

	MCX08M
ANALOG INPUTS	
NTC, 0/1V, 0/5V	4
Universal (NTC, Pt1000, 0/1V, 0/5V, 0/10V, ON/OFF, 0/20mA, 4/20mA) selectable via software	4
Total number	8
DIGITAL INPUTS	
Voltage free contact	8
Total number	8
ANALOG OUTPUTS	
0/10Vdc optoisolated	2
PWM, PPM selectable via software	2
Total number	4
DIGITAL OUTPUTS	
SPST relay 16A (normally open contacts)	2
SPST relay 8A (normally open contacts)	2
SPDT relay 8A (changeover contacts)	4
Total number	8
OTHERS	
Power supply 24V AC/20-60V DC	•
Power supply 110V/230V AC	•
Connection for programming key	•
Connection for remote display and keyboard	•
Buzzer	•
CANbus	•
RTC clock	•
Modbus RS485 serial interface	•
Dimensions (DIN modules)	8
Mounting	DIN bar

PLASTIC HOUSING FEATURES

- 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: $\geq 250V$ according to IEC 60112

OTHER FEATURES

- Operating conditions: CE: -20T60 / UL: 0T55, 90% RH non-condensing
- Storage conditions: -30T80, 90% RH non-condensing
- To be integrated in Class I and/or II appliances
- Index of protection: IP40 only on the front cover
- Period of electric stress across insulating parts: long
- Suitable for using in a normal pollution environment
- Category of resistance to heat and fire: D
- Immunity against voltage surges: category II
- Software class and structure: class A

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

GENERAL WARNINGS

Every use that is not described in this manual is considered incorrect and is not authorised by the manufacturer

- Verify that the installation and operating conditions of the device respect the ones specified in the manual, specially concerning the supply voltage and environmental conditions
- This device contains live electrical components therefore all the service and maintenance operations must be performed by qualified personnel
- The device can't be used as a safety device
- Liability for injury or damage caused by the incorrect use of the device lies solely with the user

INSTALLATION WARNINGS

- Mounting position recommended: vertical
- The installation must be executed according the local standards and legislations of the country
- Always operate on the electrical connections with the device disconnected from the main power supply
- Before carrying out any maintenance operations on the device, disconnect all the electrical connections
- For safety reasons the appliance must be fitted inside an electrical panel with no live parts accessible
- Don't expose the device to continuous water sprays or to relative humidity greater than 90%.

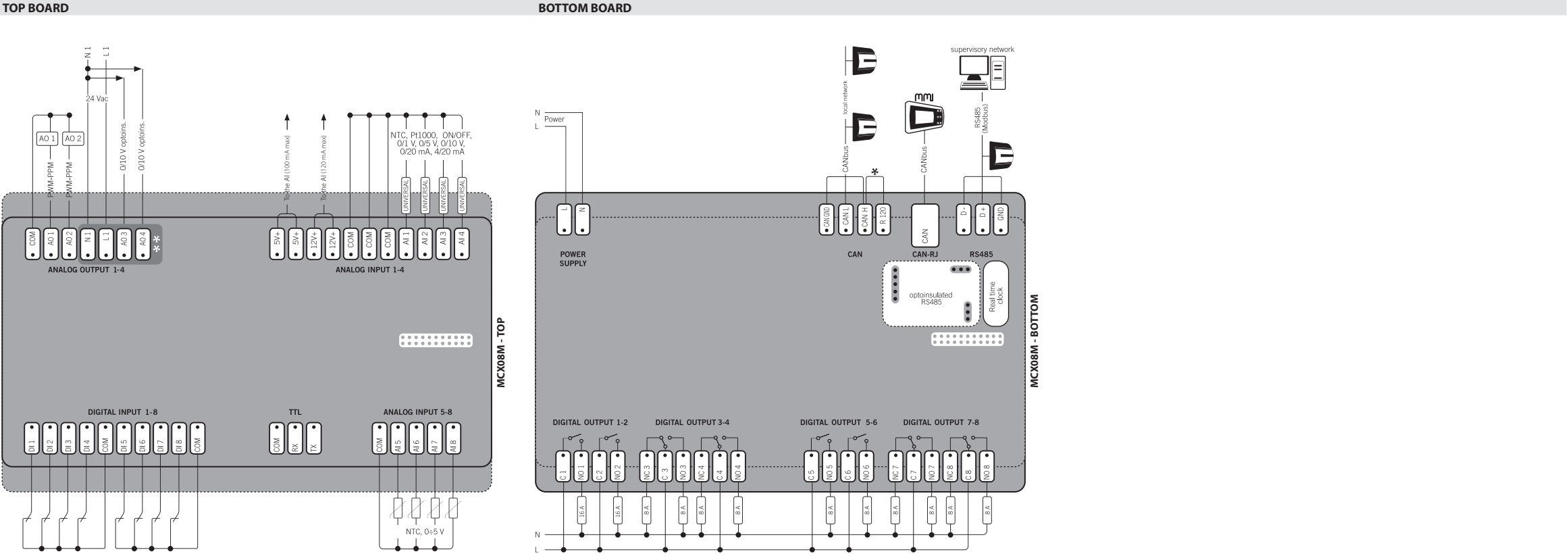
Avoid exposure to corrosive or pollutant gases, natural elements, environments where explosives or mixes of flammable gases are present, dust, strong vibrations or shock, large and rapid fluctuations in ambient temperature that in combination with high humidity can condensate, strong magnetic and/or radio interference (e.g. transmitting antennae)

