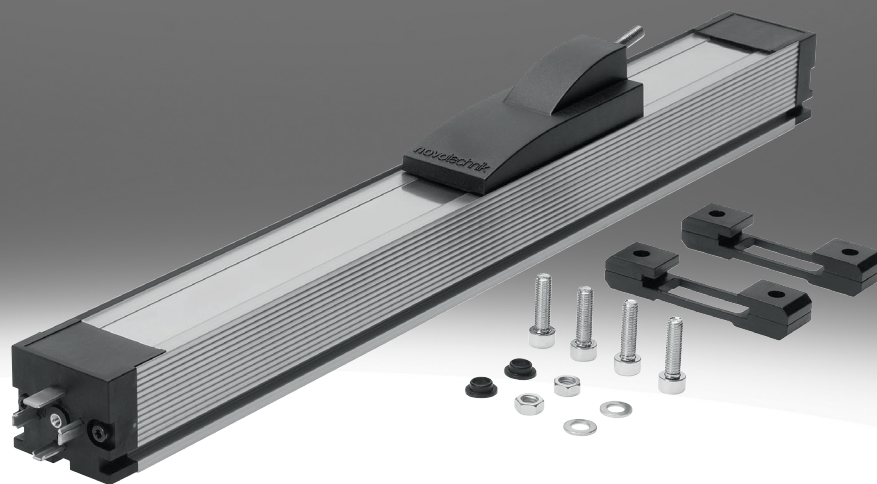


# Displacement encoder MLO-POT-TLF

**FESTO**



Type code

| 001 | Series               |
|-----|----------------------|
| MLO | Displacement encoder |

| 002 | Measuring principle |
|-----|---------------------|
| POT | Potentiometric      |

| 003  | Stroke [mm] |
|------|-------------|
| 225  | 225         |
| 300  | 300         |
| 360  | 360         |
| 450  | 450         |
| 500  | 500         |
| 600  | 600         |
| 750  | 750         |
| 1000 | 1000        |
| 1250 | 1250        |
| 1500 | 1500        |
| 1750 | 1750        |
| 2000 | 2000        |

| 004 | Version |
|-----|---------|
| TLF | Profile |

## Datasheet

| General technical data   |   |         |         |         |         |         |
|--------------------------|---|---------|---------|---------|---------|---------|
| Stroke                   | 225 mm  | 300 mm  | 360 mm  | 450 mm  | 500 mm  | 600 mm  |
| Design                   | With cover strip, With moving slide, Open profile |         |         |         |         |         |
| Displacement resolution  | 0.01 mm   |         |         |         |         |         |
| Max. travel speed        | 10 m/s  |         |         |         |         |         |
| Max. travel acceleration | 200 m/s <sup>2</sup>                              |         |         |         |         |         |
| Mounting position        | optional  |         |         |         |         |         |
| Angle offset of driver   | ± 1°  |         |         |         |         |         |
| Electrical connection    | 4-pin, Type A, Plugs, To DIN 43650, Square design |         |         |         |         |         |
| Product weight           | 900 g   | 1,000 g | 1,100 g | 1,200 g | 1,300 g | 1,500 g |

| General technical data   |   |          |          |          |          |          |
|--------------------------|---|----------|----------|----------|----------|----------|
| Stroke                   | 750 mm  | 1,000 mm | 1,250 mm | 1,500 mm | 1,750 mm | 2,000 mm |
| Design                   | With cover strip, With moving slide, Open profile |          |          |          |          |          |
| Displacement resolution  | 0.01 mm   |          |          |          |          |          |
| Max. travel speed        | 10 m/s  |          |          |          |          |          |
| Max. travel acceleration | 200 m/s <sup>2</sup>                              |          |          |          |          |          |
| Mounting position        | optional  |          |          |          |          |          |
| Angle offset of driver   | ± 1°  |          |          |          |          |          |
| Electrical connection    | 4-pin, Type A, Plugs, To DIN 43650, Square design |          |          |          |          |          |
| Product weight           | 1,800 g   | 2,200 g  | 2,500 g  | 3,000 g  | 3,500 g  | 3,900 g  |

