



# SINGLE-POLE AND MULTI-POLE SURGE ARRESTERS

CLASS II / (C)

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

$I_{max} = 20 \text{ kA (8/20)}$

MODULAR HOUSING





## ISPRO C(R) 40

The ISPRO C(R) 40 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 1 – 2 as per IEC 62305.

It consists of a high performance varistor block with thermal disconnection device. The plug-in module/base design facilitates replacement of a failed module without the need to remove system wiring etc.

Category IEC/EN/VDE	Class II/Type 2/C
Location of use	Branch sub-distribution boards
Protection modes	L/N-PE, L-PEN
Protection element	MOV
High surge discharge ratings	$I_n = 20 \text{ kA}$ , $I_{max} = 40 \text{ kA}$
Internal protection and safety	Thermal disconnecter
Status indication	Mechanical flag + remote contacts (R)
Housing	Modular design



### Technical data

Type	ISPRO C(R) 40/xxx						
			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				
Max. discharge current (8/20)	$I_{max}$	kA	40				
Protection level	$U_p$	kV	< 0,85	< 1,25	< 1,45	< 1,65	< 2,1
Follow current	$I_f$	$A_{RMS}$	NO				
Response time	$t_A$	ns	25				
Residual current at $U_c$	$I_{PE}$	mA	< 1,5				
Thermal protection			YES				
Terminal screw torque		Nm	max. 4,5				
Back-up fuse gL (if mains > 125 A)		A	125				
Short-circuit withstand current (50 Hz)		kA	25				
Temperature range		°C	-40 ... +80				
Terminal cross section	solid	mm <sup>2</sup>	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			1TE				
Weight per unit		kg	0,122	0,128	0,128	0,129	0,130

## ISPRO C(R) 40



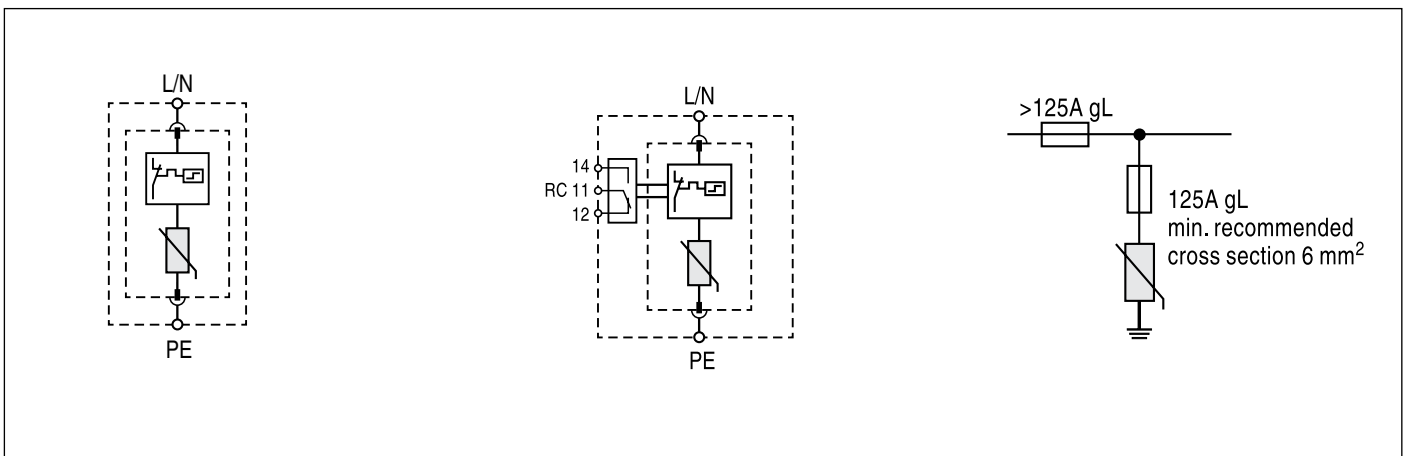
ISPRO C(R) 40 (with remote contacts)							
Remote contacts						YES	
Contact ratings AC	250 V	A	0,5				
	125 V		3				
Terminal cross section		mm <sup>2</sup>	max. 1,5				
Remote terminal torque		Nm	0,25				
Weight per unit		kg	0,127	0,133	0,133	0,134	0,135

