



**MULTI-POLE
LIGHTNING CURRENT AND
SURGE ARRESTERS FOR
PHOTOVOLTAIC SYSTEMS
CLASS I / (B+C) AND CLASS II / (C)
COMPACT AND MODULAR HOUSING**



PV ISPRO BS(R) 12,5



The PV ISPRO BS(R) 12,5 series of over voltage surge protective devices has been developed to protect against partial direct and indirect lightning discharges and is intended to provide protect photovoltaic system.

The circuit topology consists of two varistor stages each protected by a thermal disconnection device.

Category IEC/EN/VDE	Class I/Type 1/B+C
Location of use	Photovoltaic systems – PV module side
Protection modes	(+)-PE, (-)-PE
Protection element	High Energy MOVs
High surge discharge ratings	$I_{imp} = 12,5$ kA per pole, $I_{max} = 40$ kA per pole
Internal protection and safety	Separate thermal disconnecter for each MOV block
Status indication	Mechanical flag + remote contacts (R)
Housing	Compact design



Technical data

Type	PV ISPRO BS(R) 12,5/xxx			
		550	1000	
Standards		IEC-61643-1		
Max. continuous operating voltage (DC)	U_c	V	550	1000
Nominal discharge current (8/20)	I_n	kA	20 per pole	
Max. discharge current (8/20)	I_{max}	kA	40 per pole	
Impulse current (10/350)	I_{imp}	kA	12,5	
Specific energy		kJ/Ω	39	
Charge		As	6,25	
Protection level	U_p	kV	< 2,0	< 2,6
Residual voltage at I_{imp}	U_{res}		< 1,7	< 2,4
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		$^{\circ}\text{C}$	-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	0,370	0,578



PV ISPRO BS(R) 12,5

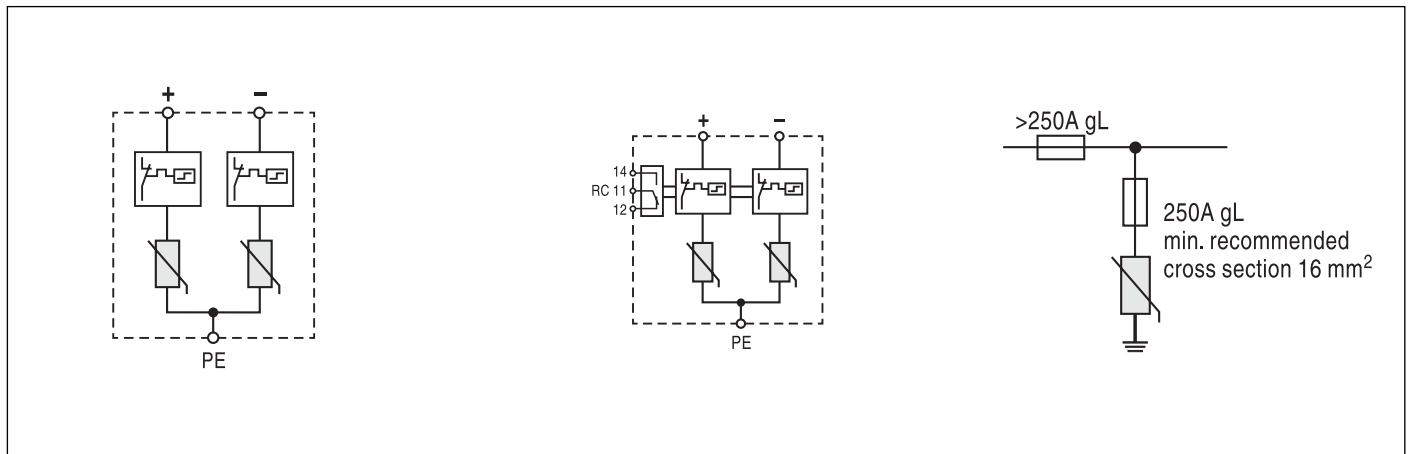
PV ISPRO BSR 12,5 (with remote contacts)			
Remote contacts			YES
Contact ratings AC	250 V	A	0,5
	125 V		3
Terminal cross section		mm ²	max. 1,5
Remote terminal torque		Nm	0,25
Weight per unit		kg	0,375 0,583

