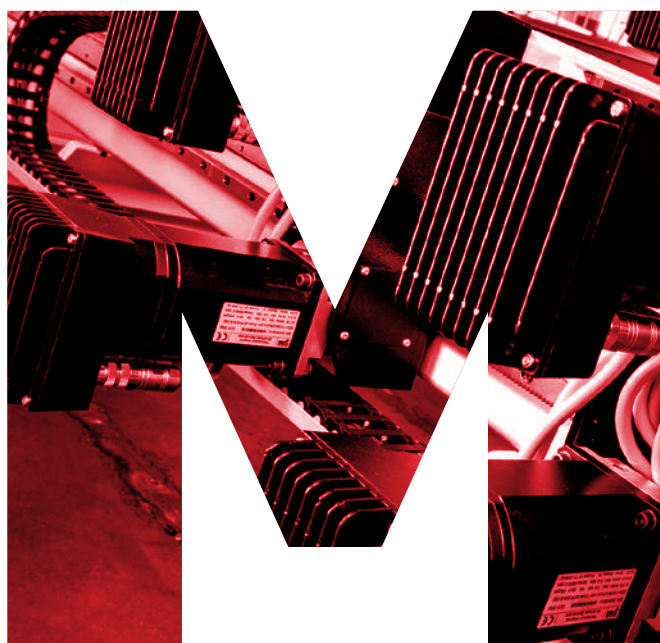


MOTORI E AZIONAMENTI MOTORS AND DRIVES

vis 800-900



MOTORI E
AZIONAMENTI

MOTORS
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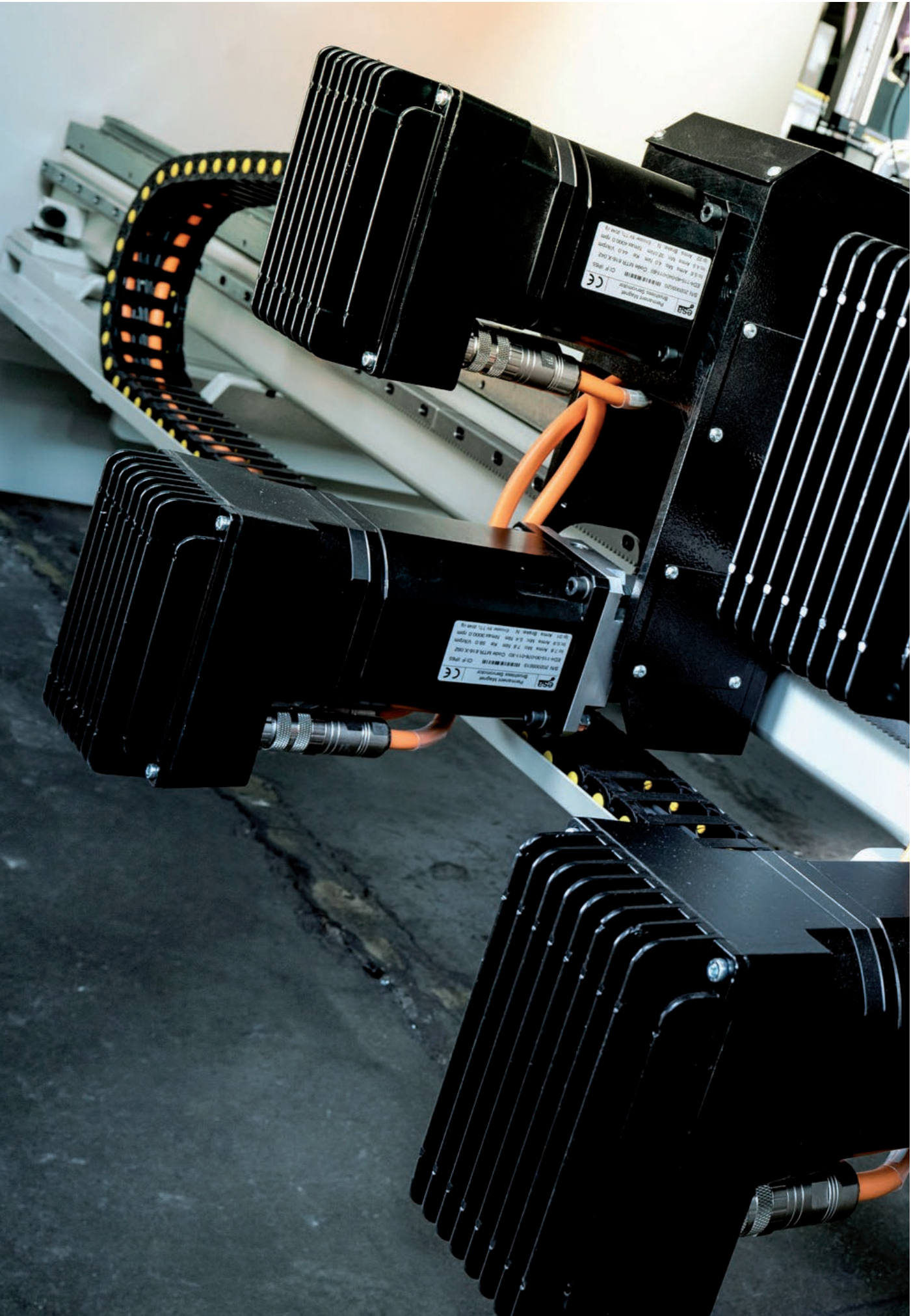
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POTENZA INTELLIGENTE INTELLIGENT POWER

Potenza intelligente.
Esautomation è
il partner perfetto che
offre soluzioni integrate
per i sistemi CNC di
nuova generazione.

Intelligent power.
Esautomation is the perfect
partner, offering integrated
solutions for new-generation
CNC systems.

Un'ampia offerta di prodotti, dispositivi
e software evoluti progettati per
integrarsi perfettamente con le parti
meccaniche delle vostre macchine, per
automatizzarle secondo gli standard
più elevati di efficienza e produttività,
nel pieno rispetto delle logiche di
Industria 4.0.

A wide range of advanced products,
devices and software that integrate
perfectly with the mechanical
architecture of your machines, to
automate them according to the
highest standards of efficiency and
productivity, in full compliance with
the logic of Industry 4.0.



ABOUT ESAUTOMATION

Dove l'hardware incontra l'intelligenza delle applicazioni.
Ogni nostro prodotto è parte di un sistema sinergico intelligente: hardware, software e servizi che lavorano insieme per aumentare efficienza, affidabilità e performance. Con le nostre soluzioni aiutiamo i clienti a migliorare efficienza, affidabilità e competitività.

Where hardware meets application intelligence.
Each of our products is part of an intelligent synergistic system: hardware, software and services that work together to increase efficiency, reliability and performance. With our solutions we help customers improve efficiency, reliability and competitiveness.

Flessibilità e Assistenza

Il nostro servizio di **Assistenza Tecnica**, formato da ingegneri e tecnici di elevata professionalità, è **disponibile 7 giorni su 7** per risolvere ogni problematica tecnica, coprendo tutti i fusi orari grazie alla rete di filiali e rivenditori.

Una rete globale

Un'unica missione: **essere al tuo fianco**. Una presenza internazionale strategica.

Made in Italy

Da oltre **60 anni** portiamo nel mondo il **valore della qualità italiana**.

Flexibility and Service

Our **Technical Support** service, made up of highly professional engineers and technicians, is **available 7 days a week** to resolve any technical issues, covering all time zones thanks to our network of branches and retailers.

A global network

A single mission: **to be by your side**. A strategic international presence.

Made in Italy

For over **60 years**, we have been bringing the **value of Italian quality** to the world.



VANTAGGI ESCLUSIVI EXCLUSIVE ADVANTAGES

CNC ad alte prestazioni, grazie all'esclusiva architettura di progettazione.

La particolare architettura di progettazione consente di offrire in ogni situazione performance inarrivabili in termini di precisione e controllo. Con i **modelli top di gamma** è possibile gestire un **numero praticamente illimitato di assi, rendendo fattibili lavorazioni ritenute fino a ieri irrealizzabili.**

High-performance CNC, thanks to its exclusive design architecture.

The particular design architecture allows us to offer unrivalled performance in terms of precision and control in every situation. With the **top of the range models** it is possible to manage a practically **unlimited number of axes, making it possible to work that was previously considered impossible.**

Le soluzioni CNC Esautomation affiancano la gamma motori, completando l'offerta per il controllo e l'automazione delle macchine.

Esautomation CNC solutions complement the motor range, creating a comprehensive offering for machine control and automation.

I macchinari CNC con software "turn key" sempre incluso.

Il software, **sviluppato ad-hoc** da Esautomation secondo le **specifiche esigenze di ogni cliente**, è **sempre incluso** nella dotazione e rende il CNC immediatamente operativo, con un **notevole risparmio** a livello di **costi e tempo.**

The CNC machines with "turn key" software always included.

The software, **developed ad-hoc** by Esautomation according to the **specific needs of each customer**, is **always included** in the equipment and makes the CNC immediately operational, with **considerable savings** in terms of **costs and time.**

I CNC con un'unica piattaforma hardware per applicazioni diverse.

L'**hardware** di tutti i CNC Esautomation **può gestire tutte le applicazioni**, come ad es: piegatura e taglio lamiera, lavorazione legno e marmo, general purpose. Questo si traduce in un **notevole vantaggio per i clienti OEM**, in termini di maggiore conoscenza dei dispositivi e ottimizzazione dell'inventario.

The CNC machines with a single hardware platform for different applications.

The **hardware** of all Esautomation CNC **can manage all applications**, such as: sheet metal bending and cutting, wood and marble processing, general purpose. This translates into a **significant advantage for OEM customers**, in terms of greater knowledge of the devices and inventory optimization.

Per conoscere nel dettaglio le caratteristiche e i vantaggi delle soluzioni CNC Esautomation, consulta il catalogo dedicato.

For detailed information on the features and benefits of Esautomation CNC solutions, please refer to the dedicated catalogue.



L'azienda viene fondata con il nome di ESA GV, con l'obiettivo di proporre soluzioni tecnologiche per l'automazione. **È una delle prime, in Italia e in Europa, a presentare le schede elettroniche per la gestione di macchinari industriali.**

The company is founded with the name of ESA GV, with the aim of proposing technological solutions for automation. **It is one of the first, in Italy and in Europe, to present electronic boards for the management of industrial machinery.**

Lancio di Tria, il primo CNC con tecnologia "real time", che migliora in modo sostanziale le performance delle macchine automatiche.

Launch of Tria, the first CNC with "real time" technology, which substantially improves the performance of automatic machines.

Nasce la serie Kvara, uno dei primi CNC PC-based e full-digital, che offre la possibilità di gestione degli assi e dei device esterni con Bus digitale e non più analogico.

The Kvara series is born, one of the first PC-based and full-digital CNCs, which offers the possibility of managing axes and external devices with digital Bus.

Lancio della serie di CNC S500 e delle nuove famiglie di motori brushless E e ED. Esautomotion rivoluziona il mercato proponendo per prima l'idea di "Turn Key solution": il software è sempre incluso nel CNC, evitando al cliente l'ulteriore e costoso ricorso a sviluppatori o software house esterni, velocizzando così il time-to-market dei suoi progetti.

Launch of the S500 CNC series and of the new families of E and ED brushless motors. Esautomotion revolutionizes the market by being the first to propose the idea of "Turn Key Solution": the software is always included in the CNC, avoiding to the customer the additional and costly use of external developers or software houses, thus speeding up the time-to-market of his projects.

Attraverso un buyout, ESA GV cambia proprietà e assume il nome di Esautomotion. L'obiettivo dei nuovi azionisti è di espandere significativamente il giro di affari della società attraverso forti investimenti nell'innovazione e nell'internazionalizzazione delle attività.

Through a buyout, ESA GV changes ownership and takes the name of Esautomotion. The goal of the new shareholders is to significantly expand the company's turnover through strong investments in innovation and in the internationalization of activities.

Nasce la serie di CNC S600. La tecnologia full touch viene adottata per gli schermi di tutti i modelli.

The S600 CNC series is born. Full touch technology is adopted for the screens of all models.

Quotazione alla Borsa di Milano per accedere a maggiori risorse economiche e cogliere ulteriori opportunità di crescita e diversificazione. Trasferimento nella nuova e più spaziosa sede di Carpi, per migliorare sia la logistica che l'efficienza interna e dare un migliore servizio ai clienti.

Listing on the Milan Stock Exchange to access more financial resources and seize further opportunities for growth and diversification. Transfer to the new and more spacious headquarters in Carpi, to improve both internal logistics and efficiency and provide better customer service.

Esautomotion è ormai un'azienda globalizzata, con sedi dirette in Germania, Spagna, USA, Brasile e Cina e una presenza tramite rivenditori negli altri Paesi industrialmente importanti.

Esautomotion is now a globalized company, with direct offices in Germany, Spain, USA, Brazil and China and a presence through dealers in other industrialized important countries.

Nasce la serie VIS-800, massima espressione della tecnologia touch, della modularità e della comunicazione Ethercat full digital.

The VIS-800 series is born, the highest expression of touch technology, modularity and full digital Ethercat communication.

Apertura filiali in Turchia, Stati Uniti ed acquisizione di Sangalli Servomotori.

Opening of branches in Türkiye, USA and acquisition of Sangalli Servomotori.



SINCE 1962

Un percorso di successo che ha rivoluzionato il mercato dell'automazione industriale e del CNC in Italia e nel mondo.

A successful journey that has revolutionised the industrial automation and CNC market in Italy and worldwide.

400 VAC EBS DRIVES AND E MOTORS

Alta velocità di rotazione e precisione di movimento degli assi.

High rotation speed and axis movement precision



DRIVE EBS

Questi drive sono stati sviluppati per realizzare una **totale integrazione digitale** con i CNC Esautomation tramite bus di campo standard quali CANopen ed EtherCAT.

La gamma comprende **nove taglie principali**: EBS3, EBS6, EBS12, EBS18, EBS30, EBS42, EBS60, EBS80/120 ed EBS80/180.

L'alimentazione è diretta da rete (230Vac - 400Vac trifase).

Ogni convertitore è dotato di **resistenza di frenatura interna**, ad eccezione dei modelli EBS30, EBS42, EBS60, EBS80/120 ed EBS80/180.

Su tutti i modelli è possibile montare una resistenza di frenatura esterna.

Per questi drives è richiesta un'alimentazione di servizio di **24 Vdc** (-15%+ 20%).

CARATTERISTICHE PRINCIPALI

- Possibilità di gestire due schede opzionali (feedback, fieldbus, espansioni I/O, ecc.).
- Gestione di 5 ingressi e 3 uscite digitali programmabili.
- Gestione di trasduttori di tipo TTL + sensori HALL, Hiperface, Smart ABS, BISS-C.
- Regolazione, di tipo vettoriale, realizzata tramite un DSP di ultima generazione. All'interno del drive sono "chiusi" l'anello di corrente e di velocità con un cycle time rispettivamente di 62,5 e 250 microsecondi.
- Gestione automatica del freno elettromeccanico, con protezioni di mancanza freno e di sovracorrente circuito freno.
- Implementazione delle seguenti protezioni:
 - Sovracorrente convertitore,
 - I2t IGBT e motore con soglia di preallarme e allarme,
 - Anomalie circuito di frenatura,
 - Anomalia circuito freno elettromeccanico,
 - Rotture/sconnessione encoders,
 - Sovra-velocità motore.

EBS DRIVES

These drives have been developed to achieve **full digital integration** with Esautomation CNCs via standard fieldbuses such as CANopen and EtherCAT. The range includes **nine main sizes**: EBS3, EBS6, EBS12, EBS18, EBS30, EBS42, EBS60, EBS80/120 ed EBS80/180.

They are **powered directly from the mains supply** (230Vac - 400Vac, three-phase).

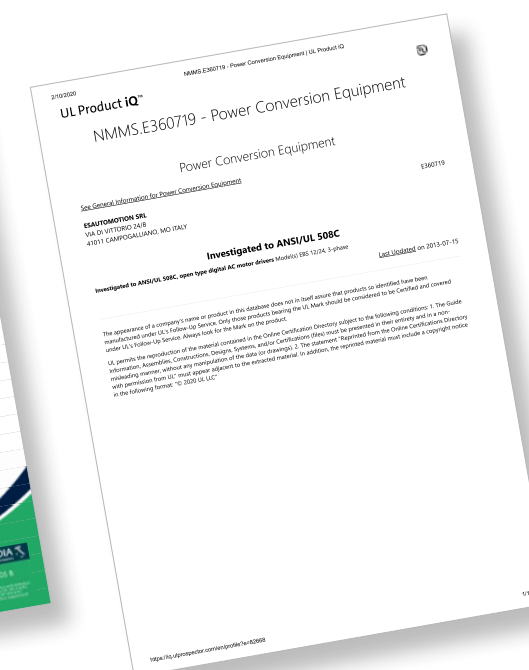
Each converter is equipped with an **internal braking resistor**, except for models EBS30, EBS42, EBS60, EBS80/120 ed EBS80/180.

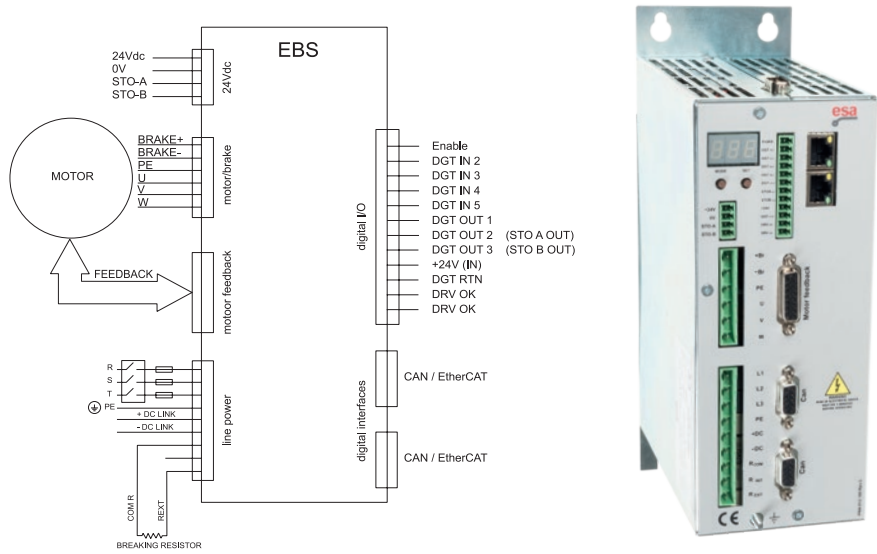
An external braking resistor can be installed **on all models**.

A **24 Vdc service power supply** (-15%/+20%) is required for these drives.

