SH-199 AC

STANDARD SERIES

- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP65
- YEARS OF WARRANTY: 5
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 3.000 KG

The connection switchgear from Polish producer KENO is designed to power photovoltaic inverters in grounded and isolated photovoltaic installations. It realizes protection against the effects of short circuits and overloads, as well as protection against the effects of direct and indirect discharges on the AC side. Due to the high degree of IP protection, outdoor installation is possible. The design of the switchgear is intended for surface mounting. Depending on the equipment, switchboards can perform various functions.

BASIC PARAMETERS AC SIDE	
AC Surge Protector | Type	Noark | T1/T2
Overcurrent circuit breaker	Noark B32A 3F
Residual current circuit breaker	1 x 100mA type A

ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING	
Model	PHS 12 T
Number of fields	12
Dimensions of housing without chokes and MC4 (Length|Width|Height)	144.00 | 319.00 | 259.00
Design in accordance with	EN 60670-1, EN 62208
Level of security	IP65
Protection class	II
Rated insulation voltage U_i	400 V AC, 1500 V DC
The incandescent rod test	650°C
Impact resistance	IK08
UV resistance	YES
Recyclable plastic	bezhalogenowy

Working temperature	-25ºC – +60ºC

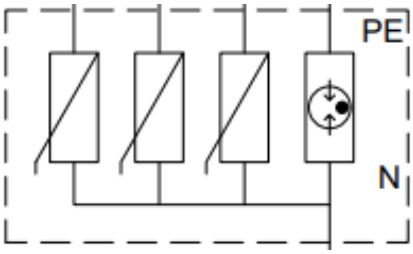
Overcurrent circuit breaker used (MCB) (1)

Manufacturer / Model	Noark / Ex9BN 3P B32
Rated current	32A; 3-F
Rated operational voltage U_e	230/415 V AC
-	72 V DC to the pole (1P, 2P)
-	48 V DC to the pole (3P, 4P)
Minimum voltage	12 V AC/DC
Rated impulse withstand voltage U_{imp} in accordance with IEC 60898-1	6 kV
Rated impulse withstand voltage U_{imp} in accordance with IEC 60947-2	6 kV
Rated short-circuit breaking capacity I_{cn} in accordance with IEC 60898-1	6 kA
Rated short-circuit breaking capacity I_{cn} in accordance with IEC 60947-2	10 kA
Rated voltage of the insulation U_i	690 V AC
Number of poles	3
Frequency	50/60 Hz
Characteristic	B
Design in accordance with	IEC/EN 60898-1, IEC/EN 60947-2
Mechanical durability	20 000 connections
Electrical durability	10 000 connections
Energy limitation class	3
Category of use	A
Feed direction	Any (top or bottom)

Overvoltage limiter used AC (SPD)

Manufacturer / Model	Noark Ex9UE1+2 12.5 3PN 275	
Connection	L-N/PE	N-PE
Made in accordance with	EN 61643-11	
Type of delimiter	Typee 1+2 (klasa I+II, B+C, T1+T2)	
Making the insert	MOV (Warystor)GDT (Iskiernik)	
Rated voltage U_n	230 V AC	
Reference test voltage U_{REF}	255 V AC	
Continuous working voltage U_c	275 V AC	255 V AC

Frequency f	25 kA to the pole	50 kA to the pole
Specific energy W/R	156.25 kJ/Ω	
Maximum impulse current I_{imp} (10/350 µs)	12.5 kA to the pole	50 kA to the pole
Maximum discharge current I_{max} (8/20 µs)	50 kA to the pole	
Voltage protection level U_p for electricity I_n	1.5 kV	1.5 kV
Voltage protection level U_p for electricity I_{max}	1.8 kV	1.5 kV
Voltage protection level U_p dla 5 kA (8/20 µs)	1 kV	-
N-PE Follow current extinguishing capability I_{fi}	-	100 A
5 s	335 V	335 V
200 ms	335 V	1200 V
Residual current I_{PE} by U_{REF}	≤ 1 mA	-
Limiter voltage for current 1mA	387 - 473 V	
Response time	≤ 25 ns	≤ 100 ns
Maximum fuse protection	160 A gG	-
Ability to withstand short-circuit current	50kA	-
Short-circuit withstand I_{SCCR}	10kA	-
Current factor k	1kA	-
Type of system LV	TN-S, TT (3+1)	



Residual current circuit breaker used (RCD)

Manufacturer / Model	Noark / Ex9L-N 100mA
Made in accordance with	EN 61008
Number of fields	2 / 4
Characteristic	A
Rated operational voltage U_e	240/415 V AC
Rated current	40 / 63 A
Minimum voltage for the RCD function	Independence from tension
Voltage range for text button	150 — 440 V
Frequency f	50 Hz
Rated voltage of the insulation U_i	500 V

Conditional rated short-circuit current I_{nc}	6 kA
Rated residual current IΔn	100mA
Tenderness	sensitive to residual sinusoidal current, rectified pulsed and smooth, high frequency (1 kHz)
Response time	immediate
Rated impulse withstand voltage U_{imp}	6 kV
Shock resistance	3000 A
Mechanical durability	20 000 connections
Electrical durability	4 000 connections
Maximum fuse protection against overload	
I_n = 40 A	32 A gG
I_n = 63 A	50 A gG
Maximum fuse protection against short-circuit effects	
I_n = 40 A	63 A gG
I_n = 63 A	63 A gG
Rated making and breaking capacity Im I_m	
I_n = 40 A	500 A
I_n = 63 A	630 A
Feed direction	Any (top or bottom)