121734
PKE32/XTU-32

Overview | Specifications | Resources

DELIVERY PROGRAM

Delivery program

Technical data

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

Design verification as per IEC/EN 61439

Basic function
Motor protection
Motor protection for heavy starting duty

Technical data ETIM 7.0

Single unit/Complete unit
Complete device with standard knob

Approvals

Characteristics

Notes
Also suitable for motors with efficiency class IE3.

Dimensions

Connection technique
Screw terminals

Setting range of overload releases [I_r]
8 - 32 A

Function
With overload release

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

Motor rating [P]

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

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

AC-3
440 V [P]
15 kW

AC-3
500 V [P]
18.5 kW

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

Motor output/rated motor current

Motor rating	Rated motor current				
	AC-3				
	220 V 230 V 240 V	380 V 400 V 415 V	440 V	500 V	660 V 690 V
P	I	I	I	I	I
kW	A	A	A	A	A

Motor rating	Rated motor current AC-3				
	220 V	380 V	440 V	500 V	690 V
	A	A	A	A	A
2.2	8.7	-	-	-	-
3	11.5	-	-	-	-
4	14.8	8.5	-	-	-
5.5	19.8	11.3	10.2	9	-
7.5	26.4	15.2	13.8	12.1	8.8
11	-	21.7	19.8	17.4	12.6
15	-	29.3	26.6	23.4	17
18.5	-	-	-	28.9	20.9
22	240 V	380 V	440 V	500 V	690 V
30	-	-	-	-	32

TECHNICAL DATA

General

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

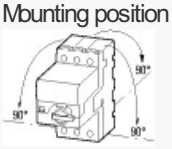
Climatic proofing
Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30

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^2

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

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)
11.4 W

Lifespan, mechanical [Operations]
0.05×10^6

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

Max. operating frequency
60 Ops/h

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

AC-4 cycle operation
Minimum current flow times
500 (Class 5)
700 (Class 10)
900 (Class 15)
1000 (Class 20) ms

AC-4 cycle operation
Minimum cut-out periods
500 ms

AC-4 cycle operation
Note
In AC-4 cycle operation, going below the minimum current flow time can cause overheating of the load (motor).
For all combinations with an SWD activation, you need not adhere to the minimum current flow times and minimum cut-out periods. ms

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_u

short-circuit release
Basic device, fixed: 15.5 x I_u
Trip block, fixed: 15.5 x I_r
delayed approx. 60 ms

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
230 V
240 V
7.5 HP

Switching capacity
Maximum motor rating
Three-phase
460 V
480 V
15 HP

Switching capacity
Maximum motor rating
Three-phase
575 V
600 V
20 HP

Switching capacity
Maximum motor rating
Single-phase
115 V
120 V
1.5 HP

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

Switching capacity
General use
32 A

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

Short Circuit Current Rating, group protection
600 V High Fault
max. Fuse
100 Class J A

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}]
3.8 W

Equipment heat dissipation, current-dependent [P_{vid}]
11.4 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.

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
32 - 32 A

Adjustment range undelayed short-circuit release
496 - 496 A

With thermal protection
Yes

Phase failure sensitive
Yes

Switch off technique
Electronic

Rated operating voltage
690 - 690 V

Rated permanent current Iu
32 A

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

Rated operation power at AC-3, 400 V
15 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 Icu at 400 V, AC
100 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