### Connection diagram

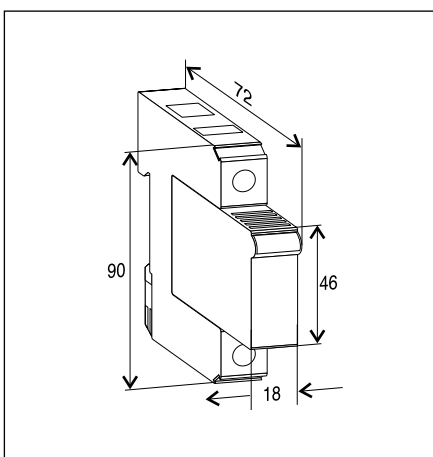
ISPRO C 40/xxx

ISPRO CR 40/xxx

Selection of back-up fuse



### Dimensions



### Accessory part for ISPRO C(R) 40/xxx

Type	Module ISPRO C(R) 40/xxx				
	150	275	320	385	440





## ISPRO C(R) 80 (1 + 1)

The ISPRO C(R) 80 (1+1) series combines a ISPRO C 40 and a ISPRO-G C to provide protection for TT single phase networks, where N to PE galvanic isolation is required.

Category IEC/EN/VDE	Class II/Type 2/C
Location of use	Branch Sub-distribution Boards
Protection modes	L/N-PE, L-PEN, N-PE
Protection element	MOV and GDT
Surge discharge ratings	$I_{max}$ = up to 40kA per pole
Internal protection and safety	Separate thermal disconnecter for each MOV
Status indication	Mechanical flag + remote contacts (R)
Dimensions DIN 43880	1TE, 2TE, 3TE, 4TE



### Technical data

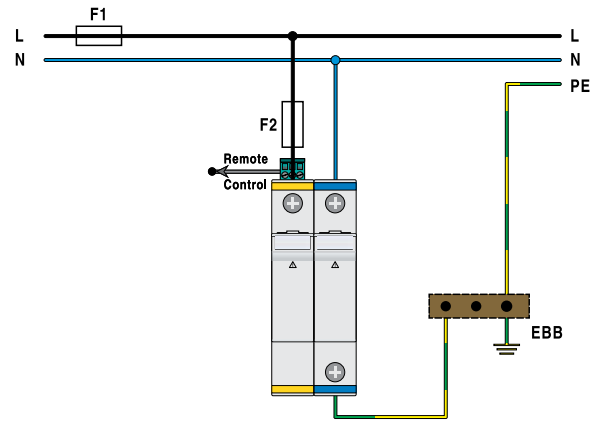
Type	ISPRO C(R) 80/xxx (1+1)							
				150	275	320	385	440
Standards				IEC-61643-1				
Max. continuous operating voltage (AC/DC)	$U_c$	V		150/200	275/350	320/420	385/500	440/580
Nominal discharge current (8/20)	$I_n$	kA		20/20				
Max. discharge current (8/20)	$I_{max}$	kA		40/40				
Protection level	(MOV)	$U_p$	kV	< 0,90	< 1,50	< 1,50	< 1,90	< 2,2
	(GDT)			< 2,00				
Follow current	$I_f$	$A_{RMS}$		>100				
Response time	$t_A$	ns		25/100				
Residual current at $U_c$	$I_{PE}$	mA		< 1,5				
Thermal protection				YES				
Terminal screw torque		Nm		max. 4,5				
Back-up fuse gL (if mains > 125 A)		A		125				
Short-circuit withstand current (50 Hz)		kA		25/50Hz				
Temperature range		°C		-40 ... +80				
Terminal cross section	solid	mm <sup>2</sup>		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				2TE				
Weight per unit		kg		0,221	0,225	0,225	0,226	0,227

## ISPRO C(R) 80 (1 + 1)



### Connections

TT Network (Single-phase)	Dimensions	Weight per unit (kg)
ISPRO C 80/150 (1 + 1)	2TE	0,220
ISPRO C 80/275 (1 + 1)	2TE	0,230
ISPRO C 80/320 (1 + 1)	2TE	0,230
ISPRO C 80/385 (1 + 1)	2TE	0,230
ISPRO C 80/440 (1 + 1)	2TE	0,250
ISPRO CR 80/150 (1 + 1)	2TE	0,230
ISPRO CR 80/275 (1 + 1)	2TE	0,240
ISPRO CR 80/320 (1 + 1)	2TE	0,240
ISPRO CR 80/385 (1 + 1)	2TE	0,240
ISPRO CR 80/440 (1 + 1)	2TE	0,260

