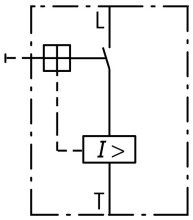
Short-circuit protective breaker, 3p, im=2.2A

Part no. PKM0-0,16
Article no. 072720
Catalog No. XTPMP16BNL

Powering Business Worldwide

Delivery program

Product range			PKM0 motor protective circuit-breakers up to 32 A
Basic function			Short-circuit protective device only
			IE3
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			
660 V 690 V	P	kW	0.06
Setting range			
Short-circuit releases 			
max.	I_{rm}	A	2.5

Notes
When using the PKM0 as short-circuit protection for motors with heavy starting duty, the rated operational current I_e 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

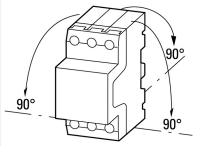
CLASS 40 = 2.0

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	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
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	x 10^6	0.1
Lifespan, electrical (AC-3 at 400 V)	Operations	x 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			0.25 %/K
Short-circuit release fixed		x 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	0.16
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	5.39
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

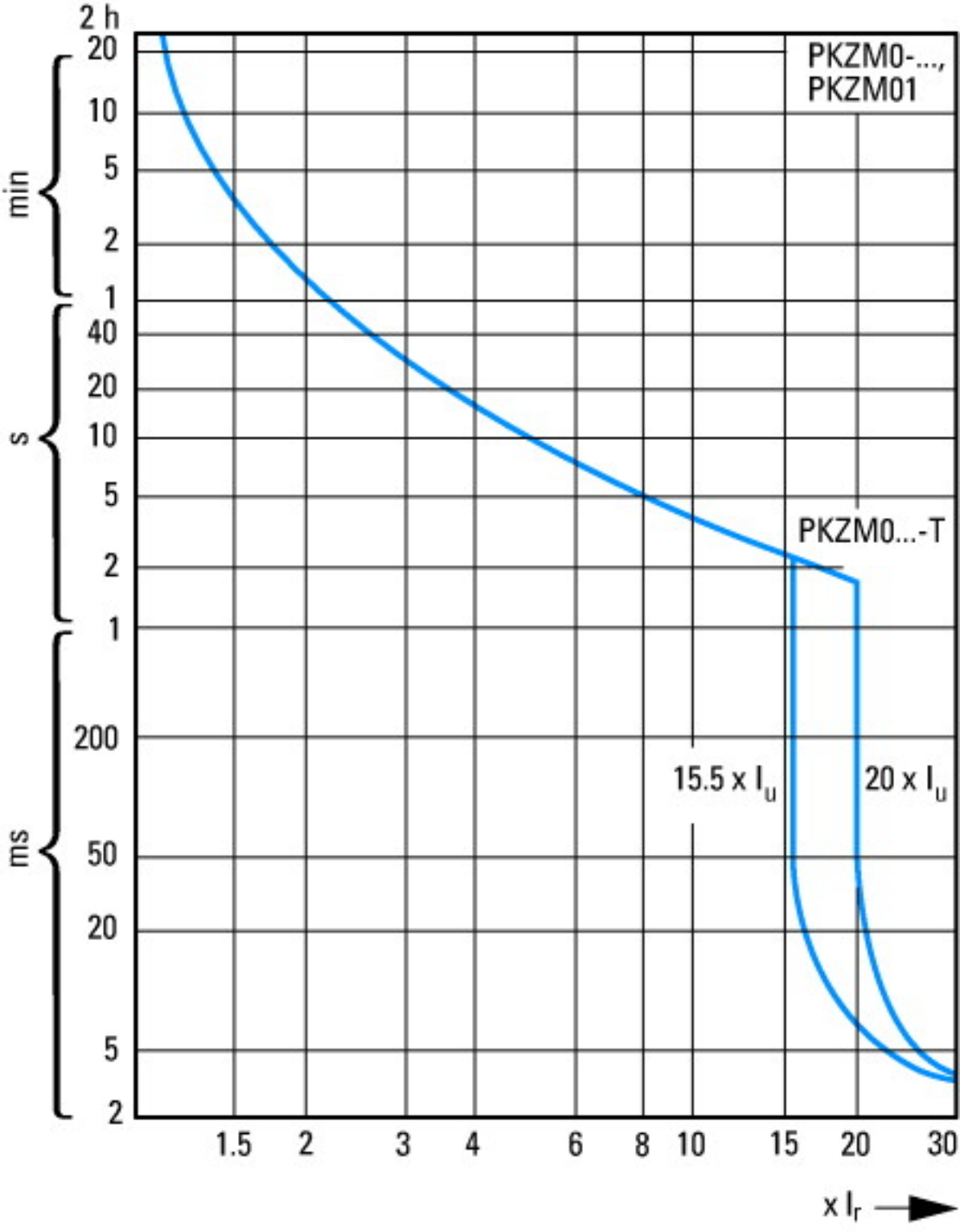
Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss8.1-27-37-04-01 [AGZ529013])			
Overload release current setting		A	0 - 0
Adjustment range undelayed short-circuit release		A	2.5 - 2.5
Thermal protection			No
Phase failure sensitive			No
Switch off technique			Magnetic
Rated operating voltage		V	690 - 690
Rated permanent current Iu		A	0.16
Rated operation power at AC-3, 230 V		kW	0
Rated operation power at AC-3, 400 V		kW	0
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 Icu at 400 V, AC		kA	150

