



Transformer-protective circuit-breaker, 3p, I_r=2.5-4A, screw connection

Part no. PKZM0-4-T
Article no. 088914
Catalog No. XTPT004BC1NL

Delivery programme

Product range			PKZM0...T transformer-protective circuit-breakers up to 25 A
Basic function			Transformer protection
Notes			Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging.
Connection technique			Screw terminals
Contact sequence			
Setting range			
Overload releases	I _r	A	2.5 - 4
Notes For the protection of transformers with a high inrush current can be snap-fitted to IEC/EN 60715 top-hat rail with 7,5 or 15 mm height Phase failure sensitivity to IEC/EN 60947-4-1, VDE 0660 part 102.			

Technical data

General			
Standards			IEC/EN 60947, VDE 0660
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature		°C	
Storage	θ	°C	-40 - +80
Open		°C	-25 - +55
Enclosed		°C	- 25 - 40
Mounting position			
Direction of incoming supply			as required
Degree of protection			
Device			IP20
Terminations			IP00
Protection against direct contact			Finger and back-of-hand proof
Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27		g	25
Altitude		m	2000
Terminal capacity screw terminals		mm ²	
Solid		mm ²	1 x (1 - 6) 2 x (1 - 6)
Flexible with ferrule to DIN 46228		mm ²	1 x (1 - 6) 2 x (1 - 6)
Solid or stranded		AWG	18 - 10
Specified tightening torque for terminal screws			

Main cable		Nm	1.7
Control circuit cables		Nm	1
Main conducting paths			
Rated impulse withstand voltage	U_{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated operational voltage	U_e	V AC	690
Rated uninterrupted current = rated operational current	$I_u = I_e$	A	25 or current setting of the overcurrent release
Rated frequency	f	Hz	40 - 60
Rated frequency		Hz	40 - 60
Current heat loss (3 pole at operating temperature)		W	6
Lifespan, mechanical	Operations	$\times 10^6$	0.1
Lifespan, electrical (AC-3 at 400 V)	Operations	$\times 10^6$	0.1
Maximum operating frequency		Ops./h	
Max. operating frequency		Ops/h	40
Short-circuit rating			
DC			
Short-circuit rating		kA	60
Short-circuit rating			60 (up to PKZM0-16) 40 (PKZM0-20 to PKZM0-32)
Motor switching capacity			
AC-3 (up to 690 V)		kA_{rms}	
DC-5 (up to 250 V)		A	25
		A	25 (3 contacts in series)
Trip blocks			
Temperature compensation			
to IEC/EN 60947, VDE 0660		°C	- 5 ... 40
Operating range		°C	- 25 ... 55
Temperature compensation residual error for $T > 40$ °C			± 0.25 %/K
Setting range of overload releases		$\times I_u$	0.6 - 1
Short-circuit release fixed		$\times I_u$	20
Fixed short-circuit release			Basic device $20 \times I_u$
Short-circuit release tolerance			$\pm 20\%$
Phase-failure sensitivity			IEC/EN 60947-1-1, VDE 0660 Part 102

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	4
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	4.88
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			
			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			
			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			
			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			
			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			
			Meets the product standard's requirements.
10.2.5 Lifting			
			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			
			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			
			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			
			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			
			Meets the product standard's requirements.

10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9 Insulation properties		
10.9.2 Power-frequency electric strength		Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

