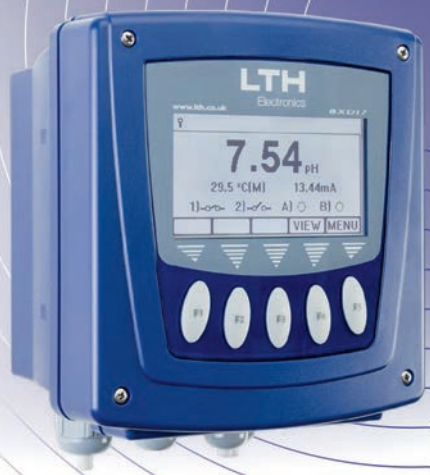
LTH Electronics

BXD17 Series

Analytical instrumentation for your measurement applications.



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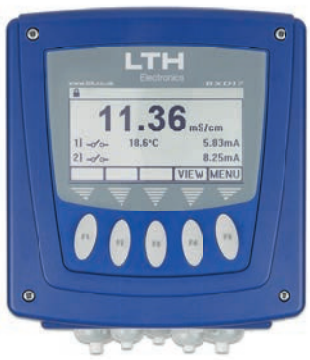
LTH Electronics

EXCEEDING EXPECTATIONS IN LIQUID ANALYSIS AND PROJECT MANAGEMENT.

We've been delivering intelligent measurement solutions for process applications since 1967. With over 55 years of experience in liquid measurement and control we provide instrumentation and sensors for accurate and reliable process control and measurement.



At LTH Electronics, we offer a range of contacting and electrodeless (inductive) conductivity, pH, redox (ORP), dissolved oxygen, suspended solids, turbidity, level, flow, pressure and temperature instrumentation and sensors for many industrial applications.

Customer support and service are an integral part of our business development and growth with a range of services to assist customers including planning, installation, commissioning, training, troubleshooting, maintenance and calibration to traceable standards all part of the comprehensive package we can offer.

With more than 55 years of experience, innovative thinking and continuous investment in research and development we strive to offer the best service and solutions to meet customers demanding applications and solve their process problems.

We're proud to be an ISO 9001 registered company offering a 3-year warranty on all of our instrumentation.

We market, distribute and support our products globally through a network of trained distributors ensuring our customers have competent experienced specialists servin and supporting them.

If you've got a liquid process application problem we can help. Contact us today

WHAT WE MEASURE

LTH Electronics are specialists in liquid measurement and process control whether you want to reduce water consumption, monitor water quality or minimize the effect of waste on the environment.

Contacting conductivity

Conductivity can be used to measure the quality of water that has undergone a purification process.

We provide contacting conductivity instrumentation and sensors for pure water applications in the pharmaceutical and semiconductor industries, ion exchange and reverse osmosis plants, boiler feed water and waste water applications.

Electrodeless conductivity (inductive)

We manufacture electrodeless conductivity sensors for harsh process applications in the dairy, brewery, food, chemical and metal finishing industries.

These sensors operate with virtually zero maintenance and provide accurate and reliable measurements over extended time periods in processes where sensors may suffer from electrode coating.

pH and Redox (ORP)

pH is a frequently used measurement in process control as many chemical reactions rely upon the pH of a process being maintained at the correct value.

Redox measurement is used in cooling tower, swimming pools and industrial applications to control the addition of reagents and treat toxic chemicals.

Dissolved Oxygen

Dissolved oxygen measurement can be used to indicate the condition of a river or to control an aeration process in a sewage works or wastewater plant.

Dissolved oxygen measurement is also used in fish farming, biotechnology, wine and beer production where the measurement and control of oxygen is required to maintain a quality product.

Suspended solids/turbidity

Our instrumentation, combined with a Quadbeam™ sensor, provides accurate and reliable measurement of suspended solids and turbidity.

Applications include industrial and municipal water and waste water treatment plants, mining and refining operations, pulp and paper, brewing and dairy factories to detect product loss, reduce waste and prevent pollution.

Level measurement

We supply level measurement instruments for tank gauging control, level or distance indication and level detection of liquids and aggressive chemicals, sludge and slurries and granular solids and powders.

We also supply ultrasonic, capacitance, vibration, hydrostatic, conductive, guided wave and radar level instrumentation and sensors for industrial process applications.

Flow measurement

Flow is an important and frequently used measurement of chemicals, water and waste water in industrial plants and processes.

We offer Ultrasonic for open channel flow measurement in flumes or weirs, electromagnetic for conductive liquids in pipes, non-intrusive time transit and paddle wheel flow meters for in pipe measurement.

Pressure measurement

Flush diaphragm transmitters with a wide range of process connections are available for pressure measurement of fluids in many industries including the beverage, brewing, dairy, food, marine, ship building, paper and pulp, water and waste water industries. The transmitters are also suitable for level measurement of fluids, pastes and sludge's.

Temperature measurement

Temperature measurement is the most frequent type of instrumentation found in industrial process applications.

We offer a range of fast responding PT100 resistance temperature detectors or RTD sensors for temperature measurement in industrial process applications.

Many different process connections are available, threaded, flanged or sanitary.

