
Residual Voltage at I_{imp}	U_{res}		< 0,8	< 1,3	< 1,3	< 1,6	< 1,9
Follow current	I_f		NO				
Response time	t_A	ns	25				
Residual current at U_c	I_{PE}	mA	2,5				
Thermal protection			NO				
Terminal screw torque		Nm	max. 4,5				
Back-up fuse gL (if mains > 250 A)		A	250				
Short-circuit withstand current (50 Hz)		kA	25				
Temperature range		° C	-40 ... +80				
Terminal cross section	solid	mm ²	35				
	stranded		25				
Mounting			35 mm wide mounting rail in accordance with EN 60715				
Degree of protection			IP 20				
Housing material			thermoplastic; extinguishing degree UL 94 V-0				
Dimensions DIN 43880			4TE		8TE		
Weight per unit		kg	0,532	0,756	0,756	0,912	1,000

OVERVOLTAGE PROTECTION



ISPRO-K BS(R) 100 (4 + 0)

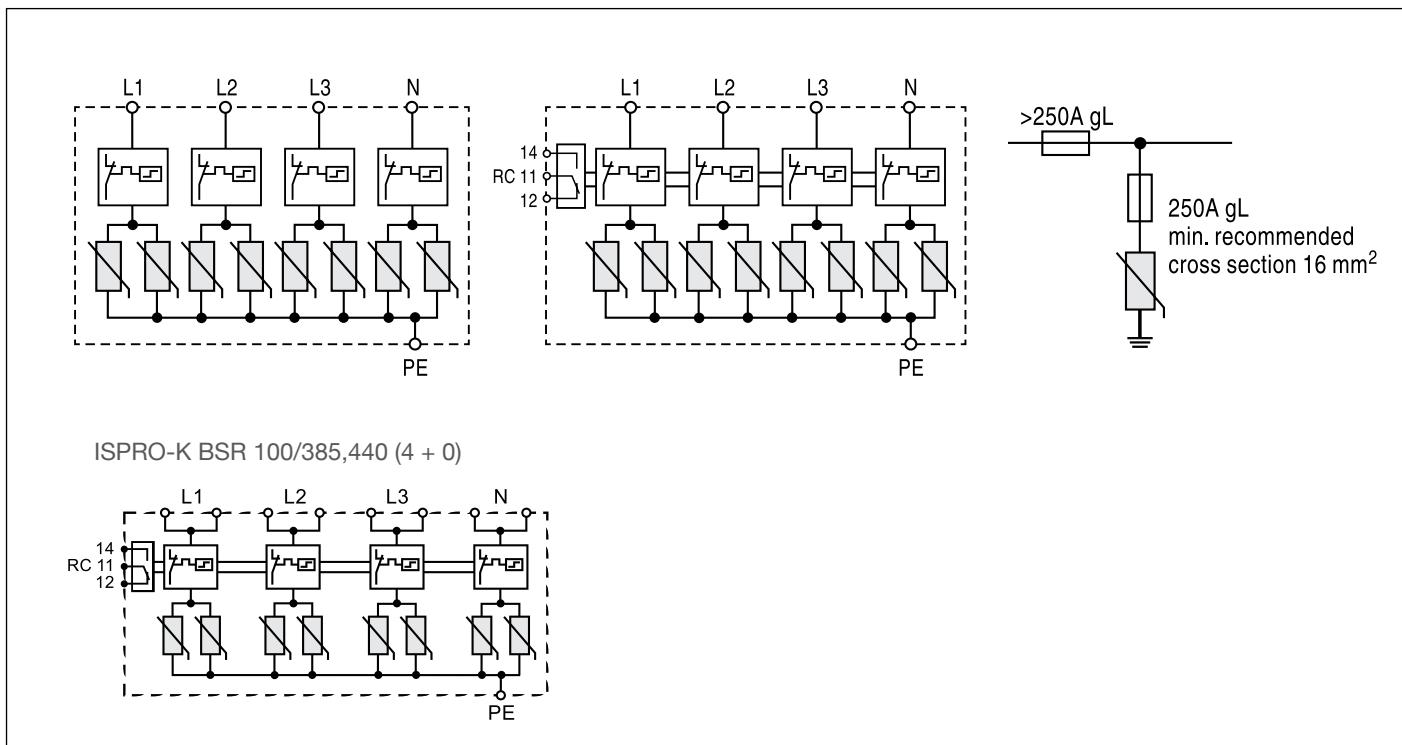
ISPRO-K BSR 100 (4 + 0) (with remote contacts)						
Remote contacts			YES			
Contact ratings AC	250 V	A	0,5			
	125 V		3			
Terminal cross section		mm ²	max. 1,5			
Remote terminal torque		Nm	0,25			
Weight per unit		kg	0,537	0,761	0,761	0,817
						1,005

Connection diagram

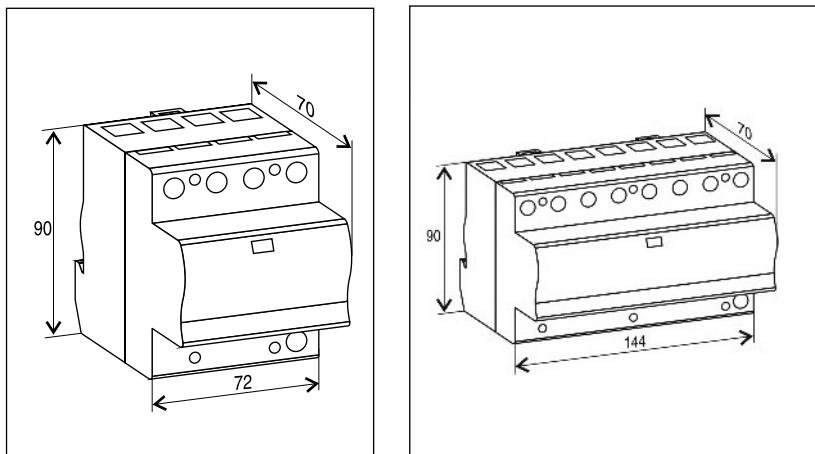
ISPRO-K BS 100/150-320 (4 + 0)

ISPRO-K BSR 100/150-320 (4 + 0)

Selection of back-up fuse



Dimensions



ISPRO-K BS(R) 100 (3 + 1)



The ISPRO-K BS(R) 100 (3 + 1) series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

The (3 + 1) range is intended to be used on TT three phase networks where N and PE galvanic isolation is required.