| Electrical data                              |          |        |        |        |        |        |
|--|----------|--------|--------|--------|--------|--------|
| Stroke                                       | 225 mm   | 300 mm | 360 mm | 450 mm | 500 mm | 600 mm |
| Nominal operating voltage DC                 | 10 V     |        |        |        |        |        |
| Permissible voltage fluctuations             | < 1%     |        |        |        |        |        |
| Max. operating voltage DC                    | 42 V     |        |        |        |        |        |
| Max. current consumption                     | 4 mA     |        |        |        |        |        |
| Recommended wiper current                    | 1 µA     |        |        |        |        |        |
| Max. wiper current, short-time <sup>1)</sup> | 10 mA    |        |        |        |        |        |
| Connection resistance                        | 5 kOhm   |        |        |        |        |        |
| Connection resistance tolerance              | 20%      |        |        |        |        |        |
| Non-dependent linearity                      | 0.07%    | 0.06   | 0.05%  |        |        |        |
| Temperature coefficient                      | 5 ppm/K  |        |        |        |        |        |
| Functional principle of measuring system     | Analogue |        |        |        |        |        |

<sup>1)</sup> Only permissible for a short period in the event of a fault.

| Electrical data                              |          |          |          |          |          |          |
|--|----------|----------|----------|----------|----------|----------|
| Stroke                                       | 750 mm   | 1,000 mm | 1,250 mm | 1,500 mm | 1,750 mm | 2,000 mm |
| Nominal operating voltage DC                 | 10 V     |          |          |          |          |          |
| Permissible voltage fluctuations             | < 1%     |          |          |          |          |          |
| Max. operating voltage DC                    | 42 V     |          |          |          |          |          |
| Max. current consumption                     | 4 mA     |          |          |          |          |          |
| Recommended wiper current                    | 1 µA     |          |          |          |          |          |
| Max. wiper current, short-time <sup>1)</sup> | 10 mA    |          |          |          |          |          |
| Connection resistance                        | 10 kOhm  |          |          | 20 kOhm  |          |          |
| Connection resistance tolerance              | 20%      |          |          |          |          |          |
| Non-dependent linearity                      | 0.04%    |          | 0.03%    |          | 0.02%    |          |
| Temperature coefficient                      | 5 ppm/K  |          |          |          |          |          |
| Functional principle of measuring system     | Analogue |          |          |          |          |          |

<sup>1)</sup> Only permissible for a short period in the event of a fault.

## Datasheet

### Operating and environmental conditions

|  |                            |
|--|----------------------------|
| Ambient temperature                                    | -30 ... 100°C              |
| Functional principle of measuring system <sup>1)</sup> | Analogue                   |
| Vibration resistance to DIN/IEC 68 Part 2-6            | Tested to severity level 2 |
| Continuous shock resistance to DIN/IEC 68 Part 2-82    | Tested to severity level 2 |