Ancillary products

In addition to our portfolio of standard products we offer a number of ancillary items: custom control panels, chart recorders, data acquisition systems, dosing pumps, chemical tanks, bunds, stirrers, solenoid valves, strainers, water meters, flow switches, brominators, test and calibration solutions and pH and redox electrode cleaning solutions.

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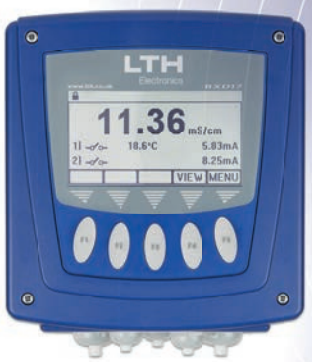
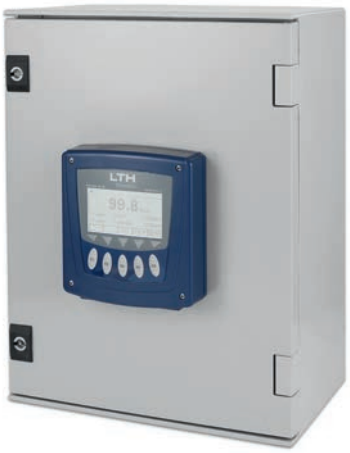
INTRODUCING

THE_ BXD17



The BXD17 is a versatile, microprocessor-controlled instrument range designed to provide individual controllers for various measurement parameters, including:

- contacting conductivity
- electrodeless (inductive) conductivity
- pH/redox (ORP)
- dissolved oxygen
- turbidity / suspended solids
- 4-20mA input (slave)



- Single parameter instrument with temperature measurement capabilities
- Custom IP66 NEMA 4X (144 x 144mm) enclosure
- Versatile enclosure design that may be mounted in a panel, wall or pipe
- Large informative LCD backlit display (Size 3.75" – 240 x 128 pixels)
- Simple intuitive menu structure with soft tactile function buttons
- Push in connection technology makes installation simpler
- Easy OEM customisation - Make it your own
- Future proof - Software can be upgraded via a Micro SD card slot

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BXD17_ SE RIES

Its multifunctional LCD ensures user-friendly operation by displaying primary and temperature readings, operational status, and an intuitive interface. Users can select multilingual text options in English, French, Spanish, or Italian.

This IP66-rated NEMA 4X wall-mount instrument is simple to install and, with an appropriate mounting kit, can also be configured as a panel-mount or pipe-mount device.

The BXD17 includes two built-in volt-free, normally open relays with adjustable setpoints and hysteresis, which can be configured for high, low, or band operation. These features make it adaptable for various dosing and control processes. Additional setpoint functionalities encompass delayed activation, dose alarm timers, proportional and accumulation dosing (exclusive to the BED17), and cleaning cycles (specific to the BPD17, BOD17, and BTD17 models). Relay statuses are clearly indicated on the display.

For data transmission, the instrument offers up to two isolated 0/4-20mA current outputs with adjustable scaling, selectable on-error states, and loop fault detection. These outputs allow monitoring of primary readings or process temperatures remotely. A single digital input is also included, enabling remote activation by either setting the instrument to an offline state (deactivating relays and adjusting output to predefined settings) or switching to a preconfigured setup.

Power options depend on the model purchased, with versions supporting either 85-265vAC or 12-30vDC. Additionally, a Micro SD card slot provides easy software upgrades, ensuring the instrument remains current with the latest updates.

BXD17 Series Specification

Display	3.75" 240 x 128 dot LCD module.
Display backlight	Can be set to flash to indicate the instruments alarm status.
Buttons	5 silicone rubber tactile feedback micro-switched.
Digital inputs	Single contact input for remote activation of user defined operations. Can be configured to operate in either normally open or normally closed modes. (Not available on BOD17)
Current output	Single current output as standard with option of two on advance models, selectable 0-20mA or 4-20mA into 750 ohms max, fully isolated to 2kV. Expandable up to 5% of any operating range and offset anywhere in that range.
Current outputs adjustment	Adjustment +/- 0.01mA, 3 point 0/4-20 mA for remote monitor calibration.
Setpoints and control relays	2 normally open fully configurable setpoints with volt free contacts for each relay. Rated at +/- 0.01mA, 5A @ 30vDC / 5A @ 250vAC.
Setpoint modes	High, Low, Band, Latch High, Latch Low, Cleaning, Alarm. On/Off, Time Proportioning, Pulse Proportioning.
	Delay timer adjustable from 00:00 to 59:59 mm:ss.
	Hysteresis 0 to 9.99%.
	Dose alarm timer, with supplementary initial charge function.
	Both adjustable from 00:00 to 59:59 mm:ss.
	Adjustable cycle time and proportional band in proportional modes.
	Flash backlight on setpoint trigger.
Off-Line Facility	The relays are de-energised and the current output is held at a user defined level.
Micro SD card interface	Enables on site upgrading of instrument software. SD, SDHC and SDXC-FAT32 cards supported.
EMC	S.I. 2016/1091 & 2014/30/EU using BS EN 61326-1: 2013.
Safety / Low voltage directive	S.I. 2016/1101 & 2014/35/EU using BS EN 61010-1: 2010.
RoHS directive	2011/65/EU using BS EN 50581:2012.
Intsrument power supply	Universal 90-265vAC, 9W max.
	LV Option 12-30vDC, 5W max.
Instrument housing	UL 94-V0 PC/ABS. Front panel 144 x 144mm (Panel-cut out: 138 x 138mm).
	Depth behind panel: 77mm max.
	Hinged / retained front.
Ingress protection rating (IEC 60529 protection rating)	IP66.
Weight	Maximum 800 grams.
Dimensions	175 (H) x 150 (W) x 119 mm (D).
Ambient Operating Conditions	Temperature -20 to +55°C, Relative Humidity 5 to 95%, noncondensing.
Ambient Temperature Variation	±0.01% of range / °C (typical).

