

ENGLISH

1 GETTING STARTED

1.1 Important

Read these instructions carefully before installing and using the instrument and follow all additional information for installation and electrical connection; keep these instructions close to the instrument for future consultations.

The instrument must be disposed according to the local legislation about the collection for electrical and electronic equipment.

2 INTRODUCTION

2.1 Introduction

C-PRO GIGA is a family of programmable or application-oriented controllers.

The family is made of the following models:

- CPG2LQ\* - built-in controller with 4 x 20 characters alphanumeric display
CPG2SQ\* - blind controller (to be used with the user interface V LEDC, V VIEW or V GRAPH).

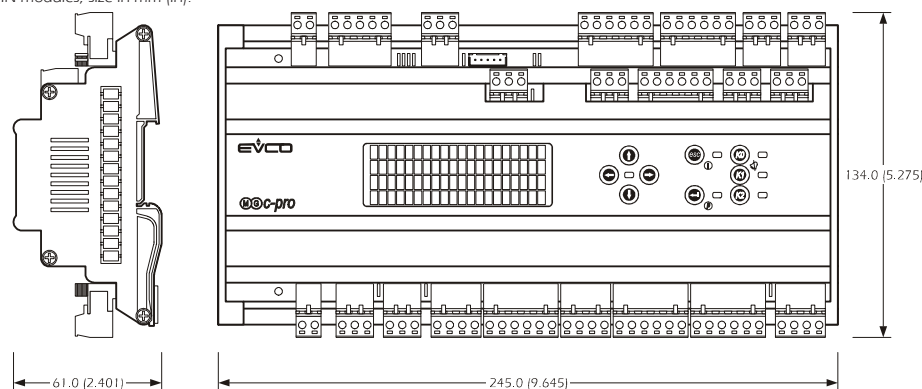
The controllers have the following kind of inputs and outputs:

- 8 analog inputs
12 digital inputs
4 analog outputs
13 digital outputs.

3 SIZE AND INSTALLATION

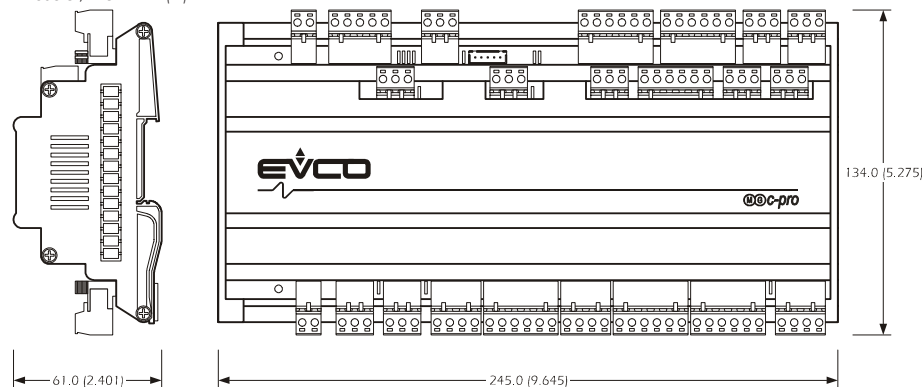
3.1 Size built-in models

14 DIN modules; size in mm (in).



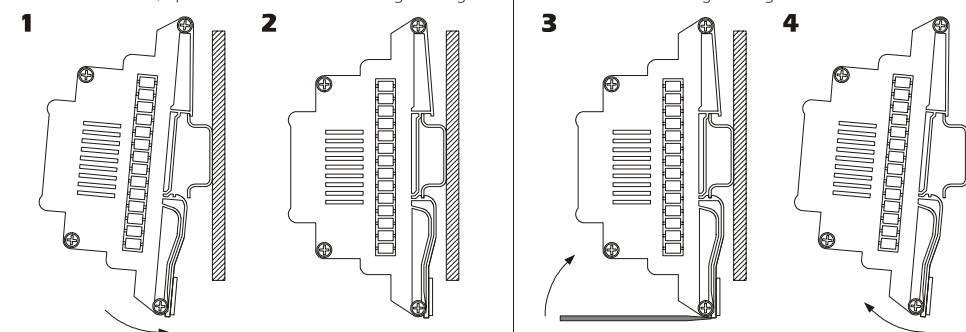
3.2 Size blind models

14 DIN modules; size in mm (in).



3.3 Installation

On DIN rail. To install C-PRO GIGA, operate as shown in the following drawing.

