## **DATASHEET - M22-K10P**



Contact element, Screw terminals, Front fixing, 1 N/OE, 24 V 3 A, 220 V 230 V 240 V 6 A

Powering Business Worldwide

Part no. M22-K10P Catalog No. 110835 Alternate Catalog M22-K10PQ

No.

Delivery program	
Basic function accessories	Contact elements
Connection technique	Screw terminals
Fixing	Front fixing
Degree of Protection	IP20
Connection to SmartWire-DT	no
Approval	ET 16107 Sicherheit geprüft tested safety
Contacts	
N/O <sub>E</sub> : NO early-make	1 N/O <sub>E</sub>
	1.7
Contact travel diagram, stroke in connection with front element	
Contact diagram	0 1.8 5.5
Configuration	1/4 3/6 2/5
Connection type	Single contact
Connection technique	Screw terminals

# Technical data

	8
Operating frequency  Actuating force  Operating torque (screw terminals)  Degree of Protection  Climatic proofing  Open  Ambient temperature  Open  Open  Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal  Terminal capacities  Solid  Stranded  Flexible with ferrule  Contacts  Rated impulse withstand voltage  Rated insulation voltage  Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  After Sult Pool of the Control circuit reliability  at 5 V DC/1 mA  Mex. short-circuit protective device  Fuseless  Fuse  Solid  An in Saton  Pool operations/h  Saton  Nm Saton  Damp heat, constant, to IEC 60068-2-30  PC - 25 - +70  Damp heat, constant, to IEC 60068-2-30  PC - 25 - +70  Damp heat, constant, to IEC 60068-2-30  Damp heat, constant, to IEC 60068-2-30  PC - 25 - +70  Damp heat, constant, to IEC 6006-2-30  PC - 25 -	8
Actuating force  Operating torque (screw terminals)  Degree of Protection  Climatic proofing  Climatic proofing  Ambient temperature  Open  Open  Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal  Terminal capacities  Solid  Stranded  Stranded  Flexible with ferrule  Contacts  Rated impulse withstand voltage  Rated impulse withstand voltage  Vimp  V AC  Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  At 5 V DC/1 mA  Max. short-circuit protective device  Fuseless  Fuse  G8/gL  A  IP20  Damp heat, constant, to IEC 60068-2-30  PC - 25 - +70  Max	8
Operating torque (screw terminals)  Degree of Protection  Climatic proofing  Ambient temperature  Open  Mechanical shock resistance to IEC 60068-2-72 Shock duration 11 ms, half-sirusoidal  Terminal capacities  Solid  Stranded  Flexible with ferrule  Total mipulse withstand voltage  Rated impulse withstand voltage  Vuny  VAC  Ooo  Vervoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  At 5 V DC/1 mA  Mex. short-circuit protective device  Fuseless  Fuse  Pack  Pick Door  PKZM0-10/FAZ-B6/1  Fuse  Golgs L A 10  Damp heat, constant, to IEC 60068-2-30  Damp heat, cyclic, to IEC 60068-2-30  PC - 25 - +70  Total man and constant, to IEC 60068-2-30  PC - 25 - +70  Total man and constant, to IEC 60068-2-30  Total constant, to IEC 60068-2-30  PC - 25 - +70  Total man and constant, to IEC 60068-2-30  Total constant, to IEC 60068-2-30  PC - 25 - +70  Total man and constant, to IEC 60068-2-30  Total constant, to IEC 60068-2-30  Total constant, to IEC 60068-2-30  PC - 25 - +70  Total man and constant, to IEC 60068-2-30  Total constant, to IEC 6006-2-30  Total constant, to IEC 60068-2-30  Total co	8
Degree of Protection Climatic proofing Core and peat, constant, to IEC 60068-2-30 and peat, cyclic, to IEC 6006-2-30 and peat, cyclic, to IEC 60068-2-30 and peat, cyclic, to	8
Climatic proofing  Climatic proofing  Ambient temperature  Open  C -25 - +70  Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal  Terminal capacities  Solid  mm²  Solid  mm²  0.75 - 2.5  Stranded  mm²  0.5 - 2.5  Flexible with ferrule  Contacts  Rated impulse withstand voltage  Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  HF  Fault probability  Type  PKZM0-10/FAZ-B6/1  Fuse  gG/gL  A 10  Switching capacity	8
Ambient temperature  Open  CC -25 - +70  Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal  Terminal capacities  Solid  mm² 0.75 - 2.5  Stranded  Flexible with ferrule  Contacts  Rated impulse withstand voltage  Uimp VAC 6000  Rated insulation voltage  Ui V 500  Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  HF Fault probability  at 24 V DC/1 mA  HF Fault probability  Max. short-circuit protective device  Fuseless Fuse  gG/gL A 10  Damp heat, cyclic, to IEC 60068-2-30  Damp heat, cyclic, to IEC 60068-2-30  Ambient Leck 60068-2-30  Ambient Leck 60068-2-30  Ambient Leck 60068-2-27 Shock duration 11 ms, half-sinusoidal  mm² 0.75 - 2.5  mm² 0.5 - 2.5  mm² 0.5 - 1.5  Contacts  He Fault probability  Type PKZM0-10/FAZ-B6/1  Fuse  Switching capacity	8
