4-CH thermocouple input / RS485 modbus RTU module

FTC4MB

Modbus RTU

FALCON IOT

FTC4MB interface for Thermocouple sensors (J / K/ E/ N / S / R / B / T). The number of inputs is 4 and each input is independent. It's a ModBUS Slave and can be coupled with any ModBUS Master device. A 6-way galvanic isolation among Power supply // input // RS485 circuits assures the integrity of your data (each couple of channels is isolated from the other circuits).

- Input: 4-CH Thermocouple sensors
- Output:RS485 (Modbus RTU)
- Isolation: 1,5 kVdc at 6-way
- Accuracy: ±2°C
- power supply: 22 to 26 (type:24 vdc)
- Connection via screw terminals
- Integrated cold-junction compensation
- Terminal Type: Stainless Steel

General ordering data:

Version	Thermocouple to modbus, input : 4-CH T.C, output: RS485 (Modbus RTU)
Order Number	Thermocouple type J: FTC4MB-J Thermocouple type k: FTC4MB-K Thermocouple type E: FTC4MB-E Thermocouple type N: FTC4MB-N Thermocouple type S: FTC4MB-S Thermocouple type R: FTC4MB-R Thermocouple type B: FTC4MB-B Thermocouple type T: FTC4MB-T

Technical Specification:

Technical Specification	
Power supply	22..26 Vdc With reverse polarity Protection
Power consumption	0,6 W
Isolation	1,5 kVdc @ 6 way for 1 minute per UL 1577
Accuracy	Max: ±2°C
Resolution	14-Bit
Operating Temperature	-10... +85 °C
Dimension (W x H x D)	114.6x99x22.6
Mounting	DIN-Rail (TH35 standard)
case	Material PA60, Green color
Connections	Removable terminals block, plug in connectors, max wire size 2.5 mm2
Communication	
Interface	2 wire Isolated RS485/ ±15 kV ESD Protection
Speed	9600-115200
Protocol	Modbus RTU slave
Signals	
Channel Numbers	4
Input type	Thermocouple Type J / K/ E/ N / S / R / B / T
Programming	
DIP switches	Modbus ID, Speed
Software	Change Calibration Parameters
Indicator	
Power	LED (Red)
Communication	LED (Green)

Measurement range:

TC type	Allowed Range	Linearization error	TC type	Allowed Range	Linearization error
J	-210-1200 °C	0.05 °C	S	-50-1768 °C	0.02 °C
K	-200-1372 °C	0.05 °C	R	-50-1768 °C	0.02 °C
E	-200-1000 °C	0.02 °C	B	250-1820 °C*	0.03 °C
N	-200-1300 °C	0.04 °C	T	-200-400 °C	0.04 °C

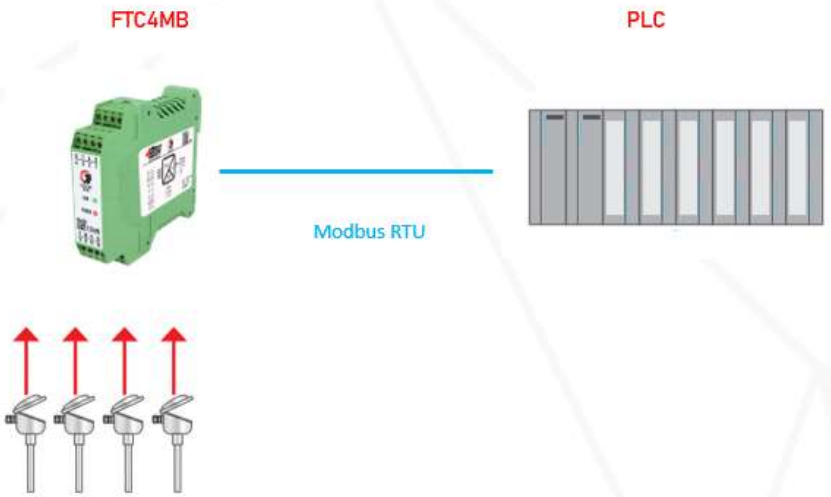
* Up to 250 °C: the input is considered equivalent to a null temperature value.

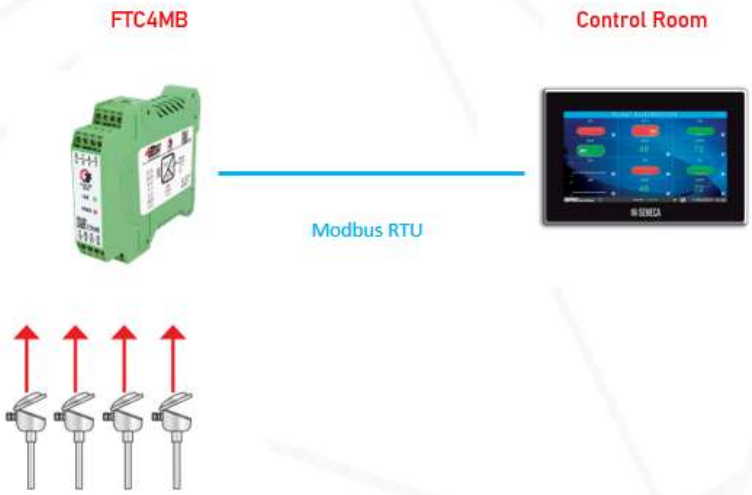
DIP-SWITCHES CONFIGURATION:

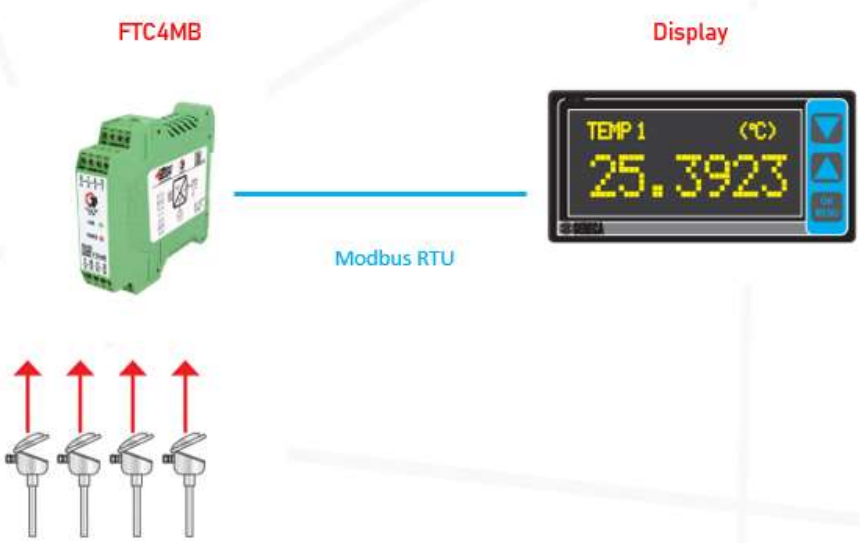
Before setting the DIP switches you must disconnect the power supply. The DIP-switches position defines the Modbus Address and Baud Rate communication parameters. In the following table the Baud Rate and Address values are listed as a function of the DIP-switches position.

Switche 1		Switche 2	
Sw1	Baud rate	Sw2	Address
1 2 3 4		5 6 7 8 9 10 11 12	
↑↑↑↑	9600	↓↓↓↓↓↓↓↑	≠1
↑↑↑↓	19200	↓↓↓↓↓↓↑↓	≠2
↑↑↓↓	38400	↓↓↓↓↓↓↑↑	≠3
↑↓↓↓	57600	.....	.....
↓↓↓↓	115200	↑↑↑↑↑↑↑↑	≠256

Data Acquisition and Automation Systems:



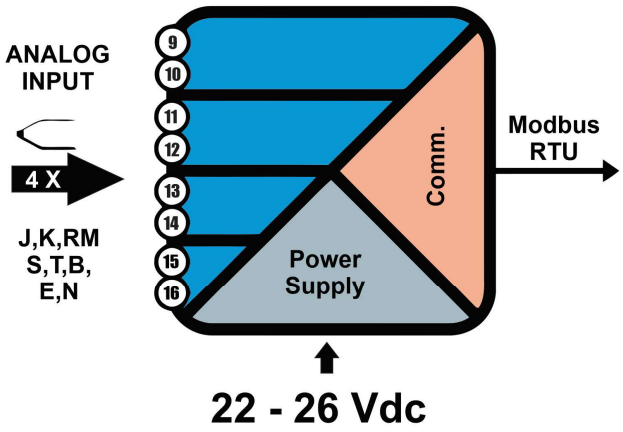




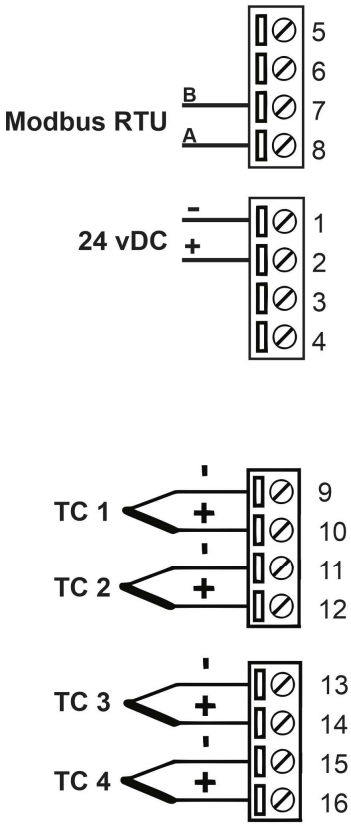
Installation:

Easy Mounting - The device supports TH35 standard for DIN rail installation, ensuring effortless and convenient mounting.

Block diagram:

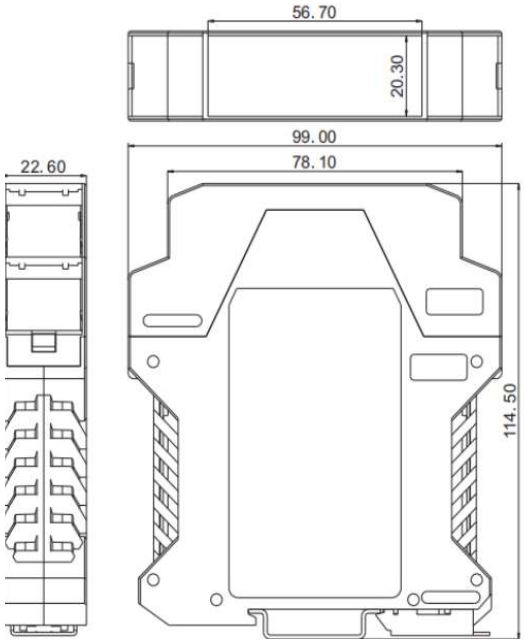


Wiring:



Port number	Discription
Power supply	
1	GND-P
2	24 vdc
Communication	
7	B(RS485)
8	A(RS485)
Analog Inputs	
9	-T.C1
10	+T.C1
11	-T.C2
12	+T.C2
13	-T.C3
14	+T.C3
15	-T.C4
16	+T.C4

Dimension:



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