

TBOX MS-8AIVC-2

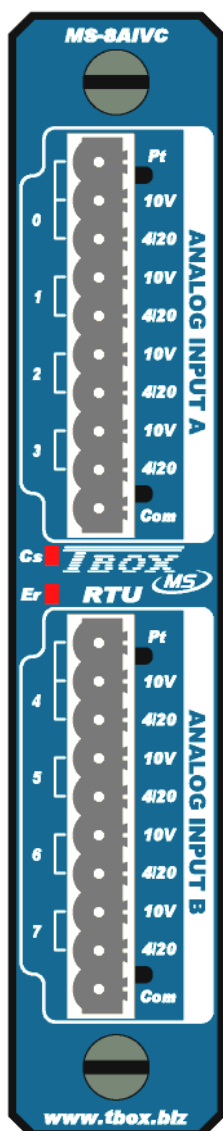
Version 3.02

TBOX MS-8AIVC-2

- 8 x -10..+10V; -20..+20mA
- 2 x Pt100, Pt1000 instead of 2 linear inputs
- Isolation by group of 8 inputs



Technical Specifications



General

Compatibility	CPU MS-CPU32-S2
Software	This card replaces MS-8AIVC. It requires firmware OS >= 1.45.503 . As of this version of firmware, it is pin to pin compatible with MS-8AIVC.
Consumption	115 mA
Configuration	<ul style="list-style-type: none"> ▪ Hardware No hardware configuration required ▪ Software Signal selection during channel configuration
Mode	Bipolar
Type	Passive inputs
Acquisition time	1 second maximum to acquire 8 inputs
Signals	<ul style="list-style-type: none"> ▪ 4..20mA Cabling to 4/20. Select in TWinSoft, signal 4..20mA ▪ 0..20mA Cabling to 4/20. Select in TWinSoft, signal -20..20mA ▪ -20..+20mA Cabling to 4/20. Select in TWinSoft, signal -20..20mA ▪ 0..+10V Cabling to 10V. Select in TWinSoft, signal -10..+10V ▪ -10..+10V Cabling to 10V. Select in TWinSoft, signal -10..+10V ▪ Pt100 Cabling to Pt. Select in TWinSoft, signal Pt100 ▪ PT1000 Cabling to Pt. Select in TWinSoft, signal Pt1000
Resolution	<ul style="list-style-type: none"> ▪ ADC 24 bits ▪ Current 3.726 nA ▪ Voltage 0.692 μV ▪ Temperature 0.1°C
Accuracy @ 25°C	<ul style="list-style-type: none"> ▪ Current 0.1% FS ▪ Voltage 0.1% FS ▪ Temperature 0.1% FS
Input Impedance	<ul style="list-style-type: none"> ▪ Current Typ.: 22 Ω Max. 30 Ω ▪ Voltage Min. 110 kΩ
Replacement	Hot removable. No risk to damage hardware, but reset is required.
Test	Automatic test of card access by the CPU.
Connector	Screw connector (10 x 5.08 mm)

Wire thickness: 0.14 – 2.5 mm² (or max. 12 AWG)

Protection

Voltage Input

Without influence to other inputs -15 V .. + 15 V
Maximum -60 V..+60 V

Current Input

Maximum 180 mA .. + 180 mA

Temperature Input

Short circuit and open circuit
NO protection against voltage/current directly applied

Isolation

Between channel	Non isolated
Group to Ground/Earth	Global isolation
Level of isolation	1500 V DC

Digital Input

Validity input (DI)	Returns '0' when signal < 2.4mA and > 21.6 mA Returns '1' when the 4..20mA signal is valid
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LED

Cs	Card Selection: card corresponding to card declared in TWinSoft
ER	Error: card type not corresponding to the one declared in TWinSoft

Environment

Temperature storage	-40°C to 85°C
Temperature working (ambient)	Industrial Temperature: -40°C to 70°C
Humidity	5 to 95 % without condensation
Altitude	Max. 5000 m

Dimensions

Without connector	Height x Depth x Width: 150 x 83 x 29 mm (5.906 x 3.27 x 1.142 inches)
Weight	300 g