Degree of protection (IP)			IP20
Height		mm	93
Width		mm	45
Depth		mm	76

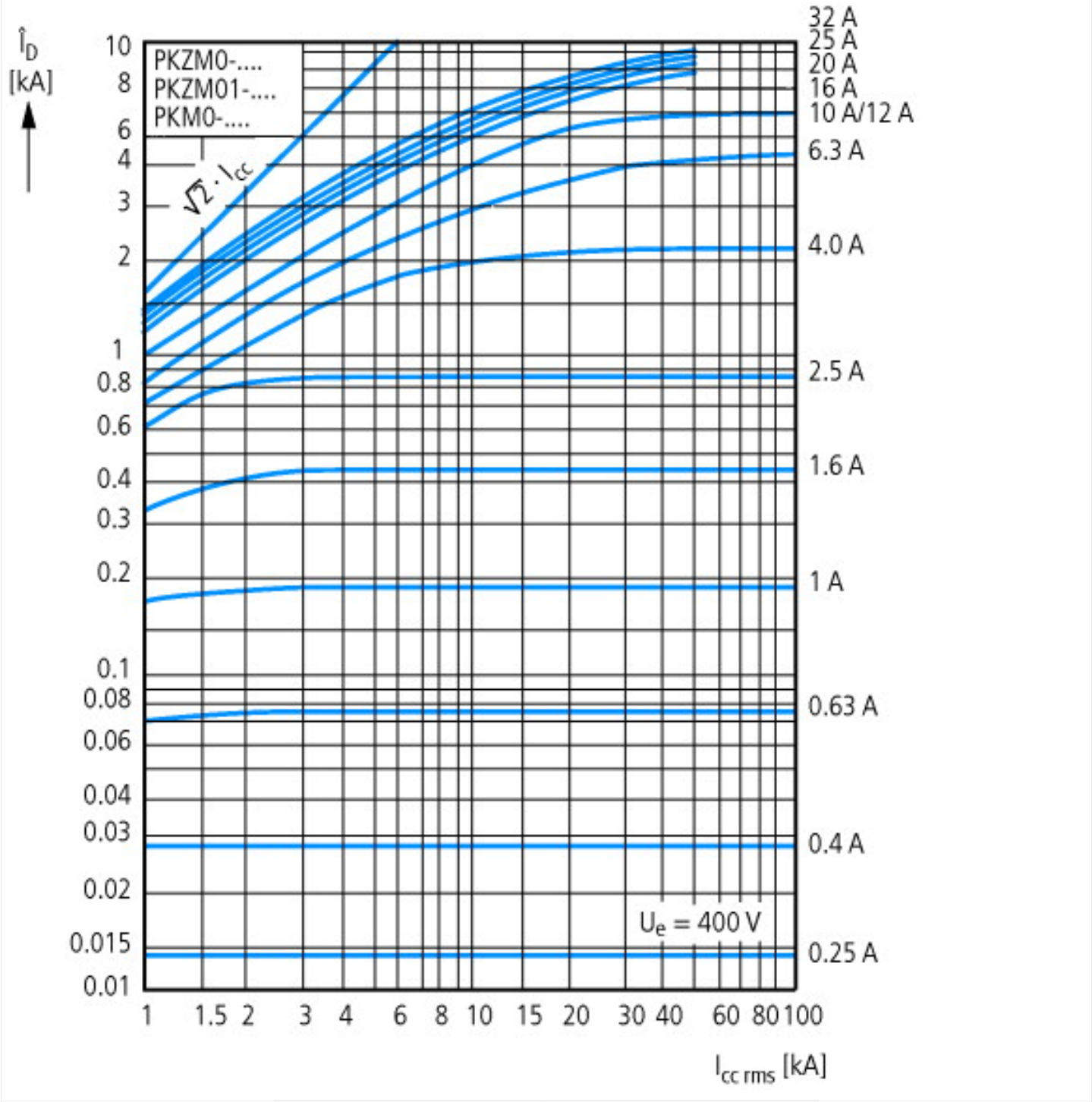
Approvals

