

# TDR GUIDED MICROWAVE

## Level Measurement

### REFLEX TDR VF03

The Reflex VF range of TDR (Time Domain Reflectometry) products is ideal for the measurement of liquids, powders and granules up to a range of 24 m. They are unaffected by pressure, temperature, viscosity, vacuum, foam, dust, changes in dielectric constant or coating of the probe, the VF Series can measure virtually any product utilising any one of its seven probe types.

Pulses of low power microwaves are sent along the suspended stainless steel wire or rod and where the waves meet the product surface they are reflected back. The intensity of the reflection depends on the dielectric constant of the product. The higher the dielectric constant, the stronger the reflection will be, e.g. up to 80% for water. The instrument measures the time between emission and reception which is proportional to the distance.

TDR guided radar can be used in two different modes for level measurement or interface measurement of two different liquids.

This technology is very flexible providing excellent results not only for industrial silos during fill conditions, but also on liquid applications such as bitumen where the instrument continues to operate even with significant coating around the cable or probe.

These units can be supplied fully calibrated and literally just require fitting into the tank, connecting up and switching on!



#### Measurement

Slurries - Liquids - Pastes - Solids

#### Range

0 - 24 m

#### Application

Oil - Solvents  
Acids - Bitumen  
Cement - Lime - Paint  
Water

#### Industries

Chemical  
Water & Waste  
Quarry  
Process  
Oil & Gas

#### Product Highlights

- Universal technology for liquids/solids
- 2 wire loop powered 24 VDC
- High temperature option 600°C
- Unaffected by dust during fill
- Corrosion & chemical resistant
- Installation by 1" BSP
- ATEX options
- Immune to pressure, foam & dust
- High accuracy  $\pm 5$  mm

#### Specification

Function:	Level/Distance/Volume/Interface	
Measuring Range:	0-24 m	
Environmental Protection:	IP65	
Process Connection:	1" BSP (flange options)	
Power Supply:	24 VDC	
Analogue Output:	4-20 mA	
Communication:	HART	
Relay Outputs:	N/A	
Display:	Optional plug in module	
Max. Process Temperature:	600°C	
Accuracy:	$\pm 5$ mm	