



HD2107.1, HD2107.2, HD2127.1 E HD2127.2 THERMOMETERS SENSORS: Pt100, Pt1000

HD2107.1 and **HD2107.2** are portable instruments equipped with large LCD display fitted with one input. **HD2127.1** and **HD2127.2** are instruments fitted with two inputs. They measure temperature by means of immersion, penetration, contact or air probes. Their sensor can be Pt100 with 3 or 4 wires, Pt1000 with 2 wires. They have centesimal resolution in the range $\pm 199.99^{\circ}\text{C}$, decimal in the rest of the range.

Probes are equipped with an automatic recognition module: factory calibration data are stored inside.

The instruments HD2107.2 and HD2127.2 are **data loggers**; they store up to 80.000 samples which can be transferred into a PC connected to the instrument through the serial ports RS232C and USB 2.0. It is possible to configure the storage interval, the printing and the baud rate by the menu.

All models are equipped with RS232C serial port and are able to transfer the acquired measures, in real time, to a PC or a portable printer.

Functions Max, Min and Avg calculate maximum, minimum and average values.

Further functions are: REL relative measure, HOLD and automatic switching-off system, excludable.

Instruments have IP66 protection degree.



HD2107



HD2127

TECHNICAL SPECIFICATIONS OF THE INSTRUMENTS

Instrument

| | |
|---|---|
| Dimensions (Length x Width x Height) | 185x90x40mm |
| Weight | 470g (complete with batteries) |
| Materials | ABS, rubber |
| Display | 2x4½ digits plus symbols Visible area: 52x42mm |

Operating conditions

| | |
|---------------------------|-------------------------------|
| Operating temperature | -5 ... 50°C |
| Storage temperature | -25 ... 65°C |
| Working relative humidity | 0 ... 90% RH, no condensation |
| Protection degree | IP66 |

Power supply

| | |
|---|---|
| Batteries | 4 Batteries 1.5V type AA |
| Autonomy | 200 hours with 1800mAh alkaline batteries |
| Current consumption with instrument off | 20µA |
| Main | 12Vdc / 1000mA Output main adapter |

Unit of measurement

°C - °F - °K

Security of stored data

Unlimited, independent of battery charge conditions

Time

| | |
|---------------|----------------------|
| Date and time | In real time |
| Accuracy | 1min/month max drift |

Measured values storage

model HD2107.2

| | |
|---|---|
| Type | 2000 pages containing 40 samples each |
| Quantity | Total of 80000 samples |
| Storage interval can be selected between | 1,5,10,15,30 s.; 1,2,5,10,15,20,30 min.; 1 hour |

model HD2127.2

| | |
|---|---|
| Type | 2000 pages containing 16 pairs of samples each |
| Quantity | Total of 32000 samples (channel A + channel B) |
| Storage interval can be selected between | 1,5,10,15,30 s.; 1,2,5,10,15,20,30 min.; 1 hour |

Serial interface RS232C

| | |
|---------------------|---|
| Type | RS232C galvanic isolated |
| Baud rate | can be set from 1200 to 38400 baud |
| Data bit | 8 |
| Parity | None |
| Stop bit | 1 |
| Flow Control | Xon/Xoff |
| Serial cable length | Max 15m |
| Print interval | Immediate or selectable between: 1,5,10,15,30 s.; 1,2,5,10,15,20,30 min.; 1 hour |

USB interface - model HD2107.2, HD2127.2

| | |
|------|-----------------------------|
| Type | 1.1 - 2.0 galvanic isolated |
|------|-----------------------------|

Connections

| | |
|-----------------------------|---------------------------------------|
| Input module for the probes | 8-pole male DIN45326 connector |
| RS232C serial interface | 8-pole MiniDin connector |
| USB interface | Type B MiniUSB connector |
| Mains adapter | 2-pole connector (positive at centre) |