Specially designed for North America			No

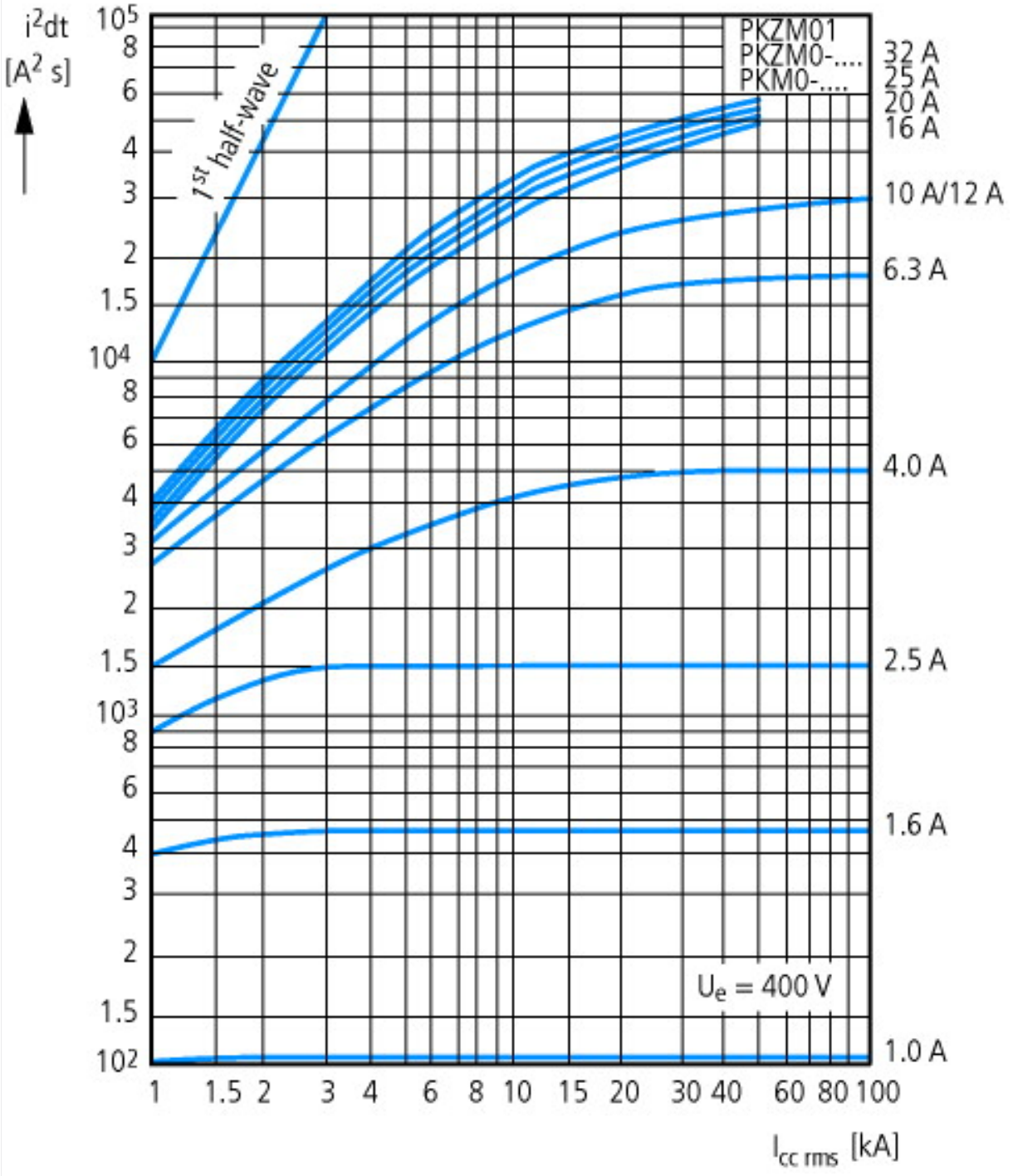
Characteristics



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

