DR6451 Submersible Level Transmitter

Intelligent Hydrostatic Level Measurement with 4–20 mA, RS485 or HART Communication



Product Overview

The DR6451 is an intelligent submersible level transmitter designed for continuous liquid-level measurement in water tanks, reservoirs, wells and other industrial applications. It uses a diffused silicon pressure sensor and converts hydrostatic pressure into a standard electrical output. Digital compensation, nonlinear correction and an enhanced anti-interference design provide stable measurement performance over a wide operating temperature range. Its sealed stainless-steel construction and waterproof, oil-resistant cable support long-term submerged operation.

Key Features

- 4–20 mA DC 2-wire output; RS485 or HART communication options
- Measurement ranges from 1 to 200 mH_2O
- Accuracy: ±0.25% FS or ±0.5% FS, depending on configuration
- Digital temperature compensation and nonlinear correction
- Enhanced hardware/software anti-interference design and watchdog protection
- IP68 protection for continuous submerged installation
- Stainless steel construction with 316L sensing diaphragm
- Viton sealing ring and Φ7.5 mm polyethylene special cable

- Suitable for networking and remote monitoring applications

Technical Specifications

Parameter	Specification
Product	DR6451 Submersible Level Transmitter
Measurement range	1, 2, 5, 10, 20, 50, 100, 200 mH_2O; custom 0–X mH_2O available according to application
Accuracy	±0.25% FS / ±0.5% FS
Stability	±0.2% FS (1 year)
Output	4–20 mA DC, 2-wire
Communication	RS485; HART
Power supply	12–28 VDC
Load	≤ (U − 12) / 0.02 Ω, 2-wire
Overpressure	200% FS
Zero thermal drift	≤ ±0.03% FS/°C (≤10 mH_2O); ≤ ±0.02% FS/°C (>10 mH_2O)
Span thermal drift	≤ ±0.03% FS/°C (≤10 mH_2O); ≤ ±0.02% FS/°C (>10 mH_2O)
Compensated temperature	−10°C to +80°C
Working temperature	−10°C to +70°C
Storage temperature	−30°C to +70°C
Insulation resistance	100 MΩ @ 50 VDC
Protection	IP68
Housing	Stainless steel 304; stainless steel 316L optional
Diaphragm	Stainless steel 316L
Sealing ring	Viton
Cable	Φ7.5 mm polyethylene special cable

HART Communication

The HART version combines the 4–20 mA analog signal with a digital HART communication signal on the same current loop, so no additional communication wiring is required. This allows configuration, calibration and diagnostic information to be accessed by compatible HART communication equipment.

Ordering Information

Item	Code / Description
Model	DR6451
Range	[0–X] mH_2O; X = actual measured pressure / level range
Output / Communication	R1 = RS485; R2 = 4–20 mA + RS485; H = 4–20 mA + HART
Construction	M1 = 316L diaphragm + 304 housing; M2 = 316L diaphragm + 316L housing
Cable material	E = Polyethylene; U = Polyurethane

Typical Applications

Water tanks and reservoirs • Municipal water supply and drainage • Hydrological monitoring • Rivers and waterways • Groundwater and wells • Industrial water systems • Petroleum, chemical and power applications

Project Selection Note

Important: The standard DR6451 accuracy published by FANDE is ±0.25% FS / ±0.5% FS. If a project requires ±0.1% FS accuracy, this requirement should be confirmed with FANDE before order placement. Cable length and measurement range should also be confirmed according to the installation conditions.