Open  Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal  Terminal capacities  mm²  Solid  mm²  0.75 - 2.5  mm²  0.5 - 2.5  flexible with ferrule  Contacts  Rated impulse withstand voltage  Uimp  V AC  Wimp  V AC  6000  Rated insulation voltage  Uivy  Touch action touch action touch action to the probability  at 24 V DC/5 mA  HF  Fault probability  at 24 V DC/1 mA  HF  Fault probability  Type  PKZM0-10/FAZ-B6/1  Fuse  gG/gL  A 10  Switching capacity	
Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal  Terminal capacities  Solid  Stranded  mm²  0.75 - 2.5  mm²  0.5 - 2.5  mm²  0.5 - 1.5   Contacts  Rated impulse with stand voltage  Uimp  V AC  Flexible with voltage  Ui  V  500  Overvoltage category/pollution degree  Outrol circuit reliability  at 24 V DC/5 mA  HF  Fault  probability  At 25 x 10 6 (i.e. 1 failure in 5 x 10 6 operators)  Max. short-circuit protective device  Fuseless  Fuse  GG/gL  A  10  Switching capacity	
Terminal capacities	
Solid  mm² 0.75 - 2.5  Stranded  mm² 0.5 - 2.5  Flexible with ferrule  mm² 0.5 - 1.5   Contacts  Rated impulse withstand voltage  Uimp VAC 6000  Rated insulation voltage  Ui V 500  Overvoltage category/pollution degree  Uill/3  Control circuit reliability  at 24 V DC/5 mA  HF Fault probability  at 5 V DC/1 mA  HF Fault probability  Max. short-circuit protective device  Fuseless  Fuse gG/gL A 10  Switching capacity	
Stranded mm² 0.5 - 2.5  Flexible with ferrule mm² 0.5 - 1.5  Contacts  Rated impulse withstand voltage U <sub>imp</sub> V AC 6000  Rated insulation voltage U <sub>i</sub> V 500  Overvoltage category/pollution degree III/3  Control circuit reliability  at 24 V DC/5 mA HF Fault probability 10 -7 (i.e. 1 failure to 107 operations) at 5 V DC/1 mA HF Fault probability 10 -7 (i.e. 1 failure in 5 x 106 operations) 10 -7 (i.e. 1 failure in 5 x 106 op	
Flexible with ferrule mm² 0.5 - 1.5  Contacts  Rated impulse withstand voltage Uimp V AC 6000  Rated insulation voltage Ui V 500  Overvoltage category/pollution degree III/3  Control circuit reliability  at 24 V DC/5 mA HF Fault probability 10°7 (i.e. 1 failure to 10°7 operations)  at 5 V DC/1 mA HF Fault probability  Max. short-circuit protective device  Fuseless Type PKZM0-10/FAZ-B6/1  Fuse gG/gL A 10  Switching capacity	
Contacts  Rated impulse withstand voltage  Rated insulation voltage  Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  HF  Fault probability  At 5 V DC/1 mA  HF  Fault probability  Max. short-circuit protective device  Fuseless  Type  PKZM0-10/FAZ-B6/1  Fuse  Switching capacity	
Rated impulse withstand voltage  Uimp  V AC 6000  Rated insulation voltage  Ui V 500  Uil/3  Control circuit reliability  at 24 V DC/5 mA  HF Fault probability  at 5 V DC/1 mA  HF Fault probability  Max. short-circuit protective device  Fuseless  Type PKZM0-10/FAZ-B6/1  Fuse  Switching capacity	
Rated insulation voltage  Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  HF  Fault probability  At 5 V DC/1 mA  HF  Fault probability  Max. short-circuit protective device  Fuseless  Type  PKZM0-10/FAZ-B6/1  Fuse  Switching capacity	
Overvoltage category/pollution degree  Control circuit reliability  at 24 V DC/5 mA  HF  Fault probability  At 5 V DC/1 mA  HF  Fault probability  Max. short-circuit protective device  Fuseless  Type PKZM0-10/FAZ-B6/1  Fuse  gG/gL  A 10  Switching capacity	
Control circuit reliability  at 24 V DC/5 mA  HF  Fault probability  at 5 V DC/1 mA  HF  Fault probability  5 x 10 <sup>-6</sup> (i.e. 1 failure to 10 <sup>7</sup> operations)  Max. short-circuit protective device  Fuseless  Type PKZM0-10/FAZ-B6/1  Fuse  gG/gL  A  10  Switching capacity	
at 24 V DC/5 mA  HF  Fault probability   To operations)  at 5 V DC/1 mA  HF  Fault probability   To operations)  And the fault probability   Fault probability   To operations   Fault probability   To operations   Fault probability   Type PKZM0-10/FAZ-B6/1  Fuse gG/gL A 10  Switching capacity	
probability  at 5 V DC/1 mA  H <sub>F</sub> Fault probability  Max. short-circuit protective device  Fuseless Type PKZM0-10/FAZ-B6/1  Fuse gG/gL A 10  Switching capacity	
Max. short-circuit protective device  Fuseless  Type  PKZM0-10/FAZ-B6/1  Fuse  gG/gL  A  10  Switching capacity	
Fuseless         Type         PKZM0-10/FAZ-B6/1           Fuse         gG/gL         A         10           Switching capacity	tions)
Fuse gG/gL A 10 Switching capacity	
Switching capacity	
Rated operational current I <sub>e</sub> A	
AC-15	
115 V I <sub>e</sub> A 6	
220 V 230 V 240 V	
380 V 400 V 415 V	
500 V I <sub>e</sub> A 2	
DC-13	
I <sub>e</sub> A 3	
42 V I <sub>e</sub> A 1.7	
60 V I <sub>e</sub> A 1.2	
110 V I <sub>e</sub> A 0.6	
220 V I <sub>e</sub> A 0.3	
Lifespan, electrical	
AC-15	
230 V/0.5 A Operations x 10 <sup>6</sup> 1.6	
230 V/1.0 A Operations x 10 <sup>6</sup> 1	
230 V/3.0 A Operations x 10 <sup>6</sup> 0.7	
DV-13	
12 V/2.8 A Operations <sub>x 10</sub> 6 1.2	
Auxiliary contacts	
UL/CSA	
Rated operational current I <sub>e</sub> A 5 A - 600 V AC 1 A - 250 V DC	

