EMS-122 designed to measure load on a polished rod of sucker rod pump (SRP unit) and its acceleration, based on dual strain gauge bridge, which changes its resistance upon the application of the load and on accelerometer that measures polished rod acceleration to provide data to calculation of polished rod position. EMS-122 has heavy duty explosive protection design for application in oil industry and is corrosion resistant

EMS-122 has a durable stainless steel adapted for the harsh environments and explosive atmospheres

EMS-122 has a classic shape and can be installed in place of obsolete sensors of other manufacturers.

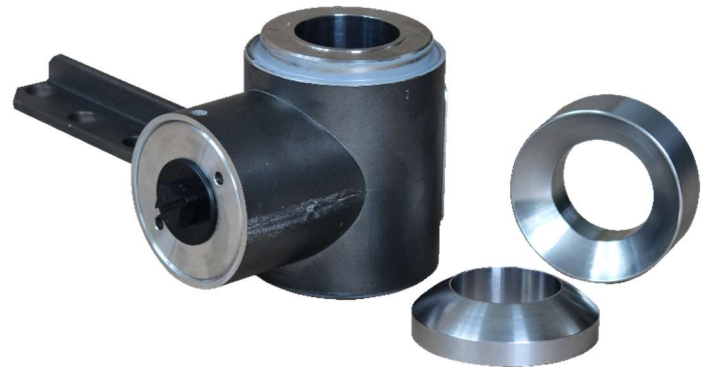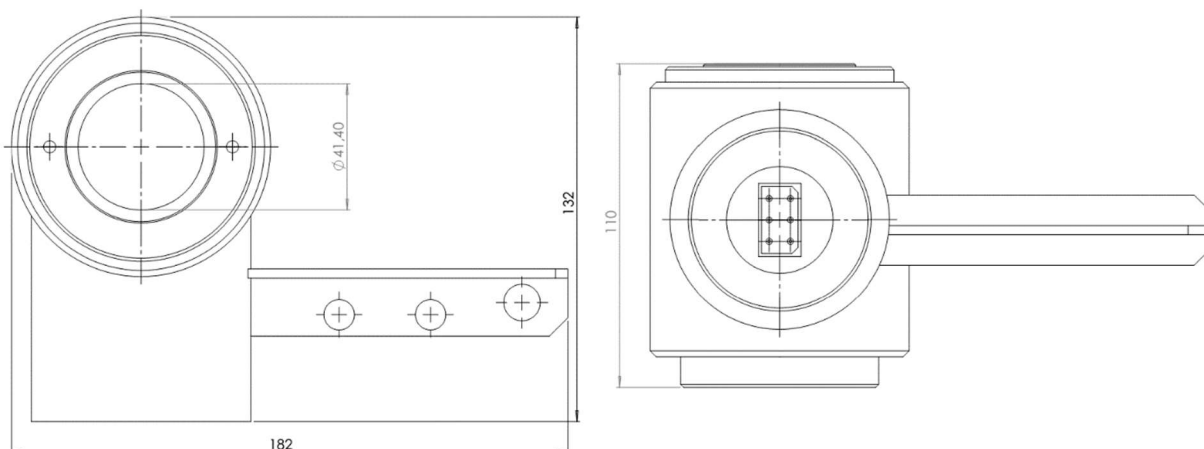Monolith design makes EMS-122 easy to install and maintain.


Fig. 1 EMS-122

Features:

•Precise measurements
•High amplitude output
•Thermal stability
•Durable monolith casing
•Explosive protection
•Standardized design
•Wide operating temperature range
•Easy to install and maintain

Fig. 2 EMS-122 dimensions in mm

Basic specifications

Operating temperature	-40°C to +60°C
Humidity	0-100%
Load range	0-133,36kN (30 000 lbs)
	0-222,4kN (50 000 lbs)
Safe overload	130% F.S.
Protection	IP65
Explosive protection	1Ex ia mb IIC T4 Gb X
Load measurement accuracy	0,5%
Position measurement accuracy	2,0%
Operating voltage	9-18V
Insulation impedance	> 5000 MΩ
Zero(load)	5 V±0,01
Zero(acceleration)	1,65 V ±0,01
Zero balance	2 % F.S.
Scale(load)	Minus 18,7 мV/кN ± 2%
Scale(acceleration)	0,22 V/g
Non-linearity, %F.S.	0.25
Hysteresis, %F.S.	0.25
Temperature effect	0.02 %F.S./°C on zero
	0.01 %F.S./°C on value
Weight	3,00 kg
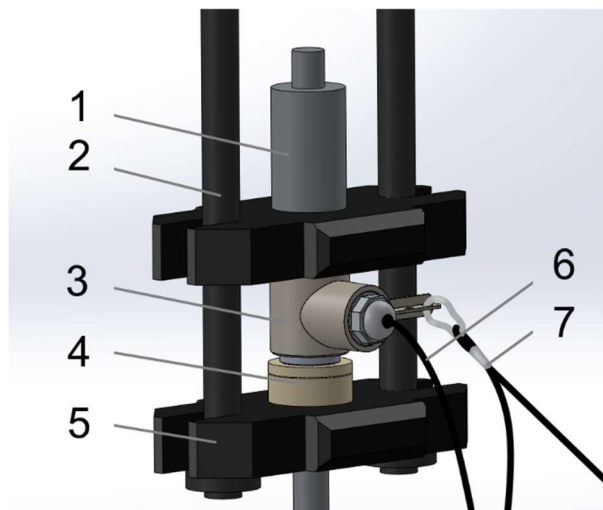
1 – collet; 2 – wireline; 3 – sensor; 4 – spherical washers; 5 – carrier bar; 6 – cable; 7 – cable fasteners.

