

# Cargo Tank Measuring System



### ADVANTAGES

- Stand alone microprocessor based transmitter
- Dedicated algorithms
- Still pipe or free space mode
- Integrated temperature and pressure measurements
- Approved by major classification societies

### FEATURES

- Automatic antenna fouling detection
- Automatic radar self-test during power up
- Materials : 316Housing / Teflon radome
- Ø200 flat antenna type

### GENERAL

The 8" EM540 radar is especially designed be integrated cargo monitoring system for inland river or ocean going vessels and tank barge. The EM540 radar is based on the utilisation of smart sensors, including microprocessors performing signal processing and offer, in addition to transmitting tank level, pressure, and temperature data to the central monitoring system, capabilities such as self-diagnostics, self-monitoring and remote configuring.

These capabilities allow for predictive maintenance owing to the

continuous tracking of performance drift. The radar measurement head features a very compact design due to its wide band printed circuit planar antenna. Finally, the use of an intrinsically safe two-way digital signal transmission, between the radar and the central monitoring system, provides for a ready integration of EM540 radar to any type of control system.

### TECHNICAL DATA

- Accuracy : +/-1mm
- Protocol : Modbus(RTU)
- Operating temperature : -35 °C to +70 °C
- Storage temperature : -40 °C to +85 °C
- Range : -0.6 to +40n

- Intrinsic safety approval : II 1/2G EEx ia II B T4
- Protection class : IP66/67
- Antenna aperture angle : 13°
- FMCW-10GHz Radar

### INERT GAS PRESSURE TRANSMITTER T901-P 01TA



### DESCRIPTION

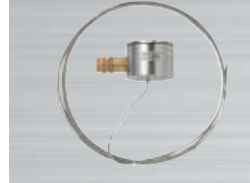
The pressure transmitter T901-P01A is especially designed to meet liquid cargo monitoring requirements.

### TECHNICAL DATA

- 3-wire absolute transmitter
- Range : 800-2000mbar
- Accuracy : 1% of measured scale
- Output : 0.5 to 2.5VDC
- Allowable overpressure : 4000m bar
- Power supply : 5VDC
- Intrinsically safe : EEx ia II C T6
- Storage temperature : -55 °C to +85 °C
- Connecting unit operating temperature : -20 °C to +70 °C
- Protection class : IP67

### TEMPERATURE TRANSMITTER T901-PxOPI

#### CARGO PUMP MOUNTING TYPE



#### DECK MOUNTING TYPE



### DESCRIPTION

The temperature transmitter T901-PxOPI is specially designed to meet liquid cargo monitoring requirements.

### TECHNICAL DATA

- Temperature sensor : 3-wires 100ohm at 0 °C
- Accuracy : IEC 751 classB
- Protection class : IP67
- Rang : -20 °C to +120 °C (other scales on request)
- Intrinsically safe : EEx ia II C T6
- Storage temperature : -55 °C to +85 °C
- Connecting unit operating temperature : -20 °C to +70 °C

### SAFETY UNIT (TA3840S)



### DESCRIPTION

TA3840S safety unit consists of a 19" rack into which the radar power supply boards are inserted. Each rack has 8 available slots (one slot for two radars) and the maximum configuration is 4 racks (power supply of 64 radars). The radar level transmitters are configured directly on each power supply board via RS232 port.

- Operating temperature : 5 °C to +70 °C
- Power supply : 115 or 230VAC/50-60Hz
- Consumption : 100AC max. per rack

### TECHNICAL DATA

- Intrinsically safety II (1)G [EEx ia] II B
- I/O port : RS232 on front face of power supply board
- Transmitter connection number : 16 max.
- Terminal capacity : 2.5m m²

### COMMUNICATION UNIT (TA3840C)



### DESCRIPTION

TA3840C Communication Unit connects four ports of communication with radar level transmitters. These ports are independent one of the others, they use the protocol Modbus RTU. The TA3840C also allows to display the parameters as cargo level, temperature, IG Pressure.

The TA3840C is installed in a 19" rack with a display unit with a LCD screen for measurement and alarm display.

### TECHNICAL DATA

- Power supply : 24VDC
- Max. radar : up to 96 (analog board)
- Combined board : 4.20mA : up to 8 binary in : up to 16, binary in : up to 24
- Comunication : 3RS232, RS485 or RS422 ports 1RS232, RS485 ports 1RS485, TTL extension port
- Monitoring : 2 alarm thresholds per channel
- Operating temperature : 0 °C to +70 °C
- Protocol. Modbus. RTU