The circuit topology consists of three varistor stages each protected by a thermal disconnection device. Each unit comprises a total of three high performance dual MOV blocks, providing a surge rating suitable for branch service entrance applications. An encapsulated air gap (GDT) provides galvanic separation between the N and PE conductors.

A unique indicator monitors all disconnectors and brings up a common status flag if any one stage should fail.

Category IEC/EN/VDE	Class I/Type 1/B+C					
Location of use	Main distribution boards					
Protection modes	L-N, N-PE					
Protection element	High Energy MOVs, high energy GDT					
High surge discharge ratings	$I_{imp} = 25 \text{ kA/pole}$, $I_{max} = 100 \text{ kA/pole}$					
Internal protection and safety	Separate thermal disconnector for each MOV block					
Status indication	Mechanical flag + remote contacts (R)					
Housing	Compact design					



Technical data

Type	ISPRO-K BS(R) 100/xxx (3 + 1)						
Standards	IEC-61643-1						
Max. continuous operating voltage (AC/DC)	U_c	V	150/200	275/350	320/420	385/500	440/580
Nominal discharge current (8/20) (MOV/GDT)	I_n	kA			25/100		
Max. discharge current (8/20) (MOV/GDT)	I_{max}	kA			100/100		
Impulse current (10/350) (MOV/GDT)	I_{imp}	kA			25/100		
Impulse current (L1+L2+L3+N+PE)	I_{imp}	kA			100		
(MOV)		kJ/Ω	156			100	
(GDT)			2,5				
Charge (MOV/GDT)		As	12,5/50				
(MOV)	U_p	kV	< 0,9	< 1,5	< 1,5	< 1,9	< 2,2
(GDT)			< 1,5				
Residual Voltage at I_{imp} (MOV)			< 0,8	< 1,3	< 1,3	< 1,6	< 1,9
Follow current (GDT)	I_f	A_{RMS}	> 100				
Response time (MOV/GDT)	t_A	ns	25/100				
Residual current at U_c (MOV/GDT)	I_{PE}	mA	< 2,5/-				
Thermal protection (MOV/GDT)			YES / -				
Terminal screw torque		Nm	max. 4,5				
Back-up fuse gL (if mains > 250 A) (MOV/GDT)		A	250 / -				
Short-circuit withstand current (50 Hz) (MOV/GDT)		kA	25 / -				
Temperature range		°C	-40 ... +80				
Terminal cross section	solid	mm^2	35				
			25				
Mounting			35 mm wide mounting rail in accordance with EN 60715				
Degree of protection			IP 20				
Housing material			thermoplastic; extinguishing degree UL 94 V-0				
Dimensions DIN 43880			5TE				
Weight per unit		kg	0,568	0,728	0,728	0,834	0,900

OVERVOLTAGE PROTECTION



ISPRO-K BS(R) 100 (3 + 1)

ISPRO-K BSR 100 (3 + 1) (with remote contacts)

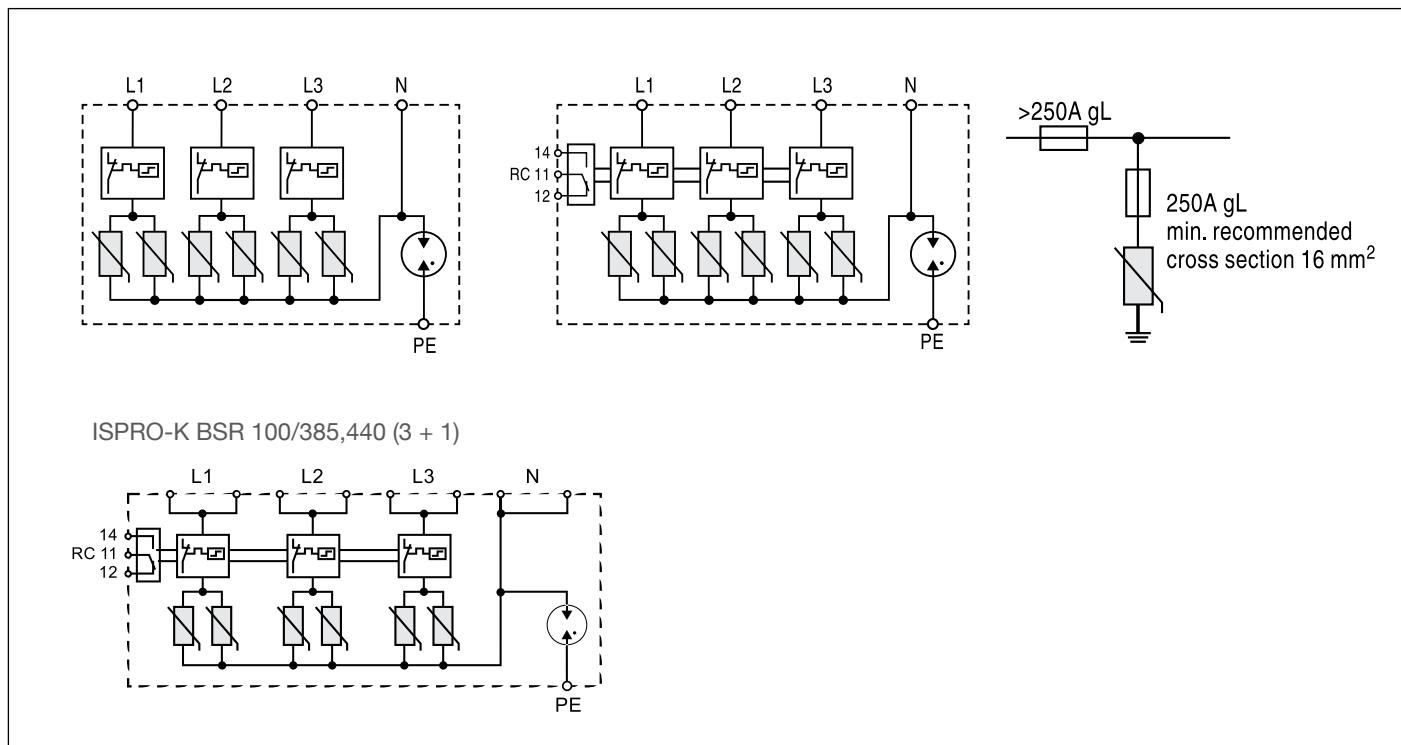
Remote contacts				YES			
Contact ratings AC	250 V 125 V	A		0,5			
				3			
Terminal cross section		mm ²	max. 1,5				
Remote terminal torque		Nm	0,25				
Weight per unit		kg	0,573	0,733	0,733	0,839	0,905

