

DM

Data Acquisition and Control Module



The Data Acquisition and Control Module - DM is the interface of digital systems with any analog or electromechanical equipment that does not have a serial port and needs to be supervised or controlled.

Three versions are available, each one with 8, 16, and 24 inputs/outputs:

DM - 1 for the supervision of dry contact inputs;

DM - 2 for the supervision of analog signal inputs;

DM - 3 with output contacts for load switching.

Functions and Characteristics:

- Communication with a remote data acquisition and control system through the RS-485 serial interface, with Modbus RTU protocol;
- Remote monitoring of the status of dry contacts (alarms, trips, signalization, and contact actuation time-counting).
- Remote measurement of analog signals (outputs of transducers, gas monitors, levels, etc.).
- Remote activation of potential-free output contacts (on/off motors, lamps, etc.).
- Up to 31 DM 's can be interconnected to the same communication network.
- Communication distance up to 1,300 meters, measured between the extreme points of the network.
- Digital and analog input circuits, output contacts, and RS-485 interface with galvanic insulation.

Interconnection of DM's through a twisted pair cable or fiber optic cable using a RS-485 converter.



DM

Technical Characteristics

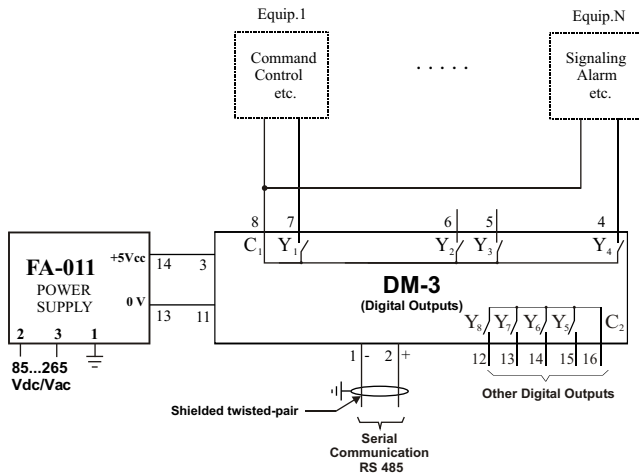
Power Supply:	+ 5 Vdc \pm 5%
Operation Temperature:	-10 to 70 °C
Serial Communication	RS 485 with ModBus RTU protocol (Other protocols under request)
Protection Class:	IP 40
Fixation:	U type mounting rail
Number of Inputs/Outputs:	8, 16 or 24
<u>Digital Input:</u>	
Consumption:	< 0.5 W/(for one 8 input module)
Inputs:	Potential free contacts
Field Contacts Power Supply:	+10 \pm 5 Vdc
Contact Consumption at 12V:	< 0.15 W/output
<u>Analog Input:</u>	
Consumption:	< 0.5 W/(for one 8 input module)
Inputs:	
• Current Loop (ohms):	
	0 ... 1 mA 1000
	0 ... 5 mA 200
	0 ... 10 mA 100
	0 ... 20 mA 50
	< 1 V
• Input Voltage Drop:	
<u>Digital Output:</u>	
Consumption:	< 2 W/(for one 8 output module)
Outputs:	Normally Open (NO)
Maximum Switching Power:	70 W / 250 VA
Maximum Switching Voltage:	250 Vdc/Vac
Maximum Conduction Switching :	1.0 A/(for one 8 output module)
Voltage Converter (Optional)	
:	85 to 265 Vdc/Vac, 50/60Hz
Consumption:	15 W
Output Voltage	+ 5 Vdc and + 12 Vdc
Output Power:	7.5 W for + 5 Vdc 4.5 W for + 12 Vdc



