

THERMO12 - Thermocouple Expansion Module



THERMO12 - 12 channel thermocouple module for temperature measurements

- 12 channels for separate thermocouple inputs
- Available for K, J, E or T type thermocouples
- Serial data connection for data output and configuration
- Configurable CAN data output
- 4 status LEDs for Power, Status, CAN and Serial communication
- Stacking case, connects neatly with other Race Technology system components
- Integration with Race Technology components, aligned connectors, single power supply connector
- Reverse polarity protection with resettable fuses for all inputs



Thermo12 Configuration - v10.0.25

File: Options

User notes:

Input	Soothing filter time [s]	Map channel to	Change name	Comment	Serial output rate (Hz)	CAN output rate (Hz)	CAN address (use 0x for Hex)	CAN RTR	Enabled / Disabled
01		0 Ambient air temp (temperature 1)	Edit	Ambient air temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
02		0 Inlet pre turbo 1 temp (temperature 2)	Edit	Inlet pre turbo 1 temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
03		0 Inlet pre turbo 2 temp (temperature 3)	Edit	Inlet pre turbo 2 temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
04		0 Inlet post turbo 1 temp (temperature 4)	Edit	Inlet post turbo 1 temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
05		0 Inlet post turbo 2 temp (temperature 5)	Edit	Inlet post turbo 2 temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
06		0 Inlet post intercooler 1 temp (temperature 6)	Edit	Inlet post intercooler 1 - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
07		0 Inlet post intercooler 2 temp (temperature 7)	Edit	Inlet post intercooler 2 - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
08		0 Water temp (temperature 8)	Edit	Water temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
09		0 Oil temp (temperature 9)	Edit	Oil temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
10		0 Gearbox temp (temperature 10)	Edit	Gearbox temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
11		0 Gearbox post cooler temp (temperature 11)	Edit	Gearbox post cooler temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒
12		0 Tyre 1 temp (temperature 12)	Edit	Tyre 1 temp - 20Hz	20Hz	Disabled	0x01029	Disabled	☒

Serial settings

☐ Use high speed serial output (400k) ☒ Pass through RT format serial messages

CAN settings

CAN baud rate: 1 Mbit/s Change CAN ID length: 23 bit Change ☒ Use default RT CAN addresses Generate DBC file

Communications

Serial Port 1: 115200 Send Configuration Read Configuration

Supplied with complete software suite, including unit configuration software, live data monitoring and comprehensive data analysis program.

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General	
Supply voltage	+5.5V to 24V
Power consumption	1W
Case construction	Die-cast aluminium
Dimensions	164 x 63 x 34mm
Mass	300g
IP rating	IP50
Operating temperature range	-40 to 70 °C
Humidity	5 to 95% non-condensing
Mounting method	Cases stack to other RT products / Velcro / tie wraps
Outputs	RS232, CAN
CAN output	
Maximum baud rate	1 Mbit/s
Data rate	Configurable up to 20Hz per channel
Identifiers	Configurable addresses, 11 or 29 bit
RS232 (serial) connection	
Baud rate	115200 baud
Data rate	Configurable up to 20Hz per channel
RS232 data format	Race Technology temperature channels
Thermocouple Inputs	
Sample rate	Variable up to 20Hz per channel
Type	K, J, E or T type (grounded tip or floating)
Internal resolution	2mK
Resolution	24 bits
Typical accuracy at 25 °C ambient	0.5 degrees C
Hardware filter	RC digital low-pass
Maximum input range	K type: -200 to +1350 degrees C J type: -200 - +1200 degrees C E type: -200 - +1000 degrees C T type: -200 - +400 degrees C
Order codes	
K type	THERMO12-K
J type	THERMO12-J
E type	THERMO12-E
T type	THERMO12-T

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