

SYSTEMS & SOLUTIONS FOR MOTION CONTROL



BRUSHLESS MOTORS & DRIVES



CMZ engineers and manufactures electronic systems for industrial motion control.

The company targets to OEMs and systems integrators for the co-development of automatic machines featuring a deep level of customization in multi axis motion. The result: high performing machines with unique, special features.

Established in 1976 focusing on controllers, today CMZ offers a complete portfolio of solutions including the systems design, the electronics programming, the development of ready-to-use application libraries and ad-hoc softwares, alongside a wide selection of master controllers IEC61131 up to 99 axis, integrated and stand-alone drives, brushless and stepper motors up to 120 Nm strictly compact and Made in Italy, peripherals and I/O modules both digital and analogic, integrated vision systems based on machine learning technology, HMI operator panels.

CMZ's high technological and safety standing is based on its team of 70 technicians and engineers. The systems realized to date in its plant count over 125,000 units.

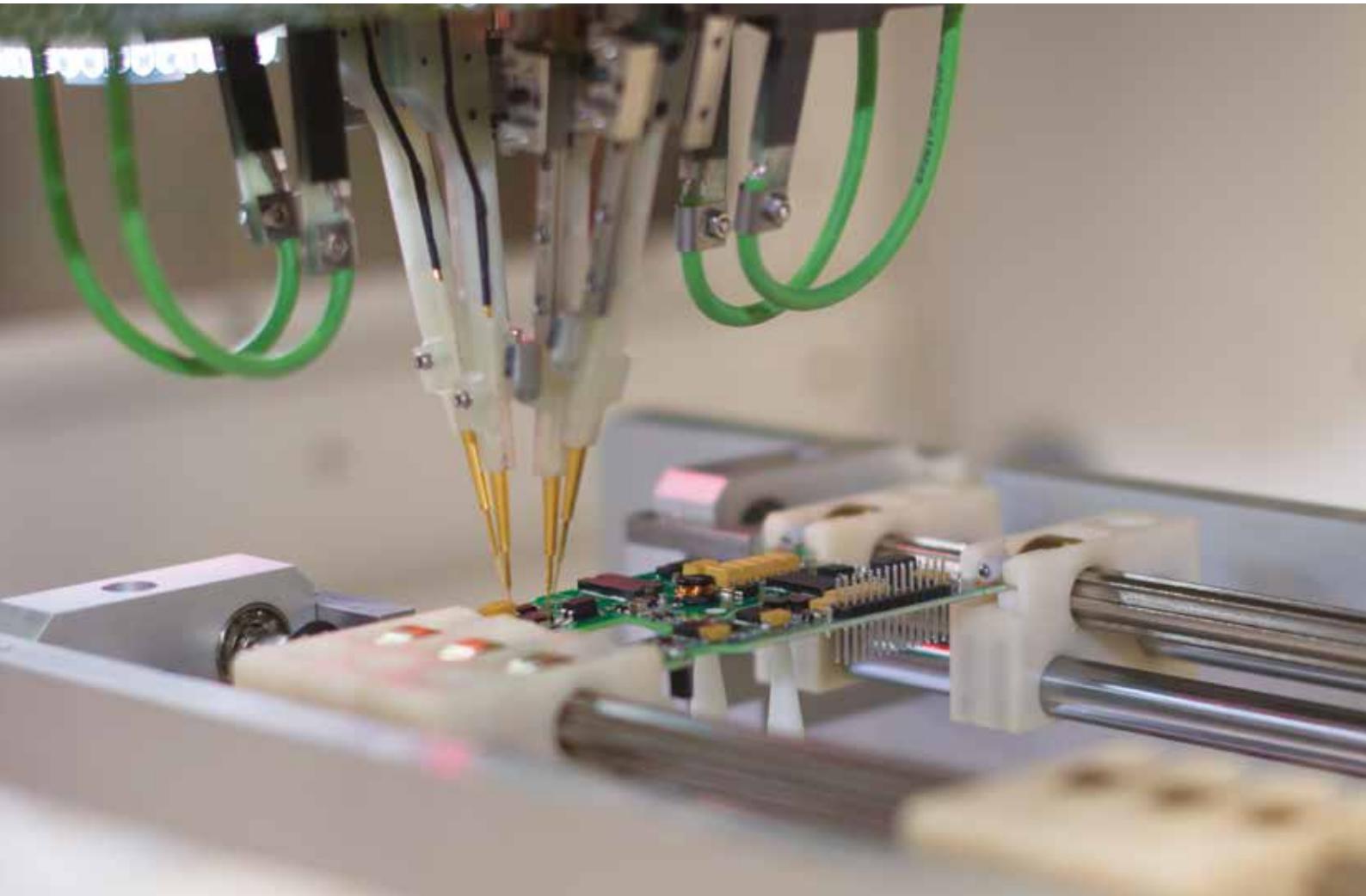
CMZ is part of SOGA ENERGY TEAM industrial group operating in energy, motion and control since 1966.

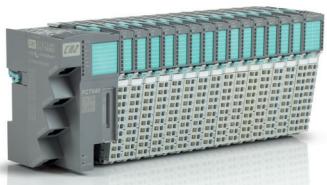
CMZ sviluppa e realizza sistemi elettronici e soluzioni per il motion control industriale.

L'azienda si rivolge a OEMs e system integrators per la co-progettazione di macchine automatiche dotate di funzionalità personalizzate e speciali nella movimentazione degli assi. Il risultato: macchine ad alta performance e dalle caratteristiche uniche.

Fondata nel 1976 con focus sui controllori, oggi CMZ offre un portfolio integrale di soluzioni che include la progettazione dei sistemi, la programmazione dell'elettronica, lo sviluppo di librerie applicative ready-to-use e pacchetti software ad-hoc, affiancati a un'ampia scelta di controllori IEC 61131 programmabili fino a 99 assi, azionamenti integrati e stand-alone, motori brushless e passo-passo fino a 120 Nm rigorosamente compatti e Made in Italy, periferiche e moduli I/O digitali e analogici, sistemi di visione integrata con tecnologia machine learning, pannelli operatore HMI.

L'elevato standing tecnologico e di sicurezza di CMZ si basa su un team di 70 tecnici e ingegneri. I sistemi realizzati fino ad oggi nel sito produttivo dell'azienda sono oltre 125.000. CMZ fa parte del gruppo industriale SOGA ENERGY TEAM, attivo dal 1966 a livello internazionale nei settori power generation, motion e control.





Master controllers

FCT640 modular basis, 04, 08, 16, >16 axes
FCT200 8 axes motion controller
FCT300 99 axes motion controller



Brushless motors & drives

LBD Brushless Drive 230-400V
EASY Brushless Drive 230V
IBD Integrated Brushless Drive
NBD Drive for brushless and linear motors
MMB Brushless motors stand alone