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BCD17_ CONT _ACTING CONDUC _TIVITY

Key features

- Displays conductivity, resistivity, PPM and temperature units
- Measured process & temperature can be displayed together
- Auto range or single range operation
- Full ultra-pure water (UPW) temperature compensation
- Programmable cell constant

The contacting conductivity input is compatible with LTH contacting conductivity cells, supporting 4 cell constants of K = 0.01, 0.1, 1.0, and 10.0. It also works with conductivity cells from other manufacturers, covering a cell constant range of K = 0.005 to 15.00. This broad compatibility enables conductivity measurements across a wide spectrum, from ultra-pure water at 0.055 µS/cm (microsiemens per centimeter) to high solution concentrations of up to 999.9 mS/cm (millisiemens per centimeter).

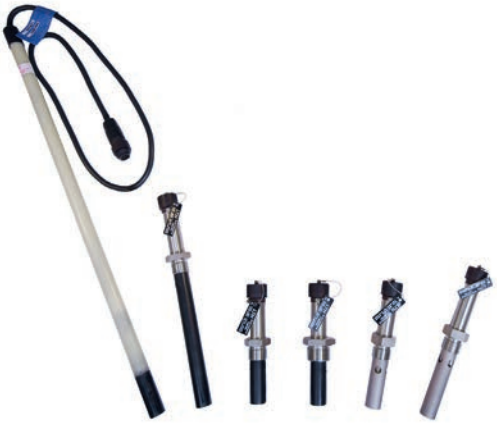
The BCD17 can be configured for either single-range or auto-range measurements. It includes automatic temperature compensation as a standard feature. For cases requiring temperature adjustment, the linear slope can be modified to accommodate variations from dissolved salts.

Alternatively, temperature compensation can be turned off when unnecessary for specific applications. The BCD17 also provides several additional setpoint modes beyond the standard High, Low, Band, Latch High, Latch Low, and Alarm.

These include:

- Blowdown Mode (Setpoint 1 Only): Designed for smaller boilers where the blowdown valve capacity is large compared to the boiler size. The blowdown can be set to operate in a pulsed output mode.
- Blowdown Time (Setpoint 2 Only): Complementing the high/low blowdown function of Setpoint 1, this allows periodic secondary blowdowns to flush out accumulated sludge deposits from the boiler.
- Blowdown Timer Delay (Setpoint 2 Only): If enabled, this prevents the activation of the Setpoint 2 timer until Setpoint 1 has been deactivated.
- USP Monitoring (Setpoint 1 Only): The US Pharmacopoeia (USP) standards, widely used in the pharmaceutical industry to comply with FDA requirements, are available for monitoring on relevant setpoints. A USP pre-trigger feature is also provided.

For more information, consult the BCD17 operating manual.



BCD17 specification

Measurement input	Any LTH contacting conductivity cell. Other manufacturer's cells can be accommodated.
Connection cable	Up to 30 metres LTH type 54D cable.
Measurement ranges	0-9.999 µS/cm to 0-999.9 mS/cm (K= 0.01 to 10.0).
	0-99.99 K /cm to 0-99.99 M /cm (K= 0.01 to 1.0).
	0-9.999 ppm to 0-99.99 ppt. (parts per thousand).
	See the following cell constant / range table for further information.
Cell constant adjustment	Fully adjustable from 0.005 to 15.00.
Cell constant calibration	± 50% of nominal cell constant.
Range selection	Internal single or auto range.
Conductivity accuracy	± 0.5% of range.
Linearity	± 0.1% of range.
Repeatability	± 0.1% of range.
Operator adjustment (conductivity)	± 10 % slope (gain) adjustment for solution calibration.
Range of temperature measurement	-50 °C to +150 °C (-58 °F to + 302 °F) for full specification.
Temperature accuracy	± 0.5 °C.
Operator adjustment (temperature)	± 50 °C or ± 122 °F.
Sensor input filter	Adjustable filter that averages the sensor input over a user selectable time (10sec – 5mins).
Temperature sensor	Pt1000 RTD input. Up to 30 metres of cable. Temperature sensor can be mounted in the sensor or separately.
Temperature compensation type	Automatic or manual, with fixed UPW curve plus variable slope - 0 - 9.99 %/°C.
Temperature compensation base	Selectable at 20 °C or 25 °C.
Range of temperature compensation	-10 °C to +150 °C (+14 °F to + 302 °F) for full specification.
Off-Line Facility	The relays are de-energised and the current output is held at a user defined level.
Setpoint Modes	High, Low, Band, Latch High, Latch Low, Alarm, Blowdown High (Setpoint 1 only), Blowdown Low (Setpoint 1 only), Blowdown Timer (Setpoint 2 only), USP (Setpoint 1 only), USP Pre-Trigger (Setpoint 2 only).

