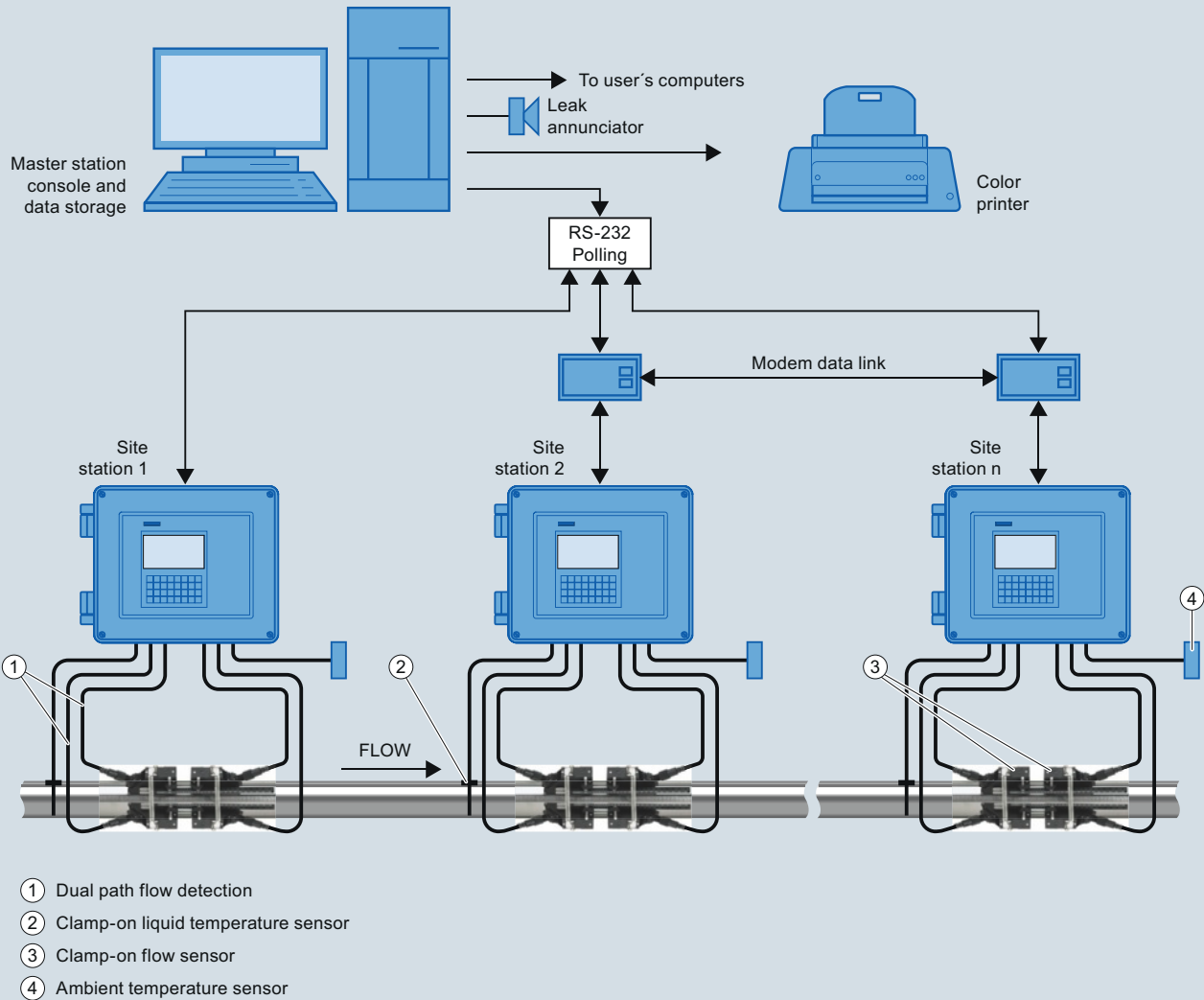


Flow Measurement

SITRANS F US Clamp-on

FUS-LDS Leak Detection System

Overview



The FUS-LDS Leak Detection System offers a complete software and hardware solution for liquid pipelines. The FUS-LDS uses clamp-on ultrasonic flow meters, identified as site stations, installed directly on the pipeline. The software monitors all site stations in order to assist the operator with a quick and reliable system that detects and localizes the leakages in the pipeline.