Stepless motors & drives

ISD Integrated Stepless Drive
SVM Stepless drive
MM Stepless motors



Peripherals

CANopen & EtherCAT modules
I/O modules



HMI

PT2 Touch screen operator panels



Custom Products

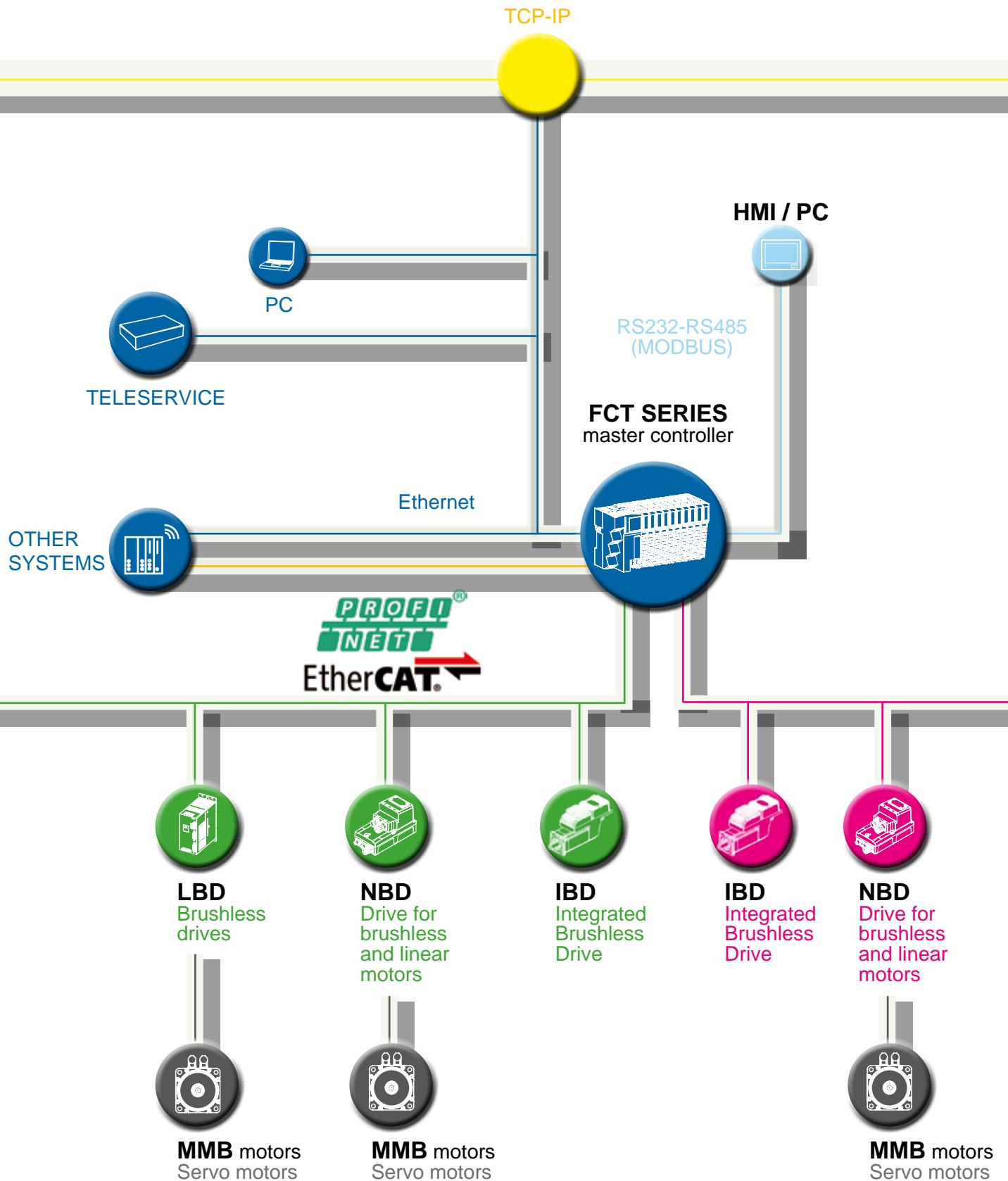
Design and engineering service upon customer's specifications



Solutions

Solution for OEMS
New Integrated Vision

RANGE OF PRODUCTS *GAMMA PRODOTTI*



Global solution

Soluzione Globale

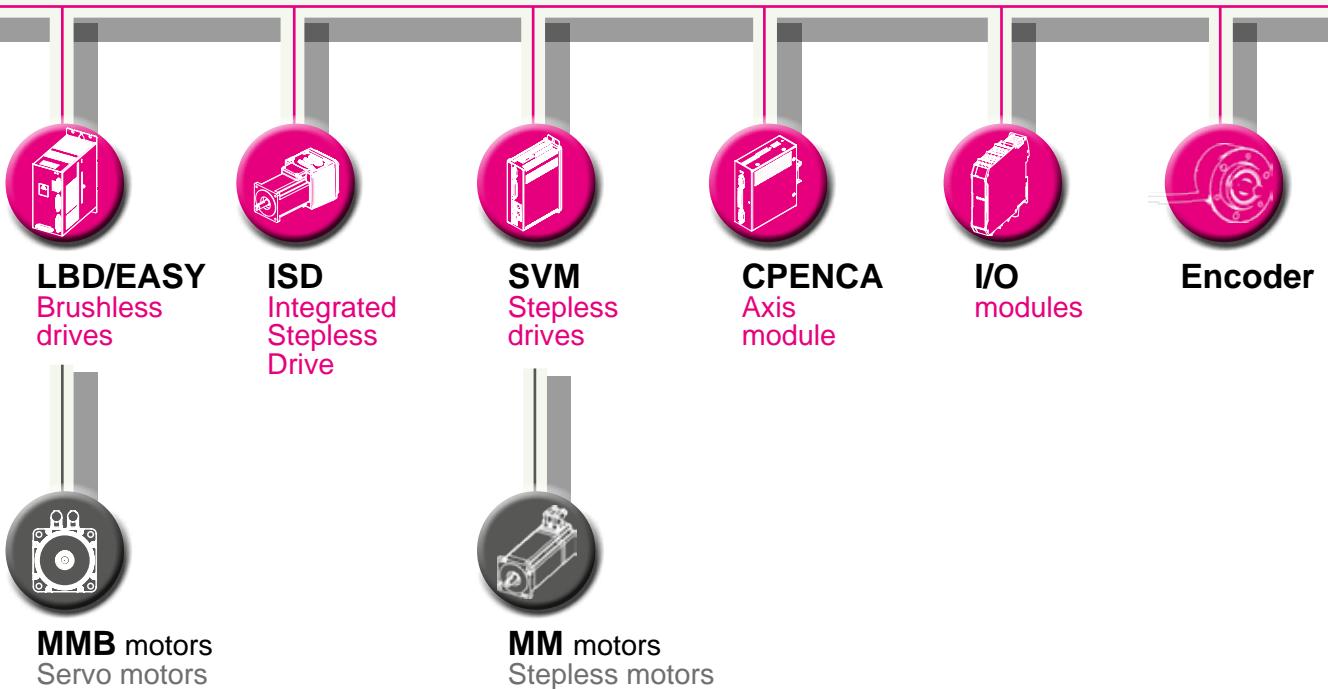
The global solution for automation proposed by CMZ is based on a complete range of products suitable for the total realization of a machine from the point of view of "automation and drive" with particular attention to the flexibility of the solutions and the utilization of the most important fieldbuses.

Starting from motion control as a core component, the proposal is developed towards the fieldbus, with a wide range of motors and drives and input/output devices, and towards the user thanks to the proposal of our panels. 30 years of experience is consolidated in many diverse sectors as a guarantee of best results.

La soluzione globale per l'automazione proposta da CMZ si basa su una gamma completa di prodotti atti alla realizzazione totale di una macchina dal punto di vista dell' "automation and drive" con particolare attenzione alla flessibilità delle soluzioni e all'uso dei più importanti bus di campo.

A partire dal motion control, come componente centrale, la proposta si sviluppa verso il bus di campo, con un'ampia gamma di motori e azionamenti e dispositivi di input/output, e verso l'utilizzatore grazie alla proposta di pannelli. L'esperienza di 30 anni di CMZ è consolidata in molti settori e si aggiunge come garanzia di ottimi risultati.

CANopen



LBD & EASY

Brushless
drives stand alone

LBD & EASY DRIVES

CMZ offers a complete set of servo drives suitable for all requirements of performance and price. We offer two types of brushless drive: **LBD** and **EASY** series, both standalone drives for cabinet for synchronous AC motors.

LBD Drive is a stand alone brushless drive to install on cabinet for synchronous AC motors extremely compact, reliable trustworthy and great high-performance. The wide range with 230 Vac single phase solutions and 400 three-phase solutions in combination with brushless motors makes it suitable for all applications on machines with high kinematic performance. The CANopen and EtherCAT interface makes it particularly suitable for use with FCT controllers. Also available interfacing analog inputs and stepper motor simulation. The system is equipped with the standard safety functions STO at SIL3 level and is UL certified.

EASY, the drive easy-to-use, which is also extremely compact and performing is available in the version to 110-230 Vac. Due to its cost and its enhanced features, it is extremely useful and practical for applications where price is a factor.

CMZ offre una serie completa di servo azionamenti adatta a tutte le esigenze di performance e di prezzo. Proponiamo due tipologie di azionamento brushless: serie **LBD** e **EASY**, entrambi azionamenti stand alone da quadro per motori AC sincroni.

L'azionamento **LBD**, estremamente compatto e affidabile, è proposto all'interno di un'ampia gamma di taglie con soluzioni sia a 230 Vac monofase che 400 Vac trifase in abbinamento a motori brushless ed è adatto a tutte le applicazioni su macchine con alte prestazioni cinematiche. L'interfaccia CANopen e EtherCAT lo rende particolarmente adatto all'uso con i controllori FCT. Disponibile anche l'interfacciamento con ingresso analogico e simulazione stepper. Il sistema è dotato della funzione standard di sicurezza STO a livello SIL3 ed è certificato UL.

EASY, l'azionamento easy-to-use, anch'esso estremamente compatto e performante viene proposto nella versione a 110-230 Vac.

Grazie alla sua economicità e alle sue funzioni ottimizzate, è estremamente utile e pratico per applicazioni in cui il prezzo è un fattore determinante.

