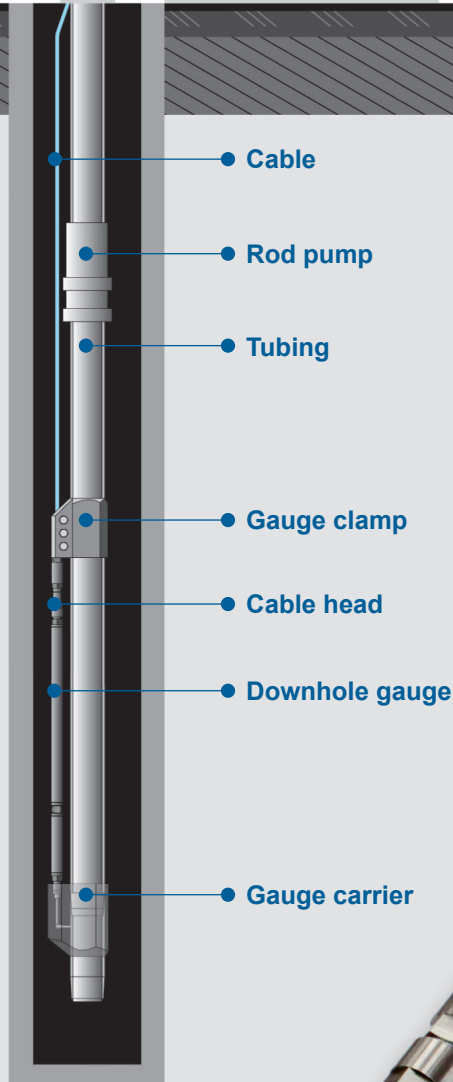
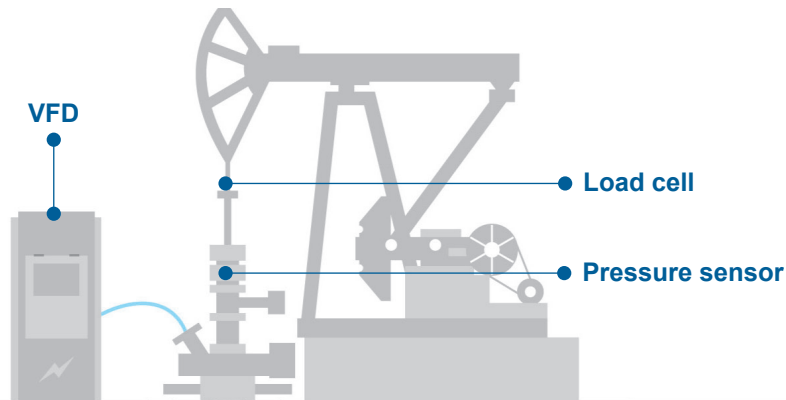


Downhole monitoring systems for rod-pumps/PCP





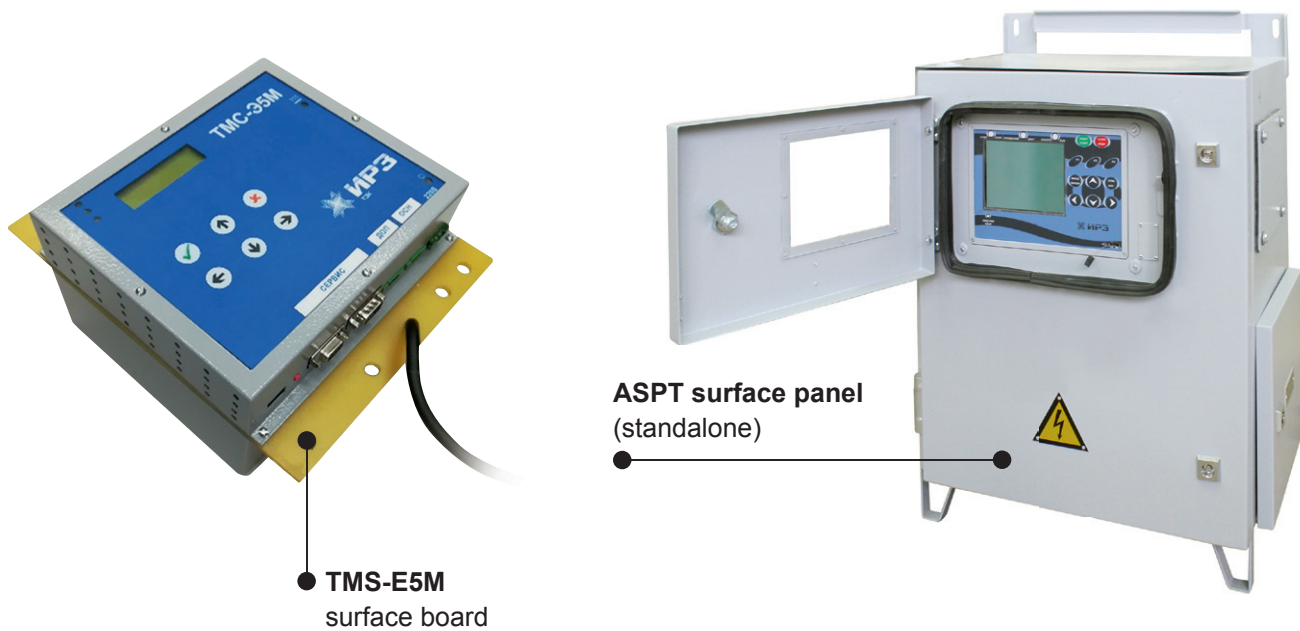
THE PERMANENT DOWNHOLE GAUGES OF IRZ are designed to monitor real-time parameters of a sucker-rod pump/ PCP system: tubing & annulus pressure, annulus temperature, and tubing X, Y, Z-axis vibrations. The product range includes standard temperature and high-temperature (quartz) gauges.

