

DB43 Anti-Pollution High Temperature Humidity Transmitter (up to 400°C)

Touchscreen humidity transmitter rated to 400°C with anti-pollution protection for textile drying and energy-saving processes.

Overview

This high-precision humidity transmitter, the DABECO DB43, is designed specifically for harsh industrial environments. It boasts exceptional high-temperature tolerance, robust dust and corrosion protection, and a wealth of intelligent features. It is suitable for precise measurement and automated control of humidity in processes such as drying rooms, setting machines, and steamers, across a variety of industrial sectors including wood, new energy, papermaking, chemicals, rubber, fiber, tobacco, and ceramics processing. The DB43 provides reliable measurement support and professional solutions for extreme operating conditions such as low temperature, high humidity, and high dust levels.

Operating Principle

A limiting-current-method sensing element mounted via direct insertion into the duct measures gas humidity (as %VOL or g/kg) and, alongside it, oxygen content, at flue gas temperatures up to 400°C. Readings and configuration are managed through a built-in 4.3-inch touch screen, with results transmitted via 4-20mA analog and RS485 Modbus RTU digital outputs.

Key Features

- Limiting current measurement principle
- 4.3-inch touch screen display and control
- Measures humidity (VOL% or g/kg) and O2
- Rated for flue gas temperatures up to 400°C (standard 0-250°C)
- Anti-pollution: dust and corrosion protected, IP65 housing
- 4-20mA analog output plus RS485 Modbus RTU interface
- 316L stainless steel stem, direct insertion via standard flange
- Pressure rated to 4 bar

Benefits

- 400°C rating and anti-pollution protection suit the harshest high-temperature, high-dust industrial drying processes
- Combined humidity + O2 measurement supports advanced combustion/process efficiency control
- Touchscreen interface simplifies on-site configuration and monitoring versus button-only displays
- Dual output (4-20mA + Modbus RTU) integrates with both analog loops and digital automation systems

Typical Applications

Textile Drying & Setting Machines, Textile Steamers, Wood Processing, New Energy Industry, Papermaking, Chemical Processing, Rubber Processing, Fiber Production, Tobacco Processing, Ceramics Processing

Technical Specifications

Measurement

Principle	Limiting current method
Range	H2O: 0-40/100 %VOL or 0-300/500/1000 g/kg
Humidity Accuracy	<±2% FS
O2 Accuracy	±1% FS
Repeatability	<±1% FS
Response Time (T90)	<20s

Display

Type	4.3-inch touch screen
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Temperature & Pressure

Flue Gas Temperature	0-250°C, up to 400°C
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Working Temperature (instrument)	-20°C to 60°C
Working Humidity	5-100% RH
Pressure Rating	4 bar

Outputs

Analog	4-20mA
Digital	RS485 Modbus RTU

Power & Protection

Supply	AC220V ±10%, 50Hz
Protection Rating	IP65

Mechanical

Sampling Method	Direct insertion
Stem	316L stainless steel, 225mm standard, customizable
Installation	Duct, standard flange