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MINICRIO

Remote monitoring system for Industrial cryogenic tanks

Ambra Sistemi, operating for over 20 years in the branch of cryogenic gas production and distribution, presents ***MiniCRIO***: the inexpensive telemetric system for industrial cryogenic tanks.

MiniCRIO communicates by a GSM phone network, using the short messages service (SMS).
Level and pressure measurements are performed by AMBRA's DRT transducer, integrated in the equipment, or by external 4/20mA transducers.

Power is provided by an external 24 Vdc power supply or by optional solar cells; housing with protection proof IP65 and standard mounting facilities allow installing ***MiniCRIO*** onboard of the cryogenic tanks.

To ensure low power consumption, required for operations with solar cells, ***MiniCRIO*** prevalently remains in sleep-mode and periodically wakes up, operating for a short time.
Sleep period is programmable by the user from 1 to 24 hours; the minimum step is 1 hour.
Standard functions are:

- *Level and pressure acquisition;*
- *Transmission of periodic updating messages about level and pressure to the mainframe unit;*
- *Transmission of low-level and low and high pressure alarm messages to the mainframe unit;*
- *Reply to enquiry messages (SMS) about status, sent by users from their mobile phones.*

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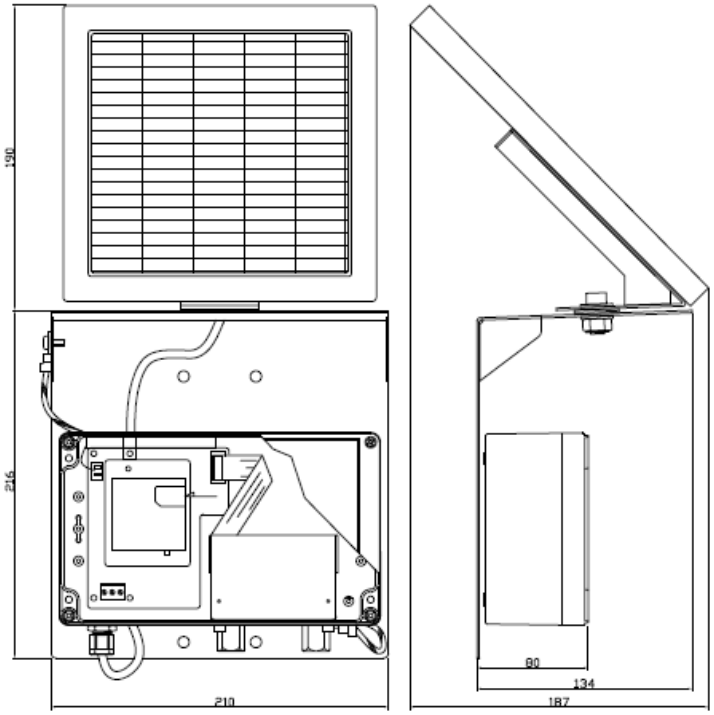
www.ambrasistemi.it

A pushbutton on front panel allows switching immediately ***MiniCRIO*** into the operative status, without waiting for the next periodical wakeup.



DRT is a combined strength-gauge transducer integrated in the unit and patented by ***AMBRA Sistemi***, which measures differential and relative pressures at gaseous phase at the same time.

Sending a SMS by a mobile phone to the unit is possible to get the ***MiniCRIO*** status, including level, pressure and possible alarm in progress.

This device, especially developed for cryogenic tanks under pressure, provides high performances regarding accuracy, endurance to mechanical bursts, reliability, compatibility, small size and low costs, if compared with whichever different solution available on the market.

Software application ***CRIOSYSTEM Supervisor*** allows monitoring ***MiniCRIO*** units by a server and a GSM modem, providing daily information about cryogenic storages, real time alarm messages and databases. Concerning databases, different alphanumerical and graphical data processing are available, like minimum stock table, consumption diagram and histogram with alarm statistics.

CRIOSYSTEM Supervisor is a web platform and can be consulted by all standard browsers by authorized user accesses.

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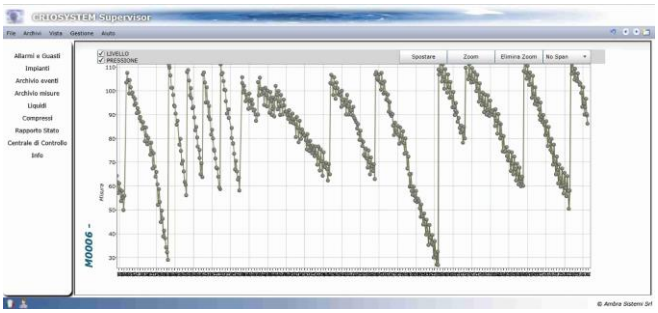

Technical Characteristics:

Relative pressure transducer

Range	0 - 20 bar (0 - 50 bar optional)
Resolution	100 mbar
Combined error (0...50 °C)	< ± 0.2 bar
Maximum overpressure	35 bar (65 bar for 0 - 50 bar transducer)

Differential pressure transducer

Range	Programmable (2 bar max full scale)
Resolution	Dependent on the programmed range
Combined error (0...50 °C)	< ± 2% of full scale with range 150 mbar
Maximum overpressure	Limited by protection devices integrated in the cell

Input 4…20mA

Power supply	12 Vcc nominal, non stabilized
Required setup time	2 seconds from power-on to reading

Solar cell power supply

Voltage	7-24Vcc ±5% at 100mA max
Current	0,3 A max
Battery	3,7V 1,8Ah Li-ion

Operating period Programmable from 1 to 24 hours, min. step 1 hour

Proof degree IP 65

Communication SMS by GSM phone network

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