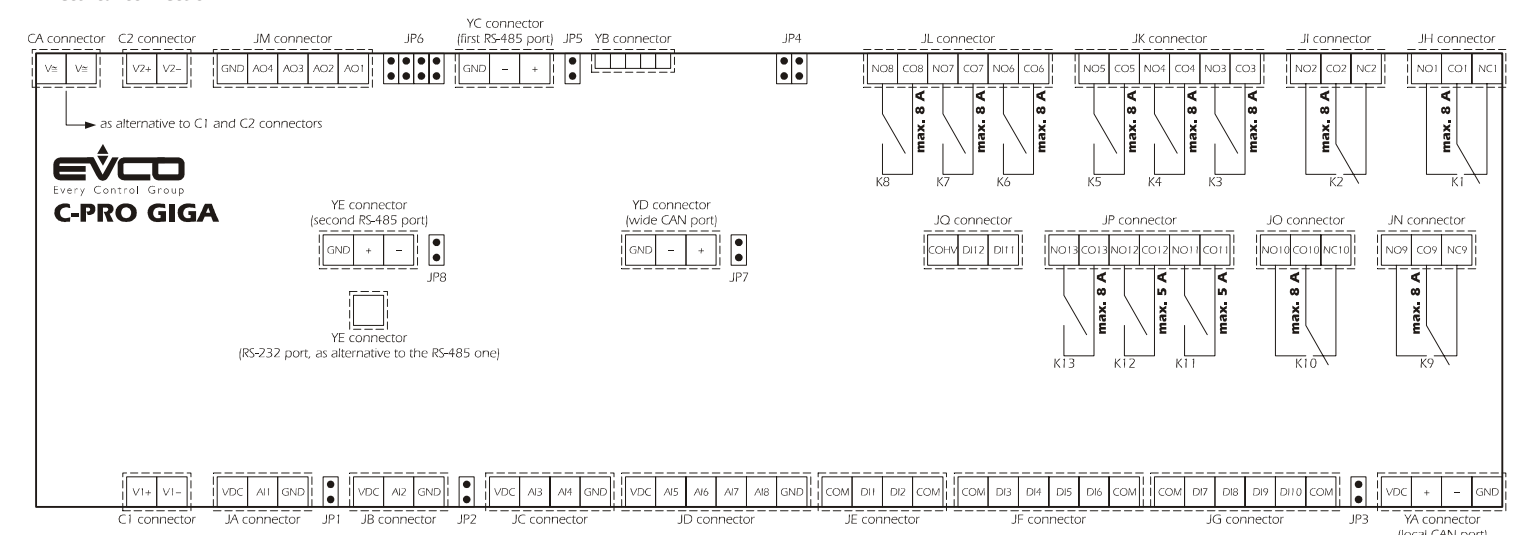


Through the expansions belonging to the families C-PRO EXP MEGA and C-PRO EXP GIGA it is possible to increase the I/O. The controllers also have the following kind of communication ports:
1 optoisolated RS-485 port
1 non optoisolated local CAN port
1 optoisolated RS-485 port or a RS-232 one (by request, not available in the built-in models)
1 optoisolated wide CAN port (by request, only available in the models with 128 KB of program memory).
The controllers have the real time clock. The programmable versions can be programmed with the development ambient UNI-PRO. For further information consult the Hardware manual of C-PRO GIGA, the Software manual of UNI-PRO and the Application manual.

3.4 Additional information for installation
working conditions (working temperature, humidity, etc.) must be between the limits indicated in the technical data
do not install the instrument close to heating sources (heaters, hot air ducts, etc.), devices provided with big magnetos (big speakers, etc.), locations subject to direct sunlight, rain, humidity, dust, mechanical vibrations or bumps
according to the safety legislation, the protection against electrical parts must be ensured by a correct installation of the instrument; the parts that ensure the protection must be installed so that you can not remove them if not by using a tool.

4 ELECTRICAL CONNECTION

4.1 Electrical connection



C1 connector: main power supply controller (12 VDC); also look at C2 connector.

Table for C1 connector with columns PIN and MEANING, listing V1+, V1-, and V2- pins.

