

# CDS1820 potentiometric output – Measurement range 0 up to 20 000 mm

## Specifications:

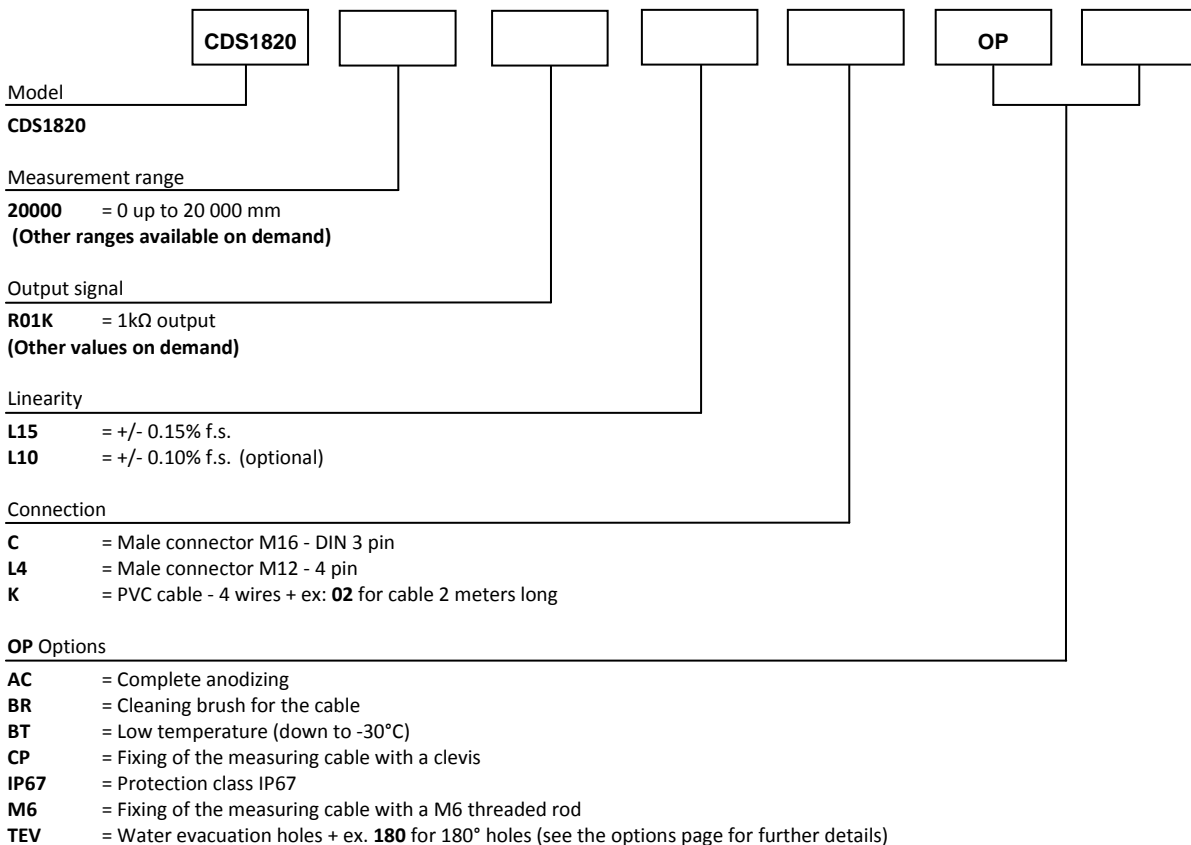
|                       |                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------|
| Measurement range     | 0 up to 20 000 mm                                                                   |
| Output signal         | 1k $\Omega$ potentiometer (other values on demand)                                  |
| Resolution            | Quasi infinite (depends on the operating system)                                    |
| Material              | Body and cover - Aluminium (RohS)<br>Measuring cable - Stainless steel              |
| Cable diameter        | 0,90 mm                                                                             |
| Detection element     | Multi-turn Hybrid potentiometer                                                     |
| Connection            | Male connector M16 - DIN 3 pin<br>Male connector M12 - 4 pin<br>PVC cable - 4 wires |
| Standard linearity    | +/- 0,15% f.s.<br>+/- 0,10% f.s. (optional)                                         |
| Protection class      | IP65                                                                                |
| Max. Velocity         | 10 m/s                                                                              |
| Max. Acceleration     | 2 m/s <sup>2</sup> (before cable deformation)                                       |
| Weight                | ≈ 12 kg                                                                             |
| Operating temperature | -20° to +80°C                                                                       |
| Storage temperature   | -30° to +80°C                                                                       |



## Cable forces:

| Measurement range in mm | Min. pull-out force | Max. pull-out force |
|-------------------------|---------------------|---------------------|
| 20 000                  | ≈ 15,00 N           | ≈ 30,00 N           |

