266108
LS-02/L

DELIVERY PROGRAM

Basic function
Position switches
Safety position switches

Part group reference
LS(M)-…

Product range
Roller lever

Degree of Protection
IP66, IP67

Features
Complete unit

Ambient temperature
-25 - +70 °C

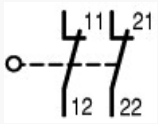
Description
Long

Contacts

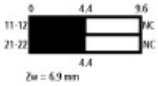
N/C = Normally closed
2 NC□

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

Contact sequence



Contact travel■ = Contact closed□ = Contact open



Positive opening (ZW)
yes

Colour

Enclosure covers
Yellow

Enclosure covers

Housing
Insulated material

Connection type
Cage Clamp

Notes
Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.
Accessories for the Cage-Clamp terminals from Wago:power comb, gray, Wago Article No. 264-402

Notes
The operating head can be rotated at 90° intervals to adapt to the specified approach direction.

TECHNICAL DATA

General

Standards
IEC/EN 60947

Climatic proofing
Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30

Ambient temperature
-25 - +70 °C

Mounting position
As required

Degree of Protection
IP66, IP67

Terminal capacities
Solid
1 x (0.5 - 2.5) mm^2

Terminal capacities
Flexible with ferrule
1 x (0.5 - 1.5) mm^2

Repetition accuracy
0.15 mm

Contacts/switching capacity

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

Rated insulation voltage [U_i]

400 V

Overvoltage category/pollution degree
III/3

Rated operational current [I_e]
AC-15
24 V [I_e]
6 A

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

Rated operational current [I_e]
AC-15
380 V 400 V 415 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
110 V [I_e]
0.6 A

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

Control circuit reliability
at 24 V DC/5 mA [H_F]
< 10^{-7}, < 1 fault in 10^7 operations Fault probability

Control circuit reliability
at 5 V DC/1 mA [H_F]
< 5×10^{-6}, < 1 failure at 5×10^6 operations Fault probability

Supply frequency
max. 400 Hz

Short-circuit rating to IEC/EN 60947-5-1
max. fuse

6 A gG/gL

Rated conditional short-circuit current
1 kA

Mechanical variables

Lifespan, mechanical [Operations]
8×10^6

Mechanical shock resistance (half-sinusoidal shock, 20 ms)
Standard-action contact
25 g

Operating frequency [Operations/h]
□ 6000

Actuation

Mechanical
Actuating force at beginning/end of stroke
1.0/8.0 N

Mechanical
Actuating torque of rotary drives
0.2 Nm

Mechanical
Max. operating speed with DIN cam
1 m/s

Mechanical
Notes
for angle of actuation α = 30°/45°

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

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

Heat dissipation per pole, current-dependent [P_{vid}]
0.17 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

Sensors (EG000026) / End switch (EC000030)

Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss10.0.1-27-27-06-01 [AGZ382015])

Width sensor
31 mm

Diameter sensor
0 mm

Height of sensor
61 mm

Length of sensor
33.5 mm

Rated operation current Ie at AC-15, 24 V
6 A

Rated operation current Ie at AC-15, 125 V
6 A

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

Rated operation current Ie at DC-13, 24 V
3 A

Rated operation current Ie at DC-13, 125 V
0.8 A

Rated operation current Ie at DC-13, 230 V
0.3 A

Switching function
Slow-action switch

Switching function latching
No

Output electronic
No

Forced opening
Yes

Number of safety auxiliary contacts
2

Number of contacts as normally closed contact
2

Number of contacts as normally open contact
0

Number of contacts as change-over contact
0

Type of interface
None

Type of interface for safety communication
None

Construction type housing
Cuboid

Material housing
Plastic

Coating housing
Other

Type of control element
Square roller lever

Alignment of the control element
Other

Type of electric connection
Other

With status indication
No

Suitable for safety functions
Yes

Explosion safety category for gas
None

Explosion safety category for dust
None

Ambient temperature during operating
25 - 70 °C

Degree of protection (IP)
IP67

Degree of protection (NEMA)
4X

APPROVALS

Product Standards
IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking

UL File No.
E29184

UL Category Control No.
NKCR

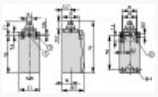
CSA File No.
12528

CSA Class No.
3211-03

North America Certification
UL listed, CSA certified

Degree of Protection
IEC: IP66, 67, UL/CSA Type 3R, 4X (indoor use only), 12, 13

DIMENSIONS



□ Tightening torque of cover screws: 0.8 Nm±0.2 Nm
□ only with LS (insulated version)
□ Fixing screws 2 x M4 □ 30
M_A = 1.5 Nm