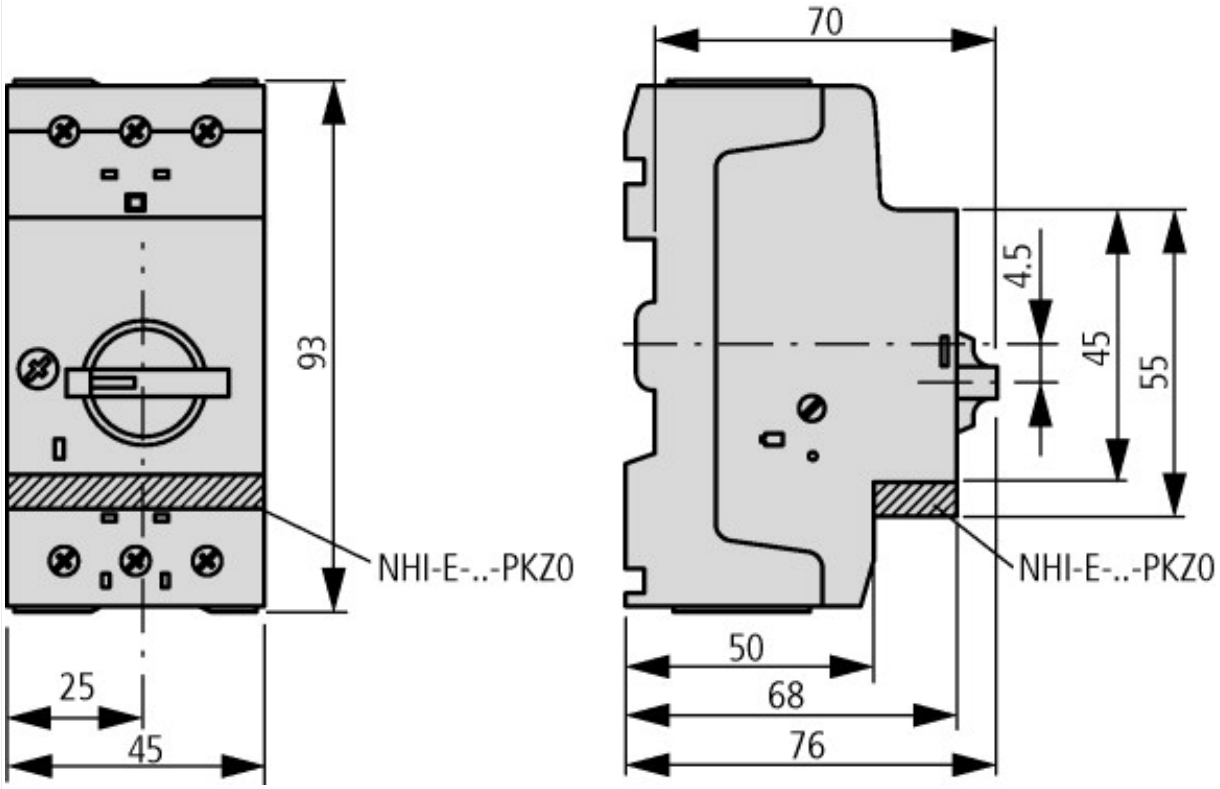


Let-through current

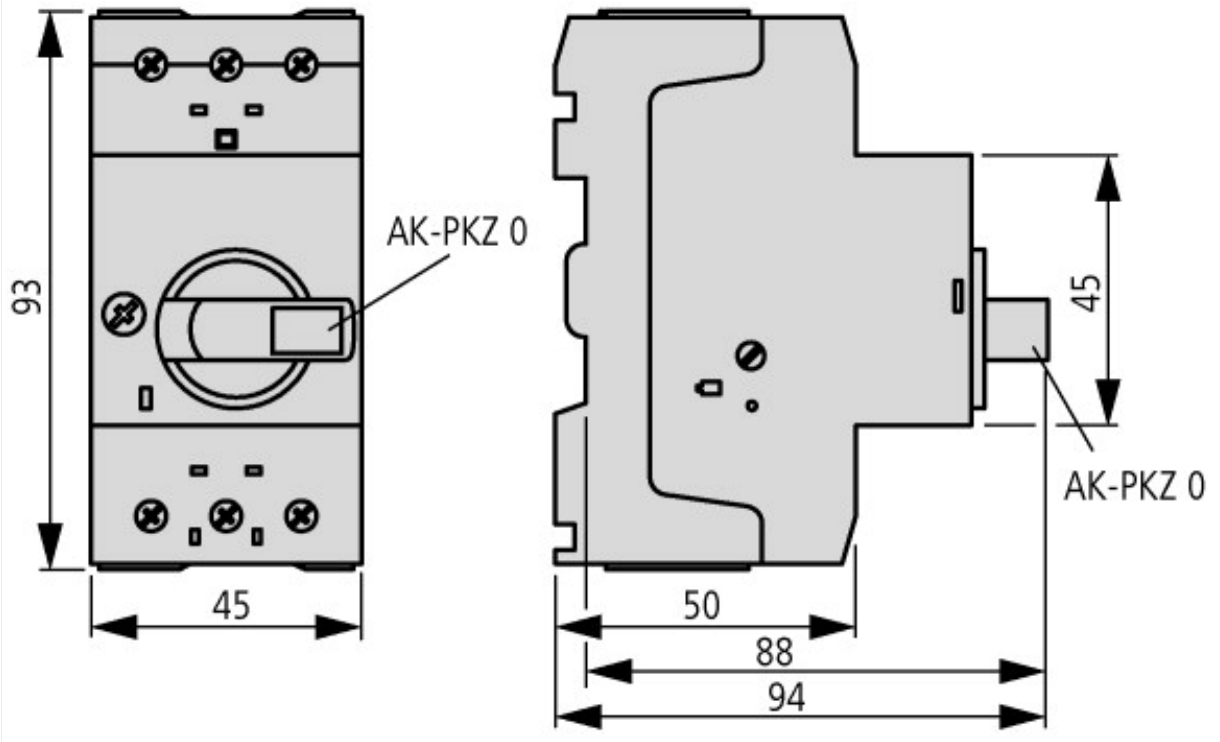