## Ordering reference:



Reference example: **CDS1820-20000-R01K-L15-K02-OP-AC-M6**



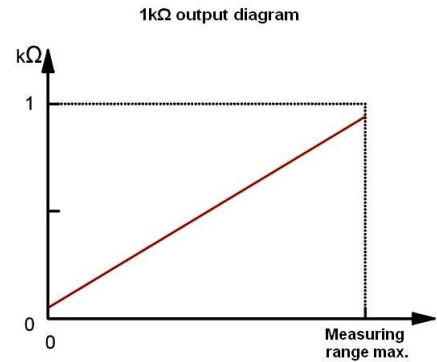
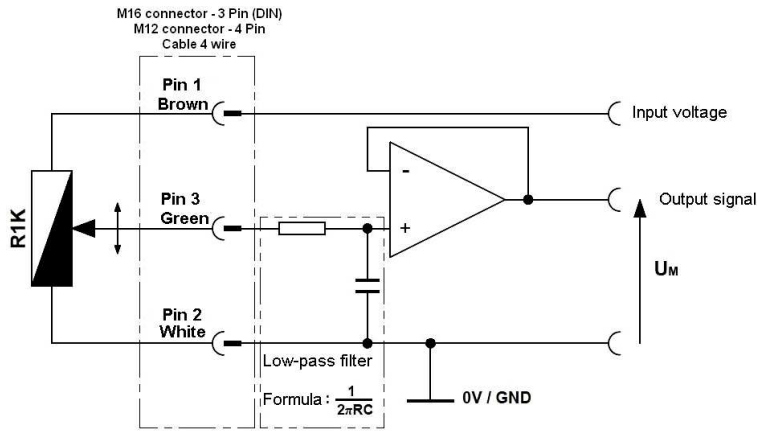
Tel : +33 (0)3 88 02 09 02 / Fax : +33 (0)3 88 02 09 03 / E-mail : info@ak-industries.com / Web : http://www.ak-industries.com

**Electrical characteristics :**

**Potentiometric version 1 kΩ :** (other values on demand)

Temperature drift ..... +/-50 ppm/°C

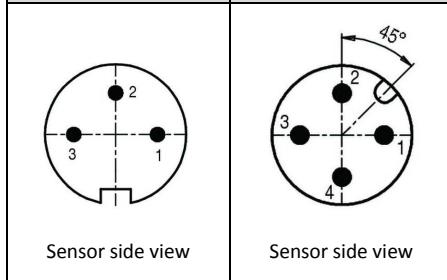
**Example of wiring diagram with input stage :**



To ensure a good linearity, wire the potentiometer as a voltage divider and never as a rheostat. The input resistance of the operating system must be very high (greater than 10MΩ)

**Connection :**

| Male connector M16<br>3 pin (DIN) | Male connector M12<br>4 pin (DIN) | PVC cable<br>4 wire | R01K              |
|-----------------------------------|-----------------------------------|---------------------|-------------------|
| 1                                 | 1                                 | Brown               | Input voltage +   |
| 2                                 | 2                                 | White               | Input voltage GND |
| 3                                 | 3                                 | Green               | Signal +          |

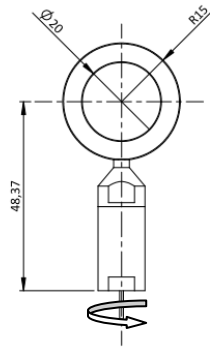


**Options:**

**Cable attachment head:**

**Standard**

Measuring cable attachment with a lug. The attachment mounted on ball bearings allows a free rotation relative to the measurement cable.

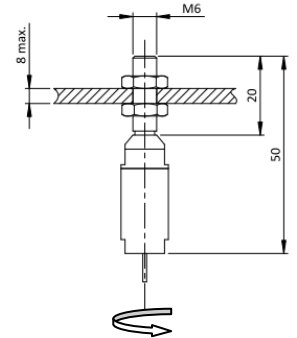


**Cable attachment fitted with a M6 threaded rod:**

**OP-M6**

The rod attachment uses a threaded rod with 2 nuts (provided). The required thickness of the plate does not exceed 8mm.

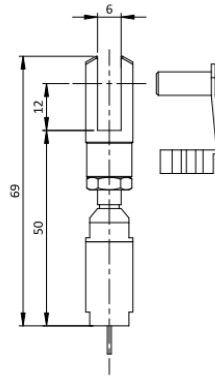
The attachment mounted on ball bearings allows a free rotation relative to the measurement cable.



**Cable attachment with a clevis :**

**OP-CP**

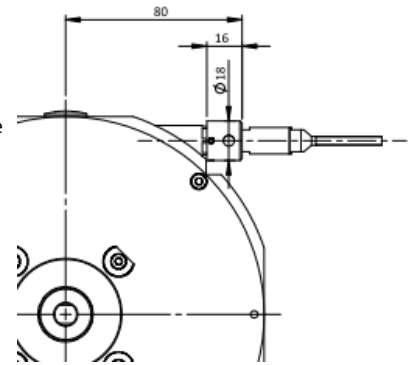
The attachment of the clevis is done using a pin (provided). The attachment mounted on ball bearings allows a free rotation relative to the measurement cable.