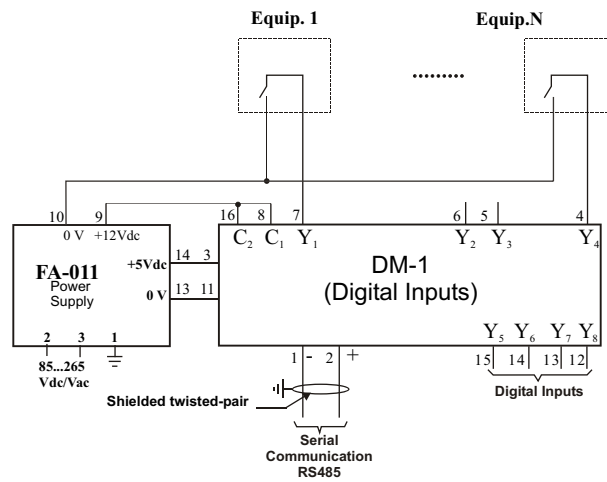
DM

Connection Diagram

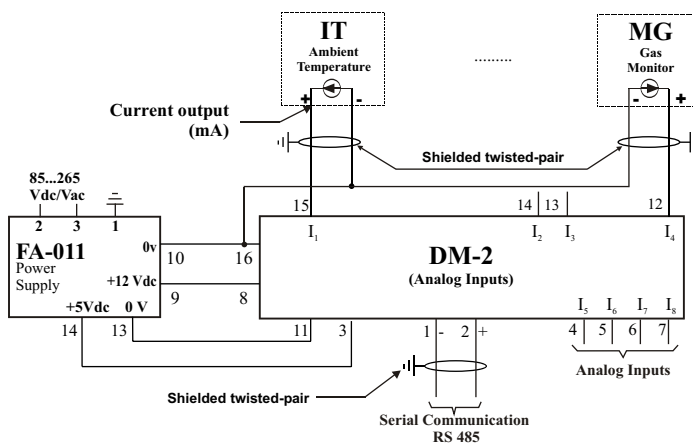
Digital module 3 - DM 3



Digital module 1 - DM 1

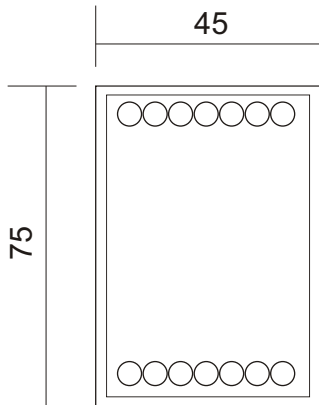


Analog module 2 - DM 2

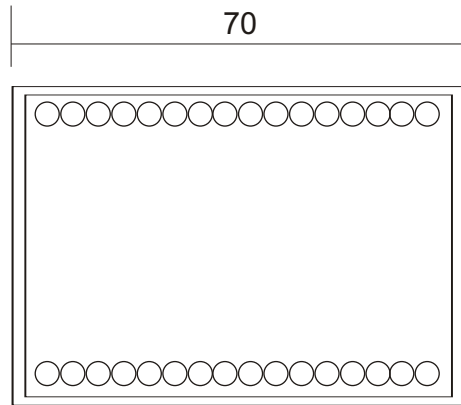


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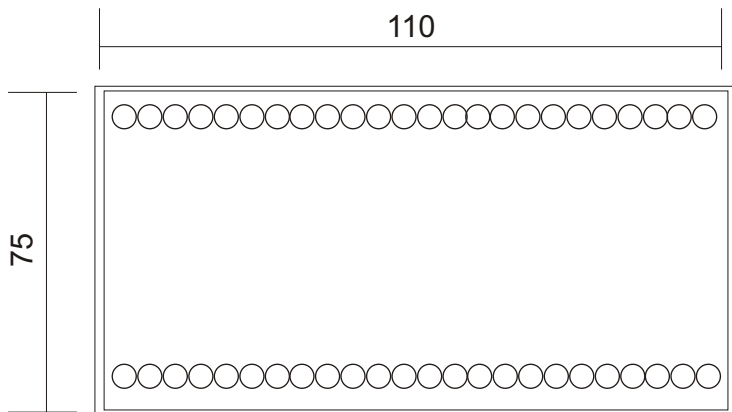
Dimensions



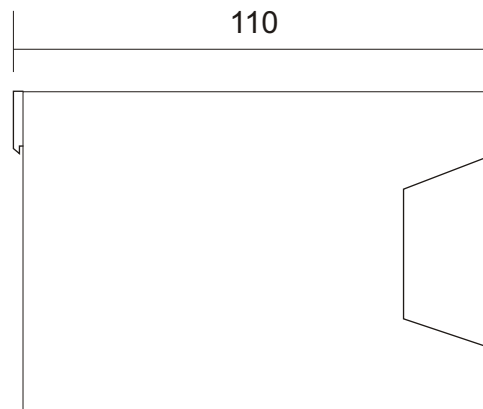
Front View
8 inputs/
outputs



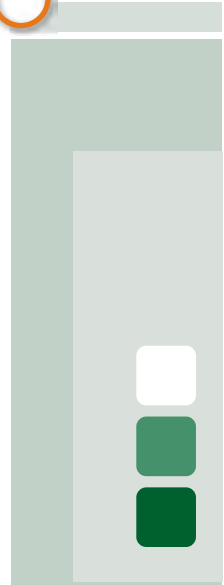
Front View
16 inputs/
outputs



Front View
24 inputs/
outputs



Side View



DM

Accomplished Tests

Surges and transients (IEC 60255-6)

Peak value 1 st cycle:	2.5 kV
Frequency:	1.1 MHz
Time:	2 s
Repetition Rate:	400 (surges/s)
Declining to 50%:	5 cycles

Impulse (IEC 60255-5)

Wave form:	1.2/50 s
Amplitude:	5 kV
Number of pulses:	3 negative and 3 positive with interval of 5 seconds between pulses.
Energy:	0.5J

Insulation Test (IEC 60255-5)

Insulation voltage nominal at industrial frequency:	2.0 kVrms. 60 Hz. for 1 minute between circuits and mounting panel.
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Electromagnetic Susceptibility (IEC 61000-4-3)

Severity Level:	3
Frequency:	20 to 2000MHz
Field intensity:	10 V/m

Electrostatic Discharges (IEC 61000-4-2)

Air mode:	10 discharges level 3 (8kV)
Contact mode:	10 discharges level 3 (8kV)

Fast Electrical Transients (IEC 61000-4-4)

Severity Level:	4
Test in power supply:	4kV
Test in inputs/outputs:	2kV

Climatic test(IEC 60068-2-14)

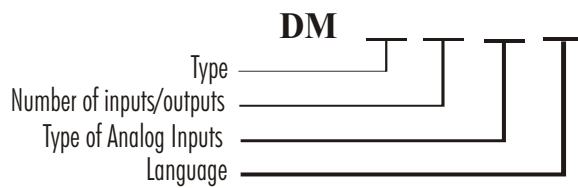
Temperature Range:	-10 to +70°C
Test time:	6 hours



DM

Ordering Information

Type	Number of inputs/ outputs	Type of Analog Inputs	Language
1 - Digital Input	1 - 8	0 - Not Applicable	1 - Portuguese
2 - Analog Input	2 - 16	1 - 0...1 mA	2 - English
3 - Digital Output	3 - 24	2 - 0...5 mA	3 - Spanish
		3 - 0...10 mA	4 - Other
		4 - 0...20 mA	



Example: MD - 1102
Data Acquisition and Control Module
with 8 digital inputs, in english



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