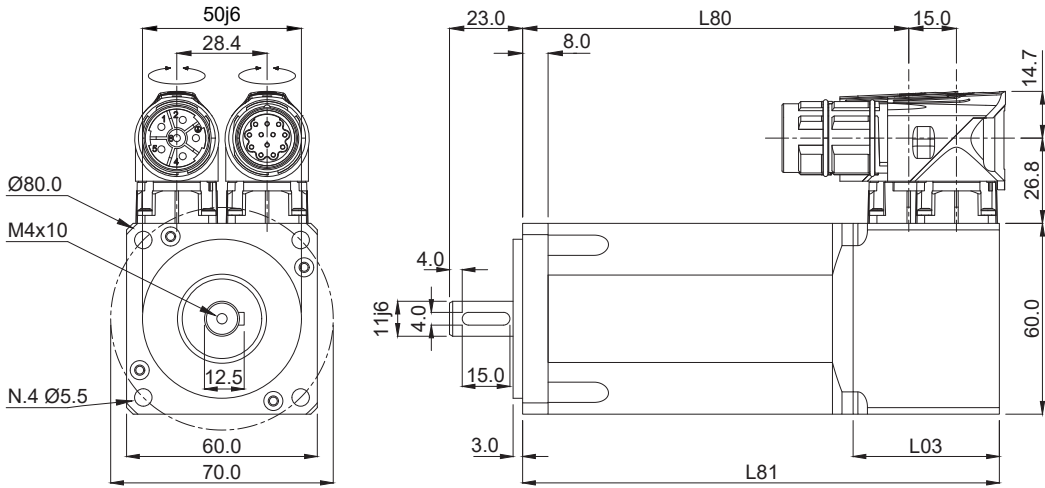
MAIN FEATURES

- Two optional boards can be controlled (feedback, fieldbus, I/O expansion, etc.).
- Management of 5 inputs and 3 outputs of the programmable digital type.
- Management of TTL + HALL sensor, Hiperface, Smart ABS, BISS-C transducer.
- Vectorial regulation is achieved by means of a latest generation DSP. The current loop and speed are "enclosed" in the drive with a cycle time of 62.5 and 250 microseconds, respectively.
- Automatic control of the electromechanical brake, with protection against brake failure and brake circuit overcurrent.
- The following protections are implemented:
 - Converter overcurrent,
 - I2t IGBT and motor with pre-alarm and alarm threshold,
 - Faulty brake circuit,
 - Faulty electromechanical brake circuit,
 - Breakage/disconnection of encoders,
 - Motor overspeed





400V - Square 60 mm E Motors



EBS Technical Data

Model		EBS3/6	EBS6/12	EBS12/24	EBS18/36	EBS30/60	EBS42/84	EBS60/120	EBS80/120	EBS80/180
Output current	Arms	3 cont 6x5 sec	6 cont 12x5 sec	12 cont 24x5 sec	17 cont 34x5 sec	30 cont 60x5 sec	42 cont 84x5 sec	60 cont 120 x 5 sec	80 cont 120 x 5 sec	80 cont 180 x 5 sec
Dimensions (L x H x D)	mm	66 x 265 x 164,5		86 x 265 x 164,5		169 x 360 x 232,3		170 x358 x 246		
Three-phase power supply voltage rating	Vac	230±10% / 400±10%						230±10% / 480±10%		
Bus DC rated voltage	Vda	320±10% / 566±10%						320±10% / 676±10%		
Suppliable steady current	A	3	6	12	17	30	42	60	80	80
Peak current (Max 5s)	A	6	12	24	34	60	84	120	120	180
DC bus capacitors	uF	235	235	500	500	1230	1500	2040	2040	2040
Rated power output	KW	1,29	2,59	5,74	8,13	14,3	20,1	35,3	47,2	47,2
Auxiliary power supply	Vdc	24 +15% / -10%								
Current Input at +24Vdc (brake excluded)	A	0,4	0,4	0,4	0,4	0,6	0,6	0,7	0,7	0,7
Power dissipated by drive in rated condition (400Vac)	W	50	80	150	200	350	500	750	1050	1050
Max continuous braking power on internal resistor	W	25	25	50	50	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*
Max peak braking power on internal resistor (0.5 sec)	KW	5	5	10	10	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*
Max continuous braking power on external resistor	W	1000	1000	1500	1500	5000	5000	10000	10000	10000
Internal resistor value	Ω	100	100	50	50	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*
External resistor value	Ω	>66	>66	>33	>33	>12,5	>12,5	>10	>10	>10
Tripping voltage of brake circuit	V	390 / 720						391 / 836		
Feedback		Incremental Line Drive TTL Encoder Absolute multiturn Hiperface Encoder Absolute multiturn Smart ABS 17/33Bit Encoder Absolute multiturn BISS-C Encoder								

N.A.* Not available

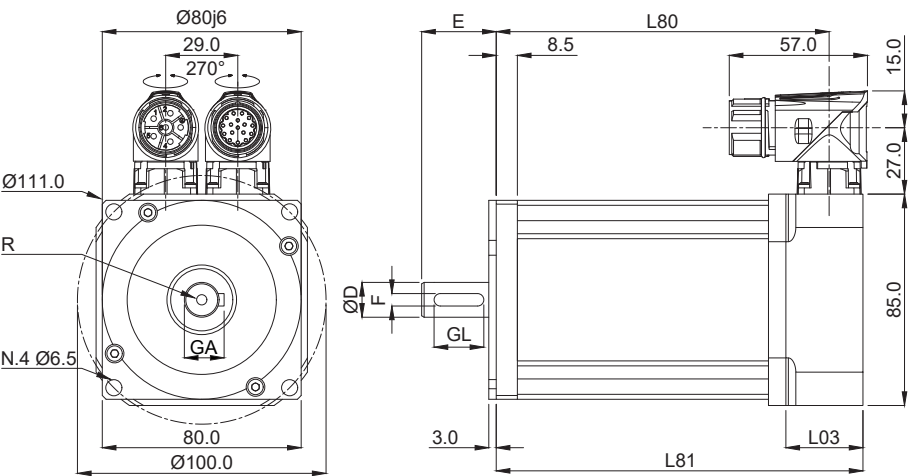
Electrical Characteristics		E-060-60-007	E-060-60-017
Stall Torque (ΔT 100 °C) - To	Nm	0,7	1,7 (S3-60%)/1,4(S1)
Stall Current - Io	Arms	0,96	2,16 (S3-60%)/1,73(S1)
Max velocity - Nmax	rpm	6000	6000
Max current - Imax	Arms	3,9	6,6
Max torque - Tmax	Nm	2,4	4,6
Voltage constant - Ke	V/Krpm	44	49
Torque constant - Kt	Nm/A	0,73	0,81
Rotor inertia - Jr	gm²	0,013	0,023
Weight without brake - M	kg	1,2	1,7
Nominal power - Pn	W	200	540 (S3-60%)/400(S1)
Power connector		M23	M23

Motor Lengths		E-060-60-007	E-060-60-017
		TTL 2048 - Smart ABS Hip SKM36 - Biss-C	TTL 2048 - Smart ABS Hip SKM36 - Biss-C
L80	mm	93,5	121,5
L81	mm	122,0	150,0
L80 with brake	mm	123,9	151,9
L81 with brake	mm	152,4	180,4
L03	mm	46	46

Brake Characteristics		E-060-60-007	E-060-60-017
Supply Voltage	Vdc	24 +/- 6% @ 0,46Adc	24 +/- 6% @ 0,46Adc
Braking Torque @20°C	Nm	2	2
Inertia	gm²	0,01	0,01
Weight	kg	0,3	0,3
Ton/Toff	ms	6/25	6/25

400V - Square 80 mm E Motors

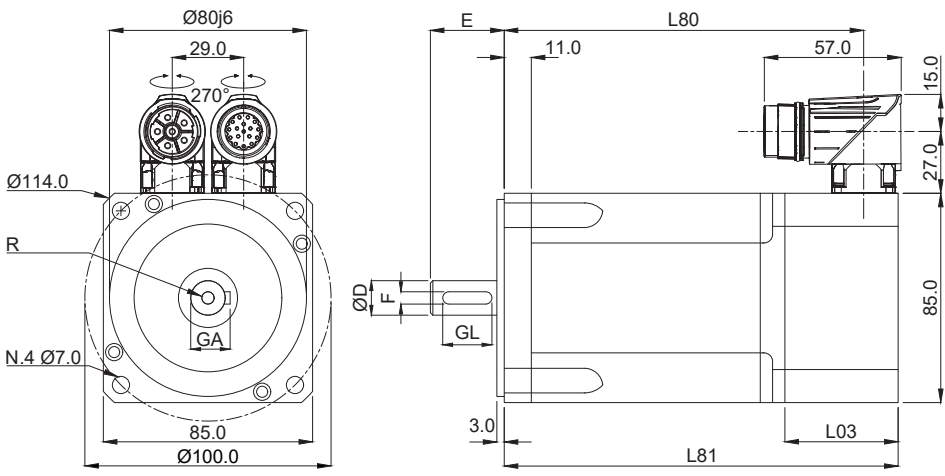
E MOTORS - 400V



Shaft **		
ØD	14j6	19j6
E	30	40
GL	20	32
GA	16	21,5
F	5	6
R	M5x15	M6x16

400V - Square 85 mm E Motors

E MOTORS - 400V



Shaft **		
ØD	14j6	19j6
E	30	40
GL	20	32
GA	16	21,5
F	5	6
R	M5x15	M6x16

Electrical Characteristics		E-080-35-014	E-080-60-014	E-080-35-028	E-080-60-028	E-080-35-039	E-080-60-039
Stall Torque (ΔT 100 °C) - To	Nm	1,4	1,4	2,8	2,8	3,9	3,9
Stall current - Io	Arms	1,15	1,8	2,15	3,5	3,1	4,9
Max velocity - Nmax	rpm	3500	6000	3500	6000	3500	6000
Max current - Imax	Arms	4,6	7,2	8,6	14	12,4	19,6
Max torque - Tmax	Nm	5	5	9,5	9,5	13	13
Voltage constant - Ke	V/Krpm	80	49	79	48	80	48
Torque constant - Kt	Nm/A	1,323	0,81	1,307	0,794	1,323	0,794
Rotor inertia - Jr	gm²	0,077	0,077	0,142	0,142	0,21	0,21
Weight without brake - M	kg	1,9	1,9	2,7	2,7	3,5	3,5
Nominal power - Pn	W	370	370	720	720	970	970
Power connector		M23	M23	M23	M23	M23	M23

Motor Lengths	E-080-□□-014				E-080-□□-028				E-080-□□-039			
	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36
Shaft ØD	14	19	14	19	14	19	14	19	14	19	14	19
L80	mm 83,5	93,5	98,5	108,5	108,5	118,5	123,5	133,5	133,5	143,5	148,5	158,5
L81	mm 97,5	107,5	112,5	122,5	122,5	132,5	137,5	147,5	147,5	157,5	162,5	172,5
L80 with brake	mm 135,1	135,1	150,1	150,1	160,1	160,1	175,1	175,1	185,1	185,1	200,1	200,1
L81 with brake	mm 149,1	149,1	164,1	164,1	174,1	174,1	189,1	189,1	199,1	199,1	214,1	214,1
L03	mm 31	31	46	46	31	31	46	46	31	31	46	46

** standard shaft 14j6 – Optional shaft 19j6 on request

Brake Characteristics		E-080-□□-014	E-080-□□-028	E-080-□□-039
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc	24 +/- 6% @ 0,75Adc	24 +/- 6% @ 0,75Adc
Braking Torque	Nm	9	9	9
Inertia	gm²	0,06	0,06	0,06
Weight	kg	1	1	1
Ton/Toff	ms	7/40	7/40	7/40

Electrical Characteristics		E-085 60-010	E-085 35-015	E-085 60-015	E-085 35-029	E-085 60-029	E-085 35-042	E-085 60-042	E-085 30-053	E-085 50-053	E-085 60-053
Stall Torque (ΔT 100 °C) - To	Nm	1	1,5	1,5	2,9	2,9	4,2	4,2	5,3	5,3	5,3
Stall current - Io	Arms	1,7	1,05	1,65	2	3,2	2,9	4,6	3,4	5,8	8
Max velocity - Nmax	rpm	6000	3500	6000	3500	6000	3500	6000	3000	5000	6000
Max current - Imax	Arms	8	4,4	6,9	8,2	13	11	18	14	23	32
Max torque - Tmax	Nm	3,6	5,2	5,2	10	10	14	14	18	18	18
Voltage constant - Ke	V/Krpm	36	86	55	88	55	88	55	93	55	40
Torque constant - Kt	Nm/A	0,6	1,42	0,91	1,45	0,91	1,46	0,91	1,54	0,91	0,66
Rotor inertia - Jr	gm²	0,07	0,092	0,092	0,172	0,172	0,253	0,253	0,333	0,333	0,333
Weight without brake - M	kg	2	2,4	2,4	3,5	3,5	4,6	4,6	5,7	5,7	5,7
Nominal power - Pn	W	280	400	400	700	700	1000	1000	1200	1200	1200
Power connector		M23	M23	M23	M23	M23	M23	M23	M23	M23	M23

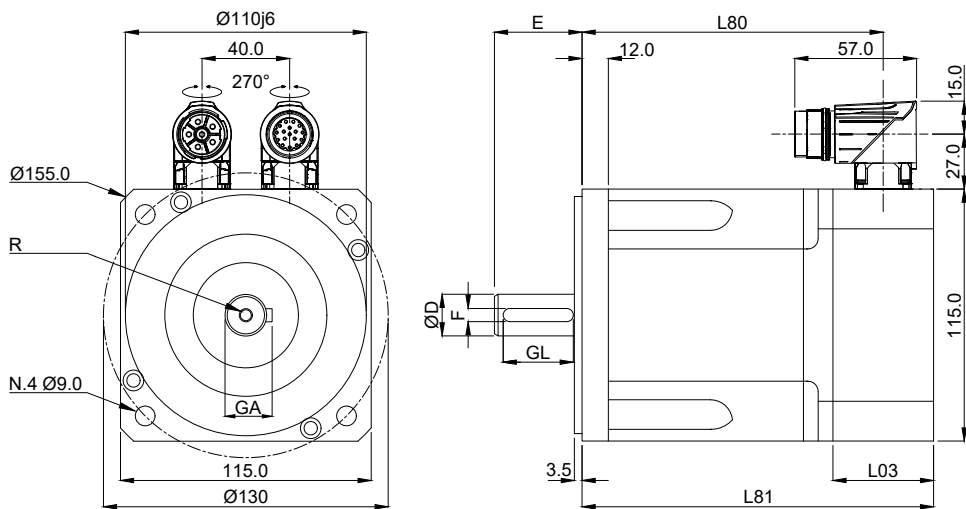
Motor Lengths	E-085-60-010			E-085-□□-015			E-085-□□-029			E-085-□□-042			E-085-□□-053		
	TTL 2048	Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36
Shaft ØD	14	14	14	14	19	14	19	14	19	14	19	14	19	14	19
L80	mm 73,5	78,4	83,5	101	111	116	126	131	141	146	156	161	171	176	186
L81	mm 87	92	107	115	125	130	140	145	155	160	170	175	185	190	200
L80 with brake	mm 101,5	106,4	111,5	149	149	164	164	179	179	194	194	209	209	224	224
L81 with brake	mm 115	120	135	163	163	178	178	193	193	208	208	223	223	238	238
L03	mm 26	31	46	31	31	46	46	31	31	46	46	31	31	46	46

** standard shaft 14j6 – Optional shaft 19j6 on request

Brake Characteristics		E-085-60-010	E-085-□□-015	E-085-□□-029	E-085-□□-042	E-085-□□-053
Supply Voltage	Vdc	24 +/- 6% @ 0,46Adc	24 +/- 6% @ 0,75Adc	24 +/- 6% @ 0,75Adc	24 +/- 6% @ 0,75Adc	24 +/- 6% @ 0,75Adc
Braking Torque	Nm	2	9	9	9	9
Inertia	gm²	0,01	0,06	0,06	0,06	0,06
Weight	kg	0,3	1	1	1	1
Ton/Toff	ms	6/25	7/40	7/40	7/40	7/40

400V - Square 115 mm E Motors

E MOTORS - 400V



Shaft **		
ØD	19j6	24j6
E	40	50
GL	32	32
GA	21,5	27
F	6	8
R	M6x16	M8x15

Electrical Characteristics		E-115-50-021	E-115-30-040	E-115-60-040	E-115-30-076	E-115-50-076	E-115-60-076	E-115-30-113	E-115-50-113	E-115-60-113
Stall Torque (ΔT 100 °C) - To	Nm	2,1	4	4	7,6	7,6	7,6	11,3	11,3	11,3
Stall current - Io	Arms	1,8	2,5	4,4	4,7	7,8	7,8	7	12	17
Max velocity - Nmax	rpm	5000	3000	6000	3000	5000	6000	3000	5000	6000
Max current - Imax	Arms	9	10	18	19	32	32	29	48	68
Max torque - Tmax	Nm	7,1	14	14	26	26	26	39	39	39
Voltage constant - Ke	V/ Krpm	61	96	55	98	59	59	98	59	41
Torque constant - Kt	Nm/A	1	1,59	0,91	1,62	0,98	0,98	1,62	0,98	0,68
Rotor inertia - Jr	gm²	0,28	0,5	0,5	0,96	0,96	0,96	1,4	1,4	1,4
Weight without brake - M	kg	3,6	5,6	5,6	8,5	8,5	8,5	11,4	11,4	11,4
Nominal power - Pn	W	570	1000	1000	1700	1700	1700	2400	2400	2400
Power connector		M23	M23	M23	M23	M23	M23	M23	M23	M23