Brushless motors
& drives stand alone



LBD 23

Brushless
motors & drives
stand alone

• BRUSHLESS DRIVE 230 VAC

with CANopen & EtherCAT interface dedicated to the FCT series motion controller

Power supply

230Vac single phase

Control supply

24Vdc

Rated current

230Vac: 5,5A - 8,5A

Peak current

230Vac: 11A - 17A

Interface

CANopen DS402 (2 RJ45 connectors), EtherCAT,

± 10V, Pulse/direction

Feedback

Resolver, TTL incremental encoder, TTL incremental encoder+HES

SinCos, SinCos+HES, HIPERFACE absolute encoder single and multturn,
digital HIPERFACE DSL absolute encoder, digital EnDat 2.2 absolute enco-
der, linear absolute encoder

Encoder emulation

Incremental TTL (differential output)

2 Analog inputs

12bits +/-10V

1 Analog output

8 bits +/- 2,5V

5 Digital inputs

24Vdc optoisolated: general purpose or configurable
as Capture, Index, Limit switch +/-, Enable, STEP/DIR

3 Digital outputs

Parametrable 24Vdc max 300mA with dedicated
terminal connection for motor brake control
(external power device required)

Braking resistor

35W included. External connections available

STO function

2 channels, SIL3

Motor thermal sensor

PTC/NTC

EMC filter

Choke integrated

Certifications: CE, UL



EtherCAT®  CANopen®

• OVERALL DIMENSIONS

| Type | LBD23 | |
|--------------------------|---------------|----|
| Peak current | 11 | 17 |
| Standard dimensions (mm) | H148xW70xD143 | |
| Weight (Kg) | 1,5 | |

• BRAKING RESISTOR

| Ref. Drives | Braking resistor | Ohm / Watt |
|-------------|------------------|--------------|
| LBD2311 | MMDP50/200 | 50 Ohm 200 W |
| LBD2317 | MMDP50/200 | 50 Ohm 200 W |

LBD

Ordering Codes

- LBD

| Type | Power supply | Peak current (cc) | Interface/feedback (XXX) | ab** | c*** |
|--|--------------|-------------------|-------------------------------------|-----------------|------|
| CAN version - LBD23CC.XXX.abc - 230V | | | | | |
| LBD2311/CAN.abc | 23(230V) | 11 (11 A) | CAN fieldbus/Standard feedback | 00 | 0 |
| LBD2311/CND.abc | 23(230V) | 11 (11 A) | CAN fieldbus/Digital feedback | 00 | 0 |
| LBD2317/CAN.abc | 23(230V) | 17 (17 A) | CAN fieldbus/Standard feedback | 00 | 0 |
| LBD2317/CND.abc | 23(230V) | 17 (17 A) | CAN fieldbus/Digital feedback | 00 | 0 |
| EtherCAT version - LBD23CC.XXX.abc - 230V | | | | | |
| LBD2311/ETC.abc | 23(230V) | 11 (11 A) | EtherCAT fieldbus/Standard feedback | 00 | 0 |
| LBD2311/ETDabc | 23(230V) | 11 (11 A) | EtherCAT fieldbus/Digital feedback | 00 | 0 |
| LBD2317/ETC.abc | 23(230V) | 17 (17 A) | EtherCAT fieldbus/Standard feedback | 00 | 0 |
| LBD2317/ETD.abc | 23(230V) | 17 (17 A) | EtherCAT fieldbus/Digital feedback | 00 | 0 |
| Type | Power supply | Peak current (cc) | Interface/feedback (XXX) | a | b** |
| CAN version - LBD40CC.XXX.abc - 400V | | | | | |
| LBD40008/CAN.abc | 40(400V) | 008 (08 A) | CAN fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40008/CND.abc | 40(400V) | 008 (08 A) | CAN fieldbus/Digital feedback | | 0 |
| LBD40020/CAN.abc | 40(400V) | 020 (20 A) | CAN fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40020/CND.abc | 40(400V) | 020 (20 A) | CAN fieldbus/Digital feedback | | 0 |
| LBD40045/CAN.abc | 40(400V) | 045 (45 A)* | CAN fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40045/CND.abc | 40(400V) | 045 (45 A)* | CAN fieldbus/Digital feedback | | 0 |
| LBD40100/CAN.abc | 40(400V) | 100 (100 A)* | CAN fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40100/CND.abc | 40(400V) | 100 (100 A)* | CAN fieldbus/Digital feedback | | 0 |
| LBD40200/CAN.abc | 40(400V) | 200 (200 A)* | CAN fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40200/CND.abc | 40(400V) | 200 (200 A)* | CAN fieldbus/Digital feedback | | 0 |
| EtherCAT version - LBD40CC.XXX.abc - 400V | | | | | |
| LBD40008/ETC.abc | 40(400V) | 008 (08 A) | EtherCAT fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40008/ETD.abc | 40(400V) | 008 (08 A) | EtherCAT fieldbus/Digital feedback | | 0 |
| LBD40020/ETC.abc | 40(400V) | 020 (20 A) | EtherCAT fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40020/ETD.abc | 40(400V) | 020 (20 A) | EtherCAT fieldbus/Digital feedback | | 0 |
| LBD40045/ETC.abc | 40(400V) | 045 (45 A)* | EtherCAT fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40045/ETD.abc | 40(400V) | 045 (45 A)* | EtherCAT fieldbus/Digital feedback | | 0 |
| LBD40100/ETC.abc | 40(400V) | 100 (100 A)* | EtherCAT fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40100/ETD.abc | 40(400V) | 100 (100 A)* | EtherCAT fieldbus/Digital feedback | | 0 |
| LBD40200/ETC.abc | 40(400V) | 200 (200 A)* | EtherCAT fieldbus/Standard feedback | 0=DSUB standard | 0 |
| LBD40200/ETD.abc | 40(400V) | 200 (200 A)* | EtherCAT fieldbus/Digital feedback | | 0 |

* external power supply unit required

** reserved

*** customized

- MMGDPS

POWER SUPPLY

ORDERING CODE: MMGDPS400/pp.000

| | |
|-------------------------|--|
| MMGDPS400/16.000 | Power supply 16 kW with kit external connector |
| MMGDPS400/32.000 | Power supply 32 kW with kit external connector |
| MMGDPS400/64.000 | Power supply 64 kW with kit external connector |

EASY DRIVE 23

Brushless
motors & drives
stand alone

Brushless motors
& drives stand alone

- BRUSHLESS DRIVE 230 VAC

with CANopen interface dedicated to the FCT series motion controller

Power supply

110-230 Vac single phase

Control supply

24Vdc

Rated current

230Vac: 5 A

Peak current

230Vac: 17 A

Interface

CANopen DS402, +/- 10V

Feedback

Resolver, TTL incremental encoder, TTL incremental encoder + HES,
Hall effect sensors (HES) only, sensorless

Encoder emulation

Incremental TTL (differential output)

1 Analog inputs

12bits +/-10V

4 Digital inputs

24Vdc optoisolated: general purpose or configurable
as Capture, Index, Limit switch +/-

2 Digital outputs

Parametrable 24Vdc max 500mA

Braking resistor

External connections

STO function

1 channels, SIL 1

Motor thermal sensor

PTC/NTC

EMC filter

Choke integrated

Certifications: CE

- OVERALL DIMENSIONS

| | | |
|--------------------------|---------------|--|
| Type | EASY23 | |
| Peak current | 17 | |
| Standard dimensions (mm) | H182xW54xD125 | |
| Weight (Kg) | 1,5 | |

- ORDERING CODE

| 230VAC - EASY2317/CAN.abc | | | | | | |
|---------------------------|--------------|-------------------|-----------------|---|------------|------------|
| Type | Power supply | Peak current (cc) | Interface (xxx) | Option (a) | Option (b) | Option (c) |
| EASY | 23(230V) | 17 (17 A) | CAN | 2 external kit connectors POWER+MOTOR e CAN Connector | 0 | 0 |



CANopen®

- BRAKING RESISTOR

| Ref. Drives or Power supply | Braking resistor | Ohm / Watt |
|-----------------------------|------------------|--------------|
| EASY2317 | MMDP50/200 | 50 Ohm 200 W |

