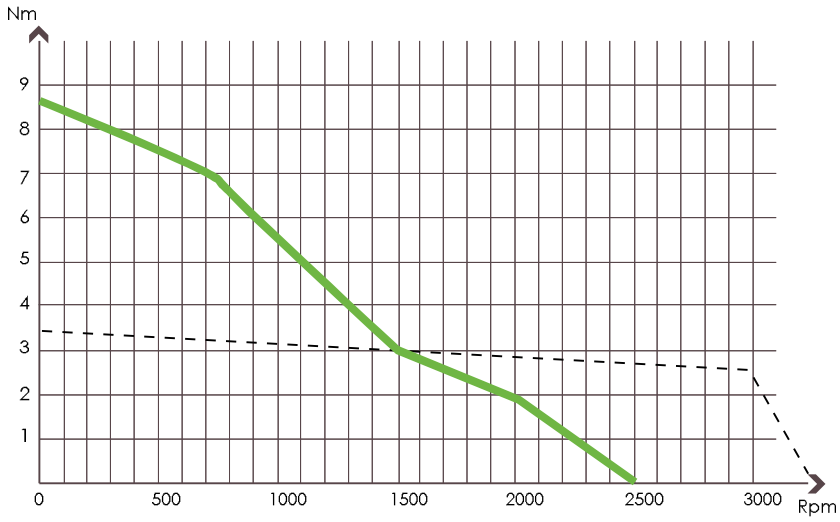
• STEPLESS CONTROL

THE NEW GENERATION OF SERVODRIVE

• TORQUE CURVE COMPARISON: STEPLESS VERSUS BRUSHLESS

The ambition *to move* the limits

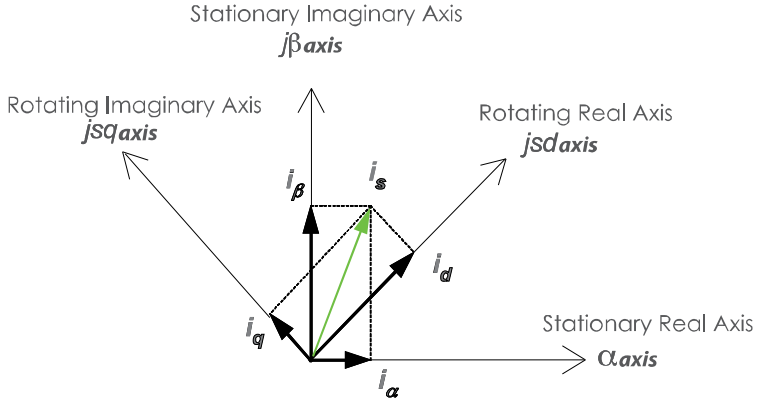


Torque curves considering S1 duty cycle

Stepless motor ——————
Stall torque 8,7Nm - 8A/phase - 120V
Overall dimensions: square flange 86mm, lenght 173mm

Brushless motor - - - - - - -
Stall torque 3,4Nm - 2,3A/phase - 400V
Overall dimensions: square flange 91mm, lenght 177mm

• VECTOR CONTROL CURRENT MODULATION



> Minimum speed and torque ripple
> Low vibration
> Low noise
> High torque density
> Low power consumption
> High stifness

• SMART SERVODRIVE FOR 2 PHASES SYNCHRONOUS MOTOR

HARDWARE FEATURES

Power supply
65-180Vdc [Nominal 160Vdc]

Logic supply
20-180Vdc

Rated current
4Arms @40°C (8,5Arms with external ventilation)

Peak current
12Arms

Feedback
Incremental encoder, multiturn absolute encoder

Encoder output
Incremental line driver (differential output)

Digital input
7 configurable 24Vdc PNP optoisolated (e.g.: limit switch +/-, index, captures or general purpose)

Special digital input
2 configurable 24Vdc PNP or line driver optoisolated: settable as master encoder or step/dir or general purpose