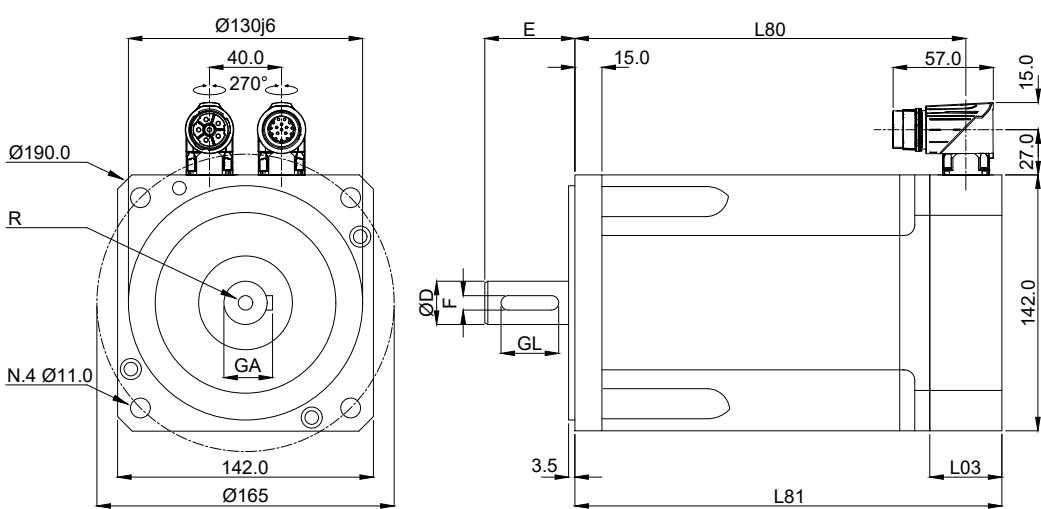
Motor Lengths		E-115-50-021			E-115-□□-040			E-115-□□-076		E-115-□□-113	
		TTL 2048	Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36		TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36
L80	mm	80,5	85,5	91	132	137,5		172	177,5	212	217,5
L81	mm	94	100	114	146,5	160,5		186,5	200,5	226,5	240,5
L80 with brake	mm	124	129,1	134,6	181	186,5		221	226,5	261	266,5
L81 with brake	mm	137,6	143,6	157,6	195,5	209,5		235,5	249,5	275,5	289,5
L03	mm	26	32	46	32	46		32	46	32	46

** standard shaft 19j6 – Optional shaft 24j6 on request

Brake Characteristics		E-115-50-021			E-115-□□-040			E-115-□□-076		E-115-□□-113	
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc			24 +/- 6% @ 1Adc			24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc	
Braking Torque	Nm	9			18			18		18	
Inertia	gm²	0,06			0,24			0,24		0,24	
Weight	kg	1,0			1,4			1,4		1,4	
Ton/Toff	ms	7/40			10/50			10/50		10/50	

400V - Square 142 mm E Motors

E MOTORS - 400V



Shaft **		
ØD	24j6	32k6
E	50	58
GL	32	45
GA	27	35
F	8	10
R	M8x15	M12x22

Electrical Characteristics		E-142-50-050	E-142-30-100	E-142-50-100	E-142-60-100	E-142-30-190	E-142-45-190	E-142-60-190	E-142-30-270	E-142-45-270	E-142-50-270	E-142-30-350	E-142-40-350
Stall Torque (ΔT 100 °C) - To	Nm	5	10	10	10	19	19	19	27	27	27	35	35
Stall current - Io	Arms	4,6	6,5	9,8	12	12	16	21	15	21	25	20	25
Max velocity - Nmax	rpm	5000	3000	5000	6000	3000	4500	6000	3000	4500	5000	3000	4000
Max current - Imax	Arms	19	27	41	51	50	64	82	64	87	103	80	100
Max torque - Tmax	Nm	17	35	35	35	64	64	64	94	94	94	118	118
Voltage constant - Ke	V/ Krpm	66	93	62	49	93	72	56	106	78	61	106	85
Torque constant - Kt	Nm/A	1,1	1,54	1,03	0,81	1,54	1,19	0,93	1,75	1,29	1,00	1,75	1,41
Rotor inertia - Jr	gm²	1,2	2,2	2,2	2,2	4,3	4,3	4,3	6,5	6,5	6,5	8,7	8,7
Weight without brake - M	kg	6	11	11	11	16	16	16	21	21	21	26	26
Nominal power - Pn	W	1100	2400	2400	2400	3700	3700	3700	3800	3800	3800	4900	4900
Power connector		M23	M23	M23	M23	M23	M23	M40	M23	M40	M40	M40	M40

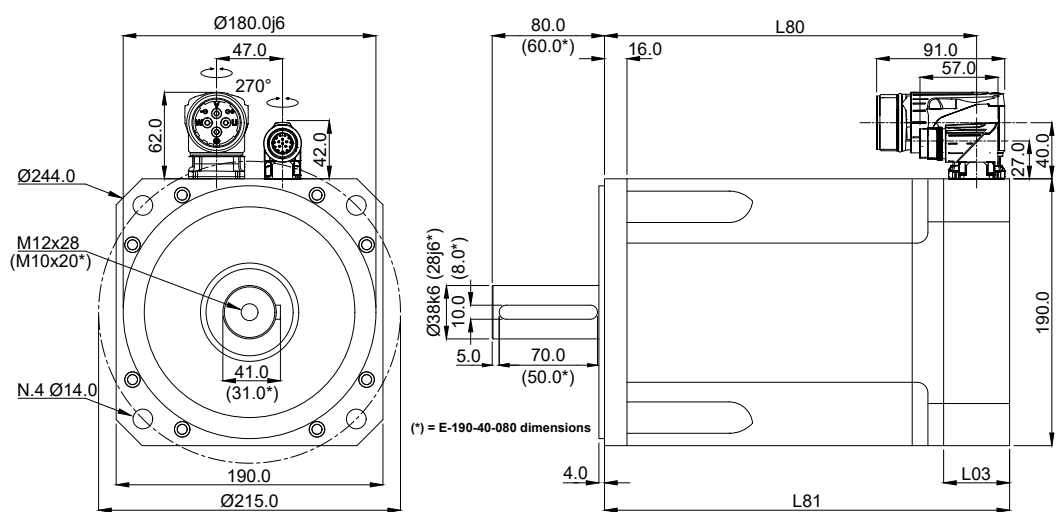
Motor Lengths		E-142-50-050			E-142-□□-100			E-142-□□-190			E-142-□□-270			E-142-□□-350
		TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048		TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048 Smart ABS Hip SKM36 Biss-C
		M23	M23	M23	M23	M23	M40	M23-M40	M23	M40	M23-M40	M40		M40
L80	mm	95	101,5	160,5	167	210,5	217	217	260,5	267	267			317
L81	mm	108,5	121,5	174	187	224	237	237	274	287	287			337
L80 with brake	mm	134,5	141	214	220,5	264	270,5	270,5	314	320,5	320,5			370,5
L81 with brake	mm	148	161	227,5	240,5	277,5	290,5	290,5	327,5	340,5	340,5			390,5
LO3	mm	27	40	27	40	27	40	40	27	40	40			40

** standard shaft 24j6 – Optional shaft 32k6 on request

Brake Characteristics		E-142-50-050			E-142-□□-100			E-142-□□-190			E-142-□□-270			E-142-□□-350
Supply Voltage	Vdc	24 +/- 6% @ 1Adc			24 +/- 6% @ 1Adc			24 +/- 6% @ 1Adc			24 +/- 6% @ 1Adc			24 +/- 6% @ 1Adc
Braking Torque	Nm	18			40			40			40			40
Inertia	gm²	0,24			1,37			1,37			1,37			1,37
Weight	kg	1,4			3,1			3,1			3,1			3,1
Ton/Toff	ms	10/50			22/90			22/90			22/90			22/90

400V - Square 190 mm E Motors

E MOTORS - 400V



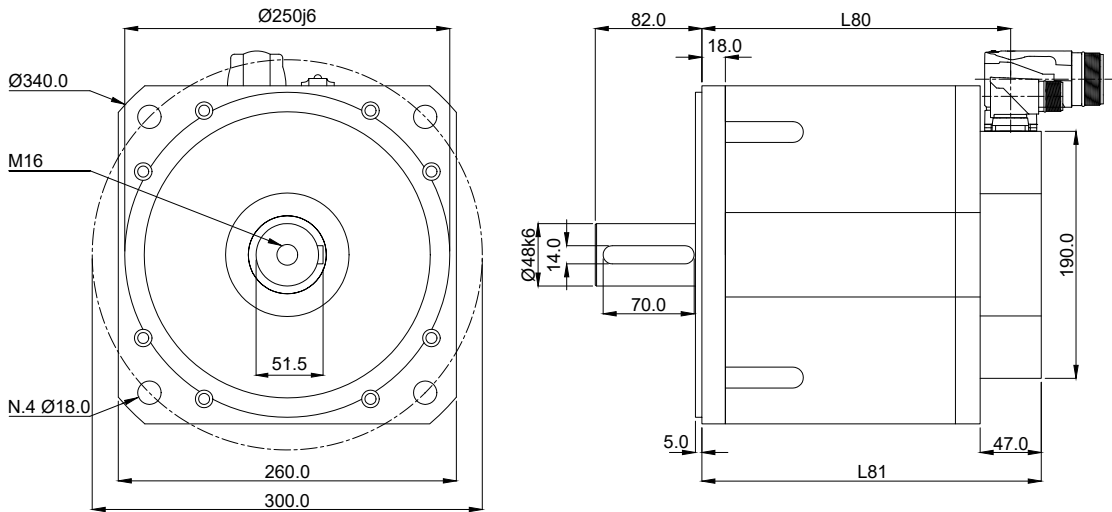
Electrical Characteristics		E-190 -40-080	E-190 -30-150	E-190 -40-150	E-190 -25-280	E-190 -40-280	E-190 -20-500	E-190 -30-500	E-190 -40-500	E-190 -20-700	E-190 -30-700
Stall Torque (ΔT 100 °C) - To	Nm	8	15	15	28	28	50	50	50	70	70
Stall current - Io	Arms	6	9,1	11	13	24	18	28	36	26	39
Max velocity - Nmax	rpm	4000	3000	4000	2500	4000	2000	3000	4000	2000	3000
Max current - Imax	Arms	18	29	36	39	73	55	87	111	80	120
Max torque - Tmax	Nm	21	40	40	72	72	130	130	130	180	180
Voltage constant - Ke	V/Krpm	80	100	79	134	71	169	108	84,5	162	108
Torque constant - Kt	Nm/A	1,32	1,66	1,31	2,22	1,17	2,8	1,79	1,4	2,68	1,79
Rotor inertia - Jr	gm²	2,7	5,4	5,4	9,1	9,1	17,7	17,7	17,7	26,4	26,4
Weight without brake - M	kg	10	17	17	23	23	36	36	36	50	50
Nominal power - Pn	W	2000	3100	3100	4000	4000	5500	5500	5500	7400	7400
Power connector		M23	M23	M23	M40	M40	M40	M40	M40	M40	M40

Motor Lengths		E-190-40-080		E-190-□□-150		E-190-□□-280		E-190-□□-500		E-190-□□-700	
		TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048 Smart ABS Hip SKM36 Biss-C	Smart ABS Hip SKM36 Biss-C	TTL 2048 Smart ABS Hip SKM36 Biss-C	Smart ABS Hip SKM36 Biss-C	TTL 2048 Smart ABS Hip SKM36 Biss-C	Smart ABS Hip SKM36 Biss-C
		M23	M23	M23	M23	M40		M40		M40	
L80	mm	106,5	116,5	139,5	159,5	194,5		264,5		334,5'	
L81	mm	120	140	163	183	218		288		358	
L80 with brake	mm	143,5	153,5	210	230	265		335		405	
L81 with brake	mm	157	177	233,5	253,5	288,5		358,5		428,5	
L03	mm	27	47	27	47	47		47		47	

Brake Characteristics		E-190-40-080		E-190-□□-150		E-190-□□-280		E-190-□□-500		E-190-□□-700	
Supply Voltage	Vdc	24 +/- 6% @ 1Adc		24 +/- 6% @ 1,46Adc		24 +/- 6% @ 1,46Adc		24 +/- 6% @ 1,46Adc		24 +/- 6% @ 1,46Adc	
Braking Torque	Nm	40		72		72		72		72	
Inertia	gm²	1,37		4,36		4,36		4,36		4,36	
Weight	kg	3,1		6,9		6,9		6,9		6,9	
Ton/Toff	ms	22/90		25/140		25/140		25/140		25/140	

400V - Square 260 mm E Motors

E MOTORS - 400V



Electrical Characteristics		E-260-20-800	E-260-30-800	E-260-20-1450	E-260-30-1450	E-260-20-2300
Stall Torque (ΔT 100 °C) - To	Nm	80	80	145	145	230
Stall current - Io	Arms	25	36	49	71	74
Max velocity - Nmax	rpm	2000	3000	2000	3000	2000
Max current - Imax	Arms	73	107	151	216	222
Max torque - Tmax	Nm	200	200	405	405	625
Voltage constant - Ke	V/Krpm	183	126	180	126	189
Torque constant - Kt	Nm/A	3,03	2,08	2,98	2,08	3,13
Rotor inertia - Jr	gm²	48,4	48,4	94,1	94,1	139,8
Weight without brake - M	kg	52	52	83	83	114
Nominal power - Pn	W	6100	6100	10000	10000	14600
Power connector		M40	M40	M40	M40	M40

Motor Lengths		E-260-□□-800		E-260-□□-1450		E-260-20-2300	
		TTL 2048 Hip SKM36		TTL 2048 Hip SKM36		TTL 2048 Hip SKM36	
L80	mm	214		294		374	
L81	mm	261		341		421	
L80 with brake	mm	267		347		427	
L81 with brake	mm	314		394		474	
L03	mm	47		47		47	

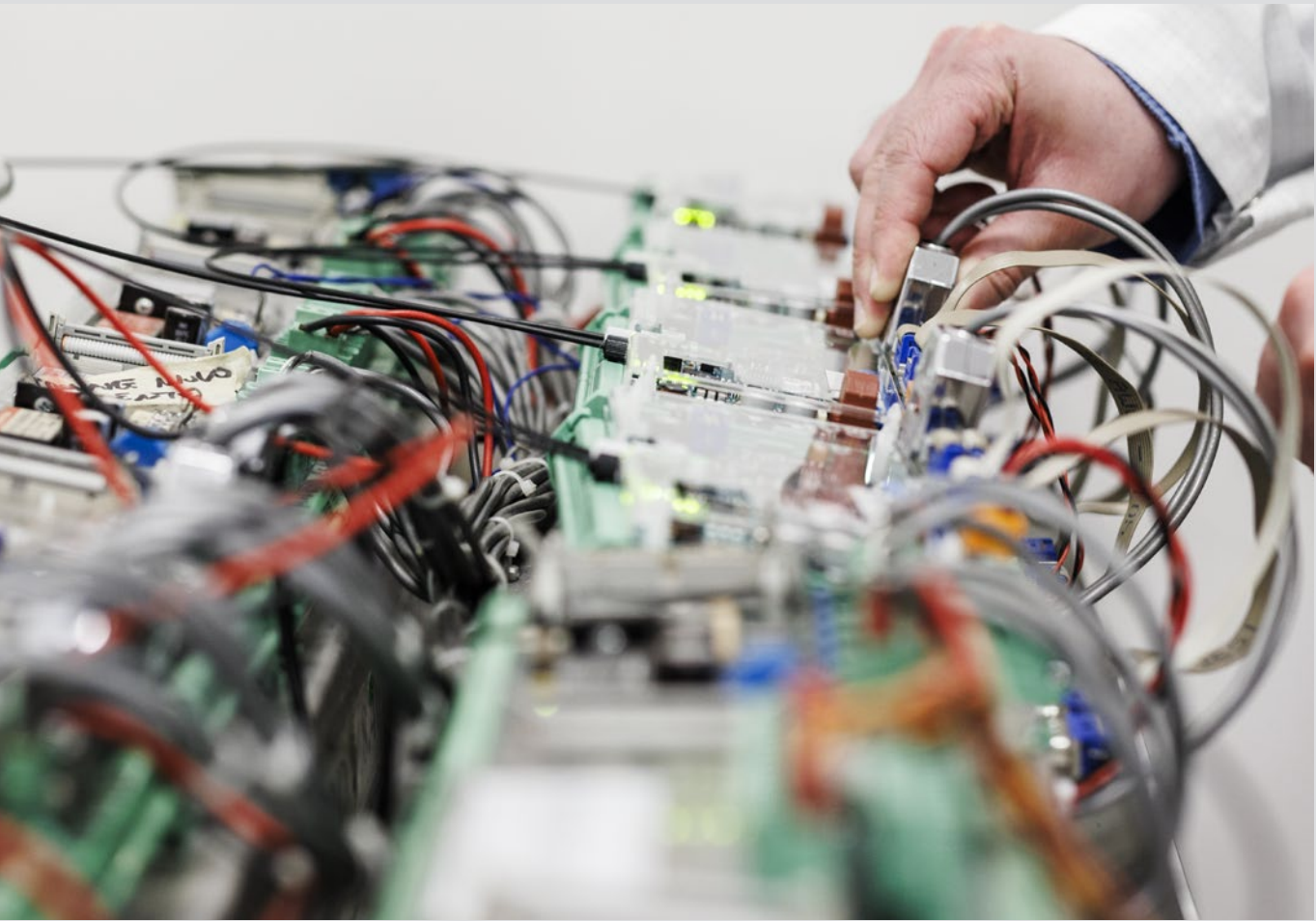
Brake Characteristics		E-260-□□-800		E-260-□□-1450		E-260-20-2300	
Supply Voltage	Vdc	24 +/- 6% @1,55Adc		24 +/- 6% @1,55Adc		24 +/- 6% @1,55Adc	
Braking Torque	Nm	120		120		120	
Inertia	gm²	8,2		8,2		8,2	
Weight	kg	13		13		13	
Ton/Toff	ms	80/150		80/150		80/150	

E Motors - EBS Drive Pairing Table

Motor	DRIVE	Stall torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
E-060-60-007-...	EBS 3/6	0,7	2,4	6000
E-060-60-017-...	EBS 3/6	1,7 (S3-60%)	4,6	6000
E-080-35-014-...	EBS 3/6	1,4	5	3500
E-080-60-014-...	EBS 3/6	1,4	4,9	6000
E-080-35-028...	EBS 3/6	2,8	7,8	3500
E-080-60-028-...	EBS 6/12	2,8	9,5	6000
E-080-35-039-...	EBS 6/12	3,9	13	3500
E-080-60-039-...	EBS 6/12	3,9	9,5	6000
E-085-60-010-...	EBS 3/6	1	3	6000
E-085-35-015-...	EBS 3/6	1,5	5,2	3500
E-085-60-015-...	EBS 3/6	1,5	5,2	6000
E-085-35-029-...	EBS 3/6	2,9	8,7	3500
E-085-60-029-...	EBS 6/12	2,9	10	6000
E-085-35-042-...	EBS 3/6	4,2	8,7	3500
E-085-60-042-...	EBS 6/12	4,2	10,9	6000
E-085-30-053-...	EBS 6/12	5,3	18	3000
E-085-50-053-...	EBS 6/12	5,3	10,9	5000
E-085-60-053-...	EBS 12/24	5,3	15,8	6000
E-115-50-021-...	EBS 3/6	2,1	6,0	5000
E-115-30-040-...	EBS 3/6	4	9,5	3000
E-115-60-040-...	EBS 6/12	4	11	6000
E-115-30-076-...	EBS 6/12	7,6	19,5	3000
E-115-50-076-...	EBS 12/24	7,6	23,5	5000
E-115-60-076-...	EBS 12/24	7,6	23,5	6000
E-115-30-113-...	EBS 12/24	11,3	38,9	3000
E-115-50-113-...	EBS 12/24	11,3	23,5	5000
E-115-60-113-...	EBS 18/36	11,3	23	6000
	EBS 30/60	11,3	39	6000
E-142-50-050-...	EBS 6/12	5	13,2	5000
E-142-30-100-...	EBS 12/24	10	35	3000
E-142-50-100-...	EBS 12/24	10	24,5	5000
E-142-60-100-...	EBS 12/24**	9,7**	19**	6000**
	EBS 18/36	10	27,5	6000
E-142-30-190-...	EBS 18/36	19	52	3000
	EBS 30/60	19	64	3000
E-142-45-190-...	EBS 18/36	19	40	4500
	EBS 30/60	19	64	4500
E-142-60-190-...	EBS30/60	19	56	6000
E-142-30-270-...	EBS 18/36	27	59	3000
	EBS 30/60	27	94	3000

