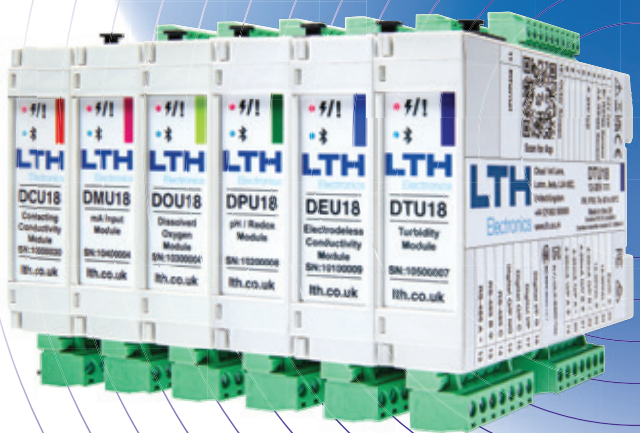
LTH Electronics

BESTOBELL AQUATRONIX
www.bestobell.com
SINCE / DEPUIS 1953

# DXU18 Series

Analytical instrumentation for your measurement applications.

The DXU18 is a microprocessor-controlled DIN-Rail mounted module range designed to provide a compact individual measurement solution for a wide range of parameters including:
– contacting conductivity
– electrodeless (inductive) conductivity
– pH/redox (ORP)
– dissolved oxygen
– turbidity / suspended solids
– 4-20mA input (slave)




Supported by the LTH Discover app.

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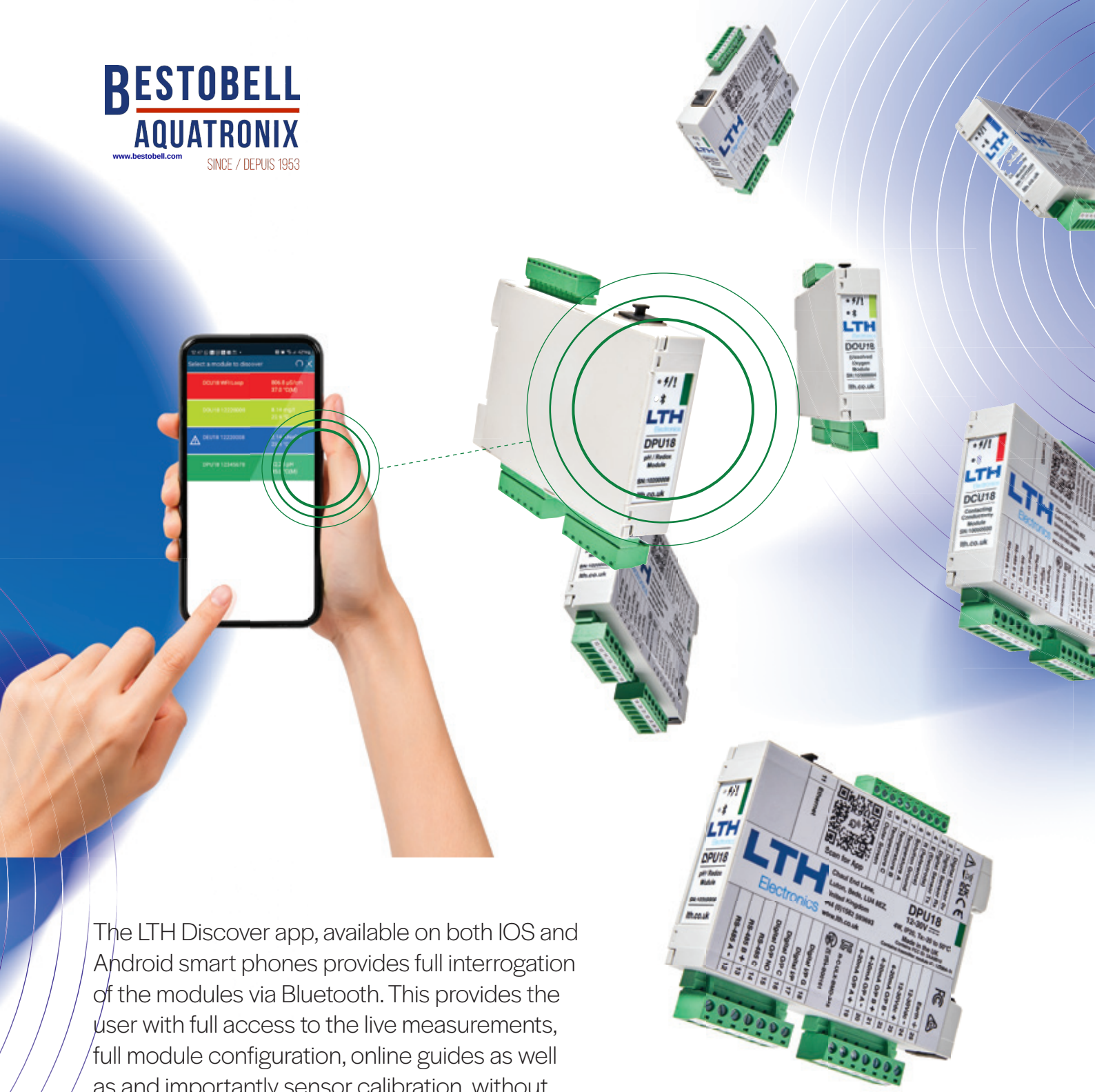


