1 Description

The DVC741 is an Expansion module designed for use with the DVC707 / DVC710 Master Modules. The DVC741 provides 12 sourcing discreet outputs that are capable of driving loads up to 3 amps each on 12 or 24 Volt control systems. Each Output is protected against shorts to ground and has open and short circuit detection that can be accessed through the application software. All Outputs may be individually configured to drive LED lamps. The DVC741 is controlled by the master controller through its CAN Port. Baud rate and MAC ID settings as well as IO status and diagnostics are done through the serial port using the Intella® Program Loader Monitor (PLM).

The DVC741 is encapsulated in a rugged plastic enclosure with an epoxy resin that provides the best possible resistance to external forces such as dust, liquids, debris etc. while providing superior vibration protection for circuit components.
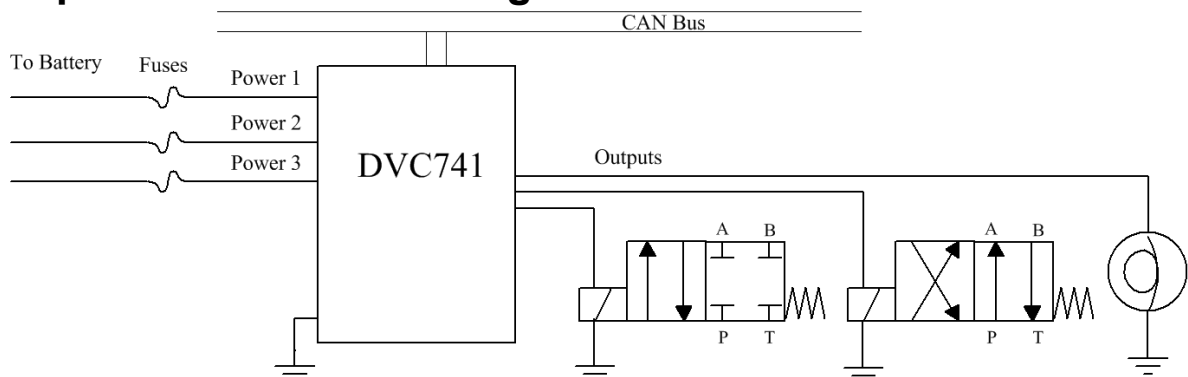
2 Features

- 12, 3 Amp Sourcing Discreet Outputs
- Programmable LED mode for each Output
- Rs232 Port for setup and diagnostics
- CAN Port for system communication
- Water / Oil proof enclosure
- Industrial operating temperature range
- 12 or 24 Volt systems
- SAE J1939 Load Dump compliant
- Rugged, fully encapsulated module may be mounted on or near valve manifold

3 Applications

- Mobile, Industrial, Agricultural, Marine or any other Hydraulic Equipment

4 Simplified Connection Diagram

5 Connector Information

Pin Out

Pin	Function
A1	Output 1
A2	CAN H
A3	RXD

Pin	Function
B1	Output 2
B2	CAN L
B3	TXD

Pin	Function
C1	Output 3
C2	POWER COM
C3	POWER COM

Pin	Function
D1	Output 4
D2	POWER COM
D3	POWER COM

Pin	Function
E1	Output 5
E2	Output 6
E3	Output 7

Pin	Function
F1	Output 8
F2	Output 9
F3	Output 10

Pin	Function
G1	Output 11
G2	POWER COM
G3	POWER COM

Pin	Function
H1	Output 12
H2	POWER COM
H3	POWER COM

Pin	Function
J1	+ POWER IN 1
J2	+ POWER IN 2
J3	+ POWER IN 3

Pin	Function
K1	+ POWER IN 1
K2	+ POWER IN 2
K3	+ POWER IN 3

NOTES:
1. Each Power pin used must be individually fused with an ATO 5, AGC 5 or smaller fuse
2. Power In 1, Power In 2 and Power In 3 are electrically separate Power Planes
3. Outputs 1 – 4 and the controllers on board logic is supplied from Power In 1
4. Outputs 5 – 8 are supplied from Power In 2
5. Outputs 9 – 12 are supplied from Power In 3

