roxar
MAXIMUM RESERVOIR PERFORMANCE

Roxar Pig detector

Acoustic Sensor

The Roxar Pig detector is an intelligent device that utilizes the acoustic energy, generated by travelling pigs, to calculate pig passed signals in oil, gas or multiphase pipeline flow. It is a non intrusive design that provides easy installation, minimal maintenance and modbus or analogue interface.
It is a true stand alone system.

Features & advantages

- Non intrusive
- High sensitivity
- Bi-directional
- All data stored in the flash memory
- Local status display (LED)
- All data processed internally
- Compact and easy to install
- Suitable for all pipe sizes
- Capable of detecting even the quietest pigs at very low velocities
- Available with local and/or remote indication in zone 0
- Based on the same passive acoustics technology as the Roxar Sand monitor
- Accurate real-time detector
- Easy interface to control-systems
- No need for external computer

The intrinsically safe detector is clamped onto the outside of any part of the production pipe work.

Applications

The system provides the operator with the accurate time at which a pig passes a given point, and also indicates the amount of pipeline debris pushed ahead by a cleaning pig.

Installation

The non-intrusive detector is installed by simply clamping it on to the production pipe work. The safety barrier and the calculation and interface unit (CIU) are snapped onto a DIN rail in any indoor, safe area. A standard, twisted-pair cable connects the detector to the CIU in safe area. Each detector channel has its own slave address set in the CIU.

Specifications

System performance and characteristics

Roxar Pig detector

Pipe dimensions:	Minimum 2 in.
Type of pig:	all

Mechanical and electrical components

Detector unit

Power consumption:	Maximum 0.6W
Supply voltage:	11-18 V (supplied with 24 V DC via Safety barrier)
Hazardous area classification:	EEx ia
Location:	Hazardous area, Zone 0, 1 or 2
Pipe surface temperature range:	-40 to + 115°C (or higher with high-temperature fixture)
Ambient temperature range:	-40 to +80°C
Dimensions:	88 (OD) x 100 mm
Weight:	3.0 kg
Ingress protection:	IP 67
Installation:	Clamped onto pipe
Material:	Stainless steel 316
Communication:	Proprietary serial SW protocol overlain on power cable

Calculation & interface Unit (CIU)

Power consumption:	2 W (including sensor and safety barrier)
Supply voltage:	24 V DC
Weight:	0.2 kg
Dimensions:	23 + 6 x 99 x 113 mm (WxLxH)
Output signal:	
Process bus:	Two-wire RS485 Modbus RTU, user-selectable baud rate Up to 32 units connected to the same bus
Service bus:	Two-wire RS485, or three-wire RS232 Modbus RTU, baud rate configurable Up to 32 units connected to the same bus (Individual connection if RS232 is used)
Communication:	Serial MODBUS and analogueoptions available
Pig indication:	Configurable normally open/ normally closed (local light indicator available)
Data storage:	Data and configuration parameters are stored in flash memory. Data storage is for up to 90 days with 10-sec. averaging (configurable) or more if required. Upload via modbus links.
Location:	Safe area
Installation:	DIN-rail mountable

Software

Service Software

Features:	CIU configuration Data logging and retrieval
System requirements:	Windows 95/98/NT/XP 64 MB memory

Server/Client Software

Features:	System configuration and data logging Remote administration
System requirements:	Windows or Windows 2000 Pentium 4 or similar CPU 512 MB memory 60 GB hard disk capacity

Safety barrier

Type:	MTL 7087+
Hazardous area classification:	EEx ia IIC
Weight:	0.1 kg
Dimensions:	7 x 100 x 100 mm (WxLxH)
Location:	Safe area
Installation:	DIN-rail mountable

Power supply (optional)

Input voltage:	100-240 V AC, 50/60 Hz
Output voltage:	24 V DC
Location:	Safe area
Installation:	DIN-rail mountable

Field cables (between detectors and safety barrier/CIU unit)

Type of cable:	Screened twisted pair (common pair for power and signal) Cable cross section: 0.75 mm^2
Maximum cable length:	Approximately 1000 to 1500 m (depending on cable L/R ratio)

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