

Installation instructions

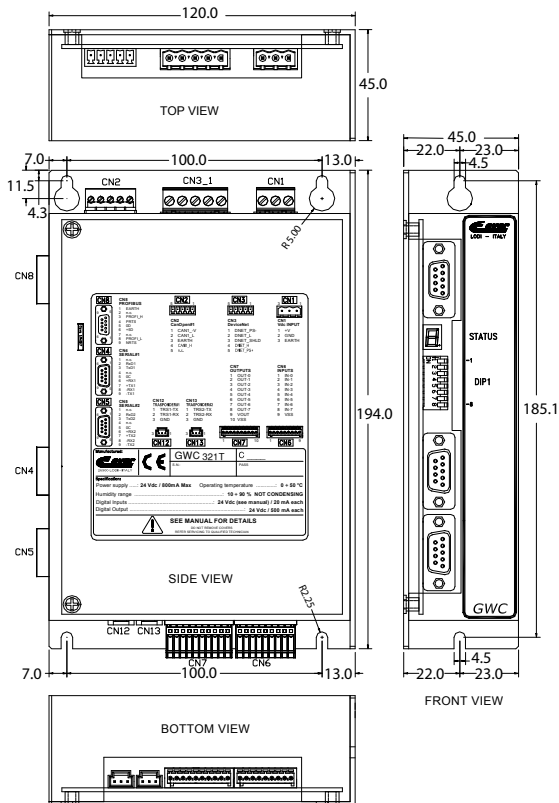
i Refer to installation use and maintenance manual for more information.
Available user manual at link <http://www.everelettronica.it/manhw.html>



Motion controller, Gateway and PLC

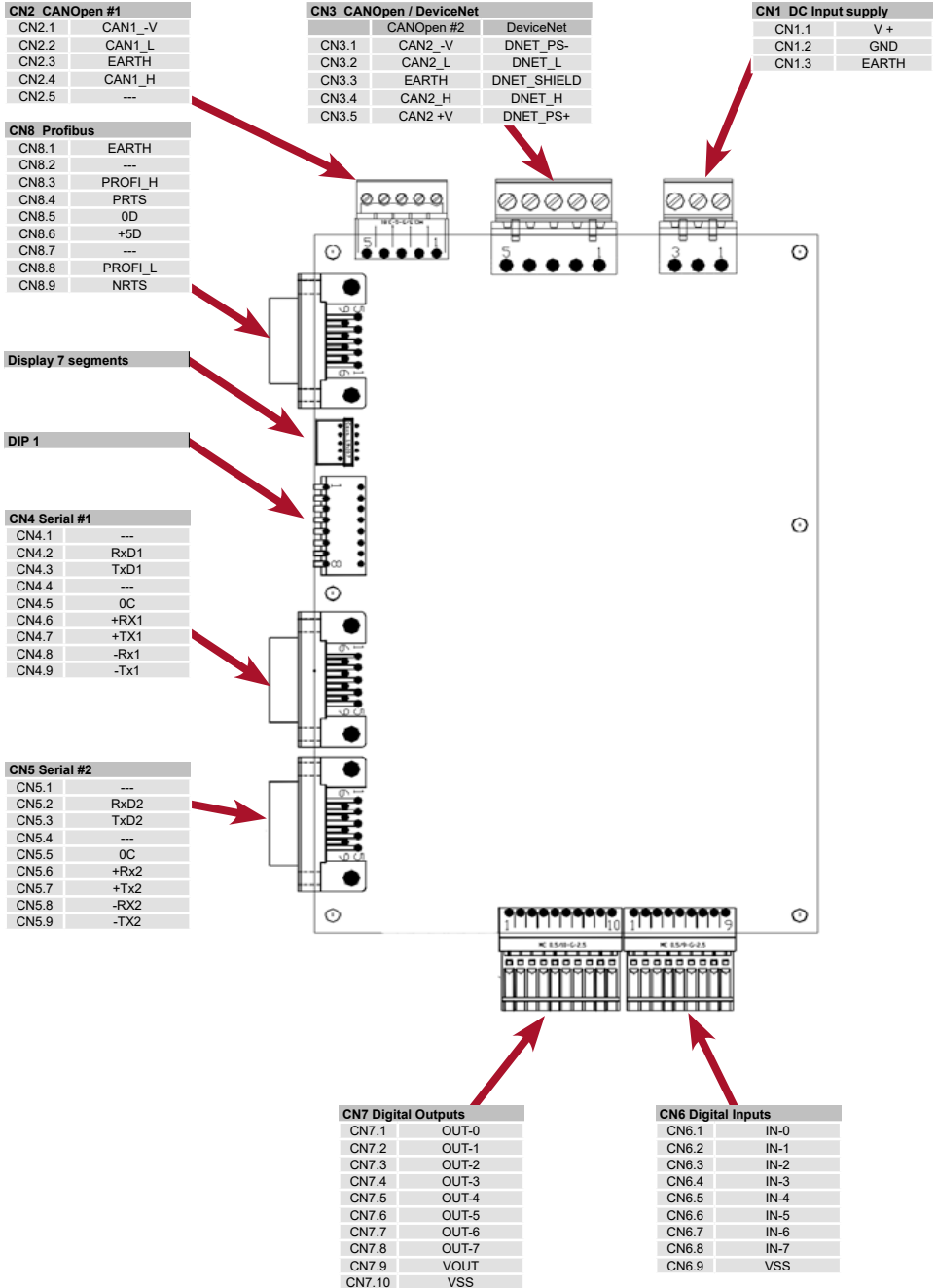
- DC power Supply: 24Vdc;
- Microprocessor CISC 16bit 40MHz with 128KB internal flash
- Up to 1MB High speed ext RAM (512KB default for the versions provided with it);
- 2 CANOpen isolated interfaces 1Mbit/sec (as alternative for DeviceNet);
- Isolated PROFIBUS DP interface
- 2 serial isolated and independent interfaces, that can be used as RS232 or RS485 full-duplex or half-duplex
- 8 digital inputs (opto-coupled);
- 8 digital outputs (opto-coupled);
- Size and mass: 194x120x45mm without connectors (L x D x H : refer to picture); weight: 480 gr ;
- IP protection: IP20;
- Working temperature 5°C + 40°C ; Storage temperature -25°C + 70°C ;
- Humidity : 5% + 95% not condensing;