The LTH Discover app, available on both IOS and Android smart phones provides full interrogation of the modules via Bluetooth. This provides the user with full access to the live measurements, full module configuration, online guides as well as and importantly sensor calibration, without the need to touch or connect your PC.

- Individual DIN-Rail mounted analytical modules
- Compact enclosure design
- 12-30vDC power requirements
- 2 off isolated 4-20mA user configurable outputs
- Individual digital input and output for off-line and error status
- Extensive error system that constantly monitors the module condition
- Optional Modbus RS485 / Ethernet TCP/IP communication
- Save, restore and transfer configuration to other modules
- Bluetooth connectivity
- LTH Discover app offers the user full configuration & calibration capabilities
- Connect – Configure – Measure

**Contact our sales department on 905.826.1953 or email salesdesk@bestobell.com**

# DXU18_ SERIES


The LTH range of DXU18 modules are a 4-wire series of blind DIN-Rail mounting analytical transmitters. Designed to meet the need from system builders and integrators for compact devices that may be incorporated into their own builds.

The space-saving DIN-Rail mounting housing is compatible with 35mm DIN rail (IEC 60715). Front mounted LEDs confirm Bluetooth and operation status.

Each module features two industry standard, isolated, 0/4-20mA current outputs that features adjustable scaling, selectable on-error states and loop fault detection. Either allows the module to transmit the primary reading or observed process temperature to the process control system or a PLC.

Additionally, the module features an optional Modbus interface via either RTU or ASCII over RS-485, or TCP/IP over Ethernet. Using the interface, the modules measurements can be read, status checked, configurations changed, and calibrations performed.

Also present are a single digital input and a single digital output. The digital input features a dry contact input which allows the module to be remotely set to either an offline state that forces the current outputs to a pre-defined state, or to change the whole configuration of the module by switching the setup to a preconfigured state. The digital output consists of a volt free, single pole, single throw normally open relay, which can be used to indicate the module alarm status.

To achieve this all within in a small foot print the module features no display. Instead, a separate mobile LTH Discover app may be downloaded from all major app stores.

This is used to connect to the module via Bluetooth and display the primary reading and temperature, show operational status and to provide an intuitive means to configure and calibrate the module.

If multiple modules are within range the LTH Discover app can display the measurement readings and operation status of all of them within the app's discovery screen.

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# DXU18 Series Specification

| | |
|---|---|
| **Digital Input** | Dry contact input for remote activation of user defined operations. Can be configured to operate in either normally open or normally closed modes. |
| **Current Outputs** | Two current outputs as standard, selectable 0-20mA or 4- 20mA into 750 ohms max, the pair of outputs are fully isolated to 2kV from the rest of the module. Expandable to 100% of any operating range and offset anywhere in that range. |
| **Current Outputs Adjustment** | 3-point 0/4-20 mA for remote monitor calibration. |
| **Digital Output** | Volt free, single pole, single throw, normally open, 24v AC/DC max, 750mA max. |
| **Digital Output Mode** | Module alarm status.<br><br>Cleaning to operate a jet spray wash or rotary electrode cleaning system on a timed cycle. Adjustable duration, interval and recovery. |
| **Modbus** | If optioned, module features Modbus communication over either RS485 or Ethernet. Allowing for remote access to readings, configuration changes and calibration of the module.<br><br>Can be specified at time of purchase or activated later using a module specific unlock code. |
| **RS-485 Modbus Interface** | RTU and ASCII protocol, 300Bps to 38400Bps baud rate, None-Odd-Even parity bits, 1-2 stop bits. |
| **TCP/IP Over Ethernet Interface** | Manual or automatic (via DHCP server support) network configuration. Port link and activity status LEDs. |
| **Bluetooth** | Integrated Bluetooth radio. 25 meters max operating range. |
| **Mobile App** | Separate LTH Discover app provides an easy to use and intuitive means of commissioning, monitoring and calibrating the module from mobile devices via the Bluetooth interface.<br><br>Available to download from major app stores, requires iOS 13.2 and later or Android 6.0 and up. |
| **Radio Equipment Directive** | SI 2017 No. 1206 & 2014/53/EU |
| **Power Supply** | 12-30V DC, 4W max. |
| **Module Housing** | PA 6.6-FR (UL 94 V0) |
| **Ingress Protection Rating** | IP20. |
| **Ambient Operating Conditions** | Temperature -20 to +55°C, Relative Humidity 5 to 95%, non-condensing. |
| **Weight** | Maximum 160 grams (module only). |
| **Dimensions** | 104 x 23 x 111 mm (H, W, D) including connectors. |
| **Mounting** | Compatible with 35 x 7.5mm and 35 x 15mm top hat section DIN rail (IEC 60715). |

