

## “Double Articulated System”

# LTP



## GENERAL FEATURES

The most important feature of the LTP series position sensors is that they are articulated on both sides. Thanks to the joints, they are capable of angular movement up to max. 30 ° during mounting and operation.

They work as ABSOLUTE because they are measuring with the potentiometric principle, that is, they do not lose their position in case of power off. Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output options are available.

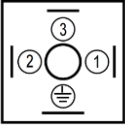
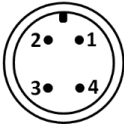
Because of their linearized conductive plastic resistance alloy and special contacts, they are not affected by wear and operate for a long time with a life cycle of up to 50 million. They are stable by being linear and they measure evenly.

- Double articulated body structure
- $\pm 30^\circ$  maximum angular motion
- Measurement lengths between 50 mm and 1000 mm
- Potentiometric measurement
- Potentiometric, 4-20 mA or 0-10V analog output options
- PVC cable, DIN43650-C or M12 socket connection
- Long life up to 50 million movements
- 5 m/s operating speed
- High accuracy
- Compact design

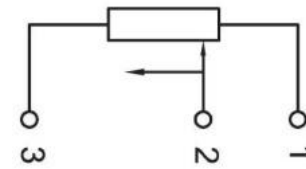
## TECHNICAL SPECIFICATIONS

| Model                      | LTP 50                                                               | LTP 75 | LTP 100 | LTP 125 | LTP 150 | LTP 175                           | LTP 200 | LTP 225 | LTP 250 | LTP 275 | LTP 300 | LTP 325 | LTP 350 | LTP 360 | LTP 375 | LTP 400 | LTP 450 | LTP 500 | LTP 550 | LTP 600 | LTP 650 | LTP 700 | LTP 750 | LTP 800 | LTP 900 | LTP 1000 |  |  |
|----------------------------|----------------------------------------------------------------------|--------|---------|---------|---------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|--|--|
| Electrical Stroke (mm)     | 50                                                                   | 75     | 100     | 125     | 150     | 175                               | 200     | 225     | 250     | 275     | 300     | 325     | 350     | 360     | 375     | 400     | 450     | 500     | 550     | 600     | 650     | 700     | 750     | 800     | 900     | 1000     |  |  |
| Independent Linearity (±%) | 0.2                                                                  | 0.2    | 0.2     | 0.2     | 0.2     | 0.2                               | 0.2     | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.1     | 0.1     | 0.1     | 0.1     | 0.1     | 0.1     | 0.1     | 0.1      |  |  |
| Repeatability              | 0.01 mm                                                              |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Max Operating Speed        | ≤ 5 m/s                                                              |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Resistance Element         | Conductive Plastic                                                   |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Output Signal              | Potentiometric                                                       |        |         |         |         | 4-20 mA (opt. 0...20 mA) or 0-10V |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Supply Voltage             | 42V max.                                                             |        |         |         |         | 20...30 VDC                       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Resistance (KΩ)            | 5, 10 (optional others)                                              |        |         |         |         | -                                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Resistance Tolerance (±%)  | 20                                                                   |        |         |         |         | -                                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Resolution                 | Infinite                                                             |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Electrical Connection      | 3 x 0,14 mm² shielded PVC cable, DIN43650-C socket, M12/4 pin socket |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Mechanical Fixing          | With double-sided articulations                                      |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Operating Temperature      | -30°C...+100°C                                                       |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| IP Protection Class        | IP62                                                                 |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Life                       | 50 x 10 <sup>6</sup> movements                                       |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
| Material                   | Body: Aluminium                                                      |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |
|                            | Rod: Stainless Steel                                                 |        |         |         |         |                                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |          |  |  |

## ELECTRICAL CONNECTIONS

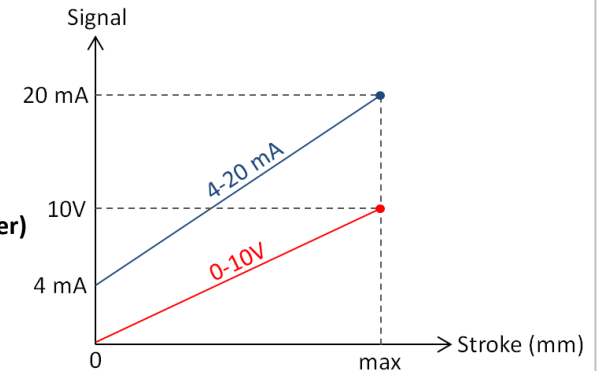
| SIGNAL         | CABLE COLOR | <br>DIN43650 – C SOCKET | <br>M12/4 PIN MALE SOCKET |
|----------------|-------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| + V            | Red         | Pin 1                                                                                                    | Pin 1                                                                                                      |
| Output Signal* | Yellow      | Pin 2                                                                                                    | Pin 2                                                                                                      |
| - V            | Black       | Pin 3                                                                                                    | Pin 3                                                                                                      |

\*Output Signal may be potentiometric, 0-10 VDC or 4-20 mA depending on the model (See Product code table).



