DATASHEET - PKZM0-20-PI

Motor-protective circuit-breaker, 9 kW, 16 - 20 A, Push in terminals, For use with motor starter combinations type MSC...

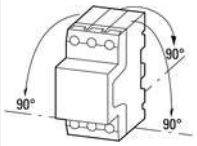
Part no.	**PKZM0-20-PI**
Catalog No.	**199160**
Alternate Catalog No.	**XTPRPI020BC1NL**

Delivery program

Product range			PKZM0 motor protective circuit-breakers up to 32 A
Basic function			Motor protection
For use with			motor starter combinations type MSC...
			
Notes			Also suitable for motors with efficiency class IE3.
Connection technique			Push in terminals
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
Rated uninterrupted current	I_u	A	20
Setting range			
Overload releases 	I_r	A	16 - 20
short-circuit release 			
max.	I_{rm}	A	310
Phase-failure sensitivity			IEC/EN 60947-4-1, VDE 0660 Part 102

Technical data

General

Standards			IEC/EN 60947, VDE 0660,UL, CSA
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Storage		°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			IP20
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27		g	25

Altitude		m	Max. 2000
Terminal capacity main cable			
Push-in terminals			
Solid		mm^2	1 x (1 - 6) 2 x (1 - 6)
flexible with ferrules		mm^2	1 x (1 - 6) 2 x (1 - 4)
flexible with ultrasonic welded busbar end		mm^2	1 x (1 - 10) 2 x (1 - 6)
flexible with uninsulated wire end ferrule		mm^2	1 x (1 - 10) 2 x (1 - 6)
Solid or stranded		AWG	18 - 8
Stripping length		mm	12
Standard screwdriver			3.0 x 0.5

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	20
Rated frequency	f	Hz	40 - 60
Current heat loss (3 pole at operating temperature)		W	5.82
Impedance per pole		mΩ	5
Lifespan, mechanical	Operations	$x\ 10^6$	0.1
Lifespan, electrical (AC-3 at 400 V)			
Lifespan, electrical	Operations	$x\ 10^6$	0.1
Max. operating frequency		Ops/h	40
Motor switching capacity			
AC-3 (up to 690V)		A	20

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		$x\ I_u$	0.6 - 1
short-circuit release			Basic device, fixed: 15.5 x I_u
Short-circuit release tolerance			± 20%
Phase-failure sensitivity			IEC/EN 60947-4-1, VDE 0660 Part 102

Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
200 V 208 V		HP	5
575 V 600 V		HP	15
Single-phase			
230 V 240 V		HP	3
Short Circuit Current Rating, type E		SCCR	
240 V		kA	18
480 Y / 277 V		kA	18
Accessories required			LSA-PKZ0-E-PI
Short Circuit Current Rating, group protection		SCCR	
600 V High Fault			
SCCR (fuse)		kA	10
max. Fuse		A	150
SCCR (CB)		kA	10
max. CB		A	125

SCCR with CL (fuse)	A	18
max. Fuse (with CL)	A	600
SCCR with CL (CB)	kA	18
max. CB (with CL)	A	600

Design verification as per IEC/EN 61439

Technical data for design verification		
Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	55

Technical data ETIM 7.0

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@ss10.0.1-27-37-04-01 [AGZ529016])

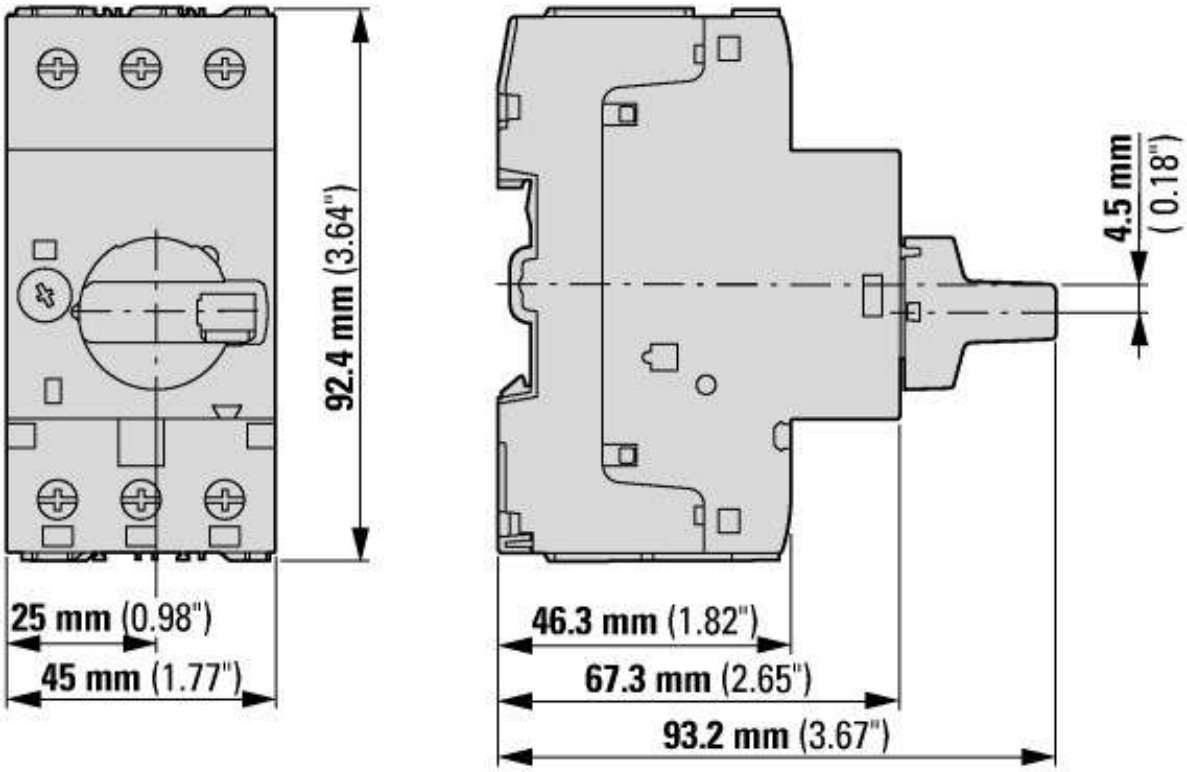
Overload release current setting	A	16 - 20
Adjustment range undelayed short-circuit release	A	310 - 310
With thermal protection		Yes
Phase failure sensitive		Yes
Switch off technique		Thermomagnetic
Rated operating voltage	V	690 - 690
Rated permanent current Iu	A	20
Rated operation power at AC-3, 230 V	kW	5.5
Rated operation power at AC-3, 400 V	kW	9
Type of electrical connection of main circuit		Spring clamp 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	50
Degree of protection (IP)		IP20
Height	mm	109
Width	mm	45
Depth	mm	75

