

DirectLine™ Sensor Module For Durafet® II pH and Meredian® pH/ORP Electrodes

KEY FEATURES:

- **Model DL421 for Durafet® II and Meredian® II pH electrodes** – one electronic module for a wide range of applications.
- **Model DL422 for Meredian® II ORP electrodes** – ORP module for platinum and gold ORP electrodes.
- **Direct 4-20mA output** – eliminates need for dedicated analyzers or transmitters, simplifying installation, start-up, operation, and maintenance tasks. Installation costs are also reduced because standard cable can be used for additional cable distances.
- **Integral electronics with local HMI** – simplifies installation and shortens calibration times.
- **Modular plug-in construction** – simplifies electrode replacements.
- **Local display and keypad** – facilitates quick set-up, calibration, and operational activities
- **Remote electronics option** – allows for electrode submersion and special mounting requirements.
- **Electronics and sensor diagnostics** – reduces troubleshooting times
- **Sample or auto buffer calibration options** – accommodates individual calibration techniques and reduces calibration time.



REDEFINING THE INDUSTRIAL PROCESS SENSOR MARKET

The Honeywell DirectLine™ Series is a new type of analytical measurement system – there's nothing else like it on the market today. This unique architecture combines the latest in microelectronics technology with the proven performance of Honeywell pH/ORP sensors to provide unequalled savings during installation, start-up, operation, and maintenance.

INSTALLATION FLEXIBILITY PROVIDES COST SAVINGS

The DirectLine™ electronics module mounts integrally on the pH/ORP electrodes and provides a direct 4-20mA_{dc} output proportional to pH or ORP. The electronics module provides display, configuration, and calibration capabilities in a weatherproof and corrosion resistant enclosure. For electrode submersion or special mounting applications, the electronics module is also available in a remote-mounting configuration.



SAVES INSTALLATION TIME AND COSTS

The Honeywell DirectLine™ architecture includes an electronics module integral to the pH/ORP electrode, eliminating the additional time and cost of installing an analyzer or transmitter, a separate preamp and special cable! The module quickly attaches to the sensor and is easily locked-in-place for assured safety and reliability during operation. The output cable is a standard shielded twisted pair allowing additional wiring to be added at minimal cost to the project. The DirectLine™ design provides self-diagnostics for the electronics and sensor minimizing the time and expense of troubleshooting during start-ups and maintenance.

Everything you need in the palm of your hand.

DIRECTLINE™ CONFIGURATION FLATTENS THE LEARNING CURVE TIME

The DirectLine™ electronics consists of a 4-digit LCD display with three buttons for configuration and calibration functions. From the on-line display of the DL421pH Module, you can toggle to view the pH value in pH units and the temperature in either °F or °C. While on-line, you can check on the health of your pH electrode with calibration diagnostics. The configuration parameters ensure the accuracy needed for your pH measurement, including standard buffer solution groups for Auto Buffer Recognition, and solution temperature compensation. Noise suppression, 0-100% output range, and 0-100% calibration range are available for configuration with both the pH and ORP DirectLine™ Modules. And you don't need to worry if you forget how to configure something – a playing card sized configuration guide is supplied to step you through the configuration quickly.

CALIBRATION WAS NEVER SO QUICK AND EASY

Location, location, location! The Honeywell DirectLine™ design eliminates the extra time needed to travel back and forth between the analyzer/transmitter and sensor while performing a calibration. The DirectLine™ sensor offers two pH calibration options: Sample or Auto Buffer Recognition. If applicable, take advantage of the Auto Buffer Recognition calibration option to further reduce the time

and cost of your calibration. Forgot how to calibrate the DirectLine™ pH/ORP electrode? The other side of the configuration guide quickly steps you through an electrode calibration.

A DIRECT CONNECTION TO COST SAVINGS

Because the Honeywell DirectLine™ module eliminates the need for costly, dedicated analyzers or transmitters, it also eliminates the added expense of additional panel space to accommodate those dedicated instruments. Instead, the DirectLine™ output connects directly to the input of any host monitor or control device that accepts a standard 4-20mA analog input and provides external loop power including;

- Honeywell UDC3300 1/4DIN Controller
- UMC800 Hybrid Controller
- VRX Video Recorder
- PLC's with analog inputs
- DCS Systems
- A variety of competitor recorder/controller products

AVAILABILITY

To purchase this sensor or any related Honeywell product call 1-800-343-0228, or contact your Honeywell Representative. You can visit the website at: www.honeywell.com/sensing for complete details on all of Honeywell's Process Instrumentation and Sensors.

SPECIFICATIONS

Displayed pH	0-14 pH for Durafet® II & Meredian® II pH; +1600 to -1600 mV for Meredian® II ORP		
Display Accuracy (Ref)	±0.02pH for Durafet® II & Meredian® II pH; ±1mV for Meredian® II ORP		
Displayed Temperature Range	-10°C to +110°C (14°F to 230°F) for Durafet® II & Meredian® II pH; none for Meredian® II ORP		
Electronics Module Ambient Temperature	-20°C to +85°C (-4°F to +185°F)		
Output Type	4-20 mA (2-wire loop powered)		
4-20 mA Output Range	0-14 pH for Durafet® II & Meredian® II pH; +1600 to -1600 mV for Meredian® II ORP		
Output Calibration	4-20 mA		
Remote Sensor Cable Rating	Waterproof to 20 feet		
Output (Loop) Cable Type	Shielded twisted pair		
Cable Lengths	Durafet® II:	Meredian® II pH:	Meredian® II ORP:
Sensor (for remote configurations):	20 or 50 feet	12 or 20 feet	12 or 20 feet
Output:	20 or 50 feet	20 or 50 feet	20 or 50 feet
Power	16-42Vdc, Max.Load Resistance: 250ohms@16Vdc, 600ohms@24Vdc, 1400 ohms@42Vdc		
Local Display and Buttons	LCD 4 digit, 7 segment		
Calibration Options – pH	1 or 2 point Sample Auto Buffer Recognition – N.I.S.T, US & EURO Groups		
Diagnostics	Sensor and electronics		
Approvals	CE Mark for Industrial Applications, UL and CSA – General Purpose FM – CLI, Div. 1 Groups C&D and CLI, Zone 0, AEx ia IIB (I.S.) FM – CLI, Div. 2 Groups C&D and CLI, Zone 2, Groups IIB (N.I. Field Wiring)		
Remote Mounting	Pipe, Wall, or DIN Rail		
Dimensions	H 123mm (4.84") x W 48mm (1.89") x D 46mm (1.81")		
Weight	Approximately 142 kg (5.0 oz.)		

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Sensing and Control

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