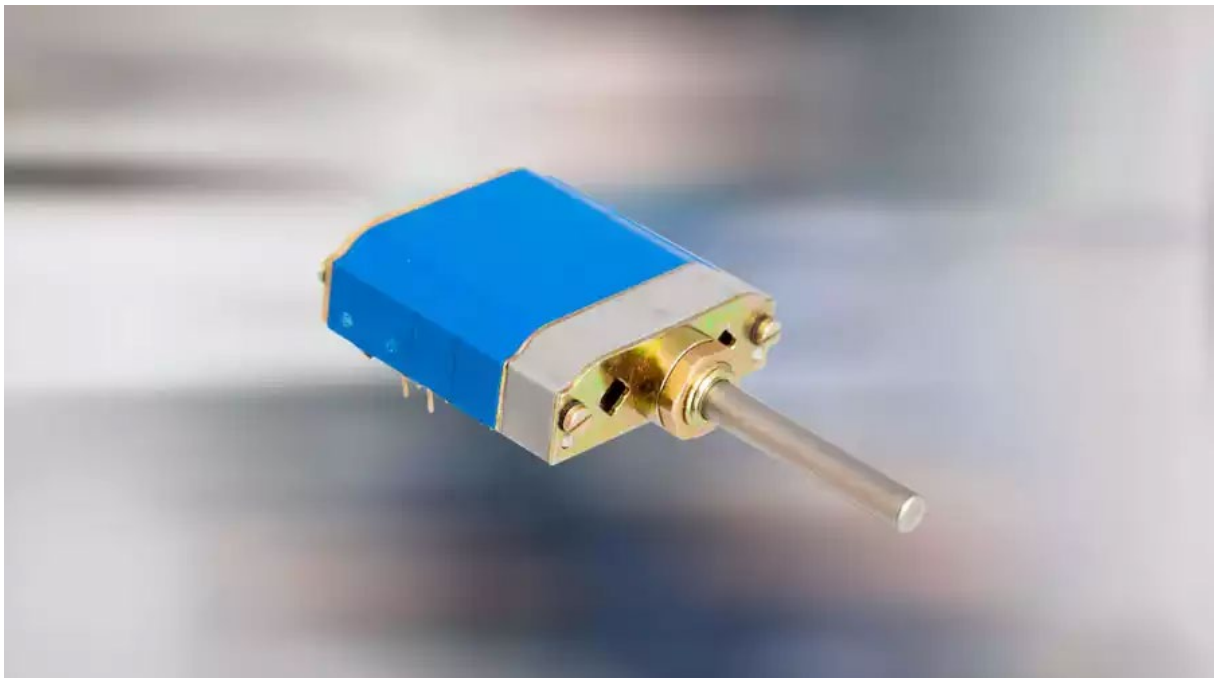
FL/FS – HMI-Switches



DESCRIPTION

Flat switch for direct soldering to printed circuits.

- Type FL with roller indexing, mounting height only 9.8 mm.
- Type FLK with plastic indexing, mounting height only 10.4 mm.
- Max. 8 wafers per switch, type FL.
- Up to 6 circuits per wafer, type FL.
- Optional shorting or non-shorting switching mode.
- Insertable in 24-pole IC-sockets.
- Pins can be subsequently adjusted by stops.
- Fixing on PC board with 2 screws M2.
- For type FLK with 4 screws M2 or 4 soldering pins.
- Fixing in front panel: Two-point mounting M2 or central mounting with or without non-turn protection.

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Special designs:

– watertight against front panel.
– enlarged distance between wafers.
– concentric shaft mechanism (hollow shaft).
– spring return function for first or last switch position.