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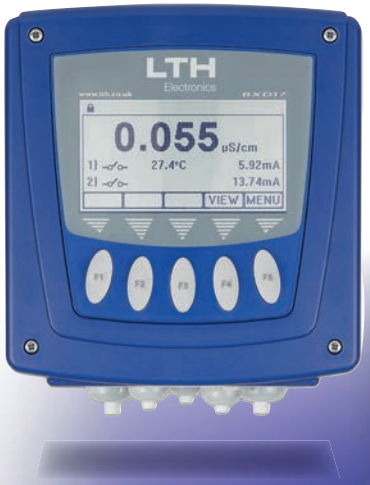
RANGE & SENSOR COMPATIBILITY



Conductivity range	Nominal cell constant			
	0.010	0.100	1.000	10.00
0 to 9.999 µS/cm	√	√	x	x
0 to 99.99 µS/cm	√	√	√	x
0 to 999.9 µS/cm	x	√	√	√
0 to 9999 µS/cm	x	x	Note 1	Note 1
0 to 9.999 mS/cm	x	x	√	√
0 to 99.99 mS/cm	x	x	Note 2	√
0 to 999.9 mS/cm	x	x	x	Note 2

Note 1: 0 to 9999 µS/cm range only available as a fixed range option.

Note 2: Maximum measurement range will be limited by solution temperature. With the temperature compensation slope set to 2%/°C derate linearly from full scale at 25°C to 50% of scale at 100°C.

Total Dissolved Solids in ppm = µS/cm * F, where F = TDS Factor (0.50 - 0.90)

Resistivity range	Nominal cell constant			
	0.010	0.100	1.000	10.00
0 to 99.99 kΩ-cm	x	√	√	x
0 to 999.9 kΩ-cm	√	√	x	x
0 to 9.999 MΩ-cm	√	√	x	x
0 to 99.99 MΩ-cm	√	x	x	x

Total dissolved solids range	Nominal cell constant			
	0.010	0.100	1.000	10.00
0 to 9.999 ppm	√	√	x	x
0 to 99.99 ppm	√	√	√	x
0 to 999.9 ppm	x	√	√	√
0 to 9999 ppm	x	x	√	√
0 to 99.99 ppt	x	x	√	√

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BED17 ELECTRODELESS (INDUCTIVE) CONDUCTIVITY

Key features

- Measures conductivity, % solution concentration, TDS (ppm), and temperature.
- Simultaneous display of conductivity, % solution concentration, and temperature.
- Ideal for applications such as clean in place (CIP), rinse water, and solution concentration monitoring.
- User defined custom concentration curves with up to 9 data points & adjustable temperature slope.
- Features proportional and accumulation dosing options.

The BED17 covers a wide range of conductivity measurements, from water (150 µS/cm) to solution concentrations (up to 999.9 mS/cm). It offers flexible display options for readings, either in conductivity or % concentration, by programming a custom curve. The instrument supports both single-range and auto-range measurement modes and is compatible with any LTH Electrodeless (Inductive) conductivity sensor.

Key calibration features include front-panel adjustments for measurement input and current output. For high-precision applications, the unit and sensor can be calibrated to standard or titrated solution concentrations. An off-line adjustment mode ensures uninterrupted external processes during calibration. Additional capabilities include:

Automatic temperature compensation with an adjustable linear slope.

Option to disable temperature compensation or manually input temperature values.

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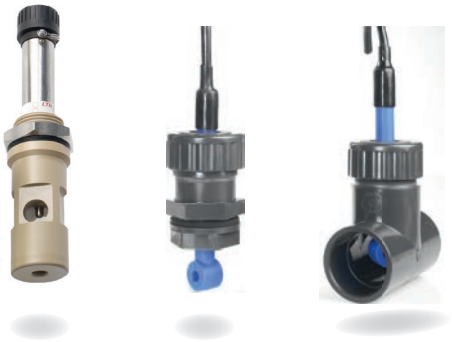

BED17 specifications

Measurement input	ECS20 or ECS40 series electrodeless (inductive) conductivity sensor.
Connection cable	Up to 30 metres LTH 54E / 54H cable.
Measurement ranges	0-999.9 µS/cm,0-9.999mS/cm 0-99.99ms/cm.
	0-999.9mS/cm, 0-999.9 ppm, 0-9999 ppm.
	0-99.99 ppt (parts per thousand).
	0 to 16.00% NaOH – Sodium Hydroxide. 0 to 30.00% NaCl – Sodium Chloride. 0 to 15.00% HCl – Hydrochloric Acid. 0 to 25.00% H2SO4 – Sulphuric Acid. 0 to 25.00% H3PO4 – Phosphoric Acid. 0 to 24.00% HNO3 – Nitric Acid. 0 to 41.00 ppt Salinity.
	Two custom concentration curves: Defined by a user entered 2 to 9 point curve. User defined scale: 0 to 999.9, 0 to 99.99, 0 to 999.9, and 0 to 9999. User defined units up to 5 characters.
Range selection	Internal single or auto range.
Conductivity accuracy	± 1% of range.
Linearity	± 0.1% of range.
Repeatability	± 0.1% of range.
Operator adjustment	Conductivity ± 10% slope / Solution ± 20% offset.
Temperature Sensor	Pt1000 RTD input. Up to 30 meters of cable. Temperature sensor can be mounted in the sensor or separately.
Range of Temperature Measurement	-50 °C to +150 °C (-58 °F to +302 °F) for full specification.
Temperature Accuracy	± 0.5 °C.
Operator Adjustment (Temperature)	± 50 °C or ± 122 °F.
Range of Temperature Compensation	-10 °C to +150 °C (+14 °F to +302 °F) for full specification.
Temperature compensation type	Automatic or manual, variable slope 0 - 9.99 %/°C.
Temperature compensation base	Selectable at 20 °C or 25 °C.
Additional setpoint modes	**Proportional** (Setpoint 2 only) The setpoint will dose in proportion to the time that setpoint 1 was on. e.g. If setpoint is energised for 10 minutes and the proportion is set to 50% then setpoint 2 will start dosing for 5 minutes immediately after setpoint 1 has de-energised.
	Accumulation (Setpoint 2 only) The setpoint will dose for the set dose time after the accumulation active time of setpoint 1 has been reached.