GDS

Environment

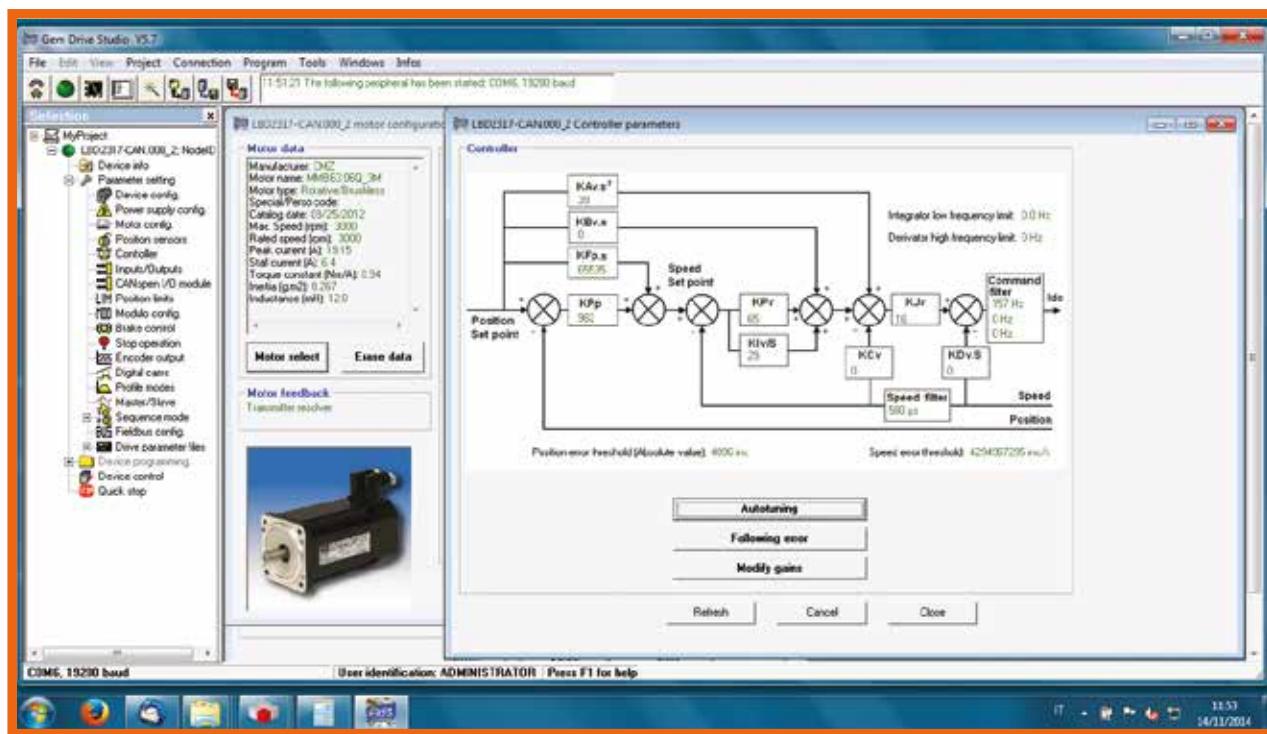
Brushless
motors & drives
stand alone

• GEM DRIVE STUDIO FOR LBD AND EASY DRIVE

Gem Drive Studio (GDS) is the development environment for configuration, parameterization and tuning of the LBD and EASY drives using RS232 or a centralized connection via fieldbus. The software can be configured into different levels depending on the experience of the user and provides many tools for the configuration, tuning and monitoring of the drive.

Gem Drive Studio (GDS) è l'ambiente di sviluppo per la configurazione, parametrizzazione e taratura degli azionamenti LBD e EASY utilizzando la seriale RS232 o un collegamento centralizzato tramite bus di campo.

Il software può essere configurato in diversi livelli a seconda dell'esperienza dell'utilizzatore e mette a disposizione molti strumenti per la configurazione, la taratura e il monitor dell'azionamento.



• CONTROL FEATURES

PWM: 8kHz

Digital current loop: 62,5µs

Digital speed loop: 500µs

Position loop: 500µs

Auto-phasing: motor phase and resolver

Auto-tuning: 3 bands, 2 filters

Motor cogging torque compensation

IBD & NBD

Brushless
motors & drives
integrated & Near by

IBD & NBD

The BD series family currently consists of two systems: IBD (Integrated Brushless Drive) and NBD (Near by Brushless Drive).

The family IBD is made up of brushless motors with integrated drive very compact and high-performance. They are equipped with a single connector for DC bus at 560Vdc, supply of the logic section at 24 Vdc, STO safety function, homing input, two connectors for the input and the output of the bus EtherCAT or CANopen and one connector for I/O allowing you drastically to reduce the wiring and the space in the electrical cabinet.

The wide range of sizes (from 1,22 to 30 Nm) on flanges 60-80-100-142-190 mm and IP65 protection makes the integrated servomotor IBD suitable for many multi-axis applications.

The NBD family consists of a single system powered with DC bus at 560 Vdc and 24Vdc for the logic section. Rated current is 5,3 Arms (15Arms peak current) It allows the management of motors with resolver, incremental encoder, incremental encoder with hall sensor, absolute encoder HIPERFACE. Its IP65 rating makes it possible to install NBD near the motor directly on the mechanics of the machine. Also this system is equipped with STO safety functions. The fieldbus CANopen DS402 and DS402 over EtherCAT allow IBD and NBD to be used with the controller of the FCT series and with different controllers especially with controllers that use the environment CODESYS 3.5, where, using Softmotion, the customer can select the drive IBD and NBD between the different available in CODESYS.

La famiglia BD series attualmente è composta dai due sistemi IBD e NBD.

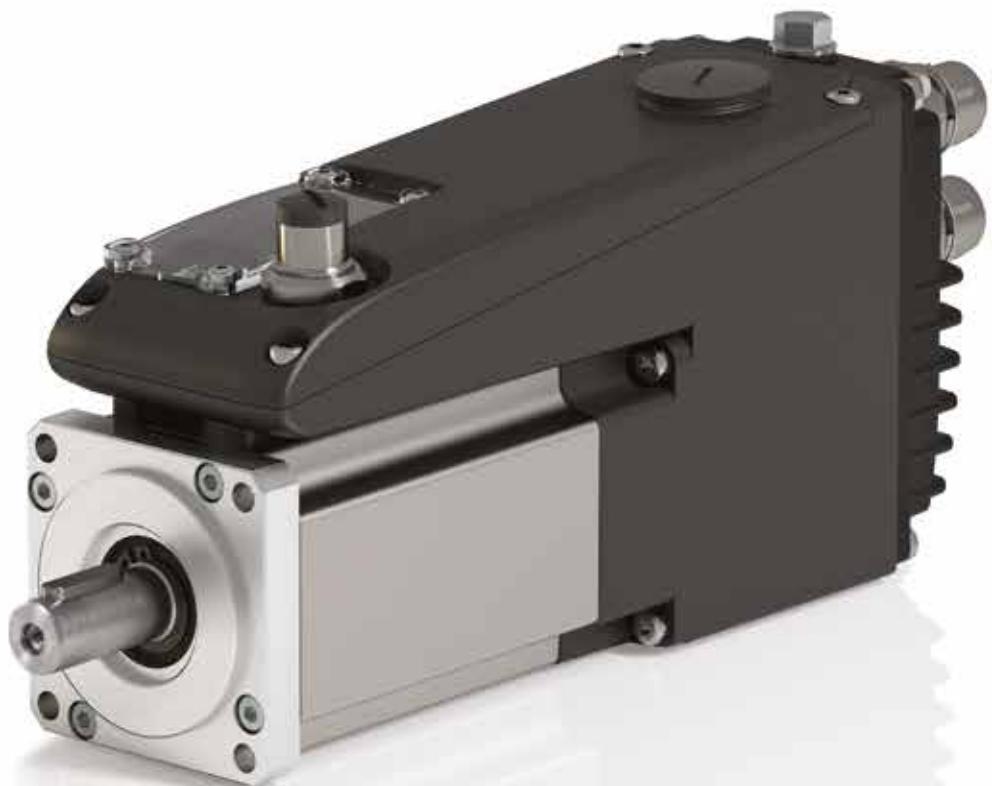
La famiglia IBD è composta da motori brushless con drive integrato molto compatti e di grandi prestazioni. Sono dotati di un unico connettore per il DC bus a 560 Vdc, dell'alimentazione della sezione logica a 24 Vdc e della funzione di sicurezza STO, dell'ingresso di homing, di 2 connettori per l'ingresso e l'uscita del bus di campo CANopen o EtherCAT e di un connettore per gli I/O permettendo di ridurre drasticamente i cablaggi e lo spazio all'interno del quadro.

L'ampia gamma di taglie (da 1,22 a 30 Nm) su flange da 60-80-100-142-190 mm e la protezione IP65 rende il servomotore integrato IBD adatto a molte applicazioni multiasse.

La famiglia NBD è composta da un unico sistema alimentato con DC bus a 560Vdc e 24Vdc per la sezione logica. La corrente nominale è di 5,8 Arms (15 Arms di picco) e di 10 Arms (21 Arms di picco). Permette la gestione di motori con resolver, encoder incrementale, encoder incrementale con sensore di hall, encoder assoluti HIPERFACE. Il suo grado di protezione IP65 permette di installare NBD nei pressi del motore direttamente sulla meccanica della macchina. Anche questo sistema è dotato della funzione di sicurezza STO.