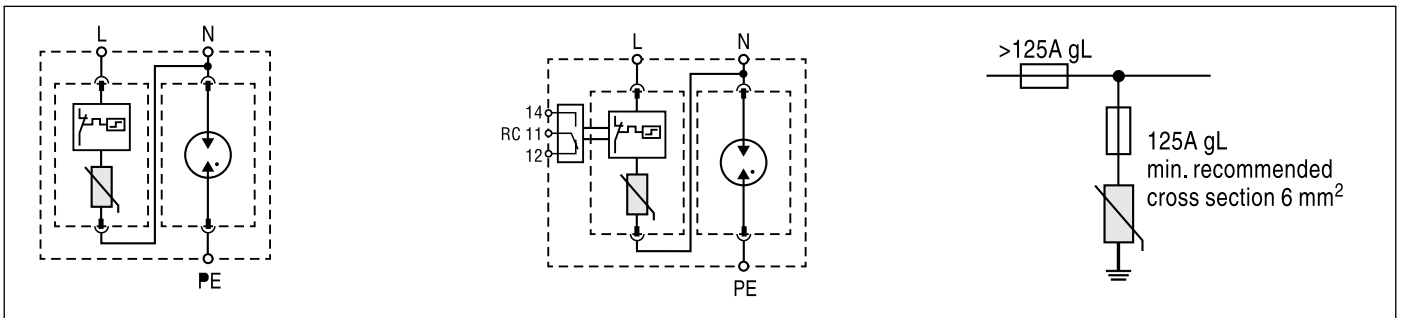


### Connection diagram

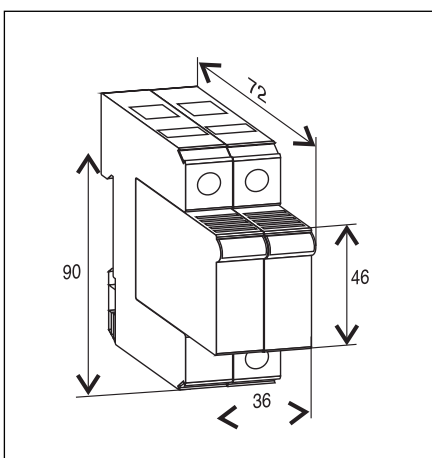
ISPRO C 80/xxx (1 + 1)

ISPRO CR 80/xxx (1 + 1)

Selection of back-up fuse



### Dimensions



### Accessory part for ISPRO C(R) 80/xxx (1+1)

Type	Module ISPRO C(R) 40/xxx				
	150	275	320	385	440
Type	Module ISPRO-G C 40/255				





## ISPRO C(R) 120 (3 + 0)

The ISPRO C(R) 120 (3+0) series combines a ISPRO C 40 modules to provide protection for TNS three phase networks with separate PE and N conductors.

Category IEC/EN/VDE	Class II/Type 2/C
Location of use	Branch Sub-distribution Boards
Protection modes	L/N-PE, L-PEN, N-PE
Protection element	MOV and GDT
Surge discharge ratings	$I_{max}$ = up to 40kA per pole
Internal protection and safety	Separate thermal disconnecter for each MOV
Status indication	Mechanical flag + remote contacts (R)
Dimensions DIN 43880	1TE, 2TE, 3TE, 4TE



