



Linear position transducer with GEFran's innovative ONDA magnetostrictive technology for long life.

The absence of electrical contact on the cursor eliminates wearing and guarantees almost unlimited life.

Gefran's patented ONDA technology achieves a compact, modular structure for simple installation.

RK-5 is a magnetostrictive position transducer with flanged connection that installs completely inside oil-pressure cylinders.

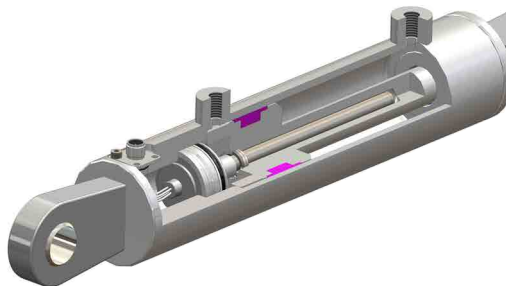
Its unique design, plus a wide range of cursor configurations, ensures easy installation and total compatibility with cylinder manufacturer specifications.

Working temperature from -40 to +105°C, working pressures up to 350 bar, high resistance to vibration (25 g) and shock (100g) give the sensor the indispensable strength needed for heavy-duty use (for example: mobile hydraulics).

High performance in terms of transduction of measurement defined as linearity, hysteresis and repeatability.

The communication system of CAN bus allows a fast and safe transmission.

The implementation of the CANopen DS-301 protocol and Device Profile DS-406 provides quick and easy integration of the transducer in the control system and automation.



TECHNICAL DATA

Model

from 50 to 2500 mm

Measurement given

Displacement and speed

Sampling time (typical)

1 ms

Shock test DIN IEC68T2-27

100g - 11ms - single shock

Vibrations DIN IEC68T2-6

25g / 10...2000Hz

Displacement speed

≤ 10 m/s

Maximum acceleration

≤ 100 m/s² displacement

Displacement resolution

0,1mm

Speed resolution

1 mm/s

Working pressure

350 bar

Nominal power supply

8...32Vdc

Max. power ripple

1Vpp

Output signal

CAN bus digital communications

Electrical insulation

500V (*) (D.C. Power supply/ground)

