

# GroLine Hydroponics Monitor



## 24/7 Monitoring.

The HI981420 GroLine Monitor provides 24 hour continuous monitoring of pH, conductivity (EC or TDS), and temperature in hydroponic nutrients. Quick to setup and simple to use, this monitor was designed with Hydroponics, Aquaponics, and Greenhouses in mind. Make your nutrient solution easy to manage with the GroLine Monitor and combined pH/EC/Temperature probe.

## Instantly See All Measurements.

The versatile display of the GroLine Monitor allows for three screen modes. The LCD can display all three essential hydroponic nutrients measurements at one time, a 3-second cycle of single measurements, or a real-time graph screen with options for measurement selection and log recall.

## Monitor Changes Over Time.

Fluctuations in your hydroponic nutrient solution can have lasting effects on your plants. The GroLine Monitor automatically logs every 15 minutes for the last 30 days, and stores min, max, and average values so you can recognize when patterns arise and help prevent future problems. For review and storage, use the USB-C to easily transfer data to a flash drive or PC using a cable. Files are exported as .csv.

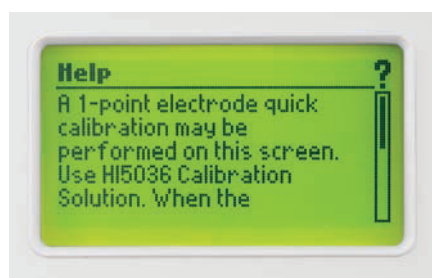
## Grow With Confidence.

The GroLine Monitor frees up your time by doing the testing for you. Simply set high and low alarm levels - if your hydroponic nutrient solution moves out of range a measurement error will display. A quick look at the large display will let you know if your nutrient solution needs adjusting.

## Features

- 3 sensors combined in a single rugged probe body
  - pH electrode with renewable cloth junction, amperometric EC/TDS sensor, and an internal temperature sensor for temperature compensated readings
- IP65 rated enclosure designed to withstand harsh growing environments
- Selectable EC to TDS conversion factor: choice of either a 0.5 or 0.7 conversion factor
- Automatic Temperature Compensation
  - All readings are compensated for variations in temperature. Temperature displayed in °C or °F along with pH, EC or TDS reading
- Large LCD with plant-friendly green backlighting
- Ambient light sensor for automatic LCD dimming
- Calibration reminder
- Data logging for 30 days
  - Logs every 15 minutes for last 30 days, stores min, max, and average values

## On-Screen Features



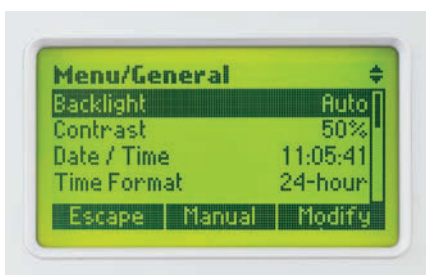
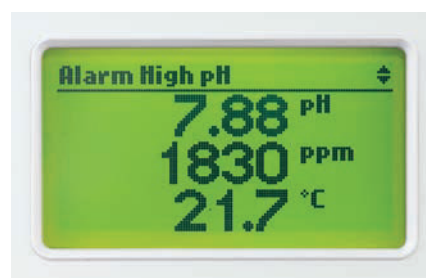
### On-screen Help

Context sensitive help is available at the push of a button.



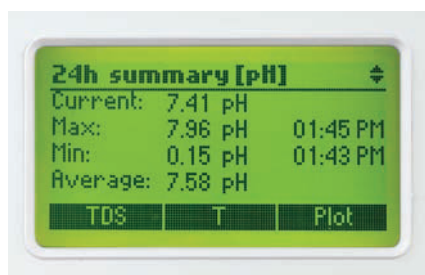
### High and Low Alarms

High and Low alarms for pH, EC/TDS and Temperature. Warns when process is out of desired range by flashing display and message



### Menu

Easy to navigate menu system to access calibration, GLP, and meter setup.



### Data Viewing

30 day and 24 hour summary screens can be viewed in plot or detail views. Real-time data can be viewed in plot view.



### Data Transfer

Data transfer: USB-C port for easy data transfer to memory stick or PC



### Calibration Timeout

Set a reminder to calibrate your probe. Reminder can be set from 1 to 30 days



### GLP

The HI981420 can store calibration info from the last 5 pH and EC calibrations.



