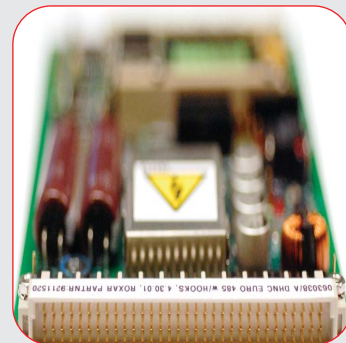


Roxar Downhole Network Controller card

The DHNC card

Data Sheet



Roxar Downhole Network Controller card

The IWIS compliant Downhole Network Controller (DHNC) card is Roxar's third generation electronic control unit for downhole instrumentation. Containing an embedded PC, the card's main function is to provide an electrical and communication interface between the downhole instrumentation, such as permanent pressure and temperature gauges, and topside or subsea based field infrastructure.

The DHNC unit is either mounted in a Surface Acquisition Unit topside or in a pod (SEM/SCM) in a subsea wellhead unit or in a Roxar Downhole Interface Unit (DIU).

The DHNC provides electrical power and two-way communication to downhole instrumentation using Tubing Encapsulated Cable.

The DHNC unit is connected to the appropriate field infrastructure from where it receives electrical power and exchanges information through field operator and third party communication systems. The DHNC unit is designed to support Roxar's Intelligent Downhole Network (IDN) by taking the role as the main power and communication hub and as such interface with operator and third party field infrastructure.

Mechanical/Environment

Single printed circuit:

- 100 mm x 160 mm x 17 mm (3U Eurocard)
- Card mass: 200 g
- 96 pin EURO connector
- Operating temperature -18°C to 70°C

Electrical

- 8 W nominal input power
- 24 W maximum input power
- 20-28 VDC input voltage
- Programmable overvoltage/overcurrent protection

Communication Interfaces

- RS422
- 10 Mbit Ethernet
- RS485 (optional)

Communication Protocols

- Modbus TCP
- Modbus RTU
- FTP
- PPP
- IEC 870-5-1 (for legacy installations)

Standards

- IEC 61000-6-2
- IEC 61000-6-4
- ISO 13628-6 - Part 6
- ANSI 1014-1987 Section 7 and E.1.1.2
- Euro Card form factor spec

Downhole Interfaces

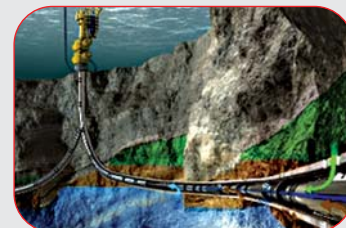
Roxar downhole HS gauge (IDN):

- Current controlled mode
- 32 nodes in downhole network
- 57,6 kbit/s downhole communication rate
- 16 000 m well depth
- Scan rate 100 ms per gauge

Roxar downhole HM gauge:

- Voltage controlled mode
- 8 HM gauges in downhole network
- 10 000 m well depth
- 300 bit/s downhole communication rate
- Scan rate 1 second per gauge

Roxar DHNC card Downhole Network Controller



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