Mechanical data



System connectors, dip switches and display

Connectors location



System connection and jumpers functions

CN1: DC Input Supply

3 positions, pitch 5.08mm, Side entry header

Pos	Name	Characteristics	
1	V+	PWR Input	Power supply input DC (+) for Logic and Digital Outputs
2	GND	PWR input	Reference for the DC (-) tension for Logic and Digital Outputs
3	EARTH	PWR Input	Earth Ground

CN2: CanOpen #1

5 positions, pitch 3.81mm, Side entry header

Pos	Name	Characteristics	
1	CAN1_V	PWR Input	Can_Ground
2	CAN1_L	I/O	Can_L_signal
3	EARTH	PWR Input	Can_Shield
4	CAN1_H	I/O	CAN_H_signal
5	N.C.	---	Not connected

CN3: CanOpen #2

5 positions, pitch 3.81mm, Side entry header

Pos	Name	Characteristics	
1	CAN2_V	PWR Input	Can_Ground
2	CAN2_L	I/O	Can_L_signal
3	EARTH	PWR Input	Can_Shield
4	CAN2_H	I/O	CAN_H_signal
5	CAN2_V	PWR Input	CAN_Supply (24Vdc)

CN3: DeviceNet

5 positions, pitch 3.81mm, Side entry header

Pos	Name	Characteristics	
1	DNET_PS-	PWR Input	DNET_Ground
2	DNET_L	I/O	DNET Can_L_signal
3	DNET_SHIELD	PWR Input	DNET_Shield
4	DNET_H	I/O	DNET_Can_H_signal
5	DNET_PS+	PWR Input	DNET Positive Supply

CN4: Serial #1

9 pins Male, Sub-D connector right angle

Pos	Name	Characteristics	
1	N.C.	---	Not connected
2	RxD1	Input	RS232 receiver input
3	TxD1	Output	RS232 transmitter output
4	N.C.	---	Not connected
5	0C	PWR Input	RS232 interface signal ground
6	+Rx1	Input	RS485 receiver +side (input)
7	+Tx1	Output	RS485 transmitter +side (output)
8	-Rx1	Input	RS485 receiver -side (input)
9	-Tx1	Output	RS485 transmitter -side (output)

CN5: Serial #2

9 pins Male, Sub-D connector right angle

Pos	Name	Characteristics	
1	N.C.	---	Not connected
2	RxD2	Input	RS232 receiver input
3	TxD2	Output	RS232 transmitter output
4	N.C.	---	Not connected
5	0C	PWR Input	RS232 interface signal ground
6	+Rx2	Input	RS485 receiver +side (input)
7	+Tx2	Output	RS485 transmitter +side (output)
8	-Rx2	Input	RS485 receiver -side (input)
9	-Tx2	Output	RS485 transmitter -side (output)

