



Program. controller, 8 relays

MCX08M2

Electronic controller suitable for all HVAC/R software application needs.

Description

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 & Benefits

- Inputs: 8 analog and 8 digital
- Outputs: 4 analog and 8 digital
- 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

Ordering

Product code numbers

Type	Material Description	Real time clock	Display type	Packing format	Quantity per packing format	Code number
MCX08M2	MCX08M2 Controller 24V, RS485, S	Yes	Without display	Single pack	1	080G0293
MCX08M2	MCX08M2, Controller 24V, RS485, I/pack 24	Yes	Without display	Industrial pack	24	080G0303
MCX08M2	MCX08M2 Elect.Control230V LCD RS485 S	Yes	LCD	Single pack	1	080G0307
MCX08M2	MCX08M2, Elect.Control 24V LCD RS485 S	Yes	LCD	Single pack	1	080G0310
MCX08M2	MCX08M2 Elec.Control230VRS485 2SSR I/24	Yes	Without Display	Industrial pack	24	080G0314
MCX08M2	MCX08M2 Elect.Control 24V LCD RS485 I/24	Yes	LCD	Industrial pack	24	080G0315
MCX08M2	MCX08M2 Elect.Control 230V RS485 I/24	Yes	Without Display	Industrial pack	24	080G0316
MCX08M2	MCX08M2-ECA5	Yes	Without display	Single pack	1	080G0337
MCX08M2	KIT MCX08M2 24V LCD RS485 INVERTER			Single pack	1	193U8012

Note: 080G0314 is available in Industrial Pack only. The corresponding Single Pack version is 080G0317 but cannot be ordered singularly.

Note: Single Pack codes include standard connectors kit, Industrial Pack code don't include standard connectors kit.

Accessories code numbers



080G0180

Electron. control accessories, ACCCNX Connectors MCX-08M, MCX series

ACCCNX Connectors MCX-08M, Used for product: MCX series, Packing format: Multi pack, Quantity per packing format: 100

Related products

080G0293

080G0303

080G0307

080G0310

080G0314

080G0315








080G0316

080G0337

Overview

Product portfolio

Table: Portfolio overview

MCX family	MCX06C	MCX06D	MCX061V	MCX08M2	MCX152V	MCX15B2	MCX20B2
Product image							
Power supply	24 V	24 V	24 V or 110/230 V	24 V or 110/230 V	24 V or 110/230 V	24/110/230 V	24/110/230 V
Built-in display (optional)	LED	LCD	LCD	LCD	LCD	LCD	LCD
Analog Inputs	4	4	7	8	14	10	16
Digital Inputs	6	8	8	8	18	22	22
Analog Outputs	2	3	3	4	6	6	6
Digital Outputs	6	6	6	8	15	15	20
EXV driver embedded			1		2		
RS485	1	1	1	1	2	1	2
CANbus	•	•	•	•	•	•	•
Ethernet / Web server			optional		optional	•	•
USB/Memory Card			•		•	•	•
Dimensions (1 DIN module = 17,5 mm)	33 x 75 mm	4 DIN	8 DIN	8 DIN	16 DIN	16 DIN	16 DIN

Product details

General data

Table: 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 \pm 15% 50/60 Hz SELV 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: \geq 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

Input/Output

Table: Analog inputs

Type	Num	Specifications
NTC 0 / 1 V 0 / 10 V PT1000	4	AI5, AI6, AI7, AI8 Analog inputs selectable via software between: <ul style="list-style-type: none"> 0 / 1 V, 0 / 5 V, 0 / 10 V : impedance is greater than 1 MΩ NTC (10 kΩ at 25 °C) Pt1000
Universal	4	AI1, AI2, AI3, AI4 Universal analog inputs selectable via software between: <ul style="list-style-type: none"> ON/OFF (current: 20 mA) 0 / 1 V, 0 / 5 V, 0 / 10 V : impedance is greater than 1 MΩ 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).