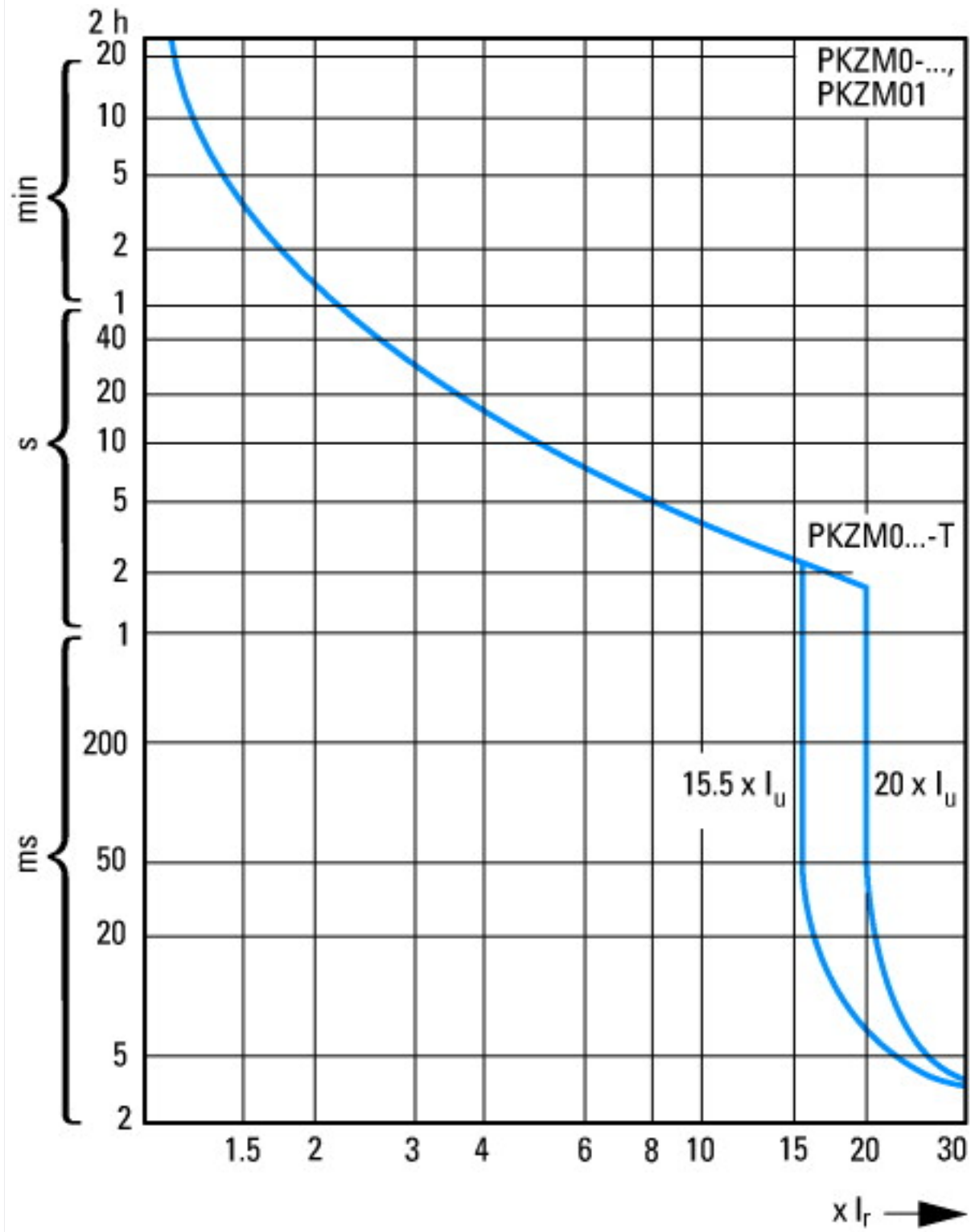
Technical data ETIM 6.0

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation prot. (EC000228)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss8.1-27-37-04-09 [AJZ716010])		
Rated permanent current I _u	A	4
Rated short-circuit breaking capacity I _{cu} at 400 V, 50 Hz	kA	150
Overload release current setting	A	2.5 - 4
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	84 - 84
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
Device construction		-
Suitable for DIN rail (top hat rail) mounting		Yes
Number of auxiliary contacts as normally closed contact		0
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as change-over contact		0
Switched-off indicator available		Yes
With under voltage release		No
Number of poles		3
Position of connection for main current circuit		vorderseitiger Anschluss
Type of control element		Turn button
Motor drive optional		No
Motor drive integrated		Yes
Degree of protection (IP)		IP20

