ENGINEERING
TOMORROW

Data sheet

MCX08M2
Programmable controller

MCX08M2 is an electronic controller that holds all the typical functionalities of MCX controllers in the compact size of 8 DIN modules:

- programmability
- connection to the CANbus local network
- Modbus RS485 opto-insulated serial interface

It is available in the version with or without graphic LCD display, and 110 / 230 V AC or 24 V AC power supply

Features MCX08M2

- 8 analog and 8 digital inputs
- 4 analog and 8 digital outputs
- Power supply 24 V AC / 20 / 60 V DC and 110 V / 230 V AC
- Remote access to data through CANbus connection for additional display (LCD available) and keyboard
- RTC clock for managing weekly time programs and data logging information
- Modbus RS485 opto-insulated serial interface
- Dimensions 8 DIN modules
- Available with graphic LCD display and without display for showing the desired information

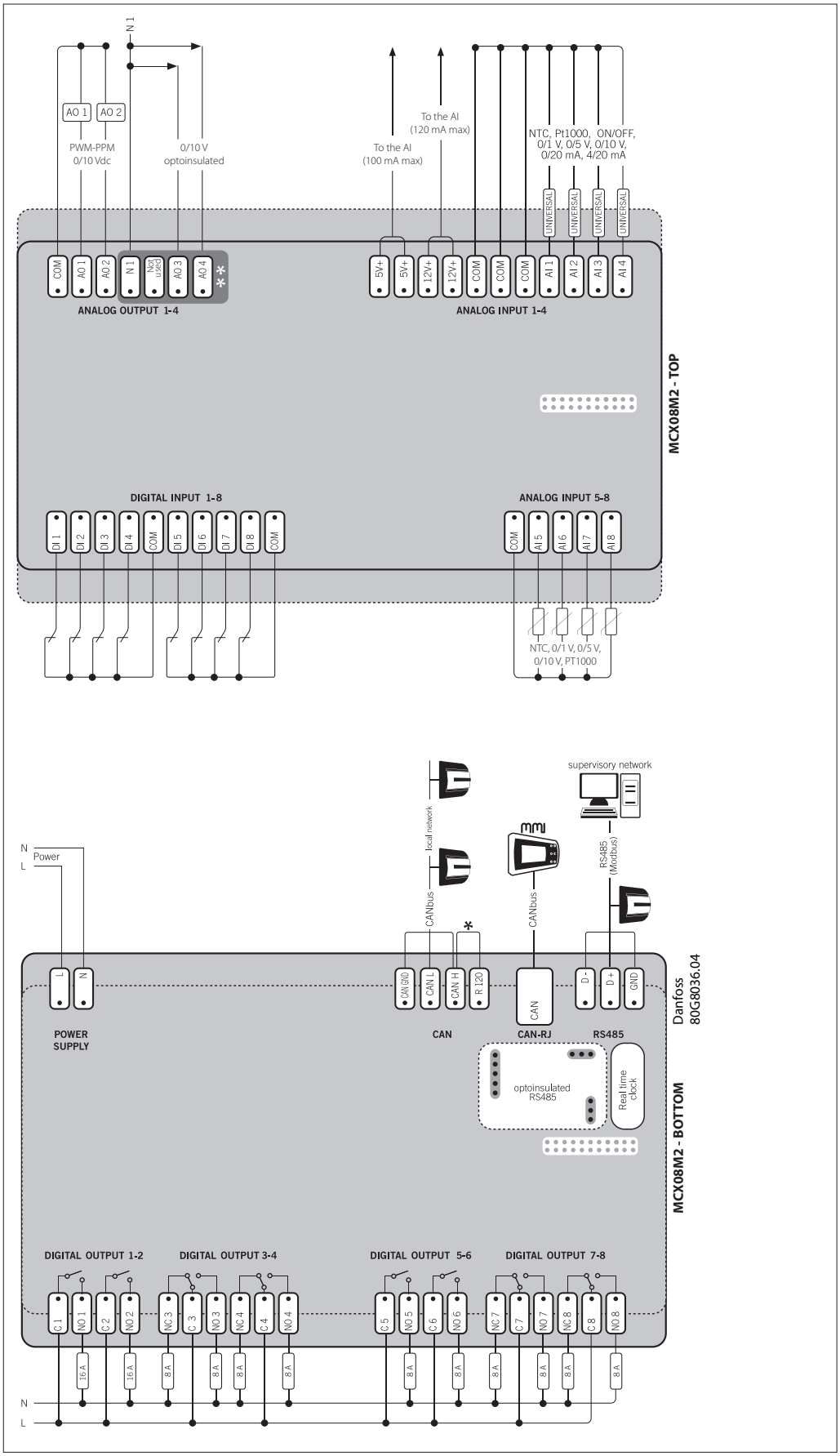
General features

FEATURES	DESCRIPTION
Power supply	85 – 265 V AC, 50/60 Hz. Maximum power consumption: 20 V A Insulation between power supply and the extra-low voltage: reinforced
	20 – 60 V DC and 24 V AC ± 15% 50/60 Hz Maximum power consumption: 10 W, 17 V A Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing / hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1 Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60 / UL: 0T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and/or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73/23/EEC • Electromagnetic compatibility EMC: 89/336/EEC and with the following norms: – EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) – EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) – EN60730 (Automatic electrical controls for household and similar use) • UL approval: UL file E31024