Connection diagram

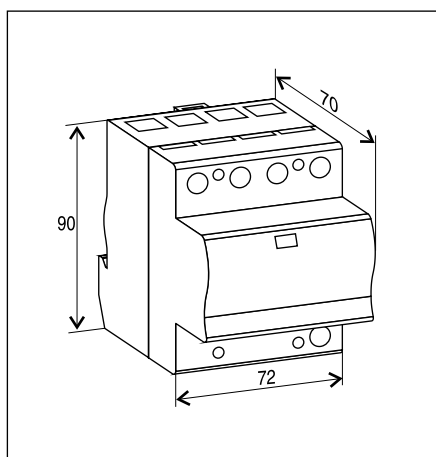
PV ISPRO BS 12,5/xxx

PV ISPRO BSR 12,5/xxx

Selection of back-up fuse



Dimensions



PV ISPRO C(R) 40



The PV ISPRO C(R) 40 series of over voltage surge protective devices has been developed to protect against indirect lightning discharges and is intended to protect photovoltaic system.

The circuit topology consists of two(three) varistor stages each protected by a thermal disconnection device.

Category IEC/EN/VDE	Class II/Type 2/C
Location of use	Branch sub-distribution boards
Protection modes	(+)-PE, (-)-PE
Protection element	High Energy MOVs
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	Compact design



Technical data

Type	PV ISPRO C(R) 40/xxx			
		550	1000	
Standards		IEC-61643-1		
Max. continuous operating voltage (DC)	U_c	V	550	1000
Nominal discharge current (8/20)	I_n	kA	20 per pole	
Max. discharge current (8/20)	I_{max}	kA	40 per pole	
Protection level	U_p	kV	< 2,1	< 4,0
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 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			2TE	3TE
Weight per unit		kg	0,307	0,403



PV ISPRO C(R) 40

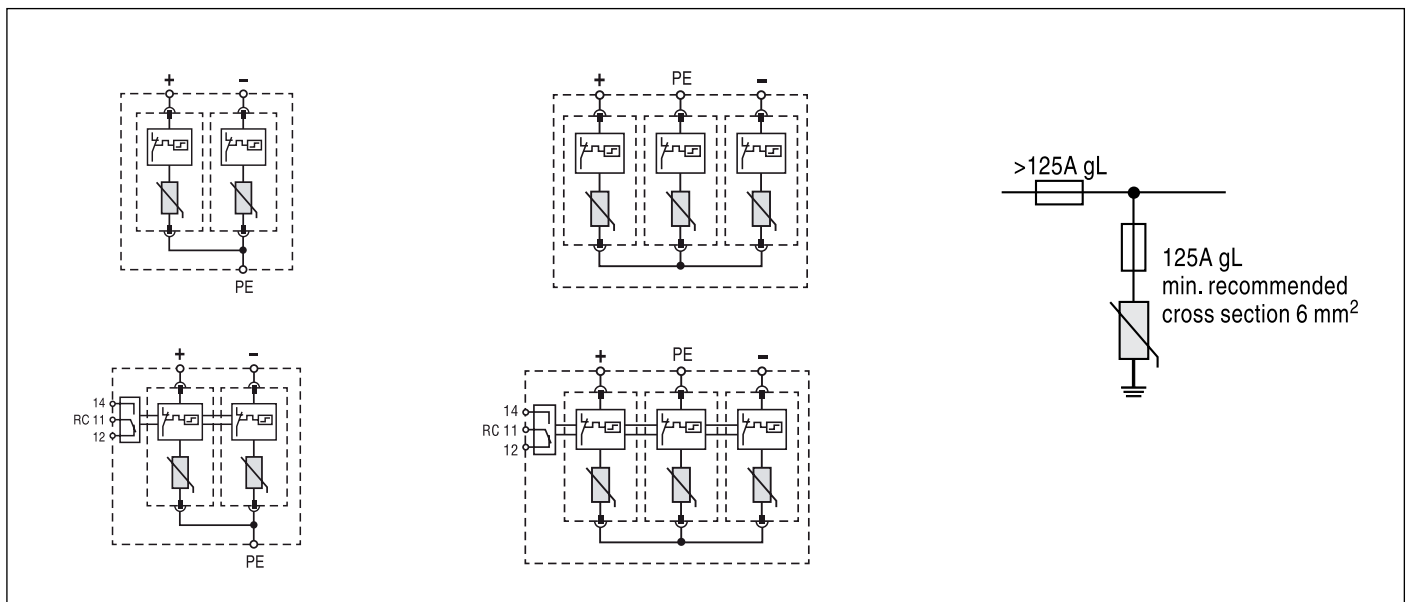
PV ISPRO CR 40 (with remote contacts)				
Remote contacts			YES	
Contact ratings AC	250 V	A	0,5	
	125 V		3	
Terminal cross section		mm ²	max. 1,5	
Remote terminal torque		Nm	0,25	
Weight per unit		kg	0,307	0,403

