



TR.I.P.O.S. ^{GW}

Environment and Development
Language



TRIPOS GW language

- High level language
- Conforming the EN61131-3 (ST) norm
- Special version for the programming of the GWxxxx controllers
- Multitasking operating system
- Full control of all hardware resources
- Management of diverse priority tasks
- Management of complete and real numerical values
- **Easy to learn!**



TRIPOS GW Syntax

- **Comments:**
 - `(* Comment *)`
- **Object allocations or object bit allocations:**
 - `Object := value , RESETBIT (Object , bit) , SETBIT (Object , bit)`
- **Arithmetic operands:**
 - `+ - * /`
- **Logics / boolean functions:**
 - `AND, OR, NOT, NEG, COM, SHL, SHR, XOR...`
- **Trigonometric functions:**
 - `COS, SIN, LOG, TAN, SQRT...`
- **Comparison functions:**
 - `IF...THEN..ELSE / IF_BITSET ... THEN..ELSE / IF_BITRESET ... THEN..ELSE`
- **Loop functions:**
 - `WHILE..DO..END_WHILE`
 - `FOR..DO..END_FOR`
- **Subroutines calls:**
 - `CAL, RET`



Language extension of Ever

- Interrupt management functions:
 - DEFINE_INT, INT, INT_VAR, RET_INT
- CAM and notch search management functions:
 - CAM_SELECTED, CAM_FORCE_NICK_FIND
- Management functions multitasking system:
 - TASK_CREATE , TASK_WAIT , TASK_KILL , TASK_PRIORITY
- Management functions of the motor movement:
 - MOVE_REMOTE_MOTOR, STOP_REMOTE_MOTOR
- Error management functions:
 - ON_ERROR, RESUME



Language extension of Ever

- Management functions of the CANopen bus:
 - READ_OBJ, WRITE_OBJ, READ_SDO, WRITE_SDO, SEND_PDO
- Management functions of the Profibus bus:
 - WRITE_PROFI_OUT, READ_PROFI_IN
- Management functions of the DeviceNET bus:
 - WRITE_DEVICENET_OUT, READ_DEVICENET_IN
- Management functions of the Modbus bus:
 - WRITE_MODBUS_REG , READ_MODBUS_REG



TRIPOS GW language example

- To set the encoder position connected to the GW controller:
 - `Encoder_Actual_Value[0] := 1000;`
- To switch on a digital output of the GW controller:
 - `B0_Digital_Out[0] := close;`
- To check the state of a digital input of the GW controller:
 - `IF B0_Digital_In[0] = open THEN`



TRIPOS GW I.D.E. (Integrated Develop Environement)

- Syntax editor with highlighter
- Fast compiler
- Terminal window
- Fcontrol window (inputs, cycle time of tasks)
- Custom client window
- Program load and upload
- RS232/485 connection support
- User interface window
- Tested on Windows 9x/NT4/2000/XP



TRIPOS GW I.D.E. (Editing interface)

- Mapping CUA keys
- No file dimension limits
- Find and replace function
- Undo cancel/repeat function
- Change vertical and horizontal view
- Printer function



```

(*****
(* Example of TR.I.P.O.S. language program V1.2
(* Release 1.2 26-06-06
(*
(* (c)1997,98 EVER S.n.C.
(*****

COMMENT 'This is the user comment to the program';

(***** VARIABLE DEFINITON *****)

VAR

  Var0   : DINT   := -1000;    (* Starting value = -1000 *)
  Var1   : DINT   := 2;       (* Starting value = 2 *)
  Var2   : DINT   := 10H;     (* Starting value = 10 hex)
  Var3   : REAL   := 1.02;    (* Starting value = 1.02 *)

END_VAR

(***** CONSTANT DEFINITION *****)

```



TRIPOS GW terminal window

Used to:

- Open a direct communication path to the web administrated by the GW controller
- Verify and/or change the objects and/or the variables of the drive connected to the network
- Debug the user application
- Start/stop the motor

Terminal Window

File Action Debug

The terminal window features a toolbar with icons for various functions: a hand, a checkered board, a person, a red bull, a starburst, a floppy disk, a pencil, a laptop, a magnifying glass, eyes, a screen with a cursor, a padlock, and a folder. Below the toolbar is a command input field, which is circled in red, and a 'Send' button with a green checkmark. The main text area contains the following output:

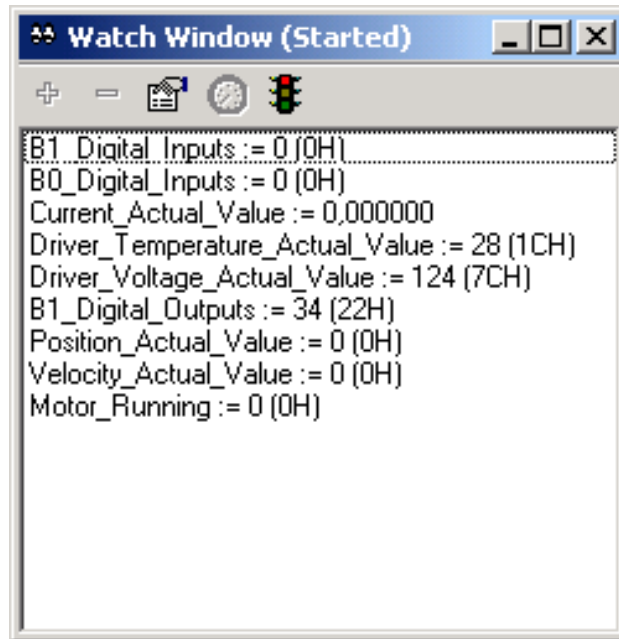
```
<< SYSTEM READY
<< 0 PRINT SYSTEM_CODE := 'GW00Vxx'
<< 0 PRINT VERSION := 'GWC01000 V1.03r00 Ck: 83AEH Boot: GWC Boot0 V1.3 Ck:F072H '
<< 0 PRINT PROG_INFO := 'TEST_ENCODER'
<< 0 PRINT 'START TEST ENCODER PROGRAM'
```

RIGA DI COMANDO

BARRA DI STATO

Board: GW00Vxx Firmware: GWC01000 V1.03r00 Ck: 83AEH Boot: GWC Boot0 V1.3 Ck: F072H
Application: TEST_ENCODER

System Connected Capture is off PRG: 1 EXE: 1

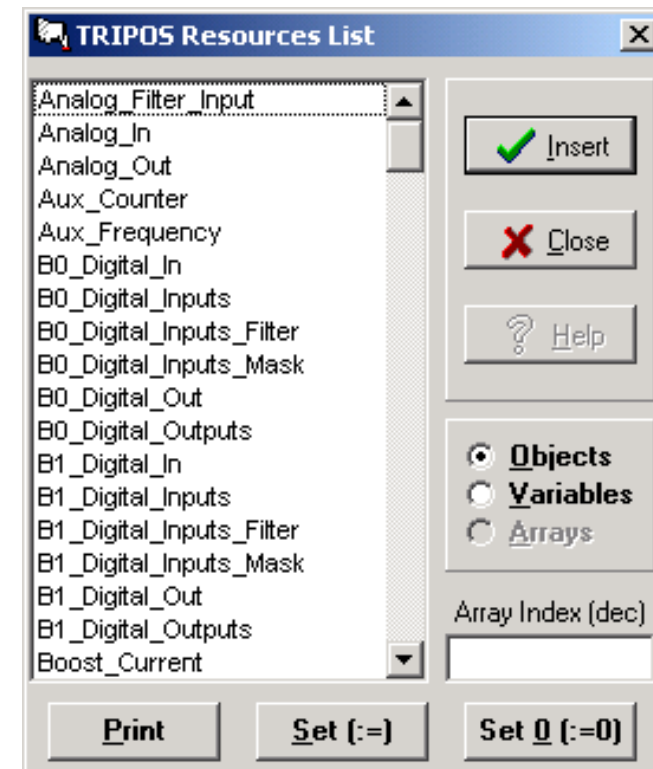


Control window

- **Control in real time the objects and the user variables of the controller**
- **Selectable update frequency**
- **The values of the observed objects can be edited immediatelly**

Window of resources list

- **Available in editing and terminal window**
- **To control the entire objects array available from the controller**
- **To help editing the user's software application**





TRIPOS GW I.D.E. configuration

To set:

- the controller version
- the active communication connection
- the principal editor options

EVER controller model

Selectable communication interface

Setup Configuration

Target Device

GWC
 DRK

Communication

Serial Port
 CAN Interface

CAN Interface

SiE CANLPT

Port/# 1

Editor Config

Syntax highlight
 Auto Save

5 min.

