



# MCX20B electronic control

MCX20B 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



# Data sheet



# **General features**

MCX20B	
Features	Value
ANALOG INPUTS	
NTC, 0/1V, 0/5V	6
Universal (NTC, Pt1000, 0/1V, 0/5V, 0/10V, ON/OFF, 0/20mA, 4/20mA) selectable via software	10
Total number	16
DIGITAL INPUTS	
24V optoinsulated	22
230Vac optoinsulated	4
Total number	22
ANALOG OUTPUTS	
0/10Vdc optoinsulated	6
Total number	6
DIGITAL OUTPUTS	
SPST relay 16A (normally open contacts)	2
SPDT relay 16A (changeover contacts)	1
SPST relay 8A (normally open contacts)	13
SPDT relay 8A (changeover contacts)	4
Total number	20
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



# **Technical specifications**

## **POWER SUPPLY:**

- 85-265Vac, 50-60Hz. Maximum power consumption: 31VA
- 20-60Vdc or 24Vac ± 15%, 50/60Hz. Maximum power consumption: 17W, 25VA

#### MCX20B

I/O	Туре	Number	Specifications
Digital outputs	Relay	20	Concerning the insulation distance there are three groups of relays: - group 1: relays 1 to 8 - group 2: relays 9 to 13 - group 3: relays 14 to 20 Insulation between relays of the same group: functional Insulation between relays of the same group: seinforced Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 123A <b>C1-NO1 to C9-NO9, C17-NO17 to C20-NO20</b> Normally open contact relays 8A: - characteristics of each relay: <i>6A 250Vac for resistive loads - 100.000 cycles</i> <i>4A 250Vac for resistive - 36FLA - 21.6LRA - 346VA pilot duty 30.000 cycles</i> <b>C10-NO10-NC10 to C13-NO13-NC13</b> Changeover contacts relay 8A: - characteristics of each relay: <i>6A 250Vac for resistive loads - 100.000 cycles</i> <i>4A 250Vac for inductive loads 3. 100.000 cycles</i> <i>4A 250Vac for inductive loads - 100.000 cycles</i> <i>4A 250Vac for inductive loads - 200.000 cycles</i> <i>4A 250Vac for inductive loads - 200.000 cycles</i> <i>3.5A 230Vac for inductive loads - 230.000 cycles with cs(phi) = 0.6</i> <i>UI: 240Vac - 6A resistive - 3.0000 cycles</i> <i>3.5A 230Vac for inductive loads - 230.000 cycles</i> <i>3.5A 230Vac for inductive loads - 230.000 cycles</i> <i>3.5A 230Vac for inductive loads - 230.000 cycles</i> <i>3.5A 230Vac for inductive loads - 100.000 cycles</i> <i>3.5A 230Vac for inductive loads - 100.000 cycles</i> <i>3.5A 230Vac for inductive loads - 100.000 cycles</i> <i>3.5A 230Vac for inductive loads - 230.000 cycles</i> with cs(phi) = 0.5 <i>UI: 240Vac - 6A resistive - 4.9FLA - 29.4LRA - 470VA pilot duty 30.000 cycles</i> USI go f device in case of Tamb = 70°C has to be according to following requirements: - maximum load admitted for 16A relay: <i>5A 250Vac</i> c
Digital inputs	24V optoinsulated	22	DI1 to DI22 Inputs optoinsulated, 24Vac 50/60Hz or 24Vdc
-	230Vac optoinsulated	4	DIH1 to DIH4 Inputs optoinsulated, 230Vac 50/60Hz. Basic insulation - NOTE: when the 230Vac DH1 input is used, the corresponding 24V DI1 input is not available anymore; the same for the couple of inputs DIH2 and DI2, DIH3 and DI3, DIH4 and DI4
Analog outputs	0/10V	6	AO1, AO2, AO3, AO4, AO5, AO6 Analog outputs optoinsulated 0/10Vdc 10mA Max for each output: – 40mA Max totally on 6 outputs External power supply 24Vac/Vdc
Analog inputs	NTC, 0/1V, 0/5V	6	AI7 to AI10, AI15, AI16 Inputs selectable via software between: - NTC temperature probes, default: 10kΩ at 25°C - pressure transducers with 0/5V output
	Universal	10	All to Al6, Al11 to Al14 Universal analog inputs selectable via software between: - ON/OFF (current: 20mA) - 0/1V, 0/5V, 0/10V - 0/20mA, 4/20mA - NTC (10kΩ at 25°C) - Pt1000 12V+ power supply 12Vdc, 400mA max for 4/20mA transmitter (total on all outputs) 5V+ power supply 5Vdc, 410mA max for 0/5V transmitter (total on all outputs)



# **Connection diagram**

## **TOP BOARD**



#### **BOTTOM BOARD**







## Dimensions



## **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**

MCX20B	
CODE ***	DESCRIPTION
080G0092	MCX20B, 24V, LCD, R1C, S
080G0093	MCX20B, 230V, LCD, RTC, S
080G0044	MCX20B, 24V, LCD, RS485, RTC, S
080G0045	MCX20B, 230V, LCD, RS485, RTC, S
080G0057	MCX20B, 24V, LCD, 2XRS485, RTC, S
080G0058	MCX20B, 230V, LCD, 2XRS485, RTC, S
080G0094	MCX20B, 24V, RTC, S
080G0095	MCX20B, 230V, RTC, S
080G0050	MCX20B, 24V, RS485, RTC, S
080G0051	MCX20B, 230V, RS485, RTC, S
080G0059	MCX20B, 24V, 2XRS485, RTC, S
080G0060	MCX20B, 230V, 2XRS485, RTC, S

\*\*\*NOTE: single pack codes (S) include standard kit connectors. Is also available industrial pack codes (I) that don't include standard kit connectors



## Note



## Note



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