Online4US Module USM

Online4US Module: FU.O4US.USM.001 (Ultrasound Sensor Module)

The US sensor module is the ultrasound conditioning and processing unit of the system. It collects analog ultrasound data (up to 2 sensors), computes all indicators and communicates this information to the main central unit.

The module is able to receive:

- Structure borne US sensor;
- Airborne US sensor.

General	
Function	Ultrasound measurement module
Operable with	Preamplified ultrasound airborne and contact sensors (provided by SDT International)
Processor	ARM Cortex-M4 @ 120MHz
Measurement channel	2 parallel isolated channels
Measuring range	-10.0 to 120.0 dBµV
Resolution	0.1 dB
Measurement bandwidth	[35 kHz, 38kHz] U [39 kHz, 42 kHz] heterodyned to [0.5 kHz, 3.5 kHz]
Signal amplification	Automatic
Environmental	
Operating temperature range	-20 to +55 °C | -4 to 131°F
Mechanical	
Housing material	Polycarbonate
Dimensions housing	71.6x89.7x54.9 mm | 2.80"x3.50"x2.13"
Mounting	35 mm DIN-rail
Weight	180g | 6.35oz
Power	
Power supply	24VDC +/- 10% (uses main power supply through internal DIN-rail connection, no external wiring is needed)
Power consumption	≈100mA
Processing	
Signal indicators	Signal RMS (with configurable RMS period) Maximum signal sub RMS (maximum of signal sub RMS computed each 250ms during whole RMS period) Signal Peak (absolute maximum signal value during whole RMS period) Signal Crest Factor (peak to RMS ratio)
Sample rate	64ksps
Resolution	12bits
External	Compatible for dynamic measurement and data recording using SDT or external devices through LEMO7 and BNC output connectors