I bus di campo EtherCAT e CANopen permettono a IBD e NBD di essere utilizzati sia con il controllore FCT sia con controllori diversi e soprattutto con controllori che usano l'ambiente CODESYS 3.5, infatti con Softmotion i clienti potranno scegliere il drive IBD e NBD tra i diversi messi a disposizione da CODESYS.

Brushless motors & drives
integrated and Near by



Brushless
motors & drives
integrated and Near by

- IBD size 60 mm

- Decentralized architecture with reduced wiring
- Programmable according to the standard IEC61131
- Maximum power concentration in a small size
- Architettura decentrata con cablaggio ridotto
- Programmabile secondo lo standard IEC61131
- Massima concentrazione di potenza in poco spazio

HARDWARE FEATURES

Power supply

275 ÷ 730 Vdc (560 Vdc nominal)

Control supply

24Vdc

Continuous torque

M0=1,22 Nm

Rated speed

Vn=3000 rpm

Feedback

HIPERFACE absolute encoder single or multturn

On board inputs

3 digital inputs PNP 24V

2 digital outputs PNP 24V

1 programmable input/output PNP 24V

Interface

EtherCAT, CANopen

Safety

STO 2 channels, SIL3 (pending)

Protection

IP65

Certifications: CE, UL (Drive UL+Motor UL)



FUNCTIONAL FEATURES

Stand alone programmability

according to the standard IEC61131,

Integrated movement features

device profile DS402, interpolated mode, positioning, extended gearing function, homing, capture

Capture input

PC parametrization tool

Protection

I2t, Overload, Short circuit,

Overtemperature, Overvoltage



NEW
product

daisy chain
version

- IBD SIZE 80, 100, 142, 190 mm

HARDWARE FEATURES

Power supply

Nominal 560Vdc (min 275Vdc max 740Vdc)

Control supply

24Vdc

Continuous torque

M0 3 Nm, 6 Nm, 15 Nm, 30 Nm

Rated speed

Vn=3000 rpm

Feedback

HIPERFACE absolute encoder single or multiturn

On board I/O's

6 digital IN 24Vdc general purpose, configurable as:

PSTOP, NSTOP, Enable, Home, Capture, Step/Direction

3 digital OUT 24Vdc 250mA, general purpose

1 digital IN/OUT 24Vdc with configurable function

3 differential I/O's configurable as master incremental encoder

1 Analogue IN +/-10V

Interface

EtherCAT, CANopen

Safety

STO 2 channels, SIL3 (pending)

Protection

IP65

Option

Motor brake

Certifications: CE



FUNCTIONAL FEATURES

Stand alone programmability

according to the standard IEC61131,

Integrated movement features:

device profile DS402, interpolated mode,
positioning, extended gearing function,
homing, capture

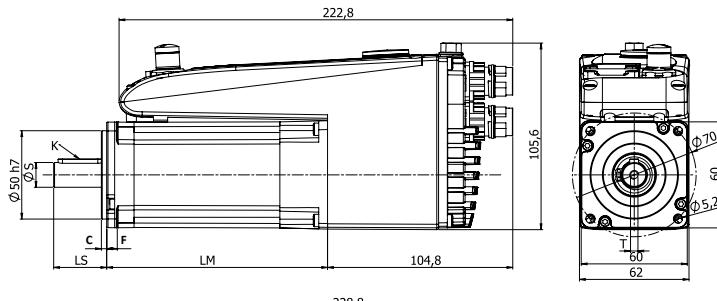
Capture input

PC parametrization tool

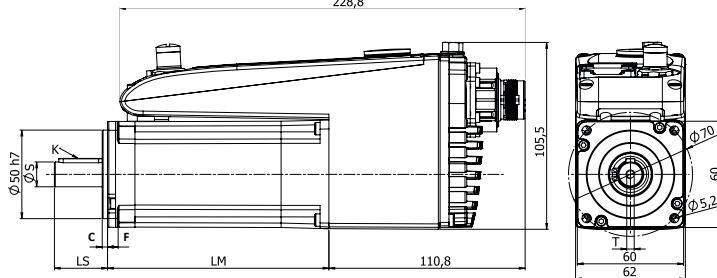
Protection

I2t, Overload, Short circuit,
Overtemperature, Overvoltage

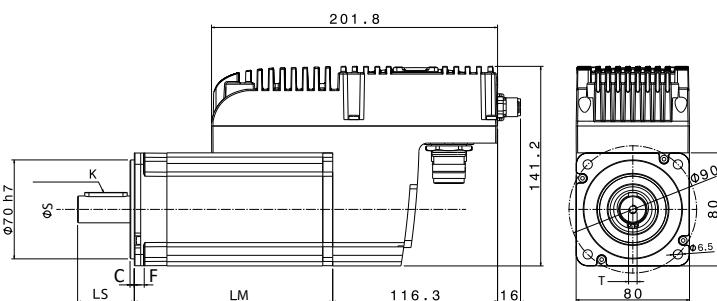
**IBD Flange 60 mm
daisy chain version**



**IBD Flange 60 mm
star version**



IBD Flange 80 mm



• OVERALL DIMENSIONS

| Type | IBD5670xyy/xxx.z03x0 1,22 Nm | IBD56H0xyy/xxx.z0000 3 Nm |
|------------------------------|---------------------------------|------------------------------|
| Flange (mm) | 60 | 80 |
| Lenght LM without brake (mm) | 122 | 110 |
| Lenght LM with brake (mm) | 161 | 157 |
| Shaft lenght LS (mm) | 30 | 40 |
| Shaft diameter (ØS) | 14h6 | 19h6 |
| Thread (T) | M5 | M6 |
| Key dimensions (K) | 5x5x20 | 6x6x30 |
| C | 2,5 | 3 |
| F | 10 | 13 |
| Weight (kg) | 1,8 | 4,1 |
| Weight with brake (Kg) | 2 | 4,8 |

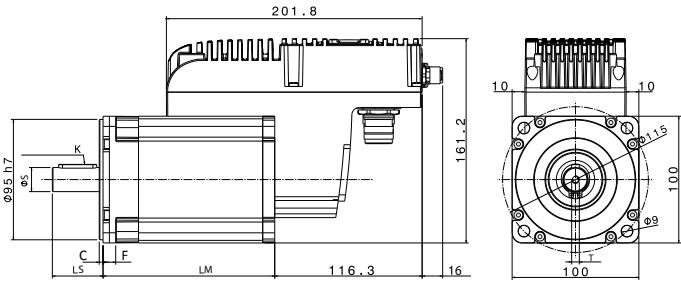
Power consumption in continuous operation

• TECHNICAL FEATURES

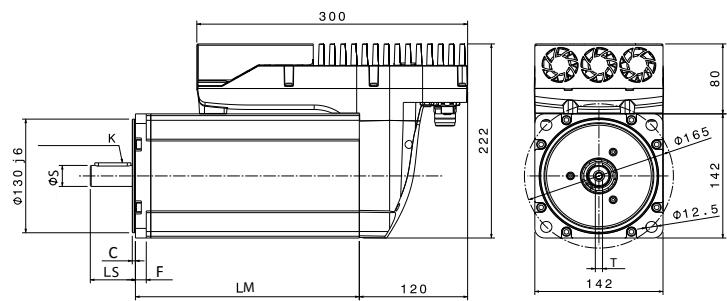
| Type | M0 Stall torque (Nm) | Mn Rated torque (Nm) | Mpeak Peak Torque (Nm) | Power Watt* (W) | Jm Rotor Inertia (kgcm²) | Vn Rated Speed (rpm) |
|---------|----------------------------|----------------------------|------------------------------|--------------------|--------------------------------|----------------------------|
| IBD5670 | 1,22 | 1,15 | 3,66 | 420 | 0,16 | 3000 |
| IBD56H0 | 3 | 2,6 | 9 | 970 | 0,616 | 3000 |