Let-through energy

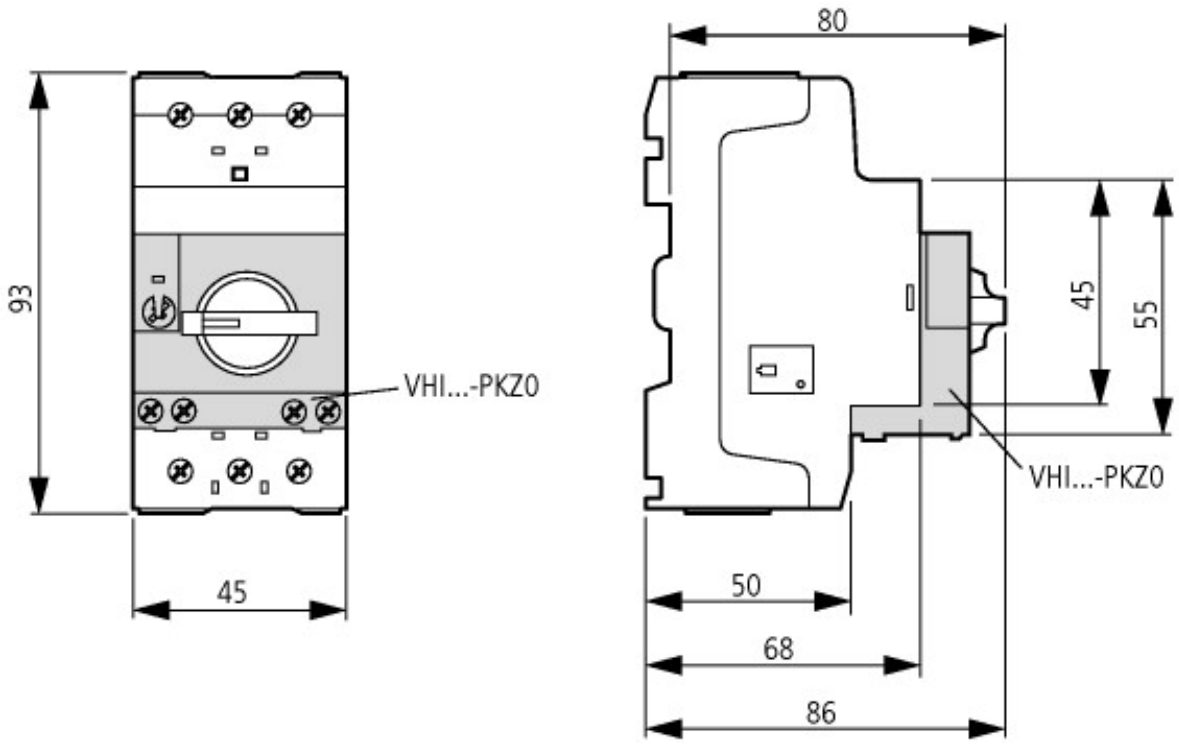
Dimensions



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