Input/output

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC 0 / 1V 0 / 10V PT1000	4	**AI5, AI6, AI7, AI8** Analog inputs selectable via software between: • 0 / 1 V, 0 / 5 V, 0 / 10 V • NTC (10 kΩ at 25 °C) • Pt1000
	Universal	4	**AI1, AI2, AI3, AI4** Universal analog inputs selectable via software between: • ON/OFF (current: 20 mA) • 0 / 1 V, 0 / 5 V, 0 / 10 V • 0 / 20 mA, 4 / 20 mA • NTC (10 kΩ at 25 °C) • Pt1000 12 V+ power supply 12 V DC, 50 mA max for 4 / 20 mA transmitter (total on all outputs) 5 V+ power supply 5 V DC, 80 mA max for 0 / 5 V transmitter (total on all outputs)
Digital input	Voltage free contact	8	**DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8** Current consumption: 5 mA
Analog outputs	0 / 10 V DC optoins	2	**AO3, AO4** • Analog outputs optoinsulated 0 / 10 V DC 10 mA max for each output • External power supply 24 V AC / V DC
	PWM PPM 0 / 10 V DC	2	**AO1, AO2** Analog outputs selectable via software between: – 0 / 10 V DC 10 mA max for each output – pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM) – pulsing output, at modulation of impulse position (PPM) with range 20 Hz to 1 KHz: open circuit voltage: 6.8 V
Digital output	Relay	8	Insulation between relay: functional Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 32 A **C1-NO1, C2-NO2** High inrush current (80 A - 20 ms) normally open contact relays 16 A • characteristics of each relay: – 10 A 250 V AC for resistive loads - 100.000 cycles – 3.5 A 230 V AC for inductive loads - 230.000 cycles with cos(phi) = 0.5 **C5-NO5, C6-NO6** Normally open contact relays 8 A • characteristics of each relay: – 6 A 250 V AC for resistive loads - 100.000 cycles – 4 A 250 V AC for inductive loads - 100.000 cycles with cos(phi) = 0.6 **C3-NO3-NC3, C4-NO4-NC4, C7-NO7-NC7, C8-NO8-NC8** Changeover contacts relay 8 A • characteristics of each relay: – 6 A 250 V AC for resistive loads - 100.000 cycles – 4 A 250 V AC for inductive loads - 100.000 cycles with cos(phi) = 0.6

Connection diagram



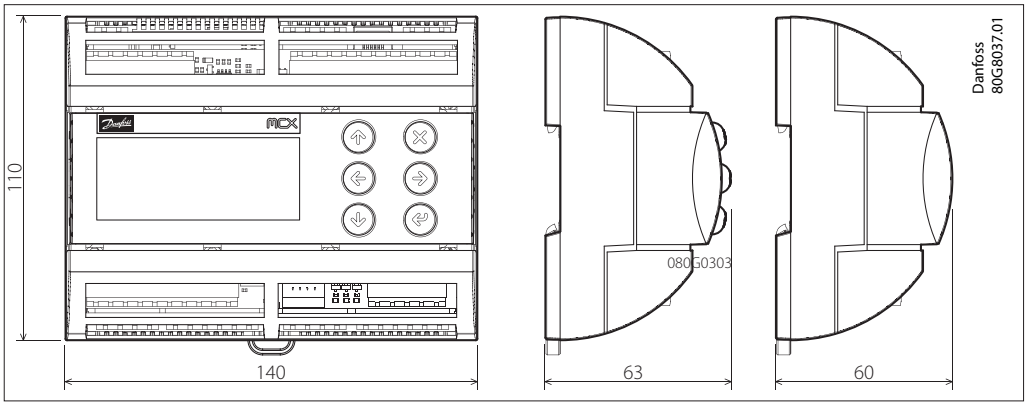
*NOTE: *connection has to be made on the first and last local network units, make the connection as close as possible to the connector*

**NOTE: *optoinsulated analog outputs voltages are referenced to contact N1*

Connection

CONNECTORS	TYPE	DIMENSIONS
TOP BOARD		
Analog output 1-4 connector	7 screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Analog input 1-4 connector	11 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Digital input 1-8 connector	10 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Analog input 5-8 connector	5 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
BOTTOM BOARD		
Power supply connector	2 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
CAN connector	4 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
CAN-RJ connector	6/6 way telephone RJ11 plug type	
RS485 connector	3 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Digital output 1-2 connector	4 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Digital output 3-4 connector	6 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Digital output 5-6 connector	4 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²
Digital output 7-8 connector	6 way screw plug-in connector type	• pitch 5 mm • section cable 0.2-2.5 mm²

Dimensions



Product part numbers

DESCRIPTION	CODE NO.
MCX08M2, 24V, RS485, RTC, Single Pack	**080G0293**
MCX08M2, 230V, LCD, RS485, RTC, Single Pack	**080G0307**
MCX08M2, 24V, LCD, RS485, RTC, Single Pack	**080G0310**
MCX08M2, 24V, RS485, RTC, Industrial Pack (24 pieces)	**080G0303**
MCX08M2, 230V, RS485, RTC, 2SSR, Industrial Pack (24 pieces)	**080G0314**
MCX08M2, 24V, LCD, RS485, RTC, Industrial Pack (24 pieces)	**080G0315**
MCX08M2, 230V, RS485, RTC, Industrial Pack (24 pieces)	**080G0316**

Accessories part numbers

DESCRIPTION	CODE NO.
MCX08M CONNECTORS KIT	**080G0180**