



MCX06C electronic controller

MCX06C is an electronic controller that holds all the typical functionalities of MCX controllers in the 32x74 mm standard size: programmability, connection to the CANbus local network, Modbus RS485 serial communication interface

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GENERAL FEATURES

	MCX06C
ANALOG INPUTS	
NTC, 0/1V, 0/5V	2
Universal (NTC, Pt1000, 0/1V, 0/5V, 0/10V, ON/OFF, 0/20mA, 4/20mA) selectable via software	2
Total number	4
DIGITAL INPUTS	
Voltage-free contact	6
Total number	6
ANALOG OUTPUTS	
0/10Vdc, PWM, PPM selectable via software	1
PWM, PPM selectable via software	1
Total number	2
DIGITAL OUTPUTS	
SPST relay 5A (normally open contacts)	6
Total number	6
OTHERS	
Insulated power supply 20/60Vdc - 24Vac	
Connection for programming key	
Connection for remote display and keyboard	
Buzzer	
CANbus	
RTC clock	
Modbus RS485 serial interface	
Dimensions (mm)	33x75
Mounting	Panel

TECHNICAL SPECIFICATIONS

POWER SUPPLY

- 20/60Vdc and 24Vac $\pm 15\%$ 50/60Hz. Maximum power consumption: 6W, 9VA
- Insulation between power supply and the extra-low voltage: functional

I/O	TYPE	NUMBER	SPECIFICATIONS
Digital outputs	Relay	6	Insulation between relays: functional (common lines internally connected) Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 6A
			C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5, C6-NO6 Normally open contact relays: - characteristics of each relay: 4A 30Vdc / 250Vac for resistive load - 100.000 cycles 0,7A 250Vac for inductive load - 100.000 cycles with cos(phi) = 0,5 UL: 240Vac - 1A resistive - 1.0FLA - 6.0LRA - 96VA pilot duty 30.000 cycles
Digital inputs	Voltage free contact	6	DI1, DI2, DI3, DI4, DI5, DI6 Current consumption: 5mA
Analog outputs	0/10V, PWM, PPM	1	AO1 Analog outputs selectable via software between: - pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM): open circuit voltage: 6.8V minimum load: 1kΩ - pulsing output, at modulation of impulse position (PPM) with range from 100Hz to 500Hz: open circuit voltage: 6.8V minimum load: 1kΩ - 0/10Vdc non optoinsulated output, referred to the ground: 10mA maximum loads
	РWM, РРМ	1	AO2 Analog outputs selectable via software between: - pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM): open circuit voltage: $6.8V$ minimum load: $1k\Omega$ - pulsing output, at modulation of impulse position (PPM) with range from 100Hz to 500Hz: open circuit voltage: $6.8V$ minimum load: $1k\Omega$

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GENERAL FEATURES AND WARNINGS

PLASTIC HOUSING FEATURES

- 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: ≥ 250V according to IEC 60112

OTHER FEATURES

- 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: IP64 ~ NEMA3R 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 I
 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

- Low vortage guideline: 1/3/23/ELC
 Electromagnetic compatibility EMC: 89/336/EEC and with the follwing norms:
 EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and ligth-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

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
- verify that the installation and operating conditions on the device lespect the others 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

- 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
- Avoid exposure to corrosive or pollutant gases, natural elements, environments where explosives or mixes of flammable gases are present, dust, strong vibrations or chock, 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

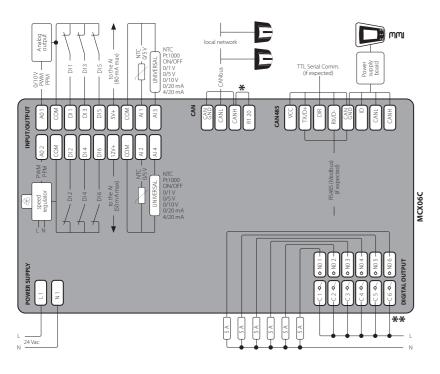
 Use cable ends suitable for the corresponding connectors. After tightening the screws of connectors, slightly tug the cables to check their tightness

- 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

I/O	TYPE	NUMBER	SPECIFICATIONS
Analog inputs	NTC, 0/1V, 0/5V	2	Al1, Al2 Analog inputs selectable via software between: - NTC temperature probes, default: 10kΩ at 25°C - pressure transducers with 0/5V output
	Universal	2	AI3, AI4 Universal analog inputs selectable via software between: - ON/OFF (current: 20mA) - 0/11/, 0/5V, 0/10V - 0/20mA, 4/20mA - NTC (10kΩ at 25°C) - Pt10000 12V+ power supply 12Vdc, 50mA max for 4/20mA transmitter (total on all outputs) 5V+ power supply 5Vdc, 80mA 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: C1, C2, C3, C4, C5, C6 internally connected between themselves

MAKING MODERN LIVING POSSIBLE





MCX06C electronic controller

DIMENSIONS LED display MCX 75

CONNECTIONS

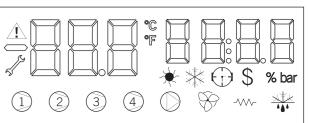
- Input/output connector 18 way Molex Microfit type (43025-1800) crimping contact type: Molex: (4303-0001) section cable AWG20-24 (0.52-0.20mm²) Molex: (4303-0004) section cable AWG26-30 (0.13-0.05mm²) Instrument for the Molex crimp code 69008-0982 (20-24 AWG) Instrument for the Molex crimp code 69008-0983 (26-30 AWG)

- Instrument for the Molex crimp code 69008-0983 (26-30 AWG)
 CAN connector
 Way Molex Wire-to-board type (87369-0400) crimping contact type:
 Molex: (50212-8000) section cable AWG24-30 (0.20-0.05mm²)
 Instrument for the Molex crimp code 63811-1200
 CAN/485 connector
 8 way Molex Wire-to-board type (87369-0800) crimping contact type:
 Molex: (50212-8000) section cable AWG24-30 (0.20-0.05mm²)
 Instrument for the Molex crimp code 63811-1200
 Power supply connector
 2 way Molex KK type (09-50-8021) crimping contact type:
 Molex: (08-50-0105) section cable AWG18-24 (0.82-0.20mm²)
 Molex: (08-50-0107) section cable AWG18-24 (0.32-0.13mm²)
 Instrument for the Molex crimp code 69008-0953
 Digital output 1-6 connector
- Instrument for the Molex crimp code 69008-0993
 Digital output 1-6 connector
 12 way Molex Minifit Jr. type (39-01-2125) crimping contact type:
 Molex: (39-00-0077) section cable AWG16 (1.30mm²)
 Molex: (39-00-0038) section cable AWG18-24 (0.82-0.20mm²)
 Molex: (39-00-0046) section cable AWG22-28 (0.32-0.08mm²)
 Instrument for the Molex crimp code 69008-0724

USER INTERFACE

LED DISPLAY

- type: LED display with two groups of digits and 18 icons colour of digits: green colour of the allarm/warning icons: red color of the other icons: yellow/amber the meaning of the icons and digits is settled by the application software dimensions: 45x17mm



KEYBOARD

minimal thickness of panel 0.8mm

- number of keys: 4 - keys function is settled by the application software

PRODUCT PART NUMBERS

CODE	DESCRIPTION	
080G0065	MCX06C, 24V, LED, S	
080G0066	MCX06C, 24V, LED, RS485, RTC, S	
08000000	IVICAUUC, 24V, LLD, N3403, NTC, 3	

















