dBR8

Radar microwave transducer for non-contact level and volume measurements

For the first time, customers/users of Terry Ferraris' industry-leading non-contact level gauging systems have the choice of both ultrasonic and RADAR FMCW sensors for measuring and control applications:

- Level
- Volume
- Capacity
- Pump control
- Switch

The microWAVE RADAR dBR8 offers significant advantages over conventional pulse radar systems:

- Higher resolution
- Best signal-to-noise ratio
- Improved discrimination of return signal from target

Compatible with all Terry Ferraris gauges, the microWAVE RADAR dBR8 sensor benefits from the unique echo processing software 'DATEM'.

Main advantages of RADAR dBR8:

- Microwave beam penetrates non-metallic containers
- Unaffected by fog, mist, misting liquids, rain or condensation
- Unaffected by ambient temperature
- Unaffected by inert gases and vapours
- Unaffected by steam and pressure

The "Linear Frequency Modulation" (LFM) processing: Linear Frequency Modulation) gives microWAVE RADAR dBR8 a very strong signal-to-noise ratio and excellent resolution. The RADAR dBR8 is IP68 and certified for outdoor installation and offers leading performance in accuracy and repeatability with a very small dead zone. Its compact dimensions allow it to be installed in tight or cramped spaces.

Features
Non-contact
Radar FMCW (Frequency Modulated Continuous Waveform Frequency Modulated Continuous Waveform)
Compatible with all controllers using DATEM software for processing the echo received from the target
Convenient
Accurate and repeatable
Narrow transmission beam angle
Compact and easy to assemble
Protection IP68
Narrow transmission angleATEX Zone 1 and 2 approval (on request to S.I.)

TERRY FERRARIS S.R.L.
Viale Ortles, 10 - 20139 Milano | Tel. 02 5391005 | Fax 02 5692864 | info@terryferraris.it | www.netaqua.it | www.terryferraris.it

Technical specifications

PHYSICAL CHARACTERISTICS

Model	dBR8
Dimensions	90mm x 130mm (diameter x height)
Weight	1.1Kg nominal
Measuring range	8m
Power supply	Max 28Vcc 0.6W
Operating frequency	V-band (63GHz)
Transmission Angle	8°
Sensor Body Material	Valox 357U
Cable	3-pole shielded - Standard length: 5m, 10m, 20m or 30m - Optional up to 150m in 10m increments
Maximum Distance	500m
Mounting connection	1"BSP or NPT

ENVIRONMENTAL CONDITIONS

Enclosure protection	IP68 / NEMA 6P
Temp. Min and Max (Electronics)	-20 ÷ 80°C
Process Pressure	-1 ÷ 4bar (-14.5 ÷ 58psi)

APPROVALS

ATEX Zone 1 & 2	Ex II 1G Ex ia IIC T4 Ga Ta= -20 to +80°C; Ex II 1D Ex ia IIC T135°C Ta= -20 to +80°C
On request ATEX Zone 0 (Ex ia)	Ex II 2 G Ex mb IIC T4 Gb - Ex II 2 D Ex mb IIIC T135°C Db
EC approval	Complies with EN61326-1:2013 standards for emissions and immunity Complies with EN302-729:2016 standards for radar emission and immunity

PERFORMANCE

Accuracy	±2mm
Repeatability	±1mm
Solution	±1mm
Near Dead Zone	77mm from the end of the rain protection screen

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