



Main

Range of product	Modicon M238 logic controller
Product or component type	Counter module
Electrical connection	2 spring terminal blocks

Complementary

Number of modules	3 counter modules per TM238 base
Discrete input number	12 conforming to EN/IEC 61131-2 type 1
Discrete output number	4
Application specific I/O	Axis following Downcounting Frequency generator Frequency meter Period measurement Upcounting
Counting mode	8 mode configurable
Counter inputs resolution	31 bits + sign
Counting frequency	60 kHz
Cycle time	1 ms
Input compatibility	Incremental signal encoder with 15...30 V source outputs 2 and 3-wire sensors (24 V)
Type of cable	Shielded cable ≥ 1 kHz
Isolation between channels and internal logic	1500 V for 1 minute
Discrete input type	High-speed (IN_SYNC) High-speed (IN_B) High-speed (IN_A) Auxiliary input (IN_REF) Auxiliary input (IN_EN) Auxiliary input (IN_CAP)
Discrete input logic	Positive logic (sink)
Discrete input voltage	24 V DC
Voltage state 1 guaranteed	15...30 V
Current state 1 guaranteed	5 mA
Voltage state 0 guaranteed	≤ 5 V
Current state 0 guaranteed	≤ 0.5 mA
Discrete input current	≥ 2 mA 11 V
Discrete output logic	Positive logic (source)
Discrete output voltage	24 V DC 19.2...30 V
Discrete output current	0.5 A
Load current	0.5 A per output 2 A per module
Response time on output	≤ 200 μ s energisation/de-energisation

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

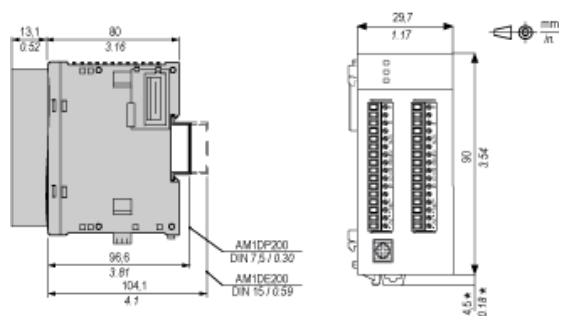
Leakage current	≤ 0.1 mA at state 0
Voltage drop	≤ 3 V at state 1
Output short-circuit current	$> 0.5 \dots 1.5$ A per output
Short-circuit protection	Automatic reset after disappearance of fault
Output overload protection	Automatic reset after disappearance of fault
Fallback status	Each channel held at its last value or set to the predefined value (0 or 1) Faulty channel set to 0
Load inductance	$L = 0.5/I^2F$
Load capacitance	50 μF
Local signalling	1 display block
Current consumption	≤ 2 A 24 V DC external power supply ≤ 100 mA 5 V DC internal supply ≤ 100 mA 24 V DC internal supply
Mounting support	35 mm symmetrical DIN rail

Offer Sustainability

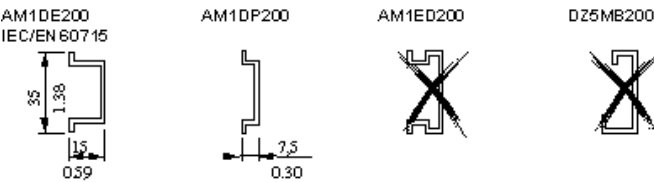
Sustainable offer status	Green Premium product
Product environmental profile	Available
Product end of life instructions	Available

High Speed Counter (HSC) Module

Dimensions



DIN Rail Mounting

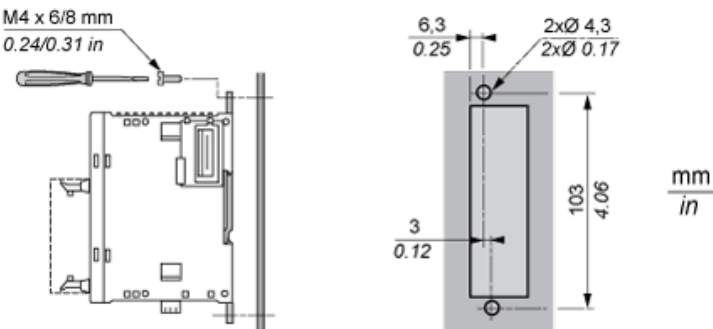


Rail depth	Catalogue part number
15 mm (0.59 in.)	AM1DE200
7,5 mm (0.30 in.)	AM1DP200

NOTE: Do not use AM1ED200 and DZ5MB200

Module Mounting on a Panel Surface

Mounting Hole Layout



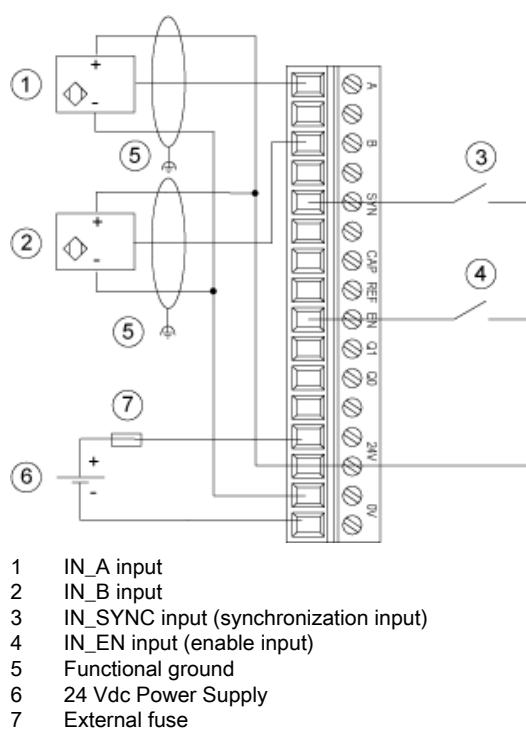
Wiring Requirements

Cable Types and Wire Sizes for Removable Screw Terminal Block

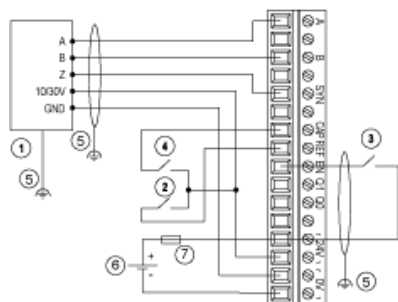
mm ²	0,14...1,5	0,25...0,5	0,25...1,5	0,14...0,5	0,14...0,75	0,25...0,34	0,5
AWG	26...16	24...20	24...16	26...20	26...18	24...22	20

Wiring Diagrams Examples

Sensors Connections

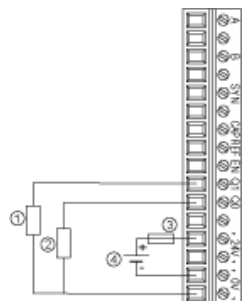


Incremental Encoder Connection



- 1 Encoder (inputs A, B and Z)
- 2 IN_REF input (reference input)
- 3 IN_EN input (enable input)
- 4 IN_CAP input (capture input)
- 5 Functional ground
- 6 24 Vdc Power supply
- 7 External fuse

Actuators and Power Supply Connections



- 1 Actuator for the Q1 output
- 2 Actuator for the Q0 output
- 3 External fuse
- 4 24 Vdc Power Supply for sensors and actuators