# DPU18 PH REDOX (ORP)

## Key features

- Accepts either combination pH or Redox (ORP) electrodes
- Differential Input for excellent noise rejection
- Manual, automatic and auto detection calibration routines
- Digital output provides timed cleaning sequence
- LTH Discover app offers the user full configuration and calibration capabilities
- Ideal for Water and wastewater treatment, industrial and chemical processing, food and beverage as well as pharmaceuticals applications

This versatile module accommodates both pH and redox (ORP) inputs, with options for single-ended or differential input configurations, making it suitable for most pH and ORP applications. Its temperature compensation supports Pt100, Pt1000 & 3K Balco sensors, ensuring compatibility with a wide range of pH electrode systems. Alternatively, a manual temperature can be entered, if required.

One or two point electrode calibration may be performed through the LTH Discover app using either the manual or auto calibration feature alternatively auto buffer detection is also available. The DPU18 can analyse the result of the pH electrode offset and slope calibration and indicate to the user the condition the electrode is in. The calibration history page shows a log of the electrode calibration. Including time and date, calibration method and results.

It features two isolated 0/4–20mA current outputs, which include adjustable scaling, on-error state selection, and loop fault detection. These outputs enable remote monitoring of the primary reading and process temperature.

A single contact input will allow remote operation from the PLC or HMI, either setting the module to an offline state forcing any 4-20mA outputs to go to the value stated in their “Offline Mode” menu, or switching its configuration to a pre-set state.

The DPU18 is equipped with a digital output relay ,which can be used to activate external electrode cleaning equipment or to indicate the module alarm status.

For the automated electrode cleaning, the module’s relay can be programmed as a cleaning initiator, with customizable cleaning duration, recovery time, and interval periods. During these cycles, the module goes offline, holding current outputs and disabling control relays.

The digital output can be configured to operate a jet spray wash or air solenoid electrode cleaning system on a timed cycle. Its purpose is to prevent accumulation of particulate matter on the active surfaces of the electrode. Note when cleaning is active the input will be taken offline, this will prevent any undesired control actions resulting from spraying cleaning solution onto the electrode.

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## pH / Redox (ORP) Input specifications

| | |
|---|---|
| **Measurement input** | Single ended or differential with solution ground.<br><br>**pH**<br>Separate glass and reference electrode pair.<br>Combination electrode.<br><br>**Redox (ORP)**<br>Separate glass and reference electrode pair.<br>Combination electrode.<br><br>Other manufacturer's sensors can be accommodated. |
| **Connection cable** | Up to 30 meters (no preamp required).<br>LTH type 54E or LN10 cable. |
| **Measurement ranges** | 0.00 to 14.00 pH.<br>-1999mV to +1999mV. |
| **Accuracy** | ± 0.05 pH.<br>± 3mV. |
| **Linearity** | ± 0.1% of range. |
| **Repeatability** | ± 0.1% of range. |
| **Ambient Temperature Variation** | ±0.05% of range / °C (typical) |
| **Operator Adjustment** | Anywhere within current measurement range. |
| **Calibration Methods** | Automatic two-point 4pH, 7pH or 9pH buffer cali-bration with multiple industry standard buffers supported. Alternatively, 13-point custom buffers can be directly entered into module.<br><br>Manual Slope and Offset Adjustment.<br><br>Both methods feature post-calibration electrode condition indication. |
| **Calibration Timer** | Inbuilt calibration countdown timer which will trigger an alarm when the set calibration interval has expired. |
| **Sensor Input Filter** | Adjustable filter that averages the sensor input over a user selectable time (10sec – 5mins). |
| **Temperature Sensor** | Pt1000, Pt100 or 3K Balco RTD input. Up to 30 meters of cable. Temperature sensor can be mounted in the sensor or separately. |
| **Range of Temperature Measurement** | -20 °C to +150 °C (-4 °F to +302 °F) for full specification. |
| **Temperature Accuracy** | ± 0.2 °C (When using 3 wire PT1000). |
| **Operator Adjustment (Temperature)** | Anywhere within range of temperature measurement. |
| **Range of Temperature Compensation** | -20 °C to +150 °C (-4 °F to +302 °F). |
| **Temperature Compensation Type** | Automatic or manual. |
| **Off-Line Facility** | The current outputs are held at a user defined level. |