Connection diagram

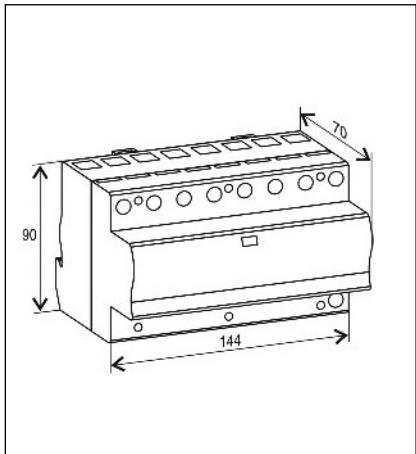
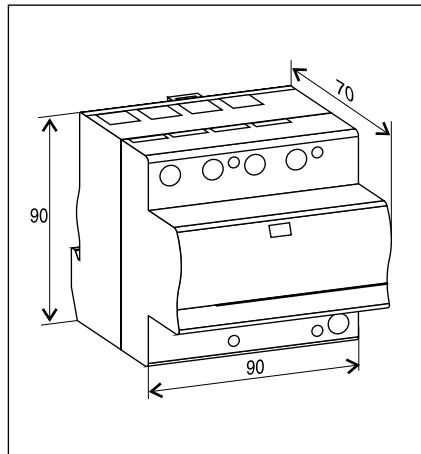
ISPRO-K BS 100/150-350 (3 + 1)

ISPRO-K BSR 100/150-350 (3 + 1)