Features

- Accurate monitoring
- High data update rate
- Field proven fail-safe design and hi-rel components
- The high-accuracy quartz gauge is available for high-temperature applications 200 °C and 230 °C
- Compact sizes (ø 28 mm)
- Resistance to H₂S containing media (at request)
- Optional metal-to-metal sealing to protect against gas intake
- Wide DH pressure range up to 8700 psi
- Compatible with any drive and SCADA systems using MODBUS communication protocol

Major components

- Downhole gauge
- Surface read-out unit for installation inside a motor drive or a stand-alone surface panel
- Fixing accessories for the downhole gauge: gauge carrier & clamp
- Downhole cable (optional)
- Wellhead feedthrough (optional)



Parameter	TMS-E5M	ASPT
Supply voltage	220 V ± 20%, 50 / 60 Hz	85-285 V, 50 / 60 Hz
Interfaces	<ul style="list-style-type: none"> – 1 RS232, 1 RS485 – 1 USB-host port 	<ul style="list-style-type: none"> – 1 RS485 port and 1 universal RS232/RS485 port – 1 USB-host port – 8 analog outputs 4-20 mA and/or 0-10 V – 8 analog inputs 4-20 mA and/or 0-10 V – Ethernet and wireless (GPRS) channel for SCADA network
Enclosure	IP21	IP43, IP65 or higher (at request)
Temperatures range	-40 °C ... +85 °C	-40 ... +70 °C
Display:	monochrome	monochrome
– display sizes, in	2 line display	6" graphic display
Logging:		
– storage	1 Mb	10 MB
SW for data visualization on PC	Included in the supply package, allows data configurable visualization in the form of digits and charts	
PC direct connection	Real-time data monitoring on PC	
Pump protection	–	1 tripping relay available for pump shutdown by downhole parameters
Protocols of data exchange with VFD	Any MODBUS protocol can be implemented	
Overall sizes (WxDxH)	245 x 207 x 155	313 x 548 x 547 mm
Keyboard	included	
Menu language	English (other at request)	English (other at request)



Technical specification

Monitored parameters		Standard temperature downhole gauge	Hi-temp quartz downhole gauge
Annulus pressure	Range	0-5800 psi	0-8700 psi
	Resolution	0.15 psi / 0.01 psi	0.15 psi
	Accuracy	±0.5 % FS / ±0.1 % FS	± 0.5 % FS
	Update time	≤ 1 s	≤ 60 s
Annulus temperature	Range	0-150 °C	0-200/230 °C
	Resolution	0.01 °C	0.01 °C
	Accuracy	±2 °C / ±1.5 °C	± 2 °C
	Update time	≤ 1 s	≤ 60 s
Tubing pressure	Range	0-5800 psi	0-8700 psi
	Resolution	0.15 psi / 0.01 psi	0.15 psi
	Accuracy	±0.5 % FS / ±0.1 % FS	± 0.05 % FS
	Update time	≤ 1 s	≤ 60 s
Vibrations (X, Y, Z)	Range*	0-5 g	–
	Resolution	0.01 g	–
	Accuracy	± 5 % FS	–
	Update time	≤ 1 s	–

*40 g version is available

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