- When connecting loads beware of the maximum current for each relay and connector
- Use cable ends suitable for the corresponding connectors. After tightening the screws of connectors, slightly tug the cables to check their tightness
- Use appropriate data communication cables. Refer to the Fieldbus Installation Guide for the kind of cable to be used and setup recommendations
- Reduce the path of the probe and digital inputs cables as much as possible, and avoid spiral paths enclosing power devices. Separate from inductive loads and power cables to avoid possible electromagnetic noises
- Avoid touching or nearly touching the electronic components fitted on the board to avoid electrostatic discharges

I/O	TYPE	NUMBER	SPECIFICATION
Digital outputs	Relay	8	<p>Insulation between relay: functional</p> <p>Insulation between relays and the extra-low voltage parts: reinforced</p> <p>Total current load limit: 32A</p> <p>C1-NO1, C2-NO2</p> <p>High inrush current (80A - 20ms) normally open contact relays 16A:</p> <ul style="list-style-type: none"> - characteristics of each relay: <ul style="list-style-type: none"> 10A 250Vac for resistive loads - 100.000 cycles 3.5A 230Vac for inductive loads - 230.000 cycles with $\cos(\phi)=0.5$ UL: 240Vac - 10A resistive - 8FLA - 40LRA - 640VA pilot duty 30.000 cycles <p>C5-NO5, C6-NO6</p> <p>Normally open contact relays 8A:</p> <ul style="list-style-type: none"> - characteristics of each relay: <ul style="list-style-type: none"> 6A 250Vac for resistive loads - 100.000 cycles 4A 250Vac for inductive loads - 100.000 cycles with $\cos(\phi)=0.6$ UL: 240Vac - 6A resistive - 4.9FLA - 29.4LRA - 470VA pilot duty 30.000 cycles <p>C3-NO3-NC3, C4-NO4-NC4, C7-NO7-NC7, C8-NO8-NC8</p> <p>Changeover contacts relay 8A:</p> <ul style="list-style-type: none"> - characteristics of each relay: <ul style="list-style-type: none"> 6A 250Vac for resistive loads - 100.000 cycles 4A 250Vac for inductive loads - 100.000 cycles with $\cos(\phi)=0.6$ UL: 240Vac - 6A resistive - 4.9FLA - 29.4LRA - 470VA pilot duty 30.000 cycles