*Power consumption in continuous operation

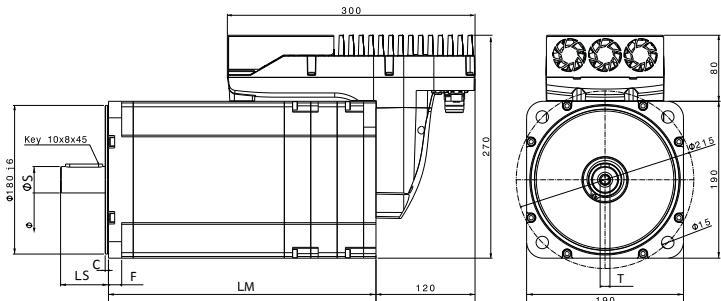
IBD Flange 100 mm



IBD Flange 142 mm



IBD Flange 190 mm



• OVERALL DIMENSIONS

| Type | IBD56I0xyy/xxx.z0000 6 Nm | IBD56F0xyy/xxx.z0030 15 Nm | IBD56G0YY/CAN.z0030 30 Nm |
|------------------------------|------------------------------|-------------------------------|------------------------------|
| Flange (mm) | 98 | 142 | 190 |
| Lenght LM without brake (mm) | 185 | 243 | 303,5 |
| Lenght LM with brake (mm) | 236 | 268 | 333,5 |
| Shaft lenght LS (mm) | 40 | 50 | 58 |
| Shaft diameter (ØS) | 19h6 | 24k6 | 32k6 |
| Thread (T) | M6 | M8 | M12 |
| Key dimensions (K) | 6x6x30 | 8x7x40 | 10x8x45 |
| C | 3 | 3,5 | 4 |
| F | 14 | 12 | 16 |
| Weight (kg) | 8 | 17 | 38 |
| Weight with brake (Kg) | 9,2 | 18,5 | 43 |

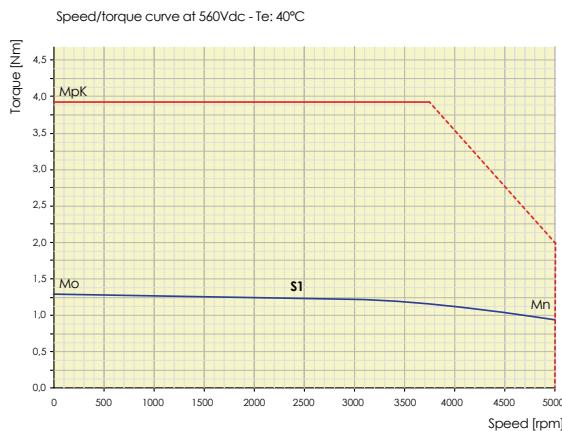
• TECHNICAL FEATURES

| Type | M0 Stall torque (Nm) | Mn Rated torque (Nm) | Mpeak Peak Torque (Nm) | Power Watt* (W) | Jm Rotor Inertia (kgcm ²) | Vn Rated Speed (rpm) |
|---------|----------------------------|----------------------------|------------------------------|--------------------|---|----------------------------|
| IBD56I0 | 6 | 5 | 22 | 1850 | 5,501 | 3000 |
| IBD56F0 | 15 | 11,7 | 45 | 4300 | 11,5 | 3000 |
| IBD56G0 | 30 | 25 | 70 | 9200 | 74 | 3000 |

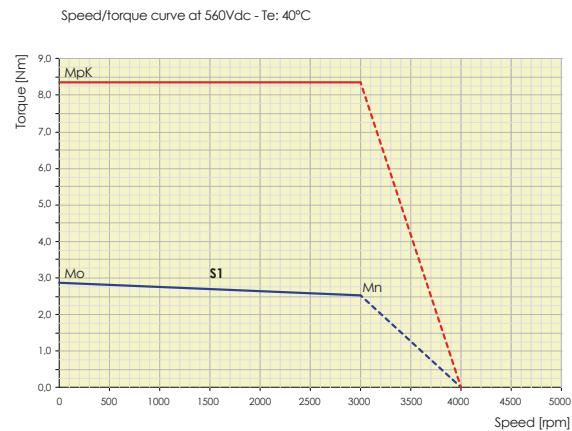
*Power consumption in continuous operation

- TORQUE CURVES

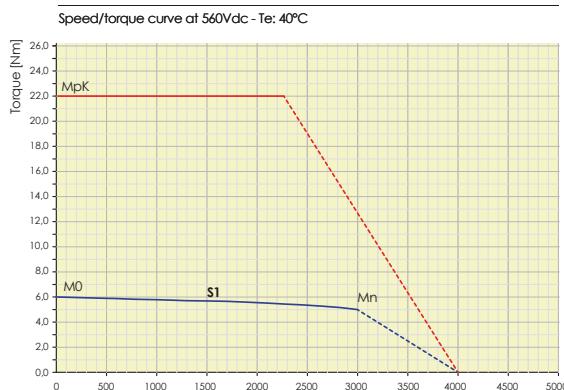
IBD5670 Flange 60 - 1,22 Nm [M0]



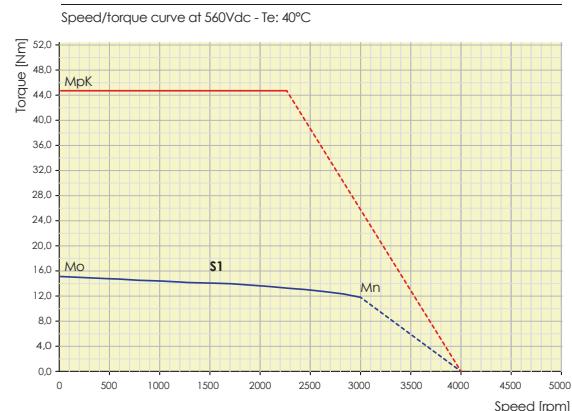
IBD56H0 Flange 80 - 3 Nm [M0]



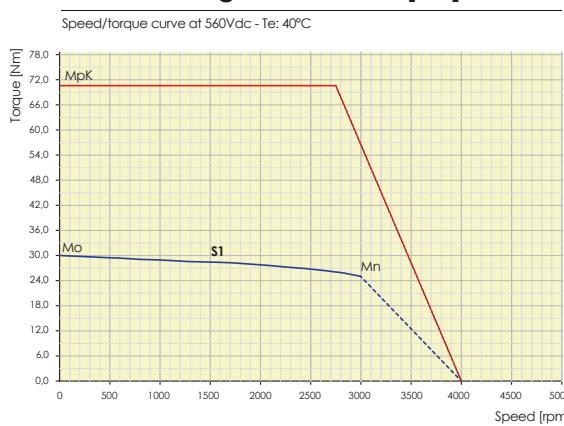
IBD56I0 Flange 100 - 6 Nm [M0]



IBD56F0 Flange 142 - 15,4 Nm [M0]



IBD56G0 Flange 190 - 30 Nm [M0]



- BDPOW POWER SUPPLY

AC/DC power supply unit

From 20A to 40A with the possibility of online diagnostics and parametrization via serial connection and PC interface (SD Setup)

Power supply

Three phase rated voltage: 180 ÷ 520Vac 50/60Hz

Main filter

Integrated

Internal Braking Resistor

Resistance: 33Ω

Power rating: 180W

Pulse power rating: 20kW (0,3 sec)

Certifications: UL/CE

Alimentatore AC/DC

Da 20A o 40A con possibilità di diagnostica e parametrizzazione online tramite connessione seriale e interfaccia su PC (SD Setup)

Alimentazione

Tensione nominale trifase: 180 ÷ 520Vac 50/60Hz

Filtro

Integrato

Resistenza di frenatura interna

Resistenza: 33Ω

Potenza nominale: 180W

Potenza istantanea: 20kW (0,3 sec)

Certificazione: UL/CE



- OVERALL DIMENSIONS

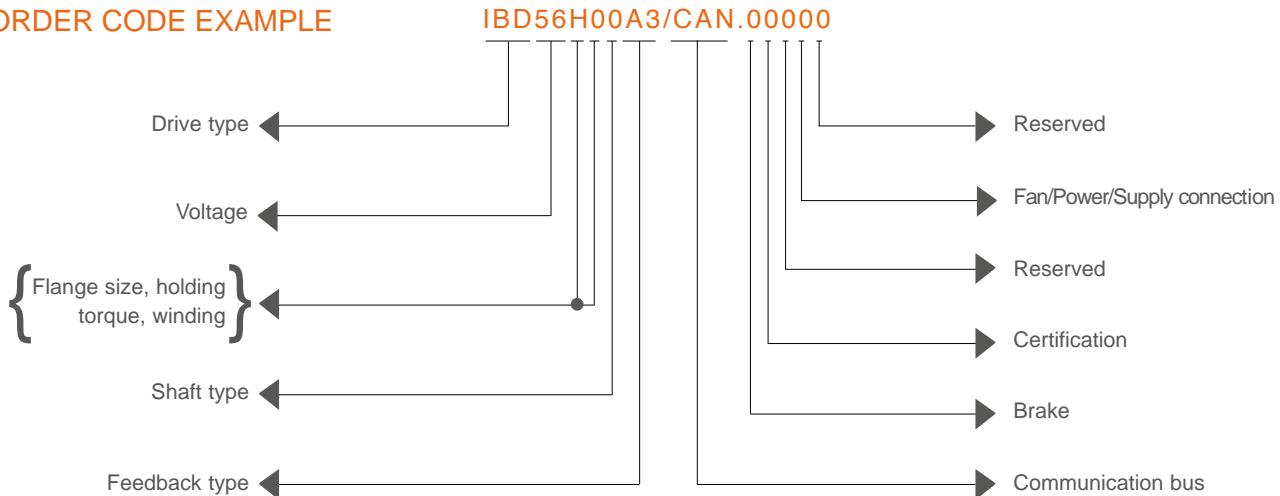
| Type | BDPOW20 | BDPOW40 |
|----------------------------|---------------------|---------|
| Standard dimensions (mm) * | H352,5xW82,4xD270,6 | |
| Weight (kg) | 5,8 | |

