Life Is On | Foxboro by Schneider Electric

Foxboro® LevelWave Series

LevelWave LG01 Guided Wave Radar (TDR)

Guided Wave Radar Technology—How does it work?

Independent of temperature, pressure, density, media changes, dust and obstacles

Electromagnetic pulses are emitted and guided along a probe. These pulses are reflected back at the product surface. The distance is calculated by measuring this transit time. This device is perfect for high-end applications. It is suitable for applications with foam, dust, vapor, agitated, turbulent or boiling surfaces with rapid level changes.

LevelWave LG01 Series Description

TThe LevelWave LG01 is designed to perform continuous level measurement in a wide range of industries and applications.

Foxboro® is known for more than 50 years of experience in level measurement as a leading supplier of extremely robust, durable and reliable level measurements. Unaffected by changes in temperature, specific gravity, pressure and with no need to recalibrate, offering a highly available measurement at low maintenance cost. With the LevelWave LG01 you achieve a highly modular system which is designed for the requirements of the modern industry.

Summary

Foxboro® LevelWave Series Models LR01 and LG01 Radar level measurement devices offer accurate reliable level measurement for the widest choice of installation and application.

Business Value

The Foxboro LevelWave Series Models LR01 and LG01 radar level measurement devices have unique advantages that will save customers cost, time and resource. The modular design makes installation very easy with a click in solution, this reduces downtime in the field and plant.

Adaptable side or top mounting and easily accessed external display enables effortless operation. Every single device is rigorously factory tested which ensures the best quality instrument every time.

LevelWave Series

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Features / Benefits

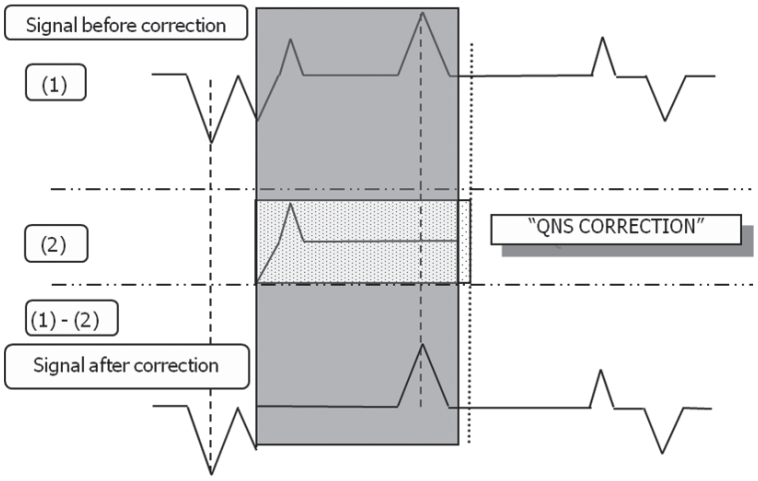
Accurate measuring for high-end applications

- 1 GHz TDR level meter
- Measurement range max. 40 m /130 ft.
- Perfect solution for density/pressure variations and rapid level changes
- QNS (quick noise scanning) function eliminates false reflections
- Flange temperature ≤+300°C / +570°F up to 40 bar / 580 psig
- Measurements down to 1.1 DK
- Installations with very small process connections (≥ 0,5")
- Suitable for applications with foam up to 50 cm / 20"
- Remote version available

Quick Noise Scanning (QNS)

