
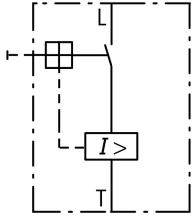





Short-circuit protective breaker, 3p, im=280A

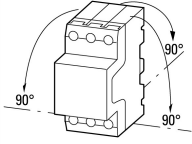
Part no. **PKM0-20**
 Article no. **203594**
 Catalog No. **XTPM020BNL**

Delivery program

Product range				PKM0 motor protective circuit-breakers up to 32 A
Basic function				Short-circuit protective device only
				
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				
Max. motor rating				
AC-3				
220 V 230 V 240 V	P	kW		5.5
380 V 400 V 415 V	P	kW		9
440 V	P	kW		11
500 V	P	kW		12.5
660 V 690 V	P	kW		15
Setting range				
Short-circuit releases				
				
max.	I_{rm}	A		310
Notes				
When using the PKM0 as short-circuit protection for motors with heavy starting duty, the rated operational current I_b must be over-dimensioned during engineering with the following factors:				
CLASS 5 = 1.0				
CLASS 10 = 1.0				
CLASS 15 = 1.22				
CLASS 20 = 1.41				
CLASS 25 = 1.58				
CLASS 30 = 1.73				
CLASS 35 = 1.89				
CLASS 40 = 2.0				
Can be snap-fitted to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height				
Assignment of the short-circuit protective breakers and contactors in "Fuseless motor-starter combinations" section.				
An appropriate overload relay must be fitted to protect motors against overload.				

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				
Storage	9	°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
Terminal capacity springloaded terminals		
Solid	mm ²	1 x (1...2.5) 2 x (1...2.5)
Flexible with ferrule to DIN 46228	mm ²	1 x (1...2.5) 2 x (1...2.5)
Solid or stranded	AWG	18...14
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	32 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			60 (up to PKM0-16) 40 (PKM0-20 to PKM0-32)
Motor switching capacity		kA _{rms}	
AC-3 (up to 690 V)		A	32
DC-5 (up to 250 V)		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			$\frac{\Delta I}{I} = 0.25 \% / K$
Short-circuit release fixed	$\times I_u$		15
short-circuit release			Basic device, fixed: 15.5 x I_u
Short-circuit release tolerance			± 20%

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	20
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	5.82
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

