

# Product datasheet

Specifications



I/O expansion module, Modicon M238 logic controller, Twido, 4 inputs voltage/current high level, 2 output, wear part

TM2AMM6HT

! Discontinued - Service only

! To be discontinued on: 30-Jun-2024

! To be end-of-service on: 30-Jun-2024

## Main

|                           |                                                                         |
|---------------------------|-------------------------------------------------------------------------|
| Range Of Product          | Modicon M238 logic controller                                           |
| Product Or Component Type | I/O expansion module                                                    |
| Analogue Input Number     | 4                                                                       |
| Input Level               | High level                                                              |
| Analogue Input Type       | current 4...20 mA non differential<br>voltage 0...10 V non differential |
| Analogue Output Number    | 2                                                                       |
| Analogue Output Type      | Current: 4...20 mA<br>Voltage: 0...10 V                                 |
| Cross Talk                | <= 2 LSB                                                                |

## Complementary

|                                 |                                                                                                                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range Compatibility             | Twido<br>Advantys OTB                                                                                                                                                              |
| Analogue Input Resolution       | 12 bits                                                                                                                                                                            |
| Analogue Output Resolution      | 12 bits                                                                                                                                                                            |
| Lsb Value                       | 2.5 mV voltage voltage<br>4 µA current current                                                                                                                                     |
| Permissible Continuous Overload | 40 mA, analogue input type: current<br>13 V, analogue input type: voltage                                                                                                          |
| Input Impedance                 | >= 1 Ohm voltage<br><= 250 MOhm current                                                                                                                                            |
| Load Type                       | Resistive                                                                                                                                                                          |
| Load Impedance Ohmic            | >= 2000 Ohm voltage<br><= 300 Ohm current                                                                                                                                          |
| Stabilisation Time              | 20 ms                                                                                                                                                                              |
| Conversion Time                 | 20 ms + 1 controller cycle time                                                                                                                                                    |
| Sampling Duration               | 16 ms                                                                                                                                                                              |
| Acquisition Period              | 16 ms per channel + 1 controller cycle time                                                                                                                                        |
| Measurement Error               | +/- 0.5 % of full scale 0...10 V at 25 °C<br>+/- 0.5 % of full scale 4...20 mA at 25 °C<br>+/- 0.9 % of full scale 0...10 V at 25 °C<br>+/- 0.9 % of full scale 4...20 mA at 25 °C |

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

|                                               |                                                                                                                                                                                                                                                                           |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature Coefficient                       | +/- 0.02 %FS/°C, analogue output type: 0...10 V<br>+/- 0.02 %FS/°C, analogue output type: 4...20 mA<br>+/-0.015 %FS/°C, analogue input type: 0...10 V, analogue output type: 0...10 V<br>+/-0.015 %FS/°C, analogue input type: 4...20 mA, analogue output type: 4...20 mA |
| Repeat Accuracy                               | +/- 1 %FS for output<br>+/-0.5 %FS for input                                                                                                                                                                                                                              |
| Non-Linearity                                 | +/- 0.4 %FS, analogue input type: current<br>+/- 0.4 %FS, analogue input type: voltage<br>+/- 0.5 %FS, analogue output type: current<br>+/- 0.5 %FS, analogue output type: voltage                                                                                        |
| Output Error                                  | +/- 1 %FS                                                                                                                                                                                                                                                                 |
| Output Ripple                                 | <= 1 LSB                                                                                                                                                                                                                                                                  |
| Total Error                                   | +/- 1.5 %FS, analogue output type: current<br>+/- 1.5 %FS, analogue output type: voltage<br>+/-1 %FS, analogue input type: current, analogue output type: current<br>+/-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                           | 60 mA at 5 V DC internal<br>80 mA at 24 V DC external                                                                                                                                                                                                                     |
| Net Weight                                    | 0.085 kg                                                                                                                                                                                                                                                                  |

## Environment

|                     |                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Dielectric Strength | 1500 V between the I/O and the external supply circuit<br>800 V between I/O channel<br>800 V between the I/O and internal logic |
| Width               | 23.5 mm                                                                                                                         |
| Depth               | 70 mm                                                                                                                           |
| Height              | 90 mm                                                                                                                           |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type Of Package 1       | PCE       |
| Number Of Units In Package 1 | 1         |
| Package 1 Height             | 7.446 cm  |
| Package 1 Width              | 10.434 cm |
| Package 1 Length             | 12.419 cm |
| Package 1 Weight             | 170.5 g   |
| Unit Type Of Package 2       | S03       |
| Number Of Units In Package 2 | 18        |
| Package 2 Height             | 30.0 cm   |
| Package 2 Width              | 30.0 cm   |
| Package 2 Length             | 40.0 cm   |
| Package 2 Weight             | 3.107 kg  |

# Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Sustainability



**Green Premium™ label** is Schneider Electric’s commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**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

|                                                                                                              |                     |
|--------------------------------------------------------------------------------------------------------------|---------------------|
|  Mercury Free               |                     |
|  Rohs Exemption Information | <a href="#">Yes</a> |
|  Pvc Free                   |                     |

