Web data loggers

HD50… SERIES - WI-FI / ETHERNET DATA LOGGERS FOR INDOOR MONITORING

INTRODUCTION

The **HD50 Dataloggers Series** are an advanced and flexible solution for real-time environmental monitoring in indoor environments. Designed to meet the needs of professionals in HVAC, cleanroom management, building automation, and facility monitoring, these devices provide accurate and reliable measurement of a wide range of physical parameters.

With native support for both **Ethernet and Wi-Fi connectivity,** local web access, and compatibility with standard industrial sensors, the HD50 Series enables effortless integration into modern monitoring systems. Whether your goal is regulatory compliance, workplace safety, or energy optimization, the HD50 Series delivers the data you need—securely, efficiently, and intelligently.

FEATURES

Multi-Parameter Monitoring
Models measure temperature, relative humidity, atmospheric and differential pressure. Others detect CO_2, illuminance, and particulate matter (PM1.0, PM2.5, PM4.0, PM10).

Flexible Sensor Integration
Versions with four analog inputs support current (0–20 / 4–20 mA), voltage (±50 mV to 0–10 V), Pt100/Pt1000 sensors, thermocouples (K, J, T, N, E), and potentiometric signals.

Network Connectivity
Wi-Fi and Ethernet interfaces enable dual communication (proprietary and Modbus TCP/IP) with up to 10 simultaneous clients. Data can be sent to FTP, cloud, or email.

Alarm Management
Each channel allows two alarm thresholds. Alerts are triggered via buzzer, LED, and email, with adjustable hysteresis and delay.

Display and Indicators
Available with custom (L) or graphical (G) LCD. Three LEDs indicate power, network, and alarm status.

CONFIGURATION & MEASUREMENT

Web-Based Configuration
Easily access and configure the datalogger from any device on the local network. The integrated web server allows real-time monitoring and setup via any browser on a PC, tablet, or smartphone connected to the same LAN.

PC Software Solutions
Flexible software options for single or multi-device management. HD35AP-S is ideal for configuring and downloading data from one datalogger, while HDServer1 supports automatic detection and simultaneous control of multiple units across the network.

www.senseca.com

TARGETED ENVIRONMENTAL MONITORING
Each model is designed for specific parameters: temperature, humidity, CO_2, pressure, light, or PM.

EASY CONNECTIVITY
Wi-Fi, Ethernet, and Modbus TCP/IP-ready. Send data to FTP, cloud, or email. Connect up to 10 clients at once.

SMART ALERTS
Get notified instantly.
Visual, audible, and email alarms with adjustable thresholds and delays.

INTEGRATED WEB SERVER
Instant access via browser.
View and configure data in real time from any device on the local network - no installation needed.

SECURE COMPLIANCE MODE
Protects recorded data and configuration in line with FDA 21 CFR Part 11 using the HD35AP-CFR21 software option.

Making the unknown, known

Measurement specifications

| Temperature	Sensor	NTC 10 kΩ @ 25 °C
	Measuring range	-40...+105 °C
	Resolution	0.1 °C
Temperature	Sensor	Pt100
	Measuring range	-40...+150 °C
	Resolution	0.1 °C
Relative Humidity	Sensor	capacitive
	Measuring range	0...100 %RH
	Resolution	0.1 %
Atmospheric pressure	Sensor	piezoresistive
	Measuring range	300...1100 hPa
	Resolution	0.1 hPa
Differential pressure	Sensor	piezoresistive
	Measuring range	± 125 Pa
	Resolution	0.01 Pa
CO_2	Sensor	Non-Dispersive Infrared (NDIR)
	Measuring range	B: 0...5,000 ppm B2: 0...10,000 ppm
	Resolution	1 ppm
Illuminance	Sensor	photodiode
	Measuring range	I: 0...20,000 lux I2: 0...200,000 lux
	Resolution	I: 1 lux (0...2,000 lux), 10 lux (>2,000 lux) I2: 10 lux (0...20,000 lux), 100 lux (>20,000 lux)
Particulate Matter	Sensor	Laser scattering
	Pollutants detected	PM1.0, PM2.5, PM4.0, PM10
	Measuring range	0...1000 µg/m³ (for each pollutant)
	Resolution	0.1 µg/m³

HD50GH - model with 4 terminal header inputs

Temperature	Sensor	Pt100 / Pt1000
	Measuring range	-200...+650 °C
	Resolution	0.1 °C
Temperature	Sensor	Thermocouple (K,J,T, N, E)
	Measuring range	Depending on the thermocouple type
	Resolution	0.1 °C
Input 0/4...20 mA	Shunt resistance	Internal (50 Ω)
	Resolution	16 bit
Inputs -50...50 mV, 0...50 mV, 0...1 V and 0...10 V	Input resistance	100 MΩ
	Resolution	16 bit
Potentiometric input	Potentiometer	Typically 10 kΩ
	Resolution	16 bit

For complete measurement specifications, please refer to the manual.