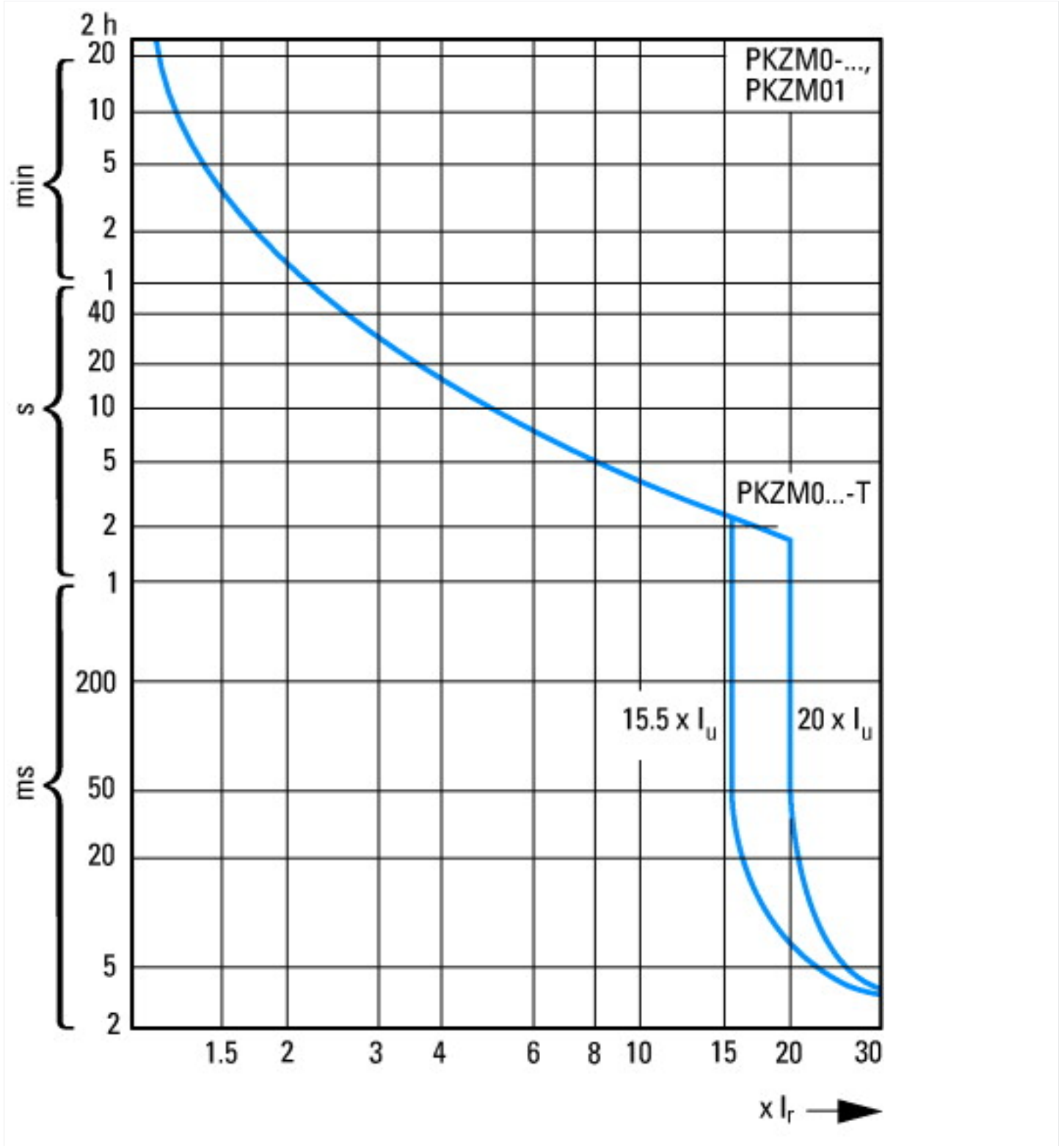
Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss8.1-27-37-04-01 [AGZ529013])			
Overload release current setting		A	0 - 0
Adjustment range undelayed short-circuit release		A	310 - 310
Thermal protection			No
Phase failure sensitive			No
Switch off technique			Magnetic
Rated operating voltage		V	690 - 690
Rated permanent current I_u		A	20
Rated operation power at AC-3, 230 V		kW	5.5
Rated operation power at AC-3, 400 V		kW	9
Type of electrical connection of main circuit			Screw connection
Type of control element			Turn button
Device construction			Built-in device fixed built-in technique
With integrated auxiliary switch			No
With integrated under voltage release			No

Number of poles		3
Rated short-circuit breaking capacity I_{cu} at 400 V, AC	kA	50
Degree of protection (IP)		IP20
Height	mm	93
Width	mm	45
Depth	mm	76

