

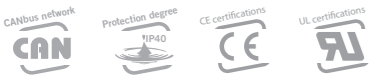


## INSTRUCTIONS

### EXC06D



The EXC06D expansion control presents a configuration of 12 inputs and 9 outputs to offer the maximum flexibility to expand the MCX system. Further features are the possibility to connect it to the local CANbus.



## GENERAL FEATURES

	EXC06D
<b>ANALOG INPUTS</b>	
NTC, 0/1 V, 0/5 V	2
Universal (NTC, Pt1000, 0/1 V, 0/5 V, 0/10 V, ON/OFF, 0/20 mA, 4/20 mA) selectable via software	2
<b>Total number</b>	<b>4</b>
<b>DIGITAL INPUTS</b>	
Voltage-free contact	8
<b>Total number</b>	<b>8</b>
<b>ANALOG OUTPUTS</b>	
0/10 Vdc, PWM, PPM selectable via software	2
PWM, PPM selectable via software	1
<b>Total number</b>	<b>3</b>
<b>DIGITAL OUTPUTS</b>	
SPST Relay 5 A (normally open contacts)	5
SPST Relay 8 A (changeover contacts)	1
<b>Total number</b>	<b>6</b>
<b>OTHERS</b>	
Insulated power supply 20/60 Vdc - 24 Vac	•
RTC (Real Time Clock)	
Connection for programming key	
Built-in display	
CANbus	•
Dimensions (DIN modules)	4

## GENERAL FEATURES AND WARNINGS

### PLASTIC HOUSING FEATURES

- DIN rail mounting complying with EN 60715
- Self extinguishing V0 as per UL 94 and glowing/hot wire test at 960°C as per IEC 695
- Ball test: 125 °C as per IEC 335. Leakage current:  $\geq$  250 V according to IEC 112

### OTHER FEATURES

- Operating conditions: -10T55, 90% RH non-condensing
- Storage conditions: -10T70, 90% RH non-condensing
- To be integrated in Class I and/or II appliances
- PTI of the insulating materials: 250 V
- Index of protection: IP40 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
- Electromagnetic compatibility EMC: 89/336/EEC and with the following norms:
  - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and lighth-industrial environments)
  - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments)
  - EN60730 (Automatic electrical controls for household and similar use)

### 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 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.

### 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 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
- 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

## TECHNICAL SPECIFICATIONS

### POWER SUPPLY

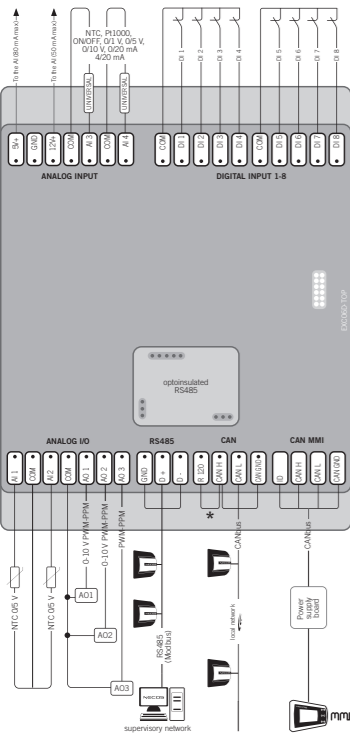
- 20/60 Vdc and 24 Vac  $\pm$ 15% 50/60 Hz. Maximum power consumption: 6 W, 8 VA
- Insulation between power supply and the extra-low voltage: functional

INPUT/OUTPUT	TYPE	NUMBER	SPECIFICATIONS
Digital Outputs	Relay	6	Insulation between relays 1÷ 5: functional Insulation between relay 6 and the other relays: reinforced Insulation between relays and the extra-low voltage parts: reinforced <b>- C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5</b> - Normally open contact relays - Contact characteristics: 5 A 30 Vdc / 250 Vac for resistive loads, 100.000 cycles UL rating - 250 Vac 3 A resistive - 1.5 FLA - 9.0 LRA - 144 VA pilot duty 30.000 cycles <b>- NC6-C6-NO6</b> - Relay with changeover contacts - Contact characteristics: 8 A 250 Vac for resistive loads, 3 A 250 Vac for inductive loads, cos(phi) = 0.4 - 100.000 cycles UL rating - 240 Vac 6 A resistive - 4.9 FLA - 29.4 LRA - 470 VA pilot duty 30.000 cycles
Digital inputs	Voltage free contact	8	<b>- DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8</b> - Current consumption: 5 mA