Selection of back-up fuse



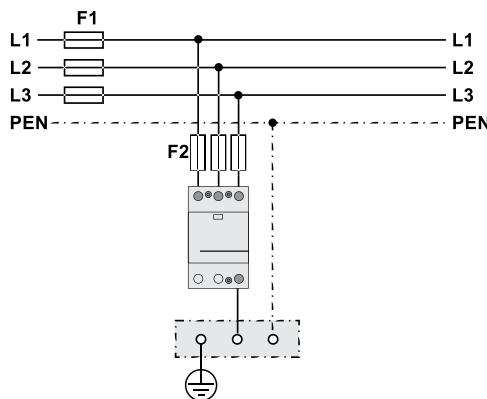
Dimensions



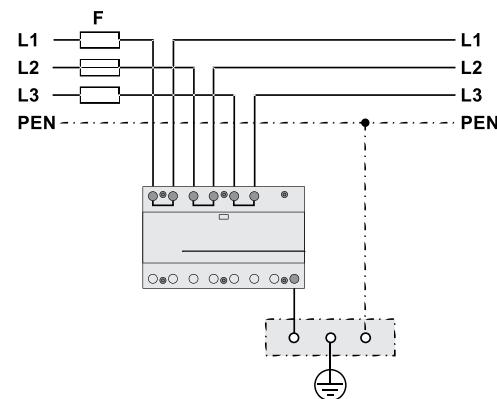
ISPRO-K BS CONNECTIONS



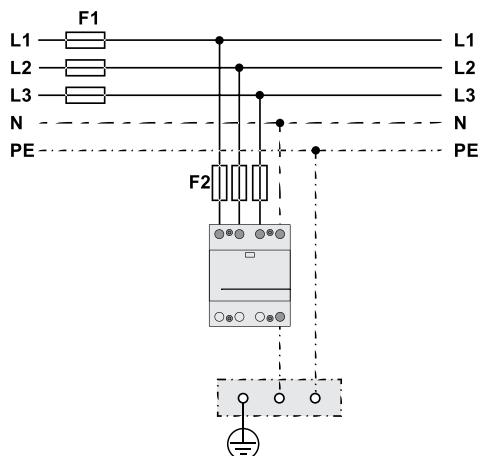
TNC Network-Parallel wiring



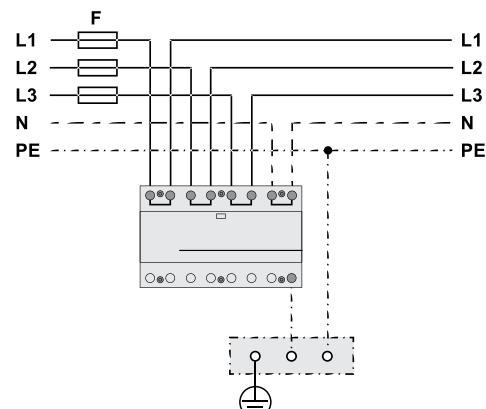
TNC Network-Serial (V-type) wiring



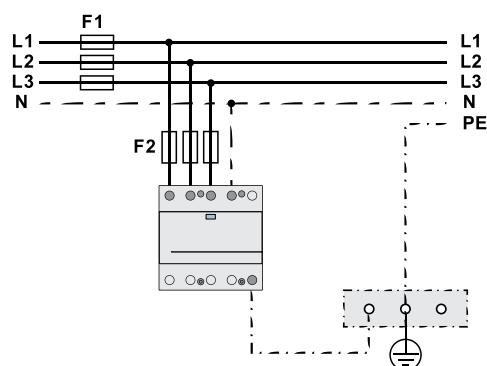
TNS Network-Parallel wiring



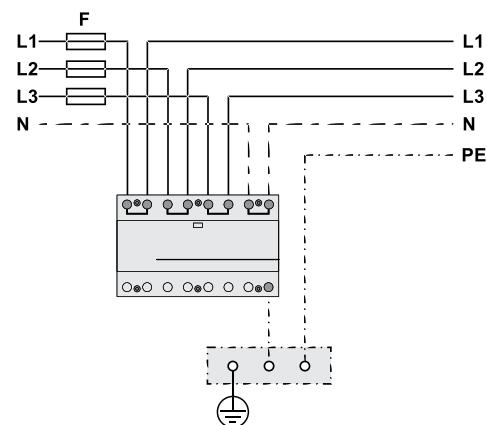
TNS Network-Serial (V-type) wiring



TT Network-Parallel wiring



TT Network-Serial (V-type) wiring





MULTI-POLE LIGHTNING CURRENT AND SURGE ARRESTERS

CLASS I / (B+C)

CONNECTIONS: 3+0, 4+0, 3+1

$I_{imp} = 12,5 \text{ kA (10/350)/pole}$

COMPACT HOUSING



ISPRO-K BS(R) 37,5 (3 + 0)



The ISPRO-K BS(R) 37,5 (3 + 0) series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

The (3 + 0) range is intended to be used on TNC three phase networks with PEN conductor.

The circuit topology consists of three varistor stages each protected by a thermal disconnection device. Each three phase unit comprises a total of three high performance MOV blocks, providing a high surge rating suitable for primary service entrance applications.

A unique indicator monitors all disconnectors and brings up a common status flag if any one stage should fail.

Category IEC/EN/VDE	Class I/Type 1/B+C
Location of use	Main distribution boards
Protection modes	L-PEN
Protection element	High Energy MOVs
High surge discharge ratings	$I_{imp} = 12,5 \text{ kA/pole}$, $I_{max} = 50 \text{ kA/pole}$
Internal protection and safety	Separate thermal disconnector for each MOV block
Status indication	Mechanical flag + remote contacts (R)
Housing	Compact design



Technical data

Type	ISPRO-K BS(R) 37,5/xxx (3 + 0)					
Standards	IEC-61643-1					
Max. continuous operating voltage (AC/DC)	U_c	V	150	275	320	385
Nominal discharge current (8/20)	I_n	kA	20 per pole			
Max. discharge current (8/20)	I_{max}	kA	50 per pole			
Impulse current (10/350)	I_{imp}	kA	12,5 per pole			
Impulse current (L1+L2+L3-PEN)	I_{imp}	kA	37,5			
Specific energy		kJ/Ω	39 per pole			
Charge		As	6,25 per pole			
Protection level	U_p	kV	< 0,9	< 1,5	< 1,5	< 1,8
Residual voltage at I_{imp}	U_{res}		< 0,7	< 1,2	< 1,2	< 1,5
Follow current	I_f	A_{RMS}	NO			
Response time	t_A	ns	25			
Residual current at U_c	I_{PE}	mA	< 2,5			
Thermal protection			YES			
Terminal screw torque		Nm	max. 4,5			
Back-up fuse gL (if mains > 250 A)		A	250			
Short-circuit withstand current (50 Hz)		kA	25			
Temperature range		° C	-40 ... +80			
Terminal cross section	solid	mm ²	35			
	stranded		25			
Mounting			35 mm wide mounting rail in accordance with EN 60715			
Degree of protection			IP 20			
Housing material			thermoplastic; extinguishing degree UL 94 V-0			
Dimensions DIN 43880			3TE			
Weight per unit		kg	0,300	0,382	0,382	0,394
			0,432			

OVERVOLTAGE PROTECTION



ISPRO-K BS(R) 37,5 (3 + 0)