**Cleaning brush for the cable:**

**OP-BR**

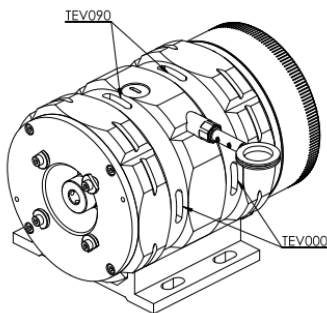
The cleaning brush wipes the cable in dusty or humid environments.



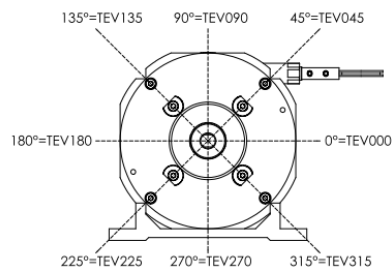
**Water evacuation holes:**

**OP-TEV**

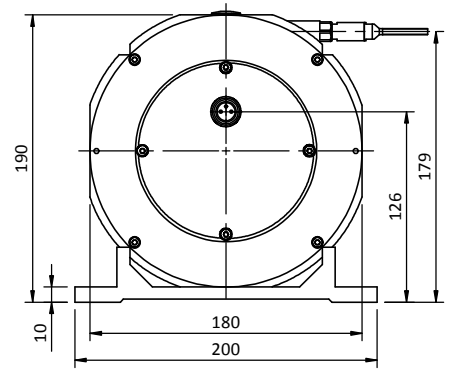
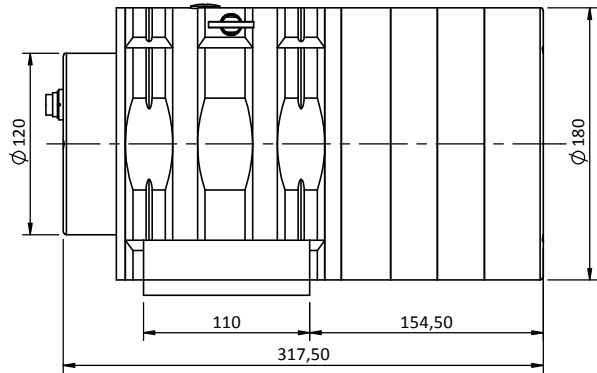
The holes allow the natural flow of fluids out of the sensor in order to avoid their accumulation in the system.



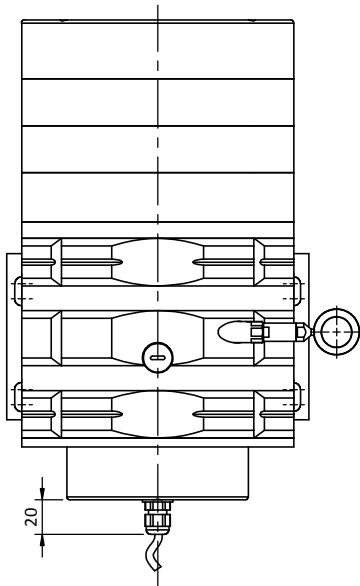
Please specify the implantation angle of the drain holes on the drawing below.  
(All value between 0 and 360°)



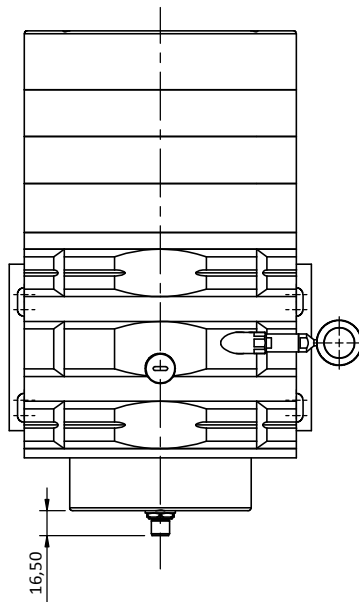
**Dimensional Drawing**



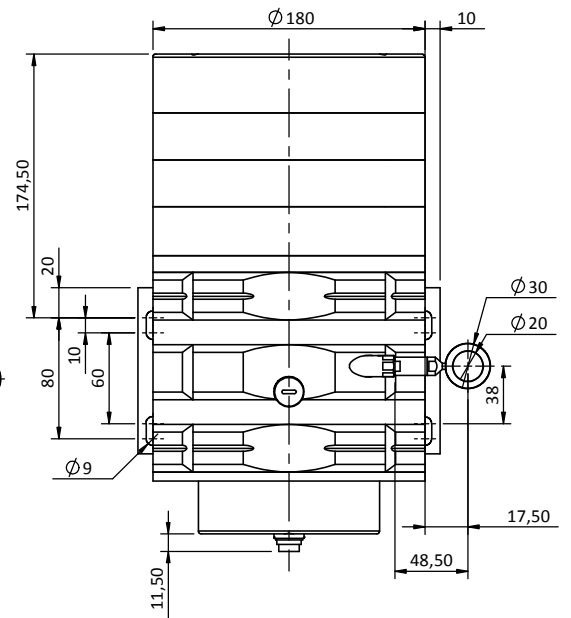
**K connection**  
(PVC cable - 4 wires)



**L4 connection**  
(connector M12 - 4 pin)



**C connection**  
(Connector M16 - DIN 3 pin)



**Modular base plate**

