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Trimble VM410 Valve Drive Module

CAN (SAE J1939) driver for proportional voltage applications



General Description

The Trimble® VM410 Valve Drive Module offers dual control channels for driving Danfoss proportional voltage reference valves. The industry-standard J1939 CAN interface provides quick and easy system integration.

J1939 CAN Interface – The J1939 CAN system sets the industry standard and features open architecture. The system interface enables easy “plug and play” integration of the VM410 into your system.

Built to Last – The VM410 is built to deliver reliable, long-lasting performance in the on-machine environment where extremes of temperature, vibration, moisture and dust are the norm. Designed to the toughest OEM standard in the industry, the VM410 delivers even in the harshest conditions.

Standard Features

- J1939 CAN industry-standard interface
- Dual valve control channels with load sense output
- Danfoss proportional valve output
- Network connector – 10-pin bulkhead connector
- Valve connector – 10-socket bulkhead connector
- 100% sealed aluminum housing

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Specifications

Physical characteristics	Specifications
Size	Length: 213mm (8.4") Width: 89mm (3.5") Height: 64mm (2.5")
Weight	<1 kg (2.2 lb)
Mounting Holes	8.7mm (0.34" diameter; 4 holes)
Hole Spacing	Width – 70mm (2.75"); Length – 194mm (7.63")

Environmental characteristics	Specifications
Temperature	Operating: -40°C to +85°C (-40°F to +185°F) Storage: -50°C to +120°C (-58°F to +248°F)
Humidity	100%, fully sealed, weatherproof
Sealing	Environmentally sealed to 34.48 kPa (5 psi) IP68
System Level EMC	Emissions: Compliant with CE (Exceeds ISO 13766) Susceptibility: Compliant with CE (Exceeds ISO 13766)

Technical characteristics	Specifications
Electrical Input Voltage	9 to 32 VDC
Control Interface	SAE J1939 CAN
Reverse Voltage Protection	Yes, to 36 VDC
Load Dump Protected	Yes, compliant to ISO 7637 specifications
Short Circuit Protected	Yes
On/Off Control	Network controlled

10-socket VM410 Network Connector

Pin	Signal	Description	Direction
1	SWPWR	Switched Power	Input
2	PWRGND	Power Ground	Output
3	N/C	No Connection	--
4	CAN_H	CAN HI	I/O
5	CAN_L	CAN LO	I/O
6	N/C	No Connection	--

10-socket VM410 Valve Connector

Pin	Signal	Description	Direction
A	VALPWR1	Valve #1 Power	Output
B	VALGND1	Valve #1 Ground	Input
C	VALCNTL	Valve #1 Control	Output
D	VALFLT	Valve #1 Fault	Input
E	VALPWR2	Valve #2 Power	Output
F	VALGND2	Valve #2 Ground	Input
G	VALCNTL2	Valve #2 Control	Output
H	VALFLT2	Valve #2 Fault	Input
I	LS+	Load Sense +	Output
J	LS-	Load Sense -	Output