Measurement of temperature by Instrument

| | |
|--------------------------|---|
| Pt100 measurement range | -200...+650°C |
| Pt1000 measurement range | -200...+650°C |
| Resolution | 0.01°C in the range $\pm 199.99^{\circ}\text{C}$ 0.1°C in the remaining range |
| Instrument Accuracy | $\pm 0.01^{\circ}\text{C}$ |
| Drift after 1 year | 0.1°C/year |

TECHNICAL DATA OF PROBES AND MODULES EQUIPPED WITH INSTRUMENT
Temperature probes Pt100 sensor with SICRAM module

| Model | Type | Application field | Accuracy |
|--|-----------------------------|-------------------|---|
| TP472I | Immersion | -196°C...+500°C | ±0.25°C (-196°C...+300°C) ±0.5°C (+300°C...+500°C) |
| TP472I.0 1/3 DIN Thin Film | Immersion | -50°C...+300°C | ±0.25°C (-50°C...+300°C) |
| TP473P.I | Penetration | -50°C...+400°C | ±0.25°C (-50°C...+300°C) ±0.5°C (+300°C...+400°C) |
| TP473P.0 1/3 DIN Thin Film | Penetration | -50°C...+300°C | ±0.25°C (-50°C...+300°C) |
| TP474C.I | Contact | -50°C...+400°C | ±0.3°C (-50°C...+300°C) ±0.5°C (+300°C...+400°C) |
| TP474C.0 1/3 DIN Thin Film | Contact | -50°C...+300°C | ±0.3°C (-50°C...+300°C) |
| TP475A.0 1/3 DIN Thin Film | Air | -50°C...+250°C | ±0.3°C (-50°C...+250°C) |
| TP472I.5 | Penetration | -50°C...+400°C | ±0.3°C (-50°C...+300°C) ±0.6°C (+300°C...+400°C) |
| TP472I.10 | Penetration | -50°C...+400°C | ±0.30°C (-50°C...+300°C) ±0.6°C (+300°C...+400°C) |
| TP49A.0 Class A Thin Film | Immersion | -70°C...+250°C | ±0.3°C (-70°C...-50°C) ±0.25°C (-50°C...+250°C) |
| TP49AC.0 Class A Thin Film | Contact | -70°C...+250°C | ±0.3°C (-70°C...-50°C) ±0.25°C (-50°C...+250°C) |
| TP49AP.0 Class A Thin Film | Penetration | -70°C...+250°C | ±0.3°C (-70°C...-50°C) ±0.25°C (-50°C...+250°C) |
| TP875.I | Globe-thermometer Ø150mm | -30°C...+120°C | ±0.25°C |
| TP876.I | Globe-thermometer Ø50mm | -30°C...+120°C | ±0.25°C |
| TP87.0 1/3 DIN Thin Film | Immersion | -50°C...+200°C | ±0.25°C |
| TP878.0 1/3 DIN Thin Film TP878.1.0 1/3 DIN Thin Film | Photovoltaic | +4°C...+85°C | ±0.25°C |
| TP879.0 1/3 DIN Thin Film | Compost | -20°C...+120°C | ±0.25°C |

Common features

Temperature drift @20°C 0.003%/°C

4 wires Pt100 and 2 wires Pt1000 Probes

| Model | Type | Application field | Accuracy |
|----------------------------------|----------------|-------------------|----------|
| TP47.100.0 1/3 DIN Thin Film | 4 wires Pt100 | -50...+250°C | 1/3 DIN |
| TP47.1000.0 1/3 DIN Thin Film | 2 wires Pt1000 | -50...+250°C | 1/3 DIN |
| TP87.100.0 1/3 DIN Thin Film | 4 wires Pt100 | -50...+200°C | 1/3 DIN |
| TP87.1000.0 1/3 DIN Thin Film | 2 wires Pt1000 | -50...+200°C | 1/3 DIN |

