

# KiWA<sup>®</sup>

surge protective devices

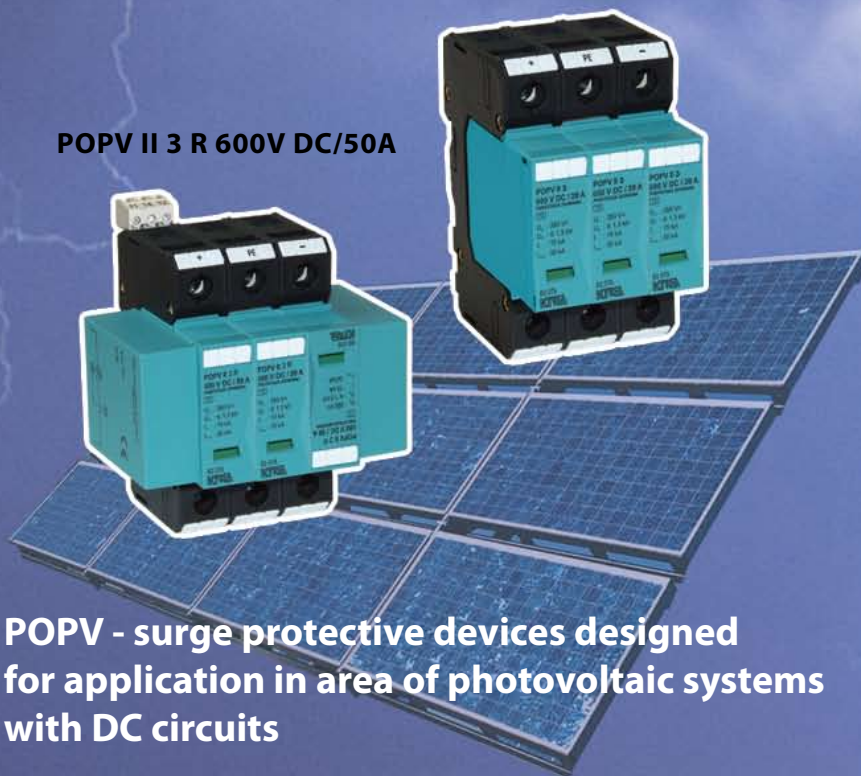
**NEW**  
PRODUCTS!

## SURGE PROTECTION FOR PHOTOVOLTAIC SYSTEMS

- NEW DESIGN CONCEPT
- PROTECTED BY EP 10164827.7 and PCT/B2010/001951
- COMPLIES WITH STANDARDS UTE C 61-740-51:2009

POPV II 3 600V DC/20A

POPV II 3 R 600V DC/50A



POPV - surge protective devices designed  
for application in area of photovoltaic systems  
with DC circuits

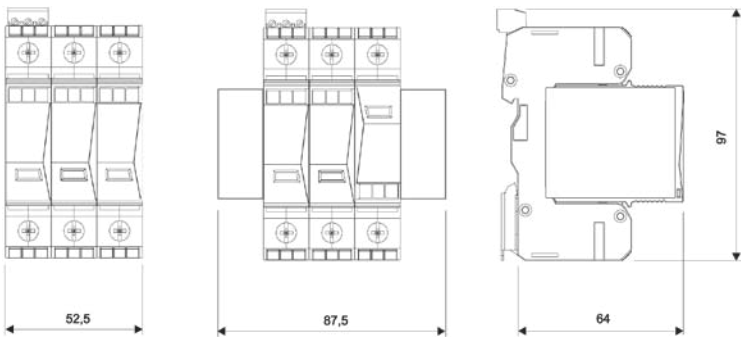
*... our products protect everywhere!*

**POPV II 3 600V DC/20A**  
**POPV II 3 600V DC/50A**  
**POPV II 3 1000V DC/20A**  
**POPV II 3 1000V DC/40A**

- For protection of DC circuits of photovoltaic systems with operating voltage up to 1000 V DC
- Disconnection of DC current by short-circuit occurrence of protective varistor
- POPV malfunction (short-circuit of varistor) causes an interruption of current flowing from PV power supply to mains/electrical network. This interruption lasts only for a short time, sufficient for disconnection of POPV from the PV power supply. Thus a permanent short-circuit of POPV is prevented
- Plug-in protectives units
- Varistor units for protection against overvoltage
- Optical signalization of operation state
- Remote signalization of operation state (R version)
- Protective units rotatable with respect to the base through 180°



