

# Multifunction Data Logger

HD31

3-CHANNEL MULTIFUNCTION DATA LOGGER

## INTRODUCTION

The HD31 is a state-of-the-art portable multifunctional data logger, designed for professionals who demand precision and versatility in their measurements. Featuring a vibrant color graphic LCD display, this compact yet powerful device offers unmatched ease of use and reliability. Whether you're measuring environmental factors or industrial parameters, the HD31 ensures accurate data collection, thanks to its cutting-edge technology and user-friendly features.

## FEATURES

### Multifunctional Capability

Equipped with three independent inputs, the HD31 is capable of connecting to SICRAM probes, supporting a wide range of physical measurements.

### Automatic Probe Recognition

The integrated SICRAM module allows for immediate recognition of connected probes and stores calibration data within the probe, ensuring seamless interchangeability without recalibration.

### User-Friendly Display

The HD31's display showcases up to 36 different measurements, with three readings available simultaneously in numeric format, alongside real-time graphs for enhanced data visualization.

### Data Logging Excellence

With a powerful data logging function, the device stores readings directly to an SD memory card in CSV format, with customizable logging intervals, providing long-term data storage.

### Comprehensive Connectivity

The mini-USB port allows for quick PC connection, facilitating easy configuration and data transfer.

### Effortless Reporting

The HD31 automatically generates detailed measurement reports in PDF format, ensuring professional and organized data documentation.

## CONFIGURATION & MEASUREMENT

### Configuration designed for flexibility

Three inputs can accommodate SICRAM probes, which automatically transfer their calibration data to the device. This ensures that probes can be freely swapped between inputs or even with other HD31 units without requiring recalibration, maintaining accuracy at all times. Additionally, the device is compatible with non-SICRAM probes when used with the appropriate interface modules, broadening its measurement capabilities.

The HD31 supports a variety of measurement units depending on the physical quantity being assessed, offering unparalleled versatility. Users can customize the logging intervals, and the device's real-time graphing functionality allows for immediate data analysis. Each recorded sample includes date and time stamps, enabling precise tracking of measurement history.



### ONE INSTRUMENT, MANY MEASUREMENTS

Temperature - Relative Humidity  
- Pressure - Air speed - Illuminance -  
Irradiance - CO<sub>2</sub> - Direct voltage and  
current



### GREAT FLEXIBILITY

Three independent input channel;  
interchangeable probes; automatic  
recognition of the probes



### DATA IMMEDIATELY AVAILABLE

Simultaneous display of 3 variables in  
numerical form Real time visualization  
on display of the graph of a measured  
variable



### ACCURATE AND RELIABLE

All probes are supplied factory-  
calibrated and do not require additional  
interventions of the users

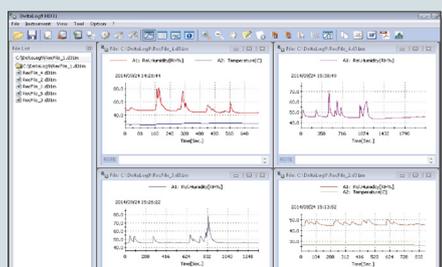
## Technical specifications

Power supply	<ul style="list-style-type: none"> <li>rechargeable 3.7 V Li-ion internal battery</li> <li>external power supply unit</li> <li>PC's USB port</li> </ul>
Battery life	18 hours of continuous operation
Logging	manual or automatic with configurable interval
Storage capacity	SD memory card, up to 8 GB
Inputs	3 inputs with 8-pole DIN45326 connector
Accuracy of the instrument @ 20 °C	± 0.02 % of the measurement
Temperature drift of the instrument @ 20 °C	20 ppm/°C
Long-term stability of the instrument	0.05 %/year
Connections	<ul style="list-style-type: none"> <li>1 USB port with mini-USB connector</li> <li>1 RS232C serial output with RJ12 (6P6C) connector for connection of a serial printer.</li> </ul>
Auto-off	Configurable (2, 5, 10, 15, 20 or 30 min)
Operating conditions	-10...60 °C, 0...85% RH no condensation
Storage Temperature	-25...65 °C
Materials	ABS, 55 shore rubber protection lateral bands and protective shell
Dimensions	165 x 88 x 35 mm without rubber protective shell 180 x 102 x 46 mm with rubber protective shell
Weight	about 400 g (with battery and protective shell)
Protection degree	IP64

## PC application software

Deltalog9 allows to manage the HD31 simply and intuitively from the PC:

- Start and stop recording
- Direct download from PC of all the data contained in the instrument's memory card
- Parameters setting
- Data display as a table or a graph
- Real time display of the measurement data detected by the instrument and possibility to save, print and export in different format
- Reading of battery's charge status



## Ordering codes

<b>HD31</b>	3-channel multifunction data logger for probes with SICRAM module. Supplied with rechargeable battery, SD card, protective rubber shell, USB cable, power supply, carrying case. DeltaLog9 software downloadable from website.
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## Probes and modules in line with instrument

The probes of the instrument are equipped with an "intelligent" module (SICRAM) acting as interface between the probe and the instrument. Inside the module there is a microprocessor circuit with permanent memory performing different functions:

- allows the instrument to recognize the type of connected probe
- stores into memory the probe calibration data
- recognizes the instrument with which it was calibrated
- maintains the factory-calibration and the last calibration data
- stores into memory a serial number allowing the unique identification of the probe.

For probes without SICRAM module, dedicated modules are available.

Temperature with platinum sensors (PRT)	4-wire Pt100
Thermocouple probes	K, J, T, E, R, S, B, N-type
Combined RH and temperature probes	<p>Calculated quantities:</p> <ul style="list-style-type: none"> <li>saturated vapor pressure</li> <li>partial vapor pressure</li> <li>mixing ratio</li> <li>enthalpy</li> <li>absolute humidity</li> <li>dew point temperature</li> <li>wet bulb temperature</li> <li>discomfort index</li> <li>NET index</li> </ul>
Pressure probes	<ul style="list-style-type: none"> <li>absolute</li> <li>relative</li> <li>differential</li> </ul>
Air speed probes	<ul style="list-style-type: none"> <li>hot-wire</li> <li>vane</li> <li>Pitot tubes</li> </ul>
Photometric and radiometric probes	<ul style="list-style-type: none"> <li>illuminance</li> <li>luminance</li> <li>PAR</li> <li>irradiance</li> <li>UVA - UVB - UVC and UVBC irradiance</li> <li>effective irradiance in blue light spectral band</li> <li>combined illuminance and UVA</li> <li>weighted effective total irradiance according to UV action curve</li> <li>global solar irradiance</li> </ul>
Air quality	CO <sub>2</sub>
Electrical	<ul style="list-style-type: none"> <li>direct voltage</li> <li>direct current</li> </ul>