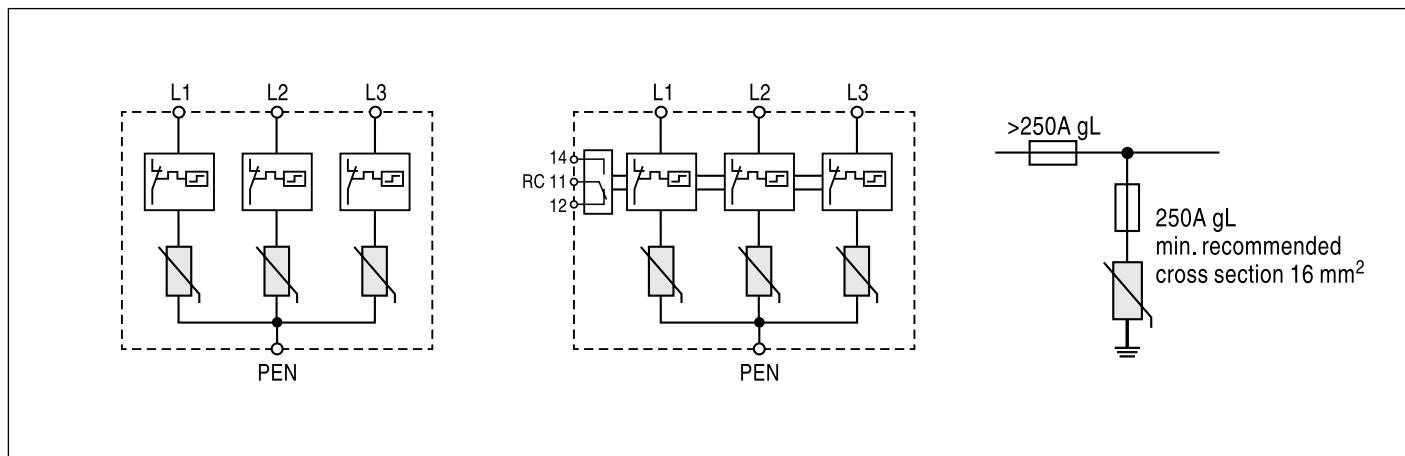
ISPRO-K BSR 37,5 (3 + 0) (with remote contacts)								
Remote contacts				YES				
Contact ratings AC	250 V	A		0,5				
	125 V			3				
Terminal cross section		mm ²		max. 1,5				
Remote terminal torque		Nm		0,25				
Weight per unit		kg		0,305	0,387	0,387	0,399	
							0,437	

Connection diagram

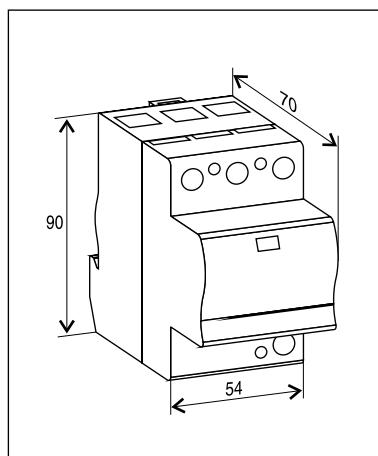
ISPRO-K BS 37,5/xxx (3 + 0)

ISPRO-K BSR 37,5/xxx (3 + 0)

Selection of back-up fuse



Dimensions



ISPRO-K BS(R) 50 (4 + 0)



The ISPRO-K BS(R) 50 (4 + 0) series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

The (4 + 0) range is intended to be used on TNS three phase networks with separate N and PE conductors.

The circuit topology consists of four varistor stages each protected by a thermal disconnection device. Each three phase unit comprises a total of four high performance MOV blocks, providing a high surge rating suitable for primary service entrance applications.

A unique indicator monitors all disconnectors and brings up a common status flag if any one stage should fail.

Category IEC/EN/VDE	Class I/Type 1/B+C
Location of use	Main distribution boards
Protection modes	L/N-PE
Protection element	High Energy MOVs
High surge discharge ratings	$I_{imp} = 12,5 \text{ kA/pole}$, $I_{max} = 50 \text{ kA/pole}$
Internal protection and safety	Separate thermal disconnector for each MOV block
Status indication	Mechanical flag + remote contacts (R)
Housing	Compact design



Technical data

Type	ISPRO-K BS(R) 50/xxx (4 + 0)						
		150	275	320	385	440	
Standards		IEC-61643-1					
Max. continuous operating voltage (AC/DC)	U_c	V	150/200	275/350	320/420	385/500	440/580
Nominal discharge current (8/20)	I_n	kA		20 per pole			
Max. discharge current (8/20)	I_{max}	kA		50 per pole			
Impulse current (10/350)	I_{imp}	kA		12,5 per pole			
Impulse current (L1+L2+L3+N-PE)	I_{imp}	kA		50			
Specific energy		kJ/Ω		39 per pole			
Charge		As		6,25 per pole			
Protection level	U_p	kV	< 0,9	< 1,5	< 1,5	< 1,8	< 2,1
Residual Voltage at I_{imp}	U_{res}		< 0,7	< 1,2	< 1,2	< 1,5	< 1,8
Follow current	I_f	A_{RMS}		NO			
Response time	t_A	ns		25			
Residual current at U_c	I_{PE}	mA		< 2,5			
Thermal protection				YES			
Terminal screw torque		Nm		max. 4,5			
Back-up fuse gL (if mains > 250 A)		A		250			
Short-circuit withstand current (50 Hz)		kA		25			
Temperature range		° C		-40 ... +80			
Terminal cross section	solid	mm ²		35			
	stranded			25			
Mounting			35 mm wide mounting rail in accordance with EN 60715				
Degree of protection			IP 20				
Housing material			thermoplastic; extinguishing degree UL 94 V-0				
Dimensions DIN 43880			4TE				
Weight per unit		kg	0,366	0,462	0,462	0,494	0,526

OVERVOLTAGE PROTECTION



ISPRO-K BS(R) 50 (4 + 0)