*maximum overall dimensions

IBD

Ordering codes

• ORDER CODE EXAMPLE



• ORDERING CODES

| Options | IBD | 56 | IBD56 a b c/d.efghi | | | | | | | | |
|---------|---|----|---------------------|-----|---|----|----|---|---|----------------------|---|
| | | | a | b | c | /d | .e | f | g | h | i |
| a | Flange 60 mm - 1,22 mm (8 poles) 560 Vdc/5000 rpm | 70 | | | | | | | | | |
| | Flange 80 mm - 3 Nm (8 poles) 560 Vdc/3000 rpm | H0 | | | | | | | | | |
| | Flange 100 mm - 6 Nm (10 poles) 560 Vdc/3000 rpm | I0 | | | | | | | | | |
| | Flange 142 mm - 15 Nm (8 poles) 560 Vdc/3000 rpm | F0 | | | | | | | | | |
| | Flange 190 mm - 30 Nm (10 poles) 560 Vdc/3000 rpm | G0 | | | | | | | | | |
| b | Keyed shaft* | | 0* | | | | | | | | |
| | Smooth shaft | | | | | | | | | | |
| c | Mutiturn absolute encoder (128 sin/cos), 4096 turns | | A0 | | | | | | | | |
| | Singleturn absolute encoder (16 sin/cos)* | | | | | | | | | | |
| d | CAN communication | | | CAN | | | | | | | |
| | Ethercat communicatio | | | | | | | | | | |
| e | No brake | | | 0 | | | | | | | |
| | With brake | | | | | | | | | | |
| f | Reserved | | | 0 | | | | | | | |
| g | No UL | | | | | | | | | | |
| | UL** | | | | | | | | | | |
| h | With fan | | | | | | | | | 3 only for FL142/190 | |
| | Without fan | | | | | | | | | | |
| | Star connection | | | | | | | | | | |
| | Daisy chain connection | | | | | | | | | | |
| | Reserved | | | | | | | | | | |
| i | Reserved | | | 0 | | | | | | | |

*Standard **Drive UL+Motor UL

Ordering codes

• CABLES FOR IBD

Straight connectors - xxxx = cm

| Type | Description |
|-----------------------|---|
| CIBR.CFCG.IIPS.B.xxxx | Power cable for IBD - dynamic laying - star version (size 60-80-100-142-190) |
| CIBR.IIPS.CFCH.H.xxxx | Power cable to first IBD - dynamic laying - DAISY CHAIN version (size 60) |
| CIBR.CMCG.CFCG.H.xxxx | Power cable from second IBD to other IBD - dynamic laying - DAISY CHAIN version (size 60) |
| CMUL.CFCG.IIPS.C.xxxx | I/O cable for IBD - fixed laying (size 80-100-142-190) |
| CMUL.CMCP.IIPS.E.xxxx | I/O cable for IBD - dynamic laying (size 60) |
| CCAN.DFCS.CF1S.E.xxxx | CAN cable from CMZ master FCT200 (Dsub 9p) to IBD (M12) - dynamic laying |
| CCAN.RMCS.CF1S.B.xxxx | CAN cable from CMZ master FCT640/FCT300 (RJ45) to IBD (M12) - fixed laying |
| CCAN.CM1S.CF1S.E.xxxx | CAN cable from IBD (M12) to IBD (M12) - dynamic laying |
| CETC.RMCS.CMCS.M.xxxx | EtherCAT cable from CMZ master FCT300/FCT640 (RJ45) to IBD (M12) - dynamic installation |
| CETC.CMCS.CMCS.M.xxxx | EtherCAT cable from IBD (M12) to IBD (M12) - dynamic installation |
| C232.DFCS.CMCG.K.xxxx | Serial RS232 interface cable for debugging |

For cables with different lenghts ask to sale office

• BDPOW

Ordering codes with optional BDPOWXX/000.abc

| | | |
|------------------------|--|------------------------------------|
| BDPOW20/000.abc | Three phase power supply with output rated current 20A (10kWatt) Alimentatore trifase con corrente nominale fornibile in uscita 20A | |
| a | 1 | one male output - (ONLY FOR SPARE) |
| | 2 | two female outputs |
| b | 0 | CE certification |
| | 1 | UL certification |
| c | 0 | Reserved |
| BDPOW40/000.abc | Three phase power supply with output rated current 40A (20kWatt) Alimentatore trifase con corrente nominale fornibile in uscita 40A | |
| a | 1 | one male output - (ONLY FOR SPARE) |
| | 2 | two female outputs |
| b | 0 | CE certification |
| | 1 | UL certification |
| c | 0 | Reserved |

NBD

Brushless
motors & drives
integrated and Near by

- NBD

Drive IP65 for linear and rotating brushless motors
Azionamento IP65 per motori brushless lineari e rotativi

HARDWARE FEATURES

Power supply

Nominal 560Vdc (min 275Vdc max 730Vdc)

Control supply

24Vdc

Rated current

8 Arms - 10 Arms

Peak current

15 Arms - 21Arms

Feedback

Resolver

TTL incremental encoder + HES

Single and multiturn absolute encoder HIPERFACE

On board I/O's

3 digital IN PNP 24V

2 digital OUT PNP 24V

2 digital IN/OUT bidirectional PNP

1 analog IN +/- 10V

Encoder master IN, + 5V out

Interface

EtherCAT, CANopen

Safety

STO 2 channels, SIL3 (Pending)

Protection

IP65

Certifications: CE



CANopen **EtherCAT®**

FUNCTIONAL FEATURES

Stand alone programmability

according to the standard IEC61131,

Integrated movement features:

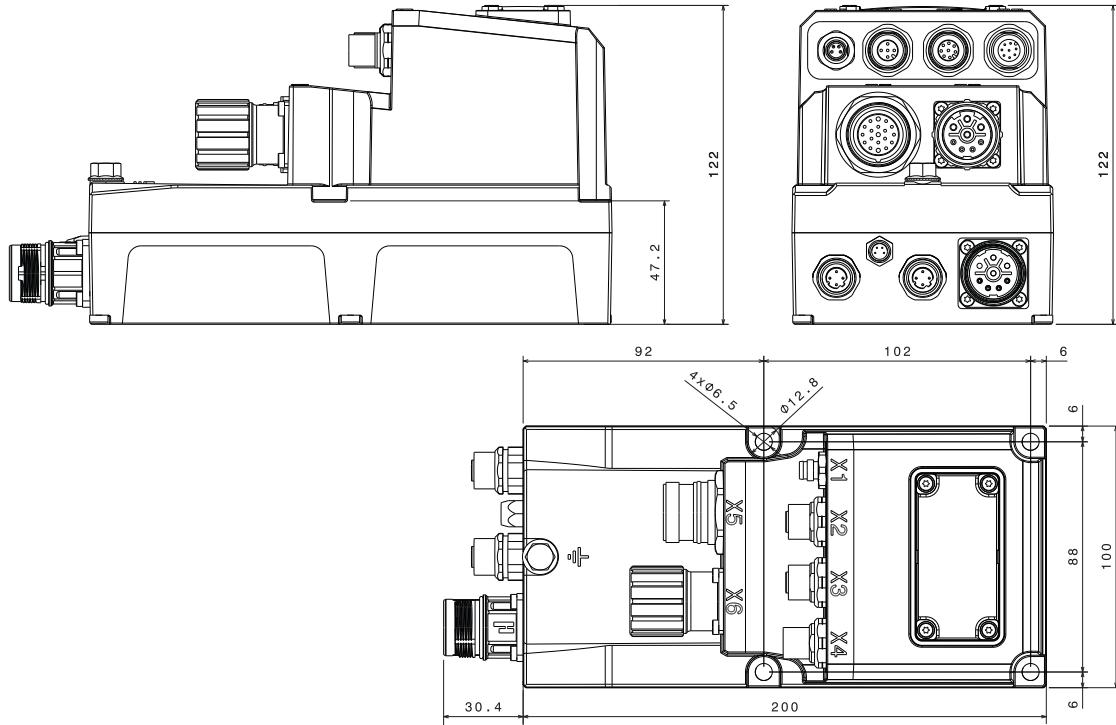
device profile DS402, interpolated mode,
positioning, extended gearing function,
homing, capture

