

Data sheet

MCX06D

Programmable controller



MCX06D is fitted with graphic LCD display or without display. It is an electronic controller that holds all the typical functionalities of MCX controllers in the compact size of 4 DIN modules:

- programmability
- connection to the CANbus local network
- Modbus RS485 opto-insulated serial interface

Features MCX06D

- 4 analog and 8 digital inputs
- 3 analog and 6 digital outputs
- Power supply 20 / 60 V DC - 24 V AC
- 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 opto-insulated serial interface
- Available with graphic LCD display or without display for showing the desired information
- Dimensions 4 DIN modules

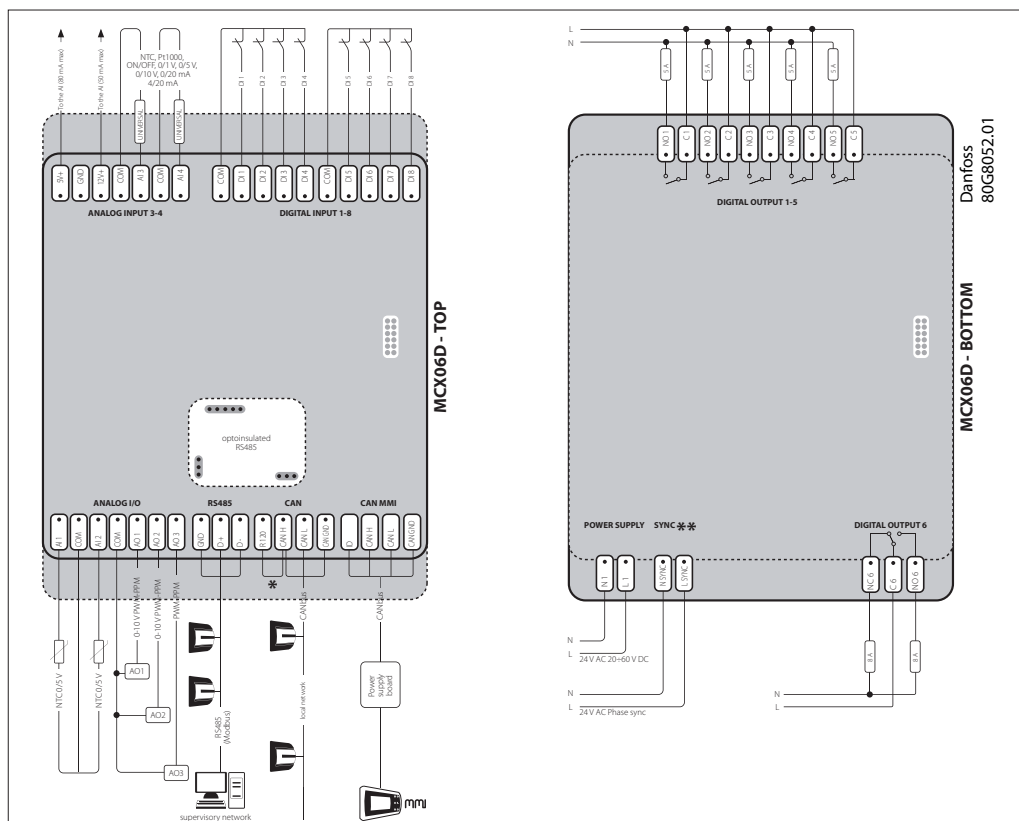
General features

FEATURES	DESCRIPTION
Power supply	20 / 60 V DC and 24 V AC \pm 15% 50/60 Hz Maximum power consumption: 6 W, 9 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	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 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	IP40 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: <ul style="list-style-type: none"> • Low voltage directive LVD 2014/35/EU: <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> – EN50581: 2012
	UL approval: <ul style="list-style-type: none"> • UL file E31024

