



DVC70 - MEMORY MODULE DATA SHEET

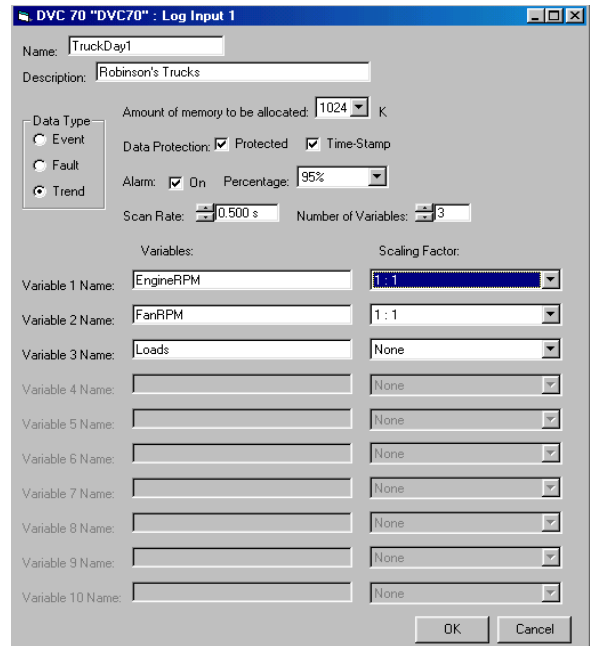
The DVC 70 memory module is a microprocessor based controller capable of storing event, fault, trend, date and time information to nonvolatile memory. The information that is to be stored is transmitted from the DVC 10 via the Controller Area Network (CAN bus) to the DVC 70. The information from the DVC 70 can be downloaded to a laptop or PC using a RS-232 communication port for analysis or review.

Typical usage of the stored data would be for decreasing warranty claim costs, defining operator errors, pin-pointing manufacturing issues, as well as keeping a complete history of the machine operation. Each module holds up to 5Mbytes of non-volatile FLASH data. This data is safe even in the event of power loss.

The controller is packaged in a small rugged enclosure and encapsulated to withstand extreme harsh environments. Two sealed connectors are provided for electrical connections.

Features:

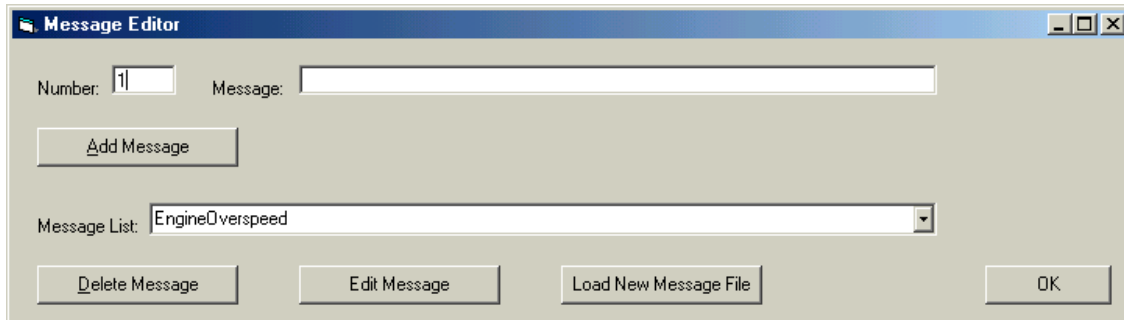
- ◆ **Fault/Event Data Storage** – Store data as a fault or event occurs.
- ◆ **Trending Data Storage** – Store data at a programmed scan rate.
- ◆ **Data Protection** – Programmable to stop storing data after the memory allocation area is full or write over the data that was first stored (FIFO).
- ◆ **Memory Allocation Areas** – Five areas are programmable. Each area can be programmed as Event, Fault or Trend. The accumulated memory size of all five locations is 5120K bytes.
- ◆ **Real Time Clock** – Date, time and day of the week is calculated by the DVC70. Will keep real time clock information up to two months after loss of power. An input is supplied in order to connect full time power (very low current draw) to the DVC70 to prevent the reset of the clock information. Real time clock data can be extracted and used by the DVC10 by way of the CAN Bus.
- ◆ **Alarm Output** – programmable output to show that a memory location is getting full (blinking) or is completely full (full on).
- ◆ **Programmable Scan Rates** – All trend logs have a programmable scan rate. The fastest scan rate is 0.5seconds. The slowest scan rate is 6553.5 seconds.
- ◆ **Programmable Scale Factors** – Scale factors can be associated with the data being stored. These scale factors are stored within the *.INF file. This *.INF file is used when extracting data.