C2 connector: secondary power supply (12 VDC); also look at C1 connector.

Table for C2 connector with columns PIN and MEANING, listing V2+ and V2- pins.

With reference to the electrical connection, the secondary power supply supplies the following users:
the analog outputs
the first RS-485 port
the second RS-485 port or the RS-232 one
the wide CAN port.

In order that these users are optoisolated, the main power supply and the secondary power supply must be galvanically insulated each other.

CA connector: power supply controller (24 VAC/DC, as alternative to the main power supply controller and to the secondary power supply).

Table for CA connector with columns PIN and MEANING, listing V+ and V- pins.

With reference to the electrical connection, if you supply the controller through the CA connector, the following users will not be optoisolated:
the analog outputs
the first RS-485 port
the second RS-485 port or the RS-232 one
the wide CAN port.

JA connector: analog input 1; also look at JP1.

Table for JA connector with columns PIN and MEANING, listing VDC and AO1-4 pins.

JB connector: analog input 2; also look at JP2.

Table for JB connector with columns PIN and MEANING, listing VDC and AI2 pins.

JC connector: analog inputs 3 ... 4.

Table for JC connector with columns PIN and MEANING, listing VDC and AI3-4 pins.

JD connector: analog inputs 5 ... 8.

Table for JD connector with columns PIN and MEANING, listing VDC and AI5-8 pins.

JE connector: low voltage digital inputs 1 ... 2 (12-24 VAC/DC).

Table for JE connector with columns PIN and MEANING, listing COM, DI1, DI2, and COM pins.

JF connector: low voltage digital inputs 3 ... 6 (12-24 VAC/DC).

Table for JF connector with columns PIN and MEANING, listing COM, DI3, DI4, DI5, DI6, and COM pins.

JG connector: low voltage digital inputs 7 ... 10 (12-24 VAC/DC).

Table for JG connector with columns PIN and MEANING, listing COM, DI7, DI8, DI9, DI10, and COM pins.

JH connector: digital output 1.

JI connector: digital output 2.

JK connector: digital outputs 3 ... 5.

JL connector: digital outputs 6 ... 8.

JM connector: analog outputs 1 ... 4; also look at JP6.

Table for JM connector with columns PIN and MEANING, listing GND and AO1-4 pins.

JN connector: digital output 9.

JO connector: digital output 10.

JP connector: digital outputs 11 ... 13.

Table for JP connector with columns PIN and MEANING, listing COM, DI11, DI12, and COM pins.

YA connector: local CAN port; also look at JP3.

Table for YA connector with columns PIN and MEANING, listing VDC and signal pins.

YB connector: port to program the controller.

YC connector: first RS-485 port; also look at JP5.

Table for YC connector with columns PIN and MEANING, listing GND and signal pins.

YE connector: second RS-485 port; also look at JP8.

Table for YE connector with columns PIN and MEANING, listing signal pins and GND.

JP1: analog input 1 selection.

Table for JP1 with columns PIN and MEANING, listing removal and insertion of a jumper.

JP2: analog input 2 selection.

Table for JP2 with columns PIN and MEANING, listing removal and insertion of a jumper.

JP3: local CAN port termination.

Table for JP3 with columns PIN and MEANING, listing termination options.

JP4: baud rate local CAN port selection.

Table for JP4 with columns PIN and MEANING, listing baud rate options.

JP5: first RS-485 port termination.

Table for JP5 with columns PIN and MEANING, listing termination options.

JP6: analog outputs selection.

Table for JP6 with columns PIN and MEANING, listing removal and insertion of a jumper.

JP7: wide CAN port termination.

Table for JP7 with columns PIN and MEANING, listing termination options.

JP8: second RS-485 port termination.

Table for JP8 with columns PIN and MEANING, listing termination options.

4.2 Additional information for electrical connection

- do not operate on the terminal blocks with electrical or pneumatic screwdrivers
if the instrument has been moved from a cold location to a warm one, the humidity could condense on the inside; wait about an hour before supplying it
test the working power supply voltage, working electrical frequency and working electrical power of the instrument; they must correspond with the local power supply
disconnect the local power supply before servicing the instrument
do not use the instrument as safety device
for repairs and information on the instrument please contact Evco sales network.