Table: Digital inputs

Type	Num	Specifications
Voltage free contacts	8	DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8 Current consumption: 5 mA

Table: Analog outputs

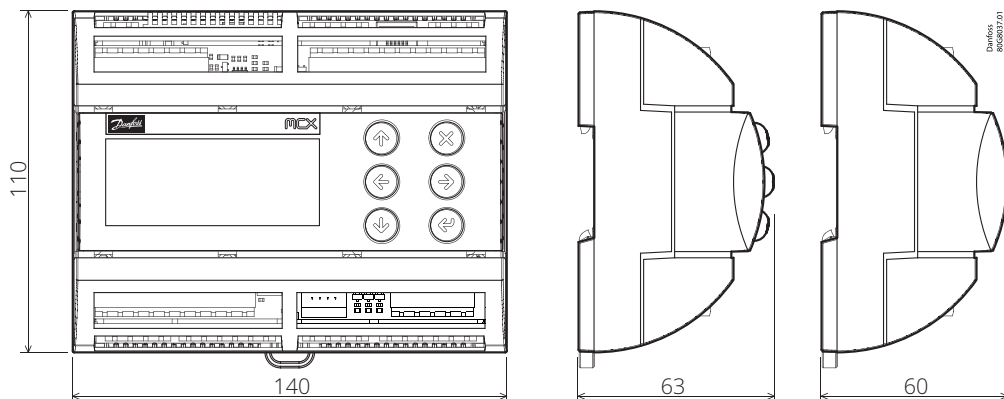
Type	Num	Specifications
0 / 10 V DC opto-ins	2	AO3, AO4 Analog outputs opto-insulated 0 / 10 V DC minimum load 1 k Ω (10 mA) for each output
PWM PPM 0 / 10 V DC	2	AO1, AO2 Analog outputs selectable via software between: <ul style="list-style-type: none"> 0 / 10 V DC minimum load 1 kΩ (10 mA) for each 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 width (PWM) with range 20 Hz to 1 KHz: open circuit voltage: 6.8 V

Table: Digital outputs

Type	Num	Specifications
Relay	8	<p>Insulation between relay: functional Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 32 A</p> <p>C1-NO1, C2-NO2 High inrush current (80 A - 20 ms) normally open contact relays 16 A Characteristics of each relay: <ul style="list-style-type: none"> 10 A 250 V AC for resistive loads - 100.000 cycles 3.5 A 230 V AC for inductive loads - 230.000 cycles with $\cos(\phi) = 0.5$ </p> <p>C5-NO5, C6-NO6 Normally open contact relays 8 A Characteristics of each relay: <ul style="list-style-type: none"> 6 A 250 V AC for resistive loads - 100.000 cycles 4 A 250 V AC for inductive loads - 100.000 cycles with $\cos(\phi) = 0.6$ </p> <p>Option for code 080G0314: <ul style="list-style-type: none"> SPST SSR type 0.5 A 250 V AC resistive load (115 W) </p> <p>C3-NO3-NC3, C4-NO4-NC4, C7-NO7-NC7, C8-NO8-NC8 Changeover contacts relay 8 A Characteristics of each relay: <ul style="list-style-type: none"> 6 A 250 V AC for resistive loads - 100.000 cycles 4 A 250 V AC for inductive loads - 100.000 cycles with $\cos(\phi) = 0.6$ </p>