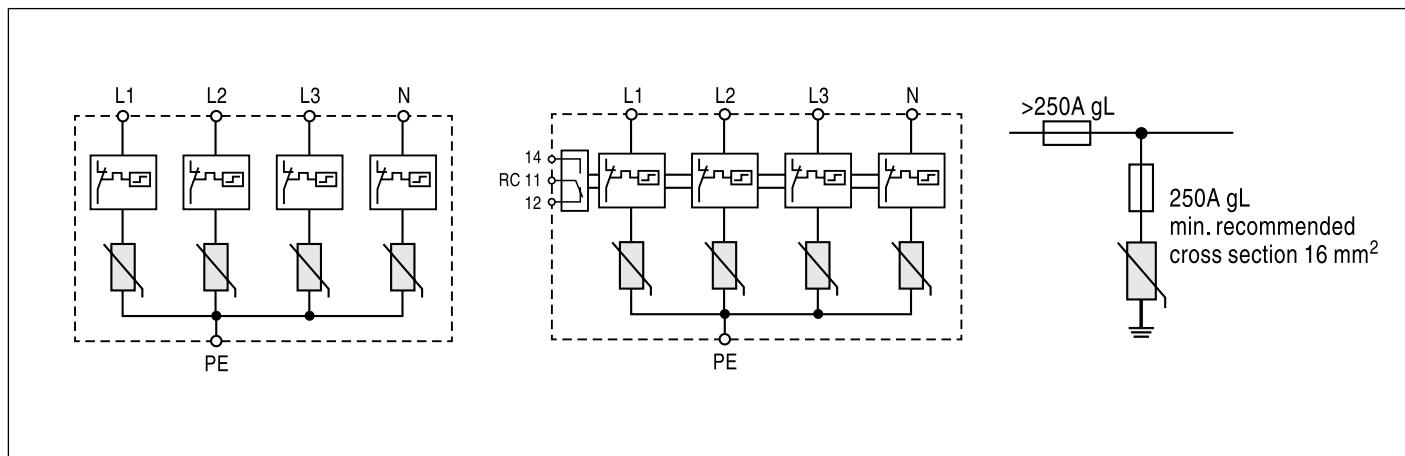
ISPRO-K BSR 50 (4 + 0) (with remote contacts)							
Remote contacts							YES
Contact ratings AC	250 V 125 V	A					0,5 3
Terminal cross section			mm ²				max. 1,5
Remote terminal torque			Nm				0,25
Weight per unit			kg	0,371	0,467	0,467	0,499 0,531

Connection diagram

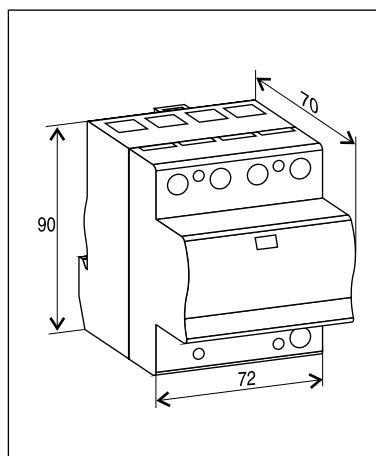
ISPRO-K BS 50/xxx (4 + 0)

ISPRO-K BSR 50/xxx (4 + 0)

Selection of back-up fuse



Dimensions



ISPRO-K BS(R) 50 (3 + 1)



The ISPRO-K BS(R) 50 (3 + 1) series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

The (3 + 1) range is intended to be used on TT three phase networks where N to PE galvanic isolation is required.

The circuit topology consists of three varistor stages each protected by a thermal disconnection device. Each unit comprises a total of three high performance MOV blocks, providing a high surge rating suitable for branch service applications. An encapsulated air gap (GDT) provides galvanic separation between the N and PE conductors.

A unique indicator monitors all disconnectors and brings up a common status flag if any one stage should fail.

Category IEC/EN/VDE	Class I/Type 1/B+C
Location of use	Main distribution boards
Protection modes	L-N, N-PE
Protection element	High Energy MOVs, high energy GDT
High surge discharge ratings	$I_{imp} = 12,5 \text{ kA/pole}$, $I_{max} = 50 \text{ kA/pole}$
Internal protection and safety	Separate thermal disconnector for each MOV block
Status indication	Mechanical flag + remote contacts (R)
Housing	Compact design



Technical data

Type	ISPRO-K BS(R) 50/xxx (3 + 1)					
Standards	IEC-61643-1					
Max. continuous operating voltage (AC/DC)	U_c	V	150/200	275/350	320/420	385/500
Nominal discharge current (8/20) (MOV/GDT)	I_n	kA			20/50	
Max. discharge current (8/20) (MOV/GDT)	I_{max}	kA			50/100	
Impulse current (10/350) (MOV/GDT)	I_{imp}	kA			12,5/50	
Impulse current (L1+L2+L3+N+PE)	I_{imp}	kA			50	
(MOV)		kJ/Q	39			
(GDT)			625			
Charge (MOV/GDT)		As	6,25/25			
(MOV)	U_p	kV	< 0,9	< 1,5	< 1,5	< 1,8
(GDT)			< 1,5			
Residual Voltage at I_{imp} (MOV)	U_{res}		< 0,7	< 1,2	< 1,2	< 1,5
Follow current (GDT)	I_f	A _{RMS}	> 100			
Response time (MOV/GDT)	t_A	ns	25/100			
Residual current at U_c (MOV/GDT)	I_{PE}	mA	< 25/–			
Thermal protection (MOV/GDT)			YES / –			
Terminal screw torque		Nm	max. 4,5			
Back-up fuse gL (if mains > 250 A) (MOV/GDT)		A	250 / –			
Short-circuit withstand current (50 Hz) (MOV/GDT)		kA	25 / –			
Temperature range		° C	-40 ... +80			
Terminal cross section	solid	mm ²	35			
	stranded		25			
Mounting			35 mm wide mounting rail in accordance with EN 60715			
Degree of protection			IP 20			
Housing material			thermoplastic; extinguishing degree UL 94 V-0			
Dimensions DIN 43880			5TE			
Weight per unit		kg	0,442	0,538	0,538	0,548
			0,577			