** In bold Style are enhanced the configurations where the drive limits the continuous torque that motor can supply

Motor	DRIVE	Stall torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
E-142-45-270-...	EBS 30/60	27	77	4500
E-142-50-270-...	EBS 30/60	27	66	5000
E-142-30-350-...	EBS 30/60	35	105	3000
E-142-40-350-...	EBS 30/60	35	85	4000
E-190-40-080-...	EBS 6/12	8	18	4000
E-190-30-150-...	EBS 12/24	15	40	3000
E-190-40-150-...	EBS 12/24	15	31,5	4000
E-190-25-280-...	EBS 18/36	28	72	2500
E-190-40-280-...	EBS 30/60	28	72	4000
E-190-20-500-...	EBS 30/60	50	130	2000
E-190-30-500-...	EBS 30/60	50	107	3000
E-190-40-500-...	EBS 42/84	50	117	4000
E-190-20-700-...	EBS 30/60	70	160	2000
E-190-30-700-...	EBS 42/84	70	150	3000
E-260-20-800-...	EBS 30/60	80	180	2000
E-260-30-800-...	EBS 42/84	80	170	3000
E-260-20-1450-...	EBS 60/120	1450	350	2000
E-260-30-1450-...	EBS 80/180	1450	370	3000
E-260-20-2300-...	EBS 80/180	2300	560	2000



E Motors - EBS Drive Power/Feedback Cables

Motor	Stall Current [Arms]	Connectors	EBS Drive	Power Cable				Feedback Cables		
		Power Feedback		Motor without Brake		Motor with Brake		TTL 2048 Hip SMK36	Smart ABS	Biss-C
				Type	Code	Type	Code			
E-060-60-007-...	0.96	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-060-60-017-...	2.16	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-080-35-014-...	1.15	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-080-60-014-...	1.8	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-080-35-028-...	2.15	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-080-60-028-...	3.5	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-080-35-039-...	3.1	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-080-60-039-...	4.9	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-60-010-...	1.7	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-35-015-...	1.05	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-60-015-...	1.65	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-35-029-...	2	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-60-029-...	3.2	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-35-042-...	2.9	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-60-042-...	4.6	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-30-053-...	3.4	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-50-053-...	5.8	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-085-60-053-...	8	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-50-021-...	2.1	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-30-040-...	2.5	M23/M23	EBS 3/6	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-60-040-...	4.4	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-30-076-...	4.7	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-50-076-...	7.8	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-60-076-...	7.8	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-30-113 -...	7	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-50-113-...	12	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-115-60-113-...	17	M23/M23	EBS 18/36	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
		M23/M23	EBS 30/60							
E-142-50-050-...	4.6	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-30-100-...	6.5	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-50-100-...	9.8	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-60-100-...	12	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
		M23/M23	EBS 18/36	4G4	CMT.005.	4G4+2x1	CMT.006.			
E-142-30-190-...	12	M23/M23	EBS 18/36	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
		M23/M23	EBS 30/60							
E-142-45-190-...	16	M23/M23	EBS 18/36	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
		M23/M23	EBS 30/60							
E-142-60-190-...	21	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-30-270-...	15	M23/M23	EBS 18/36	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
		M23/M23	EBS 30/60							

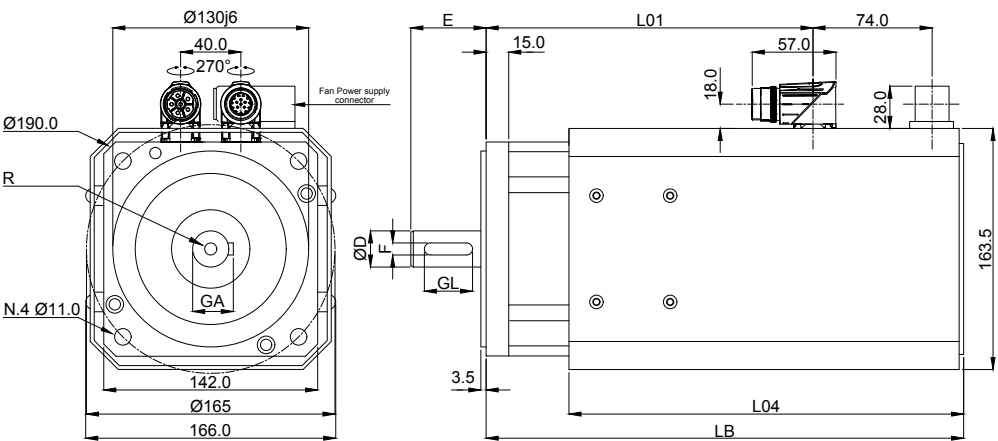
Motor	Stall Current [Arms]	Connectors	EBS Drive	Power Cable				Feedback Cables		
		Power Feedback		Motor without Brake		Motor with Brake		TTL 2048 Hip SKM36	Smart ABS	Biss-C
				Type	Code	Type	Code			
E-142-45-270-...	21	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-50-270-...	25	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-30-350-...	20	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-40-350-...	25	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-40-080-...	6	M23/M23	EBS 6/12	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-30-150-...	9,1	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-40-150-...	11	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-25-280-...	13	M40/M23	EBS 18/36	4G4	CMT.009.	4G4+2x1	CMT.010.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-40-280-...	24	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-20-500-...	18	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-30-500-...	28	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-40-500-...	36	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-20-700-...	26	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-30-700-...	39	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-260-20-800-...	25	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	Not available	Not available
E-260-30-800-...	36	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	Not available	Not available
E-260-20-1450-...	49	M40/M23	EBS 60/120	4G16	CMT.088.	4G16+2x1,5	CMT.029.	CMT.022.	Not available	Not available
E-260-30-1450-...	71	M40/M23	EBS 80/180	4G16	CMT.088.	4G16+2x1,5	CMT.029.	CMT.022.	Not available	Not available
E-260-20-2300-...	74	M40/M23	EBS 80/180	4G16	CMT.088.	4G16+2x1,5	CMT.029.	CMT.022.	Not available	Not available



Forced Cooling Square 142 mm E Motors

Forced Cooling Square 190 mm E Motors

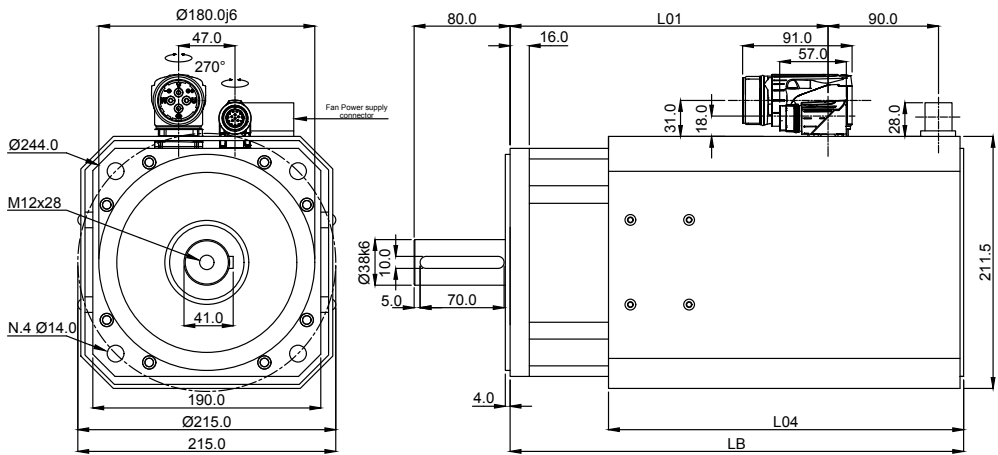
E MOTORS - 400V



Shaft **

ØD	24j6	32k6
E	50	58
GL	32	45
GA	27	35
F	8	10
R	M8x15	M12x22

E MOTORS - 400V



Electrical Characteristics		E-142-30-100	E-142-50-100	E-142-60-100	E-142-30-190	E-142-45-190	E-142-55-190	E-142-30-270	E-142-40-270	E-142-50-270	E-142-30-350	E-142-35-350
Stall Torque (ΔT 100 °C) - To	Nm	14	14	14	26,5	26,5	26,5	38	38	38	49	49
Stall current - Io	Arms	9,1	14	17	17	22	29	22	29	38	28	35
Max velocity - Nmax	rpm	3000	5000	6000	3000	4500	5500	3000	4000	5000	3000	3600
Max current - Imax	Arms	27	41	51	50	64	82	64	87	103	80	100
Max torque - Tmax	Nm	35	35	35	64	64	64	94	94	94	118	118
Voltage constant - Ke	V/ Krpm	93	62	49	93	72	56	106	78	61	106	85
Torque constant - Kt	Nm/A	1,54	1,03	0,81	1,54	1,19	0,93	1,75	1,29	1,09	1,75	1,41
Rotor inertia - Jr	gm²	2,2	2,2	2,2	4,3	4,3	4,3	6,5	6,5	6,5	8,7	8,7
Weight without brake -M	kg	11	11	11	16	16	16	21	21	21	26	26
Nominal power - Pn	W	3350	3350	3350	5200	5200	5200	5300	5300	5300	6900	6900
Power connector		M23	M23	M23	M23	M40	M40	M40	M40	M40	M40	M40

Servomotor Size	Fan Power (W)	Fan Current (A)	LB (mm)	L01 (mm)	L04 (mm)
230Vac 1P					
E-142-□□-100-0□□-01	45	0,3	267	154	212
E-142-□□-190-0□□-01	45	0,3	317	204	262
E-142-□□-270-0□□-01	45	0,3	367	254	312
E-142-□□-350-0□□-01	45	0,3	417	304	362
E-142-□□-100-1□□-01 - Brake	45	0,3	320,5	207,5	262
E-142-□□-190-1□□-01 - Brake	45	0,3	370,5	257,5	312
E-142-□□-270-1□□-01 - Brake	45	0,3	420,5	307,5	362
E-142-□□-350-1□□-01 - Brake	45	0,3	470,5	357,5	362

** standard shaft 24j6 – Optional shaft 32k6 on request

Brake Characteristics		E-142-□□-100	E-142-□□-190	E-142-□□-270	E-142-□□-350
Supply Voltage	Vdc	24 +/- 6% @ 1Adc	24 +/- 6% @ 1Adc	24 +/- 6% @ 1Adc	24 +/- 6% @ 1Adc
Braking Torque	Nm	40	40	40	40
Inertia	gm²	1,37	1,37	1,37	1,37
Weight	kg	3,1	3,1	3,1	3,1
Ton/Toff	ms	22/90	22/90	22/90	22/90

Electrical Characteristics		E-190-25-280	E-190-40-280	E-190-20-500	E-190-30-500	E-190-40-500	E-190-20-700	E-190-30-700
Stall Torque (ΔT 100 °C) - To	Nm	40	40	71	71	71	98	98
Stall current - Io	Arms	18	34	25	40	51	37	55
Max velocity - Nmax	rpm	2500	4000	2000	3000	4000	2000	3000
Max current - Imax	Arms	39	73	55	87	111	80	120
Max torque - Tmax	Nm	72	72	130	130	130	180	180
Voltage constant - Ke	V/ Krpm	134	71	169	108	84,5	162	108
Torque constant - Kt	Nm/A	2,22	1,17	2,8	1,79	1,4	2,68	1,79
Rotor inertia - Jr	gm²	9,1	9,1	17,7	17,7	17,7	26,4	26,4
Weight without brake - M	kg	24	24	38,5	38,5	38,5	53	53
Nominal power - Pn	W	5600	5600	7700	7700	7700	10400	10400
Power connector		M40	M40	M40	M40	M40	M40	M40

Servomotor Size	Fan Power (W)	Fan Current (A)	LB (mm)	L01 (mm)	L04 (mm)
400Vac 3P					
E-190-□□-280-0 □□-01	53	0,15	309	194,5	226
E-190-□□-500-0 □□-01	53	0,15	379	264,5	296
E-190-□□-700-0 □□-01	53	0,15	449	334,5	366
E-190-□□-280-1 □□-01 - Brake	53	0,15	379,5	265	296
E-190-□□-500-1 □□-01 - Brake	53	0,15	449,5	335	366
E-190-□□-700-1 □□-01 - Brake	53	0,15	519,5	405	366

Brake Characteristics		E-190-□□-280	E-190-□□-500	E-190-□□-700
Supply Voltage	Vdc	24 +/- 6% @ 1,46 Adc	24 +/- 6% @ 1,46 Adc	24 +/- 6% @ 1,46 Adc
Braking Torque	Nm	72	72	72
Inertia	gm²	4,36	4,36	4,36
Weight	kg	6,9	6,9	6,9
Ton / Toff	ms	25/140	25/140	25/140

Forced Cooling E Motors - EBS Drive Pairing Table

Forced Cooling E Motors
EBS Drive Power/Feedback Cables

Motor	DRIVE	Stall torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
E-142-30-100-...	EBS 12/24	14	35	3000
E-142-50-100-...	EBS 18/36	14	24,5	5000
E-142-60-100-...	EBS 18/36	14	27,5	6000
	EBS 30/60	14	35	6000
E-142-30-190-...	EBS 18/36	26,5	52	3000
	EBS 30/60	26,5	64	3000
E-142-45-190-...	EBS 30/60	26,5	64	4500
E-142-55-190-...	EBS 30/60	26,5	55,8	5500
E-142-30-270-...	EBS30/60	38	94	3000
E-142-40-270-...	EBS30/60	38	77	4000
E-142-50-270-...	EBS 42/84	38	91	5000
E-142-30-350-...	EBS 30/60	49	105	3000
E-142-35-350-...	EBS 42/84	49	118	3500
E-190-25-280-...	EBS 18/36**	37**	72**	2500**
	EBS 30/60	40	72	2500
E-190-40-280-...	EBS 30/60**	35**	70**	4000**
	EBS 42/84	40	72	4000
E-190-20-500-...	EBS 30/60	71	130	2000
E-190-30-500-...	EBS 42/84	71	130	3000
E-190-40-500-...	EBS 60/120	71	130	4000
E-190-20-700-...	EBS 42/84	98	180	2000
E-190-30-700-...	EBS 60/120	98	180	3000

** In bold Style are enhanced the configurations where the drive limits the continuous torque that motor can supply

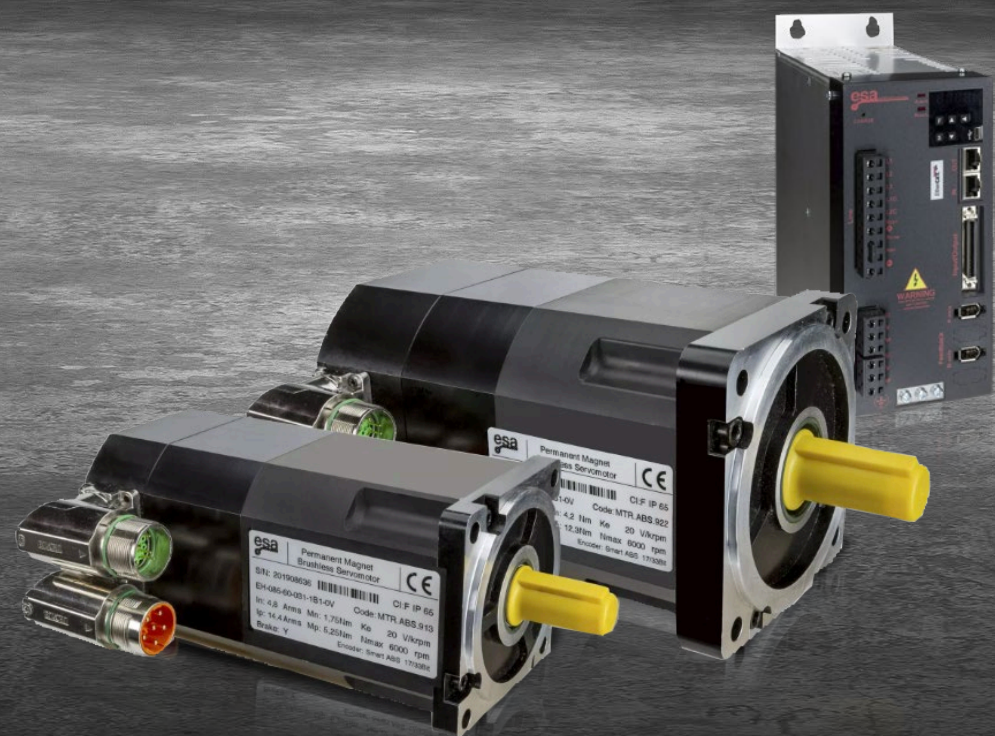
Motor	Stall Current [Arms]	Connectors		Power Cable				Feedback Cables		
		Power Feedback	EBS Drive	Motor without Brake		Motor with Brake		TTL 2048 Hip SKM36	Smart ABS	Biss-C
				Type	Code	Type	Code			
E-142-30-100-...	9,1	M23/M23	EBS 12/24	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-50-100-...	14	M23/M23	EBS 18/36	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-60-100-...	17	M23/M23	EBS 18/36 EBS 30/60	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-30-190-...	17	M23/M23	EBS 18/36 EBS 30/60	4G4	CMT.005.	4G4+2x1	CMT.006.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-45-190-...	22	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-55-190-...	29	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-30-270-...	22	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-40-270-...	29	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-50-270-...	35	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-30-350-...	28	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-142-35-350-...	35	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-25-280-...	18	M40/M23	EBS 18/36	4G4	CMT.009.	4G4+2x1	CMT.010.	CMT.022.	CMT.A1A3.	CMT.BOG3.
			EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.			
E-190-40-280-...	34	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
			EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.			
E-190-20-500-...	25	M40/M23	EBS 30/60	4G6	CMT.013.	4G6+2x1	CMT.014.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-30-500-...	40	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-40-500-...	51	M40/M23	EBS 60/120	4G16	CMT.088.	4G16+2x1,5	CMT.029.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-20-700-...	37	M40/M23	EBS 42/84	4G10	CMT.058.	4G10+2x1	CMT.059.	CMT.022.	CMT.A1A3.	CMT.BOG3.
E-190-30-700-...	55	M40/M23	EBS 60/120	4G16	CMT.088.	4G16+2x1,5	CMT.029.	CMT.022.	CMT.A1A3.	CMT.BOG3.