Dimensions & weights

Figure: Dimensions



Connections

Figure: Top Board

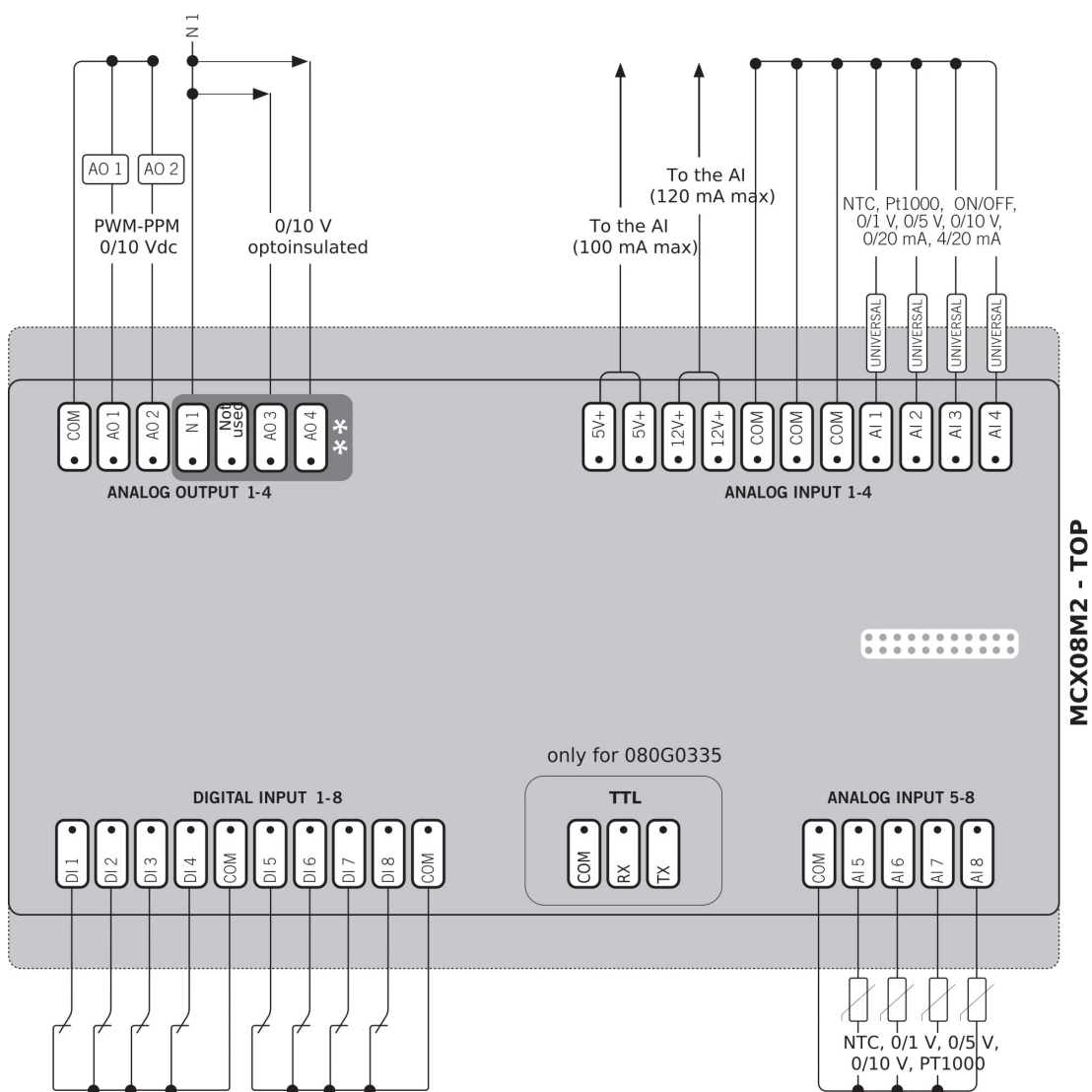
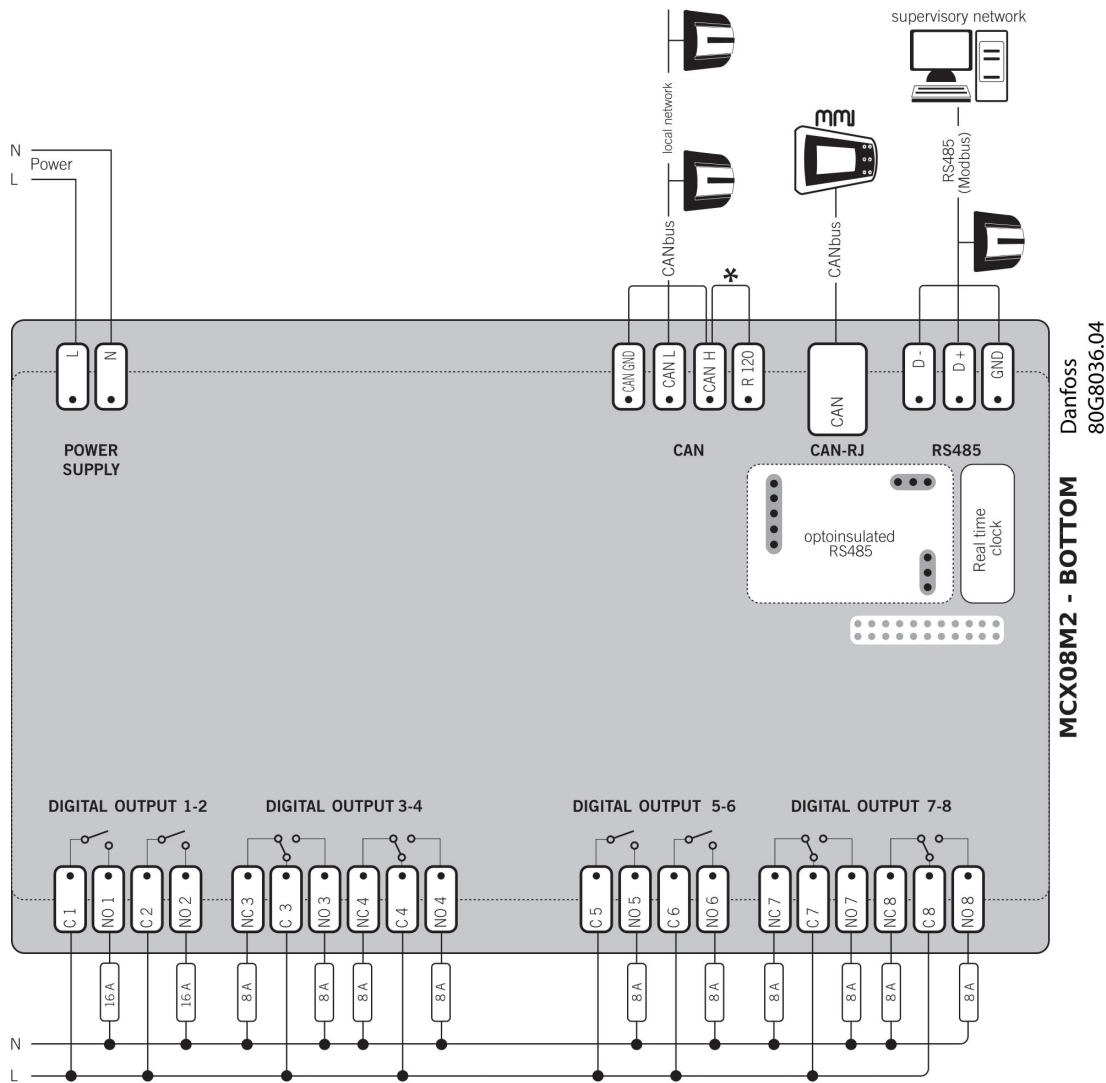


