

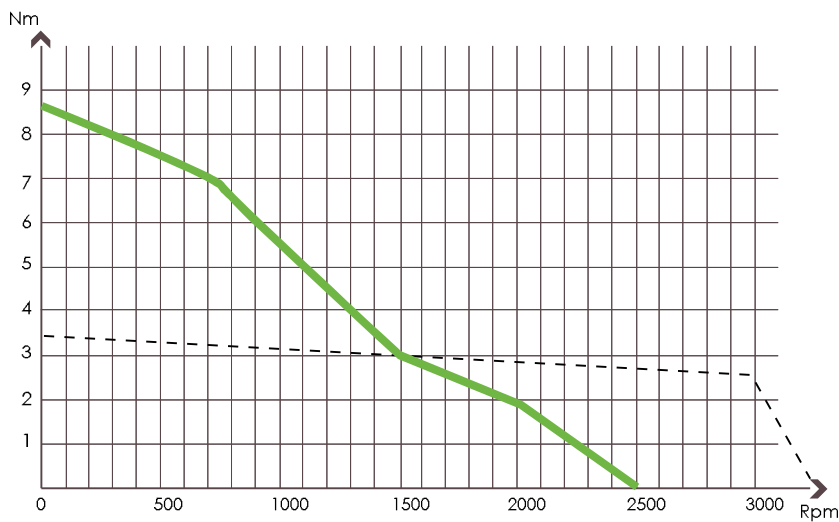


• STEPLESS CONTROL

THE NEW GENERATION OF SERVODRIVE

• TORQUE CURVE COMPARISON: STEPLESS VERSUS BRUSHLESS

The ambition *to move the limits*



Torque curves considering S1 duty cycle

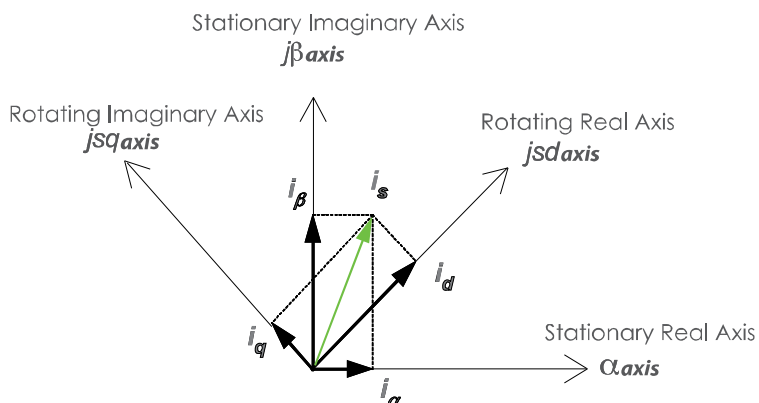
Stepless motor

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

Brushless motor

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

• VECTOR CONTROL CURRENT MODULATION



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

• INTEGRATED STEPLESS DRIVE

HARDWARE FEATURES

Power supply
65-130Vdc [Nominal 120Vdc]

Logic supply
20-130Vdc

Current
Maximum current internally set
(depends on motor)

Feedback
Incremental encoder
Multiturn absolute encoder

Encoder output
Incremental encoder output (only APD version)

Digital input
N. 3 optoisolated PNP digital inputs
N. 2 differential (+24V or +5V/Line driver) digital inputs
(used as general purpose, encoder input or step-dir input).

Analog input
1 Analogue IN +/-10V

Digital output
2 optoisolated PNP digital outputs 24Vdc max 200mA,
(external 24Vdc required)

Digital bidirectional I/O
2 bidirectional optoisolated PNP digital IN/OUT

Interface
Profibus-DP slave
CANopen
RS232/485 (ModBus)

Available versions
Profibus-DP
CANopen (DS402),
ModBus RS485,
Step/dir, ±10V with encoder output

