Characteristics

Introduction

The GWC unit has been developed to cover the three control functions of Programmable Logic Controller (PLC), motion controller and communication converter (gateway). By means of the programmable logic controller and motion controller functions, the user can control a process through the fieldbus, serial interface and the inputs/outputs, using his own program. The communication converter function enables the data exchange between different field busses: CANBus (CANopen), DeviceNet, ProfiBus and MODbus. The coexistence of the three functions in a single unit, simplify the automation of a wide range of industrial applications in a simple way, offering an important economic advantage.

Specifications

POWER SUPPLY
24 Vdc - 800 mA max

CPU PROCESSOR
CISC 16 bit 40MHz

PLC AND MOTION CONTROL PROGRAMMING
TR.I.P.O.S.GW compatible with Windows OS (EN61131-3 ST)

MEMORY USER PROGRAM
1 Mb flash and 512 Kb ram at high speed

CANBUS INTERFACE
1 electrically isolated, 1 Mbit/s, ISO11898 - Canopen (CAN1)

DEVICENET INTERFACE
1 electrically isolated, or Canopen (CAN2)

PROFIBUS-DP INTERFACE
1 electrically isolated

SERIAL INTERFACES
2 electrically isolated RS232 / RS485, full or half-duplex

INPUTS
8 electrically isolated, 5÷24 Vdc - 200 kHz

OUTPUTS
8 protected and electrically isolated, 24 Vdc - 0,5 A - 1 kHz

DIP SWITCHES
8 for user configuration

DISPLAY
7 segment leds display indicating the operational status of the unit

CONNECTORS

Power supply	: Combicon Phoenix
CANopen	: 5 poles Mini-Combicon-Style
Profibus-DP	: 9 female poles Dsub;
DeviceNet	: 5 poles Mini-Combicon-Style

WORKING TEMPERATURE
0 ÷ 50 ° C

PROTECTION DEGREE
IP20

Real-time programmable motion control device

for multi-axles systems and advanced solutions

WARRANTY 3 YEARS

GWC

Gateway, PLC and Motion Controller

- Multiple Functioning Possibility
- Provided with Advanced Security Function:
  - √ fully tested for direct unit installation
  - √ integrated watch dog functionality
  - √ monitoring and handling of failures
- Main features Controller-Gateway:
  - √ easy programmable
  - √ local control of connected devices
  - √ real-time axles management
  - √ data exchange between field busses
  - √ high reliability and versatility

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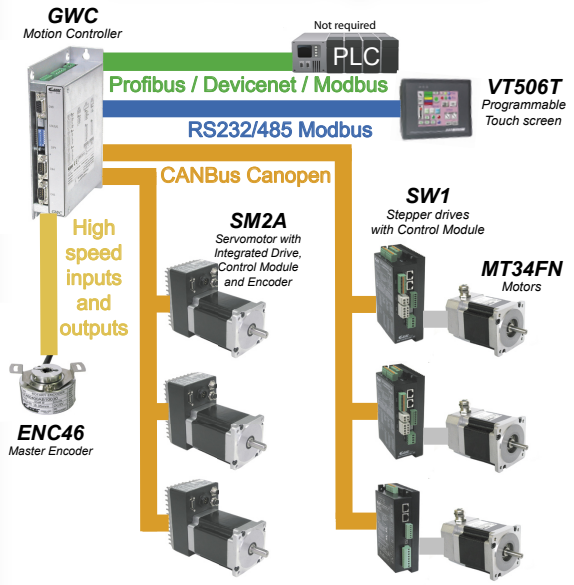
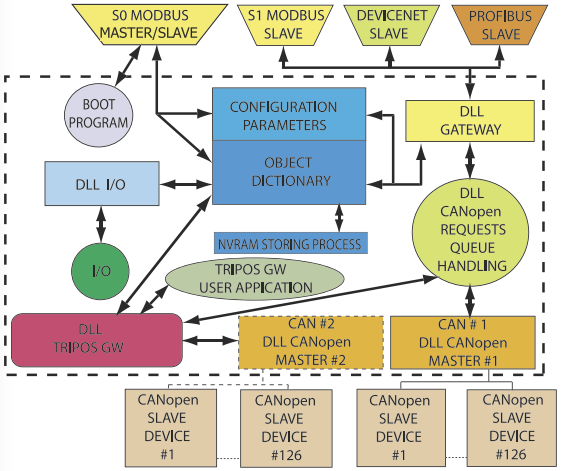
Multi-Axles Systems



Thanks to the T.R.I.P.O.S.GW programming environment it's possible to personalize the machine cycle and to manage all drives and local resources, diminishing and simplifying the work load of the master PLC if present.

Block Diagram

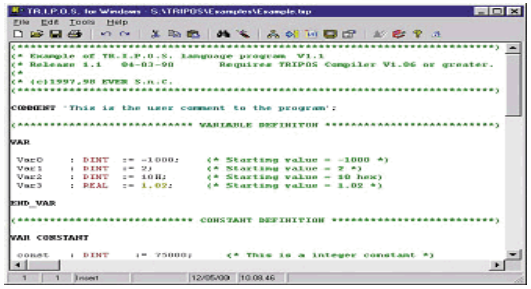
Functional schedule of the firmware and system resources.



