



EN Operating instructions.pages 1 to 4
Original

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1. About this document

1.1 Function

This operating instructions manual provides all the information required for the mounting, set-up and commissioning to ensure the safe operation and disassembly of the switchgear. The operating instructions must be available in a legible condition and a complete version in the vicinity of the device.

1.2 Target group: authorised qualified personnel

All operations described in this operating instructions manual must be carried out by trained specialist personnel, authorised by the plant operator only.

Please make sure that you have read and understood these operating instructions and that you know all applicable legislations regarding occupational safety and accident prevention prior to installation and putting the component into operation.

The machine builder must carefully select the harmonised standards to be complied with as well as other technical specifications for the selection, mounting and integration of the components.

1.3 Explanation of the symbols used



Information, hint, note:

This symbol indicates useful additional information.



Caution: Failure to comply with this warning notice could lead to failures or malfunctions.

Warning: Failure to comply with this warning notice could lead to physical injury and/or damage to the machine.

1.4 Appropriate use

The product must be exclusively used in accordance with the versions listed below or for the applications authorised by the manufacturer. Detailed information regarding the range of applications can be found in the chapter "Product description".

1.5 General safety instructions

The user must observe the safety instructions in this operating instructions manual, the country specific installation standards as well as all prevailing safety regulations and accident prevention rules.



Further technical information can be found in the Schmersal catalogues or in the online catalogue on the Internet: products.schmersal.com.

The information contained in this operating instructions manual is provided without liability and is subject to technical modifications.

There are no residual risks, provided that the safety instructions as well as the instructions regarding mounting, commissioning, operation and maintenance are observed.

1.6 Warning about misuse



In case of inadequate or improper use or manipulations of the component, personal hazards or damage to machinery or plant components cannot be excluded.

1.7 Exclusion of liability

We shall accept no liability for damages and malfunctions resulting from defective mounting or failure to comply with this operating instructions manual. The manufacturer shall accept no liability for damages resulting from the use of unauthorised spare parts or accessories.

For safety reasons, invasive work on the device as well as arbitrary repairs, conversions and modifications to the device are strictly forbidden, the manufacturer shall accept no liability for damages resulting from such invasive work, arbitrary repairs, conversions and/or modifications to the device.

2. Product description

2.1 Ordering code

This operating instructions manual applies to the following types:

EX-MAF 330-11Y

2.2 Special versions

For special versions, which are not listed in the order code below 2.1, these specifications apply accordingly, provided that they correspond to the standard version.

2.3 Purpose

The switching devices are suitable for sliding and hinged guards in explosive atmospheres of Zone 22 category II 3D, which need to be closed in order to provide for the necessary operational safety. The installation and maintenance requirements to the standard series 60079 must be met.

Conditions for safe operation

Due to the specific impact energy, the components must be fitted with a protection against mechanical stresses. The specific ambient temperature range must be observed. External sources of cold and heat must be avoided. The user must provide for a protection against the permanent influence of UV rays.



The user must evaluate and design the safety chain in accordance with the relevant standards and the required safety level.

2.4 Technical Data

Designation in accordance with the ATEX Directive:	⊕ II 3GD
Designation in accordance with standards:	Ex tc IIIC T100°C Dc X
Applied standards:	EN 60947-5-1, EN IEC 60079-0, EN 60079-31
Design:	EN 50041
Enclosure:	light-alloy diecast, paint finish
Max. impact energy:	4 J
Actuating speed:	max. 1 m/s
Degree of protection:	IP65 to EN 60529
Contact material:	Silver
Contact type:	Change-over contact with double brake, same potential
Switching system:	EN 60947-5-1
Connection:	screw terminals
Max. cable section:	0.75 ... 2.5 mm ² (incl. conductor ferrules)
Cable entry:	M20
Rated impulse withstand voltage U_{imp} :	4 kV
Rated insulation voltage U_i :	250 V
Thermal test current I_{the} :	10 A
Utilisation category:	AC-15 / DC-13
Rated operating current/voltage I_n/U_n :	4 A / 230 VAC 4 A / 24 VDC
Max. fuse rating:	6 A gG D-fuse
Required rated short-circuit current:	1,000 A
Positive break travel:	10.7 mm
Positive break force:	each NC contact 5 N
Ambient temperature:	-15 °C ... + 80 °C
Mechanical life:	10 million operations
EX cable glands:	⊕ II 2GD
Cable cross-section of the EX cable glands:	Ø 7 ... 12 mm
Tightening torque	
- Cover screws:	min. 1.0 Nm
- EX cable gland:	min. 8 Nm
- Earth screws:	PE 1 Nm, PA 1.2 Nm

3. Assembly

3.1 General mounting instructions



Fitting is only authorised in a de-energised condition

The mounting dimensions are mentioned at the rear of the enclosure. To ensure a proper functioning, the switch must be installed so that the required switch travel is obtained. All components have sufficient after-travel to compensate for inaccuracies in the guidance of the actuating system.

