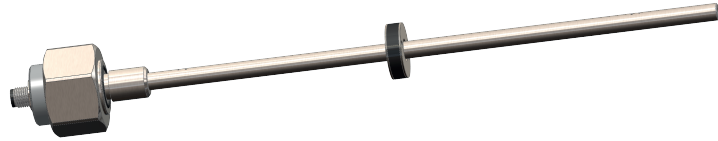


# Non-Contact Magnetostrictive Position Sensor In Cylinder Applications

**ANALOG mA**

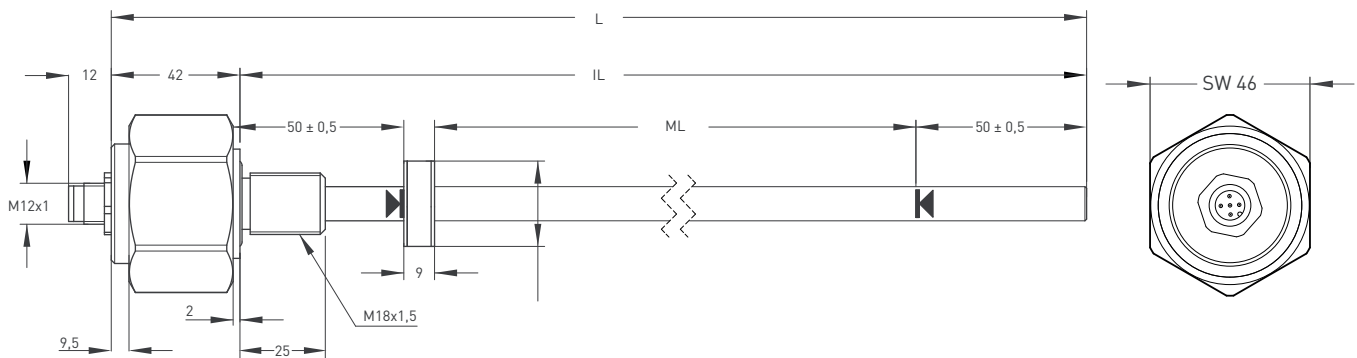
- Measuring length 50 - 3000 mm
- 15 bit resolution
- 0 - 20 mA, 4 - 20 mA output
- 24 VDC power supply



## Technical Specifications

|                             |                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------|
| Measurement stroke          | 50 to 3000 mm                                                                    |
| Resolution                  | 15 bit DAC output                                                                |
| Repeatability               | 100 µm                                                                           |
| Output                      | 0-20mA, 20-0mA, 4-20mA, 20-4mA                                                   |
| Power supply                | 24 VDC ±10%                                                                      |
| Displacement speed          | max. <5 m/s                                                                      |
| Linearity                   | 50-100 mm < %1, 100-300 mm < %0.2, 300-500 mm < %0.1, 500-3000 mm > %0.05        |
| Sampling rate               | Up to 2 kHz (depending on stroke length)                                         |
| Vibration                   | EN 60068-2-6, 5-200 Hz<br>200 m/s <sup>2</sup> (20g), 2h 30min each axis {x,y,z} |
| Shock                       | EN 60068-2-2:2007<br>500 m/s <sup>2</sup> (50g), 11ms. {x,y,z axis}              |
| Update time                 | 0-600mm, 0,5ms<br>600-1500mm, 1ms<br>1500-3000mm, 2ms                            |
| Max. consumption            | < 50 mA - 90 mA (depending on stroke length)                                     |
| Max. output noise           | < 5 mVpp                                                                         |
| Load resistance             | max. 500 Ohm                                                                     |
| Reverse polarity protection | Up to -30 VDC                                                                    |
| Overvoltage protection      | Up to +30 VDC                                                                    |
| Pressure rating             | < 500 bar                                                                        |
| Sealing                     | O-ring: NBR<br>Backup Ring: PTFE                                                 |
| Mounting                    | M18 x 1.5 or 3/4"-16 UNF<br>O-ring or Flat                                       |
| Case material               | Profile :Anodized aluminium<br>Tube: Stainless steel<br>Caps: Stainless steel    |
| Protection level            | IP 67                                                                            |
| Operating temperature       | -10°C ... +70°C                                                                  |
| Storage temperature         | -30°C ... +90°C                                                                  |