Approvals

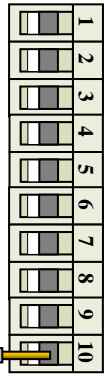
CE, UL, CSA, C-Tick

Cabling

Connector: **Screw connector**

Group A

0 V (of sensors)



Pin Out:

- 1 Input 0 - Temperature
- 2 Input 0 - Voltage
- 3 Input 0 - Current
- 4 Input 1 - Voltage
- 5 Input 1 - Current
- 6 Input 2 - Voltage
- 7 Input 2 - Current
- 8 Input 3 - Voltage
- 9 Input 3 - Current
- 10 Com (V-)

Group B

0 V (of sensors)



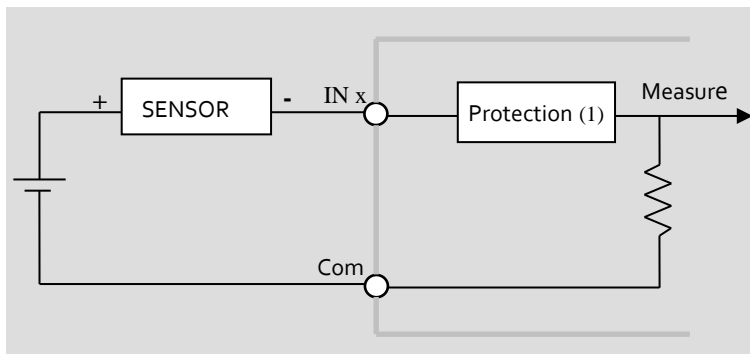
- 1 Input 0 - Temperature
- 2 Input 0 - Voltage
- 3 Input 0 - Current
- 4 Input 1 - Voltage
- 5 Input 1 - Current
- 6 Input 2 - Voltage
- 7 Input 2 - Current
- 8 Input 3 - Voltage
- 9 Input 3 - Current
- 10 Com (V-)

IMPORTANT

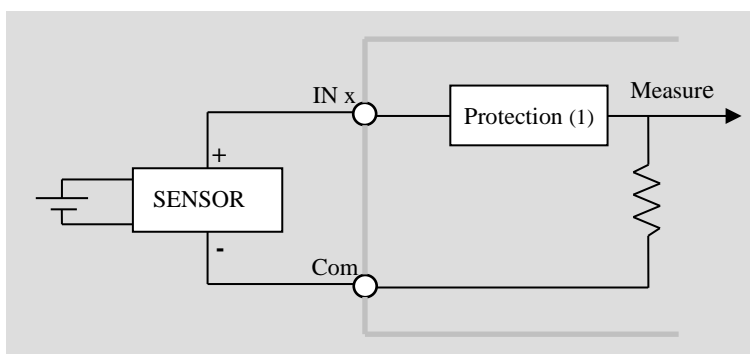
Isolation is **global**.

It means both **Com (V-)** are connected together and must be cabled to **the same reference**.

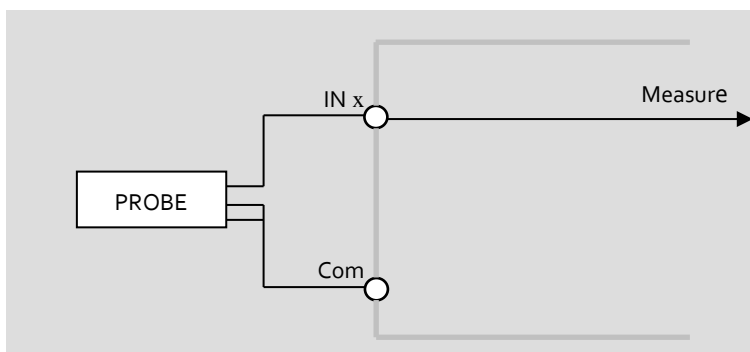
Cabling to 2 Wires sensor (current/voltage)



Cabling to 4 Wires sensor (current/voltage)



Cabling to Temperature probe (2 or 3 wires)



(1) protection on 4..20mA inputs.

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