199201
PKZM0-20-SPI32

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
Feed-side screw terminals/output-side push-in terminals

Max. motor rating

AC-3
220 V 230 V 240 V [P]
5.5 kW

AC-3
380 V 400 V 415 V [P]
9 kW

AC-3
440 V [P]
11 kW

AC-3
500 V [P]
12.5 kW

AC-3
660 V 690 V [P]
15 kW

Rated uninterrupted current [I_u]
20 A

Setting range

Overload releases [I_r]
16 - 20 A

short-circuit release [I_{rm}]
max. [I_{rm}]
310 A

Phase-failure sensitivity
IEC/EN 60947-4-1, VDE 0660 Part 102

TECHNICAL DATA

General

Standards
IEC/EN 60947, VDE 0660, UL, CSA

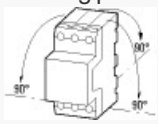
Climatic proofing
Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30

Ambient temperature
Storage
- 40 - 80 °C

Ambient temperature
Open
-25 - +55 °C

Ambient temperature
Enclosed
- 25 - 40 °C

Mounting position



Direction of incoming supply
as required

Degree of protection
Device
IP20

Degree of protection
Terminations
IP00

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
25 g

Altitude
Max. 2000 m

Terminal capacity main cable
Screw terminals
Solid
1 x (1 - 6)

2 x (1 - 6) mm²

Terminal capacity main cable
Screw terminals
Flexible with ferrule to DIN 46228
1 x (1 - 6)
2 x (1 - 6) mm²

Terminal capacity main cable
Screw terminals
Solid or stranded
18 - 10 AWG

Terminal capacity main cable
Screw terminals
Stripping length
10 mm

Terminal capacity main cable
Push-in terminals
Solid
1 x (1 - 6)
2 x (1 - 6) mm²

Terminal capacity main cable
Push-in terminals
flexible
1 x (1 - 6)
2 x (1 - 6) mm²

Terminal capacity main cable
Push-in terminals
flexible with ferrules
1 x (1 - 6)
2 x (1 - 4) mm²

Terminal capacity main cable
Push-in terminals
flexible with ultrasonic welded busbar end
1 x (1 - 10)
2 x (1 - 6) mm²

Terminal capacity main cable
Push-in terminals
flexible with uninsulated wire end ferrule
1 x (1 - 10)
2 x (1 - 6) mm²

Terminal capacity main cable
Push-in terminals
Solid or stranded

18 - 8 AWG

Terminal capacity main cable
Push-in terminals
Stripping length
12 mm

Terminal capacity main cable
Push-in terminals
Standard screwdriver
3.0 x 0.5

Specified tightening torque for terminal screws
Main cable
1.7 Nm

Main conducting paths

Rated impulse withstand voltage [U_{imp}]
6000 V AC

Overvoltage category/pollution degree
III/3

Rated operational voltage [U_e]
690 V AC

Rated uninterrupted current = rated operational current [$I_u = I_e$]
20 A

Rated frequency [f]
40 - 60 Hz

Current heat loss (3 pole at operating temperature)
5.82 W

Impedance per pole
5 mΩ

Lifespan, mechanical [Operations]
0.1×10^6

Lifespan, electrical (AC-3 at 400 V)
Lifespan, electrical [Operations]
0.1×10^6

Max. operating frequency
40 Ops/h

Motor switching capacity
AC-3 (up to 690V)
20 A

Trip blocks

Temperature compensation
to IEC/EN 60947, VDE 0660
- 5…40 °C

Temperature compensation
Operating range
- 25…55 °C

Temperature compensation residual error for T >
40 °C
□ 0.25 %/K

Setting range of overload releases
0.6 - 1 x I_u

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
5 HP

Switching capacity
Maximum motor rating

Three-phase
575 V
600 V
15 HP

Switching capacity
Maximum motor rating
Single-phase
230 V
240 V
3 HP

Short Circuit Current Rating, type E
240 V
18 kA

Short Circuit Current Rating, type E
480 Y / 277 V
18 kA

Short Circuit Current Rating, type E
Accessories required
BK25/3-PKZ0-E

Short Circuit Current Rating, group protection
600 V High Fault
SCCR (fuse)
10 kA

Short Circuit Current Rating, group protection
600 V High Fault
max. Fuse
150 A

Short Circuit Current Rating, group protection
600 V High Fault
SCCR (CB)
10 kA

Short Circuit Current Rating, group protection
600 V High Fault
max. CB
125 A

Short Circuit Current Rating, group protection
600 V High Fault
SCCR with CL (fuse)
18 A

Short Circuit Current Rating, group protection

600 V High Fault
max. Fuse (with CL)
600 A

Short Circuit Current Rating, group protection
600 V High Fault
SCCR with CL (CB)
18 kA

Short Circuit Current Rating, group protection
600 V High Fault
max. CB (with CL)
600 A

DESIGN VERIFICATION AS PER IEC/EN 61439

Operating ambient temperature min.
-25 °C

Operating ambient temperature max.
+55 °C

TECHNICAL DATA ETIM 8.0

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
16 - 20 A

Adjustment range undelayed short-circuit release
310 - 310 A

With thermal protection
Yes

Phase failure sensitive
Yes

Switch off technique
Thermomagnetic

Rated operating voltage
690 - 690 V

Rated permanent current Iu
20 A

Rated operation power at AC-3, 230 V
5.5 kW

Rated operation power at AC-3, 400 V
9 kW

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
50 kA

Degree of protection (IP)
IP20

Height
102 mm

Width
45 mm

Depth
75 mm

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

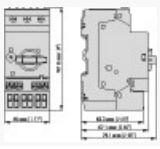
CSA Class No.
3211-05

North America Certification
UL listed, CSA certified

Specially designed for North America
No

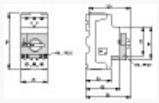
Suitable for
Branch circuit: Manual type E if used with terminal, or suitable for group installations

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