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## ***REAM.CT***

### **Real Time Electronic Acquisition & Monitoring & Human Machine Interface for Coiled Tubing**

MEDCO's REAM HMI system is a user-friendly data acquisition system that reads data from electronic sensors and displays the data on a TFT touch screen, which acts as both an input and an output device. The system records the data on solid state SD memory card as well as USB and allows remote monitoring of the data.

Available in several designs to suit individual needs ranging from portable Flight Case, Stainless Steel Enclosure to an optional Ex Certified system.

The system is made of two main parts, REAM is a microprocessor based data acquisition board, which collects data from electronic sensors, digitise the readings, and supply the appropriate power to the sensors. The HMI communicates with the REAM board to retrieve, display, and store the data.

REAM has analogue, counters (frequency), and quadrature channels. The analogue channels accept signals from sensors with 0-5 vdc, 0-10 vdc, or 4-20 mA output. The frequency channels accept pulse signals produced by proximity switches, magnetic pickups, or quadrature signals. The quadrature signals are up/down counter, used for such measurements as a depth.

In addition to the REAM board, the HMI can communicate with many other devices such as Medco's Tubing Ovality Monitor (TOM), NuFlo MC-III Flow Analyser, and control devices such as Medco's Emergency Warning & Stop Module (EWSM).

The outputs are available on Web pages, they can be viewed remotely on a Local Area Network (LAN) or even a Wide Area Network (WAN), provided that proper Internet connections are available. There are many other features in the HMI and these can be tailored to client's request.

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**Portable Configuration (FLIGHT CASE II)**



**Specifications**

Power requirement: 10-36 vdc, max. of 36 Watts. Supplied with AC/DC converter 95 to 260 VAC.  
 Operating temperature: -20 to 70 deg C (except HMI).  
Channels  
 Available Parameters: Depth, Tubing Speed, Weight, Circulation Pressure, Wellhead Pressure, Casing Pressure, Flow Rate, N<sub>2</sub> Rate, Fluid Total, N<sub>2</sub> Total.  
 Analogue In channels: Standard 8 (16bit) 4-20 mA/0-10v. *Expandable to any multiples of 8.*  
 Frequency In channels: Standard 6 (4 of which could be Quadrature). *Expandable to any multiples of 6.*  
 Analogue Output: Optional. Any number of Analogue (16 bit/4-20mA) via added loop splitters.  
 Digital Output: Optional. Binary (on/off) relay.  
 HMI: 9" colour touch screen Human Machine Interface. Temperature rating -20 to 60 deg C (also available in 7" and 10" HMI)  
 Dimensions: 430x290x155mm  
 Weight: 8 Kgs

**Fixed Configuration (Stainless Steel enclosure)**



(Examples Only. Layout and channels may be customised to customer requirements)

**Specifications**

Power requirement: 10-36 vdc, max. of 36 Watts. Supplied with AC/DC converter 95 to 260 VAC.  
 Operating temperature: -20 to 70 deg C (except HMI).  
Channels  
 Available Parameters: Depth, Tubing Speed, Weight, Circulation Pressure, Wellhead Pressure, Casing Pressure, Flow Rate, N<sub>2</sub> Rate, Fluid Total, N<sub>2</sub> Total.  
 Analogue In channels: Standard 8 (16bit) 4-20 mA/0-10v. *Expandable to any multiples of 8.*  
 Frequency In channels: Standard 6 (4 of which could be Quadrature). *Expandable to any multiples of 6.*  
 Analogue Output: Optional. Any number of Analogue (16 bit/4-20mA) via added loop splitters.  
 Digital Output: Optional. Binary (on/off) relay.  
 HMI: Recommended 9" colour touch screen Human Machine Interface. Temperature rating -20 to 60 deg C (also available in in 7" up to 15")  
 Dimensions: 300mm (H) x 200mm (W) x 150mm (D) 1.2mm gauge brushed 316 stainless steel  
 2mm zintec mounting plate