TECHNICAL DATA

CONSTRUCTION AND MECHANICAL DATA , TYPICAL VALUES (T=23°C)

NUMBER OF WAFERS MAX.	8 wafers, Type FL • 5 wafers, Type FLK
SWITCHING COMBINATIONS PER WAFER DESIGN B, DETENT ANGLE 60°	1 x6 to 1 x2; 2x3 to 2x2; 3x2; 4x2
DESIGN E, DETENT ANGLE 30°	1x12 to 1x2; 2x6 to 2x2; 3x4 to 3x2; 4x3 to 4x2 - Typ FL: 6x2
CONTACTS	Soldering pins, pluggable
MOUNTING ON PC PANEL	Type FL/ FLK: Screws M2 or soldering lugs
MOUNTING AT FRONT PANEL	Central mounting or screws M2
STOPS	Adjustable
OPERATING TORQUE ACC. NUMBER OF CIRCUITS	≥ 3 Ncm
STOP STRENGTH	≥ 70 Ncm
DUST PROTECTION	Sealed wafers
CONTACT MATERIAL	Au over Ni barrier layer
INSULATING MATERIAL - WAFER	Diallylphthalate, DAP; Code DI
INSULATING MATERIAL - ROTOR	Polyamide, PA
SOLDERING TIME AND TEMPERATURE	5s at 260°C

ELECTRICAL DATA, TYPICAL VALUES (T=23°C)

SWITCHING POWER MAX.	3 VA/W
SWITCHING CURRENT MAX.	0.1 A
REST CURRENT MAX. AT AU 20°C	2A
CONTACT RESISTANCE INITIAL VALUE	<30mQ
INSULATION RESISTANCE	10^{11} Ω

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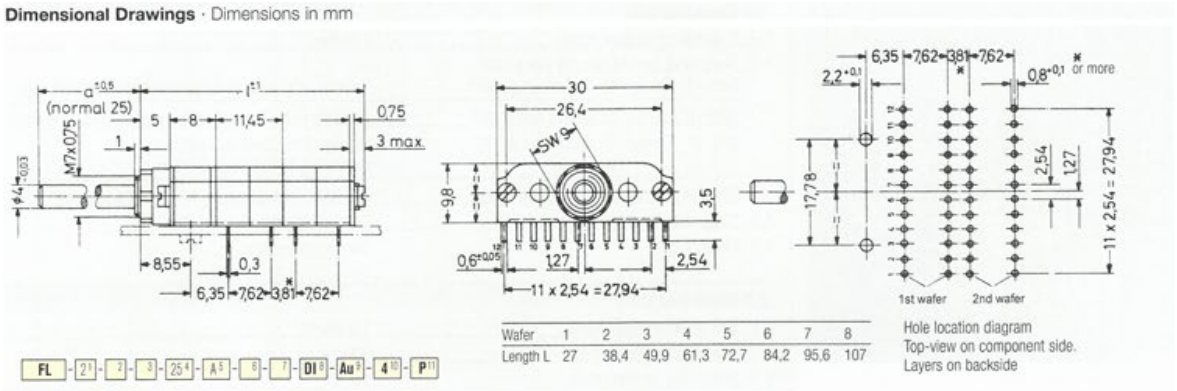
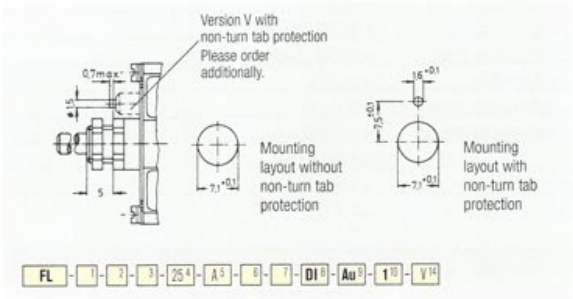
DIMENSIONS

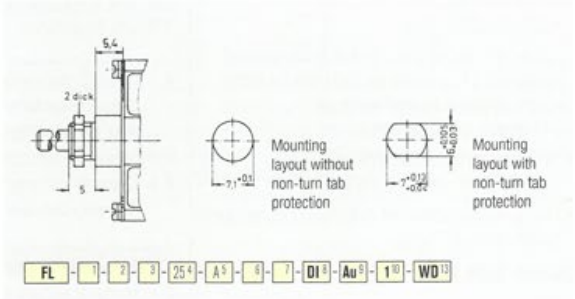
The bold-typed data in the yellow order blocks remain unchanged.
Normal-typed data match the drawings and can be modified according to your wishes.
Blanks need to be completed according to the ordering details on the previous page.