### Technical data

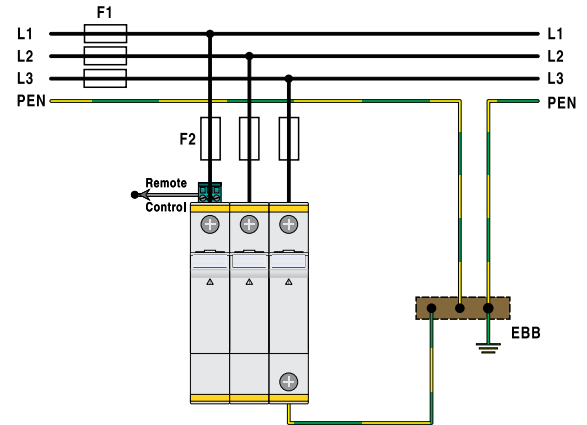
Type	ISPRO C(R) 120/xxx (3+0)							
				150	275	320	385	440
Standards				IEC-61643-1				
Max. continuous operating voltage (AC/DC)	$U_c$	V		150/200	275/350	320/420	385/500	440/580
Nominal discharge current (8/20)	$I_n$	kA		20/20				
Max. discharge current (8/20)	$I_{max}$	kA		40/40				
Protection level (MOV)	$U_p$	kV		< 0,90	< 1,50	< 1,50	< 1,90	< 2,2
Follow current	$I_f$	$A_{RMS}$		NO				
Response time	$t_A$	ns		25				
Residual current at $U_c$	$I_{PE}$	mA		< 1,5				
Thermal protection				YES				
Terminal screw torque		Nm		max. 4,5				
Back-up fuse gL (if mains > 125 A)		A		125				
Short-circuit withstand current (50 Hz)		kA		25/50Hz				
Temperature range		°C		-40 ... +80				
Terminal cross section	solid	mm <sup>2</sup>		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		0,330	0,352	0,352	0,354	0,356

## ISPRO C(R) 120 (3 + 0)



### Connections

TT Network (Single-phase)	Dimensions	Weight per unit (kg)
ISPRO C 120/150 (3 + 0)	3TE	0,335
ISPRO C 120/275 (3 + 0)	3TE	0,345
ISPRO C 120/320 (3 + 0)	3TE	0,350
ISPRO C 120/385 (3 + 0)	3TE	0,355
ISPRO C 120/440 (3 + 0)	3TE	0,365
ISPRO CR 120/150 (3 + 0)	3TE	0,345
ISPRO CR 120/275 (3 + 0)	3TE	0,355
ISPRO CR 120/320 (3 + 0)	3TE	0,360
ISPRO CR 120/385 (3 + 0)	3TE	0,365
ISPRO CR 120/440 (3 + 0)	3TE	0,375

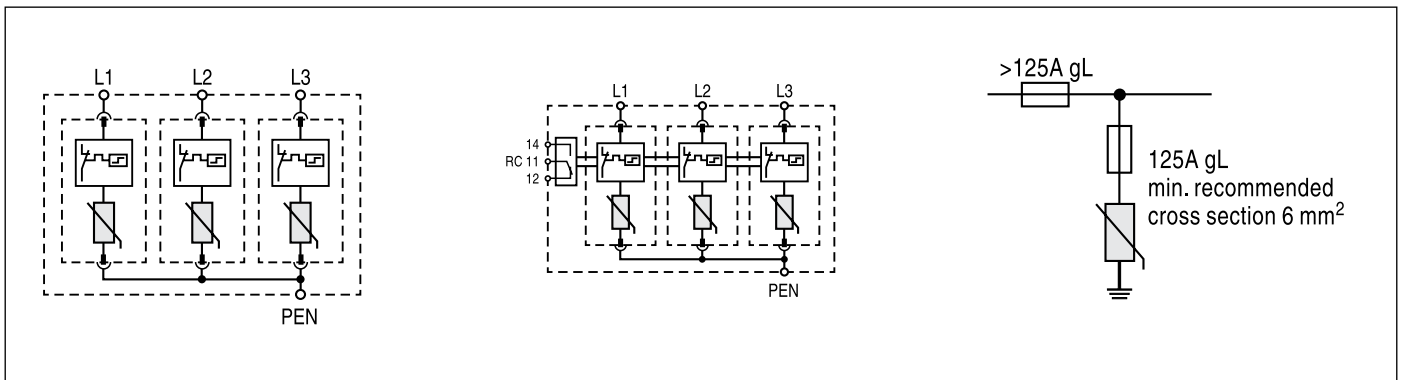


### Connection diagram

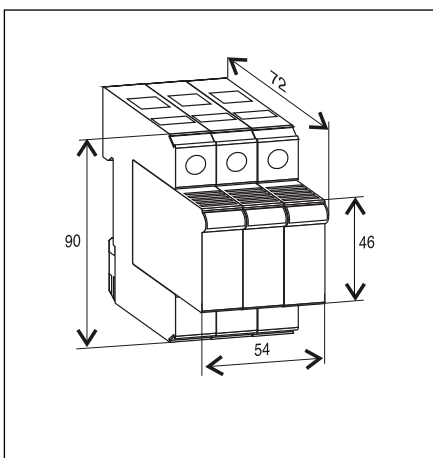
ISPRO C 120/xxx (3 + 0)

