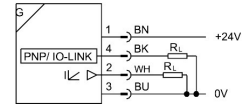


# Position transmitter SDAT-MHS-M160-1L-SA-E-0.3-M8

Part number: 1531269

**FESTO**



[General operating condition](#)

## Data sheet

| Feature                                      | Value                                                                                                 |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Design                                       | For T-slot                                                                                            |
| Symbol                                       | 00995389                                                                                              |
| Approval                                     | RCM trademark<br>c UL us listed (OL)                                                                  |
| CE mark (see declaration of conformity)      | To EU EMC Directive                                                                                   |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC                                                                            |
| Note on materials                            | RoHS-compliant<br>Free of halogen                                                                     |
| Instructions on use                          | <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 or N/O contact, switchable                                                                        |
| Switch-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                                                                                                 |
| Analogue output                              | 4 - 20 mA                                                                                             |
| Sensitivity                                  | 0.1 mA/mm                                                                                             |
| Typical linearity error                      | ±0.25 mm                                                                                              |
| Max. load resistance current output          | 500 Ohm                                                                                               |
| Short circuit current rating                 | 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 kBaud)                                                                                                                                           |
| IO-Link, SIO-Mode support                            | Yes                                                                                                                                                          |
| IO-Link, Port class                                  | A                                                                                                                                                            |
| IO-Link, Process data length IN                      | 2 bytes                                                                                                                                                      |
| IO-Link, Process data content IN                     | 12 bit PDV (measured position value)<br>4 bit BDC (position monitoring)                                                                                      |
| IO-Link, Min. cycle time                             | 1 ms                                                                                                                                                         |
| Operational voltage range DC                         | 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, connector system            | M8x1, A-coded, to EN 61076-2-104                                                                                                                             |
| Electrical connection 1, number of connections/cores | 4                                                                                                                                                            |
| Electrical connection 1, type of mounting            | Screw-type lock                                                                                                                                              |
| Electrical connection 1, connection pattern          | 00991171                                                                                                                                                     |
| Connection outlet orientation                        | In-line                                                                                                                                                      |
| Material electrical contact                          | Copper alloy<br>Bronze                                                                                                                                       |
| Test conditions cable                                | Bending strength: to Festo standard<br>Torsional strength: > 300,000 cycles, $\pm 270^\circ/0.1$ m<br>Energy chain: > 5 million cycles, bending radius 28 mm |
| Cable length                                         | 0.3 m                                                                                                                                                        |
| Cable characteristic                                 | Suitable for energy chains/robot applications                                                                                                                |
| Cable sheath colour                                  | Grey                                                                                                                                                         |
| Material cable sheath                                | TPE-U(PUR)                                                                                                                                                   |
| Type of mounting                                     | Screw-clamped<br>Insertable in the slot from above                                                                                                           |
| Mounting position                                    | optional                                                                                                                                                     |
| Product weight                                       | 35 g                                                                                                                                                         |
| Material housing                                     | Polyester<br>High-alloy stainless steel                                                                                                                      |
| Material union nut                                   | Nickel-plated brass                                                                                                                                          |
| Material foil                                        | Polyester                                                                                                                                                    |
| Ready status indication                              | Green LED                                                                                                                                                    |
| Switching status indication                          | Yellow LED                                                                                                                                                   |
| Status indication                                    | Red LED                                                                                                                                                      |
| Setting options                                      | IO-Link®<br>Pushbutton                                                                                                                                       |
| Ambient temperature with moving cable                | -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 according to the Festo internal definition of the degree of severity F1A with restrictions regarding the use of Cu/Zn/Ni     |
| Cleanroom class                                      | Class 4 according to ISO 14644-1                                                                                                                             |