Analog input
1 Analogue IN +/-10V

Digital output
4 optoisolated PNP digital outputs 24Vdc max 200mA
n. 1 24Vdc max 1,4A
for motor brake control or general purpose
(external power device required)

Interface
Profibus-DP slave
CANopen RS232/485 (ModBus) step/dir,
+/-10V with encoder output

CAN Speed/address selection
by switches or software settable

Available versions
Profibus-DP, CANopen, ModBus RS485, Step/dir, ±10V

Dimensions (mm)
W51xH196xD125

Weight (Kg) 0.8

FUNCTIONAL FEATURES SVM

Integrated movement features:
device profile DS402, interpolated mode, positioning, extended gearing function, homing, capture

Stand alone programmability
according to the standard IEC61131,
ST language

Capture input

PC parametrization tool

Protection
I2t, Overload, Short circuit,
Overtemperature, Overvoltage

• SVM ORDERING CODE

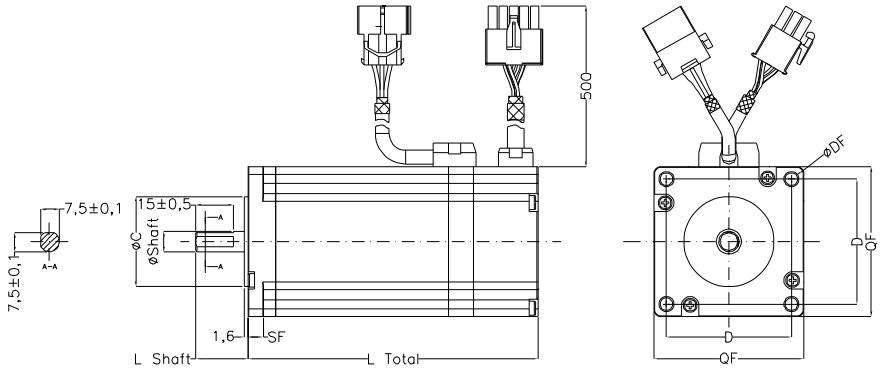
SVM 1608/a.bcd

Type	Power supply	Rated current	Interface /a	Motor temperature sensor management b		Reserved cd
SVM	16 (160V)	08 (8,5Arms)	CAN	0=no	1=yes	00
SVM	16 (160V)	08 (8,5Arms)	SER (RS485)	0=no	1=yes	00
SVM	16 (160V)	08 (8,5Arms)	PRO (Profibus)	0=no	1=yes	00

• OVERALL DIMENSIONS

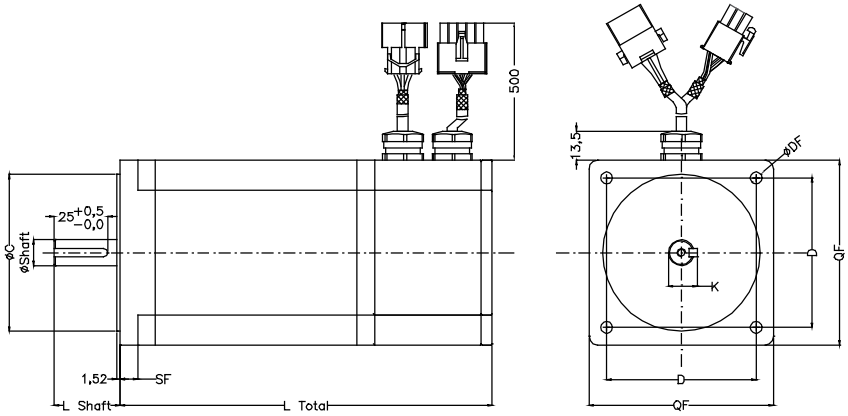
Motor type	Stall torque (Nm)	L total Lenght (mm)	QF Flange (mm)	C Centering (mm)	SF Thikness flange (mm)	D Holes distances (mm)	DF Fixing holes (mm)	Ø Shaft (mm)	K (mm)	L Shaft (mm)	Weight (kg)
MM609442	2,8	116	60	36,05	6,00	50,2	4-Ø5,5	8	-	21,0	1,5
MM868055	4,6	135	86	73,02	8,38	69,5	4-Ø5,5	12	13,5	30,6	2,8
MM8611880	8,7	173	86	73,02	8,38	69,5	4-Ø5,5	12/14	16,0	30,6	4,3
MM8615699	12	211	86	73,02	8,38	69,5	4-Ø5,5	14	16,0	30,6	5,8
MM11015065	21	205	110	55,52	12,5	89,00	4-Ø8,5	19	21,5	55,37	9