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

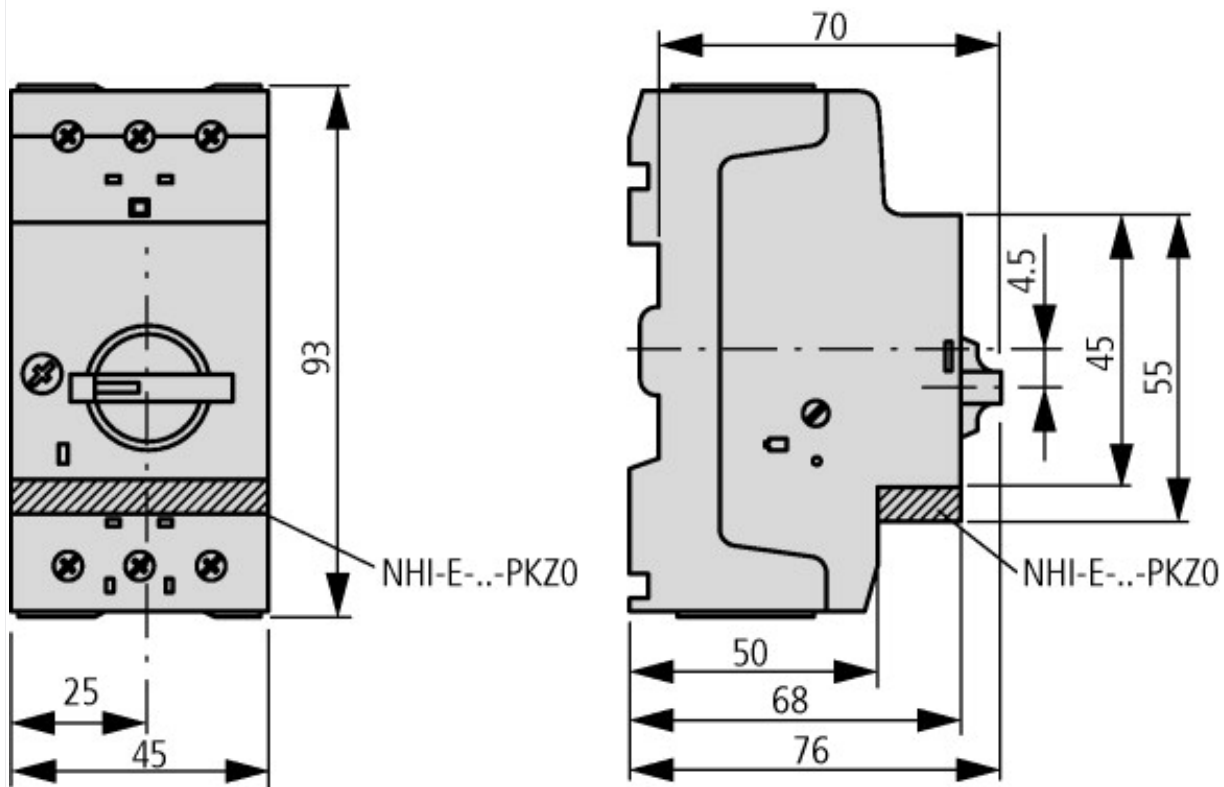


Let-through current

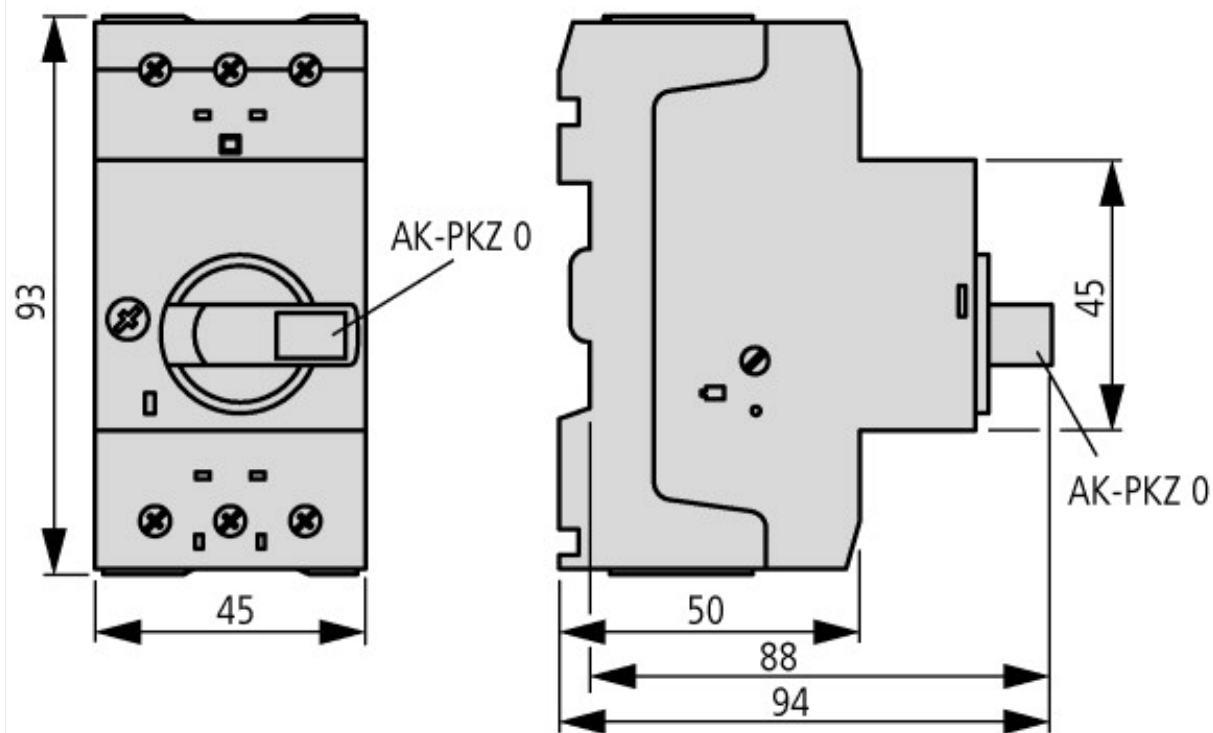


Let-through energy

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

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