Protection against polarity inversion

Yes

Protection against overvoltage

Yes

Power consumption

1 W

Hydraulic circuit area protection

IP67/ IP69K with female connector

Working temperature

-40°...+105°C

Storage temperature

-30°...+100°C

Coefficient of temperature

0.01% FS / °C

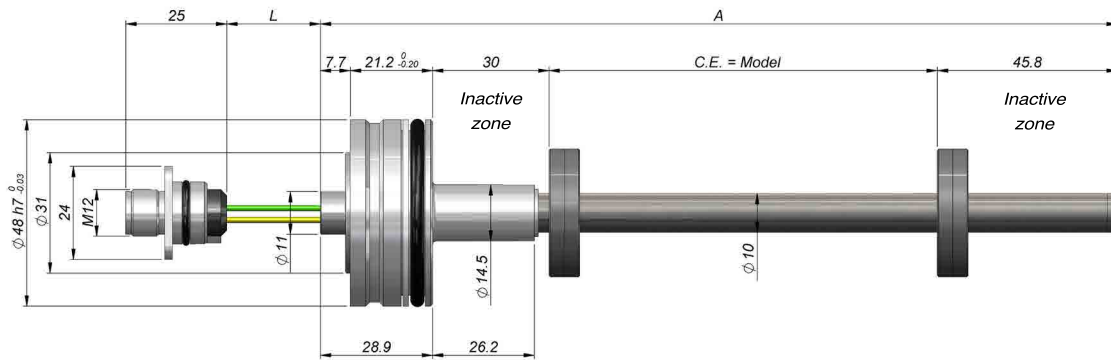
Humidity dew point EN60068-2-30

90% non-condensing humidity

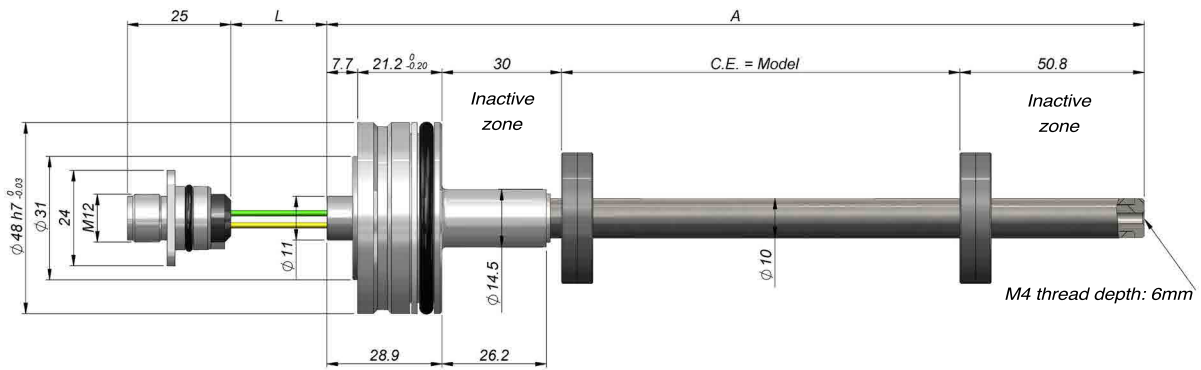
(*) Uses 50V 2J Voltage suppressor

MECHANICAL DIMENSIONS