• OVERALL DIMENSIONS FLANGE 60

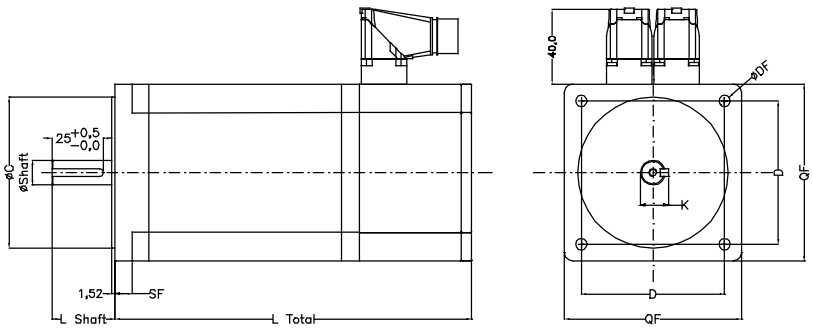


• AMP CONNECTORS

• OVERALL DIMENSIONS FLANGE 86 - 110

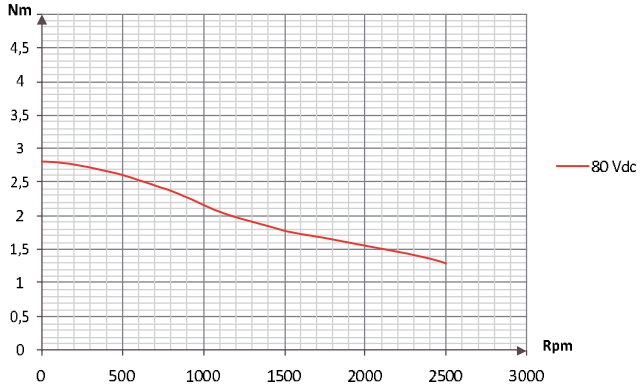


• AMP CONNECTORS

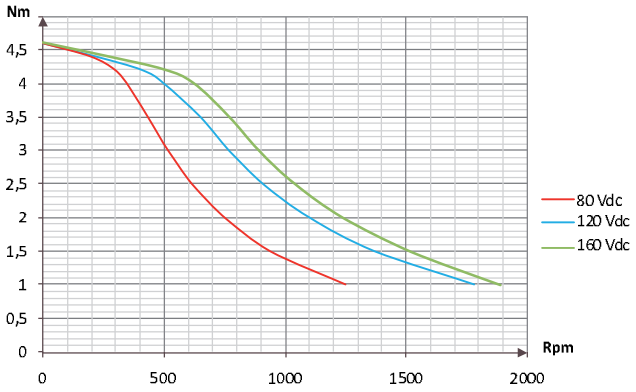


• CIRCULAR CONNECTORS

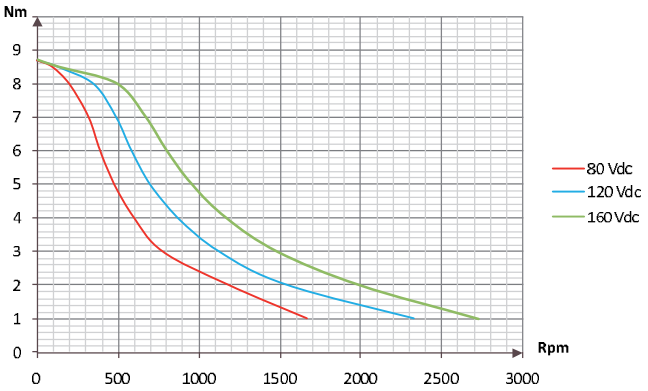
• TORQUE CURVES



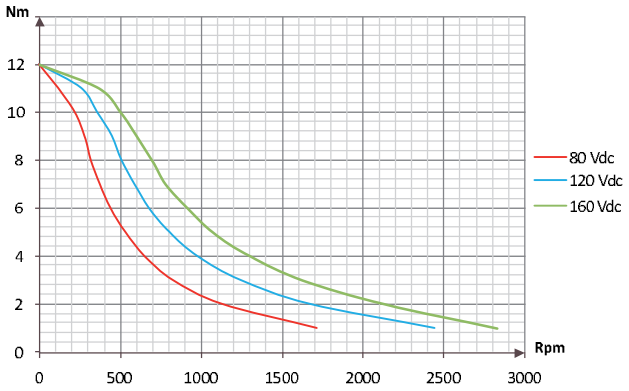
SVM - MM609442- 2,8 Nm



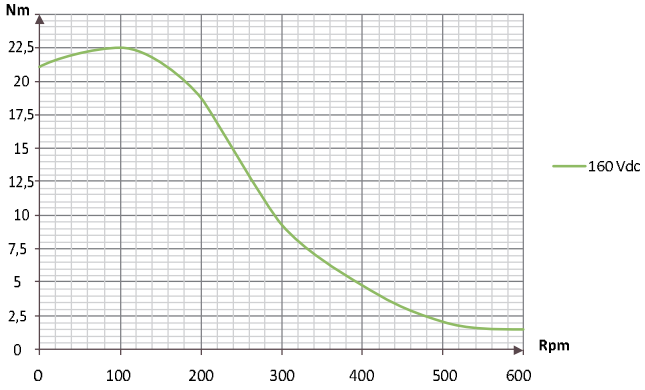
SVM - MM868055 - 4,6 Nm



SVM - MM8611880 - 8,7 Nm

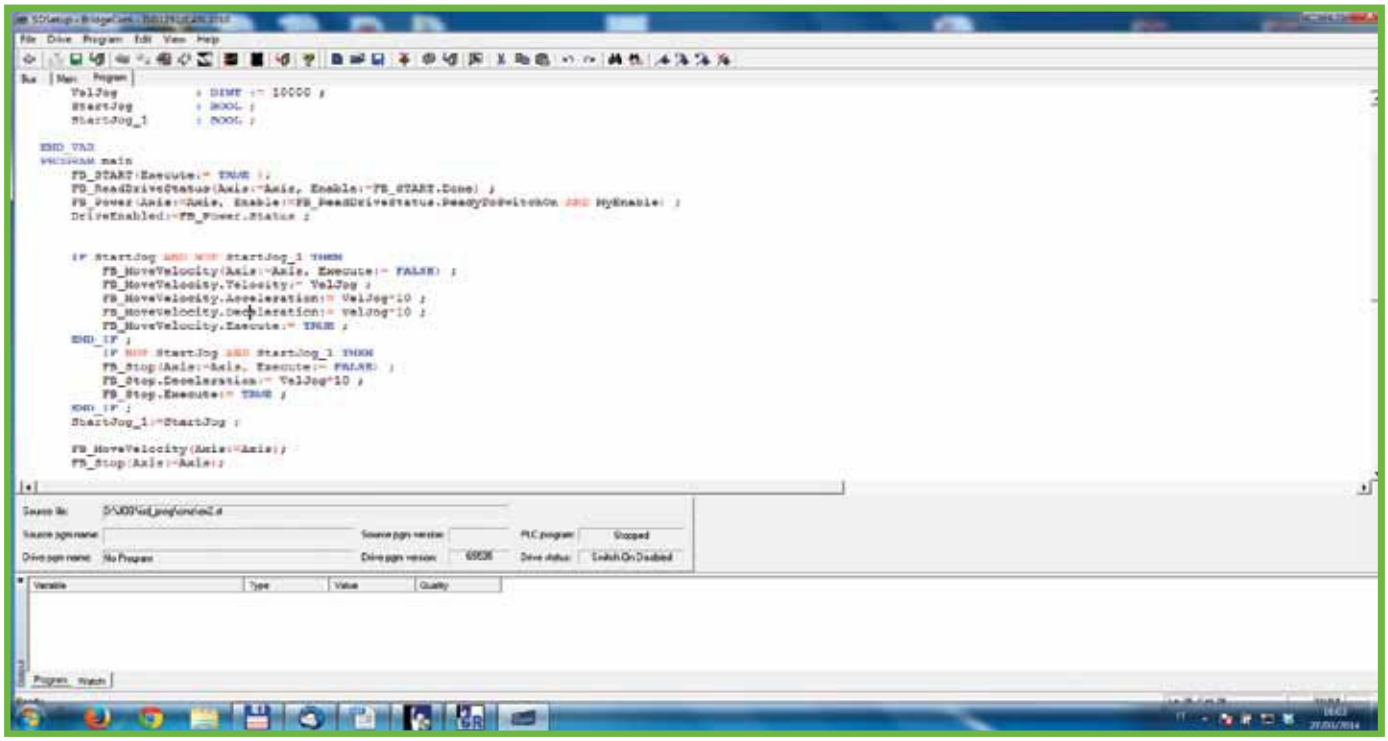