230 VAC EBSH DRIVES AND E MOTORS

Massima potenza
in pronta consegna.

Maximum power ready
for delivery.



DRIVE EBSH

Questi drive sono stati sviluppati per realizzare una totale integrazione digitale con i CNC Esautomation tramite bus di campo standard quali CANopen ed EtherCAT.

La gamma comprende:

- drive doppi in quattro taglie principali: 3A, 6A, 8A e 10A
- drive singoli in due taglie principali: 16A e 25A.

L'alimentazione è diretta da rete (220V AC trifase). Ogni convertitore è dotato di resistenza di frenatura interna, ad eccezione del modello doppio da 3A. Su tutti i modelli è possibile montare una resistenza di frenatura esterna.

Per questi drives è richiesta un'alimentazione di servizio di (220V AC monofase).

CARATTERISTICHE PRINCIPALI

- Gestione di 8 ingressi digitali programmabili e 6 uscite digitali programmabili.
- Gestione di trasduttori di tipo Assoluto/Incrementale 17/33 Bit.
- Gestione bus di campo CANopen.
- Gestione bus di Campo EtherCAT.
- Gestione ingresso analogico comando velocità.
- Gestione ingresso analogico Torque.
- Gestione automatica del freno elettromeccanico.
- Implementazione delle seguenti protezioni:
 - Sovracorrente convertitore,
 - Sovrantensione convertitore,
 - I2t IGBT e motore con soglia di preallarme e allarme,
 - Anomalie circuito di frenatura,
 - Anomalia circuito freno elettromeccanico,
 - Rottura/sconnessione encoders,
 - Sovra-velocità motore.
- Gestione delle funzioni:
 - Regolazione del guadagno,
 - Storico allarmi,
 - Funzionamento JOG,
 - Ricerca dell'origine,
 - Rilevamento dell'inerzia.

EBSH DRIVES

These drives have been designed to achieve total digital integration with Esautomation's CNCs, using standard fieldbuses such as CANopen and EtherCAT.

The complete range includes:

- dual drives in four main sizes: 3A, 6A, 8A and 10A
- single drives in two main sizes: 16A and 25A.

The power supply is directed from the mains (220V AC three-phase). Each converter is equipped with internal brake resistor, with the exception of the dual 3A model. An external brake resistor can be mounted on all models.

For these drives a service power supply of (220V AC single-phase) is required.

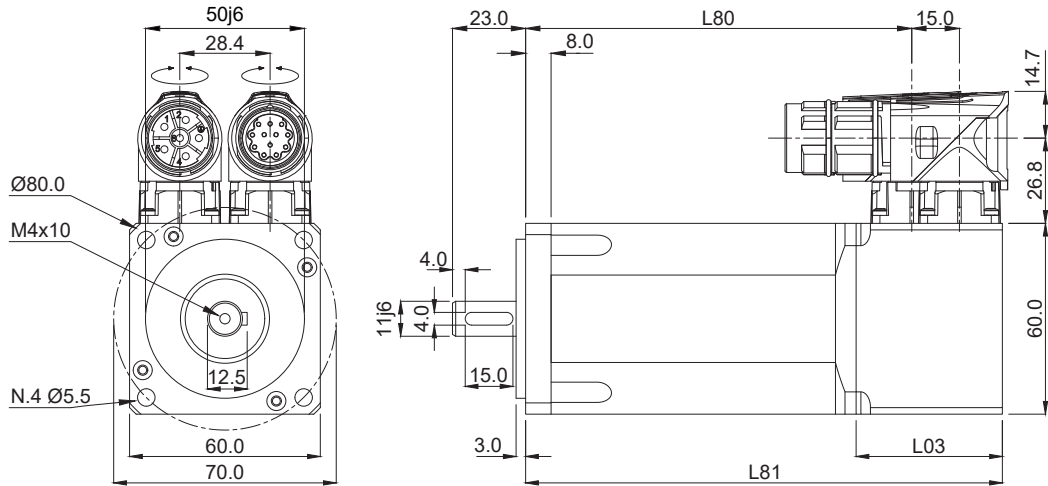
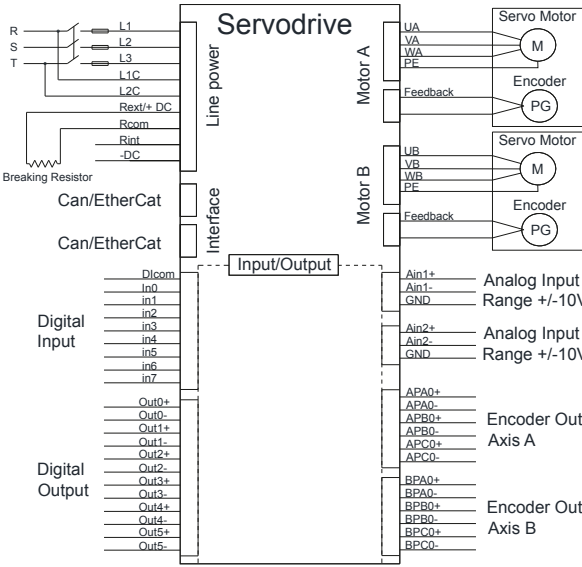
MAIN FEATURES

- Management of 8 programmable digital inputs and 6 programmable digital outputs.
- Management of Absolute/Incremental transducers 17/33Bit.
- CANopen fieldbus management.
- EtherCAT Fieldbus management.
- Analog input management speed control.
- Torque analogic input management.
- Automatic management of the electromechanical brake.
- Implementation of the following protections:
 - Overcurrent converter,
 - Converter overvoltage,
 - I2t IGBT and motor with early warning threshold and alarm,
 - Brake circuit anomalies,
 - Electromechanical brake circuit anomaly,
 - Breakage/disconnection encoders,
 - Motor over-speed.
- Function management:
 - Gain adjustment,
 - Alarm history,
 - JOG operation,
 - search for origin,
 - Inertia detection.

EBSH drives

230V - Square 60 mm E Motors

EBSH SERVODRIVES



E MOTORS - 230V

EBSH Technical Data

Model				EBSH 3A	EBSH 6A	EBSH 8A	EBSH 10A	EBSH 16A	EBSH 25A	
Type				Dual	Dual	Dual	Dual	Single	Single	
Continuous output current				Arms	3	6	8	10	16	25
Instantaneous Maximum Output Current				Arms	10.6	14.1	21.2	24.8	49.5	63.6
Dimensions (L x H x D)				mm	93,2 x 244,0 x 182,5				113,2 x 273,3 x 202,8	
Main Circuit	Three-phase power supply voltage rating			Vac	AC 230 V -15% ~ +10%, 50 Hz / 60 Hz					
	Power supply current rating			Arms	5.1	10.3	14.3	16.8	10.1	15.7
Control circuit				Vac	AC 230 V -15% ~ +10%, 50 Hz / 60 Hz					
Bus DC rated voltage				Vdc	DC 320 V -15% ~ +10%,					
Power Supply Capacity				[kVA]	2.1	4.2	5.8	6.8	4.0	5.9
Regenerative Resistor	Built-In Regenerative Resistor	Resistance	[Ω]	---	40	20	20	32	32	
		Capacity	[W]	---	80	80	80	150	150	
	Minimum Allowable External Resistance		[Ω]	40	20	15	15	12	10	
Over voltage Category				III						
Feedback				Smart ABS – NRZ – 17/33 bit (incremental/absolute encoder)						
CAN Communication	Communication Protocol			CANOpen (DS301 + DS402 Protocol)						
	1 : N Communication			Up to N = 127 stations						
	Axis Address			Set with parameters.						
EtherCAT BUS	Communication Protocol			CoE (CANOpen over EtherCAT)						
	Minimum instruction time			125 μs						

The 3A specification of servodrive has no built-in regenerative resistor

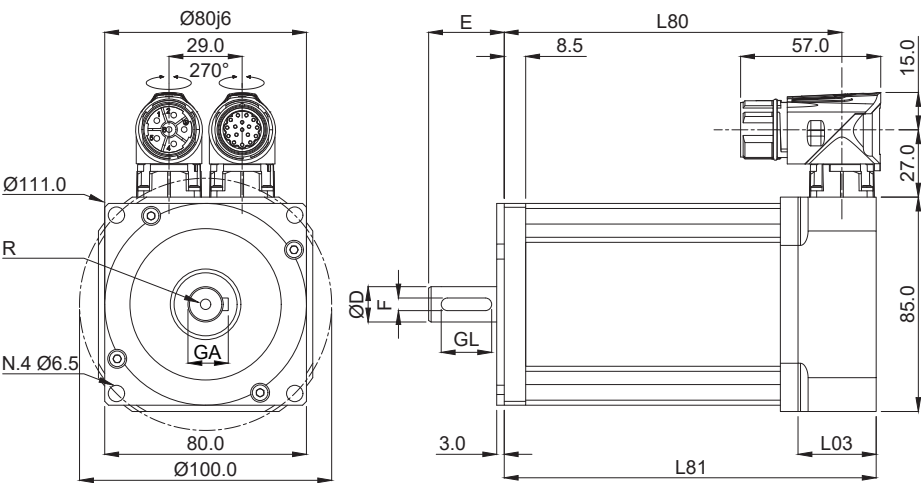
Electrical Characteristics		E-060-60-007	E-060-60-017
Stall Torque (ΔT 100 °C) - To	Nm	0,7	1,7 (S3-60%) / 1,4 (S1)
Stall current - Io	Arms	1,57	3,5 (S3-60%) / 2,8 (S1)
Max velocity - Nmax	rpm	6000	6000
Max current - Imax	Arms	6,4	11
Max torque - Tmax	Nm	2,4	4,6
Voltage constant - Ke	V/Krpm	27	30
Torque constant - Kt	Nm/A	0,45	0,5
Rotor inertia - Jr	gm²	0,013	0,023
Weight without brake - M	kg	1,2	1,7
Nominal power - Pn	W	200	540 (S3-60%) / 400(S1)
Power connector		M23	M23

Motor Lengths		E-060-60-007 TTL 2048 – Smart ABS Hip SKM36 – Biss-C	E-060-60-017 TTL 2048 – Smart ABS Hip SKM36 – Biss-C
L80	mm	93,5	121,5
L81	mm	122,0	150,0
L80 with brake	mm	123,9	151,9
L81 with brake	mm	152,4	180,4
L03	mm	46	46

Brake Characteristics		E-060-60-007	E-060-60-017
Supply Voltage	Vdc	24 +/- 6% @ 0,46Adc	24 +/- 6% @ 0,46Adc
Braking Torque @20°C	Nm	2	2
Inertia	gm²	0,01	0,01
Weight	kg	0,3	0,3
Ton/Toff	ms	6/25	6/25

230V - Square 80 mm E Motors

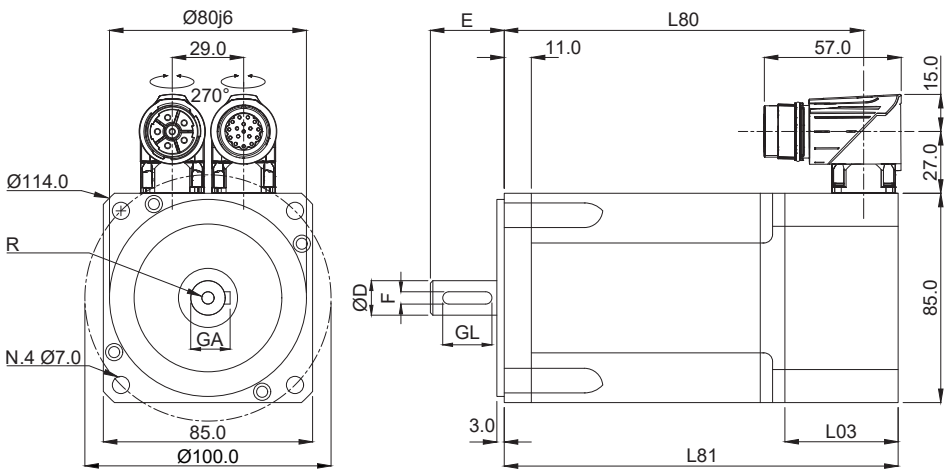
E MOTORS - 230V



Shaft **		
ØD	14j6	19j6
E	30	40
GL	20	32
GA	16	21,5
F	5	6
R	M5x15	M6x16

230V - Square 85 mm E Motors

E MOTORS - 230V



Shaft **		
ØD		19j6
E	30	40
GL	20	32
GA	16	21,5
F	5	6
R	M5x15	M6x16

Electrical Characteristics		E-080-35-014		E-080-60-014		E-080-35-028		E-080-60-028		E-080-35-039		E-080-60-039	
Stall Torque (ΔT 100 °C) - To	Nm	1,4		1,4		2,8		2,8		3,9		3,9	
Stall current - Io	Arms	1,8		3,1		3,5		5,7		4,9		6,5	
Max velocity - Nmax	rpm	3500		6000		3500		6000		3500		6000	
Max current - Imax	Arms	7,2		12,8		14		22,8		19,6		26,2	
Max torque - Tmax	Nm	5		5		9,5		9,5		13		13	
Voltage constant - Ke	V/Krpm	49		28		48		29		48		36	
Torque constant - Kt	Nm/A	0,81		0,463		0,794		0,48		0,794		0,595	
Rotor inertia - Jr	gm²	0,077		0,077		0,142		0,142		0,21		0,21	
Weight without brake - M	kg	1,9		1,9		2,9		2,9		3,5		3,5	
Nominal power - Pn	W	370		370		720		720		970		970	
Power connector		M23		M23		M23		M23		M23		M23	

Motor Lengths	E-080-□□-014				E-080-□□-028				E-080-□□-039			
	TTL 2048 Smart ABS Biss-C		Hip SKM36		TTL 2048 Smart ABS Biss-C		Hip SKM36		TTL 2048 Smart ABS Biss-C		Hip SKM36	
Shaft ØD	14	19	14	19	14	19	14	19	14	19	14	19
L80	mm	83,5	93,5	98,5	108,5	108,5	118,5	123,5	133,5	143,5	148,5	158,5
L81	mm	97,5	107,5	112,5	122,5	122,5	132,5	137,5	147,5	157,5	162,5	172,5
L80 with brake	mm	135,1	135,1	150,1	150,1	160,1	160,1	175,1	175,1	185,1	185,1	200,1
L81 with brake	mm	149,1	149,1	164,1	164,1	174,1	174,1	189,1	189,1	199,1	199,1	214,1
L03	mm	31	31	46	46	31	31	46	46	31	31	46

** standard shaft 14j6 – Optional shaft 19j6 on request

Brake Characteristics		E-080-□□-014		E-080-□□-028		E-080-□□-039	
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc	
Braking Torque	Nm	9		9		9	
Inertia	gm²	0,06		0,06		0,06	
Weight	kg	1		1		1	
Ton/Toff	ms	7/40		7/40		7/40	

Electrical Characteristics		E-085-60-010		E-085-30-015		E-085-60-015		E-085-35-029		E-085-60-029		E-085-35-042		E-085-50-042		E-085-60-042		E-085-30-053		E-085-50-53	
Stall Torque (ΔT 100 °C) - To	Nm	1		1,5		1,5		2,9		2,9		4,2		4,2		4,2		5,3		5,3	
Stall Current - Io	Arms	3		1,65		2,6		3,2		5,2		4,6		7,1		9,5		5,8		8	
Max velocity - Nmax	rpm	6000		3000		6000		3500		6000		3500		5000		6000		3000		5000	
Max current - Imax	Arms	14		6,9		11,0		13		21		18		28		34		23		32	
Max torque - Tmax	Nm	3,6		5,2		5,2		10		10		14		14		14		18		18	
Voltage constant - Ke	V/ Krpm	20		55		35		55		34		55		36		29		55		40	
Torque constant - Kt	Nm/A	0,33		0,91		0,58		0,91		0,56		0,91		0,6		0,48		0,91		0,66	
Rotor inertia - Jr	gm²	0,07		0,092		0,092		0,172		0,172		0,253		0,253		0,253		0,333		0,333	
Weight without brake -M	kg	2		2,4		2,4		3,5		3,5		4,6		4,6		4,6		5,7		5,7	
Nominal power - Pn	W	240		400		400		700		700		1000		1000		1000		1200		1200	
Power connector		M23		M23		M23		M23		M23		M23		M23		M23		M23		M23	

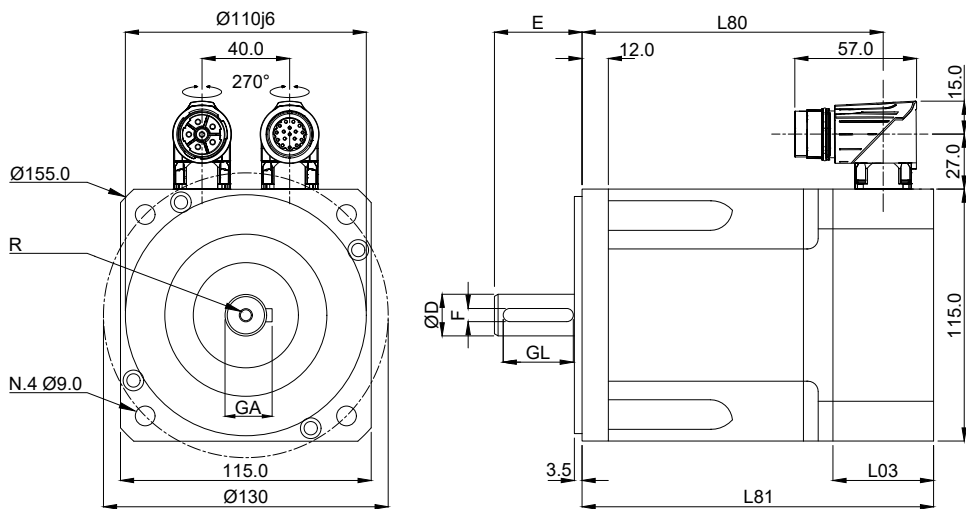
Motor Lengths	E-085-60-010			E-085-□□-015			E-085-□□-029			E-085-□□-042			E-085-□□-053		
	TTL 2048	Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	Hip SKM36
Shaft ØD	14	14	14	14	19	14	19	14	19	14	19	14	19	14	19
L80	mm	73,5	78,4	83,5	101	111	116	126	131	141	146	156	161	171	176
L81	mm	87	92	107	115	125	130	140	145	155	160	170	175	185	190
L80 with brake	mm	101,5	106,4	111,5	149	149	164	164	179	179	194	194	209	209	224
L81 with brake	mm	115	120	135	163	163	178	178	193	193	208	208	223	223	238
L03	mm	26	31	46	31	31	46	46	31	31	46	46	31	31	46

