107899
M22-CK02

Overview
Specifications
Resources

DELIVERY PROGRAM

Product range
Accessories

Basic function accessories
Contact elements

Accessories
Auxiliary contact

Accessories
Standard auxiliary contact, trip-indicating auxiliary switch

Standard/Approval
UL/CSA, IEC

Construction size
NZM1/2/3/4

Description
When using emergency switching off actuators

M22-PV… max. 2 contact elements = 4 NC / NO contacts
Cage Clamp is a registered trademark of Wago Kontakttechnik GmbH/Minden, Germany

Connection technique
Cage Clamp

Fixing
Front fixing

Degree of Protection
IP20

Connection to SmartWire-DT
no

For use with
NZM1(-4), 2(-4), 3(-4), 4(-4)
PN1(-4), 2(-4), 3(-4)
N(S)1(-4), 2(-4), 3(-4), 4(-4)

Approval

Contacts

N/C = Normally closed
2 NC

Notes
= safety function, by positive opening to IEC/EN 60947-5-1

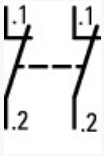
Actuator travel and actuation force as per DIN EN 60947-5-1, K.5.4.1

[mm]
4.8

Maximum travel [mm]
5.7

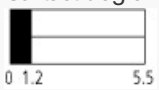
Minimum force for positive opening [N]
20

Contact sequence



Contact travel diagram, stroke in connection with front element

Contact diagram



Connection type
Double contact

Description of HIA trip-indicating auxiliary contact
General trip indication '+', when tripped by shunt release, overload release, short-circuit release or by the residual-current release due to residual-current.
Can be used with NZM1, 2, 3 circuit-breaker: a trip-indicating auxiliary contact can be clipped into the circuit-breaker.
Can be used with NZM4 circuit-breaker: up to two standard auxiliary contacts can be clipped into the circuit-breaker.
Any combinations of the auxiliary contact types are possible.
Not in combination with switch-disconnector PN…
Marking on switch: HIA
Labeling in FI-Block: HIAFI.
If the trip-indicating auxiliary switch in the fault current block is used, the NC contacts operates as a N/O contact and the NC contact operates as an N/O contact.

Description standard auxiliary contact HIN
Switching with the main contacts Used for indicating and interlocking tasks.
Can be used with NZM1 circuit-breaker: a standard auxiliary contact can be clipped into the circuit-breaker.
Can be used with NZM2 size circuit-breaker: a standard auxiliary contact can be clipped into the circuit-breaker.
Can be used with NZM3, 4 circuit-breaker: up to three standard auxiliary contacts can be clipped into the circuit-breaker.
Any combinations of the auxiliary contact types are possible.
Marking on switch: HIN.

On combination with remote operator NZM-XR.. the right mounting location of standard auxiliary contact HIN can be fitted only with individual contacts.

Connection technique
Cage Clamp

Notes
The following can be clipped into the switches:

- NZM1: a standard auxiliary contact
- NZM2: up to two M22-(C)K… standard auxiliary contacts
- NZM3: up to three M22-(C)K… standard auxiliary contacts
- NZM4: up to three M22-(C)K… standard auxiliary contacts

Any combinations of the auxiliary contact types are possible.

Marking on switch: HIN

In combination with remote operator NZM-XR… only single contacts can be fitted to some installation locations of the standard auxiliary contact.

NZM2: Only single contact can be fitted in left installation location of standard auxiliary contact.

NZM3: Only single contact can be fitted in installation locations of standard auxiliary contact.

NZM4: Only single contact can be fitted in right installation location of standard auxiliary contact.

