



DATA STORAGE UNIT 2990

The Data Storage Unit (DSU) 2990 is a portable, reusable, solid state module for storing data in the 10-bit PDC-4 code. The DSU 2990E is designed for situations demanding high storage capacity.



Engineering Data Graph from Data Reading Program 5059

Data Storage Unit 2990 (DSU) is a standard data storage device for all Aanderaa Automatic Weather Stations, data collecting instruments and databuoys. It stores data in the standard PDC-4 code. The DSU is molded in low density polyurethane, and it floats. The unit has a six-pin watertight receptacle for input/ output of data. A five-digit LCD module shows the total number of data stored. After the unit is removed from an installation an internal battery provides power to the clock and LCD.

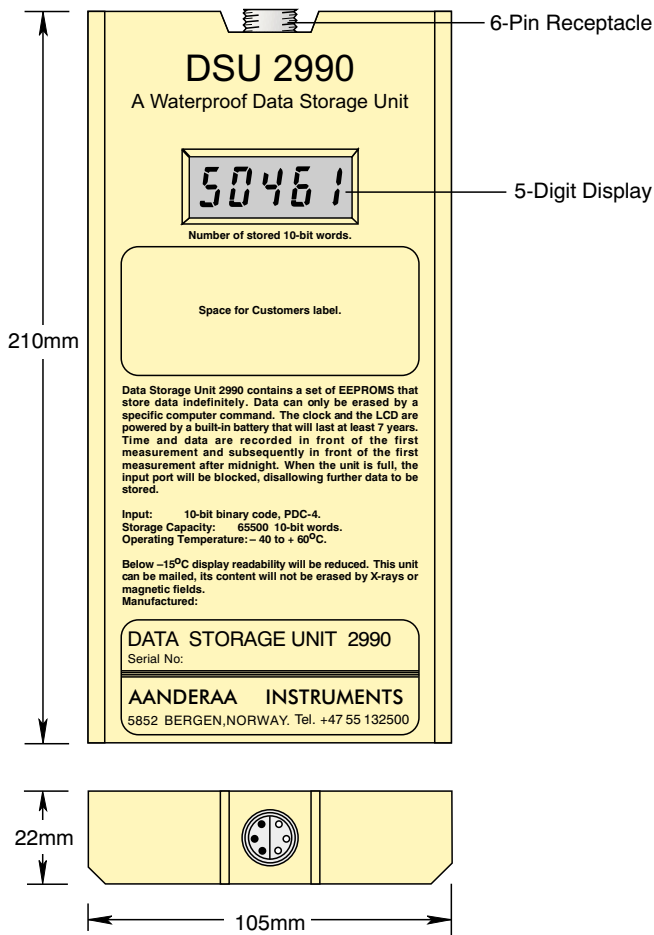
The DSU incorporates a pre-settable, real-time clock for recording time information. A time record consists of six ten-bit words. The first is a fixed binary reading equal to 7, followed by 5 words indicating year, month, day, hour and minute. The DSU will record time information for the first measurement, and thereafter for every first measurement after midnight. The clock features automatic leap year compensation.

When the unit is connected to a data collecting system, the display reading will increment by one every time a ten-bit data word enters the unit. The unit can accept up to 65500 indi-

vidual ten-bit data words. When the unit is full, the input port is blocked, disallowing further data to be stored. A special version, designated 2990F, will continue to receive new data and delete the oldest ones. A third version, designated 2990E with a storage capacity of 262100 ten-bit words, is used where high storage capacity is required. DSU 2990X is as 2990F but with a storage capacity of 262100 ten-bit words.

The data stored in the DSU is transferred to a computer by means of the DSU Reader 2995 and Data Reading Program DRP 5059 which will allow for analysis of the data or transfer to other media. The reading process will not erase the data stored and the LCD module will show the full number of stored data after the unit is disconnected. In order to erase data a specific computer command must be given.

The Data Storage Unit will, while connected to a data logging system, be supplied with power from that system. It will draw about 3 mA from the system during storage sequence, four seconds per channel, and about 0.1 mA when the system is quiescent.



Input Signal: 10-bit binary code PDC-4
Output Signals: Serial, asynchronous ASCII code at 9600 bits/s, 8 data bits, no parity, 2 stop bits. Mark: 0 V, Space: -5 V
(Commands)

Please refer to Technical Description No. 145: "Reading of Stored Data from DSU 2990" for a detailed account of output format and command specifications.

Clock: Temperature stability: -10 to +45°C: ±2 s/day

Time record format and commands for clock reading and setting are dealt with in Technical Description No. 145.

Current Consumption: When recording: 3 mA
 Quiescent: 0.1mA

Embedded Battery: Powers clock and LCD for more than 7 years

Memory Capacity:
 DSU 2990: 65,500 10-bit words
 DSU 2990F: 65,500 10-bit words with overflow
 DSU 2990E: 262,100 10-bit words
 DSU 2990X: 262,100 10-bit words with overflow

Operating Temperature: -40 to +60C (LCD becomes illegible below -15°C)

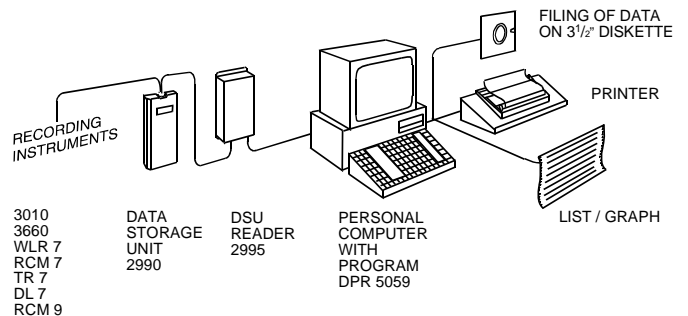
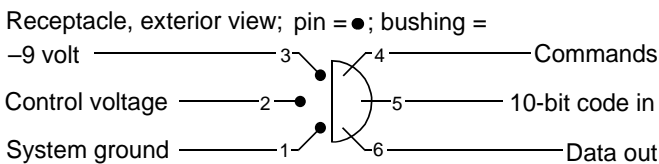
Electrical Connection: 6-pin receptacle mating Watertight Plug 2828

Material and Finish: Molded in low density polyurethane

Weight: 0.4 kg

Warranty: Two years against faulty materials and workmanship

PIN CONFIGURATION



DATA READING

To read stored data the Data Storage Unit (DSU) must be interfaced to the RS-232C port of a computer by means of a DSU Reader 2995. This reader converts the 0 and - 5 V serial signals from the DSU to dual-polarity signals in accordance with the RS-232C standard. In addition it supplies the power to the DSU during the read-out process. For further details refer to Data Sheet D 192.. The Data Reading Program DRP 5059, a totally new Win32 based program, is available for presenting and processing raw data. Emphasized has been put on ease of use together with versatile, graphical user interface and system flexibility. See our Web site for further details.

SERIAL OUTPUT FORMAT

One Data Word, 7 characters							Fault / Synch
1	2	3	4	5	6	7	
READING				Space	Space	Null	No fault, no Synch
(any number from 0000 to 1023)				Space	CR	LF	No fault, Synch
				*	Space	Null	Fault, no Synch
				*	CR	LF	Fault, Synch

Representative's Stamp

Latest version is on the Internet

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