SVM - MM8615699 - 12Nm



SVM - MM11015065 - 21Nm

• SD setup



SD setup is the development environment for the configuration, parameterization, tuning and programming of the drives ISD/SVM and IBD using the RS232 serial connection or a centralized connection through a fieldbus when the master controller is a controller of the FCT family. It is a software that combines various tools such as:

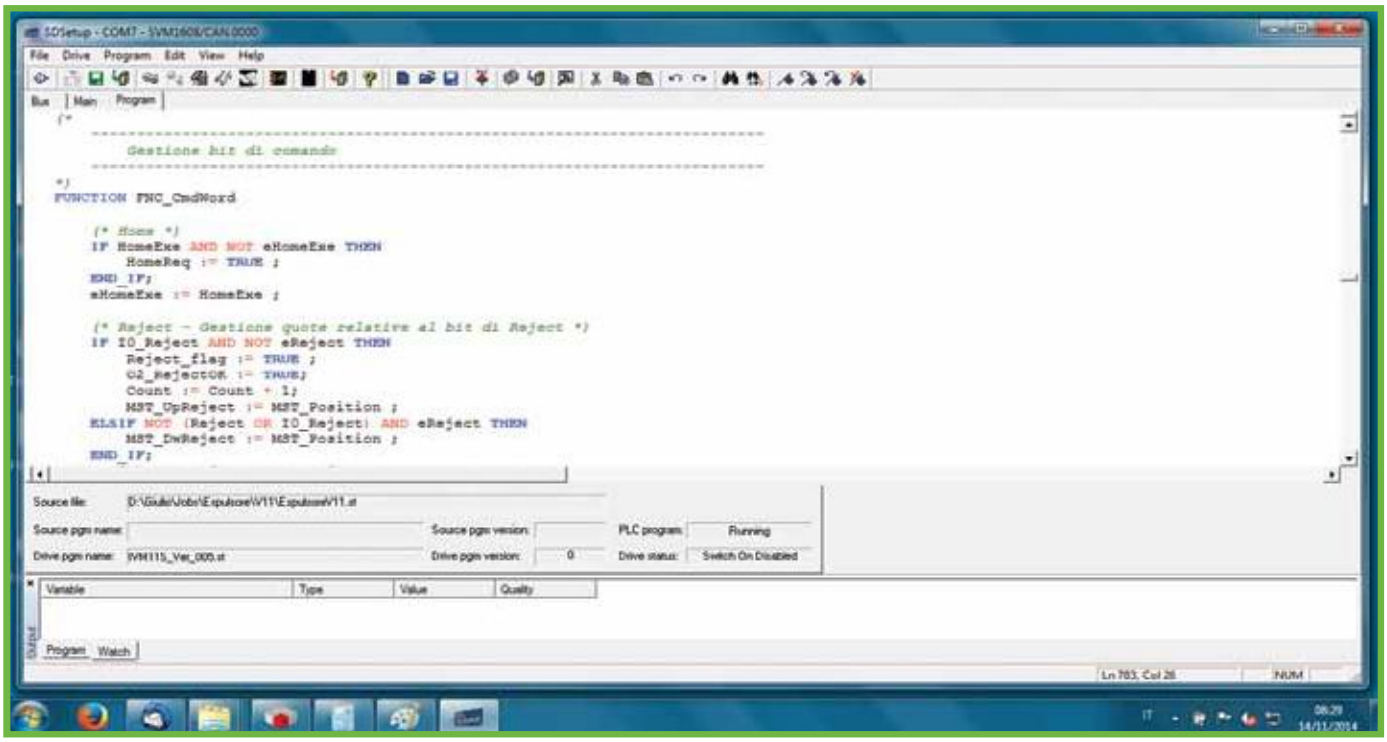
- Instant monitor of the main variables of the system, but also of all the secondary variables through an access to vocabulary.
- Configuration of the system (such as configuration of the digitals I/O modules and the maximum limits of speed/ acceleration).
- Updating of parameters and firmware.
- Auto-tuning and dedicated tuning of the current loops, speed and position, with help of procedures for self-esteem of the moment of inertia.
- Oscilloscope for the analysis of the variables.
- Tools for testing of basic movements (Function Generator).

