

Installation and operating instructions

Principle: Any installation works only by skilled staff knowing all details of any applicable standard, guideline and regulation. Before any work shall be carried out the circuits have to be isolated from the mains.

Lever limit switches of this type switch over with snap action and with direct opening when the lever will be turned LH or RH from the middle. Reset happens automatically when the actuation lever will be set free, the lever will return into the middle position by the force of an internal spring. Exclusivley all versions with „w“ in the type figures provide the automatic latching in actuated position with manual reset by lifting the blue lever.

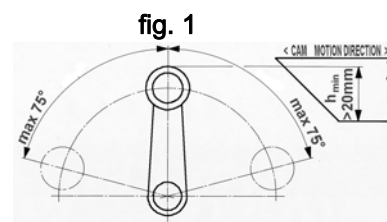
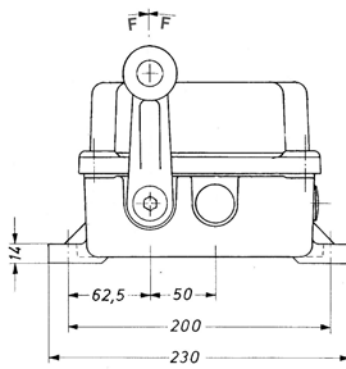
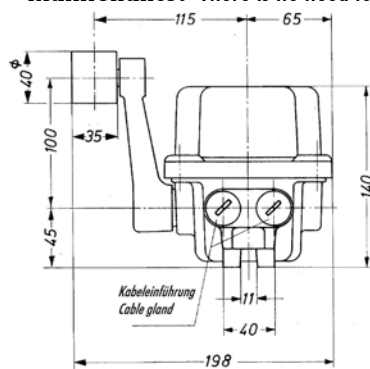
Pre-mounting: Put the switch onto its feet that way that the identification plate is on the left side. Screw out the axial screw of the shaft together with the washer by aid of a 10 mm wrench. Take the enclosed roller lever that way that the decreased bore is at your side. Pin this roller lever in the suitable direction (4x90° transposable by featherkey) onto the free shaft end and tighten with the previously screwed out screw and washer by a torque of 8 Nm.

Mounting: Put the switch on a plane and stable console. Fixing at the forked foot, max. diameter 11mm. For dimensioning the actuation bar (cam), it is necessary to be sure that the actuation lever will be displaced at least 20mm in the height (effective height of the bar or cam at least h_{min} 20mm, fig. 1). Only under these conditions the direct opening function is secured. The maximum possible turning of the actuation lever is 75° left and right out of neutral (middle) position.

Electical installation: Open the lid. Depending on the switch type there are up to 4 micro switches inside. The function of each contact is printed on each micro switch. Wire the contacts according to your requirements. Earth the device, the earthing screw for the LHP is located inside the enclosure, for the LHM is inside or outside. The 2 cable inlets are M25-threaded. These ducts are closed exw by IP67-worthy blind plugs. They have to be exchanged against explosion protected cable glands or blind plugs before taking into service. Afterwards put on the lid again, take care for right sealing by the sealing ring, and tighten screws by a torque of 3 Nm. Tighten the cable glands and blind plugs according to the instructions of the manufacturer, however, by a maximum torque of 6 Nm.

Check: Please check any electrical and mechanical function after completion of installation and in regular intervals. Check the device on wear, specially wear within the actuation lever.

Maintenance: There is no need for any maintenance works.



Technical data

Conforms to standards	EN 60079-31, EN 60947-5-1, with latching	EN 60947-5- 5, EN 60529, EN 60204
Switches are marked	Ex II 3D Ex ta IIIC Dc IP67 T90°C	
Contact mat, therm current	type "10", silver: max 400VAC 6A, 230VAC 8A, cos phi=1	24VDC 10A, 80VDC 3A (0ms)
	type "18", silver: max 400VAC 6A, 230VAC 8A, cos phi=1	
	type "16", silver: max 400 VAC 6A, 230VAC 8A, cos phi=1	24VDC 12A, 60VDC 8A (0ms)
	type "13", gold: minimum 1mA @ 6VDC	
Utilization category	type "10": AC-15 230V 1A, DC-13 110V 0,5A	
	type "18":	
	type "16": AC-15 230V 3A, DC-13 110V 1,0A	
	type "13": AC-12 230V 250mA, DC-12 110V 250mA	
Cable inlets	2 x M25 threads	
Protection	IP 67	
Ambient temperature T _{amb}	-40°C up to 80°C	
Max. temperature of surface of housing	90°C	
Material of housing	Fibre-glass reinforced polyester (LHP...), cast iron (LHM...)	
Actuation lever	Aluminium	