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BPD17 PH REDOX (ORP)

Key features

- Differential Input for excellent noise rejection
- Accepts pH glass and redox (ORP) electrodes
- Able to display the pH reading and electrode mv value
- Dose alarm timer prevents overdosing

This versatile instrument 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 Pt1000 or Pt100 sensors, ensuring compatibility with a wide range of pH electrode systems.

It features up to 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 or process temperature.

A single contact input allows remote operation, either setting the instrument to an offline state—deactivating relays and setting outputs to predefined states—or switching its configuration to a pre-set state.

Both measurement inputs and current outputs can be calibrated individually via the front panel.

For precise measurements, the instrument and sensor can be calibrated using standard or titrated solutions. An offline mode ensures adjustments can be made without disrupting external processes.

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

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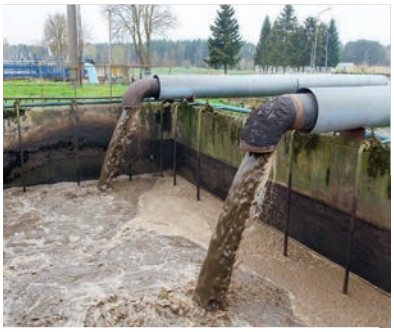

pH / Redox (ORP) Input specifications

Measurement input	Single ended or differential with solution ground. **pH** Separate glass and reference electrode pair. Combination electrode. **Redox (ORP)** Separate glass and reference electrode pair. Combination electrode. Other manufacturer's sensors can be accommodated.
Connection cable	Up to 30 meters (no preamp required). LTH type 54E or LN10 cable.
Measurement ranges	0.00 to 14.00 pH. -1999mV to +1999mV.
Accuracy	± 0.05 pH. ± 3mV.
Linearity	± 0.1% of range.
Repeatability	± 0.1% of range.
Operator adjustment	**Slope** / **Offset** **pH** 60-120% 3 to 11pH **Redox** NA -400mV to +400mV
Calibration Methods	Automatic 4pH / 9pH Buffer Calibration, Alternative buffers supported by user entry into instrument. Manual Slope and Offset Adjustment. Both methods feature post-calibration electrode condition indication.
Custom Buffer	13 point 4pH / 9pH custom buffer entry pre-loaded with standard LTH buffers, alternative buffers also supported by user entry into instrument.
Sensor Input Filter	Adjustable filter that averages the sensor input over a user selectable time (10sec – 5mins).
Temperature Sensor	Pt1000 or PT100 RTD input. Up to 30 meters of cable. Temperature sensor can be mounted in the sensor or separately.
Range of Temperature	-50 °C to +150 °C (-58 °F to +302 °F) for full specification.
Temperature Accuracy	± 0.5 °C (when using PT1000).
Operator Adjustment	± 50 °C or ± 122 °F.
Range of Temperature	-10 °C to +150 °C (+14 °F to +302 °F) for full specification.
Temperature Compensation Type	Automatic or manual -10 °C to +150 °C.

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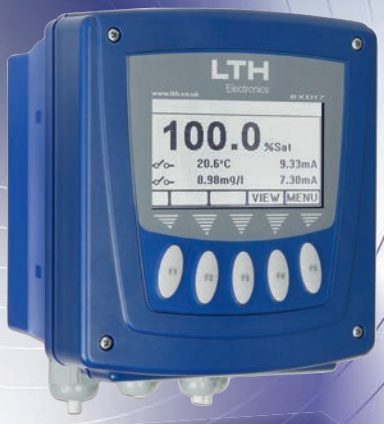
BOD17_ DISSOL_ VED OXYGEN



The BOD17 is a sophisticated microprocessor-controlled instrument for measuring dissolved oxygen. It supports the full range of Broadley James SensorTalk Digital and Hybrid Dissolved Oxygen Sensors as well as traditional Amperometric Sensors.

Its multifunctional LCD screen displays the primary readings, temperature, and operational status, all while offering an intuitive user interface.

The advanced SensorTalk interface enables seamless connectivity with the FMS22 Dissolved Oxygen Sensors, which utilize optical (fluorescence) technology.

