8-channel Analog Input

Thermocouple and mV

8205-TI-IS

- 8 input channels
- Intrinsically safe field circuits
- Thermocouple and mV
- Cold junction compensation (internal or remote)
- Built-in thermocouple linearisation
- Channels independently configurable
- Open-circuit field wiring detection

MODULE SPECIFICATION
See also System Specification

INPUTS

Number of channels
- 8

THC inputs
- B,E,J,K,N,R,S or T to EN 60584-1: 1995;
- W3 and W5 to ASTM E 988-96
- Russian K and Russian L to rOCT 3044-84
- User definable linearisation table, **NOTE 1**

Input type		Range
Thermocouples	B	0 to +1820°C
	E	−270 to +1000°C
	J	−210 to +1200°C
	K	−270 to +1372°C
	N	−270 to +1300°C
	R & S	−50 to +1768.1°C
	T	−270 to +400°C
	W3 & W5	0 to +2315°C
	Russian K	-200 to +1300°C
	Russian L	-200 to +800°C
mV		−8 to +24 mV
		−20 to +60 mV
		−33.333 to +100 mV
		−100 to +100 mV

In addition, see error table in System specification section

Temperature drift
- $< \pm 0.003\%$ of span/°C

Cold junction compensation error*
- $< \pm 1°C$ (− 40 to + 70°C)

ACCURACY (% OF SPAN)

Tamb	mV inputs	THC inputs
25° C	± 0.05%	± 0.05%
+10 to +40° C	± 0.08%	± 0.1%
-40 to +70° C	± 0.18%	± 0.3%

Resolution
- 16 bits

Common mode rejection
- >87 dB @ 50/60 Hz

Series mode rejection
- >50 dB @ 50/60 Hz

Common mode voltage between channels
- ± 5 V (max.)

Absolute maximum input voltage
- ± 30 V

Isolation (any channel to Railbus)
- 60 V peak

CONFIGURABLE PARAMETERS

Sensor type
- User selectable

Alarms
- High and low

Input dead zone
- User defined value

Selectable input filtering
- Off / 2 reading avgerage / running avgerage

Drive on open circuit fault
- Disabled / upscale / downscale

Channel status
- Active / Inactive

Cold junction compensation
- Enable / disable / channel number

RESPONSE TIME

Analog signal change to availability on Railbus
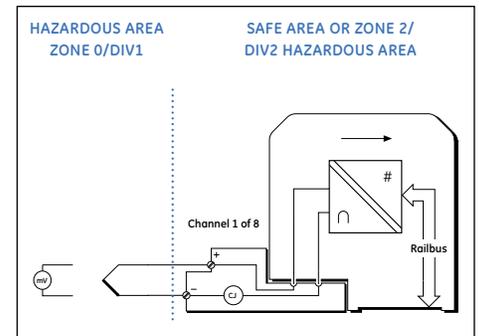- 600 ms (max.)

SAFETY

Field wiring protection
- [EEx ia] IIC

Safety Description (each channel)
- Channels 1, 2, 3, 4, 7 and 8, wired as separate IS circuits – $U_o = 16.4$ V, $I_o = 79$ mA, $P_o = 0.33$ W

HAZARDOUS AREA ZONE 0/DIV1 / **SAFE AREA OR ZONE 2/ DIV2 HAZARDOUS AREA**

FIELD TERMINALS

Field Wiring Type	Recommended Field Terminal
Intrinsically safe THC	8625-FT-IS

- Channels 5 and 6, wired as separate IS circuits – $U_o = 1$ V, $I_o = 1.1$ mA, $P_o = 0.3$ mW
(Input terminals are equivalent to non-energy storing apparatus)

FM entity parameters
- Channels 1, 2, 3, 4, 7 and 8, wired as separate IS circuits – $V_{oc} = 16.4$ V, $I_{sc} = 63.7$ mA, Po = 131mW
- Channels 5 and 6, wired as separate IS circuits – $U_o = 1$ V, $I_o = 1$ mA, $P_o = 0.25$ mW

POWER SUPPLIES

IS Railbus (12V) current
- 120 mA (max.)

Power dissipation within module
- 1.5 W (max.)

MECHANICAL

Module Key Code
- C1

Module width
- 42 mm

Weight
- 245 g

NOTE 1: *Consult GE for support in BIM/configurator.*
* *Cold junction compensation located in recommended field terminal.*