Input/output

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC 0 / 1 V 0 / 5 V	2	AI1, AI2 Analog inputs selectable via software between: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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	8	DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8 Current consumption: 5 mA
Analog outputs	0 / 10 V 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): <ul style="list-style-type: none"> - open circuit voltage: 6.8 V - minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 – 500 Hz: <ul style="list-style-type: none"> - open circuit voltage: 6.8 V - minimum load: 1 kΩ • 0 / 10 V DC non optoinsulated output, referred to the ground <ul style="list-style-type: none"> - 10 mA maximum loads
	PWM, PPM	1	AO3 Analog output 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): <ul style="list-style-type: none"> - open circuit voltage: 6.8 V - minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 – 500 Hz: <ul style="list-style-type: none"> - open circuit voltage: 6.8 V - minimum load: 1 kΩ
Digital output	Relay	6	Insulation between relays 1 to 5: functional Insulation between relay 6 and the other relays: reinforced Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 33 A C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5 Normally open contact relays 5 A <ul style="list-style-type: none"> • characteristics of each relay: <ul style="list-style-type: none"> - 5 A 30 V DC / 250 V AC for resistive loads - 100.000 cycles - 0.7 A 250 V AC for inductive load - 100.000 cycles with cos(phi) = 0.5 - UL: 250 V AC - 3 A resistive - 1.5 FLA - 9.0 LRA - 144 V A pilot duty 30.000 cycles NC6-C6-NO6 Changeover contacts relay 8 A <ul style="list-style-type: none"> • characteristics of each relay: <ul style="list-style-type: none"> - 8 A 250 V AC for resistive loads - 100.000 cycles - 4 A 250 V AC for inductive loads - 100.000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30.000 cycles

Connection diagram



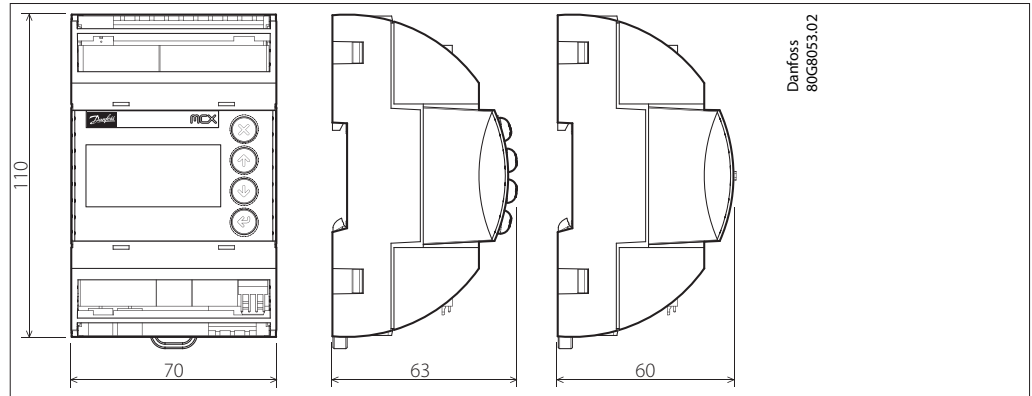
*NOTE: connection has to be made on the first and last local network units, make the connection as close as possible to the connector

**NOTE: when AO is used as synchronised output, the sync input must be in phase with the load on AO

Connection

CONNECTORS	TYPE	DIMENSIONS
TOP BOARD		
Analog input 3-4 connector	7 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
Digital input 1-8 connector	10 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
Analog I/O connector	7 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
RS485 connector	3 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
CAN connector	4 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
CAN MMI connector	4 way Connection 2515 Series type (2515-2041) crimping contact type: Connection (2500-2001) instrument for the crimp type 1190-1298	<ul style="list-style-type: none"> section cable AWG22-28 (0.32-0.08 mm²)
BOTTOM BOARD		
Digital output 1-5 connector	10 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2-2.5 mm²
Power supply connector	2 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
Sync connector	2 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 3.5 mm section cable 0.08-1.5 mm²
Digital output 6 connector	3 way screw plug-in connector type	<ul style="list-style-type: none"> pitch 5 mm section cable 0.2-2.5 mm²

Dimensions



User interface

TYPE	TYPE FEATURES	DESCRIPTION
LCD display	Display	STN blue transmissive
	Backlight	White LED backlight adjustable via software
	Contrast	Adjustable via software
	Format	98x64 dots
	Active visible area	29.4x19.2 mm
Keyboard	Number of keys	4
	Keys function	Set by the application software

Product part numbers

DESCRIPTION	CODE NO.
MCX06D, 24V, LCD, S	080G0111
MCX06D, 24V, LCD, RS485, RTC, S	080G0112
MCX06D, 24V, RS485, RTC, S	080G0115
MCX06D, 24V, LCD, I	080G0166
MCX06D, 24V, LCD, RS485, RTC, I	080G0167
MCX06D, 24V, RS485, RTC, I	080G0169

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

Accessories part numbers

DESCRIPTION	CODE NO.
MCX06D/EXC06D CONNECTORS KIT	080G0179