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- ◆ **Message Editor** – Used to create a *.txt file. This file associates a stored Event/Fault integer with meaningful text. For example, if you store a 3 every time the dump truck dumps, you can associate the 3 with the word “Dumped Load”. When the data is extracted, the spreadsheet will show “Dumped Load” instead of 3.



- ◆ **Easy Data Extraction** – Extract data out of each individual memory allocation area using a RS-232 connection.
- ◆ **Common Data Format** – All data is extracted into a *.CSV format.

Rugged Construction:

- ◆ Rugged encapsulated enclosure withstands harsh environments commonly found in mobile applications.
- ◆ All connectors are sealed.
- ◆ Operating Temperature: -10 Celsius to 70 Celsius
- ◆ Storage Temperature: -20 Celsius to 80 Celsius

Setup and Installation

- ◆ User programmable.
- ◆ Physical Size - 6.2L” x 4.75W” x 1.65H” encapsulated module.
- ◆ Each module has two mounting holes 4.0” apart. Mounting hole I.D. is 0.325”.
- ◆ An RS-232 port is used for setting MAC ID (node number).

Power Supply:

- ◆ Rugged power supply operates over the full range 8.0Vdc to 32Vdc.
- ◆ Reverse polarity protection and transient protection up to 1.5K watts peak pulse power dissipation

Alarm Output:

- ◆ This output is designed to sink to ground when activated. This output is short protected. The maximum current capability is 3Amps.
- ◆ Will stay off until a programmed alarm percentage is met for one of the memory allocation areas. Once this percentage is reached, the output will blink (500ms on/500ms off). The alarm output will stay on steady once the alarm percentage reaches 100.



Communications:

- ◆ Can Bus 2.0B – Communication port to the DVC10 Master Module. DeviceNet protocol is used.
- ◆ RS-232 serial port is used for:
 - Setting MAC ID and Baud Rate.
 - Monitoring and downloading data.

Indicators:

- ◆ Data Status (Qty 1) (Green)
 - Flashes as data is being stored to memory.
- ◆ Clock Status (Qty 1) (Red)
 - Blinking – Real-Time clock has lost time/date. Need to be reset.
- ◆ Alarm Status (Qty 1) (Red)
 - Shows the status of the alarm output.
- ◆ Module Status (MS) (Qty 1) (Red / Green)
 - Off – There is no power applied to the module.
 - On green – The module is operating in a normal condition.
 - Flashing green – Device in standby state. May need commissioning.
 - Flashing red – Recoverable Fault.
 - On red – Module has an unrecoverable fault.
 - Flashing Red/Green – Device is in self-test.
- ◆ Network Status (NS) (Qty 1) (Red / Green)
 - Off - Device is not on-line.
 - Flashing green – Device is on-line but has not established connection to other nodes.
 - On green – Device is on-line and has established connection to other nodes.
 - Flashing red – One or more connections are in a timed-out state.
 - On red – The device has detected an error rendering it incapable of communicating on the network.

Connectors:

- ◆ Metri-Pack 150 series (or compatible) sealed electronic header designed for severe environments.
 - 18-pin Header P12
- ◆ 5-pin CAN Bus (DeviceNet compliant) connector.
 - Protection rating – Nema 1,3,4,6P, and IEC IP 68.

Mating Connectors:

A. Mate for a 18-pin Header (P12)

1.	Connector, 18-pin Female (P12)	Delphi Packard	P/N – 12040921
3.	Terminals, Female	Delphi Packard	P/N – 12103881
4.	Plugs	Delphi Packard	P/N – 12034413
1.	DVC Series 18-pin Connector Kit	HCT	P/N - 999-10092

Includes the following:

- 1 - Connector, 18-pin (P6) Delphi Packard
- 20 - Terminals, Delphi Packard
- 10 – Plugs, Delphi Packard



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B. Mating for CAN Bus connector (P13)

1. 5-pin Female Mini-style DeviceNet compliant connector.

C. Mating to the RS-232 Port – The RS-232 port is accessed through the 18-pin connector at (P12). A DVC10 Serial Port Adapter is available to connect to the 18-pin Female mating connector. A DVC RS-232 Cable can be used to interface from the DVC10 Serial Port Adapter to a PC. Drawings for these two cables are supplied for user assembly; otherwise they are available from HCT.

* Note – The DVC10 Serial Port Adapter comes with a plug. The plug is used to keep the cable weather-tight when not connected to peripherals.

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| 1. | DVC10 Serial Port Adapter | HCT | P/N - 999-10076 |
| 2. | DVC RS-232 Cable Assembly | HCT | P/N - 999-10075 |