** standard shaft 14j6 – Optional shaft 19j6 on request

Brake Characteristics		E-085-60-010		E-085-□□-015		E-085-□□-029		E-085-□□-042		E-085-□□-053	
Supply Voltage	Vdc	24 +/- 6% @ 0,46Adc		24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc	
Braking Torque	Nm	2		9		9		9		9	
Inertia	gm²	0,01		0,06		0,06		0,06		0,06	
Weight	kg	0,3		1		1		1		1	
Ton/Toff	ms	6/25		7/40		7/40		7/40		7/40	

230V - Square 115 mm E Motors

E MOTORS - 230V



Shaft **		
ØD	19j6	24j6
E	40	50
GL	32	32
GA	21.5	27
F	6	8
R	M6x16	M8x15

Electrical Characteristics		E-115-60-021	E-115-30-040	E-115-40-040	E-115-60-040	E-115-30-076	E-115-40-076	E-115-60-076	E-115-30-113	E-115-50-113
Stall Torque (ΔT 100 °C) - To	Nm	2,1	4	4	4	7,6	7,6	7,6	11,3	11,3
Stall Current - Io	Arms	4,3	4,4	5,4	6,9	7,8	10	12,9	12	16,7
Max velocity - Nmax	rpm	6000	3000	4000	6000	3000	4000	6000	3000	5000
Max current - Imax	Arms	18	18	23	29	32	40	53	48	68
Max torque - Tmax	Nm	7,1	14	14	14	26	26	26	39	39
Voltage constant - Ke	V/Krpm	29	55	44	35	59	46	36	59	41
Torque constant - Kt	Nm/A	0,48	0,91	0,73	0,58	0,98	0,76	0,60	0,98	0,68
Rotor inertia - Jr	gm²	0,28	0,5	0,5	0,5	0,96	0,96	0,96	1,4	1,4
Weight without brake - M	kg	3,6	5,6	5,6	5,6	8,5	8,5	8,5	11,4	11,4
Nominal power - Pn	W	570	1000	1000	1000	1700	1700	1700	2400	2400
Power connector		M23	M23	M23	M23	M23	M23	M23	M23	M23

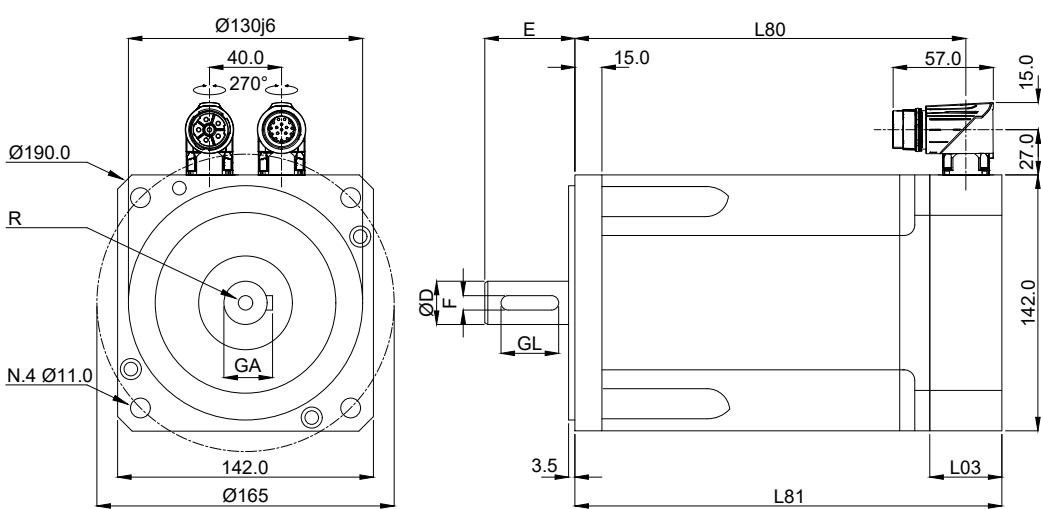
Motor Lengths		E-115-60-021			E-115-□□-040		E-115-□□-076		E-115-□□-113	
		TTL 2048	Smart ABS	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36	TTL 2048 Smart ABS Biss-C	Hip SKM36
L80	mm	80,5	85,5	91	132	137,5	172	177,5	212	217,5
L81	mm	94	100	114	146,5	160,5	186,5	200,5	226,5	240,5
L80 with brake	mm	124	129,1	134,6	181	186,5	221	226,5	261	266,5
L81 with brake	mm	137,6	143,6	157,6	195,5	209,5	235,5	249,5	275,5	289,5
L03	mm	26	32	46	32	46	32	46	32	46

** standard shaft 19j6 – Optional shaft 24j6 on request

Brake Characteristics		E-115-60-021		E-115-□□-040		E-115-□□-076		E-115-□□-113	
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc		24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc	
Braking Torque	Nm	9		18		18		18	
Inertia	gm²	0,06		0,24		0,24		0,24	
Weight	kg	1,0		1,4		1,4		1,4	
Ton/Toff	ms	7/40		10/50		10/50		10/50	

230V - Square 142 mm E Motors

E MOTORS - 230V



Shaft **		
ØD	24j6	32k6
E	50	58
GL	32	45
GA	27	35
F	8	10
R	M8x15	M12x22

Electrical Characteristics		E-142-45-050	E-142-60-050	E-142-30-100	E-142-40-100	E-142-60-100	E-142-35-190	E-142-50-190	E-142-35-270
Stall Torque (ΔT 100 °C) - To	Nm	5	5	10	10	10	19	19	27
Stall Current - Io	Arms	7,4	12,1	9,8	12,3	19,9	21	27	25
Max velocity - Nmax	rpm	4500	6000	3000	4000	6000	3500	5000	3500
Max current - Imax	Arms	30	48	41	51	82	82	110	102
Max torque - Tmax	Nm	17	17	35	35	35	64	64	94
Voltage constant - Ke	V/Krpm	41	25	62	49	31	56	42	61
Torque constant - Kt	Nm/A	0,68	0,41	1,02	0,81	0,51	0,93	0,7	1,01
Rotor inertia - Jr	gm²	1,2	1,2	2,2	2,2	2,2	4,3	4,3	6,5
Weight without brake -M	kg	6	6	11	11	11	16	16	21
Nominal power - Pn	W	1100	1100	2400	2400	2400	3700	3700	3800
Power connector		M23	M23	M23	M23	M23	M40	M40	M40

Motor Lengths		E-142-□□-050			E-142-□□-100		E-142-□□-190			E-142-35-270
		TTL 2048	Smart ABS Biss-C	Hip SKM36	TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048	Smart ABS Hip SKM36 Biss-C	TTL 2048	TTL 2048 Smart ABS Hip SKM36 Biss-C
		M23	M23	M23	M23	M23	M23	M40	M23-M40	M40
L80	mm	95	99	104,5	160,5	167	210,5	217	217	267
L81	mm	108,5	113,5	124,5	174	187	224	237	237	287
L80 with brake	mm	134,5	138,5	144	214	220,5	264	270,5	270,5	320,5
L81 with brake	mm	148	153	164	227,5	240,5	277,5	290,5	290,5	340,5
L03	mm	27	32	43	27	40	27	40	40	40

** standard shaft 24j6 – Optional shaft 32k6 on request

Brake Characteristics		E-142-□□-050		E-142-□□-100		E-142-□□-190		E-142-35-270	
Supply Voltage	Vdc	24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc	
Braking Torque @20°C	Nm	18		40		40		40	
Inertia	gm²	0,24		1,37		1,37		1,37	
Weight	kg	1,4		3,1		3,1		3,1	
Ton/Toff	ms	10/50		22/90		22/90		22/90	



E Motors - EBSH Drive Pairing Table

Motor	DRIVE	Stall Torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
E-060-60-007-...	EBSH 3A	0,7	2,4	6000
E-060-60-017-...	EBSH 3A**	1,5**	4,6**	6000**
	EBSH 6A	1,7	4,6	6000
E-080-35-014-...	EBSH 3A	1,4	5,0	3500
E-080-60-014-...	EBSH 6A	1,4	5,0	6000
E-080-35-028-...	EBSH 6A	2,8	9,5	3500
E-080-60-028-...	EBSH 6A	2,8	6,7	6000
E-080-35-039-...	EBSH 6A	3,9	11,2	3500
E-080-60-039-...	EBSH 8A	3,9	12,6	6000
E-085-60-010-...	EBSH 3A	1,0	3,6	6000
E-085-30-015-...	EBSH 3A	1,5	5,2	3000
E-085-60-015-...	EBSH 3A	1,5	5,2	6000
E-085-35-029-...	EBSH 6A	2,9	10	3500
E-085-60-029-...	EBSH 6A	2,9	7,8	6000
E-095-35-042-...	EBSH 6A	4,2	12,8	3500
E-085-50-042-...	EBSH 8A	4,2	12,7	5000
E-085-60-042-...	EBSH 10A	4,2	11,9	6000
E-085-30-053-...	EBSH 6A	5,3	12,8	3000
E-085-50-053-...	EBSH 10A	5,3	16	5000
E-115-60-021-...	EBSH 6A	2,1	6,7	6000
E-115-30-040-...	EBSH 6A	4,0	12,8	3000
E-115-40-040-...	EBSH 6A	4,0	10,2	4000
E-115-60-040-...	EBSH 8A	4,0	12,2	6000
E-115-30-076-...	EBSH 8A	7,6	20,7	3000
E-115-40-076-...	EBSH 10A	7,6	18,8	4000
E-115-60-076-...	EBSH 10A**	6**	14,8**	6000**
	EBSH 16A	7,6	26	6000
E-115-30-113-...	EBSH 16A	11,3	39	3000
E-115-50-113-...	EBSH 25A	11,3	39	5000
E-142-45-050-...	EBSH 8A	5,0	14,4	4500
E-142-60-050-...	EBSH 16A	5,0	17	6000
E-142-30-100-...	EBSH 10A	10,0	25	3000
E-142-40-100-...	EBSH 16A	10,0	35	4000
E-142-60-100-...	EBSH 25A	10,0	32	6000
E-142-35-190-...	EBSH 25A	19,0	59	3500
E-142-50-190-...	EBSH 25A**	17,5**	44**	5000**
E-142-35-270-...	EBSH 25A	27,0	64	3500

**In bold style are enhanced the configurations where the drive limits the continuous torque that motor can supply

E Motors – EBSH Drive - Power/Feedback Cables

Motor	Stall Current [Arms]	Connectors			Power Cable				Feedback Cables	
		Power	Feedback	EBS Drive	Motor without Brake		Motor with Brake		TTL 2048 Hip SKM36 Biss-C	Smart ABS
					Type	Code	Type	Code		
E-060-60-007-...	1,57	M23	M23	EBSH 3A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-060-60-017-...	3,5	M23	M23	EBSH 3A EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-080-35-014-...	1,8	M23	M23	EBSH 3A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-080-60-014-...	3,1	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-080-35-028-...	3,5	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-080-60-028-...	5,7	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-080-35-039-...	4,9	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-080-60-039-...	6,5	M23	M23	EBSH 8A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-60-010-...	3	M23	M23	EBSH 3A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-30-015-...	1,65	M23	M23	EBSH 3A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-60-015-...	2,6	M23	M23	EBSH 3A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-35-029-...	3,2	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-60-029-...	5,2	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-35-042-...	4,6	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-50-042-...	7,1	M23	M23	EBSH 8A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-60-042-...	9,5	M23	M23	EBSH 10A	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	Not available	CMT.A1C3.
E-085-30-053-...	5,8	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-085-50-053-...	8	M23	M23	EBSH 10A	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	Not available	CMT.A1C3.
E-115-60-021-...	4,3	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-115-30-040-...	4,4	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-115-40-040-...	5,4	M23	M23	EBSH 6A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-115-60-040-...	6,9	M23	M23	EBSH 8A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-115-30-076-...	7,8	M23	M23	EBSH 8A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-115-40-076-...	10	M23	M23	EBSH 10A	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	Not available	CMT.A1C3.
E-115-60-076-...	12,9	M23	M23	EBSH 10A EBSH 16A	4G2,5 4G4	CMT.007. CMT.005.	4G2,5+2x1 4G4+2x1	CMT.008. CMT.006.	Not available	CMT.A1C3.
E-115-30-113-...	12	M23	M23	EBSH 16A	4G4	CMT.005.	4G4+2x1	CMT.006.	Not available	CMT.A1C3.
E-115-50-113-...	16,7	M23	M23	EBSH 25A	4G4	CMT.005.	4G4+2x1	CMT.006.	Not available	CMT.A1C3.
E-142-45-050-...	7,4	M23	M23	EBSH 8A	4G1,5	CMT.001.	4G1,5+2x1	CMT.003.	Not available	CMT.A1C3.
E-142-60-050-...	12,1	M23	M23	EBSH 16A	4G4	CMT.005.	4G4+2x1	CMT.006.	Not available	CMT.A1C3.
E-142-30-100-...	9,8	M23	M23	EBSH 10A	4G2,5	CMT.007.	4G2,5+2x1	CMT.008.	Not available	CMT.A1C3.
E-142-40-100-...	12,3	M23	M23	EBSH 16A	4G4	CMT.005.	4G4+2x1	CMT.006.	Not available	CMT.A1C3.
E-142-60-100-...	19,9	M23	M23	EBSH 25A	4G4	CMT.005.	4G4+2x1	CMT.006.	Not available	CMT.A1C3.
E-142-35-190-...	21	M40	M23	EBSH 25A	4G6	CMT.013.	4G6+2x1	CMT.014.	Not available	CMT.A1C3.
E-142-50-190-...	27	M40	M23	EBSH 25A	4G6	CMT.013.	4G6+2x1	CMT.014.	Not available	CMT.A1C3.
E-142-35-270-...	25	M40	M23	EBSH 25A	4G6	CMT.013.	4G6+2x1	CMT.014.	Not available	CMT.A1C3.

E Motors Characteristics and Coding

Technology	Synchronous Brushless Servomotors with sinusoidal fcem. Built using last generation of Iron Boron Neodymium magnets. 8 poles construction
Thermal insulation	F class (Max T = 140°C Ta = 40°C + T = 100°C) obtained using components in F and H class
Constructive shape	B5
Degree of protection	Natural cooling: IP65 – IP64 output shaft, IP65 with radial gasket - as option Forced cooling: IP54
Thermal protection	PTC
Shaft	Standard with key
Connections	FEEDBACK CONNECTORS: M23 – 17poles - 90° orientable – Transducer and PTC connections POWER CONNECTOR: M23/M40 6poles - 90° orientable – Motor and brake connections Motors with Stall current > 20A are fitted with the M40 power connector
Supply Voltage	230Vac or 400Vac
Transducer	Incremental Line Drive encoder 2048p/r with hall sensor Absolute Hiperface SKM36 Encoder Absolute Smart ABS 17/33Bit Absolute BISS-C - ELM35 Encoder
Painting	Protective resins (half luster black)
Options	24Vdc Brake - Shaft without key Forced cooling – Coupling with epicycloidal gearbox

Motors Coding

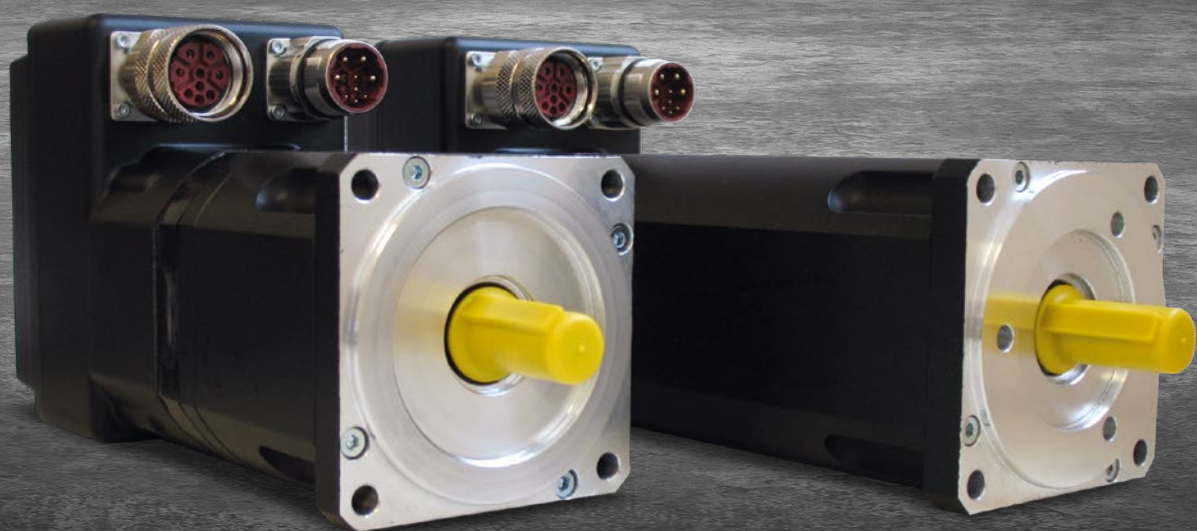
1	2	3	4	5	6	7	8	9	10	11	12	13	14					
E	-	0	8	5	-	6	0	-	0	1	5	-	x	x	x	-	x	x

Pos.	Description
1	Motor identification label: "E"
2-3-4	Size: Identify the square side of the motor expressed in mm
5-6	Max velocity: multiplied x 00 defines the motor nominal velocity expressed in rpm
7-8-9	Stall Torque: Defines the motor stall torque expressed in tenth of Nm
10	Brake: 0 = Brake not present / 1 = 24vDC brake integrated inside the motor
11	Motor Transducer 1 = Incremental 5V Line Drive encoder 2048 p/r + Hall sensors B = Absolute multi Turn Smart ABS 17/33bit C = Absolute multi-Turn SinCos Encoder SKM36MT Hiperface P = Absolute multi Turn Biss-C ELM35
12	Motor Shaft 0 = Shaft without key 1 = Shaft with key (standard)
13-14	Available for special version identification 00 = Standard version 01 = Forced Cooling 0V = 230V version 0J = E-060 Standard version – 400V JV = E-060 Standard version – 230V Contact Esautomation technical support for additional configurations

ED5 SERVOMOTORS

Massimo controllo integrato
direttamente al motore

Maximum control integrated
directly into the motor



SERVOMOTORI ED5

I servomotori con drive integrato ED5 rappresentano una soluzione avanzata che integra l'elettronica di controllo direttamente a bordo del motore.