ST language

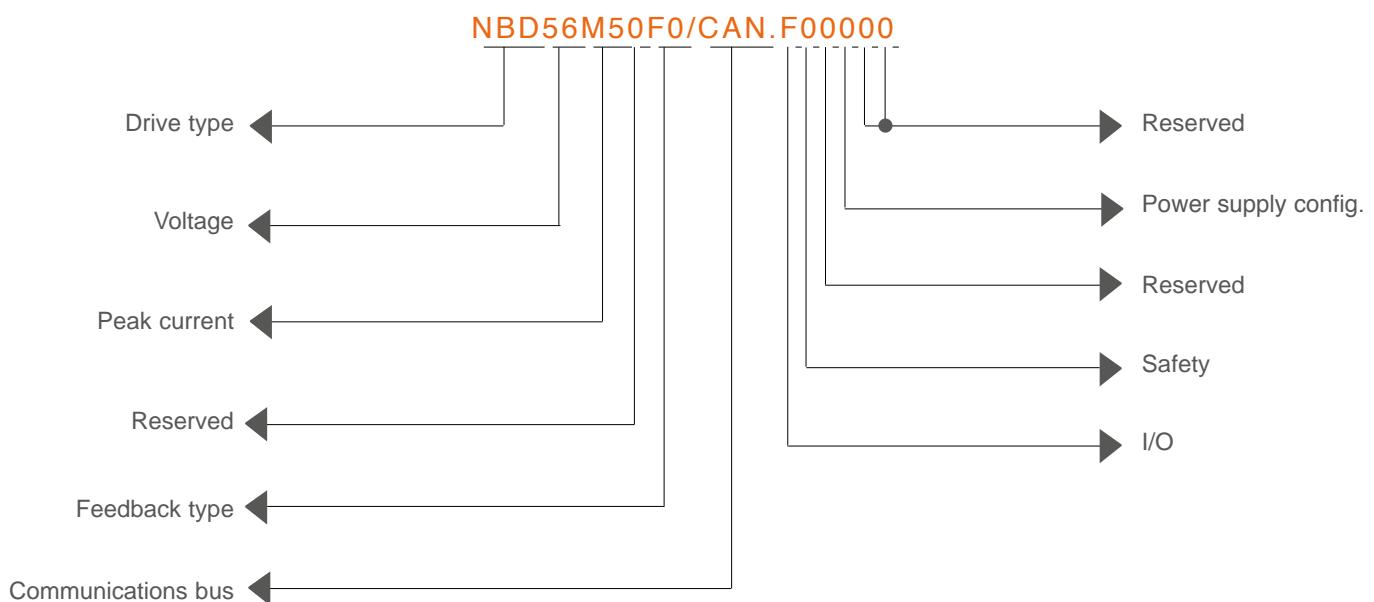
Capture input

PC parametrization tool

- OVERALL DIMENSIONS



- ORDER CODE EXAMPLE



NBD

Ordering codes

• ORDERING CODES

| Ordering codes with optionals: | | | | | | | | | | NBD56abc/d.efghil | | | |
|--------------------------------|--|----|---|----------|---|------------|--------|----------|---|---------------------------------|-----|---|--|
| Options | NBD | 56 | a | b | c | /d | .e | f | g | h | i | l | |
| a | Peak current 15A 21A | | | M5 H5 | | | | | | | | | |
| b | Reserved | | | 0 | | | | | | | | | |
| c | TTL incremental encoder + HES Multiturn absolute encoder HIPERFACE Single absolute encoder HIPERFACE Resolver | | | | | F0 | | | | | | | |
| d | CAN communication EtherCAT communication | | | | | CAN ETC | | | | | | | |
| e | No I/O With I/O (3 conn M12) and local STO (1 conn. M8) | | | | | | 0 F | | | | | | |
| f | Safety | | | | | | | 0 STO | | | | | |
| g | Reserved | | | | | | | | 0 | | | | |
| h | Power supply configuration | | | | | | | | | 0 star (single on M23) | | | |
| il | Reserved | | | | | | | | | | 0 0 | | |

• CABLES FOR NBD

Straight connectors - xxxx = cm

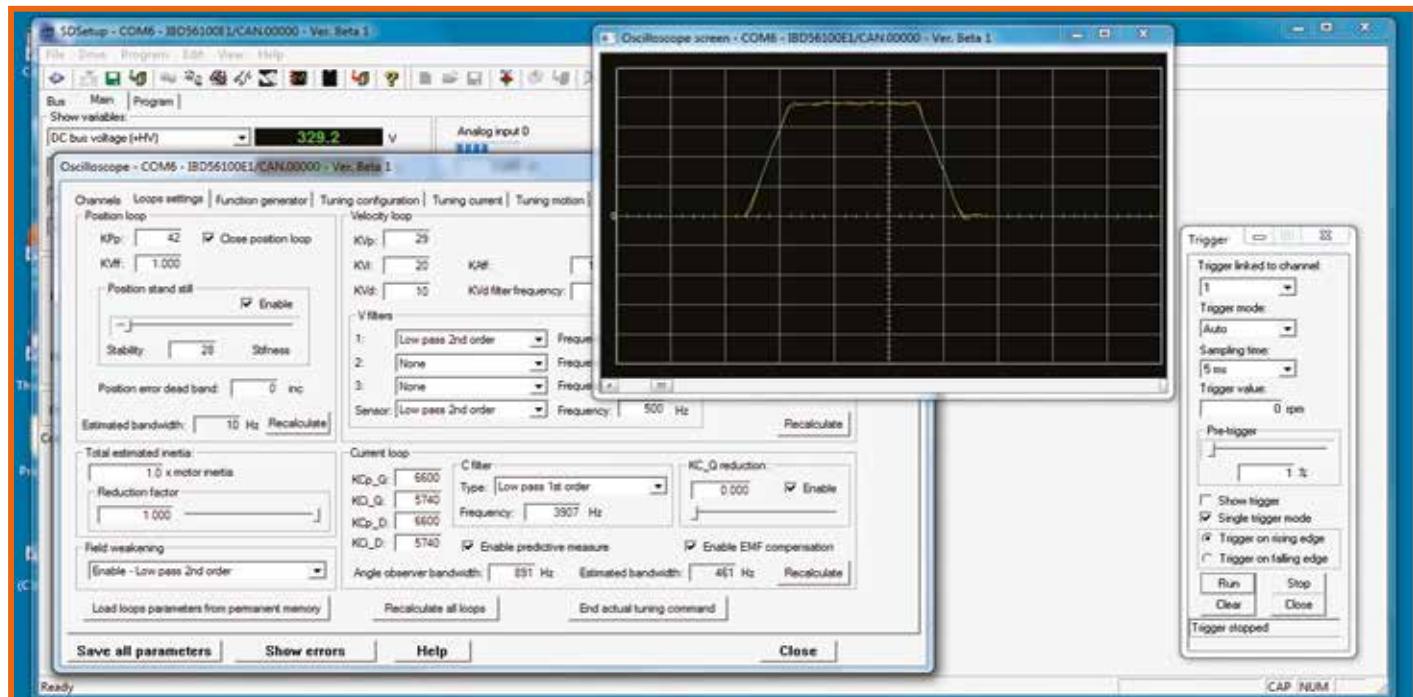
| Type - | Description |
|-----------------------|--|
| CIBR.CFCG.IIPS.B.xxxx | Power cable for NBD - dynamic laying |
| CMUL.CMCP.IIPS.E.xxxx | I/O cable for NBD - fixed laying |
| CCAN.DFCS.CF1S.E.xxxx | CAN cable from CMZ master FCT200 (Dsub 9p) to_NBD (M12) |
| CCAN.CM1S.CF1S.E.xxxx | CAN cable from NBD (M12) to NBD (M12) - dynamic laying |
| CETC.RMCS.CMCS.M.xxxx | EtherCAT cable from CMZ master FCT640/ FCT300 (RJ45) to NBD (M12) - dynamic installation |
| CETC.CMCS.CMCS.M.xxxx | EtherCAT cable from NBD (M12) to NBD (M12) - dynamic installation |
| C232.DFCS.CMCG.K.xxxx | Serial RS232 interface cable for debugging |

SD SETUP

Environment

Brushless
motors & drives
integrated and Near by

Brushless motors & drives
integrated and Near by



SD setup is the development environment for the configuration, parameterization, tuning and programming of the drives SISD/ISD/SVM and IBD/Nearby 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 digital 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 SISD/ISD/SVM e IBD/Nearby 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'editing e il debug dei programmi scritti in linguaggio IEC61131 di tipo Structured Test.



SYSTEMS & SOLUTIONS FOR MOTION CONTROL

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