Connection diagram

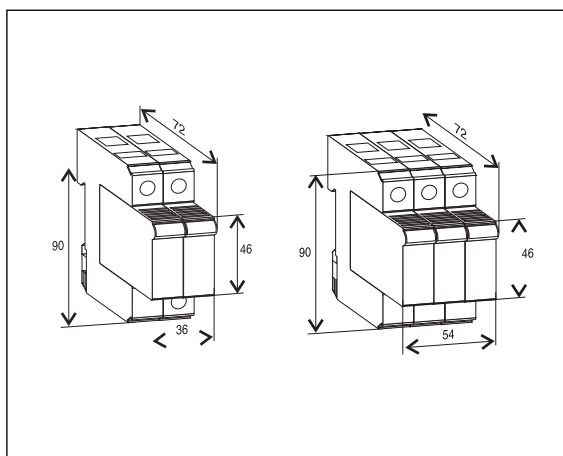
PV ISPRO C 40/500

PV ISPRO CR 40/100

Selection of back-up fuse



Dimensions



Accessory part for PV-ISPRO C(R) 40/xxx (4+0)

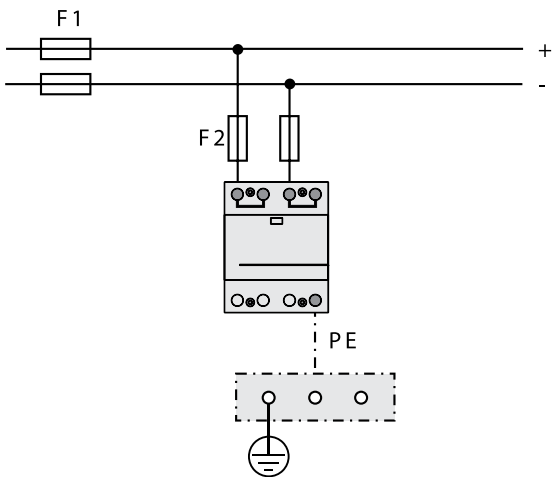


Type	Module ISPRO C(R) 40/xxx				
	150	275	320	385	440

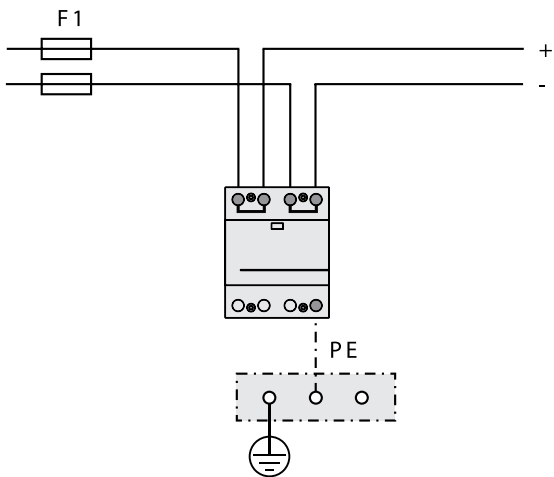
PHOTOVOLTAIC SYSTEMS CONNECTIONS



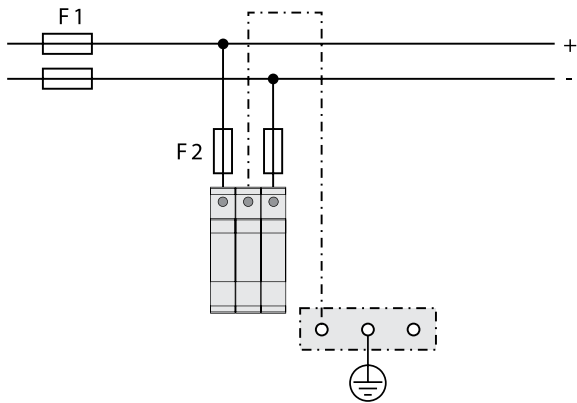
Parallel wiring



Serial (V-type) wiring



Parallel wiring



Serial (V-type) wiring