Design verification as per IEC/E	EN 61439
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Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.11
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
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. $\label{eq:continuous}$

#### **Technical data ETIM 7.0**

Low-voltage industrial components (EG000017) / Auxiliary contact block (EC000041)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Component for low-voltage switching technology / Auxiliary switch block (ect@ss10.0.1-27-37-13-02 [AKN342013])

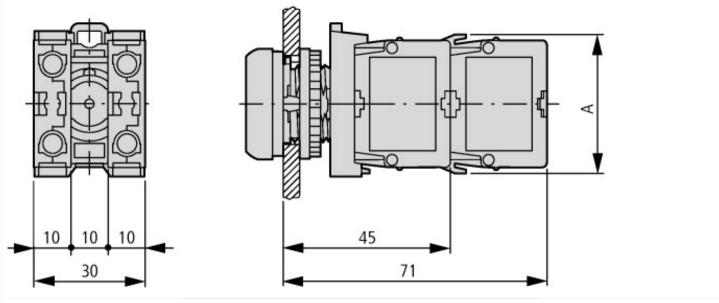
(ecl@ss10.0.1-27-37-13-02 [AKN342013])		
Number of contacts as change-over contact		0
Number of contacts as normally open contact		1
Number of contacts as normally closed contact		0
Number of fault-signal switches		0
Rated operation current le  at AC-15, 230 V	А	6
Type of electric connection		Screw connection
		-
Model		Top mounting
Mounting method		Front fastening

## **Approvals**

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Product Standards	IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94-91; CE marking
UL File No.	E29184
UL Category Control No.	NKCR

CSA File No.	012528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Degree of Protection	UL/CSA Type: -

#### **Dimensions**



A = 37.2

Pushbutton with M22-(C)K... Pushbutton with M22-(C) LED... + M22-XLED...

## **Additional product information (links)**

DGUV Test Mark Customer Information

 $http://www.dguv.de/medien/dguv-test-medien/\_pdf\_zip\_doc\_ppt/agb-und-pzo/dguv\_test\_zeichen\_infoblatt\_kunden.pdf$