



BL983313 • BL983320 • BL983322

EC Mini Controllers

Measuring in $\mu\text{S}/\text{cm}$

- Models available with 4-20 mA galvanic isolated output with external dosing disable contact
- Large Clear LCD
- Fire Retardant Casing
- Splash-Resistant Cover

These compact, panel mounted, process controllers are for measuring electrolytic conductivity (EC) of a process stream. Users may choose from automatic or manual dosing modes. When in automatic mode the dry contact relay is activated when a reading is above the set point.

HI983313's relay can be used to activate a dosing pump or a solenoid that controls a valve. HI983313 is ideal for source water or rinse water applications.

BL983320's relay can be used to activate a solenoid that switches from one DI (deionized) tank to another or to open a valve that will allow lower EC water to flow into a tank being monitored in order to lower its EC. The BL983320 can also be used to monitor the quality of water produced from ion exchange, reverse osmosis (RO) or distillation.

BL983322's relay can be used to activate a solenoid that switches from one DI (deionized) tank to another or to open a valve that will allow lower EC water to flow into a tank being monitored in order to lower its EC. The BL983322 can also be used to monitor the quality of water from DI tanks or from a distillation apparatus.

Specifications	BL983313	BL983320	BL983322
Range	0 to 1999 $\mu\text{S}/\text{cm}$	0.0 to 199.9 $\mu\text{S}/\text{cm}$	0.00 to 19.99 $\mu\text{S}/\text{cm}$
Resolution	1 $\mu\text{S}/\text{cm}$	0.1 $\mu\text{S}/\text{cm}$	0.01 $\mu\text{S}/\text{cm}$
Accuracy	$\pm 2\%$ f.s. at 25 °C (77 °F)		
Temperature Compensation	automatic from 5 to 50°C (41 to 122°F) with $\beta = 2\%/^{\circ}\text{C}$		
Calibration	manual, with calibration trimmer		
Output	galvanic isolated 4-20 mA output; accuracy ± 0.2 mA; 500 Ω maximum load (BL9833XX-2 only)		
Dosing	adjustable setpoint	covers measure range	
	relay	relay closes when reading > setpoint	
	dosing contact	maximum 2A (internal fuse protection), 250 VAC or 30 VDC	
	overtime	Dosing relay is disabled if setpoint is not reached within the set time interval. Timer adjustable between approx. 5 to 30 minutes, or disabled by jumper.	
	external disable input	Normally Open: enable / Closed: disable dosing (BL9833XX-2 only)	
Power Supply	models "-0": 12 VDC adapter (included) models "-1": 115/230 VAC; 50/60Hz models "-2": 115/230 VAC, 4-20 mA Output input: 10 VA for 115/230 VAC, 50/60 Hz models; 3 W for 12 VDC models; fuse protected; installation category II.		
Dimensions	83 x 53 x 99 mm (3.3 x 2.1 x 3.9")		
Weight	12 VDC models, 200 g (7.1 oz); 115/230 VAC models 300 g (10.6 oz)		
Ordering Information	BL983313-0 (12 VDC), BL983313-1 (115/230 VAC), BL983313-2 (115/230 VAC, 4-20 mA Output), BL983320-0 (12 VDC), BL983320-1 (115/230 VAC), BL983320-2 (115/230 VAC, 4-20 mA Output) BL983322-0 (12 VDC) and BL983322-1 (115/230 VAC) and BL983322-2 (115/230 VAC, 4-20 mA Output) are supplied with mounting brackets, transparent cover and quick reference guide with instrument quality certificate.		
Recommended Probe	HI7634-00 EC/TDS probe with internal temperature sensor and 2 m (6.6') cable (not included). HI7634-00/4 EC/TDS probe with internal temperature sensor and 4 m (13.1') cable (not included). HI7634-00/5 EC/TDS probe with internal temperature sensor and 5 m (16.4') cable (not included).		

Adjustable Dry Contact Dosing Relay

These mini controllers feature a dosing relay that is activated when the reading is above a user programmable set point.

Programmable Overdose Protection

For enhanced safety the mini controller can be programmed to deactivate the dosing relay if the set point is not reached within a specified time interval. The overdosing timer is programmable from 5 to 30 minutes or disabled.