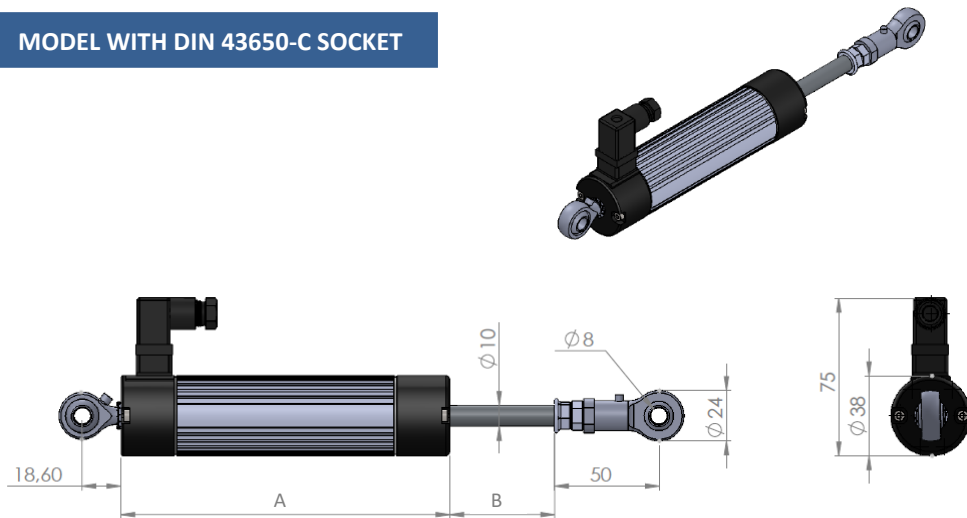
Potentiometer Connection (Voltage Divider)

**Note:** The GND line of the feed and signal output is common. Therefore it can be connected with 3-wire cable.

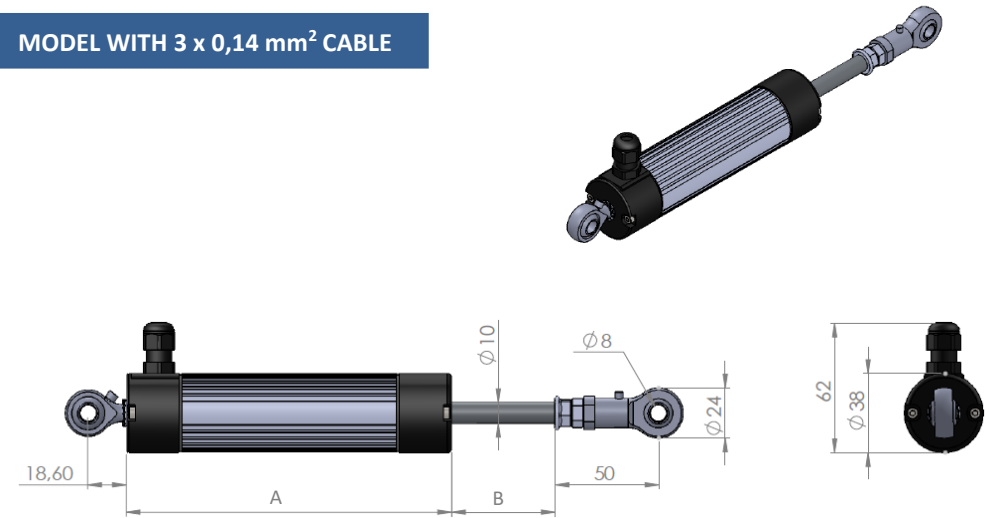


## MECHANICAL DIMENSIONS (mm)

MODEL WITH DIN 43650-C SOCKET



MODEL WITH 3 x 0,14 mm<sup>2</sup> CABLE



| Stroke (mm)           | 50  | 75  | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 360 | 375 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800  | 900  | 1000 |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Body Length (A)       | 156 | 181 | 206 | 231 | 256 | 281 | 306 | 331 | 356 | 381 | 406 | 431 | 456 | 466 | 481 | 506 | 547 | 606 | 656 | 706 | 756 | 806 | 856 | 1001 | 1101 | 1201 |
| Mechanical Stroke (B) | 54  | 79  | 104 | 129 | 154 | 179 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 364 | 379 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804  | 904  | 1004 |

## SAMPLE APPLICATION FIELDS

- Measuring /control technology
- Manufacturing engineering like woodwork machines, riveting machines, packaging machines etc.
- Hydraulic machines
- Press brakes
- Metal working machines
- Bending machines
- Assembly and test equipment
- Medical applications
- Building technology
- Textile machinery
- Other automation applications

## ORDER CODE

### Order Code For Analog Output

#### Model No

|     |   |     |   |   |   |    |
|-----|---|-----|---|---|---|----|
| LTP | - | XXX | - | X | - | XX |
|-----|---|-----|---|---|---|----|

#### Output Signal

A: 4-20 mA (\*Optional 0-20 mA )  
V: 0-10 VDC

#### Measuring Length (Stroke)

Different measuring lengths between 50 mm and 1000 mm

#### Electrical Connection

**No code:** DIN 43650-C socket  
**S15:** M12/4 pin male socket  
**2M:** 2 meters PVC cable  
(\*Optionally different cable lengths)

### Order Code For Potentiometric Output

#### Model No

|     |   |     |   |     |   |    |
|-----|---|-----|---|-----|---|----|
| LTP | - | XXX | - | XXX | - | XX |
|-----|---|-----|---|-----|---|----|

#### Resistance Value

**5K:** 5K $\Omega$   
**10K:** 10K $\Omega$   
\*Optional others

#### Measuring Length (Stroke)

Different measuring lengths between 50 mm and 1000 mm

#### Electrical Connection

**No code:** DIN 43650-C socket  
**S15:** M12/4 pin male socket  
**2M:** 2 meters PVC cable  
(\*Optionally different cable lengths)

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