

EDGE DATA TRANSMISSION

High Speed Comms for a long life ESP



TECHNICAL DATA SHEET

REMOTE TERMINAL UNIT

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Data Monitoring and Transmission



All Edge downhole monitoring systems have 32Gb of memory built into the surface readout panel for local data storage that can be download to a USB stick. The surface panel also has the capability to communicate with existing data gathering systems via modbus RTU protocol or via wifi, ethernet etc. The versatile hardware and software design enable the panel to act as the well-site bi-directional data control hub c/w Remote Terminal Unit (RTU) capabilities.

The low power Remote Terminal Unit (RTU) can be mounted inside the surface readout panel or in a separate IP65 enclosure with a local LCD display for operator use. The RTU communicates with the Edge surface panel to receive data from the downhole sensor and also connects with third party surface pressure, temperature, H2S, flowrate, fluid level sensors either by wireless or hardwire. The data is placed into one-time stamp and transmitted to any location via satellite, GSM or similar.

The comprehensive data gathering system is backed by a third-party data analytics software package capable of providing the operator and pump company with detailed well analysis which can be used to validate critical well parameters such as Flow, Pump Efficiency, Water Cut and Pressure at the wellface.



Communications including satellite, GSM, LAN ...etc

Typical well Site data transmission to customer office setup

Edge RTU



The Edge Remote Terminal Unit (RTU) specification is highlighted in the table below, the design is flexible and can be altered to meet specific project requirements.

Parameter	Specification
Supported Communications Protocols	Serial (incl. MODBUS RTU/ASCII).
	Analog, Wireless RF.
	TCP/IP, FTP.
Supported communications ports	Up to 16 x USB/ DB9.
	Up to 5 x RJ45 Ethernet.
	Up to 3 x SMA/ NF antenna ports
Supported connections	RS-485/232/422 over TCP/IP (HOST/SLAVE).
	0-5v, configurable
	0-10v, configurable
	4-20mA configurable
An alla mus la must Dana na	0 - 9dbm antennas
Analogue Input Range	(0-5Vdc) (4-20mA) configurable
Analogue Output Range	(U-5VdC) (4-20MA) configurable
Port Settings	Baud rate: 50-921600, Data bits: 7, 8, stop bits: 1, 1.5,
Eleve Constral	2, parity: None, Even, Odd, Space, Mark
Flow Control	DTR/DSR.
Number of slave devices	1 – 16
Number of master devices	5
Max number of registers	250 in 250 out (500 and 750 available on request)
Max number of tags	250 (500 and 750 available on request)
Preconfigured slave devices	VSD's DHG's Generators UPS and Wireless gauges
Config. Interface & management	Edge utility. HTTP. Telnet. DHCP.SMTP.
Display (Optional)	Permanent 7"/ 8" or portable 7" capacitive touch (on
	request)
Data storage	32GB standard, up 256GB available on request
	Data buffering - 96 hours with time stamp
Enclosure	IP20/IP6X, 250mmx250mmx100mm, 3KG, available in
	Reinforced Polyester/ Stainless steel/ ATEX rated -
	other enclosure ratings are available.
Power rating	5 – 48Vdc, 2.5W
Temperature – operating rating	70C (85C storage)
Humidity	up to 95% none-condensing

Edge Surface Sensors



The Edge typical surface sensors are third party supplied, the design, rating, ranges etc. can vary to meet various applications. Examples of the sensors are highlighted below:



Wireless Pressure Transducer provides pressure monitoring range from 0 to +400Bar with a 750m line of site. The transmission rate is user selectable where a 5-year battery life at 10 second transmission rate is achievable. The piezo-resistive transducer is mounted in a 316 stainless housing for harsh environment applications. *Available in hardwire.*



Wireless Temperature Transducer provides temperature monitoring from -200C to 800C with a 750m line of site. The transmission rate is user selectable where a 5-year battery life at 10 second transmission rate is achievable. The RTD transducer mounted in a stainless housing for harsh environment applications. *Available in hardwire*.



Wireless/ Hardwire H2S sensor provides Hydrogen Sulphide (H2S) monitoring from 0-100ppm with a poison resistant catalytic bead. Typical operating life is 2 to 5 years depending on application and device chosen. The sensors are only available in ATEX certification and IP65/67 for use in harsh environments.



Wireless/ Hardwire Methane gas sensor provides methane gas monitoring from 0-100%LEL. Typical operating life is 2 to 5 years depending on application and device chosen. The sensors are only available in ATEX certification and IP65/67 for use in harsh environments.



The magnetic flowmeter is ideal for oil and gas pipeline with a maximum flowrate range of 0 – 37,500 barrels per day. Stainless Steel 316L housing is provided as standard other materials are available in request. Explosion proof and Special protection for Class I, Division 1, Groups A, B, C applications.





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