Mating Connector information

HCT FACTORY ACCESSORIES	
Expansion Module Serial Port Adaptor:	999-10082
RS232 Cable Assembly:	999-10075
DVC741 Mating Kit:	999-10085
DVC741 Proto-Type Harness (3M):	999-10106

6 LED Indicators

A.   <u>Output Status</u> (12ea 3mm Green LEDs)

    1.   Off – output is off.
    2.   On – output is on.
    3.   Blinking once per second – Open Circuit
    4.   Blinking 4 times per second – Short Circuit.

B.   <u>Module Status (MS)</u>   (1ea 5mm Red/Green)

    1.   Off – There is no power applied to the Module.
    2.   On green – The module is operating in a normal condition.
    3.   Flashing green – Device in standby state. May need commissioning.
    4.   Flashing red – Recoverable Fault.
    5.   On red – Module has an unrecoverable fault.
    6.   Flashing Red/Green – Device is in self-test.

C.   <u>Network Status (NS)</u>   (1ea 5mm Red/Green)

    1.   Off - Device in not on-line.
    2.   Flashing green – Device is on-line but has not established connection to other nodes.
    3.   On green – Device is on-line and has established connection to other nodes.
    4.   Flashing red – One or more node connections are in a timed-out state.
    5.   On red – The device has detected an error that has rendered it incapable of communicating on the network.

7 Electrical Characteristics

Absolute Maximum Ratings

Absolute Maximum Ratings indicate limits beyond which damage to the device may occur.

Supply Voltage	± 32 V_{DC}
Rs232 Port	Rxd = ± 15 V_{DC} Txd = ± 8 V_{DC}
CAN Port	± 14 V_{DC}
Voltage at Input / Output Pin	± 32 V_{DC}
Current at Power Pin	5,000 mA
Current at Output Pin	3,000 mA
Temperature	
Operating	-40°C to +85°C
Storage	-40°C to +100°C

Recommended Operating Parameters / Pin Functions

Pin	Name	Function/Features	Range
J1, K1	POWER IN 1 (Note: 1)	Positive Power Supply Input Outputs 1 – 4 and Logic	+12V_{DC} to +28V_{DC}
J2, K2	POWER IN 2 (Note: 1)	Positive Power Supply Input Outputs 5 - 8	+12V_{DC} to +28V_{DC}
J3, K3	POWER IN 3 (Note: 1)	Positive Power Supply Input Outputs 9 - 12	+12V_{DC} to +28V_{DC}
C2, C3, D2, D3 G2, G3, H2, H3	POWER COM (Note: 1)	Return for Power Supply or Signal Com	0 Volts (GND)
A1, B1, C1, D1, E1, E2, E3, F1, F2, F3, G1, H1	Outputs	Sourcing Discreet Output	**Default Mode** On = +Supply 3,000mA Off = +Supply 370µA, Supply = 28V_{DC} Off = +Supply 180µA, Supply = 13.6V_{DC} **LED Mode** On = +Supply 3,000mA Off = 2.3V_{DC} 342µA, Supply = 28V_{DC} Off = 1.13V_{DC} 166µA, Supply = 13.6V_{DC}

Notes:

1, Maximum continuous current allowed on any single connector Pin = 5 Amps

2, All limits are guaranteed by testing or statistical analysis

3, Z = >100KΩ

4, Z = 120Ω in Current Mode

5, Z = 32.4KΩ

6, Voltage references are with respect to GND (0V) unless otherwise specified.

8 Mounting

4.00 in

5.59 in

Ø0.29 in
2 PLCS

30 PIN CINCH CONNECTOR

Mount with
1/4" or 6mm
Hardware

4.66 in

1.54 in

	A	B	C	D	E		F	G	H	J	K
1	○	○	○	○	○		○	○	○	●	●
2	●	●	●	○	○		○	○	●	●	●
3	●	●	●	●	○		○	●	●	●	●