Common features

Temperature drift @20°C

Pt100 0.003%/°C

Pt1000 0.005%/°C



SWD10



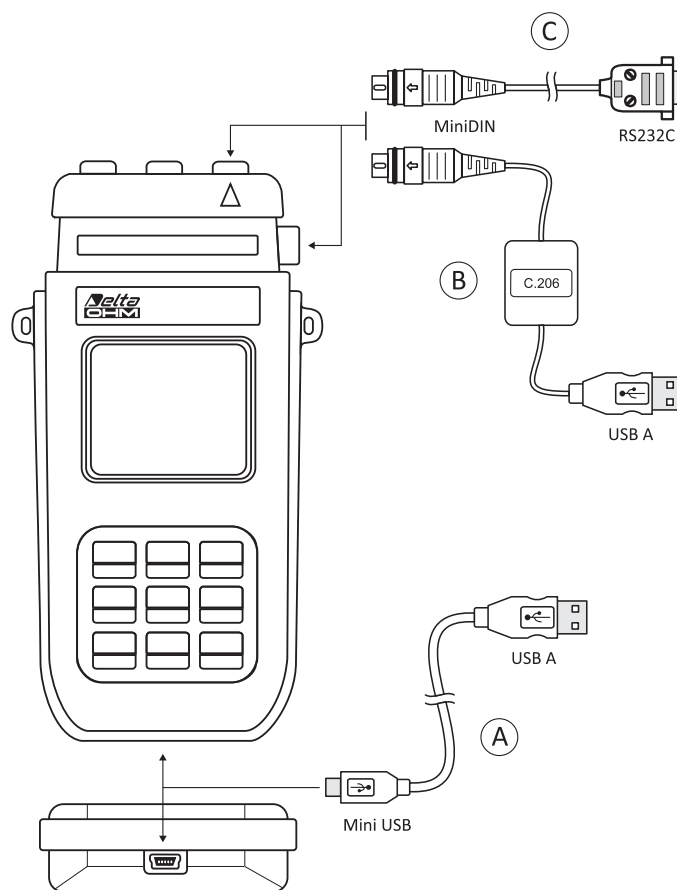
HD2110CSNM

A To the portable data loggers of the series **HD21...2** a serial port mini USB type HID (Human Interface Device) has been inserted.

For the connection to a PC with the cable USB type A - MiniUSB type B code **CP23**, it is **not necessary to load any driver USB**.

B For the connection of the models HD21...1 to the USB port of a PC, is necessary the USB/serial **converter C.206**. The converter is supplied with its own drivers which must be installed before the connection of the converter to the PC.(see details in the Cd-Rom supplied with the converter).

C The port with the miniDin connector in all included models, is a serial port type RS232C. The serial port RS232C of a PC or the printer HD40.1 can be connected by the cable HD2110CSNM.



Temperature

ORDERING CODES

HD2107.1: The kit consists of instrument HD2107.1, 4 per 1.5V alkaline batteries, instruction manual, case and DeltaLog9 software. **Probes and cables have to be ordered separately.**

HD2107.2: The kit consists of instrument HD2107.2 **data logger**, 4 per 1.5V alkaline batteries, instruction manual, case and DeltaLog9 software. **Probes and cables have to be ordered separately.**

HD2127.1: The kit consists of instrument HD2127.1, 4 per 1.5V alkaline batteries, instruction manual, case and DeltaLog9 software. **Probes and cables have to be ordered separately.**

HD2127.2: The kit consists of instrument HD2127.2 **data logger**, 4 per 1.5V alkaline batteries, instruction manual, case and DeltaLog9 software. **Probes and cables have to be ordered separately.**

HD2110CSNM: 8-pole connection cable MiniDin - Sub D 9-pole female for RS232C.

C.206: Cable for instruments of the serie HD21...1 to connect directly to USB input of PC.

CP23: Connection cable USB 2.0 connector type A - Mini USB type B.

DeltaLog9: Software for download and management of the data on a PC using Windows operating systems.