FUNCTIONAL FEATURES ISD

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

Stand alone programmability
according to the standard IEC61131,
ST language

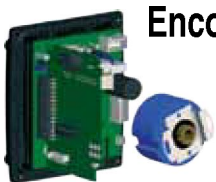
Capture input

PC parametrization tool



Drive

Encoder



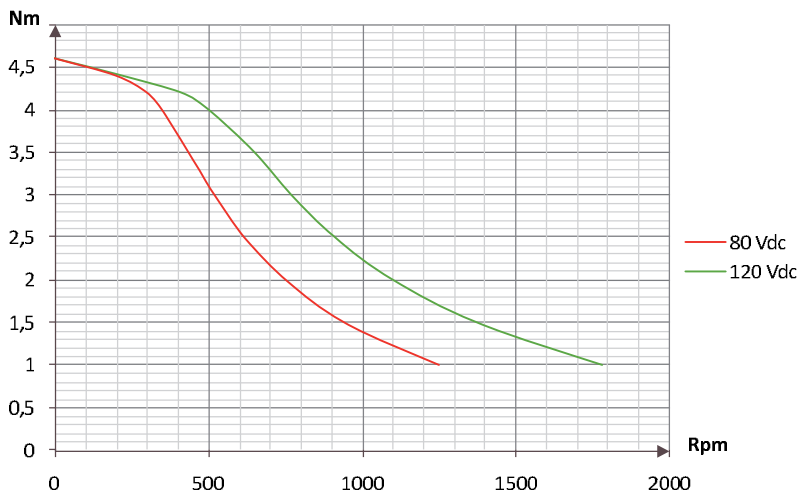
Motor



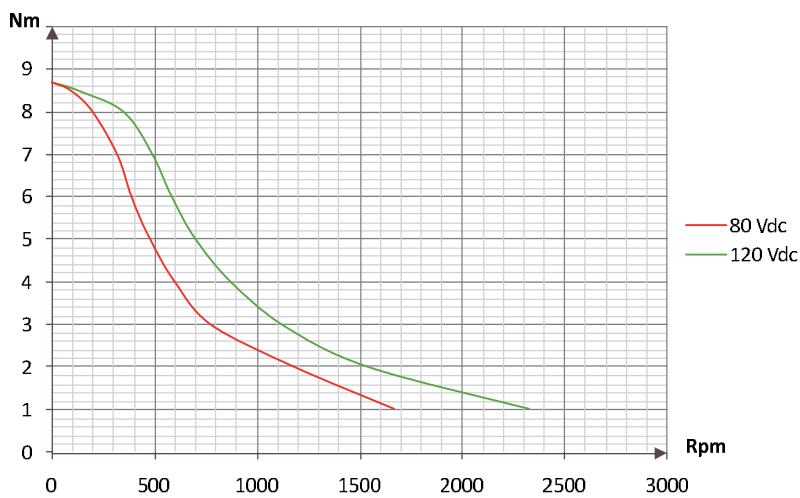
Stepless



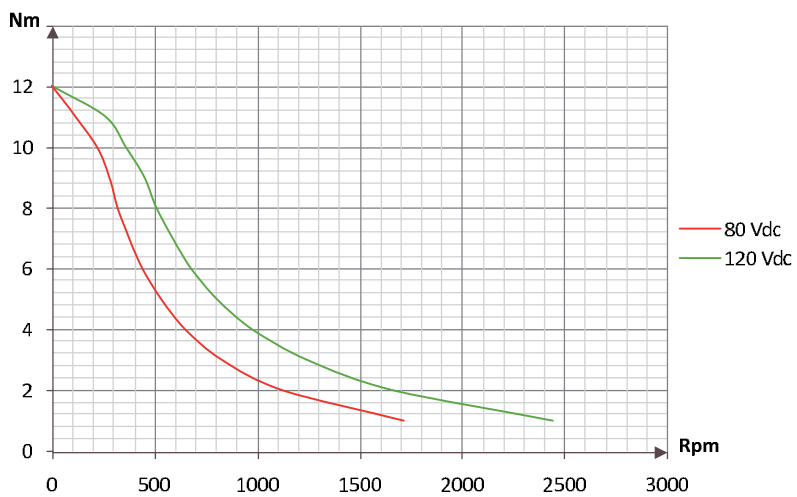
• TORQUE CURVES



ISD 1281 - 4,6 Nm



ISD 1271 - 8,7Nm



ISD 1261 - 12Nm

ISD Ordering Code

Stepless drives
& motors

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• ISD ORDERING CODE

Ordering code with optionals:					ISD12xy/a.bcd			
Type	Holding torque	Encoder	Com. (a)	Conn. (b)	Shaft type (c)	Option (d)		
12=120V	x	y	a	b	c	d		
ISD12xy	8				0			
ISD12xy	7				0 or 3			
ISD12xy	6				3			
Options								
x	8	4,6Nm						
	7	8,7Nm						
	6	12Nm						
y	1	Incremental encoder 2000 pulse/turn						
	2	Multiturn absolute encoder 2048 pulse/turn - 4096 turns						
a	CAN	CAN Communication						