General specifications

| Measuring & logging interval	1, 2, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 30, 60 min
Internal memory	Circular management or stop logging if full. The number of samples that can be stored depends on the number of quantities selected for logging *(min=291,420 / max: 1,165,680 values)*
Interfaces	Wi-Fi *(IEEE 802.11b/g/n)* and ETHERNET *(RJ45 connector)*
Protocols	Proprietary, Modbus TCP/IP, SMTP, FTP, HTTP, NIST
Wi-Fi security standards	WEP64, WEP128, WPA, WPA2
Alarm	Acoustic by means of the internal buzzer, LED on the front panel, sending of e-mails.
Power supply	• External 7...30 Vdc *(no internal battery)* • PoE *(Power over Ethernet)* power supply via optional POE-SPLT12M8 splitter
Consumption	40 mA @ 24 V / 80 mA @ 12 V / Peak < 200 mA
Display	Optional custom or graphic LCD
LED indicators	Power supply, network connection *(LAN/WLAN)* and alarm
Operating conditions	-20...+70 °C* < 100%RH non-condensing *Except: -10...+60 °C *(HD50PM)* -5...+50 °C *(HD501N4r1ZTV)*
Housing material	Polycarbonate
Protection degree	IP54 *(with protective cap on RJ45 connector)*
Weight	300 g approx
Installation	Wall mount, indoor
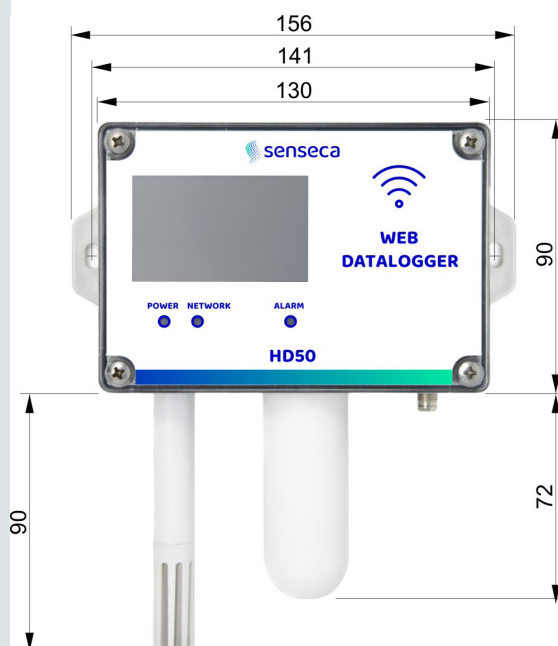
Network Connection

The HD50 data loggers can easily connect to a local network via:
- Wi-Fi (IEEE 802.11 b/g/n)
- Ethernet (RJ45)

They allow configuration and real-time monitoring via an integrated web server (by entering the IP address in a browser, without additional software).
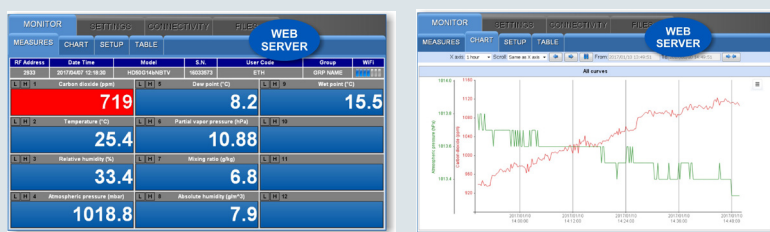
Ideal for installations in environments already wired or covered by wireless networks.
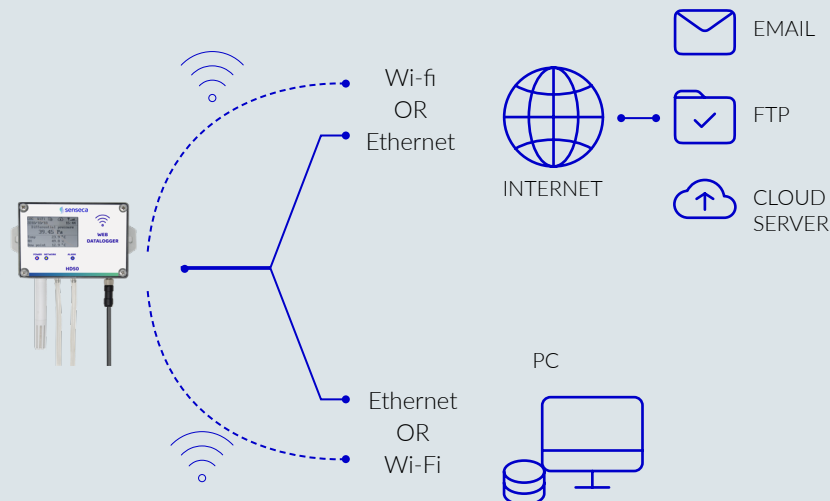
Integrated Web Server

Real-time monitoring via:
- Graphs and tables directly from the browser
- Access from PC, tablet, smartphone (same network)


PC Software & Data Integrity

The HD35AP-S and HDServer1 PC software tools allow easy configuration, data download to a database, and live data visualization.