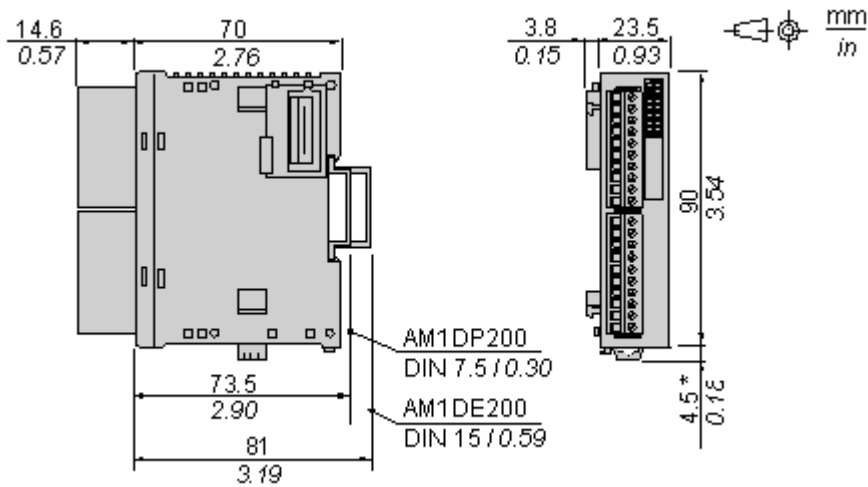
Certifications & Standards

|                          |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Reach Regulation         | <a href="#">REACH Declaration</a>                                                                                           |
| Eu Rohs Directive        | Pro-active compliance (Product out of EU RoHS legal scope)                                                                  |
| China Rohs Regulation    | <a href="#">China RoHS declaration</a>                                                                                      |
| Environmental Disclosure | <a href="#">Product Environmental Profile</a>                                                                               |
| Weee                     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Circularity Profile      | <a href="#">End of Life Information</a>                                                                                     |

Dimensions Drawings

Analog Mixed I/O Module (6-channel, Voltage/Current)

Dimensions

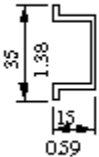


NOTE: \* 8.5 mm (0.33 in) when the clip-on lock is pulled out.

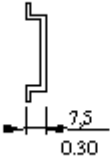
Mounting and Clearance

DIN Rail Mounting

AM1DE200  
IEC/EN 60715



AM1DP200



AM1ED200



DZ5MB200

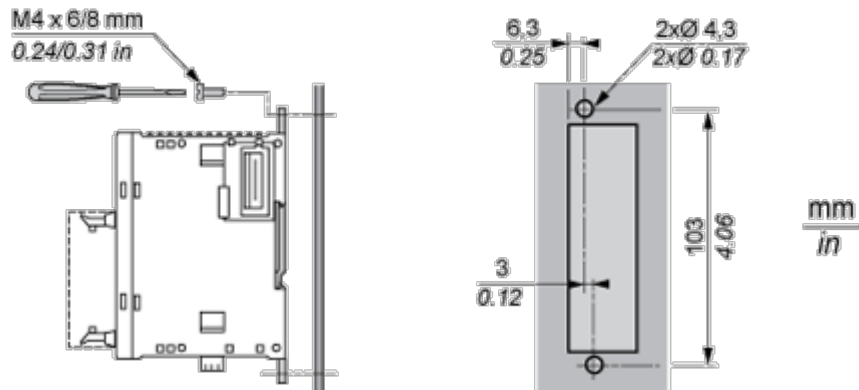


| Rail depth        | Catalogue part number |
|-------------------|-----------------------|
| 15 mm (0.59 in.)  | AM1DE200              |
| 7,5 mm (0.30 in.) | AM1DP200              |

NOTE: Do not use AM1ED200 and DZ5MB200

Module Mounting on a Panel Surface

Mounting Hole Layout



Connections and Schema

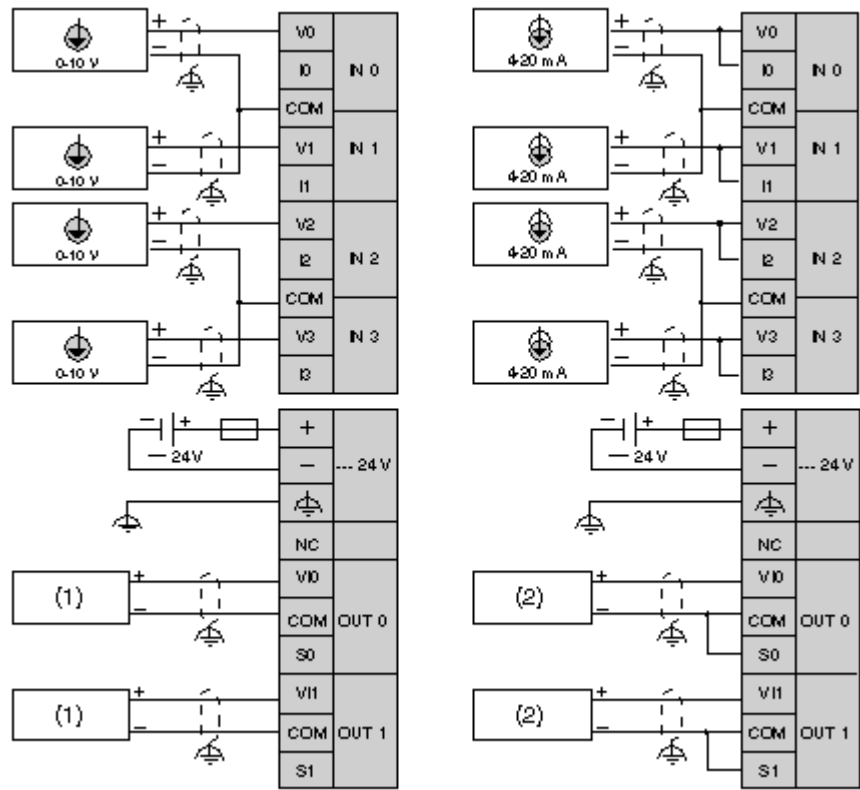
Wiring Requirements

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  |

Analog Mixed I/O Module (6-channel, Voltage/Current)

Wiring Diagram



- (1) Voltage preactuator
- (2) Current preactuator