## Quick Cal

Quick Cal is for use with Hanna's GroLine pH and/or EC/TDS meters. Using the Quick Cal function found in compatible meters allows for single-point calibration for pH and/or conductivity sensors.



### Simpler with a combination probe

The HI1285-8 is a 3-in-1 pre-amplified combination probe. This probe is built to be durable, with an extendable cloth pH junction and two graphite sensors for reliable conductivity readings. A built-in temperature sensor ensures fast, accurately compensated readings even during sudden temperature fluctuations.

## Supplied Complete

HI981420 GroLine Monitor is supplied with all the tools necessary so you can start monitoring right away.



Specifications	HI981420	
pH	Range*	0.00 to 14.00 pH; 0.0 to 14.0 pH
	Resolution	0.01 pH; 0.1 pH
	Accuracy	±0.05 pH, ±0.1pH
	Calibration	one or two-point calibration (using pH 4.01, 7.01, 10.01 buffers) using auto buffer recognition; one-point calibration using quick calibration solution
	Temperature Compensation	automatic from 0.0 to 60.0°C (32.0 to 140.0°F)
EC	Range	0.00 to 10.00 mS/cm
	Resolution	0.01 mS/cm
	Accuracy	±0.1 mS/cm from 0.00 to 5.00 mS/cm; ±0.2 mS/cm from 5.00 to 10.00 mS/cm)
	Calibration	one-point at 1.41 mS/cm or 5.00 mS/cm using auto standard recognition; one-point calibration using quick calibration solution
	Temperature Compensation	automatic, with $\beta = 1.9\%/^{\circ}\text{C}$
TDS	Range	0 to 5000 ppm (0.5 TDS Factor)*; 0 to 7000 ppm (0.7 TDS Factor)*
	Resolution	10 ppm (mg/L)
	Accuracy	±2%FS
	Calibration	through EC calibration
	Conversion Factor (CF)	0.5 (500 ppm) or 0.7 (700 ppm)
Temperature	Range	0.0 to 60.0°C/32.0 to 140.0°F
	Resolution	0.1°C/0.1°F
	Accuracy	±0.5°C/±1°F
Probe	Description	HI1285-8 pH/EC/TDS/temperature polypropylene body, pre-amplified multiparameter probe with internal temperature sensor DIN connector and 2 m (6.6') cable
	Max Pressure	0.2 bar
	Range	0 to 13 pH
	Ingress protection	IP68 (continuous immersion up to 2 meters)
	Dimensions	187 x 25 x 25mm (7.36 x 0.98 x 0.98")
	Weight	191g ( 7.7oz.)
Additional Specifications	Automatic Logging	measurements (pH, EC, TDS, Temperature) min/max/average/status logged continuously at 15 minutes interval, recall graphic modes
	Data Export	export on USB-C flash drive or PC; log files in CSV format
	Data Storage	30 days stored data at 15 minutes interval
	Display	128 x 64 pixel B/W LCD with green backlight. Automatic backlight dimming using ambient light sensor.
	GLP	Good Laboratory Practice with last 5 pH and EC calibration history.
	Monitor Ingress Protection	IP65 (dust and low pressure water jets)
	Alarms	high and low with enable/disable option for all parameters.
	USB-C (Host/Device)	Export logged data on USB flash drive / PC
	Power Supply	12VDC adapter (included)
	Environment	0 to 50 °C (32 to 122 °F), RH max 95% non-condensing
	Dimensions	125 x 185 x 38 mm (4.92 x 7.28 x 1.49")
Weight	333g ( 11.7oz.)	
Ordering Information	<b>HI981420-01</b> (115V) and <b>HI981420-02</b> (230V) is supplied with HI1285-8 multiparameter probe, Quick Cal buffer solution sachets (2), HI700661 electrode cleaning solution sachets for agriculture (2), power adapter, quality certificates and instruction manual.	

\*Note: 1000  $\mu\text{S}/\text{cm}$  = 500 ppm with 0.5 TDS Factor  
= 700 ppm with 0.7 TDS Factor

pH solutions begin on page 2.144; Quick Cal solutions begin on page 2.151;  
EC and TDS solutions begin on page 5.34; see pH electrode specifications on page 1.64