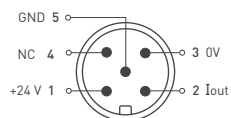
## Mechanical Specifications



| MSPF [mm]                   | 50      | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800     | 850 | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1750 | 2000 | 2250 | 2500 | 3000 |
|-----------------------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| ML<br>(Measuring Length)    | 50      | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800     | 850 | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1750 | 2000 | 2250 | 2500 | 3000 |
| IL<br>(Installation Length) | 157     | 207 | 257 | 307 | 357 | 407 | 457 | 507 | 557 | 607 | 657 | 707 | 757 | 807 | 857 | 907     | 957 | 1007 | 1107 | 1207 | 1307 | 1407 | 1507 | 1607 | 1887 | 2137 | 2387 | 2637 | 3137 |
| L<br>(Total Length)         | 199     | 249 | 299 | 349 | 399 | 449 | 499 | 549 | 599 | 649 | 699 | 749 | 799 | 849 | 899 | 949     | 999 | 1049 | 1149 | 1249 | 1349 | 1449 | 1549 | 1649 | 1929 | 2179 | 2429 | 2679 | 3179 |
| Dead Zone Calculation       | 50 / 50 |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 80 / 50 |     |      |      |      |      |      |      |      |      |      |      |      |      |

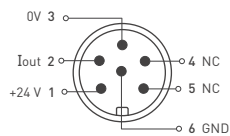
## Round Connector

5 pin Connector Configuration



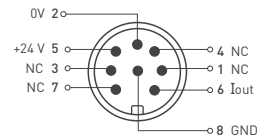
CN5 M12 (A) / M16 (B)  
5 pin

6 pin Connector Configuration

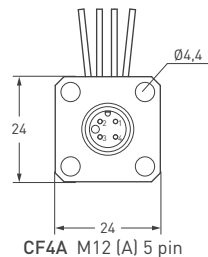


CN6 M12 (A) / M16 (B)  
6 pin

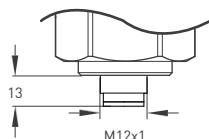
8 pin Connector Configuration



CN8 M12 (A) / M16 (B)  
8 pin

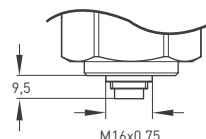


CF4A M12 (A) 5 pin



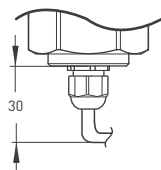
M12x1

4 pin Male Connector Configuration



M16x0,75

## Cable



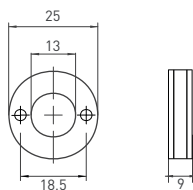
### Current Output

+V : Brown  
0V : Blue  
0V sense : Black  
Output 1 : White (Iout)  
Earth : Shield

### Cable Length

1 M : 1 meter (standard)  
(other cable lengths available)

## Cursor



R05

## Ordering Procedure

| Model | Measuring range | Rod & Thread                                                                            | Sealing surface | Resolution | Cursor     | Output                                                       | Connector/Cable                                                                                                              | Dead zone                               |
|-------|-----------------|-----------------------------------------------------------------------------------------|-----------------|------------|------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| MSPF  | 300             | E10                                                                                     | S               | B          | 1R05       | I40                                                          | CN5A                                                                                                                         | 50/50                                   |
| MSPF  | 50 - 3000 mm    | E10 : Ø10 M18x1,5<br>U10 : Ø10 3/4" 16 UNF<br>E12 : Ø12 M8x1,5<br>U12 : Ø12 3/4" 16 UNF | S : O - ring    | B : 15 bit | R05: 25 mm | I40 : 4-20mA<br>I04 : 20-4mA<br>I20 : 0-20mA<br>I02 : 20-0mA | CN5A : M12<br>CN5B : M16<br>CN6A : M12<br>CN6B : M16<br>CN8A : M12<br>CN8B : M16<br>CF4A : M12<br><br>1M: 1 meter (standard) | ≤ 1500 mm 50/50<br>> 1750-3000 mm 80/50 |