ENGINEERING
TOMORROW

Data sheet

MCX06C
Programmable 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 interface

Features MCX06C

- 4 analog and 6 digital inputs
- 2 analog and 6 digital outputs
- Insulated power supply 20 / 60 V DC - 24 V AC
- Easy upload of application software through CANbus connection for programming key
- 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 serial interface
- Display LED with 2 groups of digits for showing the desired information in one screen
- Dimensions 33x75 mm
- Panel mounting

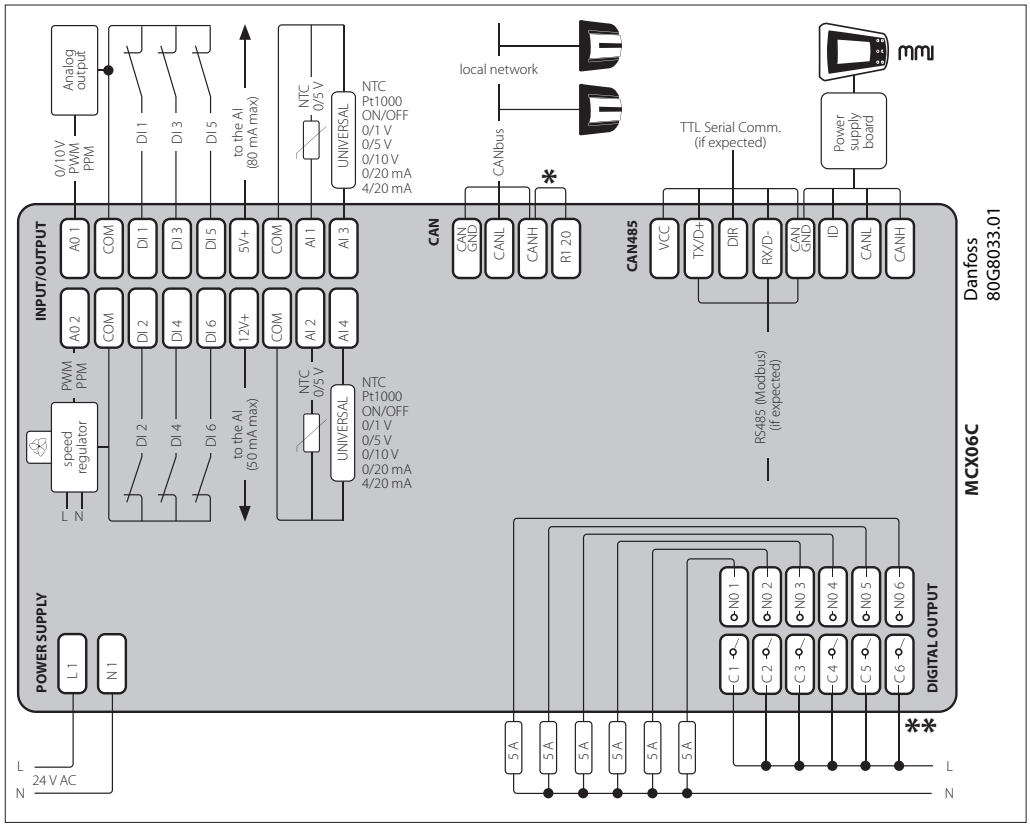
General features

FEATURES	DESCRIPTION
Power supply	20 / 60 V DC and 24 V AC ± 15% 50/60 Hz Maximum power consumption: 6 W, 9 VA
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	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: ≥ 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	IP64 ~ NEMA3R 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 I
Software class and structure	Class A
Approvals	CE mark This product is designed to comply with the following EU standards: • Low voltage directive LVD 2014/35/EU: – EN60730-1: 2011 (Automatic electrical control for household and similar use. General requirements) – EN60730-2-9: 2010 (Particular requirements for temperature sensing controls) • Electromagnetic compatibility EMC directive 2014/30/EU: – EN 61000-6-3: 2007 +A1: 2011 (Emission standard for residential, commercial and light-industrial environments) – EN 61000-6-2: 2005 (Immunity for industrial environments) • RoHS directive 2011/65/EU: – EN50581: 2012
	UL approval: • UL file E31024