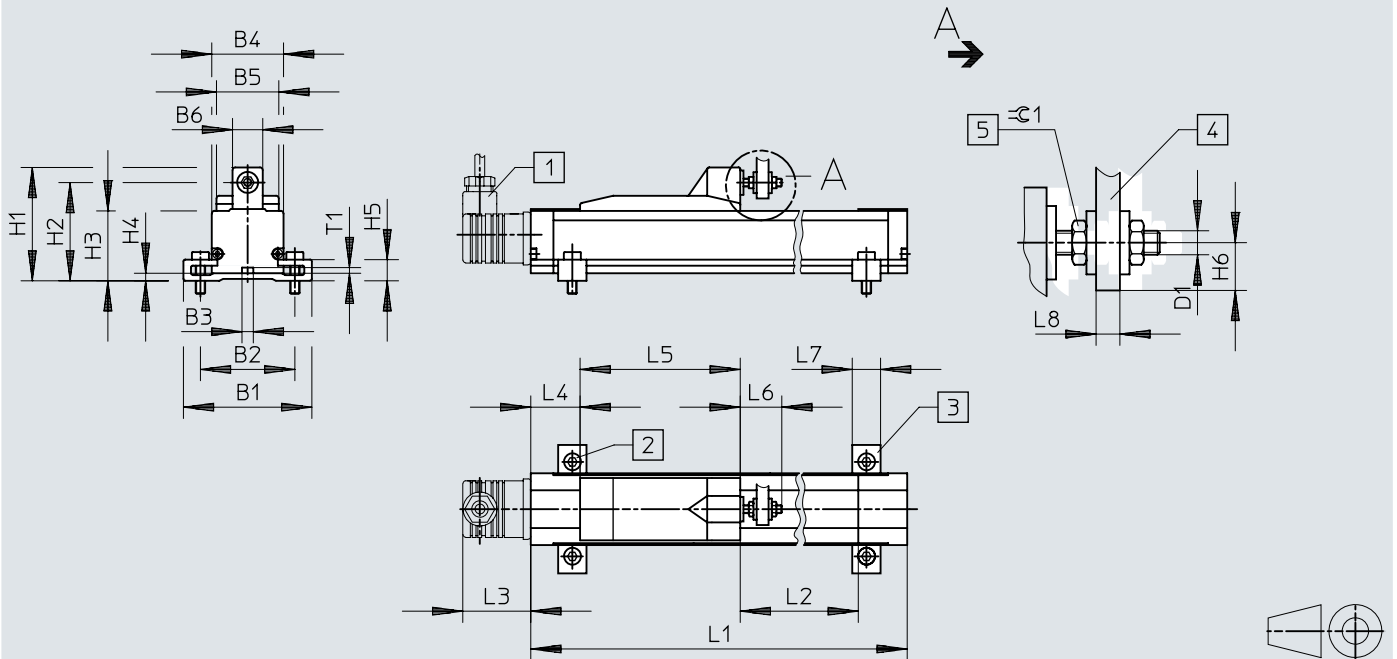
1) Please note the temperature range of the individual components for a complete system solution.

### Materials

|                         |                                   |
|-------------------------|-----------------------------------|
| Material housing        | Wrought aluminium alloy, Anodised |
| Material cover          | Polymer                           |
| Material slide housing  | Die-cast aluminium, Polymer       |
| Material slide coupling | Steel                             |
| Material covering       | Steel                             |
| Material mounting clips | PEI                               |

## Dimensions

Dimensions – Displacement encoders MLO-POT, analogue

Download CAD data → [www.festo.com](http://www.festo.com)

- [1] Plug socket, 4-pin according to DIN 43 650, insert can be turned 90° (not included in the scope of delivery)
- [2] Moment compensator (not included in the scope of delivery)
- [3] Retaining screw M5x18
- [4] M5 hex nut
- [5] Sliding mounting brackets are supplied

## Dimensions


|                  | B1 | B2 | B3 | B4 | B5 | B6 | D1 | H1 |
|------------------|----|----|----|----|----|----|----|----|
| MLO-POT-225-TLF  | 68 | 50 | 6  | 38 | 33 | 16 | M5 | 60 |
| MLO-POT-300-TLF  |    |    |    |    |    |    |    |    |
| MLO-POT-360-TLF  |    |    |    |    |    |    |    |    |
| MLO-POT-450-TLF  |    |    |    |    |    |    |    |    |
| MLO-POT-500-TLF  |    |    |    |    |    |    |    |    |
| MLO-POT-600-TLF  |    |    |    |    |    |    |    |    |
| MLO-POT-750-TLF  |    |    |    |    |    |    |    |    |
| MLO-POT-1000-TLF |    |    |    |    |    |    |    |    |
| MLO-POT-1250-TLF |    |    |    |    |    |    |    |    |
| MLO-POT-1500-TLF |    |    |    |    |    |    |    |    |
| MLO-POT-1750-TLF |    |    |    |    |    |    |    |    |
| MLO-POT-2000-TLF |    |    |    |    |    |    |    |    |