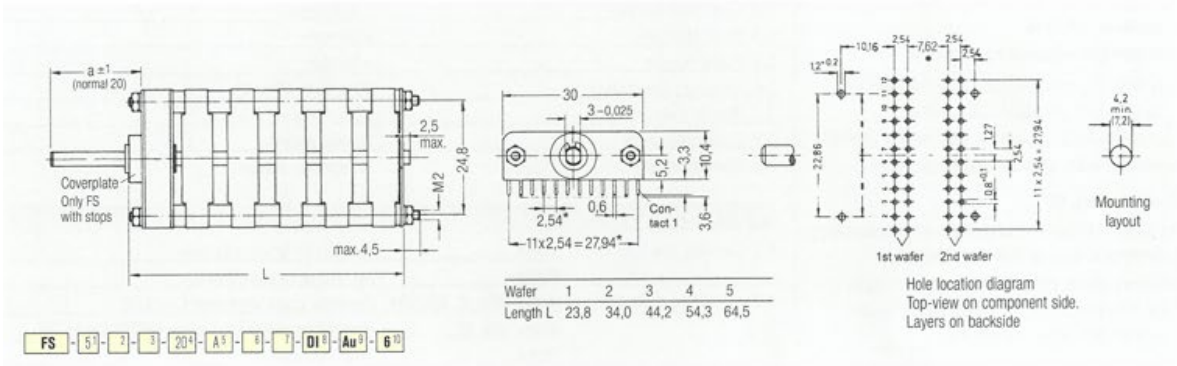
Version FL



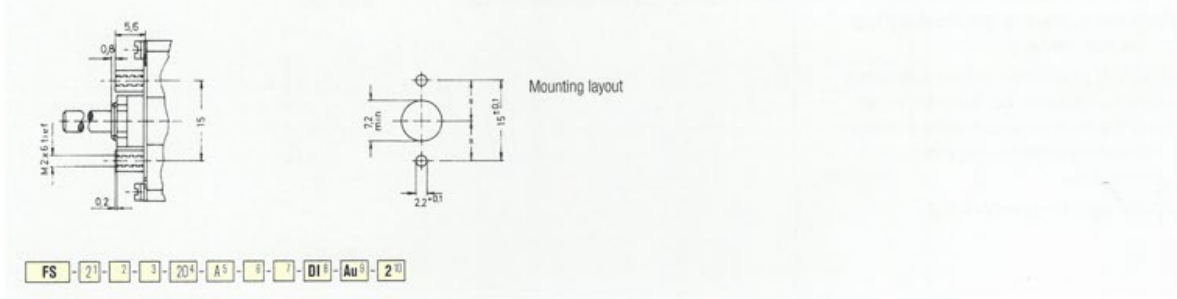
Version FL · Central mounting



Version FL · Central mounting watertight



Version FS



Version FS · Two-point mounting

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DISCLAIMER

The information contained in this document is for general guidance only. The user is responsible for determining the suitability of the technical information referred herein for his application. On delivery of the component, EBE is only obliged to implement those properties set out and agreed upon in this document. Further properties are not included. No guarantee is given. The component has been designed for installation in our customer's products. Manufacturer of the resulting product and consequent liability according to the Product Liability Act lies with the customer. Warranty is limited to below mentioned extent.

The component is not intended for installation in end products for medical, life-saving, or safety-related applications. The use of the component is also not permitted and expressly prohibited in vehicles of any kind (including trailers and watercraft), as a component in aerospace products (including radio transmitter for aerospace purposes), or in offshore structures.

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REVISION

REVISION	DATE	DESCRIPTION
1.0	29.06.2026	Initial Data Sheet Short Version

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