FUS-LDS does not require continuous operator attention, because the alarm thresholds are preset and alert the operator when attention is needed. The system also has the ability to detect very small leaks by allowing the operator to utilize "visual trending." A fully optimized system eliminates the occurrence of false alarms.

FUS-LDS lives up to the requirements of pipeline companies while ultimately satisfying one major goal: providing users and the community with peace of mind.

Benefits

- Complete software and hardware solution offering the system user a single supplier responsibility
- Real-time detection of small and large unauthorized product releases for both dynamic and static flow conditions as well as protection against product theft
- Easy-to-understand Graphic User Interface (GUI) to allow for simple training for the operator and operational awareness without constant monitoring.
- Easy accessible pipeline performance data, which allows for multiproduct identification, batch tracking and pig tracking
- Segment feature allows user to highlight specific flowmeter or line segment to gain real-time information via software pop-up screens
- Meets API 1130 "Computational Pipeline Monitoring for Liquid Pipelines" and PHMSA 195.444 CPM Leak Detection regulatory requirements for safety, helping to protect the environment and limit contamination issues

Flow Measurement

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Application

Minimizes external pipeline damage (from explosions, corrosion, third-party intrusions, etc.)

- Monitors for product theft
- Protects against contamination and other environmental issues
- Fits numerous pipe sizes (25 mm to 1.52 m (1" to 60"))
- Available in various enclosure types: standard IP65 (NEMA 4X), hazardous area compact IP65 (NEMA 7), and hazardous area wall mount IP66 (NEMA 7)
- Available with FM, CSA, ATEX, C-Tick and INMETRO approvals

Design

SITRANS FUH1010 and SITRANS FUS1010 flowmeters for leak detection are available in two configurations:

- IP65 (NEMA 4X) wall mount enclosure constructed of fiber-glass reinforced polyester with stainless steel hardware and polyester keypad
 - Single channel
 - Dual channel/dual path
 - Four channel (optional)
- IP65 (NEMA 7) compact explosionproof enclosure constructed of cast aluminum with glass window, stainless steel hardware
 - Single channel
 - Dual channel/dual path
- IP66 (NEMA 7) wall mount explosionproof enclosure constructed of cast aluminum, stainless steel hardware, with glass window
 - Single channel
 - Dual channel/dual path
 - Four channel (optional)

Minimum Computer Requirements

(may be different depending on commercial availability)

Monitor	19" flat screen
CPU	Intel Pentium IV
Clock speed	3.0 GHz
Cache	512 KB
Chassis	Desktop/Rack mount
RAM	512 MB
Hard drive	60.0 GB
Optical storage	8X DVD-ROM/CD-RW Drive
USB ports	4 total (2 front/2 back)
Serial ports	2 DB-9 ports as COM1 and COM2
Operating system	Microsoft Windows XP Professional
Keyboard	USB Standard keyboard
Mouse	USB optical 2-button scroll mouse
AC power cable	152.4 mm (5 ft) minimum length
Network	Internal RJ45
Modem	Internal 56K V.92 Modem
Audio	Capable

Special requests available on demand.

For additional information contact your Regional Business Developer.

Function

- Master Station Console – Receives all site station data sequentially once per minute. Site stations communicate their digital data via a communication network. The master station processes this data and updates all outputs every minute. These include alarms, graphic and numerical data screens, and both digital and analog data outputs
- Site Stations – Clamp-on ultrasonic flowmeters and RTD temperature sensors are installed on the process pipe. The flowmeter measures and computes the following data: standard volumetric flow rate, liquid temperature, sonic velocity and meter diagnostics including empty pipe detection, signal strength and aeration content
- Flexible Data Communications – Data communication from remote site stations to master station can be accomplished by multiple methods, including hard wired (point-to-point), hard wire with short-haul modems, leased-line telephone, cellular phone, wireless radio, Ethernet, Fiber Optic and satellite, etc.
- Advanced GUI Software creates new possibilities for the process visualization, as well as offering capabilities to link to SCADA systems.
- Operators can be trained on the FUS-LDS Leak Detection System in a very short period of time, which is vital for pipeline transportation companies in today's heavily regulated environment.
- Alarms – Automatic application condition (AppConn) technology provides adaptive alarm threshold parameters enabling maximum system resolution and sensitivity