CN6: Digital inputs

9 positions, pitch 2.5mm, PCB header connector

Pos	Name	Characteristics	
1	IN-0	Input	n. 8 digital inputs The function depends on the user program.
2	IN-1	Input	
3	IN-2	Input	
4	IN-3	Input	
5	IN-4	Input	
6	IN-5	Input	
7	IN-6	Input	
8	IN-7	Input	
9	VSS	PWR Input	Common (-) of the inputs

CN7: Digital outputs

10 positions, pitch 2.5mm, PCB header connector

Pos	Name	Characteristics	
1	OUT-0	Output	n. 8 digital inputs The function depends on the user program.
2	OUT-1	Output	
3	OUT-2	Output	
4	OUT-3	Output	
5	OUT-4	Output	
6	OUT-5	Output	
7	OUT-6	Output	
8	OUT-7	Output	
9	VOUT	PWR Output	Power supply output (+) for auxiliaries (24Vdc 200mA max)
10	VSS	PWR Output	Power supply output (-) for auxiliaries

CN8: Profibus

9 pins Female, Sub-D connector right angle

Pos	Name	Characteristics	
1	EARTH	PWR Input	Shield - Protective ground
2	N.C.	---	Not connected
3	PROFI_H	I/O	Positive receive / Transmission data
4	PRTS	Output	Control signal for repeaters (Positive direction control - RTS)
5	0D	PWR Input	Data transmission ground
6	+5D	PWR Output	Supply voltage positive (+5V for terminating resistors)
7	N.C.	---	Not connected
8	PROFI_L	I/O	Negative receive / Transmission data
9	NRTS	Output	Control signal for repeaters (Negative direction control - RTS)

Dip-Switches settings

Following the scheme of the **dip switches** of the GWC system is reported with their functions.

DIP1							
1	2	3	4	5	6	7	8
R0	R1	ID5	ID4	ID3	ID2	ID1	ID0

ID_x are dips to identify the system in the Profibus, DeviceNET or Modbus Slave (#0 e #1) network of the GWC system.

R0 is used by the boot program to avoid the execution of the firmware.

R1 is used by the firmware to avoid the execution of the TRIPOS program.

where **x** indicates the bit weight (numerical value = 2^x).

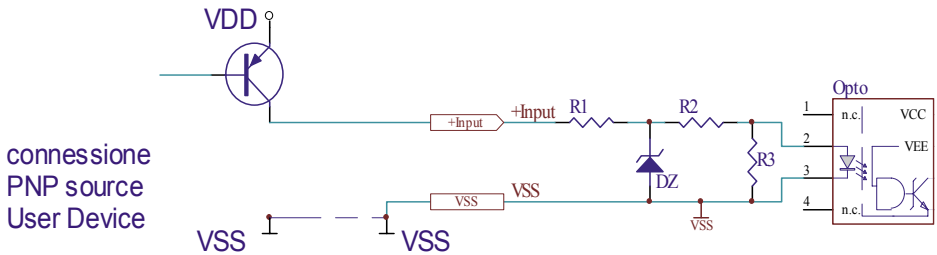


The functions of the DIPs are defined by the Software.
Refer to the Software Manual for more detailed information.

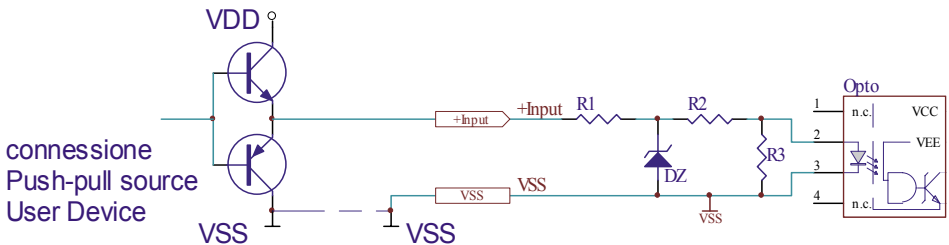
Digital inputs connections

Real-time, opto-isolated, 200KHz, 24Vdc PNP/Push-Pull (if required 5Vdc).