ISPRO CR 120/xxx (3 + 0)

Selection of back-up fuse



### Dimensions



### Accessory part for ISPRO C(R) 40/xxx

Type	Module ISPRO C(R) 40/xxx				
	150	275	320	385	440





## ISPRO C(R) 160 (4 + 0)

The ISPRO C(R) 160 (4+0) series combines a ISPRO C 40 modules to provide protection for TNS three phase networks with separate PE and N conductors.

Category IEC/EN/VDE	Class II/Type 2/C
Location of use	Branch Sub-distribution Boards
Protection modes	L/N-PE, L-PEN, N-PE
Protection element	MOV and GDT
Surge discharge ratings	$I_{max}$ = up to 40kA per pole
Internal protection and safety	Separate thermal disconnecter for each MOV
Status indication	Mechanical flag + remote contacts (R)
Dimensions DIN 43880	1TE, 2TE, 3TE, 4TE



### Technical data

Type	ISPRO C(R) 160/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	20/20				
Max. discharge current (8/20)	$I_{max}$	kA	40/40				
Protection level (MOV)	$U_p$	kV	< 0,90	< 1,50	< 1,50	< 1,90	< 2,2
Follow current	$I_f$	$A_{RMS}$	NO				
Response time	$t_A$	ns	25				
Residual current at $U_c$	$I_{PE}$	mA	< 1,5				
Thermal protection			YES				
Terminal screw torque		Nm	max. 4,5				
Back-up fuse gL (if mains > 125 A)		A	125				
Short-circuit withstand current (50 Hz)		kA	25/50Hz				
Temperature range		°C	-40 ... +80				
Terminal cross section	solid	mm <sup>2</sup>	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	0,432	0,456	0,456	0,460	0,466

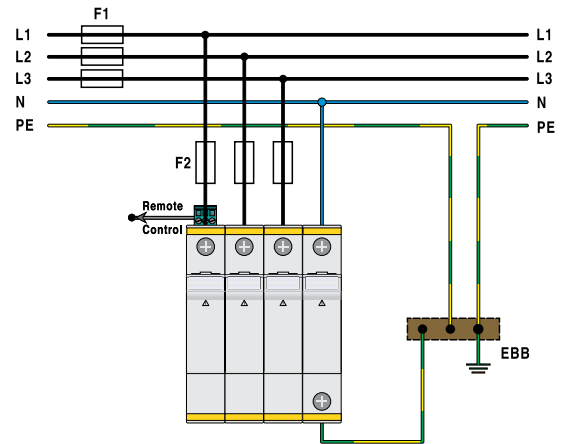


## ISPRO C(R) 160 (4 + 0)



### Connections

TT Network (Single-phase)	Dimensions	Weight per unit (kg)
ISPRO C 160/150 (4 + 0)	4TE	0,450
ISPRO C 160/275 (4 + 0)	4TE	0,460
ISPRO C 160/320 (4 + 0)	4TE	0,465
ISPRO C 160/385 (4 + 0)	4TE	0,475
ISPRO C 160/440 (4 + 0)	4TE	0,480
ISPRO CR 160/150 (4 + 0)	4TE	0,460
ISPRO CR 160/275 (4 + 0)	4TE	0,470
ISPRO CR 160/320 (4 + 0)	4TE	0,475
ISPRO CR 160/385 (4 + 0)	4TE	0,485
ISPRO CR 160/440 (4 + 0)	4TE	0,490