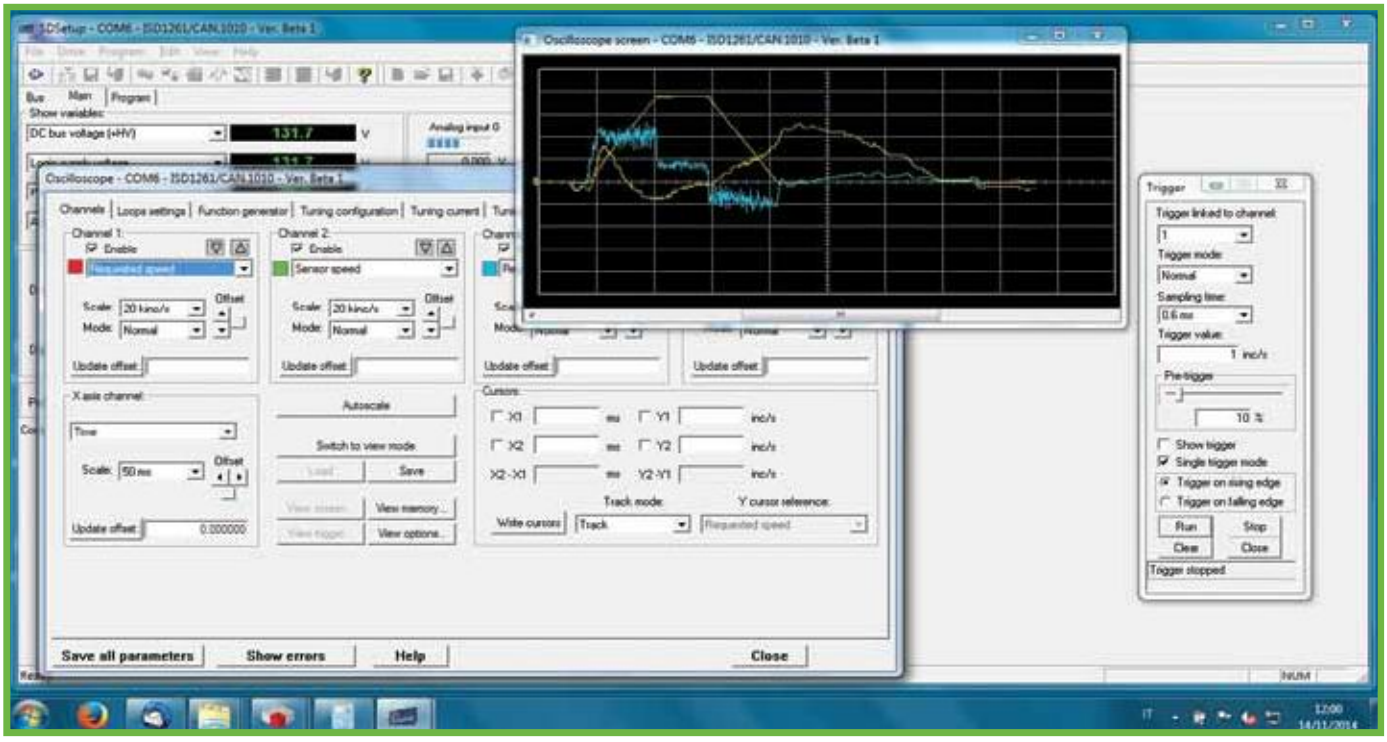
Finally, recalling that the systems are also programmable, SD setup is also proposed as a tool that allows editing and debugging programs written in IEC61131 type Structured Test.