5 TECHNICAL DATA

5.1 Technical data
Box: self-extinguishing grey.
Size: 245.0 x 134.0 x 61.0 mm (9.645 x 5.275 x 2.401 in); 14 DIN modules.
Size refers to the controller with all the connectors properly plugged.
Installation: on DIN rail.
Frontal protection: IP40.
Connections: extractable male terminal blocks (power supply, inputs, outputs, RS-485 ports and CAN ports), 8 poles female telephone connector [RS-232 port], 5 poles male JST connector pitch 2.5 mm (0.098 in, programming).
The maximum lengths of the connecting cables are the followings:
power supply: 1 m (3.280 ft)
analog inputs: 3 m (9.842 ft)
digital inputs: 3 m (9.842 ft)
analog outputs: 3 m (9.842 ft)
digital outputs: 3 m (9.842 ft)
RS-485 ports: 1,000 m (3,280 ft)
local CAN port:
10 m (32.808 ft) with baud rate 20,000 baud
5 m (16.404 ft) with baud rate 50,000 baud
2 m (6.561 ft) with baud rate 125,000 baud
1 m (3.280 ft) with baud rate 500,000 baud
RS-232 port: 3 m (9.842 ft)
wide CAN port:
1,000 m (3,280 ft) with baud rate 20,000 baud
500 m (1,640 ft) with baud rate 50,000 baud
250 m (820 ft) with baud rate 125,000 baud
50 m (164 ft) with baud rate 500,000 baud.
One suggests using the connecting kit CJAV01 for the models supplied with 12 VDC + 12 VDC and the connecting kit CJAV07 for the models supplied with 24 VAC/DC (extractable female terminal blocks pitch 5.0 mm, 0.196 in; the kit is not supplied with the controller).
Working temperature: from 0 to 50 °C (32 to 120 °F); 10 ... 90% of relative humidity without condensate.
Power supply: 12 VDC (main power supply controller), max. 0.8 A + 12 VDC (secondary power supply), max. 0.15 A; 24 VAC/DC, 50/60 Hz, max. 1 A as alternative.
Real time clock data maintenance in absence of power supply: 3 days will battery fully charged.
Battery charge time: 2 min without interruptions (the battery is charged by the power supply of the controller).
Alarm buzzer: incorporated.
Analog inputs: 8 inputs:
2 for PTC probes/NTC probes/0-5 V transducers/0-10 V transducers/0-20 mA transducers/4-20 mA transducers
6 for NTC probes/0-20 mA transducers/4-20 mA transducers.
Digital inputs: 12 inputs:
10 low voltage digital inputs for NO contact (12-24 VAC/DC)
2 high voltage digital inputs for NO contact (230 VAC).
Working range: from -50 to 150 °C (-50 to 300 °F) for PTC probe, from -40 to 100 °C (-40 to 210 °F) for NTC probe.
Resolution: 0.1 °C/1 °C/0.1 °F/1 °F.
Analog outputs: 4 optoisolated outputs (0.5-10 V, 0-20 mA or 4-20 mA).
All combinations are allowed.
In order that the users are optoisolated, the main power supply (C1 connector, 12 VDC) and the secondary power supply (C2 connector, 12 VDC) must be galvanically insulated each other; if you supply the controller through the CA connector (24 VAC/DC), the users will not be optoisolated.
Digital outputs: 13 outputs (relays):
eleven 8 res. A @ 250 VAC outputs (4 change-over contacts + 7 NO contacts)
two 5 res. A @ 250 VAC outputs (2 NO contacts).
Communication ports: 5 ports:
1 optoisolated RS-485 port with EVCOCBUS or MODBUS communication protocol
1 non optoisolated local CAN port
1 optoisolated RS-485 port or a RS-232 one (by request, not available in the built-in models)
1 optoisolated wide CAN port (by request, only available in the models with 128 KB of program memory)
1 port to program the controller.
In order that the users are optoisolated, the main power supply (C1 connector, 12 VDC) and the secondary power supply (C2 connector, 12 VDC) must be galvanically insulated each other; if you supply the controller through the CA connector (24 VAC/DC), the users will not be optoisolated.
Program memory: 256 KB (FLASH memory).
Data memory: 8 KB (RAM memory).
Parameter data memory: 4 KB (EEPROM memory).