This innovative approach ensures long-term stability and accuracy without the high-maintenance requirements of traditional Amperometric sensors.

Additional benefits of the SensorTalk interface include Plug-and-Play sensor functionality. This allows for pre-calibrated sensors to be used in various locations with calibrated data stored directly within the sensor. When connected to the instrument, the calibration values are automatically applied, streamlining the setup process.

The system features a three-element bubble and signal-noise filter, which provides advanced strategies for reducing transient noise.

The BOD17 is equipped with two onboard, volt-free, normally-open relays. These relays have adjustable setpoints and hysteresis, enabling activation based on whether the process variable or temperature exceeds or falls below the designated setpoint.

This makes the instrument versatile for applications such as dosing or control.

Other setpoint functions include alarm activation, time and pulse proportion controls, delayed activation, dose alarm timing, and scheduled cleaning. Relay statuses are conveniently displayed on the main screen.

Furthermore, the instrument supports up to two industry-standard, isolated 0/4-20mA current outputs with adjustable scaling, selectable on-error states, and loop fault detection. These outputs can transmit primary readings, observed process temperature, or for specific sensors the unfiltered percentage saturation value.

These features make the instrument ideal for remote monitoring applications.

BOD17 specifications

Measurement input	Amperometric (Polarographic / Clark) – 0 to 500.0nA.
	SensorTalk Hybrid or Digital Amperometric.
	SensorTalk OptaProbe (Optical).
Sensor Bias Voltage	User defined -1.000V to +1.000V, ±1mV Resolution, ±3mV Output Accuracy.
Connection cable	Up to 30 meters.
Measurement ranges	0 – 199.9 % Saturation, 0 – 30.00 ppm Concentration.
	0 – 9999 mBar pO2 (Partial Pressure of Oxygen). (Calibration specific).
	0 – 999.9 mmHg (Millimetres of Mercury)(Calibration specific).
	0 - 30.00 mg/l Milligrams per Litre.
	Sensor Current (nA) (Amperometric only).
Accuracy	±1.0nA (Polarographic Mode).
	±0.1% of Range (Optical Mode).
Linearity	± 0.1% of range.
Repeatability	± 0.1% of range.
Calibration	Automatic Zero (offset) and Span (slope) calibration with user entered span calibration.
	Automatic loading of stored calibration data from precalibrated SensorTalk electrodes.
	All methods feature post-calibration sensor condition indication.
Calibration Timer	Inbuilt calibration countdown timer which will trigger.
Sensor Filter - OptaProbe and Digital Amperometric	Three element bubble and signal-noise filter system for creating advanced transient noise mitigation strategies.
Sensor Input Filter - Amperometric and Hybrid	Adjustable filter that averages the sensor input over a user selectable time (10sec – 5mins).
Temperature Sensor	BJ 22k thermistor input. Up to 30 meters of cable. Temperature sensor can be mounted in the sensor or separately.
Range of temperature compensation	10 °C to +150 °C (+14 °F to + 302 °F) for full specification.
Temperature Accuracy	± 0.2 °C.
Operator Adjustment (Temperature)	± 50 °C or ± 122 °F.
Temperature Compensation Type	Either via temperature sensor input or manual entered.
Pressure Compensation	Manually via user entered value.
Salinity Compensation	User Programmable from 0 – 40.0 ppt.

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BTD17 — TURBIDITY & SUSPENED SOLIDS

The BTD17 is a digital instrument designed for measuring turbidity and suspended solids. Compatible with the two digital turbidity sensors: TU8325 and TU8525, and the two digital suspended solids sensors: TU8355 and TU8555.

The sensors have been designed to measure turbidity values according to the nephelometric Method (EN 27027) for use with drinking water, civil and industrial treatment, and water quality monitoring.

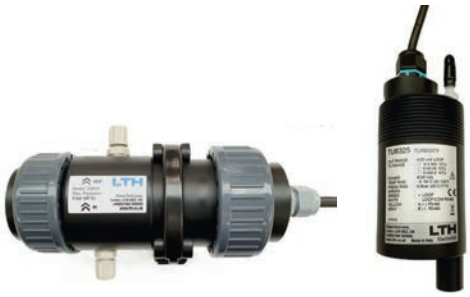
The sensors feature a measuring system comprising of an infrared light source, a 90-degree, scattered light detector, a clean lens status detector, and a temperature sensor.

The TU8325 & TU8525 are designed for submersible applications and are provided with an auto clean nozzle for external pressured air ensuring the sensing lenes are clean of any contamination.

Whilst the TU8525 & TU8555 are designed for in flow applications for insertion into a flow cell or pipe. For both sensors the measurement performance is identical.

Equipped with two adjustable, volt-free relays, the BTD17 can activate based on setpoint thresholds for variables like temperature, making it suitable for diverse applications such as dosing or bleeding. Additional functionalities include alarm activation, proportional timing, delayed activation, dose alarms, and cleaning schedules. Relay statuses are easily monitored on the main screen.

The instrument also offers up to two isolated 0/4-20mA outputs with scalable adjustments, on-error state options, and loop fault detection, enabling it to transmit readings and temperatures for remote monitoring. A single contact input provides remote control to switch the device to offline mode or activate preconfigured settings.



