

# Position transmitter SDAT-MHS-M160-1L-SA-E-0.3-M8

Part number: 1531269

FESTO



[General operating condition](#)

## Data sheet

| Feature                                      | Value   |
|--|---|
| Design                                       | for T-slot  |
| Symbol                                       | 00995389  |
| Certification                                | RCM compliance mark<br>c UL us - Listed (OL)  |
| CE marking (see declaration of conformity)   | As per EU EMC directive   |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC  |
| Note on materials                            | RoHS-compliant<br>Halogen-free  |
| Application note                             | <a href="https://www.festo.com/Drive-Sensor-Overview">https://www.festo.com/Drive-Sensor-Overview</a> |
| Measured variable                            | Position  |
| Measuring principle                          | Magnetic Hall   |
| Sensing range                                | 0 µm ... 160000 µm  |
| Ambient temperature                          | -25 °C ... 70 °C  |
| Typical sampling interval                    | 1 ms  |
| Max. travel speed                            | 3 m/s   |
| Displacement resolution                      | 0.05 mm   |
| Repetition accuracy                          | 0.1 mm  |
| Switching output                             | PNP   |
| Switching element function                   | N/C contact/N/O contact switchable  |
| On time                                      | <2 ms   |
| Switch-off time                              | <2 ms   |
| Max. switching frequency                     | 1000 Hz   |
| Max. output current                          | 100 mA  |
| Max. switching capacity DC                   | 2.7 W   |
| Voltage drop                                 | 2.5 V   |
| Analog output                                | 4 - 20 mA   |
| Sensitivity                                  | 0.1 mA/mm   |
| Typical linearity error                      | ±0.25 mm  |
| Max. load resistance of current output       | 500 Ohm   |
| Short-circuit protection                     | yes   |
| Overload protection                          | Available   |
| Protocol                                     | I-Port<br>IO-Link®  |
| IO-Link®, protocol version                   | Device V 1.1  |
| IO-Link®, profile                            | Smart sensor profile  |

| Feature   | Value   |
|---|---|
| IO-Link®, function classes                                | Binary data channel (BDC)<br>Process data variable (PDV)<br>Identification<br>Diagnostics<br>Teach channel  |
| IO-Link®, communication mode                              | COM3 (230.4 kBd)  |
| IO-Link®, SIO mode support                                | Yes   |
| IO-Link®, port class                                      | A   |
| IO-Link®, process data width IN                           | 2 Byte  |
| IO-Link®, process data content IN                         | 12 bit PDV (position measurement)<br>4 bit BDC (position monitoring)  |
| IO-Link®, minimum cycle time                              | 1 ms  |
| DC operating voltage range                                | 15 V ... 30 V   |
| Residual ripple   | 10 %  |
| Reverse polarity protection                               | for all electrical connections  |
| Electrical connection 1, connection type                  | Cable with plug   |
| Electrical connection 1, connection technology            | M8x1 A-coded as per EN 61076-2-104  |
| Electrical connection 1, number of pins/wires             | 4   |
| Electrical connection 1, type of mounting                 | Screw-type lock   |
| Electrical connection for input 1, connection pattern     | 00991171  |
| Connection outlet orientation                             | Longitudinal  |
| Material of pin contacts                                  | Copper alloy<br>Gold-plated   |
| Connector cable test conditions                           | Flexural strength: as per Festo standard<br>Torsion resistance: > 300,000 cycles, ±270°/0.1 m<br>Energy chain: > 5 million cycles, bending radius 28 mm |
| Cable length  | 0.3 m   |
| Cable characteristic                                      | suitable for energy chains/robot applications   |
| Color cable sheath  | Gray  |
| Material of cable sheath                                  | TPE-U(PUR)  |
| Type of mounting  | Screwed tightly<br>Can be inserted in slot from above   |
| Mounting position   | Any   |
| Product weight  | 35 g  |
| Housing material  | Polyester<br>High-alloy stainless steel   |
| Material of union nut                                     | Brass, nickel-plated  |
| Film material   | Polyester   |
| Ready status indication                                   | LED green   |
| Switching status indication                               | LED yellow  |
| Status indicator  | LED red   |
| Setting options   | IO-Link®<br>Pushbutton  |
| Ambient temperature with flexible cable installation      | -20 °C ... 70 °C  |
| Degree of protection                                      | IP65<br>IP68  |
| LABS (PWIS) conformity                                    | VDMA24364-B2-L  |
| Suitability for the production of Li-ion batteries        | Suitable for battery production with reduced Cu/Zn/Ni values (F1a)  |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 4 according to ISO 14644-1  |