11 Font Size

Serial Port

COM1

CAN Baud Rate

500K

System Identifier

30

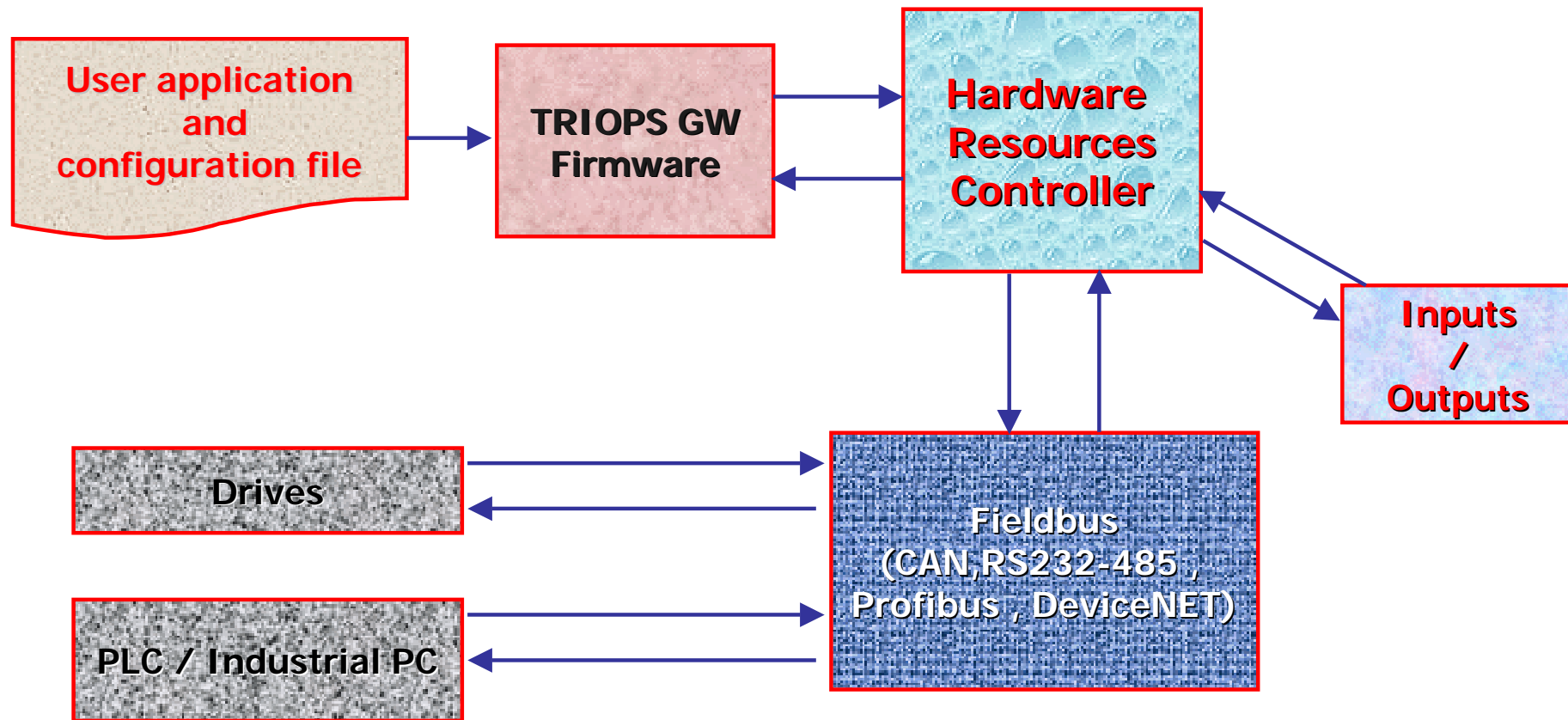
CAN Protocol

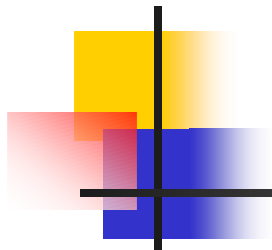
CANopen
 CAL

OK Help Cancel

Identifier of the selectable drive

TRIPOS GW work diagram





TR.I.P.O.S. GW

Made by

Ever
ELETTRONICA