



- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP65
- YEARS OF WARRANTY: 2
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 3.800 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	Dehn T1/T2
Overcurrent circuit breaker	Noark B40A 1F
Residual current circuit breaker	1 x 300mA type A
FR switch disconnecter	63A
Phase signaling	YES
Shunt trip	Wzrostowy

ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING

Model	PHS 24 T
Number of fields	24
Dimensions of housing without chokes and MC4 (Length Width Height)	144.00 319.00 384.00
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	-25°C - +60°C

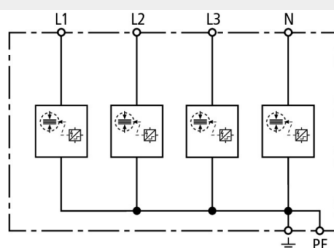
Overcurrent circuit breaker used (MCB) (1)

Manufacturer / Model	Noark / Ex9BN 1P B40
Rated current	40A; 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 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	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	A
Feed direction	Any (top or bottom)

Overvoltage limiter used AC (SPD)

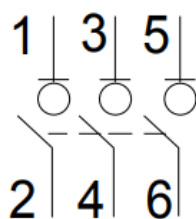
Manufacturer / Model	Dehn DSH TNS 255
Made in accordance with	EN 61643-11 / IEC 61643-11
Surge protection	T1 / T2
Number of fields	2
Rated voltage AC (U_n)	230 V (50 / 60 Hz)

The greatest voltage of permanent work AC (U_c)	255 V (50 / 60 Hz)
Surge current (10/350 μ s) [L1+L2+L3+N-PE] (I_{total})	25 kA
Specific energy [L1+L2+L3+N-PE] (W/R)	156.25 kJ/ Ω
Surge current (10/350 μ s) [L, N-PE] (I_{imp})	12,5 kA
Specific energy [L,N-PE] (W/R)	39,06 kJ/ Ω
Nominal discharge current (8/20 μ s) [L/N-PE] / [L1+L2+L3+NPE] (I_n)	12,5 / 25 kA
Voltage protection level [L-PE]/[N-PE] (U_p)	$\leq 1,5$ / $\leq 1,5$ kV
Follow current extinguishing capability AC (I_{fi})	25 kArms
Response time (t_A)	≤ 100 ns
Maximum fuse protection	160 A gG
Occasional surges (TOV) [L-N] (U_t) - characteristic	440 V / 120 min - durable
Working temperature range (TU)	-40°C ...
Operation / failure indicator	green / red



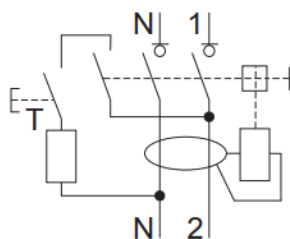
Switch disconnector used

Model	Ex9I125 3P 63A
Design in accordance with	IEC/EN 60947-3
Rated operational voltage U_e	230/400 V AC
Frequency	50/60 Hz
Rated current I_e AC-22A 230/400 V AC	63
Number of poles	3
Category of use	AC-22A
Rated voltage of the insulation U_i	500 V
Rated impulse withstand voltage U_{imp}	6 kV
Rated short-time withstand current I_{cw} , 1s	12 x I_e
Rated short-circuit making current I_{cm} (wartość szczytowa)	1260 A
Maximum fuse protection	160 A gG
Mechanical durability	20 000 connections
Electrical durability	4 000 connections



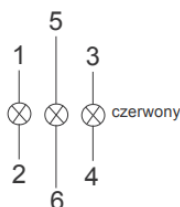
Residual current circuit breaker used (RCD)

Manufacturer / Model	Noark / Ex9L-N 300mA
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 test 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 $I_{\Delta n}$	300mA
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 $I_m I_m$	
$I_n = 40$ A	500 A
$I_n = 63$ A	630 A
Feed direction	Any (top or bottom)



Phase indicator used

Model	Ex9PDe
Made in accordance with	EN 60947-5-1
Rated operational voltage U_e	24/48 DC 240 V AC
Rated current I_e	$\leq 20\text{mA}$ / LED
Conventional thermal current in open space I_n	20 mA
Frequency f	50 Hz
Rated voltage of the insulation U_i	500V
Rated voltage impact resistance U_{imp}	4kV
Electrical durability	$\geq 30\,000$ work hours
Diode luminance	$\geq 40\text{ cd/m}^2$



Shunt release applied

Type of trigger	Increasing SHT31/ 100544
Maximum current of main contacts	125A
Control voltage	110-130V DC; 110-415V AC
Rated voltage	230V
Type of control voltage	AC/DC