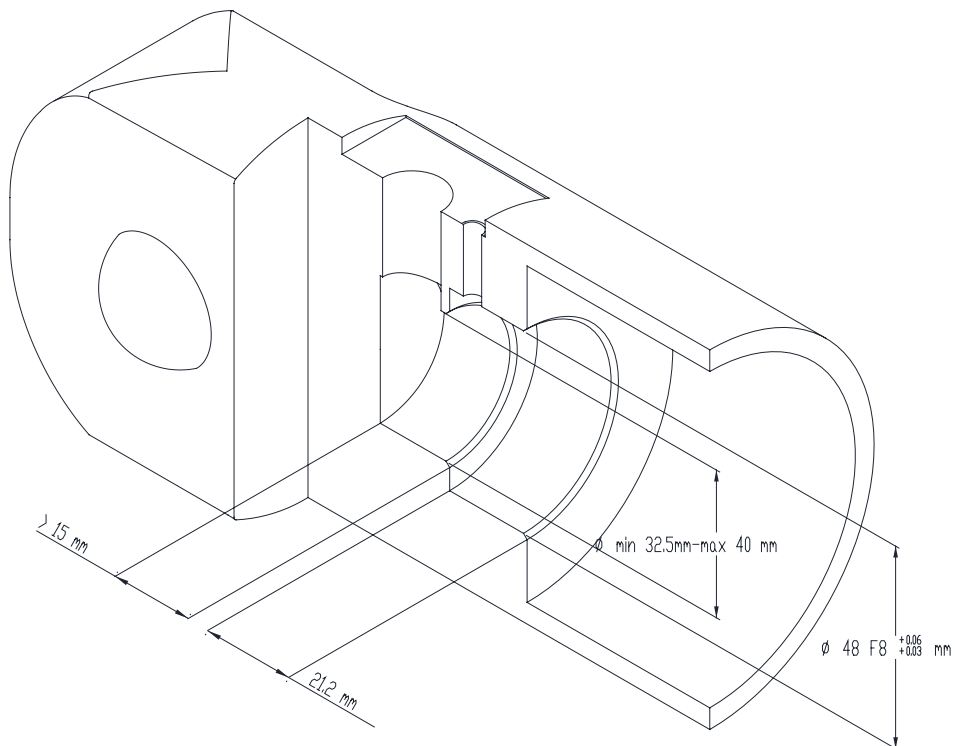
Stroke 50 to 1000 mm



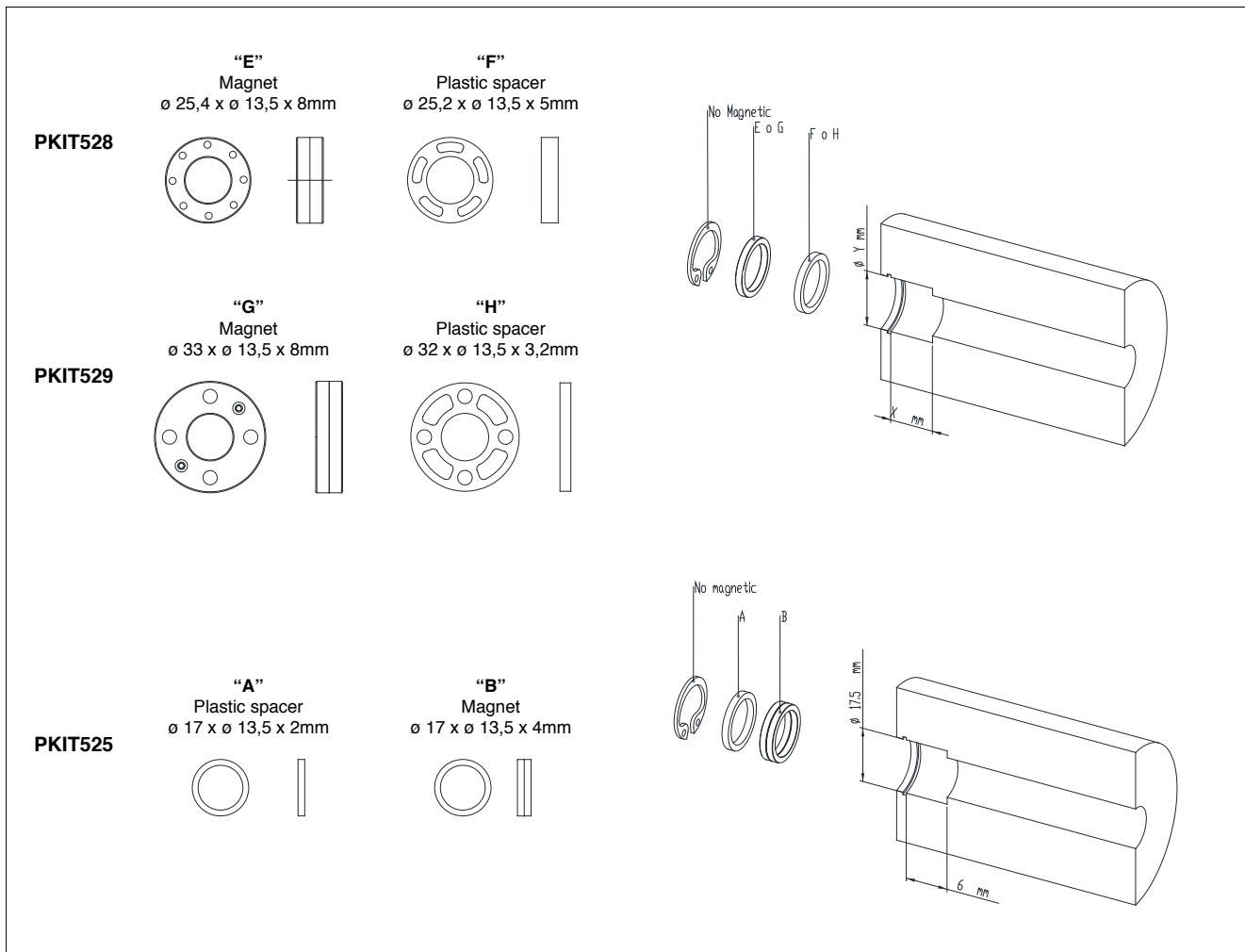
Stroke 1250 to 2500 mm



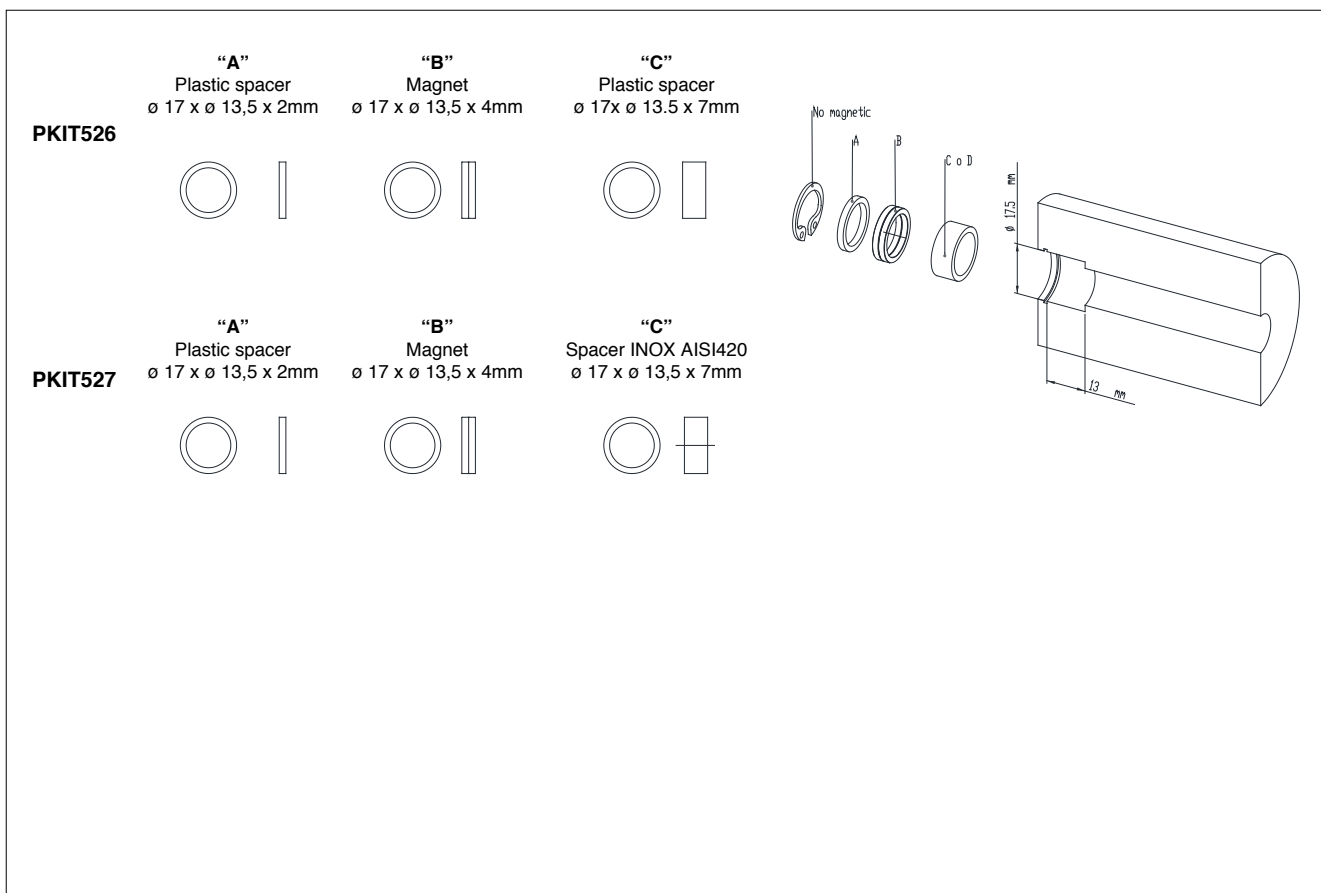
SENSOR HOUSING (detail of head)



INSTALLATION AND CURSOR KIT (to be ordered separately)



