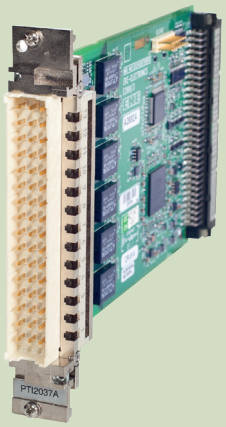

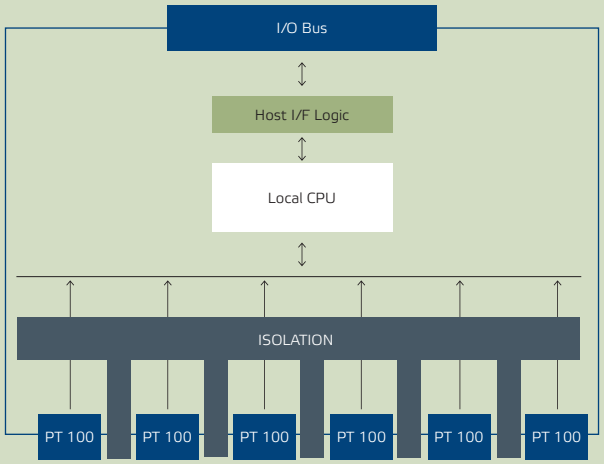

Temperature Sensor Input Module (TSI)

SIL-2

EN 50155
EN 45545

MODULE FUNCTIONS

The Trainnet® TSI5226A is a temperature sensor input module. It acquires the signals from the PT-100, or PT-1000 or NTC temperature sensors (resistance measurement) and converts them into temperature values expressed in degrees Celsius. The used sensor type can be configured by software. The TSI module makes the measured temperature values available to the train computer's CPU.

The Trainnet® TSI can be used as a part of a Trainnet® TCMS, VCU or Event Recorder. Alternatively, the Trainnet® TSI can be fitted in the Trainnet® Remote I/O Module (RIOM).

KEY FEATURES

The Trainnet® TSI has six measurement channels which can measure temperature within the -110 to +325 ºC range with over range indication. Each channel is isolated from each other, thus a fault in one channel will not affect the others. The temperature sensors can be connected using 2-wire, 3-wire or 4-wire schemes providing flexibility.

The measurement resolution is 0.01 ºC, with accuracy better than ±1 ºC within the measurement range.

The module has its own 32-bit embedded processor that uses factory calibration values to convert measurement values to degrees Celsius with the best possible accuracy. The embedded processor also implements diagnostic functions and reports to the train computer's CPU module if it suspects that the input values cannot be trusted. The Trainnet® TSI detects the temperature sensor as well as cable faults and input channel faults.

TECHNICAL SPECIFICATIONS

Dimensions (W x H x D)
4 TE x 3 U x 160 mm
Weight
160 g
Input Power
5 V DC ± 5 % (310 mA typ., 400 mA max.)
Temperature Range (operational)
-40 ºC...+70 ºC
MTBF (40 ºC ambient temperature)
2 490 000 h
I/O Connector
DIN41612-F48 (at front)
Host Interface
RS 485
Input Channels
6 Pt100 sensor
Connection Type
2-wire, 3-wire or 4-wire
Measurement Range
-110 ºC to + 325 ºC
Resolution
0.01 ºC
Accuracy
Better than ± 1 ºC (3- or 4-wire)