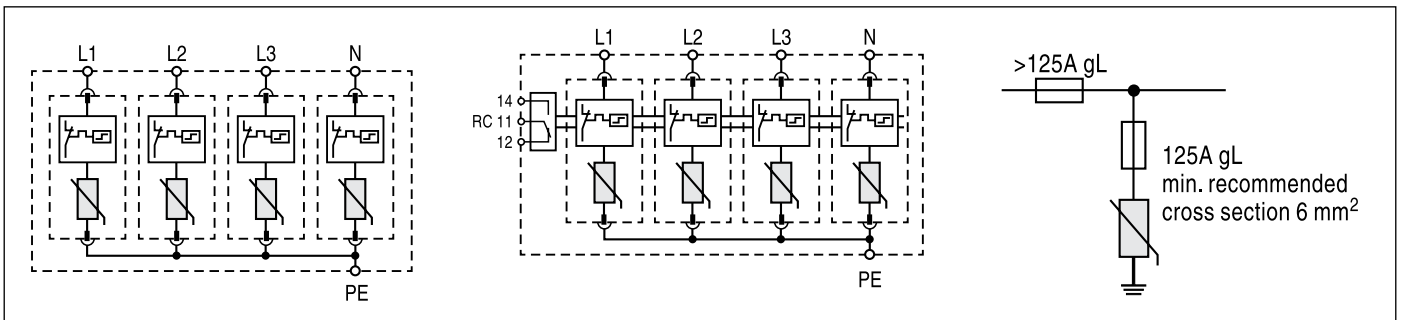


### Connection diagram

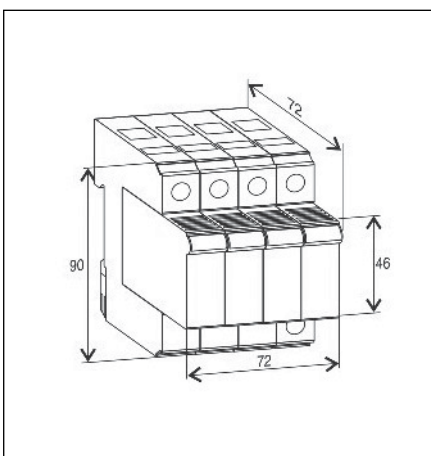
ISPRO C 160/xxx (4 + 0)

ISPRO CR 160/xxx (4 + 0)

Selection of back-up fuse



### Dimensions



### Accessory part for ISPRO C(R) 160/xxx (4+0)

Type	Module ISPRO C(R) 40/xxx				
	150	275	320	385	440





## ISPRO C(R) 160 (3 + 1)

The ISPRO C(R) 160 (4+0) series combines a ISPRO C 40 modules and a ISPRO-G C, to provide protection for TT three phase networks where N to PE galvanic isolation is required.

Category IEC/EN/VDE	Class II/Type 2/C
Location of use	Branch Sub-distribution Boards
Protection modes	L/N-PE, L-PEN, N-PE
Protection element	MOV and GDT
Surge discharge ratings	$I_{max}$ = up to 40kA per pole
Internal protection and safety	Separate thermal disconnecter for each MOV
Status indication	Mechanical flag + remote contacts (R)
Dimensions DIN 43880	1TE, 2TE, 3TE, 4TE



### Technical data

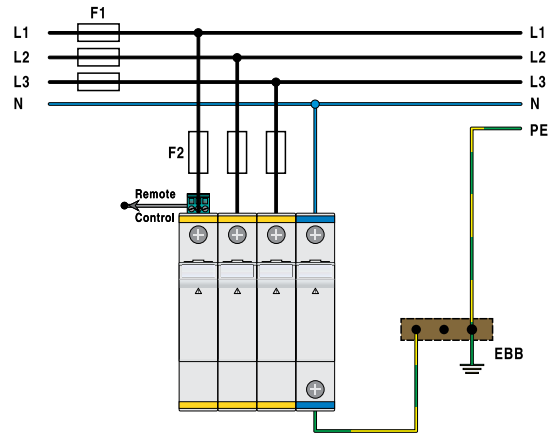
Type			ISPRO C(R) 160/xxx (3+0)					
			150	275	320	385	440	
Standards			IEC-61643-1					
Max. continuous operating voltage (AC/DC)	$U_c$	V	150/200	275/350	320/420	385/500	440/580	
Nominal discharge current (8/20)	$I_n$	kA	20/20					
Max. discharge current (8/20)	$I_{max}$	kA	40/40					
Protection level	(MOV)	$U_p$	kV	< 0,90	< 1,50	< 1,50	< 1,90	< 2,2
	(GDT)			< 2,00				
Follow current	$I_f$	$A_{RMS}$	NO					
Response time	$t_A$	ns	25					
Residual current at $U_c$	$I_{PE}$	mA	< 1,5					
Thermal protection			YES					
Terminal screw torque		Nm	max. 4,5					
Back-up fuse gL (if mains > 125 A)		A	125					
Short-circuit withstand current (50 Hz)		kA	25/50Hz					
Temperature range		° C	-40 ... +80					
Terminal cross section	solid	mm <sup>2</sup>	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	0,423	0,441	0,441	0,445	0,447	