Approvals

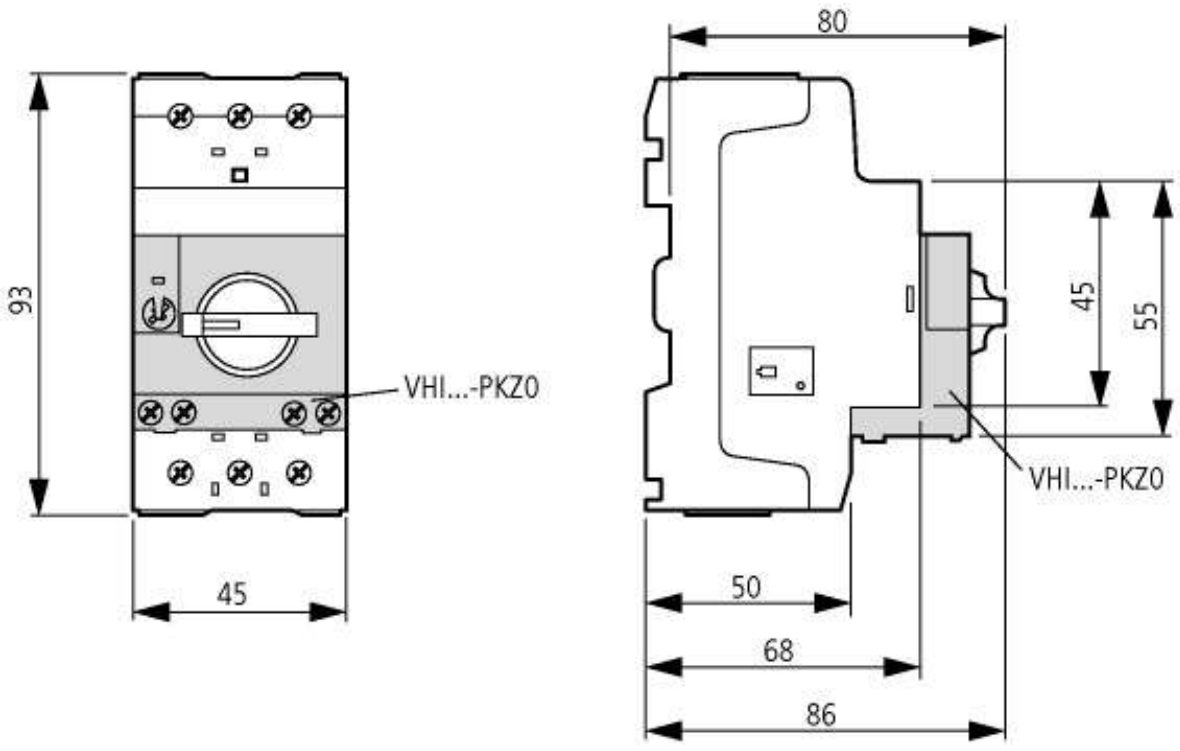
Product Standards		IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking
UL File No.		E36332
UL Category Control No.		NLRV
CSA File No.		165628
CSA Class No.		3211-05
North America Certification		UL listed, CSA certified
Specially designed for North America		No
Suitable for		Branch circuit: Manual type E if used with Line Side Adapter, or suitable for group installations

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)

Schaltvermögen	https://de.ecat.eaton.com/flip-cat/?edition=MOTCONT1_DE#page_3/44
Motor starters and "Special Purpose Ratings" for the North American market	http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf
Busbar Component Adapters for modern Industrial control panels	http://www.moeller.net/binary/ver_techpapers/ver960en.pdf

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