SD setup è l'ambiente di sviluppo per la configurazione, parametrizzazione, programmazione e taratura degli azionamenti ISD/SVM e IBD utilizzando la seriale RS232 o un collegamento centralizzato tramite bus di campo quando il master controller è un controllore della famiglia FCT. Si tratta di un software che unisce diversi strumenti come:

- Monitor immediato delle principali variabili di sistema ma anche di tutte le variabili secondarie tramite un accesso a vocabolario.
- Configurazione del sistema (ad esempio degli I/O digitali, dei limiti massimi di velocità/accelerazione).
- Aggiornamento di parametri e firmware.
- Autotuning e taratura dedicata dei loop di corrente, velocità e posizione, con ausilio di procedure di autostima del momento di inerzia.
- Oscilloscopio per l'analisi delle varie grandezze.
- Strumenti per il test dei movimenti base (Function Generator).

Infine, ricordando che i sistemi sono anche programmabili, SD setup si propone anche come lo strumento che permette l'editazione e il debug dei programmi scritti in linguaggio IEC61131 di tipo Structured Test.


SDSetup - COM7 - SVM1608/CAN 0000
File Drive Program Edit View Help
Bus Main Program
(*
Gestione bit di comando
*)
FUNCTION FNC_CmdWord
(* Home *)
IF HomeExe AND NOT eHomeExe THEN
HomeReq := TRUE ;
END_IF;
eHomeExe := HomeExe ;
(* Reject - Gestione quote relative al bit di Reject *)
IF IO_Reject AND NOT eReject THEN
Reject_flag := TRUE ;
O2_Rejector := TRUE;
Count := Count + 1;
MST_UpReject := MST_Position ;
ELSIF NOT (Reject OR IO_Reject) AND eReject THEN
MST_DwReject := MST_Position ;
END_IF;
Source file:
Source pgm name:
Drive pgm name:
Source pgm version:
Drive pgm version:
PLC program:
Running
Drive status:
Switch On Disabled
Variable
Type
Value
Quality
Program
Watch
Ln 783, Col 26
NUM


Oscilloscope screen - COM6 - ISD1261/CAN 1010 - Ver. Beta 1
Oscilloscope - COM6 - ISD1261/CAN 1010 - Ver. Beta 1
Channels
Loops settings
Function generator
Tuning configuration
Tuning current
Channel 1
Channel 2
Enable
Sensor speed
Autoscale
Switch to view mode
Load
Save
Cursors
Track mode:
Y cursor reference:
Write cursors
Trigger
Trigger mode:
Normal
Sampling time:
Trigger value:
Pre-trigger
Show trigger
Single trigger mode
Trigger on rising edge
Trigger on falling edge
Run
Stop
Clear
Close
Trigger stopped
Save all parameters
Show errors
Help
Close