

DESCRIPTION

The EM Surface Readout Tool records pressure and temperature data using high-accuracy down hole gauges, and transmits the information to surface using Continuous Wave Electromagnetic (CWEM) signals. The receiver assembly at surface displays real time pressure, and temperature data, for immediate analysis and decision making during well testing operations. Down-link capability allows the operator to modify transmission parameters on the fly during operations without costly trip-time delays. Unlike traditional sonde based EM tools, the full bore design allows the EM SRO tools to be used in conjunction with through-tubing well servicing equipment.

APPLICATIONS

- Drill stem testing
- Perforation
- Fracking
- Well monitoring
- Stimulation

FEATURES

- Talk down capabilities
- Sleep mode for battery conservation
- Real-time down hole data analysis
- Unlimited depth range with addition of SRO repeaters
- Concentric, unobstructed full bore design
- Transmits in cased hole and open hole

SPECIFICATIONS

I 030CA

DATA INTERVAL (PRESSURE AND TEMPERATURE)	20 seconds – 5 minutes
ACCURACY (PRESSURE)*	+/- 3.2 nsi [+/- 22.063 kPa]
ACCURACY (TEMPERATURE)*	+/- 0.5 C [+/- 0.9 F]
REAL TIME DATA RESOLUTION (PRESSURE)	0.000954 psi [0.006578 kPa]
REAL TIME DATA RESOLUTION (TEMPERATURE)	0.244 C [0.439 F]
REPEATABILITY (PRESSURE)	< 1.6 psi [< 11.032 kPa]
REPEATABILITY (TEMPERATURE)	< 0.01 C [< 0.018 F]
DRIFT (PRESSURE)	< 3.2 psi/year [< 22.063 kPa]
DRIFT (TEMPERATURE)	< 0.1 C/year [< 0.18 F/year]
MAX O.D. in [mm]	5.5 [140]
MIN I.D. in [mm]	2.25 [57]
LENGTH in [m]	120.06 [3.05]
WEIGHT lb [kg]	345 [156]
MAX TEMPERATURE degF [degC]	300 [150]
PRESSURE ABSOLUTE psi [kPa]	15,000 [103,421]
PRESSURE DIFFERENTIAL (annulus/tubing) psi [kPa]	15,000 [103,421]
OPERATING LOAD lbf [kN]	300,000 [1,334]
CARRIER FREQUENCY hz	2 - 12
BIT RATE bps	2 - 12
TENSILE STRENGTH lbf [kN]	600,000 [2,670]
RANGE (DEPTH) m [ft]	3000 [9,800]
BATTERY LIFE (OPERATION) days	2 - 10
CONNECTION UP	API or premium connections available
SERVICE	Standard and sour service above 175 degF as per NACE MR 0175:2003



* Accuracy specifications include the combined effects of repeatability, hysteresis and corrected linearity over the calibrated temperature range.

* These specifications are guidelines only. Refer to the equipment technical manual, or contact Northstar for more information.