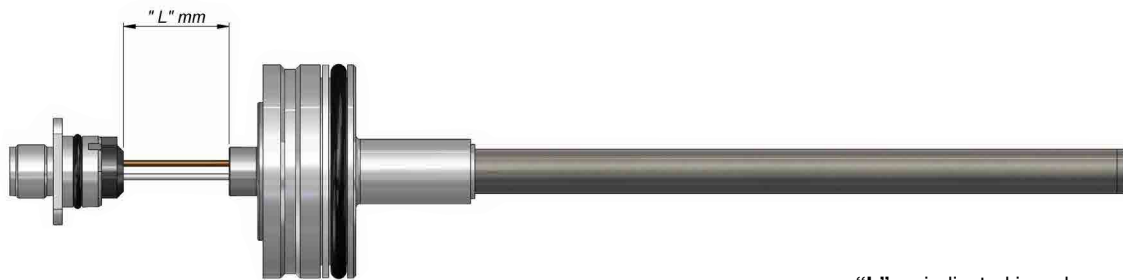
INSTALLATION AND CURSOR KIT FOR 13mm HOUSINGS (to be ordered separately)



ELECTRICAL / MECHANICAL DATA

| Model | 50 | 100 | 130 | 150 | 200 | 225 | 300 | 400 | 450 | 500 | 600 | 700 | 800 | 900 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 |
|------------------------------|------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------------------|-----|-----|------|------|------|------|------|------|------|
| Electrical Stroke (C.E.) | mm | Model | | | | | | | | | | | | | | | | | | | |
| Independent linearity | | < ±0.04% F.S. (±0.10 mm minimum) | | | | | | | | | | | | | | | | | | | |
| Max. length (A) | mm | Model +104,7 (excluding cable) | | | | | | | | | | Model +109,7 (excluding cable) | | | | | | | | | |
| Repeatability | mm | < 0.01 * | | | | | | | | | | | | | | | | | | | |
| Hysteresis | | < ±0.005% F.S. * | | | | | | | | | | | | | | | | | | | |
| Sampling time | msec | 1 up to 600mm stroke / 2 up to 2500 mm | | | | | | | | | | | | | | | | | | | |
| * Resolution limited (0.1mm) | | | | | | | | | | | | | | | | | | | | | |

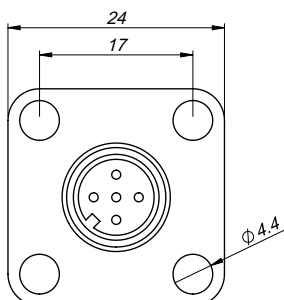
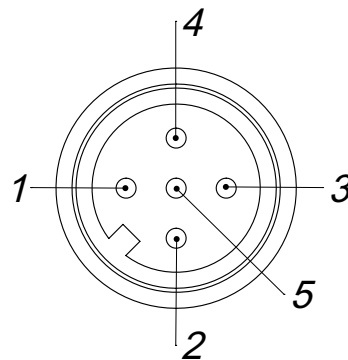
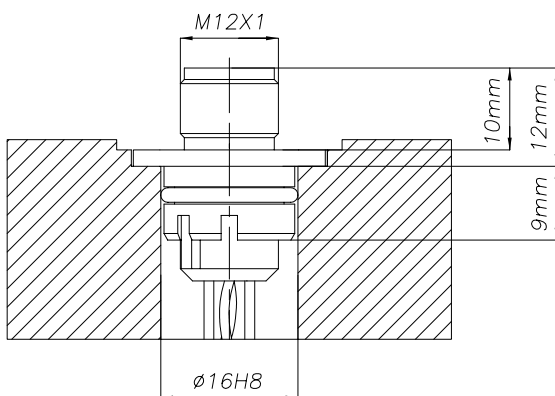
CABLE LENGTH (option A)



"L" as indicated in order code













| Code | Length |
|------|--------|
| 060 | 60 mm |
| 100 | 100 mm |
| 150 | 150 mm |
| 240 | 240 mm |

ELECTRICAL CONNECTIONS AND CONNECTOR ASSEMBLY



| PIN | FUNCTION | CABLE COLOR |
|-----|----------|-------------|
| 1 | NC | |
| 2 | VDC | BROWN |
| 3 | GND | WHITE |
| 4 | CAN HI | GREEN |
| 5 | CAN LO | GRAY |