Inputs/outputs

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC 0 / 1 V 0 / 5 V	2	**AI1, AI2** Analog inputs selectable via software between: • NTC temperature probes, default: 10 kΩ at 25 °C • pressure transducers with 0/5 V output
	Universal	2	**AI3, AI4** Universal analog inputs selectable via software between: • ON/OFF (current: 20 mA) • 0 / 1 V, 0 / 5 V, 0 / 10 V • 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)
Digital input	Voltage free contact	6	**DI1, DI2, DI3, DI4, DI5, DI6** Current consumption: 5 mA
Analog outputs	0 / 10 V PWM PPM	1	**AO1** Analog output 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: 6.8 V – minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 – 500 Hz: – open circuit voltage: 6.8 V – minimum load: 1 kΩ • 0 / 10 V DC non optoinsulated output, referred to the ground – 10 mA maximum loads
	PWM PPM	1	**AO2** Analog output 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: 6.8 V – minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 – 500 Hz: – open circuit voltage: 6.8 V – minimum load: 1 kΩ
Digital output	Relay	6	Insulation between relays: functional (common lines internally connected) Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 6 A **C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5, C6-NO6** Normally open contact relays • characteristics of each relay: – 4 A 30 V DC / 250 V AC for resistive load - 100.000 cycles – 0.7 A 250 V AC for inductive load - 100.000 cycles with cos(phi) = 0.5 – UL: 240 V AC - 1 A resistive - 1.0 FLA - 6.0 LRA - 96 V A pilot duty 30.000 cycles

Connection diagram



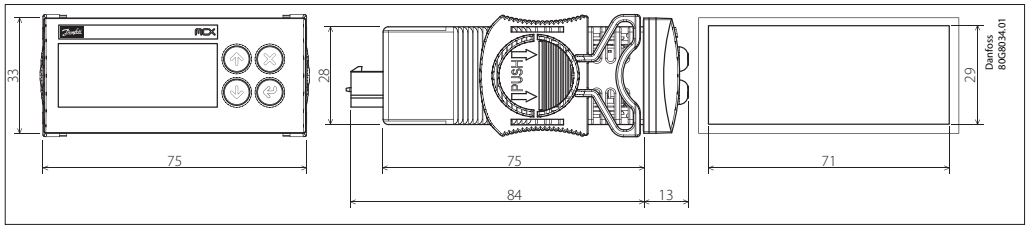
*NOTE: *connection has to be made on the first and last local network units, make the connection as close as possible to the connector*

**NOTE: *C1, C2, C3, C4, C5, C6 internally connected between themselves*

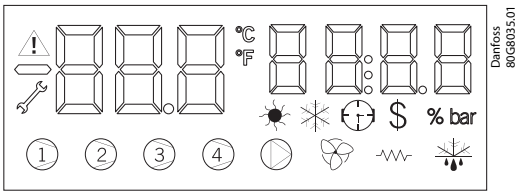
Connection

CONNECTORS	TYPE	DIMENSIONS
Input and output connector	18 way Molex Microfit type (43025-1800) crimping contact type	• Molex: (43030-0001) section cable AWG20-24 (0.52-0.20 mm²) • Molex: (43030-0004) section cable AWG26-30 (0.13-0.05 mm²) • Instrument for the Molex crim code 69008-0982 (20-24 AWG) • Instrument for the Molex crimp code 69008-0983 (26-30 AWG)
CAN connector	4 way Molex Wire-to-board type (87369-0400) crimping contact type	• Molex: (50212-8000) section cable AWG24-30 (0.20-0.05 mm²) • 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 (0.20-0.05 mm²) • 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 (0.82-0.20 mm²) • Molex: (08-50-0107) section cable AWG22-26 (0.32-0.13 mm²) • Instrument for the Molex crimp code 69008-0953
Digital output 1-6 connector	12 way Molex Minifit Jr. type (39-01-2125) crimping contact type	• Molex: (39-00-0077) section cable AWG16 (1.30 mm²) • Molex: (39-00-0038) section cable AWG18-24 (0.82-0.20 mm²) • Molex: (39-00-0046) section cable AWG22-28 (0.32-0.08 mm²) • Instrument for the Molex crimp code 69008-0724

Dimensions



User interface

TYPE	FEATURES	DESCRIPTION
LED display	Display	LED display with two groups of digits and 18 icons 
	Digits	Green colour
	Allarm/warning icons	Red colour
	Other icons	Yellow / amber colour
	Meaning of the icons and digits	Settled by the application software
	Dimensions	45x17 mm
Keyboard	Number of keys	4
	Keys function	Set by the application software

Product part numbers

DESCRIPTION	CODE NO.
MCX06C, 24V, LED, RS485, RTC, S	**080G0066**
MCX06C, 24V, LED, RS485, RTC, I/36	**080G0107**

Note: *single pack codes (S) don't include standard kit connectors,*
industrial pack codes (I) don't include standard kit connectors

Accessories part numbers

DESCRIPTION	CODE NO.
MCX06C CONNECTORS KIT	**080G0175**
ACCCNX, WIRED CONNECTORS KIT FOR MCX06C, 1m CABLE	**080G0081**
ACCCNX, WIRED CONNECTORS KIT FOR MCX06C, 2m CABLE	**080G0082**