



### Commercial status

End-of-Sale Notice :

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### Main

Range of product	Modicon M238 logic controller
Product or component type	Input/Output analog module
Analogue input number	2
Input level	Low level
Analogue input type	3-wire Pt probe temperature probe - 100...500 °C differential Thermocouple 0...1200 °C with thermocouple J differential Thermocouple 0...1300 °C with thermocouple K differential thermocouple 0...400 °C with thermocouple T differential
Analogue output number	1
Analogue output type	Current: 4...20 mA Voltage: 0...10 V
Cross talk	<= 2 LSB

### Complementary

Range compatibility	Advantys OTB Twido
Analogue input resolution	12 bits
Analogue output resolution	12 bits
LSB value	2.5 mV voltage voltage 4.8 µA current current 0.1 °C thermocouple 0.15 °C temperature probe
Input impedance	>= 1 MOhm
Load type	Resistive
Load impedance ohmic	>= 2000 Ohm voltage <= 300 Ohm current
Stabilisation time	20 Ms
Conversion time	20 ms + 1 controller cycle time
Sampling duration	20 Ms, analogue input type: temperature probe 60 Ms, analogue input type: thermocouple
Acquisition period	60 ms per channel + 1 controller cycle time thermocouple 80 ms per channel + 1 controller cycle time
Measurement error	+/- 0.2 % of full scale - 100...500 °C 3-wire Pt probe at 25 °C +/- 0.2 % of full scale 0...10 V 0...10 V at 25 °C +/- 0.2 % of full scale 4...20 mA 4...20 mA at 25 °C 0.2 % of full scale +/- 4 °C 0...1200 °C thermocouple J at 25 °C 0.2 % of full scale +/- 4 °C 0...1300 °C thermocouple K at 25 °C 0.2 % of full scale +/- 4 °C 0...400 °C thermocouple T at 25 °C

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Temperature coefficient	+/-0.006 %FS/°C, analogue input type: - 100...500 °C 3-wire Pt probe +/-0.006 %FS/°C, analogue input type: 0...1200 °C thermocouple J +/-0.006 %FS/°C, analogue input type: 0...1300 °C thermocouple K +/-0.006 %FS/°C, analogue input type: 0...400 °C thermocouple T +/-0.015 %FS/°C, analogue input type: 0...10 V, analogue output type: 0...10 V +/-0.015 %FS/°C, analogue input type: 4...20 mA, analogue output-type: 4...20 mA
Repeat accuracy	+/-0.5 %FS for input/output
Non-linearity	+/- 0.2 %FS, analogue input type: current, analogue output type: current +/- 0.2 %FS, analogue input type: temperature probe +/- 0.2 %FS, analogue input type: thermocouple +/- 0.2 %FS, analogue input type: voltage, analogue output type: voltage
Output error	+/- 1 %FS
Output ripple	<= 1 LSB
Total error	+/-1 %FS, analogue input type: current, analogue output type: current +/-1 %FS, analogue input type: temperature probe +/-1 %FS, analogue input type: thermocouple +/-1 %FS, analogue input type: voltage, analogue output type: voltage
Type of cable	Shielded cable
Insulation between channel and internal logic	Photocoupler
Supply	External supply
[Us] rated supply voltage	24 V DC
Supply voltage limits	19.2...30 V
Electrical connection	1 removable screw terminal block
Current consumption	50 mA at 24 V DC external 50 mA at 5 V DC internal
Net weight	0.085 Kg

## Environment

Dielectric strength	500 V between I/O channel 500 V between the I/O and the external supply circuit 500 V between the I/O and internal logic
Width	23.5 Mm
Depth	70 Mm
Height	90 Mm

## Offer Sustainability

Sustainable offer status	Green Premium product
REACH free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS Declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End Of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Contractual warranty

Warranty	18 months
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Product Life Status : **Post commercialisation**