



Intrinsically safe device
Ex ia certified for use in Zone 0



Extended temperature range
-40°C to +85°C



Measures fluids and gasses



XS: WIRELESS SENSOR FOR FLUID AND GAS PRESSURE MEASUREMENT

XS is an intrinsically safe, Ex certified device, with “ia” level of protection, suitable for Zone 0 applications. It is a battery-powered device and no cables or connectors are required for data transfer to a HUB gateway. It is designed to monitor pressure and temperature levels in potentially explosive areas. XS is used in Water, Oil and Gas production, transport, distribution and storage.

GENERAL DESCRIPTION

The XS device is designed to measure absolute or relative pressure in explosive areas and certified to Ex ia standards. It is available in standard configurations of Full Scale at 0.1bar (10kPa), 1bar (100kPa), 10bar (1MPa) or 100bar (10MPa). Other configurations are available on request. XS is managed by a low power 16-bit microcontroller that can run for several years on a single battery. The pressure measurement is integrated with a numerical linearization stage over 256 points, based on the temperature reading at the time of measurement. The result is an extremely precise output value over the whole operating temperature range. XS is also a datalogger, with a double statistical log, calculated per full day and per quarter hour. Every statistical sample is recorded as MIN, AVG, MAX and DEV, plus number and duration of out of range alarms. Samples are taken every minute. A group of XS sensors connected to a HUB gateway will create a complete wireless multi-point pressure monitoring system. Each XS sensor will send its log and alarms to the HUB gateway, that in turn will relay them to the datacenter.

APPLICATIONS AND BENEFITS

XS devices are commonly installed in gas distribution networks. They are used in a range of situations, from complex filtering and heating stations, to pressure reduction stations, to simple network end point sites. XS is also used for liquid level measurements, inferred from hydrostatic head pressure, and monitoring the pressure of technical gasses used in healthcare (Nitrogen, Oxygen), food industry (Nitrogen, Carbon Dioxide) and manufacturing. The major benefits of the XS device are: reduced installation time, zero calibration time and no technical specialization required of installers.

PRODUCT CODES

Product family	Absolute/Relative	Range	Thread
XS-RF- (sensor family name)	PA- (Absolute Pressure)	0.1- (FS 100mbar)	1/4GAS (BSPP)
		1- (FS 1bar)	
	PR- (Relative Pressure)	10- (FS 10 bar)	1/4NPT
		100- (FS100bar)	

Example: XS-RF-PR-0.1-1/4GAS is the product code to order a relative pressure sensor with a Full Scale of 100mbar and 1/4" BSPP thread

MEASUREMENT PARAMETERS

Accuracy of pressure measurement	0.1% FS
Resolution of pressure measurement	< 0.05% FS
Annual drift due to aging	< 0.1% FS
Max overpressure	3 x FS
Temperature range	-40°C / +85°C
Accuracy of temperature measurement	< 1°C
Resolution of temperature measurement	< 0.5 °C

COMUNICATION INTERFACES

Wireless local radio	FSK 868MHz @ 16kbps
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SAMPLING, STORAGE AND TRANSMISSION

Sampling interval	1 minute
Recording interval	15 minutes
Logging memory capacity	> 2 days (quarter hour period)
Logging memory capacity	> 200 days (daily period)
Transmission interval (standard)	Daily or Real Time in case of alarm
Alarm delay MAX	2 minutes

BATTERY LIFE

Sampling every minute and 4 transmissions per day	> 4 years
Sampling every minute and one transmission per day	> 10 years

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Power supply	Internal lithium battery supply, 3.0V 225mAh
Minimum IP rating	IP6X (PR models) / IP64 (PA models)
Size	78mm x D 29mm
Operating temperature	-40°C / +85°C
Temperature class	T4 (Tamb=-40°C / +85°C) – T6 (Tamb=-20°C / +40°C)
Storage temperature	-55°C / +85°C
CE Type Certification	II 1G Ex ia IIC T4/T6 - II 1D Ex ta IIIC T135° Da IP6X or IP64
ATEX classification	Intrinsically safe equipment (94/9/CE)
Weight	200g
Materials	INOX AISI 303
Structural overpressure MAX	> 600 bar
Thread	1/4" M BSP or 1/4" NPT

NEUTEL

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