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# ORDER CODES

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| TYPE | STOCK No. | DESCRIPTION |
|---|---|---|
| **DCU18** | 1810 | DIN Rail Mounting Contacting Conductivity module, 4-20mA current output, configurable via the LTH Discover app (IOS or Android) |
| **DEU18** | 1812 | DIN Rail Mounting Electrodeless (Inductive) Conductivity module, 4-20mA current output, configurable via the LTH Discover app (IOS & An-droid) |
| **DMU18** | 1850 | DIN Rail Mounting mA module, 4-20mA current output, configurable via the LTH Discover app (IOS & Android) |
| **DOU18** | 1840 | DIN Rail Mounting Dissolved Oxygen module, 4-20mA current output, configurable via the LTH Discover app (IOS & Android) |
| **DPU18** | 1820 | DIN Rail Mounting pH / Redox(ORP) module, 4-20mA current output, configurable via the LTH Discover app (IOS & Android) |
| **DTU18** | 1860 | DIN Rail Mounting Turbidity and Suspended solids module, 4-20mA current output, configurable via the LTH Discover app (IOS & Android) |
| **Modbus** | 1802 | DXU18 Modbus over RS485 & Ethernet unlock code |

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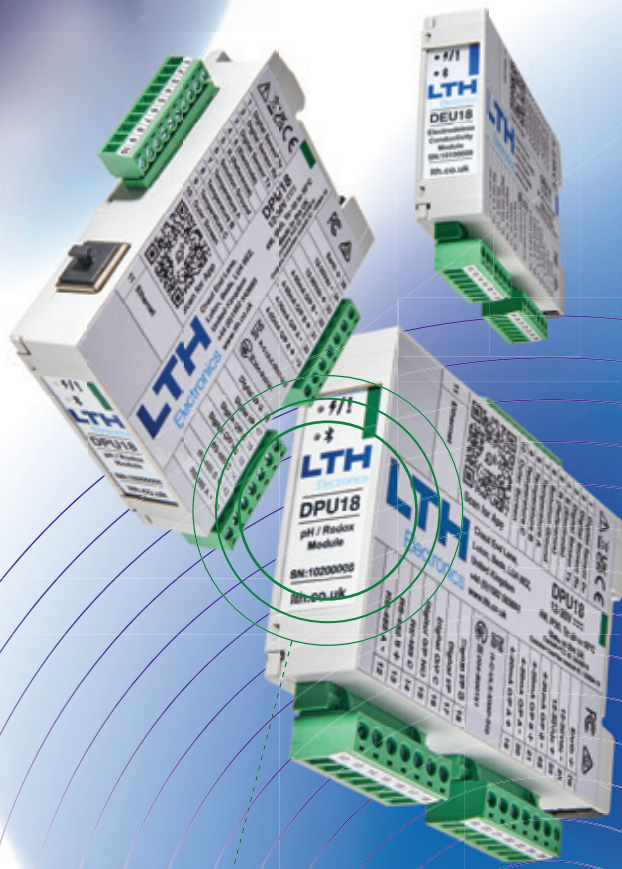


# DISCOVER A SMARTER WAY TO CONFIGURE, CALIBRATE AND CONTROL

**LTH Discover** is the intuitive mobile app designed to unlock the full capability of the DXU18 series — putting configuration, calibration and live measurement data directly into the palm of your hand.

Built specifically for system integrators, engineers and maintenance teams, LTH Discover connects wirelessly to DXU18 modules via Bluetooth, removing the need for local displays, laptops or specialist software. Once connected, users can view live process values and temperature, check operational status, and fully configure module parameters quickly and confidently.

Commissioning is faster and simpler. Sensor calibration routines, output scaling, alarm settings and application-specific configurations can all be completed directly from a smartphone or tablet, without the need to access the control panel. Clear on-screen guidance and structured menus help reduce setup time, minimise errors and ensure consistent results across installations.

For ongoing operation, LTH Discover provides real-time visibility of multiple modules simultaneously, allowing engineers to monitor performance, diagnose issues and verify system health at a glance. Configuration settings can be saved, restored or transferred between modules, supporting deployment and standardisation across sites.

Available for both iOS and Android, LTH Discover is an integral part of the DXU18 platform — enabling smarter installation, simpler maintenance and greater confidence in every measurement.

**Connect. Configure. Measure.**
With LTH Discover, control has never been more accessible.

The “LTH Discover” App is available now.

GET IT ON Google Play

DOWNLOAD ON THE App Store

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