

MCX15B is fitted with or without graphic LCD display. It is an electronic controller that stands on the top of the MCX range, thanks to the large number of its inputs and outputs. It holds all the typical functionalities of MCX controllers: programmability, connection to the CANbus local network and up to two Modbus RS485 serial communication interfaces. Furthermore it is available in two models, powered at 110-230Vac or 24Vac.

Programmable	Protection degree	CAN bus	MYK connection	Graphic display	Multilanguage	Modbus RS485

	MCX15B
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	6
Total number	10
DIGITAL INPUTS	
24V optoinsulated	18
230Vac optoinsulated	4
Total number	18
ANALOG OUTPUTS	
0/10Vdc optoinsulated	4
PWM, PPM selectable via software	2
Total number	6
DIGITAL OUTPUTS	
SPDT relay 16A (changeover contacts)	2
SPST relay 8A (normally open contacts)	9
SPDT relay 8A (changeover contacts)	4
Total number	15
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)	16
Mounting	DIN bar

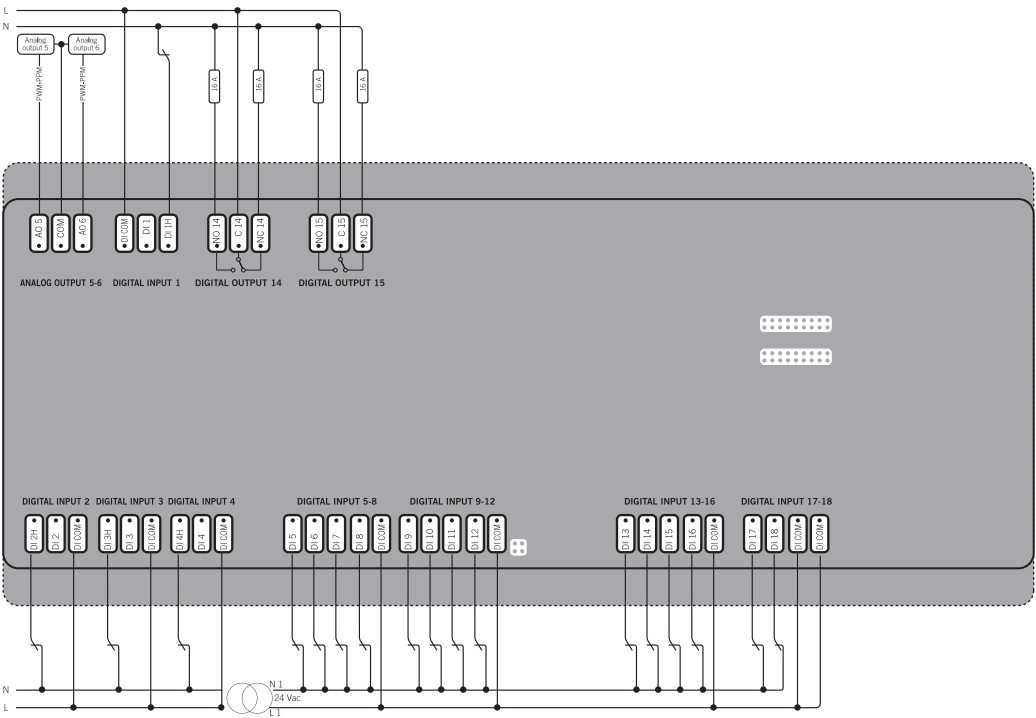
I/O	TYPE	NUMBER	SPECIFICATIONS
Digital outputs	Relay	15	<p>Concerning the insulation distance there are three groups of relays:</p> <ul style="list-style-type: none"> - group 1: relays 1 to 8 - group 2: relays 9 to 13 - group 3: relays 14 to 15 <p>Insulation between relays of the same group: functional</p> <p>Insulation between relays of different groups: reinforced</p> <p>Insulation between relays and the extra-low voltage parts: reinforced</p> <p>Total current load limit: 92A</p> <p>C1-NO1 to C9-NO9</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 - 4A resistive - 3.6 FLA - 21.6 LRA - 346VA pilot duty 30,000 cycles <p>C10-NO10-NC10 to C13-NO13-NC13</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 - 4A resistive - 3.6FLA - 21.6LRA - 346VA pilot duty 30,000 cycles <p>C14-NO14-NC14 to C15-NO15-NC15</p> <p>High inrush current (80A - 20ms) changeover contacts relay 16A:</p> <ul style="list-style-type: none"> - characteristics of each relay: <ul style="list-style-type: none"> 7A 250 Vac for resistive loads - 100,000 cycles 3.5A 230Vac for inductive loads - 230,000 cycles with $\cos(\phi) = 0.4$ UL: 240Vac - 6A resistive - 4.9FLA - 29.4LRA - 470VA pilot duty 30,000 cycles <p>Using of device in case of $T_{amb} = 70^{\circ}\text{C}$ has to be according to following requirements:</p> <ul style="list-style-type: none"> - maximum load admitted for 8A relay: 4A 250Vac - maximum load admitted for 16A relay: 5A 250Vac