Main functions of QNS

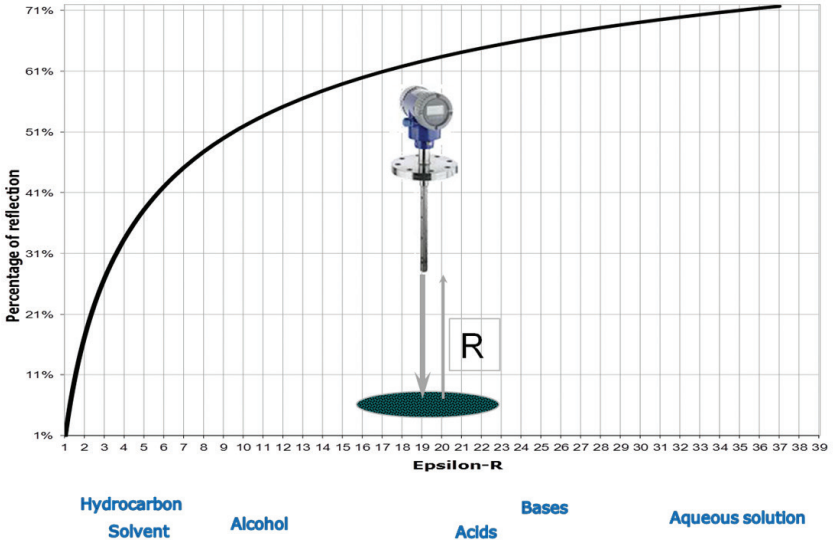
- Removes spurious echo
- Improves level measurement accuracy by reducing the non linearity created by spurious echo
- Dynamic updates during the measurement process
- Subtraction between the actual and the stored signal



Time Domain Reflectometry Radar Principle

A Level measurement device generates an impulse that propagates down a wave guide (probe) - typically a metal rod or a steel cable. When this impulse hits the surface of the medium to be measured part of the impulse reflects back up the wave guide.

Dielectric Constant and Reflectivity - Guided WaveRadar (GWR)



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Specifications

Permitted Temperature ranges for gaskets

Gasket material	Permitted temperature ranges for gaskets			
	Standard version		High-Temperature version	
	[°C]	[°F]	[°C]	[°F]
FKM/FPM	-40…+150	-40…+302	-40…+300	-40…+572
Kalrez® 6375	-20…+150	-4…+302	-20…+300	-4…+572
EPDM	-50…+150	-58…+302	-50…+250	-58…+482

Network

General information.

For more detailed information refer to Network configuration in the handbook

The device uses the HART® communication protocol. This protocol agrees with the HART® Communication Foundation standard. The device can be connected point-to-point or can operate in a multi-drop network of up to 15 devices.

The device output is factory-set to communicate point-to-point. To change the communication mode from point-to-point to multi-drop, refer to “Network configuration” in the handbook.

Technical Data

- One converter for all applications
- Measuring: distance, level, volume
- Power supply: 12…36 VDC with 4…20 mA HART®
- Frequency: L-band (1 GHz)
- Measuring principle: TDR (Time Domain Reflectometry)
- Measuring range: liquids 40 m (130 ft)
- Process temperature: -50...300°C (-58...572°F)
- Ambient temperature: -40…80°C (-40…175°F)
- Operating pressure: 0…40 bar (0…580 psi)
- Standard materials: 316 L Stainless Steel / Hastelloy® C-22
- Accuracy: ±0.1% or ±10 mm (±0.4”)
  ±0.03% or ±3 mm (±0.08”) with a 2 point calibration
- Repeatability: ±1 mm (±0.04”)
- Min. ε_r value: Direct mode: 1.4 TBF-mode: 1.1
- Approvals: ATEX / IECEx (Ex ia, Ex d), cFMus, NEPSI and INMETRO GOST- TR (pending), SIL, EMC, NAMUR, CRN, NACE
- Safety: SIL 2 according to IEC 61508 (high & low demand)
- IP rating: Housing IP 66/67 / NEMA 4X
- Languages: 9 Languages in 3 Blocks (English, French, German, Italian, Spanish, Portuguese, Chinese, Japanese, Russian)
- Optional: Local display
  Remote converter
  FF, Profibus PA output (pending)

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Foxboro Delivery

All LevelWave devices are shipped from our Centre of Excellence for Level based in Stuttgart, Germany. Lead time on request.

For Technical Support systems.support@schneider-electric.com

How To Order

For the full range of order codes please go to the LevelWave Product Specification Sheets. All Product Specification Sheets (PSS) can be found on our website under downloads. See Guided Wave LG01 LevelWave see section 5.1 for full list of model order codes. Free-Space LR01 LevelWave see section 5.1 for full list of model order codes.

If you have any queries about which codes to use please email systems.support@schneider-electric.com.

LevelWave Series including compact, remote and weather proof protection options

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