Relay Control Override

With the flick of a switch the mini controller's relay can be disabled (Off), placed in control (Auto), or be activated for manual operation (On) which is useful for priming a dosing pump.

Multicolor LED Indicator

Multicolor LED indicator allows an operator to quickly check the status of the controller. Green = Meter in measurement mode and reading is below the set point. Orange/Yellow = Reading is above the set point and the relay is activated. Blinking Red = Indicates an alarm condition such as when the maximum dosing time has been exceeded.

Fuse Protected Dosing Contacts

The relay dosing contact is rated for up to a 2A load and is fuse protected.

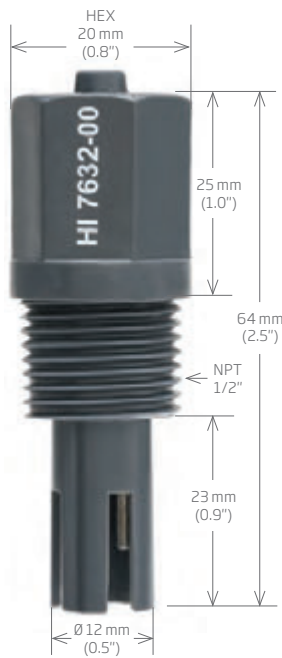
Labeled Termination Connections

Quick-connect terminal blocks are clearly labeled for easy connection to power, conductivity probe and relay that can be used to operate a dosing pump, valve, audible alarm, or light.

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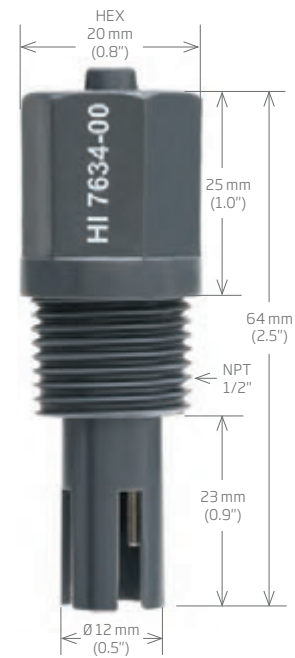


High Range Probe for EC/TDS Mini Controllers (mS/cm and ppt)

- Two-pole amperometric probe
- Internal temperature sensor
- High range measurement (mS/cm and ppt)

The HI7632-00 is a two-pole amperometric EC/TDS probe for panel mounted mini controllers that measure in the **high range (mS/cm and ppt)**. This probe has a built-in temperature sensor for Automatic Temperature Compensation and a ½" male NPT threaded connection for insertion mounting. The HI7632-00 probe provides a rapid response and high accuracy EC or TDS measurement.

Specifications	HI7632-00
Type	Two-pole Amperometric
NTC Sensor	4.7 KΩ
Cell Constant	1 cm ⁻¹
Materials	PVC body; AISI 316 electrodes
Temperature	5 to 50 °C (41 to 122 °F)
Maximum Pressure	3 bar
Probe Length	64 mm (2.5")
Connection	½" NPT thread
Cable Length	2 m (6.6') and 6 m (19.7') available
Ordering Information	HI7632-00 with 2 m (6.6') of cable attached HI7632-00/6 with 6 m (19.7') of cable attached
Recommended Controllers	BL983317, BL983318, BL983327