Questa architettura offre una serie di vantaggi significativi rispetto ai sistemi tradizionali:

RIDUZIONE DEGLI INGOMBRI E DEI CABLAGGI

Uno dei benefici primari è la semplificazione dei cablaggi e la riduzione della componentistica discreta.

Grazie a questa integrazione, si ottiene una riduzione del 70% dell'occupazione di spazio nell'armadio elettrico.

Sebbene ciò comporti un leggero aumento dimensionale del motore, la drastica diminuzione dei cavi necessari si traduce in una soluzione non solo tecnologicamente innovativa, ma anche economicamente conveniente grazie all'abbattimento dei costi associati all'installazione.

AFFIDABILITÀ E ARCHITETTURA DI POTENZA

Per garantire un'elevata affidabilità, Esautomation ha adottato scelte progettuali specifiche, tra cui l'alimentazione del drive integrato direttamente in DC (325Vdc nominali). Il sistema è supportato da un modulo alimentatore dedicato per applicazioni multi-asse che offre:

- **Erogazione di potenza:** 8 Arms continuativi e picchi fino a 30 Arms.
- **Gestione della frenatura:** Un modulo IGBT integrato con resistenza da 50W, capace di pilotare resistenze esterne fino a 6000W.
- **Funzioni accessorie:** Include circuiti di soft charge e stabilizzazione dell'alimentazione.

STANDARD E CONFORMITÀ

Sotto l'aspetto tecnico e normativo, il sistema è progettato per essere "plug-and-play" in ambienti industriali moderni:

- **Compatibilità Elettromagnetica:** Integra un filtro EMI per il rispetto delle normative EMC.
- **Integrazione totale:** Utilizza lo standard CANopen DS301 che è l'interfaccia di base disponibile su tutti i CNC Esautomation, facilitando l'integrazione immediata nei sistemi di controllo.

ED5 SERVOMOTORS

The use of servomotors with integrated drives ED5 is an advanced solution that integrates the control electronics directly on the motor.

This setup offers a number of significant advantages compared to traditional systems:

REDUCED SIZE AND WIRING

One of the main benefits is the simplification of wiring and the reduction of discrete components.

Thanks to this integration, there is a 70% reduction in the space needed in the electrical cabinet.

Although this results in a slightly larger motor, the drastic decrease in the required cables makes it not only a technologically innovative solution but also a cost-effective one, thanks to the savings on installation costs.

RELIABILITY AND POWER ARCHITECTURE

To ensure high reliability, Esautomation has adopted specific design choices, including supplying the integrated drive directly with DC (nominal 325Vdc). The system is supported by a dedicated power module for multi-axis applications that offers:

- **Power delivery:** 8 Arms continuous and peaks up to 30 Arms.
- **Brake management:** An integrated IGBT module with a 50W resistor, capable of driving external resistors up to 6000W.
- **Additional functions:** Includes soft charge circuits and power stabilization.

STANDARDS AND COMPLIANCE

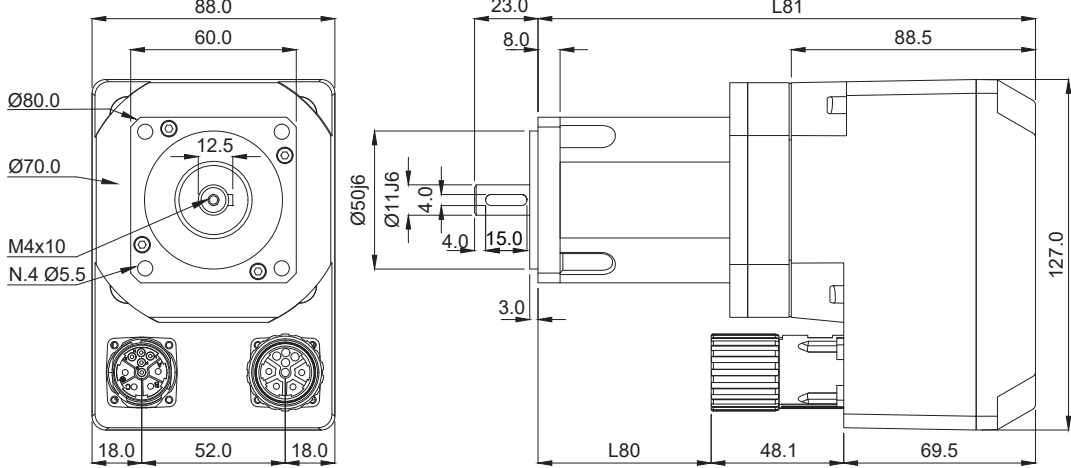
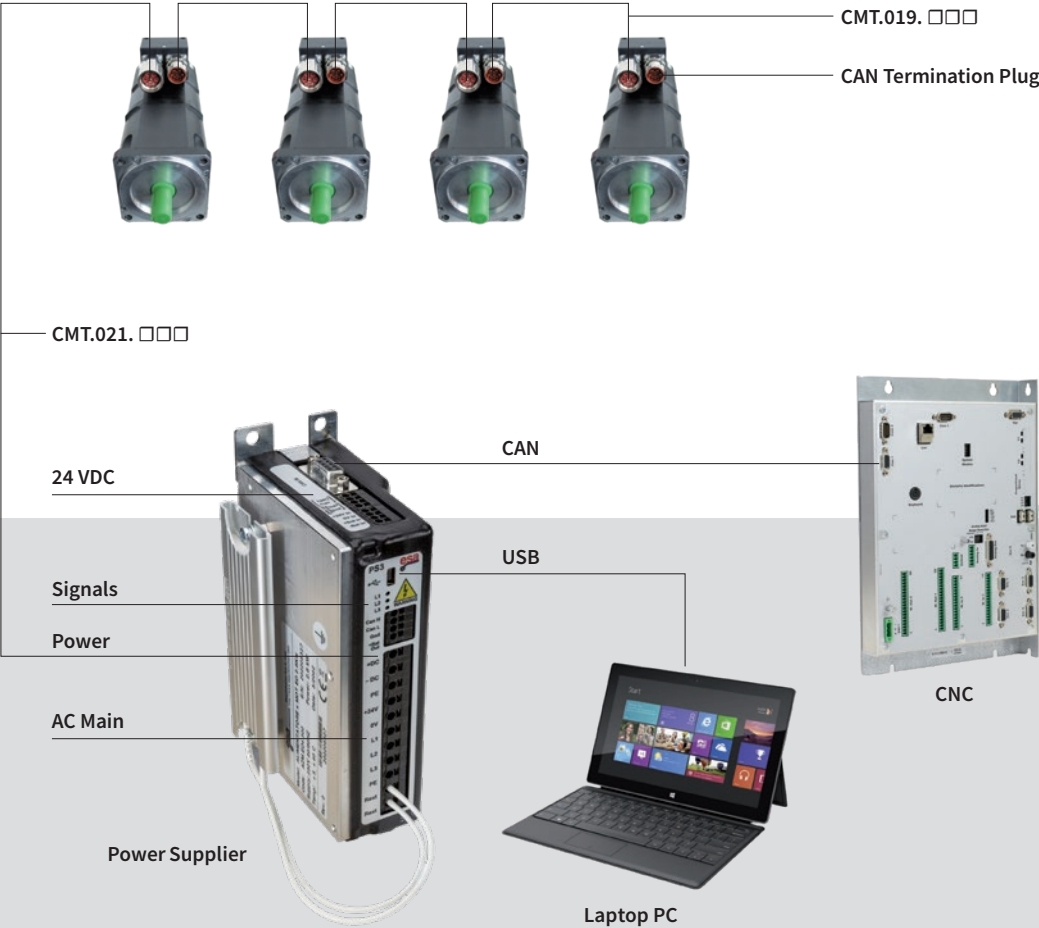
From a technical and regulatory perspective, the system is designed to be "plug-and-play" in modern industrial environments:

- **Electromagnetic Compatibility:** It includes an EMI filter to comply with EMC regulations.
- **Full Integration:** It uses the CANopen DS301 standard, which is the basic interface available on all Esautomation CNCs, making immediate integration into control systems easy.

ED5 Servomotors Characteristics

ED5 - Square 60 mm Motors

ED5 SERVO MOTORS



ED5 SERVO MOTORS

Electrical Characteristic		ED5-060-60-007	ED5-060-60-017
Stall Torque (ΔT 100 °C) - To	Nm	0,7	1,7 (S3-60%) 1,4 (S1)
Stall current - Io	Arms	1,57	3,5 (S3-60%) 2,8 (S1)
Max velocity - Nmax	rpm	6000	6000
Max current - Imax	Arms	6	11
Max torque - Tmax	Nm	2,3	4,6
Voltage constant - Ke	V/Krpm	27	30
Torque constant - Kt	Nm/A	0,45	0,5
Rotor inertia - Jr	gm²	0,013	0,023
Weight without brake - M	kg	2,1	2,7
Nominal power - Pn	W	200	540 (S3-60%) 400 (S1)
Drive Size	A	3A	6A

Motor Lengths		ED5-060-60-007	ED5-060-60-017
L80	mm	62,7	90,7
L81	mm	180,3	208,3
L80 with brake	mm	93,1	121,1
L81 with brake	mm	210,7	238,7

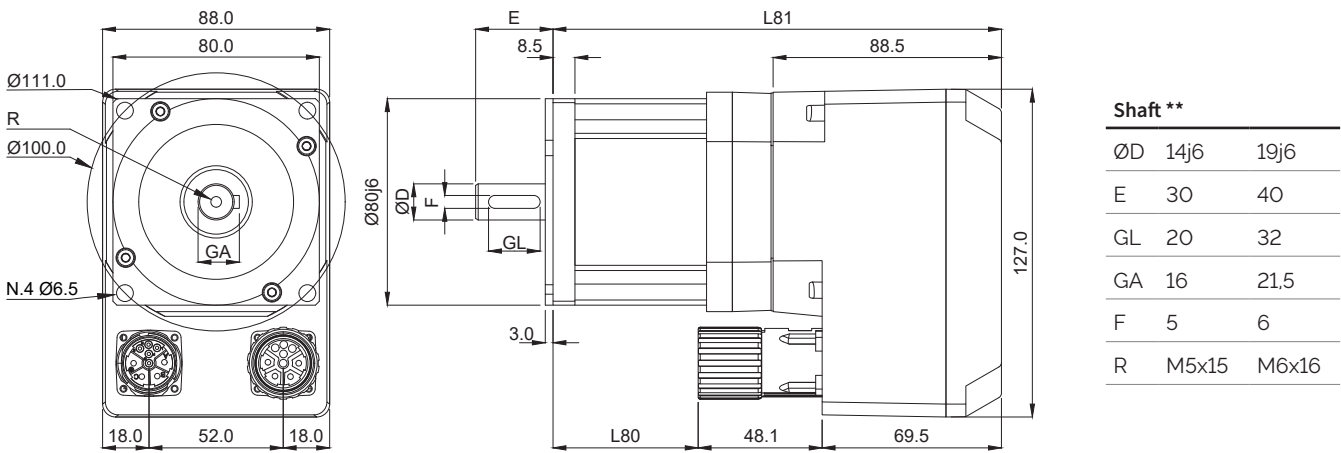
Brake Characteristic		ED5-060-60-007	ED5-060-60-017
Supply Voltage	Vdc	24 +/- 6% @ 0,46Adc	24 +/- 6% @ 0,46Adc
Braking Torque @20°C	Nm	2	2
Inertia	gm²	0,01	0,01
Weight	kg	0,3	0,3
Ton/Toff	ms	6/25	6/25

ED5 Power Supply Technical Data

Model		
voltage rating	Vac	3 x 230 ± 10%
Input current	Arms	8
Output voltage - DC Bus (to servomotors)	Vdc	320 ± 10%
Nominal output current - DC Bus (to servomotors)	A	8
Peak output current @ 5s (to servomotors)	A	30
Nominal Output power	kW	2.6
DC bus capacitors	uF	235
Tripping voltage of brake circuit	V	390
Overvoltage	V	420
Brake resistor	Ω	25
Max. continuous brake power	W	60
Pulse brake power	kW	6 (@ 25Ω resistor)
Auxiliary supply voltage	Vdc	24 ± 10%
Max load current – 24V output (to motor)	A	2
Dimensions (L x H x D)	mm	48 x 170 x 93.7
Fieldbus		CANopen DS301

ED5- Square 80 mm Motors

ED5 SERVO MOTORS



Electrical Characteristics		ED5-080-30-014	ED5-080-50-014	ED5-080-30-028	ED5-080-50-028	ED5-080-30-039	ED5-080-50-039
Stall Torque (ΔT 100 °C) - To	Nm	1,4	1,4	2,8	2,8	3,9	3,9
Stall Current - Io	Arms	1,8	3,1	3,5	5,7	4,9	6,5
Max velocity - Nmax	rpm	3000	5000	3000	5000	3000	5000
Max current - Imax	Arms	6	12	12	12	12	16
Max torque - Tmax	Nm	4,9	4,7	8,4	5,5	9,5	8,8
Voltage constant - Ke	V/Krpm	49	28	48	29	48	36
Torque constant - Kt	Nm/A	0,81	0,463	0,794	0,48	0,794	0,595
Rotor inertia - Jr	gm²	0,077	0,077	0,142	0,142	0,21	0,21
Weight without brake - M	kg	2,8	2,8	3,9	3,9	4,4	4,4
Nominal power - Pn	W	370	370	720	720	970	970
Drive Size	A	3A	6A	6A	6A	6A	8A

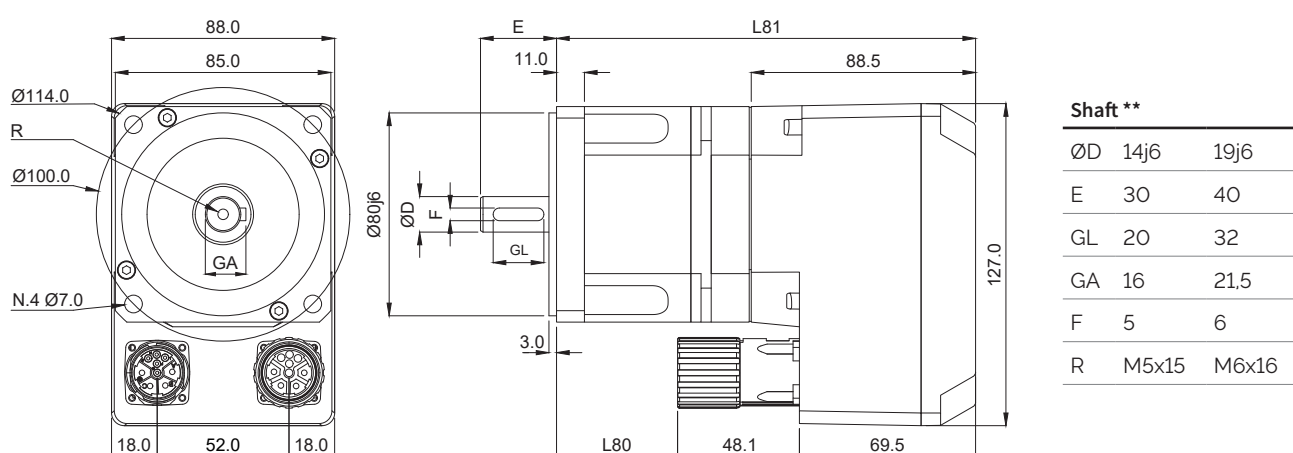
Motor Lengths		ED5-080-□□-014		ED5-080-□□-028		ED5-080-□□-039	
Shaft ØD		14	19	14	19	14	19
L80	mm	56,2	66,2	81,2	91,2	106,2	116,2
L81	mm	173,8	183,8	198,8	208,8	223,8	233,8
L80 with brake	mm	107,8	107,8	132,8	132,8	157,8	157,8
L81 with brake	mm	225,4	225,4	250,4	250,4	275,4	275,4

** standard shaft 14j6 – Optional shaft 19j6 on request

Brake Characteristics		ED5-080-□□-014		ED5-080-□□-028		ED5-080-□□-039	
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc		24 +/- 6% @ 0,75Adc	
Braking Torque	Nm	9		9		9	
Inertia	gm²	0,06		0,06		0,06	
Weight	kg	1		1		1	
Ton/Toff	ms	7/40		7/40		7/40	

ED5- Square 85 mm Motors

ED5 SERVO MOTORS



Electrical Characteristics		ED5-085-50-010	ED5-085-30-015	ED5-085-50-015	ED5-085-30-029	ED5-085-60-029	ED5-085-30-042	ED5-085-50-042	ED5-085-60-042	ED5-085-30-053	ED5-085-50-053
Stall Torque (ΔT 100 °C) - To	Nm	1	1,5	1,5	2,9	2,9	4,2	4,2	4,2	5,3	5,3
Stall Current - Io	Arms	1,7	1,65	2,6	3,2	5,2	4,6	7,1	8,8	5,8	8
Max velocity - Nmax	rpm	4500	3000	5000	3000	6000	3000	5000	6000	3000	5000
Max current - Imax	Arms	6	6	6	12	12	12	16	16	12	16
Max torque - Tmax	Nm	3,1	4,7	3,2	9,4	6,2	10	9,6	7,3	10,4	10,9
Voltage constant - Ke	V/Krpm	36	55	35	55	34	55	36	29	55	40
Torque constant - Kt	Nm/A	0,6	0,91	0,58	0,91	0,56	0,91	0,6	0,48	0,91	0,66
Rotor inertia - Jr	gm²	0,07	0,092	0,092	0,172	0,172	0,253	0,253	0,253	0,333	0,333
Weight without brake - M	kg	2,8	3,2	3,2	4,3	4,3	5,4	5,4	5,4	6,5	6,5
Nominal power - Pn	W	280	400	400	700	700	1000	1000	1000	1200	1200
Drive Size		3A	3A	3A	6A	6A	6A	8A	8A	6A	8A