## ISPRO C(R) 160 (3 + 1)



### Connections

TT Network (Single-phase)	Dimensions	Weight per unit (kg)
ISPRO C 160/150 (3 + 1)	4TE	0,425
ISPRO C 160/275 (3 + 1)	4TE	0,435
ISPRO C 160/320 (3 + 1)	4TE	0,440
ISPRO C 160/385 (3 + 1)	4TE	0,445
ISPRO C 160/440 (3 + 1)	4TE	0,455
ISPRO CR 160/150 (3 + 1)	4TE	0,435
ISPRO CR 160/275 (3 + 1)	4TE	0,445
ISPRO CR 160/320 (3 + 1)	4TE	0,450
ISPRO CR 160/385 (3 + 1)	4TE	0,455
ISPRO CR 160/440 (3 + 1)	4TE	0,465

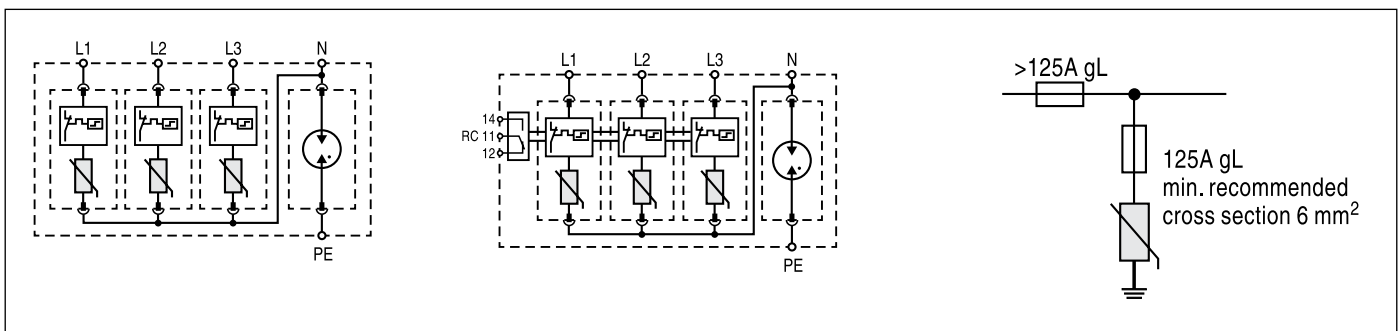


### Connection diagram

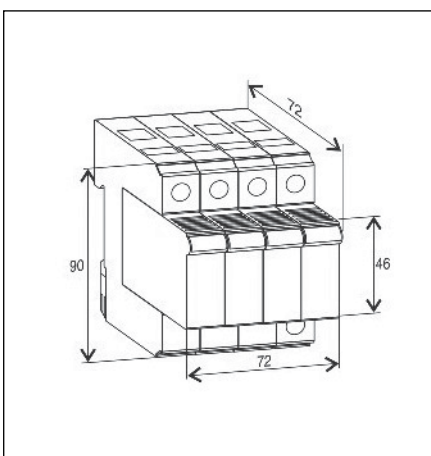
ISPRO C 160/xxx (3 + 1)

ISPRO CR 160/xxx (3 + 1)

Selection of back-up fuse



### Dimensions



### Accessory part for ISPRO C(R) 160/xxx (3+1)

Type	Module ISPRO C(R) 40/xxx				
	150	275	320	385	440
Type	Module ISPRO-G C 40/255				