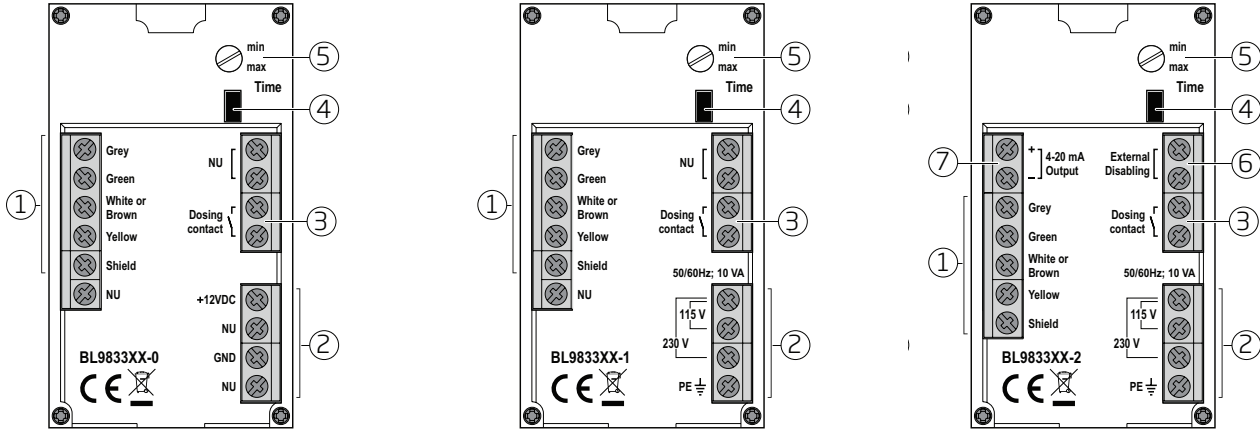
Low Range Probe for EC/TDS Mini Controllers (µS/cm and ppm)

- Two-pole amperometric probe
- Internal temperature sensor
- Low range measurement (µS/cm and ppm)

The HI7634-00 is a two-pole amperometric EC/TDS probe for panel mounted mini controllers that measure in the **low range (µS/cm and ppm)**. This probe has a built-in temperature sensor for Automatic Temperature Compensation and a ½" male NPT threaded connection for insertion mounting. The HI7634-00 probe provides a rapid response and high accuracy EC or TDS measurement.

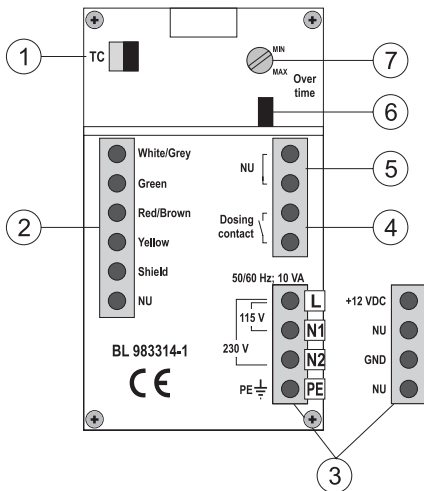
Specifications	HI7634-00
Type	Two-pole Amperometric
NTC Sensor	9.4 KΩ
Cell Constant	1 cm ⁻¹
Materials	PVC body; AISI 316 electrodes
Temperature	5 to 50 °C (41 to 122 °F)
Maximum Pressure	3 bar
Probe Length	64 mm (2.5")
Connection	½" NPT thread
Cable Length	2 m (6.6'), 4 m (13.1'), and 5 m (16.4') available
Ordering Information	HI7634-00 with 2 m (6.6') of cable attached HI7634-00/4 with 4 m (13.1') of cable attached HI7634-00/5 with 5 m (16.4') of cable attached
Recommended Controllers	BL983313, BL983315, BL983319, BL983320, BL983321, BL983322, BL983324, BL983329

BL983313, BL983315, BL983317, BL983318, BL983319, BL983320,
BL983321, BL983322, , BL983324, BL983327, BL983329



1. Probe connection terminal, low voltage connections
2. Power supply terminal
 - BL9833XX-1 & BL9833XX-2 series, high voltage connections, 115/220 VAC
 - BL9833XX-0 series, low voltage connections, 12 VDC
3. Contact acts as a switch for driving the dosing system
4. External disabling contacts
5. Jumper for enabling (jumper in) or disabling (jumper removed) the overtime control
6. Trimmer for overtime setting (between 5 and 30 minutes)
7. 4-20 mA output contacts
 - BL9833XX-2 series only
 - Follow lead markings +positive / -negative to ensure output leads are correctly wired

BL983314



1. TC jumper for selection of temperature coefficient (β)
2. Connections for HI 3314 resistivity probe
3. Power supply terminal:
 - for BL983314-0 model: 12 Vdc adapter
 - for BL983314-1 model: 115 Vac or 230 Vac option
4. This contact acts as a switch for driving the dosing system (e.g. dosing pump)
5. Not used contact
6. Jumper for enabling (jumper in) or disabling (jumper removed) the overtime control
7. Trimmer for overtime setting (typically from 5 to 30 minutes)

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