Approvals

Specially designed for North America		No
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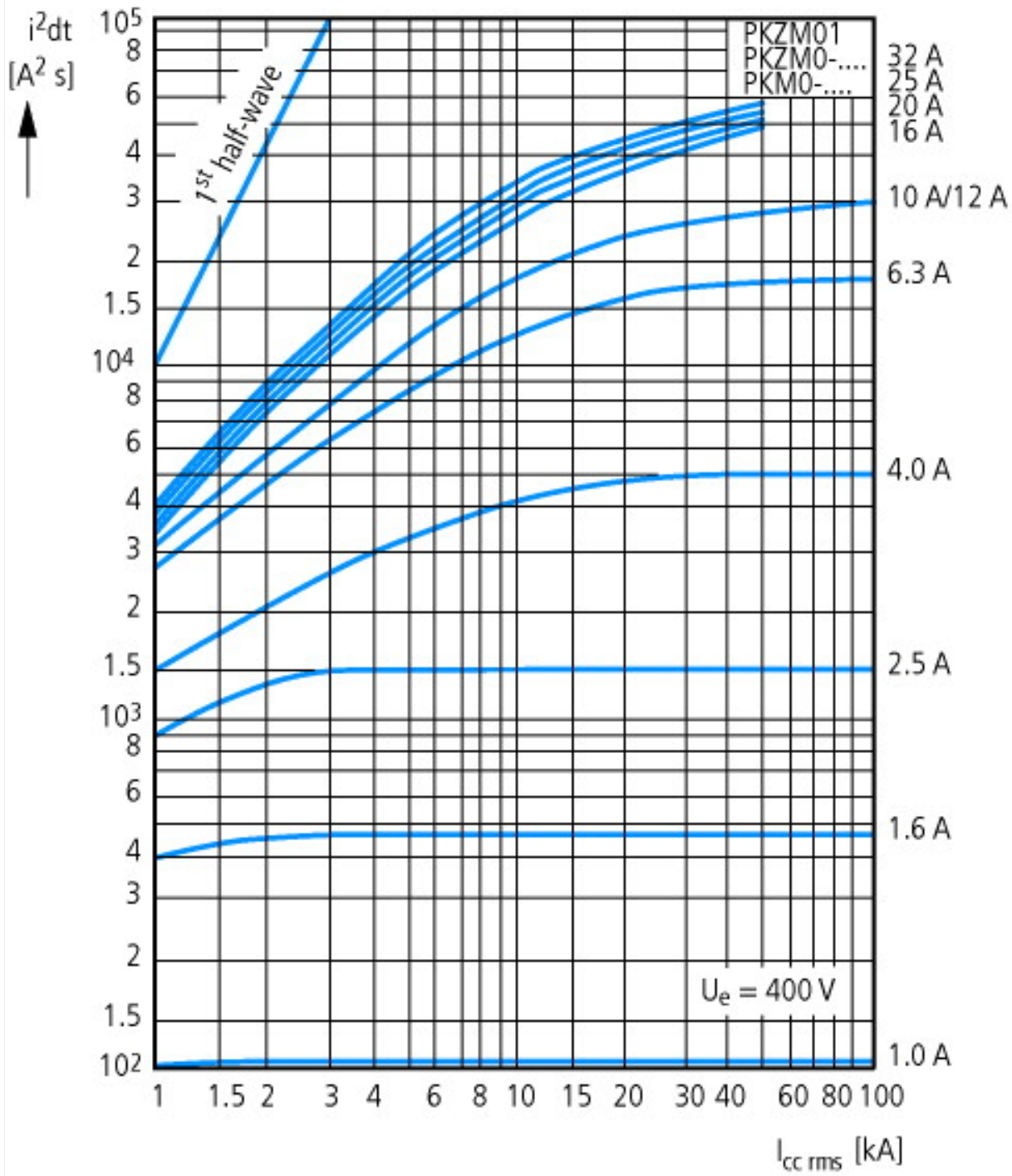
Characteristics