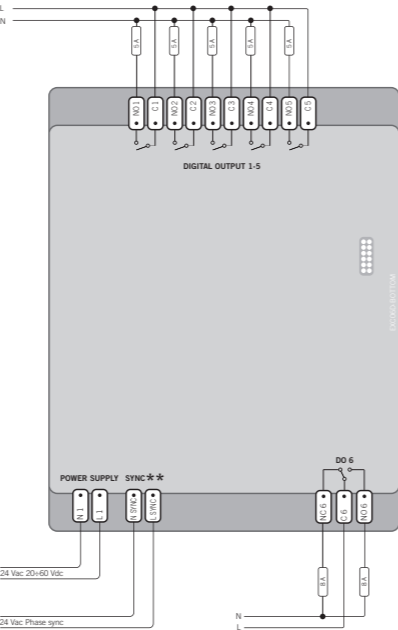
INPUT/OUTPUT	TYPE	NUMBER	SPECIFICATIONS
Analog outputs	0/10 V, PWM, PPM	2	<b>- AO1, AO2</b> - Analog outputs selectable via software between: - Pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse with (PWM). 6.8 V open circuit. Voltage (1 kΩ minimum load) - Pulsing output, at modulation of impulse position (PPM) with range 100 Hz ÷ 500 Hz. 6.8 V open circuit. Voltage (1 kΩ minimum load) - 0/10 Vdc non optoinsulated output, referred to the ground: 10 mA maximum loads
	PWM, PPM	1	<b>- AO3</b> - Analog outputs selectable via software between: - Pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse with (PWM). 6.8 V open circuit. Voltage (1 kΩ minimum load) - Pulsing output, at modulation of impulse position (PPM) with range 100 Hz ÷ 500 Hz. 6.8 V open circuit. Voltage (1 kΩ minimum load)
Analog inputs	NTC, 0/1, 0/5 V	2	<b>- AI1, AI2</b> - Analog inputs selectable via software between: - NTC temperature probes, 10 kΩ at 25 °C - Pressure transducers with 0/5 V output
	Universal	2	<b>- AI3, AI4</b> - 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 - 12V+ Power supply 12 Vdc, 50 mA max for 4/20 mA transmitter (total on all outputs) - 5V+ Power supply 5 Vdc, 80 mA max for 0/5 V transmitter (total on all outputs)

CONNECTION DIAGRAM

TOP BOARD



BOTTOM BOARD



\*NOTE: Connection has to be made on the first and last local network units  
 \*\* NOTE: When AO is used as synchronised output, the sync input must be in phase with the load on AO

CONNECTION

- **Digital Output 1-5 connector**  
10 way screw plug-in connector type pitch 5 mm: section cable 0,2-2,5 mm<sup>2</sup>
- **Digital Output connector**  
3 way screw plug-in connector type pitch 5 mm: section cable 0,2-2,5 mm<sup>2</sup>
- **Power Supply connector**  
2 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **Sync connector**  
2 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **Analog Input connector**  
7 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **Digital Input 1-4 connector**  
10 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **Analog I/O connector**  
7 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **RS485 connector**  
3 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **CAN connector**  
4 way screw plug-in connector type pitch 3,5 mm: section cable 0,08-1,5 mm<sup>2</sup>
- **CAN MMI connector**  
4 way Conexcon 2515 Series type (2515-2041) crimping contact type: Conexcon (2500-2001) section cable AWG22-28 (0,32-0,08 mm<sup>2</sup>)  
instrument for the crimp type 1190-1298



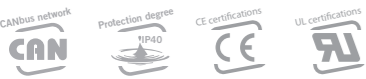
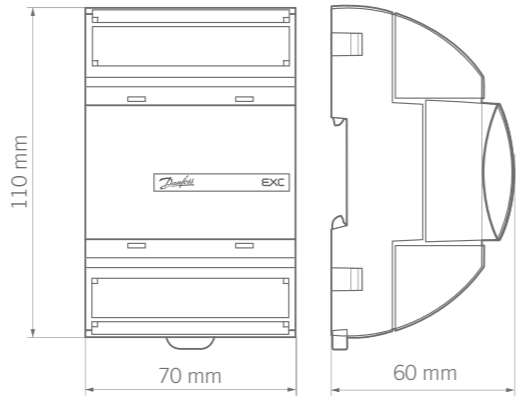
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DIMENSIONS



CODES

CODE NUMBER	FUNCTION
080G0069	EXC06D no display, 24 Vac