CURSOR KIT (to be ordered separately)

| CODE | Ø HOUSING | HOUSING DEPTH | PISTON MATERIAL | MAGNET | PLASTIC SPACER | AMAGNETIC SPACER | MAGNETIC SPACER |
|---------|-----------|---------------|------------------------|---|--|---|---|
| PKIT528 | Ø 25,4 mm | 13 mm | magnetic/ amagnetic |  |  | | |
| PKIT529 | Ø 33 mm | 13 mm | magnetic/ amagnetic |  |  | | |
| PKIT525 | Ø 17 mm | 6 mm | magnetic/ amagnetic |  |  | | |
| PKIT526 | Ø 17 mm | 13 mm | amagnetic |  |  |  | |
| PKIT527 | Ø 17 mm | 13 mm | magnetic |  |  | |  |

CE CONFORMITY ACCORDING TO DIRECTIVE 2014/30/EU

| STANDARD | TITLE |
|---------------------------|--|
| ISO 13766 | Earthmoving Machinery |
| ISO 14982 | Agriculture and forest machinery |
| ISO 13309 | Construction machinery |
| ISO 11452-5 | Road vehicles - Components test methods for electrical disturbances from narrowband radiated electromagnetic energy. part 5: stipline 200V/m |
| EN61326_1; EN61326_2_3 | Electrical equipment for measurement, control and laboratory use |

ORDERING CODE

| OUTPUT CONFIGURATION | |
|----------------------|----------|
| M12 STD CANopen | A |

| MODEL | |
|-------------|-------------|
| (0050-2500) | XXXX |

| CURSOR NUMBER | |
|---------------|----------|
| 1 | A |

| BAUDRATE | |
|-----------|----------|
| 1 MBaud | 1 |
| 800KBaud | 2 |
| 500kBaud | 3 |
| 250kBaud | 4 |
| 125kBaud | 5 |
| Riservato | 6 |
| 50kBaud | 7 |
| 20kBaud | 8 |
| 10kBaud | 9 |

| POSITION RESOLUTION | |
|---------------------|----------|
| 0.1mm | 7 |

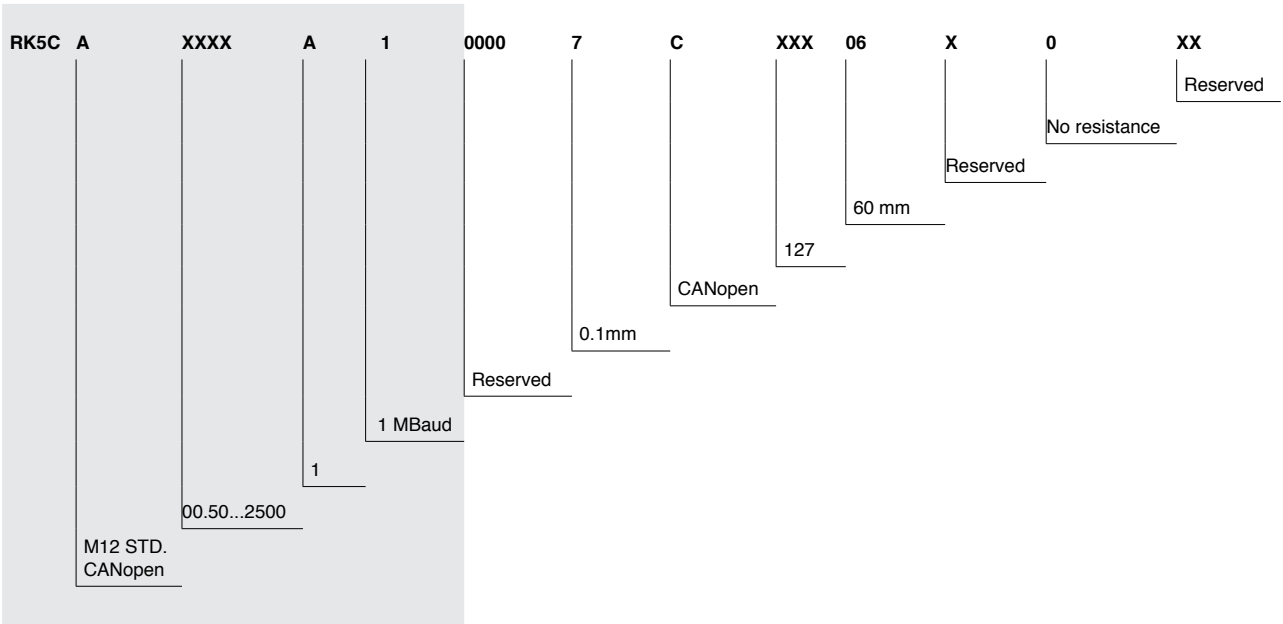
| PROTOCOL | |
|----------|----------|
| CANopen | C |

