DIGITAL INDUSTRIES SOFTWARE

Simcenter SCADAS Mobile Eight channel temperature – IP67 certified device

Simcenter/SCx-TCK8(A/B)/2406/20240625

Product Information Sheet

Summary

The SC-TCK8 extends Simcenter SCADAS Mobile capability to acquire high number of K-type thermocouple signals. In combination with CN4-II module, up to four SC-TCK8 devices can be connected to Simcenter SCADAS Mobile to support up to 32 thermocouple channels per CN4-II module.

SC-TCK8 is delivered as primary device (A) and secondary device (B) allowing daisy-chain for expansion based on eight channel increments. Primary devices are connected through a cable to CN4-II module for power supply and to acquire all transmitted messages. The message stream is resampled and synchronized with the internal SCADAS Mobile acquisition rate.

Supported transducers

Typical applications

BENEFITS

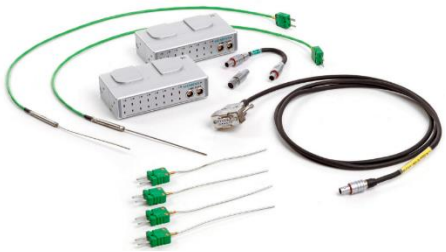
- 8 Thermocouple inputs type K (NiCr/NiAl)
- Designed for engine compartment applications

FEATURES

- Cold junction compensation
- Linearization look-up table
- Measurement data output to CAN 2.0 B according to ISO 11898-2
- Galvanic isolation on all electrical and data connections (inputs, CAN, power supply)
- Screw less mounting

SC-TCK8
SC-TCK8 is an ingress protection IP67 compliant device that operates in extreme environmental temperatures. Designed for engine compartment applications, it provides galvanic isolation, screwless mounting of thermocouple inputs type K (NiCr / NiAl). The accurate cold junction compensation and on-board linearization provides a high degree of accuracy over the thermocouple measurement range.

CN4-II input module
The SCADAS Mobile CN4-II input module provides four CAN bus interfaces in support of SC-TCK8 devices. While CN4-II terminals 1 and 2 are reserved for TCK8 devices, terminals 3 and 4 can be connected to vehicle CAN bus. The CN4-II is compliant with the CAN 2.0B message protocol which is widely accepted and used by most vehicle manufacturers and supports the SAE J1939 truck and bus CAN standard.



Note: see product information sheet for CN4-II specifications

Product Information Sheet

Specifications SC-TCK8 (A/B)

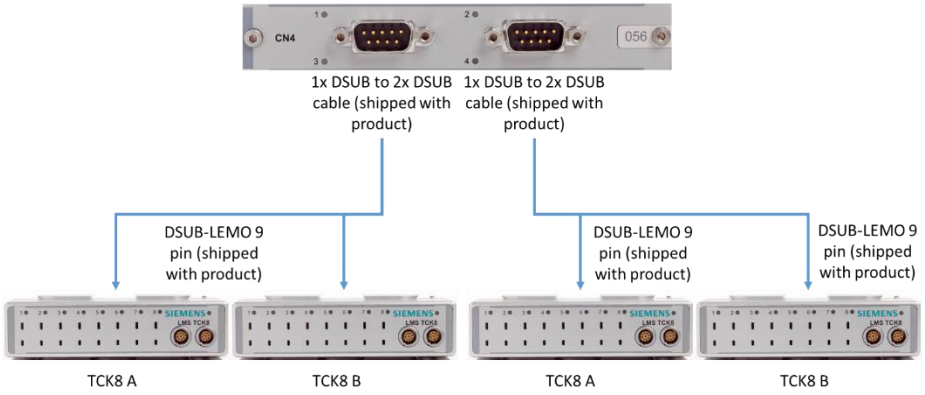
Input	Thermocouples type K (NiCr/NiAl)	
Measuring range(s)	-60 °C ... +1370 °C (-76 °F ... +2498 °C)	
Voltage supply	6 VDC ... 36 VDC	
Power consumption typical	1.1 W	
Working temperature range	-40 °C ... +125 °C (-40 °F ... +257 °C)	
Storage temperature range	-55 °C ... +150 °C (-67 °F ... +302 °C)	
Relative humidity	5 % ... 95 %	
IPC-Code (Ingress protection)	IP 67 (DIN EN 60529)	
Dimensions	W106 mm x H30 mm x D58 mm (W4.17 in x H1.18 in x D2.26 in)	
Weight	250 g (0.55 lb)	
Version 1 (standard)	Miniature thermocouple	
Galvanic isolation	**nominal voltage**	**pulse voltage**
input ⇹ module power supply	±100 V	±500 V
input ⇹ CAN	±100 V	±500 V
input ⇹ input	±100 V	±500 V
Resolution	≤0,087 °C (≥ 14 Bit)	
Linearization of sensor characteristic line	Numerical, interpolated, resolution 15 Bit	
Cold junction compensation	Each input with PT100 (RTD) for the reference temperature	
Accuracy at 25 °C (77 °F) ambient temperature	±0.035 % of full temperature range	
Drift at ambient temperature range:	±40 ppm/K (-40 °C to +125 °C (-40 ... +257 °F)))	
Input resistance, approx.	2.6 MΩ (sensor break detection active)	
	4.1 MΩ (sensor break detection inactive)	
Align of the AD converter unit	At processing each measuring value	
Sensor break detection	Activated per software on command	
Input channel status LED	1. Identify the respective channel in configuration mode (LED flashes)	
	2. Identify sensor break in measuring mode (LED lights continuously)	
Hardware filter	10 Hz, filter type single pole RC low-pass	
Aggregate sampling rate	max. 800 Hz	
Input female connectors	Miniature thermocouple connector	
CAN output data transfer rate (bit rate)	Up to 1 MBit/s according to ISO11898-2	
CAN message data format (signal) Resolution (Format)	8 Bit (Byte) and 16 Bit (Word) selectable,	
Sign	signed, unsigned	

Ordering information:
Support of Simcenter SCADAS Frames and Modules may be restricted in specific Simcenter Testlab application workbooks.

Please check with your local representative for full details.
SC-TCK8A: Simcenter SCADAS 8-channel temperature-IP67 primary device
SC-TCK8B: Simcenter SCADAS 8-channel temperature-IP67 secondary device
SCM-CN4-II: Simcenter SCADAS Mobile quad channel CAN bus input module
(Required adapter cable and CAN terminator are included)

Included accessories:

- SC-TCK8A contains LEMO to DSUB cable and terminator plug (connects TCK8A to CN4-II and terminates open end)
- SC-TCK8B contains MCAN Lemo to Lemo (connects TCK8B to TCK8A, terminator plug moves from A device to B device)



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