- 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

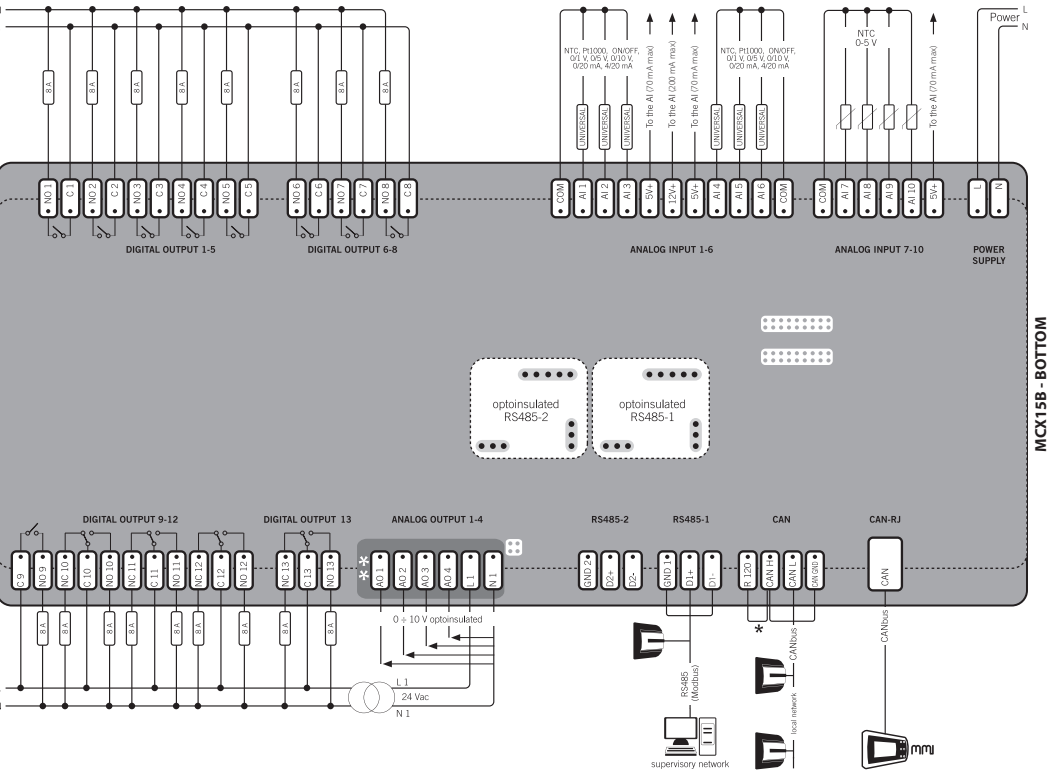
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CONNECTION DIAGRAM

TOP BOARD



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

CONNECTIONS

TOP BOARD

- Analog output 5-6 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 1 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital output 14 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital output 15 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 2 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 3 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 4 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 5-8 connector
5 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 9-12 connector
5 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 13-16 connector
5 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital input 17-18 connector
4 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²

BOTTOM BOARD

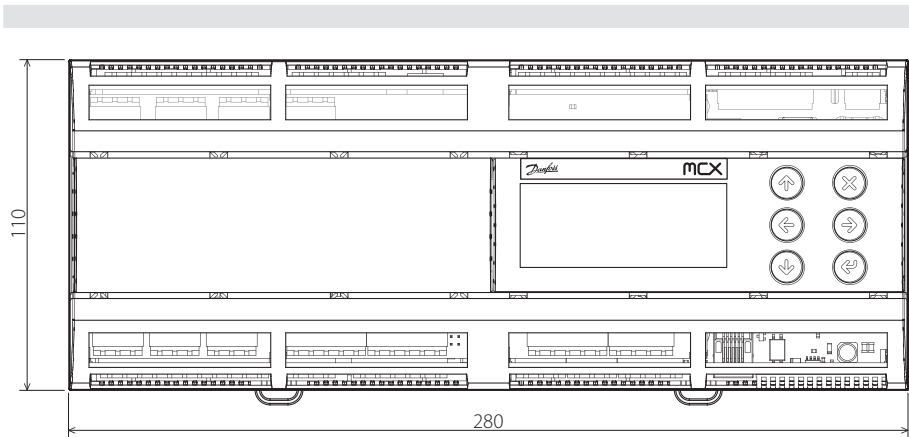
- Analog output 5-6 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital output 1-5 connector
10 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital output 6-8 connector
6 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Analog input 1-6 connector
11 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Analog input 7-10 connector
6 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Power supply connector
2 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital output 9-12 connector
11 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Digital output 13 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- Analog output 1-4 connector
6 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- RS485-2 connector
3 way screw plug-in connector type pitch 5mm: section cable 0.2-2.5mm²
- RS485 connector
3 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

MAKING MODERN LIVING POSSIBLE



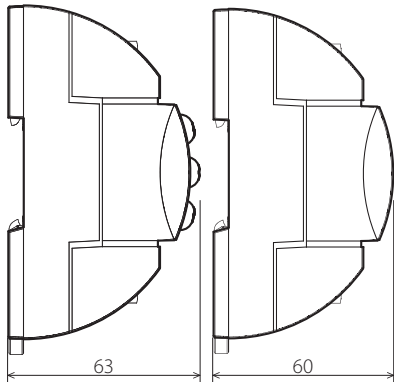
MCX15B electronic controller

DIMENSIONS



LCD display

No display



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
080G0088	MCX15B, 24V, LCD, RTC, S
080G0089	MCX15B, 230V, LCD, RTC, S
080G0036	MCX15B, 24V, LCD, RS485, RTC, S
080G0037	MCX15B, 230V, LCD, RS485, RTC, S
080G0053	MCX15B, 24V, LCD, 2XRS485, RTC, S
080G0054	MCX15B, 230V, LCD, 2XRS485, RTC, S
080G0090	MCX15B, 24V, RTC, S
080G0091	MCX15B, 230V, RTC, S
080G0042	MCX15B, 24V, RS485, RTC, S
080G0043	MCX15B, 230V, RS485, RTC, S
080G0055	MCX15B, 24V, 2XRS485, RTC, S
080G0056	MCX15B, 230V, 2XRS485, RTC, S

REFRIGERATION &
AIR CONDITIONING DIVISION