| ADDRESS | |
|---------------------------------|------------|
| 127 (default) | XXX |
| 1...126 (specified by customer) | nnn |

| CABLE LENGHT | |
|--------------|-----------|
| 60mm | 06 |
| 150mm | 15 |
| 240mm | 24 |

| TERMINATION RESISTANCE | |
|-------------------------|----------|
| No resistance (default) | 0 |
| Resistance 120 ohm | 1 |

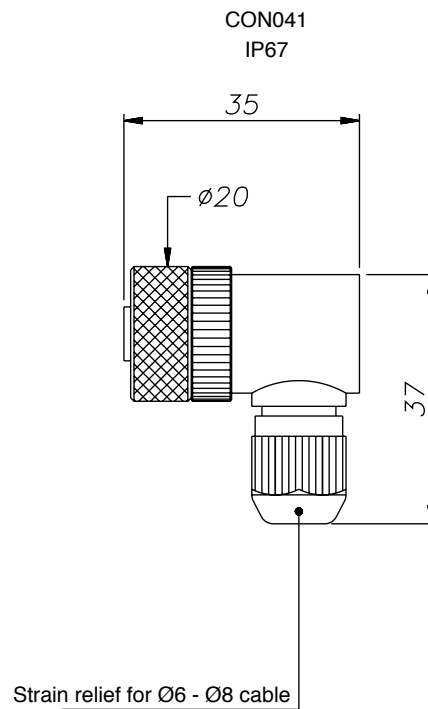
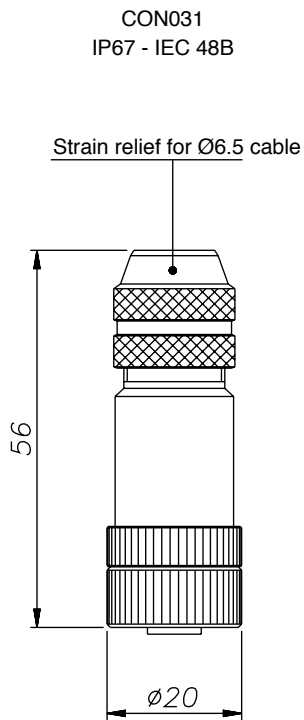
Example of description



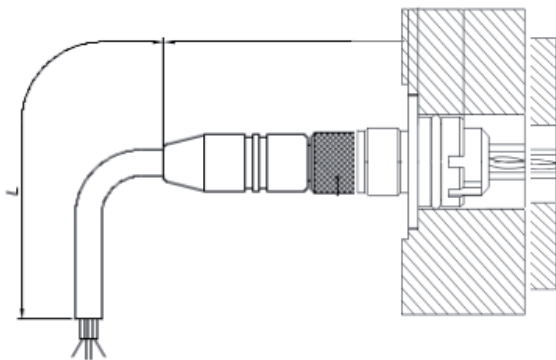
OPTIONAL CONNECTORS

CON031 for 5-pin output

CON041 for 90° 5-pin output



OPTIONAL CABLES (to be ordered separately)



PREWIRED CABLE WITH STRAIGHT CONNECTOR

The cable shield is connected to the connector

| "L" Length | | CODE | |
|------------|----|----------------|---------------|
| | | Straight cable | 90° cable |
| 2 | mt | CAV011 | CAV021 |
| 5 | mt | CAV012 | CAV022 |
| 10 | mt | CAV013 | CAV023 |
| 15 | mt | CAV015 | CAV024 |