I/O	TYPE	NUMBER	SPECIFICATIONS
Digital inputs	Voltage free contact	8	DI1 to DI8 Current consumption: 5mA
Analog outputs	0/10Vdc optoinsulated	2	AO3, AO4 Analog outputs optoinsulated 0/10Vdc 10mA Max for each output External power supply 24Vac/Vdc
	PWM, PPM	2	AO1, AO2 Analog outputs selectable via software between: <ul style="list-style-type: none"> - 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 20Hz to 1KHz: <i>open circuit voltage: 6.8V</i> <i>minimum load: 1kΩ</i>
Analog inputs	NTC, 0/1V, 0/5V	4	AI5 to AI8 Analog inputs selectable via software between: <ul style="list-style-type: none"> - NTC temperature probes, default: 10kΩ at 25°C - pressure transducers with 0/5V output
	Universal	4	AI1 to AI4 Universal analog inputs selectable via software between: <ul style="list-style-type: none"> - ON/OFF (current: 20mA) - 0/1V, 0/5V, 0/10V - 0/20mA, 4/20mA - NTC (10kΩ at 25°C) - Pt1000 12V+ power supply 12Vdc, 120mA max for 4/20mA transmitter (total on all outputs) 5V+ power supply 5Vdc, 100mA max for 0/5V transmitter (total on all outputs)

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: optoisulated analog outputs voltages are referenced to contact N1

MAKING MODERN LIVING POSSIBLE



MCX08M electronic controller

REFRIGERATION & AIR CONDITIONING DIVISION

Programmable

Protection degree

CAN bus

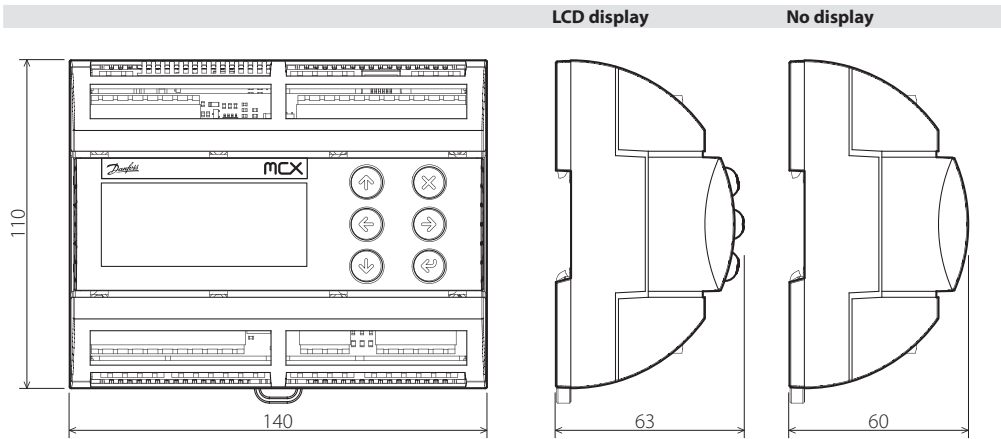
MYK connection

Graphic display

Multilanguage

Modbus RS485

DIMENSIONS



CONNECTIONS

- TOP BOARD

 - Analog output 1-4 connector
 - 7 screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Analog input 1-4 connector
 - 11 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Digital input 1-8 connector
 - 10 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - TTL connector
 - 3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Analog input 5-8 connector
 - 5 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- BOTTOM BOARD

 - Power supply connector
 - 2 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - CAN connector
 - 4 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - CAN-RJ connector
 - 6/6 way telephone RJ11 plug type
 - RS485 connector
 - 3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Connettore digital output 1-2
 - 4 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Digital output 3-4 connector
 - 6 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Digital output 5-6 connector
 - 4 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
 - Digital output 7-8 connector
 - 6 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²

USER INTERFACE

- LCD DISPLAY

 - display mode: STN blue transmissive
 - backlight: white LED backlight adjustable via software
 - display format: 128x64dots
 - active visible area : 58x29mm
 - contrast: adjustable via software
- KEYBOARD

 - number of keys: 6
 - keys function is settled by the application software

PRODUCT PART NUMBERS

CODE	DESCRIPTION
080G0084	MCX08M, 24V, LCD, RTC, S
080G0085	MCX08M, 230V, LCD, RTC, S
080G0028	MCX08M, 24V, LCD, RS485, RTC, S
080G0029	MCX08M, 230V, LCD, RS485, RTC, S
080G0086	MCX08M, 24V, RTC, S
080G0087	MCX08M, 230V, RTC, S
080G0034	MCX08M, 24V, RS485, RTC, S
080G0035	MCX08M, 230V, RS485, RTC, S