



MAS-AI-U-08-D

Field Interface Board

8 Channel Linearized RTD/TC input

Masibus Linearized RTD / TC Field Interface Board have 8 nos of independent Thermocouple or Pt-100 RTD (3W) input channels. All 8 channels have factory set either Current or Voltage Output signal. Optionally offered Windows based User friendly mTRAN configuration software allows user to configure each channel for different type of TC/RTD input. Field interface Board has channel wise open sensor indication that allows user to identify channel wise faults.

The interface boards are built using the latest Technology to deliver high performance in Accuracy, Resolution, Stability and Isolation.

Linearized RTD / TC Field Interface Board have Zero/Span adjustments, sensor break detection/protection, Reverse output and Reverse Polarity protection features.

Software techniques like polynomial Linearization gives Linearized output to deliver high accuracy. High level of isolation between Input and output prevents ground loop errors and protects costly measurement and control systems under fault conditions in harsh industrial conditions.

Features

- Universal input (RTD, thermocouple)
- 1.5 KV AC RMS Isolation between Input, Output and Power
- Linearized Output
- Fully Programmable for Input type & Range
- Fast Response time: <500 ms
- Optional Windows mTRAN software for Configuration, Calibration & Monitoring
- Reverse polarity protection
- Direct/Reverse output settable
- Sensor break detection

Applications

- Reduce cost/channel for RTD / TC input
- Eliminate Ground Loop problems
- Protect Expensive control systems against field faults
- Isolate and Translate Field Signals
- Eliminate Common Mode Voltages
- Industrial process control, Factory automation, SCADA and DAS

TECHNICAL SPECIFICATIONS

Input		Power Supply	
No. of Channels	8	Power Supply	24VDC ±10%
Input type	RTD: PT 100 3-wire (0.1 °C) (Automatic 3 wire Compensation) TC: E, J, K, T, B, R, S, N (ANSI Standard)	Fuse Rating	2 Amp (Fast Blown)
Input Range	As per Table - 1	Power Consumption	<10VA
Input Impedance	>1M Ω	LED Indication	Green LED - Healthy Status Red LED - Fault Status
Input Resolution	16 bits	Physical	
Burnout Current for TC	<1uA	Dimension (in mm)	225(L) x 90(W) x 92(D)
CJC Error	+/-2.0 °C	Mounting	DIN Rail (35 mm width)
RTD Excitation Current	0.3048 mA	Profile Material	PVC
CMRR	> 40 dB	Weight	Approximately 400 gms.
Temp Co	≤150 PPM	Environmental	
Max I/P voltage	20 V	Operating Temperature	0 to 50 °C
Min Spans	TC: 5mV; Pt100: 50 °C	Humidity	30 to 95% RH non-condensing
LED Indication	Red LED ON for Sensor Open status	Environmental Protection	Conformal Coating on PCB
Input Terminals	Screw type PCB Terminal Block (2.5mm ² conductor size)	Table - 1	
Output		Input Type	Input Range
Output Type	Voltage / Current (Factory Set)	E	-200 to 1000 °C
Sensor Break Output	Upscale or Downscale*	J	-200 to 1200 °C
Output Direction	Direct or Reverse*	K	-200 to 1370 °C
Response Time	≤ 500ms at full load	T	-200 to 400 °C
Load Impedance		B	450 to 1820 °C
Current	≤750 Ω	R	0 to 1750 °C
Voltage	≥4.7K Ω	S	0 to 1750 °C
Accuracy	0.25 % Full Span ± 1 Degree	N	-200 to 1300 °C
Drift	0.2 % per year	Pt-100	-200 to 850 °C
Calibration	Zero and Span calibration through mTRAN software		
Resolution	0.005% of Full Span		
Output Terminals	Screw type PCB Terminal Block (2.5mm ² conductor size) or 25 pin D-Type connector		

Note: * Selectable through mTRAN configuration software.

Ordering Code

Model	Input Type & Range	Output Type & Range	Output Connection
MAS-AI-U-08-D	X	X	X
	1 E	1 4-20mA	0 PCB Terminal Block
	2 J	2 0-20mA	1 D Type connector
	3 K	3 1-5V DC	
	4 T	4 0-5V DC	
	5 B	5 0-10V DC	
	6 R		
	7 S		
	8 N		
	9 Pt-100		

* For Special Range Consult Factory

Optional Accessories

Sr. No.	Description of Accessories	Part No.	Qty
1	Configuration cable	TT7SCC	1
2	mTRAN Configuration Software CD		1

Connection Details