BTD17 specifications

Measurement input	TU8325 and TU8525, Digital Turbidity Sensors.	
	TU8355 and TU8555, Digital Suspended Solids Sensors.	
Connection cable	Up to 30 meters.	
Measurement ranges	TU8325 and TU8525.	
	0-4.000 NTU, 0-40.00 NTU, 0-400.0 NTU.	
	TU8355 and TU8555.	
	0-99.9 FTU, 0-999 FTU, 0-9999 FTU.	
Accuracy	±1.0nA (Polarographic Mode).	
Conversion (TSS) (TU8355 and TU8555 sensors only)	Conversion between the raw suspended solids reading and scaled value. Uses either the sensors built in Total Suspended Solids (TSS) system, which uses a TSS/FTU factor to produce an equivalent reading, or the instrument's user set 11-point linearisation curve.	
TSS Factor	User adjustable range 0-9.999.	
Units	User selectable %, ppt, ppm, ppb, g/l, mg/l, µg/l.	
Accuracy	<1% of the full scale selected.	
Operator Adjustment	Zero	TU8325 and TU8525.
		± 0.400 NTU on all scales.
		TU8355 and TU8555.
		±10 FTU on all scales.
	Span	70 – 130 %.
Calibration Methods	Automatic Zero and Span calibration using user entered solution values.	
Measurement Faults	The sensor can indicate problems that affect the measurement, such as dirt on the optical windows, lack of contact with liquid and external light too high.	
Sensor Input Filter	The sensor has a filter with two selectable response time.	
	The user can separately set the response time relative to signals of small or large variation to obtain good reading stability and fast response to the variations of the measurement in the process.	
Temperature Sensor	RTD Pt100 (built-in to sensor).	
Range of Temperature Measurement	0-50.0 °C.	
Temperature Compensation Coefficient	Internal table applied to the measurement by the sensor.	

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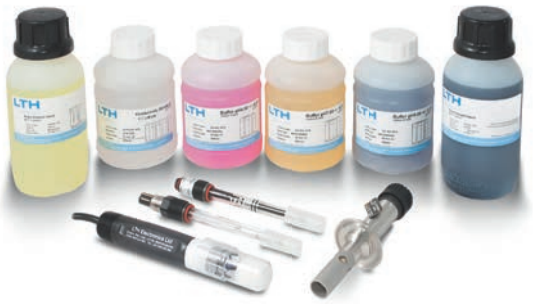
BMD17 mA/ _INPUT

The BMD17 is a versatile, microprocessor-controlled mA input measurement device designed for compatibility with both loop-powered and self-powered current output transmitters/sensors. It features a multifunctional LCD screen that displays the primary measurement, raw mA input, operational status, and serves as an intuitive interface for users. Equipped with two on-board volt-free, normally-open relays, the BMD17 offers adjustable setpoints and hysteresis. Each relay can be configured to activate when the process variable exceeds or falls below the setpoint, making the device ideal for various dosing or bleeding applications. Additional setpoint features include alarm-based activation, time and pulse proportional control, delayed activation, dosing alarm timers, and scheduled cleaning. Relay statuses are conveniently displayed on the main screen.

The instrument also supports up to two isolated, industry-standard 0/4-20mA current outputs, which offer adjustable scaling, error state selection, and loop fault detection.

These outputs enable seamless transmission of the primary measurement for remote monitoring. Moreover, a single contact input allows for remote control of the device, enabling it to switch to an offline state, deactivating relays and setting the current output to a predefined value or to apply an alternate preconfigured setup.



BMD17 specifications

Measurement input	0 to 24mA input, fully isolated from instrument supply.
Loop Modes	mA Input – Standard mA input from transmitter, 100Ω input impedance, max loop voltage 35V.
	Loop Powered – The BMD17 will supply 24V to power the current loop.
	3 Wire – The BMD17 can supply an alternative 24V 30mA max output via the "24v PWR" pin to power a 3 wire transmitter.
Input Mode	0 – 20 mA (Linear).
	4 – 20 mA (Linear).
	2 Custom Curves (Non-Linear).
Display Ranges	± X.XXX
	± XX.XX
	±XXX.X
	±XXXX
Custom Units	Maximum of 5 Alphanumeric Characters.
Connection Cable	Up to 30 meters.
Error States	Input under 4mA (when using 4-20mA Input).
	Input over 20mA.
Accuracy	±0.1% of reading.
Linearity	±0.1% of range.
Repeatability	±0.1% of range.
Calibration Methods	Reading Offset Calibration.
	Automatic 2 Point 0/4mA and 20mA Calibration.
Calibration Reminder	Inbuilt calibration count down timer which will trigger an alarm when calibration interval has expired.

