

121722  
PKE32

Overview

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Technical data ETIM 7.0

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## DELIVERY PROGRAM

Product range  
PKE motor protective circuit-breakers with electronic wide-range overload protection up to 32 A

Basic function  
Motor protection  
Motor protection for heavy starting duty  
System protection  
Line and cable protection

Single unit/Complete unit  
Basic device with standard knob



Notes  
Also suitable for motors with efficiency class IE3.

Connection technique  
Screw terminals

Setting range of useable overload releases [I<sub>n</sub>]  
1 - 32 CSA

Function  
Without overload releases

Rated uninterrupted current = rated operational  
current [I<sub>n</sub> = I<sub>e</sub>]  
32 A

## TECHNICAL DATA

### General

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

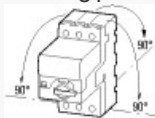
Climatic proofing  
Damp heat, constant, to IEC 60068-2-78  
Damp heat, cyclic, to IEC 60068-2-30

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) mm<sup>2</sup>

Terminal capacity main cable  
Screw terminals  
Flexible with ferrule to DIN 46228  
1 x (1 - 6)  
2 x (1 - 6) mm<sup>2</sup>

Terminal capacity main cable  
Screw terminals  
Solid or stranded  
14 - 10 AWG

Terminal capacity main cable  
Screw terminals  
Stripping length  
10 mm

Specified tightening torque for terminal screws  
Main cable  
1.7 Nm

Specified tightening torque for terminal screws  
Control circuit cables  
1 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 [ $I_u = I_e$ ]  
32 A

Rated frequency [f]  
40 - 60 Hz

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

Lifespan, mechanical [Operations]  
 $0.05 \times 10^6$

Lifespan, electrical (AC-3 at 400 V)  
Lifespan, electrical [Operations]  
 $0.05 \times 10^6$

Max. operating frequency  
60 Ops/h

Mbtor switching capacity  
AC-3 (up to 690V)  
32 A

## Trip blocks

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

Temperature compensation  
Operating range  
- 25...55 °C

Setting range of overload releases  
0.25 - 1 x  $I_n$

short-circuit release  
Basic device, fixed: 15.5 x  $I_n$

Short-circuit release tolerance  
 $\pm 20\%$

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

## DESIGN VERIFICATION AS PER IEC/EN 61439

### Technical data for design verification

Rated operational current for specified heat  
dissipation [ $I_n$ ]  
32 A

Heat dissipation per pole, current-dependent [ $P_{vid}$ ]  
2.5 W

Equipment heat dissipation, current-dependent  
[ $P_{vid}$ ]  
7.5 W

Static heat dissipation, non-current-dependent [ $P_{vs}$ ]  
0 W

Heat dissipation capacity [ $P_{diss}$ ]  
0 W

Operating ambient temperature min.  
-25 °C

Operating ambient temperature max.  
+55 °C

### 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 Strength of materials and parts  
10.2.3.1 Verification of thermal stability of enclosures  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
10.2.3.2 Verification of resistance of insulating materials to normal heat  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
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 Strength of materials and parts  
10.2.4 Resistance to ultra-violet (UV) radiation  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
10.2.5 Lifting  
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts  
10.2.6 Mechanical impact  
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts  
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 Insulation properties  
10.9.3 Impulse withstand voltage  
Is the panel builder's responsibility.

10.9 Insulation properties  
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.

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  
0 - 0 A

Adjustment range undelayed short-circuit release  
0 - 0 A

With thermal protection  
No

Phase failure sensitive  
No

Switch off technique  
Electronic

Rated operating voltage  
690 - 690 V

Rated permanent current I<sub>u</sub>  
32 A

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

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

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<sub>cu</sub> at 400 V,  
AC  
0 kA

Degree of protection (IP)  
IP20

Height  
102.5 mm

Width  
45 mm

Depth  
102.5 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

## CHARACTERISTICS

Characteristic curve

Tripping characteristics

Characteristic curve

Let-through current

Characteristic curve

1 half-cycle  
Let-through energy

## DIMENSIONS

Basic device with trip block