Control Mode

Software

TR.I.P.O.S.GW



High-level structured language in compliance with the IEC1131-E (ST) standards allowing a wide access to the hardware resources by means of the GWC being open to extensions of the user functions with protection.

PLC Functions
- Instructions user program written in structured text;
- Logics / Boolean (and, or, not, neg, com, shl, shr, xor, ...);
- Comparison (if ... then ... else);
- Loop (while ... do ... end_while, for ... do ... end_for);
- Management subroutines (call, ret)
- Management interrupts (define_int, int, int_var, ret_int)
- Management errors (on_error, resume)
- System multitasking owner (up to 64 tasks)

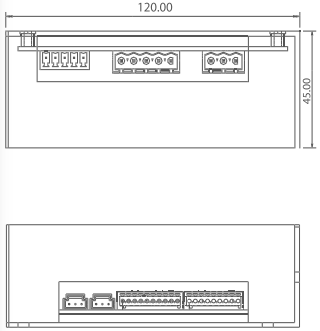
Gateway Functions
- CANopen (read_obj, write_obj, read_sdo, write_sdo, send_pdo);
- ProfiBus (write_profi_out, read_profi_in);
- DeviceNet (write_devicenet_out, read_devicenet_in);
- Modbus (master-slave RTU);

Motion Control Functions
- Refreshing Time of 1 ms;
- Management CAMs;
- Calculation variables with real/integer numbers;
- Trigonometry (cos, sin, log, tan, sqrt, ...);

Other Functions
- Saving data on nvram battery
- Real-time internal clock (date, hour, minutes, seconds);

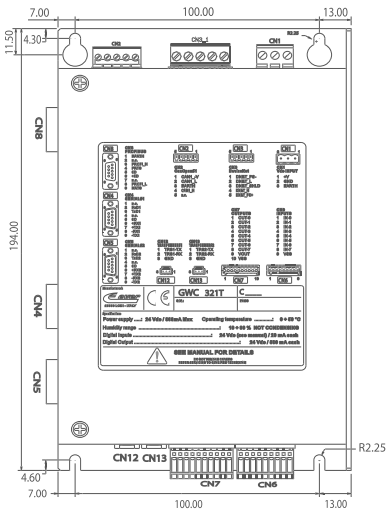
TR.I.P.O.S.GW is available on 5 different licence levels depending on the need and the dimensions of the generated and compiled program:
- The DEMO licence can be used for programs with a maximum dimension of 8 KB;
- The LIGHT licence can be used for programs with a maximum dimension of 32 KB;
- The BASIC licence can be used for programs with a maximum dimension of 64 KB;
- The ADVANCED licence can be used for programs with a maximum dimension of 128 KB;
- The FULL licence has no limits regarding the dimension of the generated program (256 KB is the limit determined by the hardware characteristics).

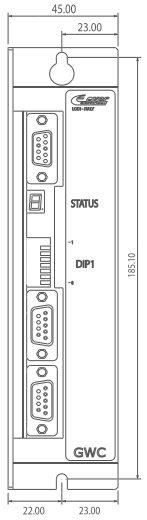
Mechanical Data



WEIGHT
480 g.

DIMENSIONS
194 x 120 x 45 mm





Mechanical Specifications

Ordering Information for the GWC controllers

Ordering code			System Resources							
Versions	Configuration	Connector kit	Power supply	Fieldbus CAN1	Fieldbus CAN2	Fieldbus ProfiBus-DP	Serial Interfaces	Digital Inputs	Digital Outputs	Dip Switches
GWCB211	c1000	GWCB211C	24 Vdc (800mA max)	n. 1 CANopen	n. 1 DeviceNet oppure CANopen	n. 1 profibus-DP	n. 2 RS232/RS485	n. 8	n. 8	n. 8
GWCB211	c2000	GWCB211C	24 Vdc (800 mA max)	n. 1 CANopen	n. 2 CANopen	-	n. 2 RS232/RS485	n. 8	n. 8	n. 8

Available Pre-loaded Applications and Optional Software Kits				
Configuration Application	Description pre-loaded application	Code Software kit	Description Software kit	Note
c1000	No pre-loaded application. The unit is ready for T.R.I.P.O.S.GW. programming.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	---
c1000A	Horizontal Flow Pack type 300.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0300.
c1000B	Vertical Flow Pack type 300.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0300.
c1000C	Plates Positioning.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0325.
c1000D	CAMs management.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0326.
c2000E	Management winding machine.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0370.
c1000F	Management axles synchronization.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0300.
c1000G	Management printing registers for flexographic machines.	GWC_TRP232U-00	TR.I.P.O.S.GW DEMO licence + RS232 Cable + USB -> RS232 adapter	SW1 / SDM / SM2A drives required with firmware c0300.