

Features

- Eight isolated inputs, per module, for type K thermocouple
- Cold junction compensation for each channel
- Excellent accuracy throughout the measuring range
- Extended operating temperature range.
- Up to 6 modules can be cascaded for a total of 48 thermocouples

Description

The module provides cold junction compensation and amplification for type K thermocouples. The inputs are isolated to 500Volts, allowing the use of thermocouples with grounded junction. Each thermocouple input is sampled 1000 times per second and digitally filtered. Output is up to 10 times per second on CAN 2.0a/b high speed interface (ISO11898).

These modules are used for various temperature measurements, e.g. exhaust gas, cylinder head, rolling tire surface and brake rotors. (TCKEKT, TCJCHT, TCKSTK).

Description of the LED status:

Power LED	
OFF	No power or hardware failure
ON	Normal operation
Blink	Device is selected during configuration
Error LED	
OFF	No error detected
ON	Stopped or configuration problem
Blink	In recovery mode

Installation
Setup:
Single CANTK1:

Refer to page two for example of installation - single

- Using the cable CBLCTK-PWS-005, connect one of the two CAN ports on the CANTK1 module to the Recorder CAN1 or CAN2
- Connect the flying lead wires to the power source (white/blue to GND, white to + terminal)
- Connect the CAN termination plug to the free CAN port of the CANTK1
- Attach the thermocouples to the CANTK1 respecting the thermocouple polarity


CANTK1 – 8 channels thermocouple module

CBLCTK-RES – CAN termination plug
Two CANTK1 and more:

Refer to page two for example of installation – cascade

- Using the cable CBLCTK-PWS-005, connect one of the two CAN ports on the CANTK1 module to the Recorder CAN1 or CAN2
- Connect the flying lead wires to the power source (white/blue to GND, white to + terminal)
- Connect the cable CBLCTK-RES to the next CANTK1 module
- Connect the CAN termination plug to the free CAN port of the last CANTK1 of the chain
- Attach the thermocouples to the CANTK1 respecting the thermocouple polarity
- Install the CANTK1 module in a dry location
- Do not bend cable with curvature radius smaller than 40mm (1.60")
- Route the cable at least 20cm (8") away from high interference electrical devices, such as: ignition coils, plug leads, high-current leads, high emission electronic modules or antennas
- Verify that the cable is not pinched or stretched by moving parts

Software configuration:

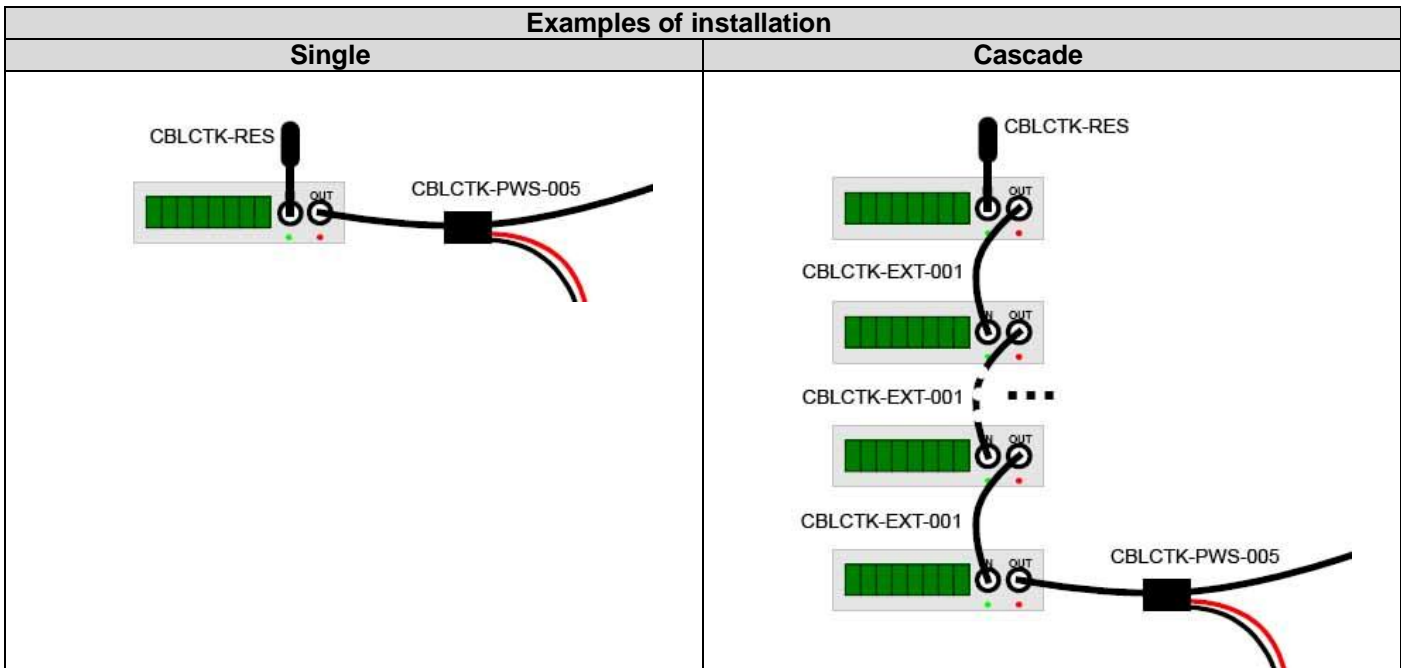
CAN Port Activity: Single Frame Broadcast

CAN Bit Rate: 500 kbps

SFB Messages: Click on the link to import the file CANTK1.xml, provided by ISAAC Instruments. Select CANTK1_x for the first module, CANTK2_x for the second module, etc.


Refer to the Analyzer User Guide for more details on CAN configuration.

The calibration certificate is included with the module


Specifications

	Symbol	Min	Typ	Max	Units
Supply Voltage	V_{in}	5		60	V
Power Consumption	P_{in}		1.0		W
Temperature Measurement Range	T	-100		1372	°C
Resolution	Res		0.1		°C
Calibration Error	Calib	-1		+1	°C
High speed CAN interface	CAN_{BR}		500		Kbit/sec
Input protection	$I_{nProtect}$		± 60		V
Input to input isolation	I_{nISO}		500		V
Input to supply isolation	I_{nISO}		500		V
Operating temperature	T_{oper}	-40		85	°C
Dimension			120(4.7) 31(1.2) 50(2)		mm(in) mm(in) mm(in)
Weight	W		300 (10.5)		g(oz)

Pin outs:

Pin	Signal	Description	Drawing
1	Power +	Power supply plus	
2	Power GND	Power supply ground	
3	CAN_H	CAN high	
4	CAN_L	CAN low	
5	CAN_GND	CAN ground	
Chassis	Shield	Cable shield	