SWD10: Stabilized power supply at 230Vac/12Vdc-1000mA mains voltage.

HD40.1: Upon request, portable, serial input, 24 column thermal printer, 58mm paper width. Use cable HD2110CSNM (option).

Temperature probes equipped with SICRAM module

- TP472I:** Immersion probe, Wire Wound Pt100 sensor. Stem Ø 3 mm, length 300 mm. Cable 2 meters long.
- TP472I.0:** Immersion probe, Thin Film Pt100 sensor. Stem Ø 3 mm, length 230 mm. Cable 2 meters long.
- TP473P.I:** Penetration probe, Wire Wound Pt100 sensor. Stem Ø 4mm, length 150 mm. Cable 2 meters long.
- TP473P.0:** Penetration probe, Thin Film Pt100 sensor. Stem Ø 4mm, length 150 mm. Cable 2 meters long.
- TP474C.I:** Contact probe, Wire Wound Pt100 sensor. Stem Ø 4mm, length 230mm, contact surface Ø 5mm. Cable 2 meters long.
- TP474C.0:** Contact probe, Thin Film Pt100 sensor. Stem Ø 4mm, length 230mm, contact surface Ø 5mm. Cable 2 meters long.
- TP475A.0:** Air probe, Thin Film Pt100 sensor. Stem Ø 4mm, length 230mm. Cable 2 meters long.
- TP472I.5:** Penetration probe, Thin Film Pt100 sensor. Stem Ø 6mm, length 500 mm. Cable 2 meters long.
- TP472I.10:** Penetration probe, Thin Film Pt100 sensor. Stem Ø 6mm, length 1000mm. Cable 2 meters long.
- TP49A.0:** Immersion probe, Thin Film Pt100 sensor. Stem Ø 2.7mm, length 150mm. Cable 2 meters long. Aluminium handle.
- TP49AC.0:** Contact probe, Thin Film Pt100 sensor. Stem Ø 4 mm, length 150mm. Cable 2 meters long. Aluminium handle.
- TP49AP.0:** Penetration probe, Thin Film Pt100 sensor. Stem Ø 2.7mm, length 150mm. Cable 2 meters long. Aluminium handle.
- TP875.I:** Globe thermometer Ø 150 mm with handle. Wire Wound Pt100 sensor complete of SICRAM module. Cable 2 meters long.
- TP876.I:** Globe thermometer Ø 50 mm with handle. Wire Wound Pt100 sensor complete of SICRAM module. Cable 2 meters long.
- TP87.0:** Immersion probe, Thin Film Pt100 sensor. Stem Ø 3 mm, length 70 mm. Cable 2 meters long.
- TP878.0:** Contact probe for solar panels. Thin Film Pt100 sensor. Cable 2 meters long.
- TP878.1.0:** Contact probe for solar panels. Thin Film Pt100 sensor. Cable 5 meters long.

TP879.0: Penetration probe for compost. Thin Film Pt100 sensor. Stem Ø 8 mm, length 1000mm. Cable 2 meters long.

Temperature probes without SICRAM module

- TP47.100.0:** Immersion probe, Thin Film Pt100 sensor probe. Stem Ø 3 mm, length 230mm. 4 wires connection cable with connector, 2 meters long.
- TP47.1000.0:** Thin Film Pt1000 sensor immersion probe. Stem Ø 3 mm, length 230mm. 2 wires connection cable with connector, 2 meters long.
- TP47:** Only connector for probe connection without SICRAM module: direct 3 and 4 wires Pt100, 2 wires Pt1000.
- TP87.100.0** Immersion probe, Thin Film Pt100 sensor. Stem Ø 3 mm, length 70mm. Cable 2 meters long. 4 wires connection cable with connector 1 meter long.
- TP87.1000.0** Immersion probe, Thin Film Pt100 sensor. Stem Ø 3 mm, length 70mm. Cable 2 meters long. 2 wires connection cable with connector 1 meter long.



TP875.I



HD40.1