OVERVOLTAGE PROTECTION



ISPRO-K BS(R) 50 (3 + 1)

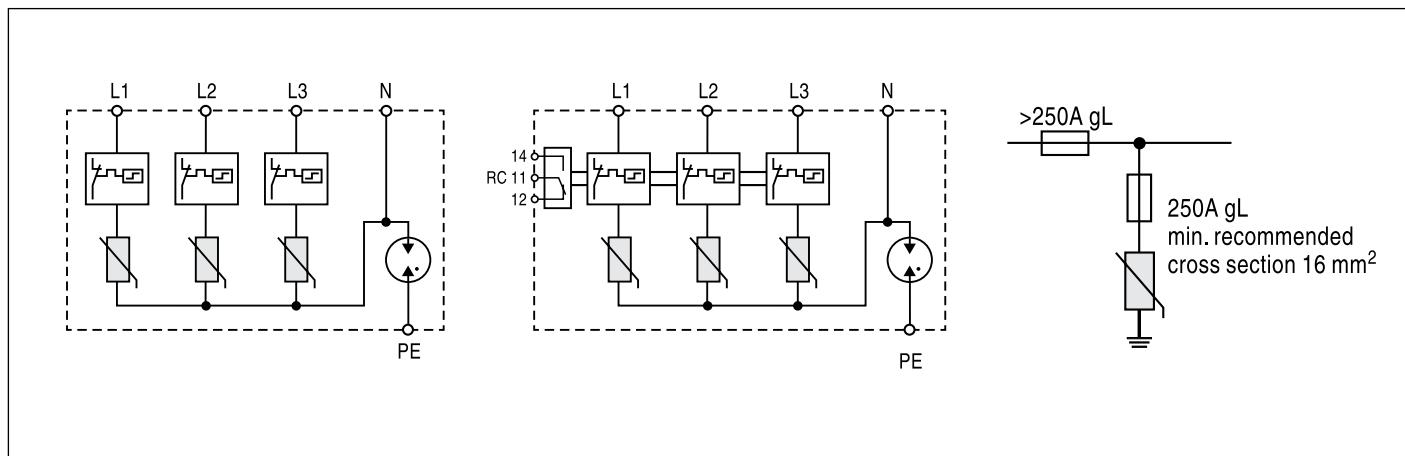
ISPRO-K BS(R) 50 (3 + 1) (with remote contacts)							
Remote contacts			YES				
Contact ratings AC	250 V	A	0,5				
	125 V		3				
Terminal cross section		mm ²	max. 1,5				
Remote terminal torque		Nm	0,25				
Weight per unit		kg	0,447	0,543	0,543	0,553	0,582

Connection diagram

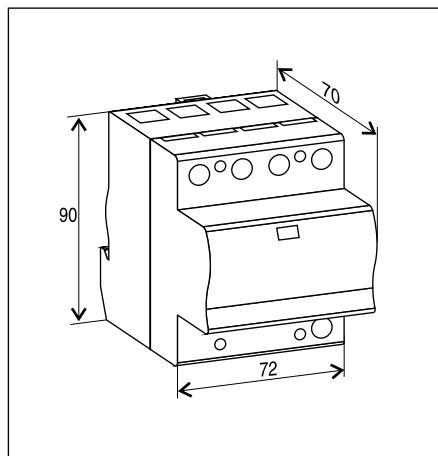
ISPRO-K BS 50/xxx (3 + 1)

ISPRO-K BSR 50/xxx (3 + 1)

Selection of back-up fuse



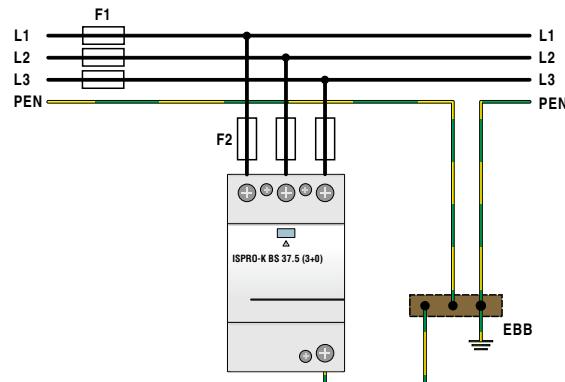
Dimensions



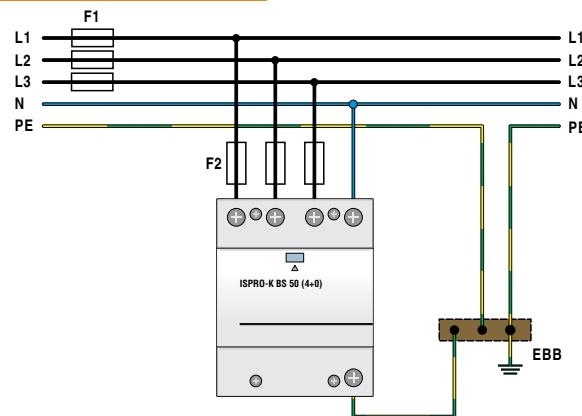
ISPRO-K BS CONNECTIONS



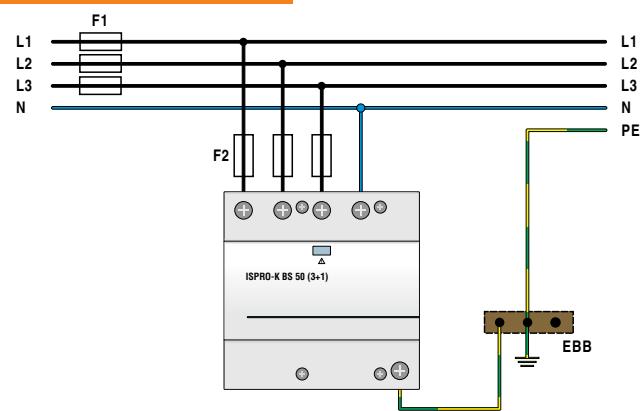
TNC Network



TNS Network



TT Network





SINGLE-POLE LIGHTNING CURRENT AND SURGE ARRESTERS

CLASS I / (B+C)

