

FIC NG

Next-generation frequency-shift-keying interface card

APPLICATIONS

- Power and data acquisition for all frequency-shift-keying (FSK) gauges belonging to the family of WellWatcher* permanent monitoring systems

BENEFITS

- Reduced or eliminated data loss, and thus downtime, in the event of power failure, because of data time-stamping
- Reduced overall project costs and design time through use of more-modular equipment

FEATURES

- Accurate, reliable data acquisition
- Remote current and voltage adjustments
- Remote cable disconnection
- Sensor calibration coefficient storage
- Voltage and current diagnostics
- Upgradable firmware
- Built-in gauge simulator for troubleshooting
- Point-to-point protocol for communications

The FIC NG FSK interface card provides communication and power for all FSK gauges belonging to the family of WellWatcher permanent monitoring systems.

By measuring and transmitting diagnostic parameters, the FIC NG can verify the integrity of the client data link and the downhole signal path. It can validate the digital electronics and card-to-client communication channels, as well as its own capacity to power the downhole gauges, by performing cable current and voltage measurements.

Operation

An onboard clock time-stamps data at the card. In the event of an unexpected interruption in power, no data are lost as a result of an incorrect time reference. In addition, the card outputs time-stamped pressure and temperature data in engineering units directly to the client master control system. This feature further reduces possible sources of data error by minimizing software interfaces, resulting in more reliable data at the delivery point.

The FIC NG also stores the sensor calibration coefficients, eliminating the possibility of data error caused by mistakes in coefficient entry.

Flexibility

The FIC NG complies with stringent mechanical, electrical, communications, and testing standards. At the same time, it allows firmware to be upgraded easily, meaning that even after deployment and commissioning, changes to the card's operation can be made with ease. Future enhancements and optimizations require only a quick upload of the latest firmware via the same communication port used for gathering the well data.



The FIC NG supports all FSK gauges used with WellWatcher permanent monitoring systems.

FIC NG

FIC NG Specifications

Gauge interface

Number of channels	One
Max. number of gauges [†]	8 (must not exceed max. output power of card)
Gauge types supported	All Schlumberger FSK gauges, including PQG, DPG, NxQG, XPQG
Input signal voltage	70 mV to 3 V rms
Max. output current, power	150 mA, 8.25 W
Cable voltage status	Short-circuit and open-line detection

Communication with Client Infrastructure

Transmission channel	RS-422 four-wire isolated (ISO 13628-6 standard)
Protocol	Point-to-point protocol/IP V4/TCP; Modbus [®] /TCP
Baud rate	4,800; 9,600; 19,200; 38,400; 57,600 bps (user configurable)

Mechanical

Dimensions	100 × 160 mm (100 × 175.8 mm including connector); single slot/Eurocard
Connector pin out	96-pin DIN 41612 (ISO 13628-6 standard)

Power

Input voltage	18–28 V DC
Max. power consumption	24 W (ISO 13628-6 standard)

Environmental

Operating temperature	–40 to 70 degC [–40 to 158 degF]
Storage temperature	–40 to 85 degC [–40 to 185 degF]
Environmental qualification	ISO 13628-6 standard

[†] Certain gauges may not be compatible with a multiple-gauge configuration.

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