

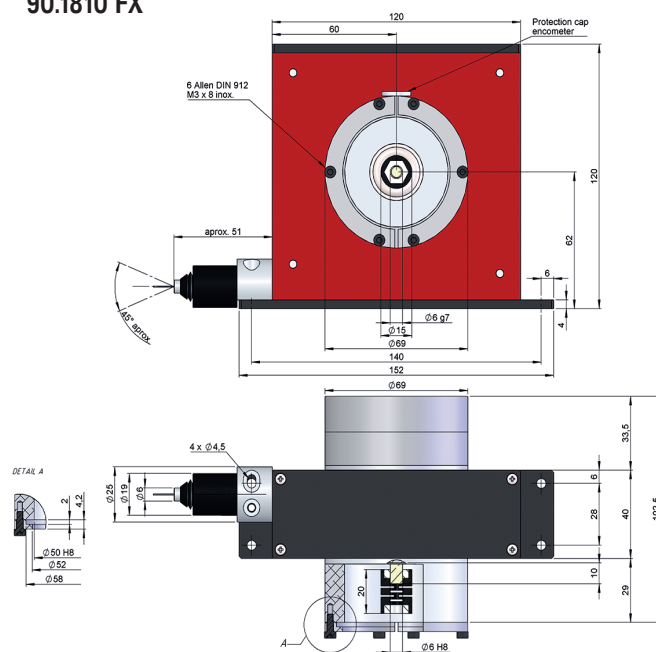


- Linear measurement system

Extendible cable

45°

IP 51



Drawing 90.1810 FX with flexible accessory, standard bell synchro and coupling type 1

Reference example: 90.1810-SY1

Request the EM10 already coupled to an electronic output device that could be an Incremental Optical Encoder, Multiturn Absolute Optical Encoder, Potentiometer or Multiturn Absolute Magnetic Encoder.

# DRAW WIRE SERIES EM10

## EXTENDIBLE CABLE MEASUREMENT SYSTEM

### TECHNICAL SPECIFICATIONS

<b>MODEL</b>	<b>EM10</b>
<b>Reference</b>	<b>90.1810 / 90.1810 FX</b>
Travel	300 mm ±0,06 / per turn
Cable*	Ø 0,61 stainless steel AISI316 (structure 19 x 7 + 0)
Measurement range, up to (mm)	10000
Maximum cable extension (mm)	10010
Minimum cable static tension	6 N - Standard
Maximum cable static tension	13 N - Standard
Maximum extension acceleration	25 m/s <sup>2</sup> - Standard
Maximum recovery acceleration	12 m/s <sup>2</sup> - Standard
Maximum speed	0,75 m/s

Protection against dust and splashes  
according to DIN EN 60529

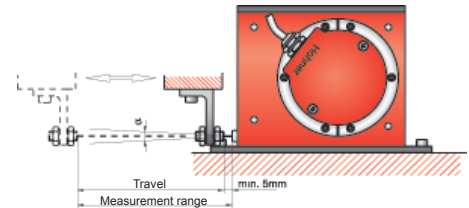
IP51

(\*) Other types of cables are possible on special order

### INSTALLATION

EM10 units are secured to a flat machine surface by means of three or four M4 screws.

The cable must be correctly aligned and under no circumstances must it exceed the measurement range.



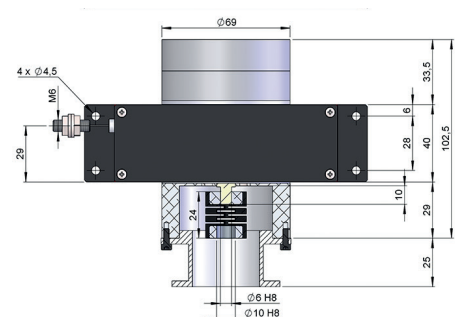
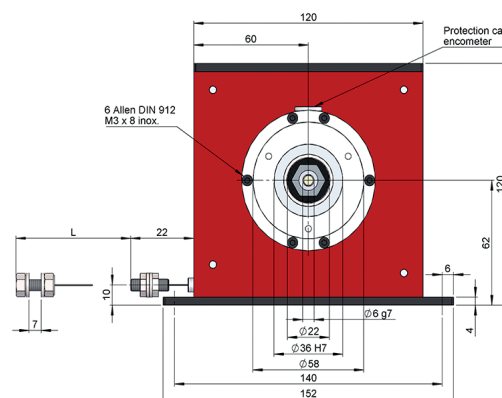
EM 90.1810:  $\alpha < 2^\circ$   
EM 90.1810 FX:  $\alpha < 45^\circ$

Special customer AW for inverted caps.

### FIXING SENSOR SYSTEM DIMENSIONS

Fixing sensor system  
type CL  
Clamping bell

Coupling type 3  
PFP 2224 06/10



### OUTPUT DEVICES

We can supply the EM10 already coupled to an electronic output device that could be an Incremental Optical Encoder, Multiturn Absolute Optical Encoder, Potentiometer or Multiturn Absolute Magnetic Encoder:

If it is required to obtain a determined resolution "r" (mm per pulse) in the case of using an absolute or incremental encoder, the number of encoder pulses (n) will be:

$$n = \frac{D}{r} \quad (D \text{ is EM10 travel in mm})$$

Using a potentiometer, an output "r" ratio (in  $\Omega$  per mm) is obtained in accordance with:

$$r = \frac{R}{D \times n} \quad (R \text{ is the rated resistance and } n \text{ is the maximum number of turns})$$

As standard, we have potentiometers of R=10K $\Omega$  and n=10 turns available in stock. It must be taken into consideration that the mechanical travel of the potentiometer may limit the EM10 measurement range.