Instruction Manual

BL 983329-0
BL 983329-1

Panel-Mounted TDS Indicators & Controllers

Black Stone

Dear Customer,

Thank you for choosing a Hanna Instruments product.
Please read this instruction manual carefully before using these instruments. This manual will provide you with the necessary information for correct use of these instruments.
If you need additional technical information, do not hesitate

PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it carefully to make sure that no damage has occurred during shipping. If there is any damage, notify your Dealer or the nearest Hanna Customer Service Center. Each meter is supplied with:
• Mounting brackets
• Instruction manual
Note: Save all packing material until you are sure that the instrument functions correctly. All defective items must be returned in the original packing with the supplied accessories.

GENERAL DESCRIPTION

BL983329-0 and BL983329-1 are TDS indicators and controllers with a relay output designed for simplicity of use in a wide range of applications.

Connections and wiring to probe, power supply and contacts are made via the terminal blocks on the rear panel.

The probe is easy to clean and requires little maintenance.

Other features include: automatic temperature compensation of readings, single point calibration, overtime control system, multi-colour LED for indicating if the meter is in measurement/dosing/alarm condition, possibility to set (Off-Auto-On switch) dosing action mode.

Two models are available:

BL 983329-0 powered at 12 Vdc;

BL 983329-1 powered at 115 or 230 Vac.

SPECIFICATIONS

Range	0 to 999 ppm
Resolution	1 ppm
Accuracy (@ 25 °C / 77 °F)	±2% f.s.
TDS conversion factor	0.5
Probe	**HI 7634-00** EC/TDS probe (not included)
Temp.Compensation	Automatic from 5 to 50 °C (41 to 122 °F); β=2%/°C
Calibration	Manual, through **CAL** trimmer
Dosing Contact	Maximum 2A (fuse protected), 250 Vac, 30 Vdc Contact close when measure > setpoint
Setpoint	Adjustable, from 0 to 999 ppm
Overtime	Adjustable, typically from 5 to approx. 30 minutes
Power Consumption	10 VA
Installation Category	II
Power supply:	External (fuse protected)
BL983329-0	12 Vdc
BL983329-1	115/230 Vac ; 50/60 Hz
Dimensions	83 x 53 x 99 mm (3.3 x 2.1 x 3.9")

ASSEMBLING VIEW

Mounting bracket
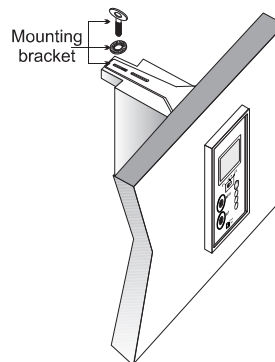
ACCESSORIES

HI 7634-00	EC/TDS probe
HI 70031P	1413 μS/cm calibration solution, 20 mL sachet (25 pcs.)
HI 7031M	1413 μS/cm calibration solution, 230 mL
HI 7031L	1413 μS/cm calibration solution, 500 mL
HI 7061M	Probe cleaning solution, 230 mL bottle
HI 7061L	Probe cleaning solution, 500 mL bottle
HI 710005	12 Vdc power adapter, US plug
HI 710006	12 Vdc power adapter, European plug
HI 710012	12 Vdc power adapter, Australian plug
HI 710013	12 Vdc power adapter, South African plug
HI 710014	12 Vdc power adapter, UK plug
HI 731326	Calibration screwdriver (20 pcs.)
HI 740146	Mounting brackets

Front panel

BL 983329 TDS CONTROLLER

ppm

SET   TIMEOUT

OFF   AUTO   ON

MEAS

SET

CAL
SET

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1   2   3   4   5   6   7
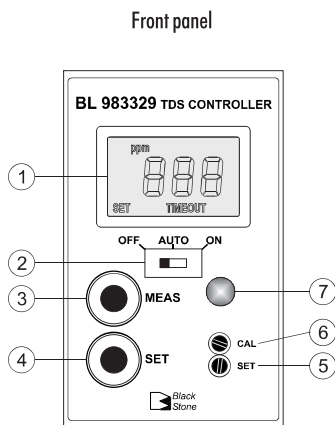
1. Liquid Crystal Display
2. Switch for selecting dosing mode:
    • **OFF** = dosing disabled
    • **Auto** = automatic dosage, depending on setpoint value
    • **ON** = dosing always active
3. **MEAS** key to set the instrument to measurement mode
4. **SET** key to display and set the setpoint value
5. **SET** trimmer to adjust the setpoint value
6. **CAL** trimmer
7. 3-colour LED indicator:
    • Green = meter in measurement mode
    • Orange/Yellow = dosing in progress
    • Red, blinking = indicates an alarm condition

