



## 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 thermocouple J differential Thermocouple 0...1300 °C thermocouple K differential Thermocouple 0...400 °C 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 temperature probe 60 ms 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 25 °C +/- 0.2 % of full scale 0...10 V 0...10 V 25 °C +/- 0.2 % of full scale 4...20 mA 4...20 mA 25 °C 0.2 % of full scale +/- 4 °C 0...1200 °C thermocouple J 25 °C 0.2 % of full scale +/- 4 °C 0...1300 °C thermocouple K 25 °C 0.2 % of full scale +/- 4 °C 0...400 °C thermocouple T 25 °C
Temperature coefficient	+/-0.006 %FS/°C - 100...500 °C 3-wire Pt probe +/-0.006 %FS/°C 0...1200 °C thermocouple J +/-0.006 %FS/°C 0...1300 °C thermocouple K +/-0.006 %FS/°C 0...400 °C thermocouple T +/-0.015 %FS/°C 0...10 V 0...10 V +/-0.015 %FS/°C 4...20 mA 4...20 mA
Repeat accuracy	+/-0.5 %FS input/output
Non-linearity	+/- 0.2 %FS current current +/- 0.2 %FS temperature probe +/- 0.2 %FS thermocouple +/- 0.2 %FS voltage voltage

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Output error	+/- 1 %FS
Output ripple	<= 1 LSB
Total error	+/-1 %FS current current +/-1 %FS temperature probe +/-1 %FS thermocouple +/-1 %FS voltage 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 24 V DC external 50 mA 5 V DC internal
Net Weight	0.19 lb(US) (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	0.93 in (23.5 mm)
Depth	2.76 in (70 mm)
Height	3.54 in (90 mm)




## Ordering and shipping details

Category	22531-PLCS, TWIDO, TWD
Discount Schedule	PC12
GTIN	3595863996005
Nbr. of units in pkg.	1
Package weight(Lbs)	6.95 oz (197 g)
Returnability	No
Country of origin	JP

## Packing Units

Unit Type of Package 1	PCE
Package 1 Height	2.76 in (7 cm)
Package 1 width	4.13 in (10.5 cm)
Package 1 Length	4.92 in (12.5 cm)
Unit Type of Package 2	BB1
Number of Units in Package 2	25
Package 2 Weight	12.27 lb(US) (5.565 kg)
Package 2 Height	11.81 in (30 cm)
Package 2 width	11.77 in (29.9 cm)
Package 2 Length	15.67 in (39.8 cm)

## Offer Sustainability

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
REACH Regulation	 <a href="#">REACH Declaration</a>
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	 Yes

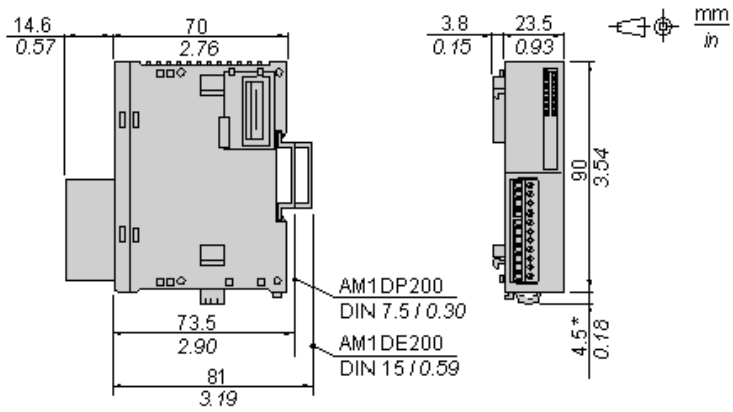
China RoHS Regulation	<a href="#">China RoHS Declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End Of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.
PVC free	Yes

### Contractual warranty

Warranty	18 months
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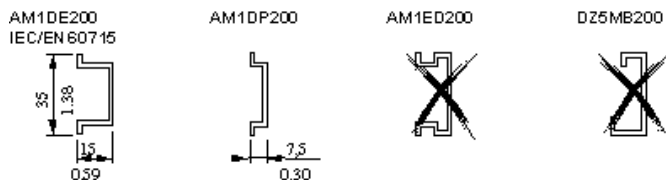
Analog Mixed I/O Module (3-channel, Thermocouple/Temperature Probe/Voltage/Current)

Dimensions



NOTE: \* 8.5 mm (0.33 in) when the clip-on lock is pulled out.

DIN Rail Mounting

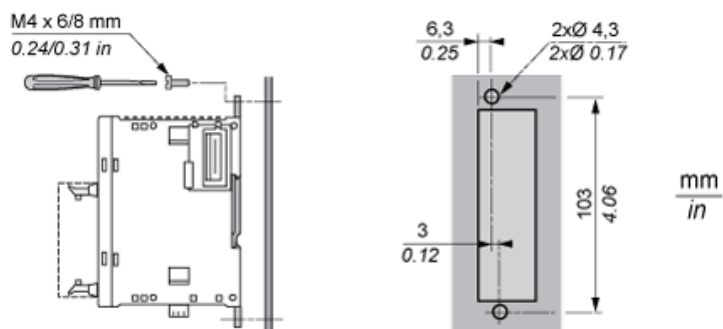


Rail depth	Catalogue part number
15 mm (0.59 in.)	AM1DE200
7,5 mm (0.30 in.)	AM1DP200

NOTE: Do not use AM1ED200 and DZ5MB200

Module Mounting on a Panel Surface

Mounting Hole Layout



Wiring Requirements

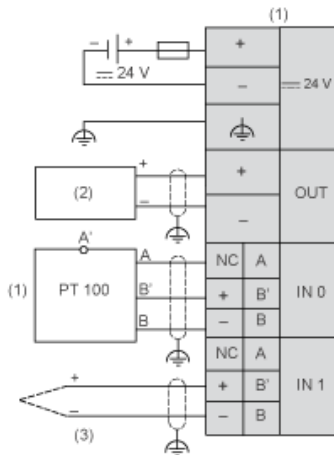
Cable Types and Wire Sizes for Removable Screw Terminal Block

	mm <sup>2</sup>	0,14...1,5	0,25...0,5	0,25...1,5	0,14...0,5	0,14...0,75	0,25...0,34	0,5
AWG	26...16	24...20	24...16	26...20	26...18	24...22	20	

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Wiring Diagram Example

2, 3 or 4 wires



- (1) 4 wires
- (2) Voltage/current preactuator
- (3) Thermocouple

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