Thermocouple Interface

(RLVBTC8-V2)

The Thermocouple Interface (RLVBTC8-V2) allows up to 8 K-type thermocouple channels to be logged by the Racelogic VBOX with 100 samples per second.

The RLVBTC8-V2 is linked via CAN bus to the VBOX and can be used in conjunction with other units such as the Analogue Interface (ADC03) or the Vehicle CAN Bus Interface (CAN02). The unit can also be set into stand-alone timed mode.

The usable measuring range of the Thermocouple Interface is -200°C to +1300°C. The unit uses a 24-bit ADC.

The Thermocouple Interface works from any power supply from 6 V up to 30 V.

Features

- 8 K-type thermocouple inputs
- 100 Hz sample output
- Maximum accuracy of 0.5°C between -100°C and +1000°C
- Individual channel status LEDs
- Each channel has an individual Cold Junction Compensation (CJC) sensor

- Direct K-type thermocouple connection
- Supports standard and extended CAN frames
- CAN data rate up to 1 Mbit/s
- Configuration via USB
- Timer controlled transmission or polled response

Physical Properties

Description	Values
Dimensions	85 (W) x 125 (L) x 32.6 (H) mm
Weight	352 grams
Power Supply	6-30 V DC < 2 W
Operating Temperature	-20°C to +70°C

Specification

Description	Values	
Input Channels	8	
Input Signals Thermocouple Type K	-269°C to 1372°C	
Sample Rate	100 Hz	
Resolution	24 bit	
System Accuracy	-200 to -100°C = ± 0.8°C -100 to 1000°C = ± 0.5°C 1000 to 1300°C = ± 0.7°C	
Cold Junction Compensation Accuracy	± 0.2°C	VBTC8-V2 front
Isolation Voltage	500 V DC isolated to chassis 500 V DC isolated channel to channel	
Over Voltage Protection	36 V DC	
CMR (50/60) Hz	> 120 dB	VBTC8-V2 back
CAN Type Baud Rates	CAN 2.0A or CAN 2.0B compatible 125 kbit/s, 250 kbit/s, 500 kbit/s, 1 Mbit/s	

Package Contents

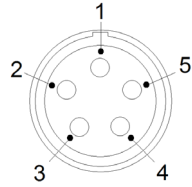| Description	Qty	Product Code
8 Channel Thermocouple Assembly	1	VBTC8-V2
Lemo 5 W Plug to Lemo 5 W Plug cable (2m)	1	RLCAB005
Lemo 5 W Plug with 120 Ω CAN termination resistor	1	RLACS165
USB 'A' to USB 'B' cable (2 m)	1	RLCAB042

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Connector Pin Allocation

5-way LEMO Connector 1

RS232/CAN Connector			
Pin	**I/O**	**Function**	
1	O	RS232 Tx (Reserved for Racelogic use only – Do not use)	
2	I	RS232 Rx (Reserved for Racelogic use only – Do not use)	
3	I/O	CAN High	
4	I/O	CAN Low	
5	I	Power	
Chassis	I	Ground	

5-way LEMO Connector 2

CAN Connector			
Pin	**I/O**	**Function**	
1	O	RS232 Tx (Reserved for Racelogic use only – Do not use)	
2	I	RS232 Rx (Reserved for Racelogic use only – Do not use)	
3	I/O	CAN High	
4	I/O	CAN Low	
5	I	Power	
Chassis	I	Ground	

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