PNP source

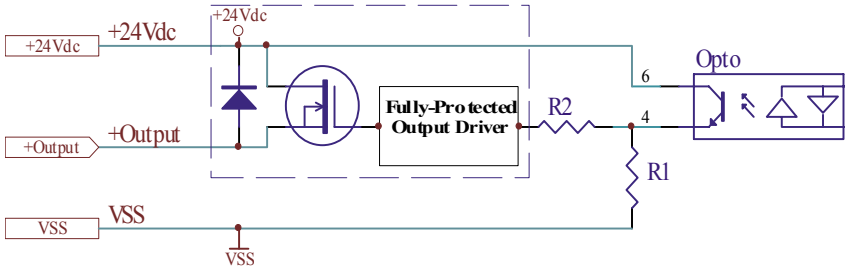


Push-Pull source



Digital outputs connections

Opto-isolated, protected against short circuit, type 24Vdc PNP.



Mating cable kit

Connector	Description	Order code
CN1	3 position, pitch 5.08mm., plug connector PHOENIX CONTACT p# MSTB 2,5/3-ST-5,08	1757022
CN2 / CN3	5 position, pitch 3.81mm., plug connector PHOENIX CONTACT p# MC1,5/5-ST-3,81	1803604
CN4/CN5	9 position, female Sub-D connector	
CN6	9 position, pitch 2.5mm., plug connector PHOENIX CONTACT p# MC 0,5/9-ST-2,5	1881396
CN7	10 position, pitch 2.5mm, plug connector PHONIX CONTACT p# MC 0,5/10-g-2,5	44915-0011
CN8	9 position male, Sub-D connector.	1881419

Section of the cables

Function	Cable	
	Minimum	Maximum
Power supply	0.5 mm ² (AWG20)	1.5 mm ² (AWG15)
Digital inputs	0.5 mm ² (AWG20)	1.0 mm ² (AWG18)
Digital output	0.5 mm ² (AWG20)	1.0 mm ² (AWG18)
Serial interface	0.25 mm ² (AWG23)	0.5 mm ² (AWG20)
Profibus interface	0.25 mm ² (AWG23)	0.5 mm ² (AWG20)

Verify the installation

- Check that the controller is of the desired version
- Verify that all settings are those necessary for the application.
- Verify the wiring and the assembly of the controller to make sure that the installation and integrity of the unit are correct.

Operational statuses 7 segments display

The 7 segments display is used to signal the various system statuses. Hereunder follows the explanation of the significance of the symbols on the display :

Display simbol	Description
'b'	Boot program status, it is visible at the GWC switch for one second to indicate the boot presence.
'I'	Initialization status, it is visible during the system initialization (for 3 seconds from start time of the firmware).
'S'	The execution status of the TRIPOS application. It is set when the execution of the TRIPOS program starts and it remains unchanged until the user program will not be interrupted by a protection or an error.
'H'	The TRIPOS application is interrupted but there are no active errors or protections. It is the consequence of a BREAK command or an updating program phase.
'L'	The operating system (Firmware) is not present. It will be set from the boot program when there isn't found a valid firmware. In this case it is necessary to download a new firmware.
'U'	Updating process of the operating system (Firmware) in progress. It will be visualized during the firmware download.
'E'	User class error (UE).
'P'	Protection class error (PE).
'F'	Error status of the internal software class (ISE).

Analysis of malfunctions



When one of the following situations occur, the GWC doesn't function correctly and it is reported an error.

DEFECT	CAUSE	ACTION
When switching on the controller nothing happens.	Wrong connection of the power supply. Voltage of the power supply out of functioning range.	Check the wiring of the power supply and the fuses, if ok, verify that the value of the power supply voltage on the power connector is within the power supply range of the equipment, using a multimeter.
Missing execution of the program.	Wrong connection of the power supply. Wrong connection of the communication interfaces.	Check the wiring and the power supply. Consult the Software manual.
Missing communication on the interfacing lines.	Wrong connection of the communication interfaces.	Check the wiring and the power supply. Consult the software manual.
Missing management of the digital outputs. Inputs are not read.	Missing connection of the outputs. Missing connection of the power supply outputs. Missing connection of the inputs.	Check the wiring and the power supply of the outputs. Consult the software manual. Check the wiring. Verify the common connection (Vss) of the inputs. Consult the software manual.

EVER Elettronica

Via del Commercio, 2/4 - 9/11

Loc. San Grato Z. I

26900 - L O D I - Italy

Phone +39 0371 412318 - Fax +39 0371 412367

email: infoever@everelettronica.it

web: www.everelettronica.it