Motor-protective circuit-breaker tripping characteristic (high-capacity) compact starter, PKZM0...T (not for PKM0...), PKZM01

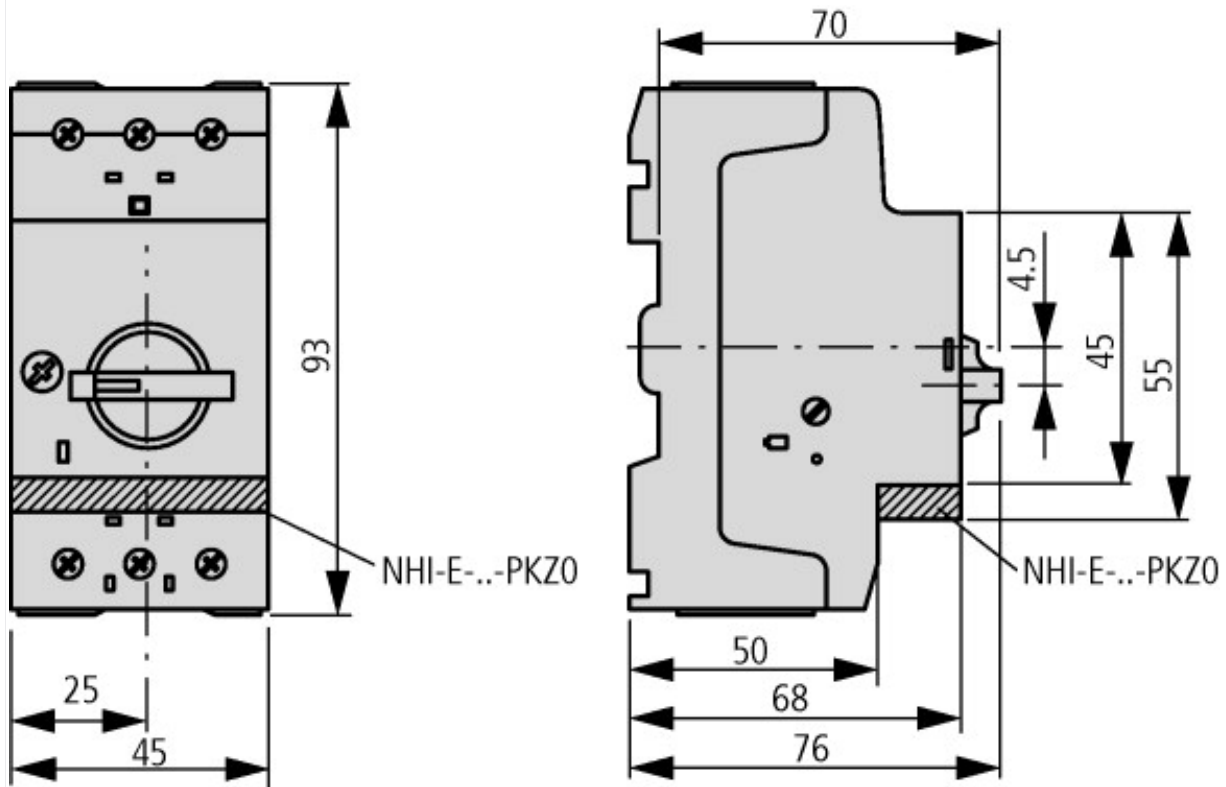


Let-through current

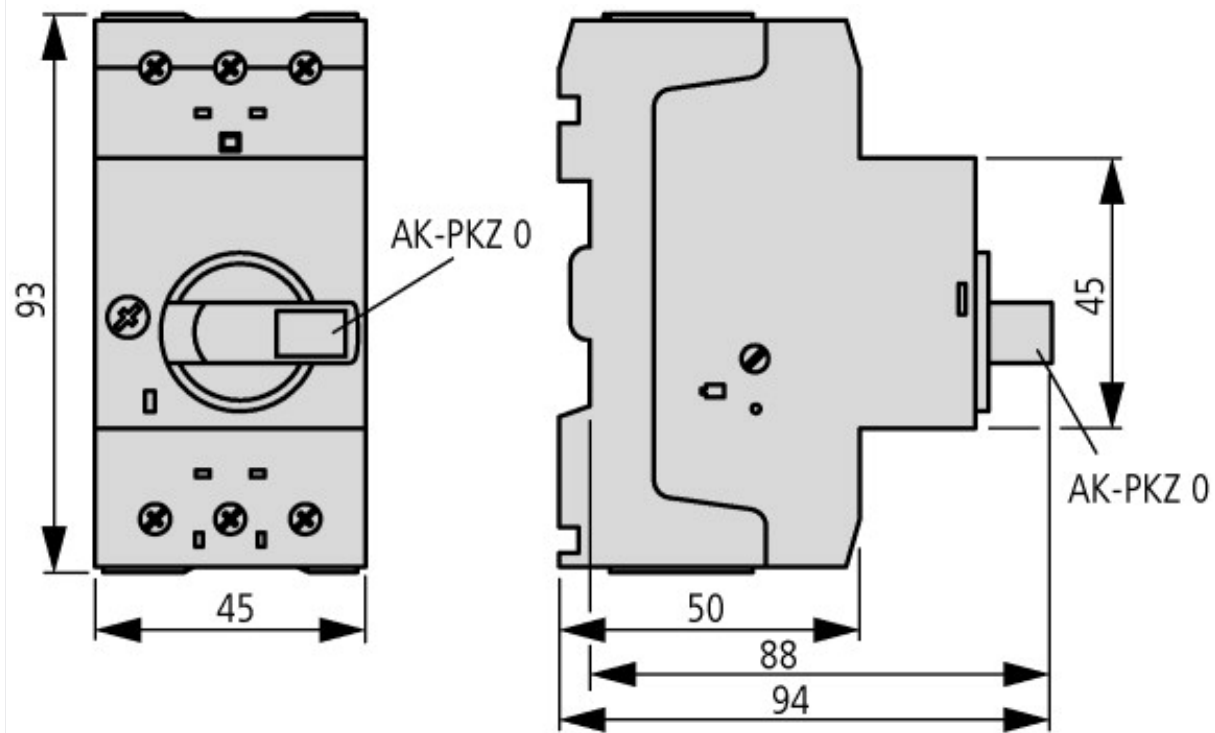


Let-through energy

Dimensions



Motor-protective circuit-breaker with standard auxiliary contact
 PKZM0-...(+NHI-E-...-PKZ0)
 PKZM0-...-T(+NHI-E-...-PKZ0)
 PKM0-...(+NHI-E-...-PKZ0)



Motor-protective circuit-breakers with lockable rotary handles
 PKZM0-...+AK-PKZ0



Motor-protective circuit-breakers with early-make auxiliary contacts
PKZM0-...+VHI-...-PKZ0

Additional product information (links)

IL03407010Z (AWA1210-2138) Motor-protective circuit-breaker

IL03407010Z (AWA1210-2138) Motor-protective circuit-breaker ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407010Z2014_02.pdf

IL03407011Z (AWA1210-1925) Motor-protective circuit-breaker

IL03407011Z (AWA1210-1925) Motor-protective circuit-breaker ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407011Z2014_02.pdf

MN03402003Z (AWB1210-1458) PKZM0 motor-protective circuit-breakers, overload monitoring of Ex e motors

MN03402003Z (AWB1210-1458) PKZM0 motor-protective circuit-breakers, overload monitoring of Ex e motors - Deutsch / English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03402003Z_DE_EN.pdf

Motor starters and "Special Purpose Ratings" for the North American market http://www.moeller.net/binary/ver_techpapers/ver953en.pdf

Busbar Component Adapters for modern Industrial control panels http://www.moeller.net/binary/ver_techpapers/ver960en.pdf