Product data sheet

Specifications



Discontinued - Service only

Input/output analog module, Modicon M238 logic controller, 2 inputs thermocouple/temp low level, 1 output

TM2ALM3LT

Discontinued on: 01 December 2020

To be end-of-service on: 30 June 2024

Product availability : Non-Stock - Not normally stocked in distribution facility

Price* : 608.00 USD

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

* Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

	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
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

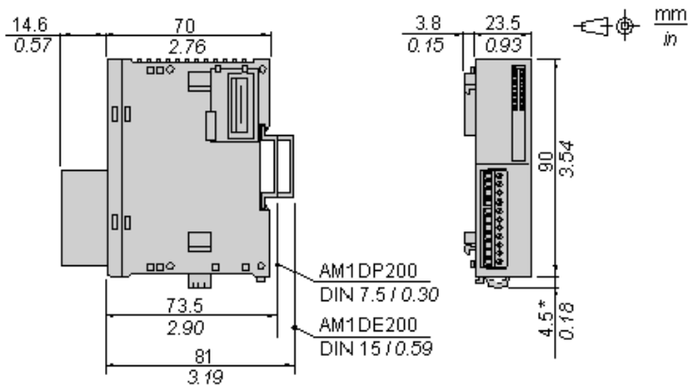
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
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

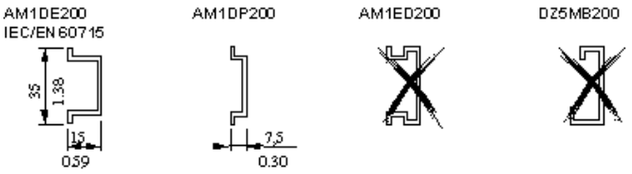
Analog Mixed I/O Module (3-channel, Thermocouple/Temperature Probe/Voltage/Current)

Dimensions



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

DIN Rail Mounting

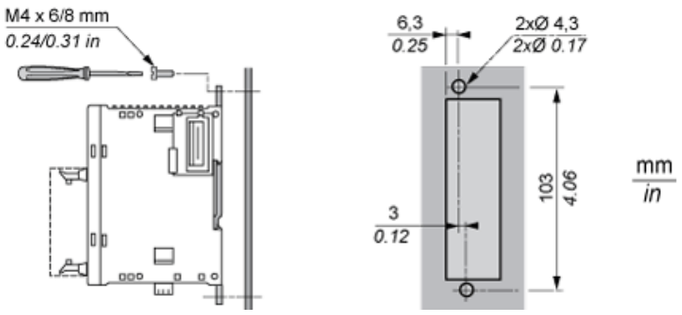


Rail depth	Catalogue part number
15 mm (*0.59 in.*)	AM1DE200
7,5 mm (*0.30 in.*)	AM1DP200

NOTE: Do not use AM1ED200 and DZ5MB200

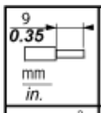
Module Mounting on a Panel Surface

Mounting Hole Layout



Wiring Requirements

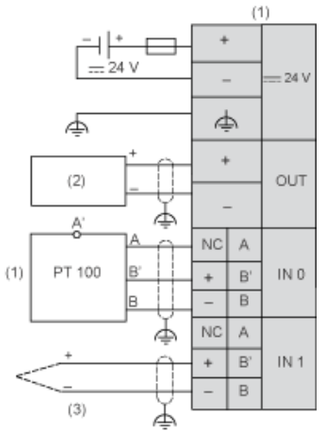
Cable Types and Wire Sizes for Removable Screw Terminal Block

							
mm ^{2}	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*

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

Wiring Diagram Example

2, 3 or 4 wires



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

Recommended replacement(s)

TM2ALM3LT is replaced by the following product range:



Modicon TM3 Expansion I/O modules for M221, M241, M251

Modicon TM3 I/O system specially designed for the Modicon M221, M241 and M251 logic controllers!

Products: 63