

# PC Data Acquisition, Temperature Monitor & Logger: DS-108

-55°C to +125°C  
-67°F to +257°F



8 digital temperature inputs, plus internal (ambient).

8 digital logic input inputs, 0V to +30V (DC)

5Vdc/400mA output for external circuitry.

USB connection to PC software (provided).

Sample rate (all 17 channels)  
1 sample of each per second.

Complete logging and analysis software, °C, °F or K.

Software displays dashboard, graph and saves data to disk.

Monitors and records temperatures and status of digital inputs.

Recorded data stored in CVS/text file format on PC.

Standard temperature probe lead length is 3m (10ft).

Selectable PC averaging period from 1 seconds to 60 minutes

Accuracy:-

Celcius:  $\pm 0.5^{\circ}\text{C}$ , Kelvin:  $\pm 0.5\text{K}$ ,  
Fahrenheit:  $\pm 1^{\circ}\text{F}$

Standard Set includes:-

data logger  
4 digital temperature probes (3m leads)  
USB-B lead  
software and carry case

This product is designed for use in situations where it is necessary to record multiple temperature inputs and/or digital 'logic' inputs, for example, in a commercial refrigerator, the various temperatures over time, door open/closed, compressor on/off, fan on/off... DS-108 answers all these questions.

With 8 digital inputs and 8 digital (logic) inputs you can monitor temperatures and the status (on/off, open/closed) of items of equipment or inputs.

Setting up the DS-108 is easy; secure the various temperature of probes to the equipment to be monitored, plug each into the datalogger connect the logic inputs to the rear of the datalogger; the digital inputs accepts +2V to +30Vdc as a logic 1, voltages below +2V are considered logic 0.

The DS-108 has a 0V and +5V output, allowing you to power external signal conditioning circuits, which are available separately as options. For example a circuit to monitor whether or not a mains voltage (230Vac) supply to a pump is on or off.

Connect the USB lead to the PC and open the software. The DS-108 is powered from the PC USB port, so a separate power supply is not needed.

In the software set the sampling period. Note, the DS-108 send all temperatures and digital input statuses to the PC every second, data is then automatically saved to disk every 10 seconds.

The software displays and saves incoming data from the datalogger. You can choose to view a dashboard with your set alarm levels or you can view a graph of the temperatures and status of digital inputs.

Some real-life examples of use of the DS-108-

Temperature profile of a commercial refrigerator was monitored, the internal temperature was correlated to the external ambient temperature, compressor activity, door open/closed and fan activity.

A renewable energy home heating system was monitored, temperatures of the hot water storage tank, boiler, feed and return pipes were correlated to the heating demand, boiler activity, and various valve positions (open/closed).

A battery charging system was monitored, temperature of battery packs, charger and ambient temperature, also recorded was the charge status (charging or not) as well as current demand, battery delivering power or not.

New underfloor heating system, DS-108 was used to monitor temperatures of the room floor, walls, ambient, flow and return temperatures and whether or not heat demand was on/off as well as valve position (open/closed).

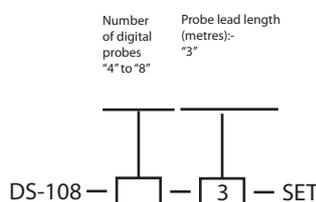
Engine testbed, used to monitor engine, air and coolant temperatures, digital inputs used to log fan on/off and ram air on/off.

### Technical specifications (subject to change without notice)

Recorded values	8 external probe temperatures, 1 internal temperature, plus 8 digital inputs.
Temperature measurement range	-55°C to +125°C, 218K to 398K, -67°F to 257°F
Measurement accuracy	±0.5°C, ±0.5K or ±1°F
Digital input range	0Vdc to +30Vdc, with respect to common input ground
Inputs (non-isolated inputs)	Digital input ground and output ground connections are all common.
Temperature input plug types	3.5mm jack plug, 3 way.
Digital voltage input plug types	Screw terminals
Digital voltage input levels	0V to +2Vdc considered logic 0. +2.1V to +30Vdc considered logic 1.
Voltage Output (common ground) for external conditioning circuitry	5Vdc, limited by internal fuse to 400mA, common ground.
Voltage output connection	Screw terminals
Sampling frequency (all channels)	17 readings every second (9 temperatures, 8 digital).
Data recorded	Temperatures (x9) and digital status (x8).
Memory - averaging period & duration	1 sec to 60 min (set in software)
Communications interface type	USB-B
Environmental (temp & sealing)	Datalogger enclosure -10°C to +40°C or +14°F to +104°F. Sealed to IP40
Dimensions & weight	Metric 180 x 120 x 40mm & 0.25kg Imperial/English - 7" x 5" x 1.6" & 0.5lb
Standards	Emissions EN55022:1994B, Immunity EN50082-2:1995

### Determining product order codes:

To specify your Temperature Datalogger select various codes and enter into the boxes to create a correct product code. For example, the standard set is: DS-108-4-3-SET-  
A logger with 4 digital temperature probes, each with 3m (10ft) leads.



### Warranty & calibration

Acksen Ltd products carry a \*Lifetime back to base warranty covering manufacturing defects and component failures. Each unit is individually tested and calibrated.

\*Refer to website for full terms and conditions.

### Conformity

Emissions EN55022:1994B, (EN50081-1:1992). Immunity EN50082-2:1995, following the provisions of EMC directive 89/336/EEC. LVD 72/23/EEC with respect to EN60065. (IEC-61010). All models certified (light industrial, 3V/m).



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.