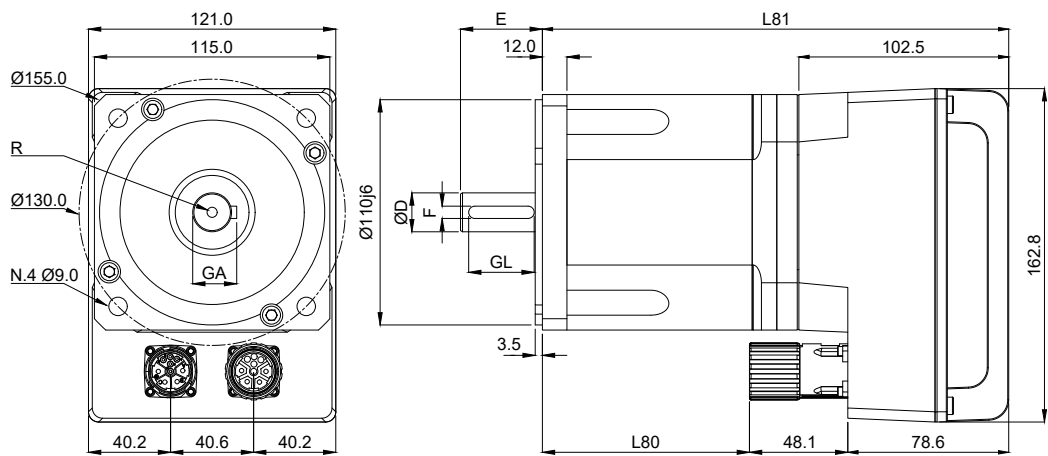
Motor Lengths		ED5-085-50-010		ED5-085-□□-015		ED5-085-□□-029		ED5-085-□□-042		ED5-085-□□-053	
Shaft ØD		14		14	19	14	19	14	19	14	19
L80	mm	47,7		70,7	80,7	100,7	110,7	130,7	140,7	160,7	170,7
L81	mm	165,3		188,3	198,3	218,3	228,3	248,3	258,3	278,3	288,3
L80 with brake	mm	75,7		118,7	118,7	148,7	148,7	178,7	178,7	208,7	208,7
L81 with brake	mm	193,3		236,3	236,3	266,3	266,3	296,3	296,3	326,3	326,3

** standard shaft 14j6 – Optional shaft 19j6 on request

Brake Characteristics		ED5-085-50-010		ED5-085-□□-015		ED5-085-□□-029		ED5-085-□□-042		ED5-085-□□-053	
Supply Voltage	Vdc	24 +/- 6% @ 0,46 Adc		24 +/- 6% @ 0,75 Adc		24 +/- 6% @ 0,75 Adc		24 +/- 6% @ 0,75 Adc		24 +/- 6% @ 0,75 Adc	
Braking Torque	Nm	2		9		9		9		9	
Inertia	gm²	0,01		0,06		0,06		0,06		0,06	
Weight	kg	0,3		1		1		1		1	
Ton/Toff	ms	6/25		7/40		7/40		7/40		7/40	

ED5 - Square 115 mm Motors

ED5 SERVO MOTORS



Shaft **		
ØD	19j6	24j6
E	40	50
GL	32	32
GA	21,5	27
F	6	8
R	M6x16	M8x15

Electrical Characteristics		ED5-115-45-021	ED5-115-60-021	ED5-115-30-040	ED5-115-40-040	ED5-115-55-040	ED5-115-30-076	ED5-115-40-076	ED5-115-50-076	ED5-115-30-113
Stall Torque (ΔT 100 °C) - To	Nm	2,1	2,1	4	4	4	7,6	7,6	7,6	7,8
Stall Current - Io	Arms	3,3	4,3	4,4	5,4	6,9	7,8	10	12,9	8
Max velocity - Nmax	rpm	4500	6000	3000	4000	5500	3000	4000	5000	3000
Max current - Imax	Arms	12	12	12	12	16	16	16	16	16
Max torque - Tmax	Nm	6,4	5,2	9,9	8,2	8,7	14,7	11,8	9,3	14,8
Voltage constant - Ke	V/ Krpm	39	29	55	44,4	35	59	46	36	59
Torque constant - Kt	Nm/A	0,65	0,48	0,91	0,73	0,58	0,98	0,76	0,60	0,98
Rotor inertia - Jr	gm²	0,28	0,28	0,5	0,5	0,5	0,96	0,96	0,96	1,4
Weight without brake - M	kg	4,8	4,8	6,8	6,8	6,8	9,7	9,7	9,7	12,6
Nominal power - Pn	W	570	570	1000	1000	1000	1700	1700	1700	2400
Drive Size	A	6A	6A	6A	6A	8A	8A	8A	8A	8A

Motor Lengths		ED5-115-□□-021	ED5-115-□□-040	ED5-115-□□-076	ED5-115-□□-113
L80	mm	54,6	101,1	141,1	181,1
L81	mm	181,3	227,8	267,8	307,8
L80 with brake	mm	98,2	150,1	190,1	230,1
L81 with brake	mm	224,9	276,8	316,8	356,8

** standard shaft 19j6 – Optional shaft 24j6 on request

Brake Characteristics		ED5-115-□□-021	ED5-115-□□-040	ED5-115-□□-076	ED5-115-□□-113
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc	24 +/- 6% @ @1Adc	24 +/- 6% @ @1Adc	24 +/- 6% @ @1Adc
Braking Torque	Nm	9	18	18	18
Inertia	gm²	0,06	0,24	0,24	0,24
Weight	kg	1,0	1,4	1,4	1,4
Ton/Toff	ms	7/40	10/50	10/50	10/50

ED5 Motors Coding

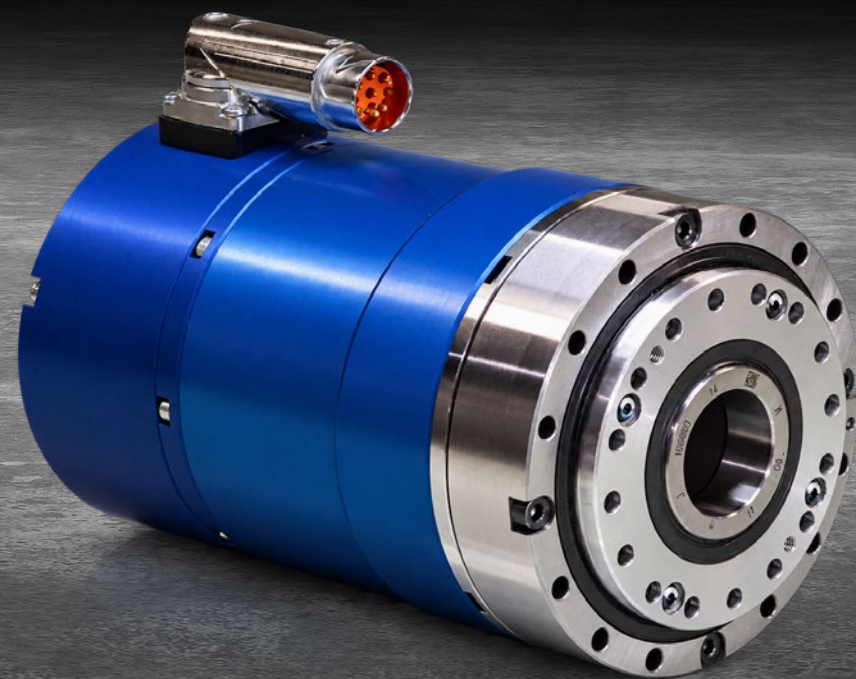
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15						
ED5	-	0	8	5	-	3	0	-	0	2	9	-	x	x	x	-	x	x	-	U

Pos.	Description
1	Servomotor identification label: "ED5"
2-3-4	Size: Identify the square side of the motor expressed in mm
5-6	Max velocity: multiplied x 00 defines the motor nominal velocity expressed in rpm
7-8-9	Stall Torque: Defines the motor stall torque expressed in tenth of Nm
10	Brake. 0 = Brake not present 1 = 24vDC brake integrated inside the motor
11	Motor Transducer. 1 = Line Drive 2048p/r incremental encoder with hall sensors B = Absolute multi Turn Smart ABS 17/33 Bit P = Absolute multi Turn Smart Biss-C ELM35
12	Motor Shaft 0 = Shaft without key 1 = Shaft with key (standard)
13-14	Available for special version identification 6J 00 or 60 03 or 63 X0 X4 S61 ED5-060 Standard version – Flange 50/70 – Shaft 11x23 ED5-080, ED5-085 Standard version – Flange 80/100 – Shaft 14x30 ED5-080, ED5-085 Optional version – Flange 80/100 – Shaft 19x40 ED5-115 Standard version – Flange 110/130 – Shaft 19x40 ED5-115 Optional version – Flange 110/130 – Shaft 24x50 ED5-085 Special version – Flange 110/130 – Shaft 14x30
15	U = UL version

ABM/ARM ROTARY ACTUATORS

Alta precisione in un sistema
estremamente compatto.

High precision in an extremely
compact system.



ATTUATORI ROTATIVI ABM/ARM

Gli attuatori rotativi integrati di precisione serie ARM e ABM, con gioco zero, sono composti da un servomotore brushless estremamente compatto, un riduttore a ingranaggi di alta precisione a gioco zero con albero cavo e un dispositivo di feedback di posizione assoluta.

CARATTERISTICHE PRINCIPALI

- Magneti in terre rare per alte temperature
- Struttura a 8 poli, forza controelettrica sinusoidale
- Protezione termica integrata
- Versione ARM con albero cavo
- Albero cieco cavo (ABM)
- Encoder assoluti monogiro o multigiro
- Riduttori di precisione con gioco zero e alta rigidità
- Design compatto
- Finitura liscia

ABM/ARM ROTARY ACTUATORS

The Precision Integrated Rotary Actuators ARM and ABM series with Zero Backlash are composed of a very compact brushless servomotor, a hollow shaft High-precision gears with zero backlash and an absolute position feedback device.

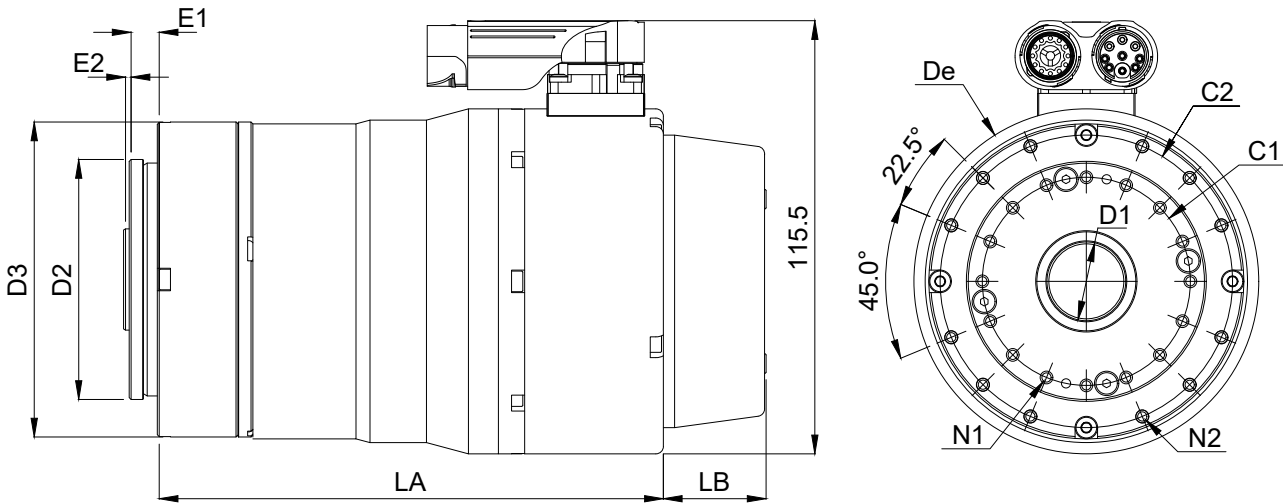
MAIN FEATURES

- Rare earth magnets for high temperature
- 8 poles construction, Sinusoidal BEMF
- Integrated Thermal Protection
- Hollow shaft ARM version
- Hollow blind shaft (ABM)
- Absolute single or multiturn encoders
- Precision gear reducers with zero backlash and high rigidity
- Compact design
- Smooth finish



ABM/ARM Rotary Actuators

ARM/ABM ROTARY ACTUATOR



Features		ABM/ARM-080-50-010-0□0-0V	ABM/ARM-080-60-010-0□0-00	ABM/ARM-085-50-010-0□0-0V	ABM/ARM-085-60-010-0□0-00	ABM/ARM-085-30-015-0□0-0V	ABM/ARM-085-40-015-0□0-00	ABM/ARM-142-40-100-0□0-00	ABM 190-30-280-0□0-00
Stall Torque (ΔT 100 °C) - TO	Nm	1	1	1	1	1,5	1,5	10	28
Stall current - Io	Arms	1,7	1,1	1,7	1,1	1,65	1,1	6,5	12,5
Voltage constant - KE	V/ Krpm	36	56	36	56	55	86	93	134
Torque constant - KT	Nm/A	0,595	0,926	0,595	0,926	0,91	1,422	1,538	2,216
Rated voltage - Vn	V	230	400	230	400	230	400	400	400
Rated velocity - Nn	rpm	2500	2500	2500	2500	2000	2000	1500	1500
Max velocity@Vn - Nmax	rpm	5300	6000	5300	6000	3400	3900	3900	3000
Weight without brake - M	kg	2,9	2,9	3,2	3,2	5,1	5,1	17	43
Gearbox type		ECY-103	ECY-103	ECY-105	ECY-105	ECY-107	ECY-107	F4FC-C15	F4FC-C35
Gearbox ratio - i		50 80 100	50 80 100	50 80 100	50 80 100	50 80 100	50 80 100	59	59
Rated current - In	Arms	1,4 1,4 1,4	0,9 0,9 0,9	1,4 1,4 1,4	0,9 0,9 0,9	1,5 1,5 1,5	1 1 1	4,8	10,6
Max current - Imax	Arms	3,7 3,1 3	2,4 2 1,9	5,2 4,4 4,1	3,3 2,9 2,6	5,3 4,7 4,4	3,4 3 2,8	11,9	28,2
Rated torque - Tn	Nm	14 22 28	14 22 28	14 22 28	14 22 28	24 35 43	24 35 43	225	727
Max torque - Tmax	Nm	34 43 54	34 43 54	56 74 82	56 74 82	98 137 157	98 137 157	540	1962
Max out velocity - N2max	rpm	106 66 53	120 75 60	106 66 53	120 75 60	68 43 34	78 49 39	66	42

Mechanical Coupling Main Dimension in mm											
Type	H	E1	E2	D1 H7	D2 H7	D3 H7	C1	C2	N1	N2	Connector Type
AMB/ARM-080-□ □-010	117	7,7	1,4	19	54	74	48	68	16xM3	12xM3	M15/M23
ABM/ARM-085-□ □-010	117	7,9	1,3	21	64	84	55,5	78	16xM3	12xM3	M15/M23
ABM/ARM-085-□ □-015	117	6,5	1	25,5	72	95	63	87,5	16xM4	12xM4	M15/M23
ABM/ARM-142-40-100	197	1,3	3	40	71	137	92	149	16xM6	12xØ6,6	M23
ABM-190-30-280	237	0	4	65	174	220	145	238	12xM10	8xØ11	M23

Axial main Dimensions (mm) and Available Actuator/Feedback Combinations

	Smart ABS		SKM36		SEM70 SSI CCD1618		SEM90 SSI CCD1619	
	LA	LB	LA	LB	LA	LB	LA	LB
ABM-080-□□-010-0□0-□□	121,5	0	135,5	0	N/A	N/A	N/A	N/A
ABM-080-□□-010-1□0-□□ (with brake)	128,5	27	128,5	41	N/A	N/A	N/A	N/A
ARM-080-□□-010-0□0-□□	N/A	N/A	N/A	N/A	127,5	0	N/A	N/A
ABM-085-□□-010-0□0-□□	128	0	142	0	N/A	N/A	N/A	N/A
ABM-085-□□-010-1□0-□□ (with brake 2Nm)	135	27	135	41	N/A	N/A	N/A	N/A
ARM-085-□□-010-0□0-□□	N/A	N/A	N/A	N/A	134	0	N/A	N/A
ARM-085-□□-010-1□0-□□ (with brake 1,7Nm)	N/A	N/A	N/A	N/A	131	36	N/A	N/A
ABM-085-□□-015-0□0-□□	139	0	153	0	N/A	N/A	N/A	N/A
ABM-085-□□-015-1□0-□□ (with brake 2Nm)	146	27	146	41	N/A	N/A	N/A	N/A
ARM-085-□□-015-0□0-□□	N/A	N/A	N/A	N/A	145	0	N/A	N/A
ARM-085-□□-015-1□0-□□ (with brake 1,7Nm)	N/A	N/A	N/A	N/A	142	36	N/A	N/A
ABM-142-40-100-0□0-00	210	0	215	0	N/A	N/A	N/A	N/A
ABM-142-40-100-1□0-00 (with brake 18Nm)	219	35	219	43	N/A	N/A	N/A	N/A
ARM-142-40-100-0□0-00	N/A	N/A	N/A	N/A	N/A	N/A	210	0
ARM-142-40-100-1□0-00 (with brake 5Nm)	N/A	N/A	N/A	N/A	N/A	N/A	210,5	38
ABM-190-30-280-0□0-00	259	0	277	0	N/A	N/A	N/A	N/A
ABM-190-30-280-1□0-00 (with brake 40Nm)	287	38	287	50	N/A	N/A	N/A	N/A

Motors Coding

1	2	3	4	5	6	7	8	9	10	11	12	13	14					
ARM	-	0	8	5	-	6	0	-	0	1	5	-	x	x	x	-	x	x

Pos.	Description	
1	Motor identification label:	ABM: Blind Shaft motorized Rotary Actuator – Zero Backlash ARM: Hollow Shaft motorized Rotary Actuator – Zero Backlash
2-3-4	Size:	Identify the motor size
5-6	Max velocity:	Multiplied x 00 defines the motor nominal velocity expressed in rpm
7-8-9	Stall Torque:	Defines the motor stall torque expressed in tenth of Nm
10	Brake:	0 = Brake not present. 1 = 24vDC brake integrated inside the motor
11	Motor Transducer	1 = Incremental 5V Line Drive encoder 2048 p/r + Hall sensors C = Absolute multi-Turn Encoder SKM 36 MT Hiperface B = Absolute Multi-Turn Smart ABS 17/33Bit H = Absolute Multi-Turn Encoder SEM90 Hiperface L = Absolute Multi-Turn Encoder SSI CCD1618 N = Absolute Multi-Turn Encoder SSI CCD1619
12	Motor Shaft	0 = Blind Shaft (ABM) / Hollow Shaft (ARM)
13-14	Available for special version identification:	00 = Standard version 400V Motors 0V = Standard version 230V Motors
Contact Esautomation technical support for additional configurations		

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