HD35AP-S manages one datalogger at a time. It allows:
- Configuring
- Viewing the real time measurements, both graphically and numerically
- Downloading the data in a database automatically at regular intervals or upon user request.
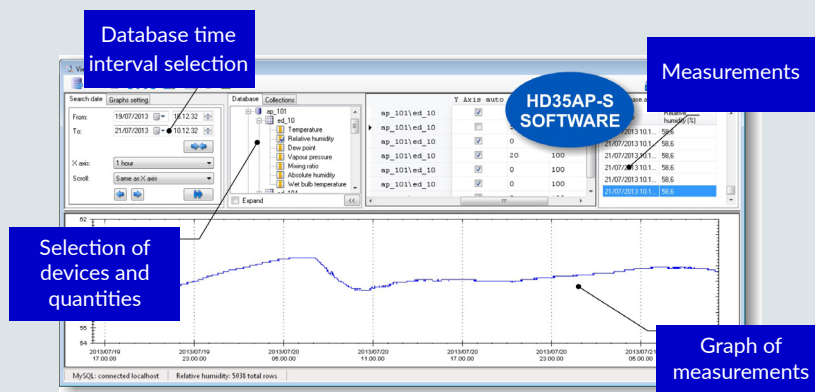

HDServer1 enables automatic reception, visualization, and database storage of data transmitted by multiple loggers. Unlike HD35AP-S, it supports simultaneous TCP/IP connections with several HD50 (or HD35APW) units.
An integrated IP scanner makes it easy to detect and add all devices on the network.

The software includes two independent modules:
- **Server**, for receiving and storing data
- **Viewer**, for displaying data on the PC in real time
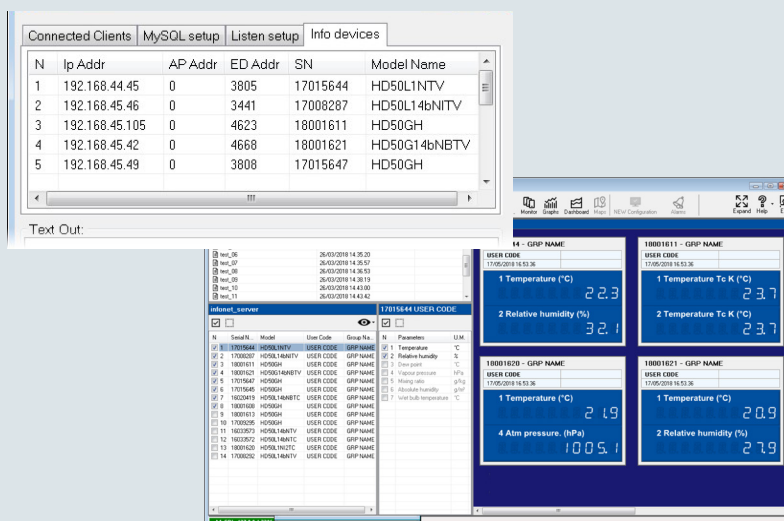
ORDERING CODES

HD50 — Model as per table below

Display
Blank = without display
L = with custom LCD
G = with graphic LCD

Blind

Custom LCD

Graphic LCD

MODEL	MEASUREMENTS								TYPE OF PROBE	OPTIONAL LCD	
	RH	Patm	NTC 10K	Pt100	ΔP	CO_2	Lux	PM		Custom	Graphic
Letter-to-Unit Reference	1	4b	N	7P	4r	B	I	PM			
HD50N/...TC			√						with cable	√	√
HD50NTV			√						fixed	√	√
HD501NTC	√		√						with cable	√	√
HD5014bNTC	√	√	√						T/RH with cable P_{atm} integrated	√	√
HD5017PTC	√			√					with cable	√	√
HD5014b7PTC	√	√		√					T/RH with cable P_{atm} integrated	√	√
HD501NTV	√		√						fixed probe	√	√
HD5014bNTV	√	√	√						/RH fixed probe P_{atm} integrated	√	√
HD501N4r1ZTV	√		√		√				T/RH fixed probe	√	√
HD501NB...TV	√		√			√			fixed probes	√	√
HD5014bNB...TV	√	√	√			√			fixed probes P_{atm} integrated	√	√
HD501NI...TCV	√		√				√		T/RH fixed probe I = probe with cable	√	√
HD5014bNI...TCV	√	√	√				√		T/RH fixed probe I with cable P_{atm} integrated	√	√
HD501NB...I...TCV	√		√			√	√		T/RH fixed probe CO_2 fixed probe I with cable	√	√
HD5014bNB...I...TCV	√	√	√			√	√		T/RH fixed probe CO_2 fixed probe I with cable P_{atm} integrated	√	√
HD50PM								√	integrated		√
HD50GH			Transmitters with 0...20 mA, 4...20 mA, -50...50 mV, 0...50 mV, 0...1 V or 0...10 V output Pt100 / Pt1000 sensors, thermocouples K, J, T, N, E Sensors with potentiometric output						4 terminal header inputs		√