The switch should not be used as an end switch. Any mounting position.



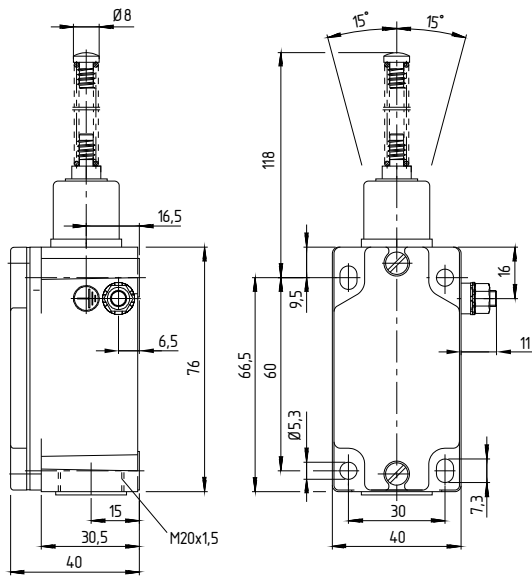
Please observe the recommendations regarding maximum impact energy, actuating speed and tightening torque in the technical data.



Please observe the remarks of the standards EN ISO 12100, EN ISO 14119 and EN ISO 14120.

3.2 Dimensions

All measurements in mm.



4. Electrical connection

4.1 General information for electrical connection



The electrical connection may only be carried out by authorised personnel in a de-energised condition.

The contact labelling can be found in the wiring compartment of the switch.

Only use EX cable glands with integrated or associated seals which are authorised for the corresponding field of application. The cable glands must be fitted in accordance with the applicable operating instructions manual. Cable glands are only authorised for permanent cables. The constructor must provide for the necessary strain relief. Cable glands are included in the delivery.

Settle length x of the conductor: 6 mm

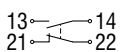


Connection to the external protective conductor terminal must be carried out in accordance with EN 60079-14 section 6.3. A ring cable lug of size M5 must be used for connection of the wire.

4.2 Contact Options

The contacts are shown in a non-actuated condition.

1 NO / 1 NC



5. Set-up and maintenance



The installation, operation and maintenance must be executed by qualified professionals. The requirements to be met for the installation and maintenance can be found in this operating instructions manual. Do not expose the device to mechanical and/or thermal loads or stresses, which exceed the limits specified in the operating instructions manual. For the set-up and the operation of the safety switchgear, the applicable (also national) safety and accident prevention regulations as well as the generally acknowledged codes of practice of technology must be observed.

5.1 Functional testing

The function of the component must be tested. The following conditions must be previously checked and met:

- The installation is executed according to the instructions
- The connection is executed correctly
- The cable is correctly executed and connected
- Check the free movement of the actuating element
- The position switch is not damaged
- Remove particles of dust and soiling
- Check cable entry and connections in de-energised condition

5.2 Maintenance

In case of correct installation in accordance with the instructions described above, the component requires little maintenance. For use in extreme conditions, we recommend routine maintenance including the following steps:

1. Check for correct installation of the actuator and the position switch
2. Lubricate the shaft or plunger
3. Remove particles of dust and soiling
4. Check cable entry and connections in a de-energised condition



Do not open the device when live.

Damaged or defective components must be replaced.

6. Disassembly and disposal

6.1 Disassembly

The switch must be disassembled in a de-energised condition only.

6.2 Disposal

The switch must be disposed of in an appropriate manner in accordance with the national prescriptions and legislations.

7. EU Declaration of conformity

EU Declaration of conformity		
Original	K.A. Schmersal GmbH & Co. KG Mödinghofe 30 42279 Wuppertal Germany Internet: www.schmersal.com	
We hereby certify that the hereafter described components both in their basic design and construction conform to the applicable European Directives.		
Name of the component:	EX-MAF 330	
Type:	see ordering code	
Marking:	 II 3D Ex tc IIIC T100°C Dc X	
Description of the component:	Position switch	
Relevant Directives:	Explosion Protection Directive (ATEX) RoHS-Directive	2014/34/EU 2011/65/EU
Applied standards:	EN 60947-5-1:2017 + AC:2020 EN IEC 60079-0:2018 EN 60079-31:2014	
Person authorised for the compilation of the technical documentation:	Oliver Wacker Mödinghofe 30 42279 Wuppertal	
Place and date of issue:	Wuppertal, January 17, 2024	
EX-MAF330-E-EN		
	Authorised signature Philip Schmersal Managing Director	



The currently valid declaration of conformity can be downloaded from the internet at products.schmersal.com.