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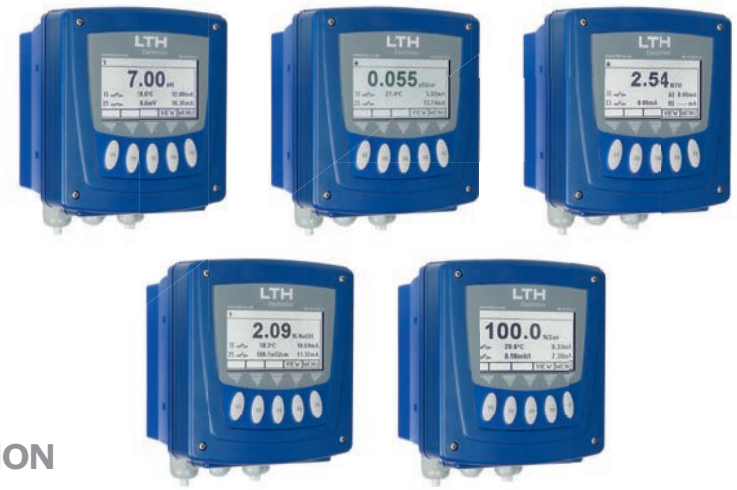
ORDER CODES

TYPE	STOCK No.	DESCRIPTION
BCD17 Contacting conductivity instrument		
BCD17	1017	IP66 Surface mounting conductivity instrument with 2 relays & single 4-20 mA current output. 90-265vAC supply.
BCD17LV	1024	IP66 Surface mounting conductivity instrument with 2 relays & single 4-20 mA current output. 12-30vDC supply.
BCD17A	1018	IP66 Surface mounting Advanced contacting conductivity instrument with 2 relays & 2 x 4-20mA current outputs.
BCD17LVA	1025	P66 Surface mounting Advanced Electrodeless conductivity instrument with 2 relays & 2 x 4-20mA current outputs. 12-30vDC supply.
BED17 Electrodeless conductivity instrument		
BED17	1217	IP66 Surface mounting Electrodeless conductivity instrument with 2 relays & single 4-20 mA current output. 90-265vAC supply.
BED17LV	1204	IP66 Surface mounting Electrodeless conductivity instrument with 2 relays & single 4-20 mA current output. 12-30vDC supply.
BED17A	1216	IP66 Surface mounting Advanced Electrodeless conductivity instrument with 2 relays & 2 x 4-20mA current outputs. 90-265vAC supply.
BED17LVA	1205	IP66 Surface mounting Advanced Electrodeless conductivity instrument with 2 relays & 2 x 4-20mA current outputs. 12-30vDC supply.
BPD17 pH / Redox Instrument		
BPD17	2017	IP66 Surface mounting pH / Redox instrument with 2 relays & single 4-20 mA current output. 90-265vAC supply.
BPD17LV	2024	IP66 Surface mounting pH / Redox instrument with 2 relays & single 4-20 mA current output. 12-30vDC supply.
BPD17A	2018	IP66 Surface mounting pH / Redox instrument with 2 relays & 2 x 4-20mA current outputs. 90-265vAC supply.
BPD17LVA	2025	IP66 Surface mounting pH / Redox instrument with 2 relays & 2 x 4-20mA current outputs. 12-30vDC supply.
BOD17 Dissolved Oxygen Instrument		
BOD17	4017	IP66 Surface mounting Dissolved Oxygen instrument with 2 relays & transmitters/sensors single 4-20 mA current output. 90-265vAC supply.
BOD17LV	4024	IP66 Surface mounting Dissolved Oxygen instrument with 2 relays & single 4-20 mA current output. 12-30vDC supply.
BOD17A	4018	IP66 Surface mounting Dissolved Oxygen instrument with 2 relays & 2 x 4-20mA current outputs. 90-265vAC supply.
BOD17LVA	4025	IP66 Surface mounting Dissolved Oxygen instrument with 2 relays & 2 x 4-20mA current outputs. 12-30vDC supply.



TYPE	STOCK No.	DESCRIPTION
BTD17 Turbidity & Suspended Solids Instrument		
BTD17	6417	IP66 Surface mounting Turbidity input instrument with 2 relays & single 4-20 mA current output. 90-265vAC supply.
BTD17LV	6424	IP66 Surface mounting Turbidity input instrument with 2 relays & single 4-20 mA current output. 12-30vDC supply.
BTD17A	6418	IP66 Surface mounting Turbidity input instrument with 2 relays & 2 x 4-20mA current outputs. 90-265vAC supply.
BTD17LVA	6425	IP66 Surface mounting Turbidity input instrument with 2 relays & 2 x 4-20mA current outputs. 12-30vDC supply.
BMD17mA Input Instrument		
BMD17	5017	IP66 Surface mounting mA input instrument with 2 relays & single 4-20 mA current output. 90-265vAC supply.
BMD17LV	5024	IP66 Surface mounting mA input instrument with 2 relays & single 4-20 mA current output. 12-30vDC supply.
BMD17A	5018	IP66 Surface mounting mA input instrument with 2 relays & 2 x 4-20mA current outputs. 90-265vAC supply.
BMD17LVA	5025	IP66 Surface mounting mA input instrument with 2 relays & 2 x 4-20mA current outputs. 12-30vDC supply.
BXD17 Series Mounting Kits Accessories		
BXD17PAMK	6014	BXD 17 Series Panel mount kit, includes mounting bracket, mounting clips, fixing screws & seal.
BXD17PIMK	6024	BXD17 Series Pipe mount kit includes mounting plate, fixing screws & 2 x Jubilee clips.
Micro SD	118/813	16GB MICRO-SD Card with MICRO-SD to SD adaptor SDSDQB-016G-B35.

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FOR MORE INFORMATION ON THE BXD17 RANGE, CONTACT US TODAY ON +44 (0)1582 593693

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