TECHNICAL DATA

General

Standards
IEC 60947-5-1

Operating frequency [Operations/h]
 3600

Actuating force
 10 n

Degree of Protection
IP20

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

Ambient temperature
Open
-25 - +70 °C

Terminal capacities
Solid
0.5 - 1.5 mm²

Terminal capacities
Stranded
0.5 - 1.5 mm²

Terminal capacities
Flexible with ferrule
0.5 - 1.5 mm²

Contacts

Rated impulse withstand voltage [U_{imp}]
4000 V AC

Rated insulation voltage [U_i]
250 V

Overvoltage category/pollution degree
III/3

Control circuit reliability
at 24 V DC/5 mA [H_F]
< 10^{-7} (i.e. 1 failure to 10^7 operations) Fault probability

Control circuit reliability
at 5 V DC/1 mA [H_F]
< 5 x 10^{-6} (i.e. 1 failure in 5 x 10^6 operations) Fault probability

Max. short-circuit protective device
Fuseless
PKZM0-10/FAZ-B6/1 Type

Max. short-circuit protective device
Fuse [gG/gL]
10 A

Switching capacity

Rated operational current [I_e]
AC-15
115 V [I_e]
4 A

Rated operational current [I_e]
AC-15
220 V 230 V 240 V [I_e]
4 A

Rated operational current [I_e]
DC-13
24 V [I_e]
3 A

Rated operational current [I_e]
DC-13
42 V [I_e]
1 A

Rated operational current [I_e]
DC-13
60 V [I_e]
0.8 A

Rated operational current [I_e]
DC-13
110 V [I_e]
0.5 A

Rated operational current [I_e]
DC-13
220 V [I_e]
0.3 A

Auxiliary contacts

Rated operational voltage [U_e]
Rated operational voltage [Ue]
230 V AC

Rated operational voltage [U_e]
Rated operational voltage, max. [Ue]
220 V DC

Conventional thermal current [$I_{th} = I_e$]
4 CSA

Rated operational current [I_e]
Different rated operational currents when used as auxiliary contact for NZM circuit-breaker

					M22-(C)K10(01)	**M22-CK11(02)(20)**	**XHIV**
		bei AC = 50/60 Hz					
Bemessungsbetriebsstrom							
AC-15	115 V	Ie	A		4	4	4
	230 V	Ie	A		4	4	4
	400 V	Ie	A		2	-	2
	500 V	Ie	A		1	-	1
DC-13	24 V	Ie	A		3	3	3
	42 V	Ie	A		1.7	1	1.5
	60 V	Ie	A		1.2	0.8	0.8
	110 V	Ie	A		0.6	0.5	0.5
	220 V	Ie	A		0.3	0.2	0.2

Rated conditional short-circuit current [I_q]
1 kA

Short-circuit protection
max. fuse
10 A gG/gL

Short-circuit protection
Max. miniature circuit-breaker
FAZ-B6/B1 A

Operating times
Early-make time of the HIV compared to the main contacts during with make and break switching.

(switch times with manual operation):

NZM1, PN1, N(S)1: ca. 20 ms

NZM2, PN2, N(S)2: ca. 20 ms

NZM3, PN3, N(S)3: ca. 20 ms

NZM4, N(S)4: approx. 90 ms, the HIV switch early

Offswitching **not** forward.

Terminal capacities
Solid or flexible conductor, with ferrule
1 x (0,5 - 1,5)
2 x (0,5 - 0,75) mm^2

Terminal capacities
1 x (20 - 18)
2 x (20 - 18) AWG

Other technical data (sheet catalogue)
Maximum equipment and position of the internal accessories

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [I_n]
4 A

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

Equipment heat dissipation, current-dependent [P_{vid}]
0 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.
+70 °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) / Auxiliary contact block (EC000041)

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

Number of contacts as change-over contact
0

Number of contacts as normally open contact
0

Number of contacts as normally closed contact
2

Number of fault-signal switches
0

Rated operation current Ie at AC-15, 230 V
6 A

Type of electric connection
Spring clamp connection

Model
Top mounting and integrable

Mounting method
Front fastening

Lamp holder
None

APPROVALS

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

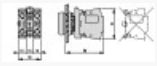
CSA File No.
012528

CSA Class No.
3211-03

North America Certification
UL listed, CSA certified

Degree of Protection
UL/CSA Type: -

DIMENSIONS



NZM1-XA(HIV)
NZM1-XA(HIV)(20)
NZM1-XHIV

NZM1-XA(HIV)(L)
NZM1-XU(V)(HIV)(L)(20)
NZM1-XHIV(L)

NZM1-XHIVR

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

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