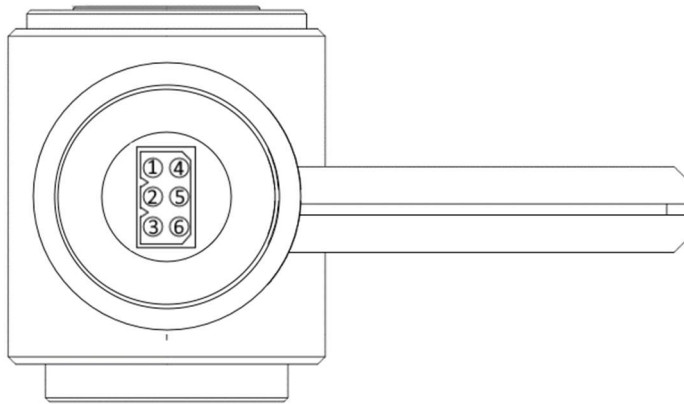Fig. 3 EMS-122 installed on polished rod

EMS-122 connector – Molex 03-09-2061

Mating connector – Molex 03-09-1063

EMS-122 connector pinout

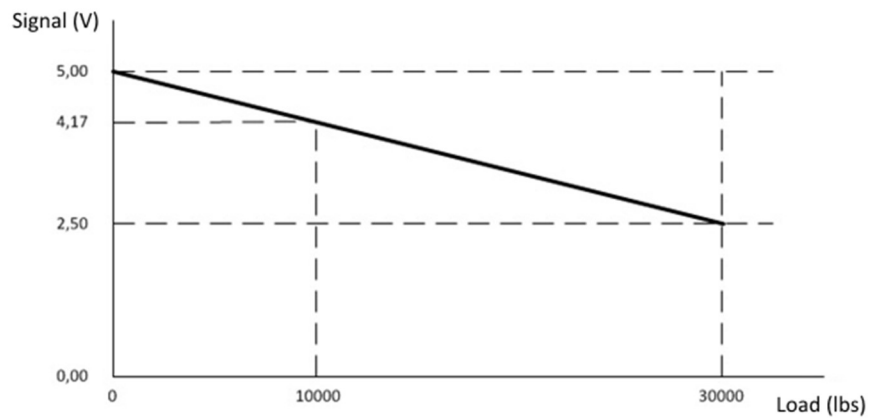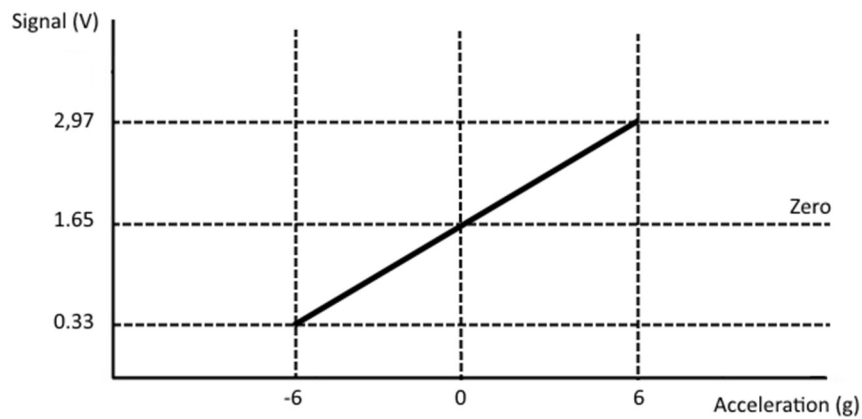| Pin	1	2	3	4	5	6
Net	9-18 V	GND signal.	Load signal	GND power	Shield	Accelerometer signal

Fig. 4 Load/signal relation

Fig. 5 Acceleration/signal relation