

SH-59 AC

STANDARD SERIES



DESIGN: MODULAR

DEGREE OF PROTECTION: IP65

YEARS OF WARRANTY: 5

UV RESISTANCE: YES

READY TO CONNECT: YES

WEIGHT: 1.080 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 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 | T2

Overcurrent circuit breaker

Noark B16A 1F

ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING

Model	PHS 8 T
Number of fields	8
Dimensions of housing without chokes and MC4 (Length Width Height)	120.00 202.00 201.00
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



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Manufacturer / Model Noark / Ex9BN 1P B16 Rated current 16A; 1-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 short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 6 kA Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 10 kA Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 50/60 Hz Rated voltage of the insulation U _i 690 V AC Number of poles 1 Characteristic 50/60 Hz 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 Any (top or bottom)	Overcurrent circuit breaker used (MCB) (1)				
Rated operational voltage Ue 7230/415 V AC 72 V DC to the pole (1P, 2P) 72 V DC to the pole (1P, 2P) 73 V DC to the pole (1P, 2P) 74 V DC to the pole (3P, 4P) 75	Manufacturer / Model	Noark / Ex9BN 1P B16			
To to the pole (1P, 2P) - 48 V DC to the pole (1P, 2P) Minimum voltage Minimum voltage Rated impulse withstand voltage U _{imp} in accordance with IEC 60898-1 Rated impulse withstand voltage U _{imp} in accordance with IEC 60898-1 Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 Rated voltage of the insulation U _i Frequency Characteristic Besign in accordance with IEC/EN 60898-1, IEC/EN 60947-2 Mechanical durability 20 000 connections Electrical durability 10 000 connections Energy limitation class A detegory of use	Rated current	16A; 1-F			
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Minimum voltage12 V AC/DCRated impulse withstand voltage Uimp in accordance with IEC 60898-16 kVRated impulse withstand voltage Uimp in accordance with IEC 60947-26 kVRated short-circuit breaking capacity Icn in accordance with IEC 60947-26 kARated short-circuit breaking capacity Icn in accordance with IEC 60947-210 kARated voltage of the insulation Ui690 V ACNumber of poles1Frequency50/60 HzCharacteristicBDesign in accordance withIEC/EN 60898-1, IEC/EN 60947-2Mechanical durability20 000 connectionsElectrical durability10 000 connectionsEnergy limitation class3Category of useA	-	72 V DC to the pole (1P, 2P)			
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Rated impulse withstand voltage U _{imp} in accordance with IEC 60947-2 Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60898-1 Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60898-1 Rated short-circuit breaking capacity I _{cn} in accordance with IEC 60947-2 Rated voltage of the insulation U _i 690 V AC Number of poles 1 Frequency 50/60 Hz Characteristic B Design in accordance with IEC/EN 60898-1, IEC/EN 60947-2 Mechanical durability 10 000 connections Electrical durability Energy limitation class 3 Category of use	Minimum voltage	12 V AC/DC			
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Number of poles 1 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		10 kA			
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	Rated voltage of the insulation $U_{\rm i}$	690 V AC			
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	Number of poles	1			
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	Frequency	50/60 Hz			
Mechanical durability20 000 connectionsElectrical durability10 000 connectionsEnergy limitation class3Category of useA	Characteristic	В			
Electrical durability 10 000 connections Energy limitation class 3 Category of use A	Design in accordance with	IEC/EN 60898-1, IEC/EN 60947-2			
Energy limitation class 3 Category of use A	Mechanical durability	20 000 connections			
Category of use A	Electrical durability	10 000 connections			
	Energy limitation class	3			
Feed direction Any (top or bottom)	Category of use	А			
	Feed direction	Any (top or bottom)			

Overvoltage limiter used AC (SPD)				
Manufacturer / Model	Noark Ex9UE2	Noark Ex9UE2 20 1PN 275		
Connection	L-N/PE	N-PE		
Made in accordance with	EN 61643-11			
Type of delimiter	Typee 2 (kla	Typee 2 (klasa II, C, T2)		
Making the insert	MOV (Warystor)	GDT (Iskiernik)		
Rated voltage U _n	230 / 400 V AC			
Reference test voltage U_{REF}	255 V	255 V AC		
Continuous working voltage U _c	275 V AC	255 V AC		
Frequency f	50/60	50/60 Hz		
Nominal discharge current I_n (8/20 μ s)	20 kA to the pole	40 kA to the pole		



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Maximum impulse current I_{imp} (10/350 μ s)	-	40 kA to the pole	
Maximum discharge current I_{max} (8/20 μ s)	40 kA to the pole		
Voltage protection level \boldsymbol{U}_{p} for electricity \boldsymbol{I}_{n}	1.4 kV	1.5 kV	
Voltage protection level \boldsymbol{U}_{p} for electricity \boldsymbol{I}_{max}	2 kV	1.5 kV	
Voltage protection level U_p dla 5 kA (8/20 μ s)	1 kV	-	
N-PE Follow current extinguishing capability $I_{\rm fi}$	-	100 A	
Occasional surges U _t (paused)	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	125 A gG	-	
Ability to withstand short-circuit current	50kA	-	
Short-circuit withstand I _{SCCR}	10kA	-	
Current factor k	1	kA	
Type of system LV	TN-S, TT (1+1)		