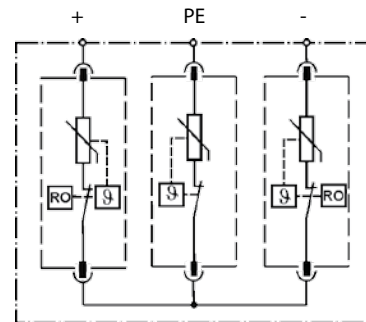
**DIMENSIONS**



POPV II 3 600V DC/20A  
POPV II 3 1000V DC/20A

POPV II 3 600V DC/50A  
POPV II 3 1000V DC/40A

**CONNECTION DIAGRAM**



**BASIC VERSION**

**R VERSION**

Signaling states:

- green = OK
- red = out of operation, to be replaced immediately



POPV II 3 600V DC/20A  
POPV II 3 1000V DC/20A

POPV II 3 600V DC/50A  
POPV II 3 1000V DC/40A

Optional version with remote signaling (R) for the identification of the overvoltage protection state

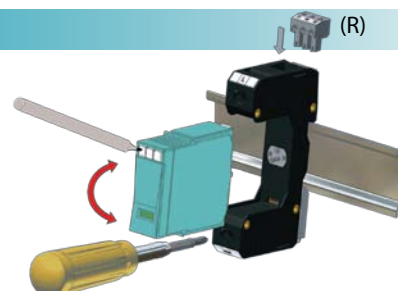


POPV II 3 R 600V DC/20A  
POPV II 3 R 1000V DC/20A

POPV II 3 R 600V DC/50A  
POPV II 3 R 1000V DC/40A

**INSTALLATION**

- Installation on DIN rail
- Cable labeling system using Dekafix replaceable strips
- Plug-in varistor can be turned through 180°