$I_{imp} = 12,5 \text{ kA (10/350)/pole}$

COMPACT HOUSING



ISPRO B2N(R) 12,5



The ISPRO B2N(R) 12,5 series of low cost, over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protection in zones 0_A – 1 as per IEC 62305.

It consists of a high performance varistor block with thermal disconnection device.

Category IEC/EN/VDE	Class I/Type 1/B+C
Location of use	Main distribution boards
Protection modes	L/N-PE, L-PEN
Protection element	High Energy MOV
High surge discharge ratings	$I_{imp} = 12,5 \text{ kA}$, $I_{max} = 50 \text{ kA}$
Internal protection and safety	Separate thermal disconnector for each MOV block
Status indication	Mechanical flag + remote contacts (R)
Housing	Compact design



Technical data

Type	ISPRO B2N(R) 12,5/xxx						
Standards	IEC-61643-1						
Max. continuous operating voltage (AC/DC)	U_c	V	150	275	320	385	440
Nominal discharge current (8/20)	I_n	kA			20		
Max. discharge current (8/20)	I_{max}	kA			50		
Impulse current (10/350)	I_{imp}	kA			12,5		
Specific energy		kJ/Ω			39		
Charge		As			6,25		
Protection level	U_p	kV	< 0,8	< 1,5	< 1,6	< 1,7	< 2,0
Residual Voltage at I_{imp}	U_{res}		< 0,7	< 1,2	< 1,3	< 1,4	< 1,9
Follow current	I_f	A_{RMS}			NO		
Response time	t_A	ns			25		
Residual current at U_c	I_{PE}	mA			< 2,5		
Thermal protection					YES		
Terminal screw torque		Nm			max. 3,5		
Back-up fuse gL (if mains > 160 A)		A			160		
Short-circuit withstand current (50 Hz)		kA			25		
Temperature range		°C			-40 ... +80		
Terminal cross section	solid stranded	mm ²			35		
					25		
Mounting			35 mm wide mounting rail in accordance with EN 60715				
Degree of protection					IP 20		
Housing material			thermoplastic; extinguishing degree UL 94 V-0				
Dimensions DIN 43880			1TE				
Weight per unit		kg	0,124	0,150	0,150	0,143	0,146

OVERVOLTAGE PROTECTION



ISPRO B2N(R) 12,5

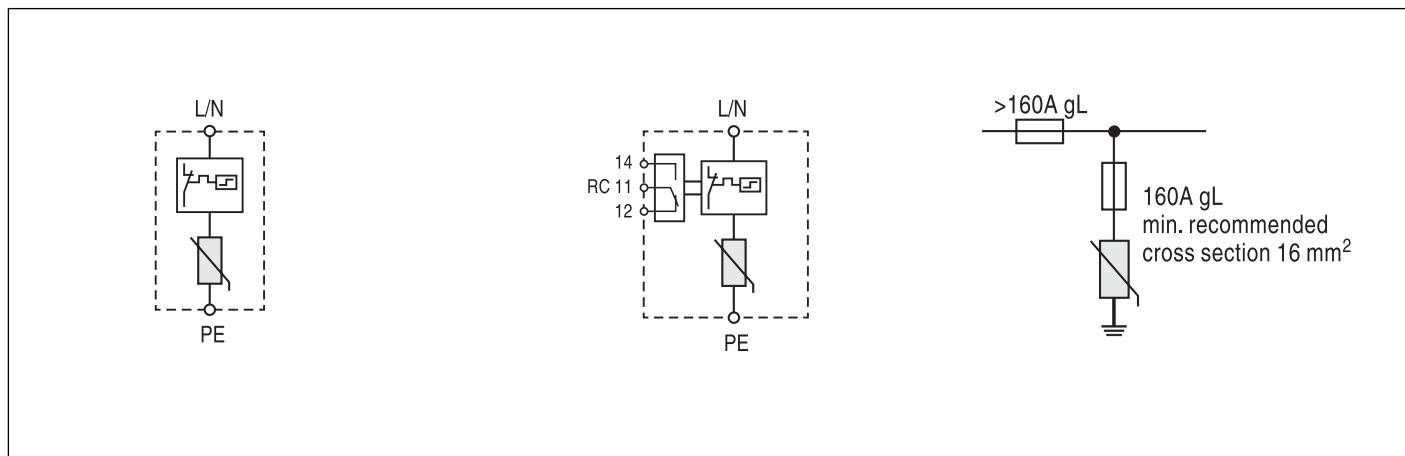
ISPRO B2N(R) 12,5 (with remote contacts)							
Remote contacts							YES
Contact ratings AC	250 V		A				0,5
	125 V						3
Terminal cross section		mm ²		max. 1,5			
Remote terminal torque		Nm		0,25			
Weight per unit		kg	0,129	0,155	0,155	0,148	0,151

Connection diagram

ISPRO B2N 12,5/xxx

ISPRO B2NR 12,5/xxx

Selection of back-up fuse



Dimensions

