

# Product datasheet

Specifications



## Analogue input cartridge, Modicon M221, 2 temperature inputs, I/O extension

TMC2T12

EAN Code: 3606480649158

### Main

Range of product	Modicon M221
Product or component type	Analogue input cartridge
Product compatibility	Modicon M221C
Analogue input number	2

### Complementary

Analogue input type	thermocouple - 200...1000 °C with thermocouple J thermocouple - 200...1300 °C with thermocouple K thermocouple 0...1760 °C with thermocouple R thermocouple 0...1760 °C with thermocouple S thermocouple 0...1820 °C with thermocouple B thermocouple - 200...400 °C with thermocouple T thermocouple - 200...1300 °C with thermocouple N thermocouple - 200...800 °C with thermocouple E thermocouple 0...2315 °C with thermocouple C Ni 100/Ni 1000 temperature probe - 60...180 °C Pt 100 temperature probe - 200...850 °C Pt 1000 temperature probe - 200...600 °C
Analogue input resolution	14 bits
LSB value	0.1 °C
Sampling duration	125 ms, analogue input type: thermocouple 250 ms, analogue input type: temperature probe
Absolute accuracy error	+/- 0.1 % of full scale at 25 °C for Pt 100/Pt 1000, Ni 100/ Ni 1000 temperature probe +/- 0.4 % of full scale at 25 °C for thermocouple K - 200...0 °C +/- 0.1 % of full scale at 25 °C for thermocouple K 0...1300 °C +/- 0.4 % of full scale at 25 °C for thermocouple J - 200...0 °C +/- 0.1 % of full scale at 25 °C for thermocouple J 0...1000 °C +/- 0.4 % of full scale at 25 °C for thermocouple E - 200...0 °C +/- 0.1 % of full scale at 25 °C for thermocouple E 0...800 °C +/- 0.4 % of full scale at 25 °C for thermocouple T - 200...0 °C +/- 0.1 % of full scale at 25 °C for thermocouple T 0...400 °C +/- 0.4 % of full scale at 25 °C for thermocouple N - 200...0 °C +/- 0.1 % of full scale at 25 °C for thermocouple N 0...1300 °C +/- 6 °C at 25 °C for thermocouple R, S 0...200 °C +/- 0.1 % of full scale at 25 °C for thermocouple R, S 200...1760 °C +/- 0.1 % of full scale at 25 °C for thermocouple C 0...2315 °C
Temperature drift	+/- 0.02 %FS/°C
Repeat accuracy	+/- 0.5 %FS
Non-linearity	+/- 0.01 %FS
Cross talk	<= 1 LSB
Type of cable	Twisted shielded pairs cable
Electrical connection	3 x 1.5 mm <sup>2</sup> 2 screw terminal blocks with pitch 3.81 mm adjustment for inputs
Maximum cable distance between devices	Twisted shielded pairs cable: <30 m for input devices

<b>Insulation</b>	Non-insulated between analogue input and internal logic
<b>Height</b>	41 mm
<b>Depth</b>	15 mm
<b>Width</b>	35 mm
<b>Net weight</b>	0.015 kg
<b>Input impedance</b>	$\geq 1$ MOhm

## Environment

<b>Immunity to microbreaks</b>	10 ms
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## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	3.5 cm
<b>Package 1 Width</b>	7.0 cm
<b>Package 1 Length</b>	4.6 cm
<b>Package 1 Weight</b>	20.0 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	75
<b>Package 2 Height</b>	15 cm
<b>Package 2 Width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Package 2 Weight</b>	3.324 kg
<b>Unit Type of Package 3</b>	P12
<b>Number of Units in Package 3</b>	2400
<b>Package 3 Height</b>	100 cm
<b>Package 3 Width</b>	125 cm
<b>Package 3 Length</b>	55 cm
<b>Package 3 Weight</b>	75 kg

## Contractual warranty

<b>Warranty</b>	18 months
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## Sustainability

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**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

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[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

## Well-being performance

Toxic Heavy Metal Free

Mercury Free

Rohs Exemption Information [Yes](#)

## Certifications & Standards

Reach Regulation [REACH Declaration](#)

Eu Rohs Directive [Pro-active compliance \(Product out of EU RoHS legal scope\)](#)  
[EU RoHS Declaration](#)

China Rohs Regulation [China RoHS declaration](#)

Environmental Disclosure [Product Environmental Profile](#)

Circularity Profile [End of Life Information](#)