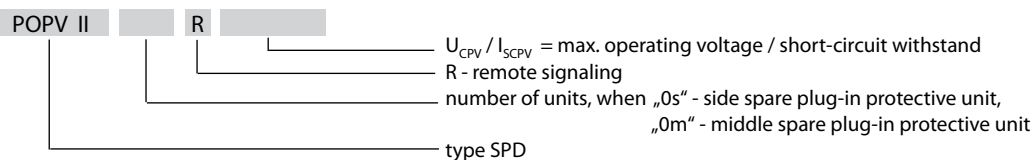


## TECHNICAL PARAMETERS

KIWA	TYPE	POPV II 3 600V DC/20A	POPV II 3 600V DC/50A	POPV II 3 1000V DC/20A	POPV II 3 1000V DC/40A	
Number of poles		3	3	3	3	
Max. operating voltage	$U_{CPV}$	600 V DC	600 V DC	1000 V DC	1000 V DC	
Voltage protection level at	$U_p$					
	L+/L-	$\leq 2,6$ kV	$\leq 2,6$ kV	$\leq 4,2$ kV	$\leq 4,2$ kV	
	L+L-/PE	$\leq 2,6$ kV	$\leq 2,6$ kV	$\leq 4,2$ kV	$\leq 4,2$ kV	
Response time	$t_A$					
	L+/L-	< 25 ns	< 25 ns	< 25 ns	< 25 ns	
	L+L-/PE	< 25 ns	< 25 ns	< 25 ns	< 25 ns	
Nominal discharge current (8/20)	$I_n$	15 kA	15 kA	15 kA	15 kA	
Max. discharge current (8/20)	$I_{max}$	30 kA	30 kA	30 kA	30 kA	
Short-circuit withstand						
	<sup>1)</sup> by prEN 50539-11:2009 (OCM/PV <sub>3</sub> )	$I_{SCPV}$	20 A	50 A	20 A	40 A
	<sup>2)</sup> by UTE C 61-740-51	$I_{CC}$	20 A	50 A	20 A	40 A
Signaling changeover contact		M3/0,25 Nm, □0,2 ... 1,5 mm <sup>2</sup> , max. 250 V/1A AC				
Status indication of TDD (Thermic Disconnecting Device)		green (OK) / red(OUT)				
Min. ... max. tightening torque		2 ... 3 Nm				
Connecting conductor cross section						
	- wire		4 ... 35 mm <sup>2</sup>			
	- cord		4 ... 25 mm <sup>2</sup>			
Operating temperature range		-40 ... +70 °C				
Degree of protection		IP 20				
Mounting on profiled DIN rail		35 x 7,5 mm				
Dimensions		97 x 64 x 52,5 mm	97 x 64 x 87,5 mm	97 x 64 x 52,5 mm	97 x 64 x 87,5 mm	
Products comply with standards STN EN 61643-11/A11 <sup>1)</sup> DRAFT prEN 50539-11 (February 2010) <sup>2)</sup> UTE C 61-740-51				type 2 $\boxed{T2}$ type 2 $\boxed{T2}$ Class II		

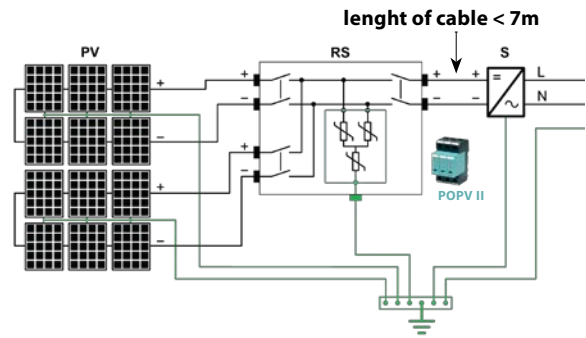
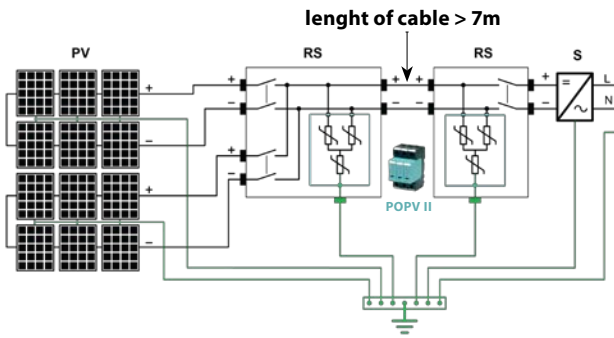
<sup>3)</sup> DC current value of DC current which a TDD (thermic disconnecting device) can safely disconnect and effectively extinguish any arc;