|                  | H2 | H3 | H4 | H5   | H6<br>max. | L1   | L2 <sup>1)</sup> | L3 |
|------------------|----|----|----|------|------------|------|------------------|----|
| MLO-POT-225-TLF  | 52 | 37 | 4  | 11,2 | 10         | 376  | 23 4/228         | 36 |
| MLO-POT-300-TLF  |    |    |    |      |            | 452  | 31 0/304         |    |
| MLO-POT-360-TLF  |    |    |    |      |            | 514  | 37 2/366         |    |
| MLO-POT-450-TLF  |    |    |    |      |            | 605  | 46 3/457         |    |
| MLO-POT-500-TLF  |    |    |    |      |            | 656  | 51 4/508         |    |
| MLO-POT-600-TLF  |    |    |    |      |            | 758  | 61 6/610         |    |
| MLO-POT-750-TLF  |    |    |    |      |            | 910  | 76 8/762         |    |
| MLO-POT-1000-TLF |    |    |    |      |            | 1164 | 102 2/1016       |    |
| MLO-POT-1250-TLF |    |    |    |      |            | 1418 | 127 6/1270       |    |
| MLO-POT-1500-TLF |    |    |    |      |            | 1668 | 152 6/1520       |    |
| MLO-POT-1750-TLF |    |    |    |      |            | 1918 | 177 6/1770       |    |
| MLO-POT-2000-TLF |    |    |    |      |            | 2168 | 202 6/2020       |    |

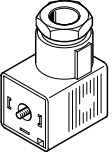
|                  | L4 | L5 | L6 | L7 | L8   |      | T1 | ⌀ 1 |
|------------------|----|----|----|----|------|------|----|-----|
|                  |    |    |    |    | min. | max. |    |     |
| MLO-POT-225-TLF  | 26 | 90 | 22 | 15 | 4    | 8    | 3  | 8   |
| MLO-POT-300-TLF  |    |    |    |    |      |      |    |     |
| MLO-POT-360-TLF  |    |    |    |    |      |      |    |     |
| MLO-POT-450-TLF  |    |    |    |    |      |      |    |     |
| MLO-POT-500-TLF  |    |    |    |    |      |      |    |     |
| MLO-POT-600-TLF  |    |    |    |    |      |      |    |     |
| MLO-POT-750-TLF  |    |    |    |    |      |      |    |     |
| MLO-POT-1000-TLF |    |    |    |    |      |      |    |     |
| MLO-POT-1250-TLF |    |    |    |    |      |      |    |     |
| MLO-POT-1500-TLF |    |    |    |    |      |      |    |     |
| MLO-POT-1750-TLF |    |    |    |    |      |      |    |     |
| MLO-POT-2000-TLF |    |    |    |    |      |      |    |     |

1) Mechanical/electrical stroke

## Ordering data

| Ordering data   |          |          |                  |
|---|----------|----------|------------------|
|   | Stroke   | Part no. | Type             |
|  | 225 mm   | 152625   | MLO-POT-225-TLF  |
|   | 300 mm   | 152626   | MLO-POT-300-TLF  |
|   | 360 mm   | 152627   | MLO-POT-360-TLF  |
|   | 450 mm   | 152628   | MLO-POT-450-TLF  |
|   | 500 mm   | 152629   | MLO-POT-500-TLF  |
|   | 600 mm   | 152630   | MLO-POT-600-TLF  |
|   | 750 mm   | 152631   | MLO-POT-750-TLF  |
|   | 1,000 mm | 152632   | MLO-POT-1000-TLF |
|   | 1,250 mm | 152633   | MLO-POT-1250-TLF |
|   | 1,500 mm | 152634   | MLO-POT-1500-TLF |
|   | 1,750 mm | 152635   | MLO-POT-1750-TLF |
|   | 2,000 mm | 152636   | MLO-POT-2000-TLF |

## Accessories

| Plug socket MSSD   |                  |          |           |
|--|------------------|----------|-----------|
|  | Material housing | Part no. | Type      |
|  | Polymer          | 171157   | MSSD-C-4P |