Rear panel

Grey
Green
White or
Brown
Yellow
Shield
NU

NU

Dosing
contact

50/60 Hz: 10 VA

115 V
230 V

BL 9833xx-1

PE

+12 VDC
NU
GND
NU
NU

L
N1
N2
PE

Over
time

1   2   3   4   5   6
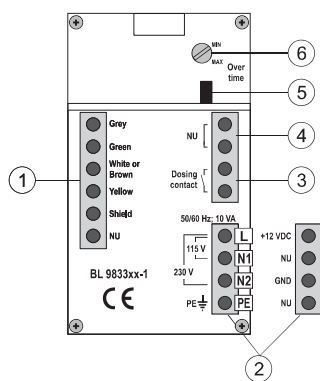
1. Connections for EC probe
2. Power supply terminal:
    • for **BL983329-0** model: 12 Vdc adapter
    • for **BL983329-1** model: 115 Vac or 230 Vac option
3. This contact acts as a switch for driving the dosing system (e.g. dosing pump)
4. Not used contact
5. Jumper for enabling (jumper in) or disabling (jumper removed) the overtime control
6. Trimmer for overtime setting (typically from 5 to 30 minutes)

⚠ All external cables connected to the rear panel should end with cable lugs.

⚠ A circuit breaker (rated 6A max.) must be connected in close proximity to the equipment, and in a position easy to reach by the operator, for disconnection of the instrument and of all the devices connected to the relays.

REAR PANEL CONNECTIONS
Terminals #1: Probe
• Connect the **HI 7634-00** probe by following the colour indication of the wires.
Terminals #2: Power Supply
• Model **BL983329-0**: connect the 2 wires of a 12 Vdc power adapter to the terminals +12 Vdc and GND.
• Model **BL983329-1**: connect a 3-wire power cable to the terminals while paying attention to the correct earth (PE), line (L) and neutral (N1 for 115 V or N2 for 230 V) contacts.
Terminals #3: Dosing Contact
• This contact drives the dosing system according to the selected setpoint.
Note: The setpoint has a typical hysteresis value comparable to the meter's accuracy.
Terminals #4: Not Used Contact
Overtime system: jumper (#5) and trimmer (#6)
• This system allows the user to set a maximum dosing period, by adjusting the rear trimmer from 5 (min) to approx. 30 (max) minutes.
• When the set time is exceeded, any dosing action stops, the LED indicator on the front panel will blink Red and the LCD will show the "**TIMEOUT**" warning message. To exit the overtime condition, set the **OFF/Auto/ON** switch to **OFF** position, and then to **Auto** again.
• For disabling the overtime feature, simply remove the jumper from the rear panel.
Note: The overtime system works only if the **OFF/Auto/ON** switch is in **Auto** position.

OPERATING THE METER
Before proceeding make sure that:
• the meter has been calibrated;
• the setpoint value has been properly adjusted;
• all rear panel wiring and selections are correct;
• the **OFF/Auto/ON** switch is in the desired position.
Install or immerse the probe in the solution to be monitored, then press the **MEAS** key (if necessary).
The LCD will show the TDS (ppm) value. The LED indicator will light up Green when the meter is in measurement mode and dosing is not active, while it will light up Orange/Yellow signaling that a dosing action is in progress.

CALIBRATION
To calibrate the meter, proceed as follows:
• ensure the meter is in measurement mode;
• immerse the probe in **HI 7031** calibration solution (1413 μS/cm);
• shake briefly and wait for reading to stabilize;
• adjust the **CAL** trimmer to read "**706 ppm**" on the LCD.

SETPOINT
Press the **SET** key: the display will show the default or previously adjusted value, together with the "**SET**" indication. Using a small screwdriver adjust the **SET** trimmer until the desired setpoint value is displayed.
After 1 minute the meter automatically returns to the normal mode; if not, press the **MEAS** key.

PROBE MAINTENANCE
To improve the probe's performance and prolong its life, it is recommended to clean it regularly.
• Immerse the tip of the probe in **HI 7061** Cleaning Solution at least for one hour.
• If a more thorough cleaning is required, brush the metal pins with very fine sandpaper.
• After cleaning, rinse the probe with tap water and recalibrate the meter.
• When not in use, clean the probe before storing it.

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