Figure: Bottom Board

**Note:**

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

**Opto-insulated analog outputs voltages are referenced to contact N1.

Table: Top board

Connectors	Type	Dimensions
Analog output 1-4 connector	7 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Analog input 1-4 connector	11 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Digital input 1-8 connector	10 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Analog input 5-8 connector	5 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
TTL connector (only for 080G0335)	5 way spring plug-in connector type	<ul style="list-style-type: none"> pitch 2.5 mm section cable 0.2 – 0.5 mm²

Table: Bottom board

Connectors	Type	Dimensions
Power supply connector	2 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
CAN connector	4 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
CAN-RJ connector	6/6 way telephone RJ12 plug type	
RS485 connector	3 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Digital output 1-2 connector	4 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Digital output 3-4 connector	6 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Digital output 5-6 connector	4 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²
Digital output 7-8 connector	6 way spring-cage plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2 – 2.5 mm²

Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
EAC Declaration	EAC KZ 7100841.13.12.01062	EAC - Eurasian Customs Union	EMC
EU-UK Declaration	Danfoss EU-UK 080R1226.02	Danfoss	EMC
Export Control Declaration	MCX programmable controllers	Danfoss	
Manufacturer's Declaration	Danfoss MD 080R4002.01	Danfoss	China RoHS
Manufacturer's Declaration	Danfoss MD 080R1240.00	Danfoss	EU RoHS
UA Declaration	Danfoss UA 9032	Danfoss	UA RoHS
UA Declaration	Danfoss UA 8537	Danfoss	UA RoHS
Electrical Safety Certificate	EAC KZ 7100841.01.01.01245	EAC - Eurasian Customs Union	EMC
Electrical Safety Certificate	UL E31024	UL - Underwriters Laboratories inc.	

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