	APD	Analog Pulse Direction						
	SER	RS485 Communication						
	PRO	PROFIBUS Communication						
b	1	n.3 DSUB connectors + n.1 power supply 3 poles (ONLY FOR CAN, APD)						
	2	Circular connectors IP67 (ONLY FOR CAN, SER)						
	3	n.3 DSUB + n.1 power supply with 4 poles (FOR CAN, SER, PRO, APD)						
c (see the available optionals above)	0	Shaft diameter: 12 mm keyed shaft (ONLY FOR ISD1281 e ISD1271)						
	3	Shaft diameter: 14 mm keyed shaft (ONLY FOR ISD1261 e ISD1271)						
d	0	Old mechanics (no more available)						
	1	Standard mechanics						
		ISD12	7	1/	CAN	1	3	1
E.g	ISD1271/ CAN.100	ISD 12V	8,7Nm	Incremental encoder	Can interface	n.3 DSUB + n.1 power supply	14 mm keyed shaft	New mechanics

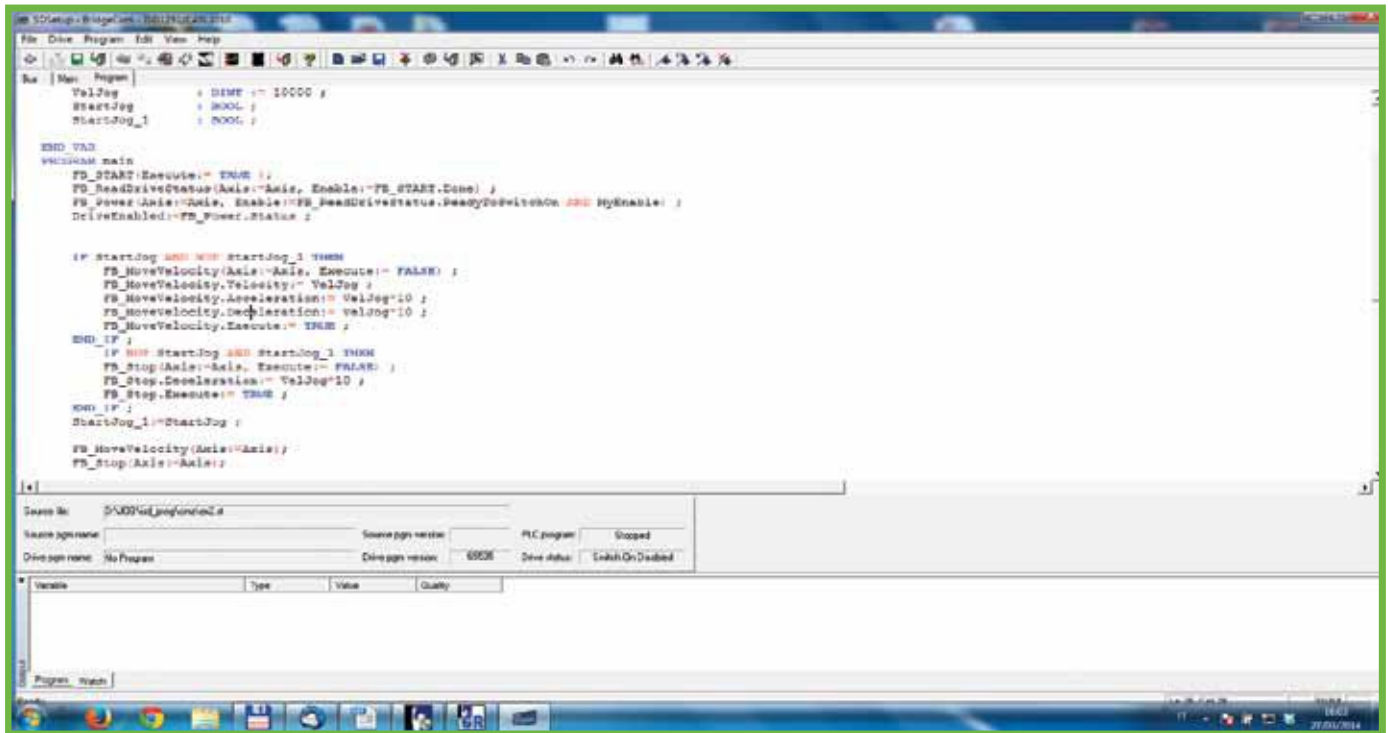
SD SETUP

The environment

Stepless drives
& motors

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- 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.

SD SETUP

The environment

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