## PRODUCT SPECIFICATION

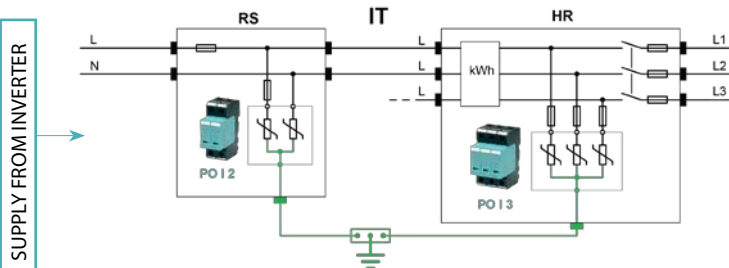
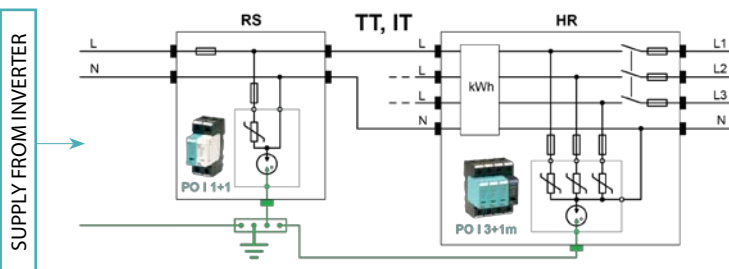
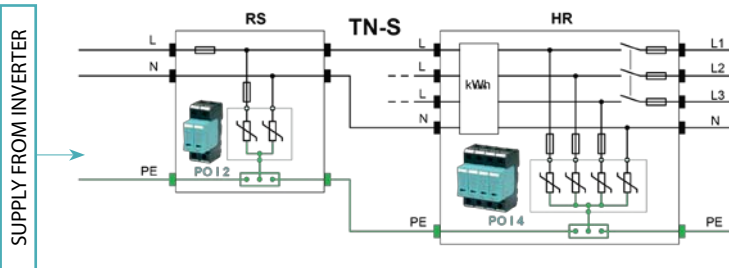
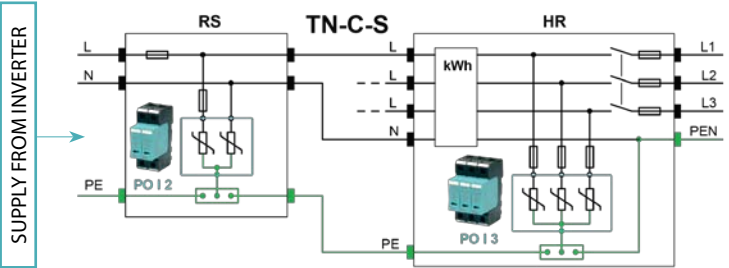
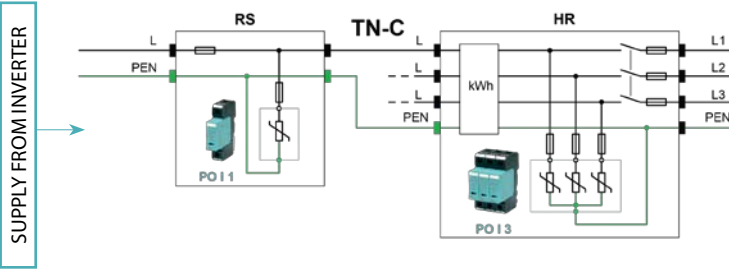


TYPE	Order number	TYPE	Order number
POPV II 3 600V DC/20A	82.121	POPV II 3 1000V DC/20A	82.101
POPV II 3 R 600V DC/20A	82.122	POPV II 3 R 1000V DC/20A	82.102
POPV II 0s 600V DC/20A	82.133	POPV II 0s 1000V DC/20A	82.137
POPV II 0m 600V DC/20A	82.134	POPV II 0m 1000V DC/20A	82.138
POPV II 3 600V DC/50A	82.123	POPV II 3 1000V DC/40A	82.086
POPV II 3 R 600V DC/50A	82.124	POPV II 3 R 1000V DC/40A	82.087
POPV II 0s 600V DC/50A	82.135	POPV II 0s 1000V DC/40A	82.139
POPV II 0m 600V DC/50A	82.136	POPV II 0m 1000V DC/40A	82.140

## EXAMPLES OF INSTALLATION FOR PHOTOVOLTAIC - DC SIDE



## EXAMPLES OF INSTALLATION FOR PHOTOVOLTAIC - AC SIDE



PV - field of photovoltaic panels  
 HR - main distributing board  
 RS - distributing box  
 S - inverter

The KIWA products portfolio and more instructions for wiring connection you can find at [www.kiwa.sk](http://www.kiwa.sk)



[www.kiwa.sk](http://www.kiwa.sk)  
[www.kiwa.eu](http://www.kiwa.eu)