

vis-800

Prestazioni e controllo, sempre al massimo.

I motori Esautomation sono progettati per integrarsi perfettamente con i CNC VIS-800 e con gli azionamenti della serie EBS-EBSH. Dalle dimensioni particolarmente compatte per una più facile installazione, offrono sempre la coppia, l'inerzia e la potenza ideali per ogni tipologia di applicazione.

Performance and control, always at the top.

Esautomation motors are designed to integrate seamlessly with VIS-800 CNCs and EBS-EBSH series drives. With particularly compact dimensions for easier installation, they always offer the ideal torque, inertia and power for every type of application.



60 anni di esperienza nell'automazione industriale, innovazione costante, passione italiana.

Questo è Esautomotion, lo specialista del CNC tecnologicamente evoluto.

60 years of experience industrial automation, constant innovation, Italian passion.

This is Esautomotion, the specialist of the most technologically advanced CNC.

Il nostro percorso di successo è iniziato quasi 60 anni fa e da allora abbiamo lanciato prodotti che hanno rivoluzionato il mercato dell'automazione industriale e del CNC. In Italia e nel mondo.

Our path of success has begun nearly 60 years ago and we have since launched products that have revolutionized the market of industrial automation and CNC. In Italy and in the world.

I capitoli più importanti della nostra storia.

The most important chapters in our history.

- 1962** • 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.
- 1985** • 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.
- 2000** • 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.
- 2006** • 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.
- 2011** • 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.
- 2014** • 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.
- 2018** • Quotazione alla Borsa di Milano per accedere a maggiori risorse economiche e cogliere ulteriori opportunità di crescita e diversificazione.

Listing on the Milan Stock Exchange to access more financial resources and seize further opportunities for growth and diversification.
- 2019** • 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.

Transfer to the new and more spacious headquarters in Carpi, to improve both internal logistics and efficiency and provide better customer service.
- 2019** • 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.
- 2020** • 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.



Potenza intelligente: il valore di prodotto esclusivo di Esautomation.

Tutti gli addetti ai lavori posizionano i CNC Esautomation saldamente tra i best in class del mercato, con punti di forza riconosciuti quali essere:

- **I CNC più potenti del mercato, 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.
- **I CNC più intelligenti del mercato, perché i software "turn key" sono sempre inclusi.**
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.
- **I CNC più versatili del mercato: lo stesso hardware per tutte le applicazioni.**
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.

Valore per i clienti è anche un servizio di assistenza tecnica disponibile 24/7 in tutto il mondo.

Esautomation mette a disposizione uno straordinario patrimonio di competenze sul CNC e l'automazione industriale maturato nei suoi 60 anni di attività.

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.

Intelligent power: the exclusive product value from Esautomation.

All experts place Esautomation CNC firmly among the best in class on the market, with recognized strengths such as:

- **The most powerful CNC on the market, thanks to the 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.
- **The smartest CNC on the market, because turn key software is 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.
- **The most versatile CNC on the market: the same hardware for all 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.

Value for customers is also a technical support service available 24/7 around the world.

Esautomation provides an extraordinary wealth of skills on CNC and industrial automation gained in its 60 years of activity.

Our Technical Assistance service, made up of highly professional engineers and technicians, is available 7 days a week to solve any technical problem, covering all time zones thanks to the network of branches and dealers.

La filosofia di Esautomation: offrire più valore ai clienti con i migliori CNC e il migliore livello di servizio del mercato.

La nostra mission è proporre ai clienti un'ampia offerta di prodotti, dispositivi e software evoluti che si integrino perfettamente con le parti meccaniche delle loro macchine, per automatizzarle secondo gli standard più elevati di efficienza e produttività, nel pieno rispetto delle logiche di Industria 4.0.

Le esigenze della clientela sono costantemente al centro della nostra attività: tutti i prodotti sono progettati per offrire un valore superiore e tangibile in termini di prestazioni migliori e di semplicità di utilizzo per gli operatori macchina.

The philosophy of Esautomation: offering higher value to customers through the best CNCs and service in the market.

Our mission is to offer customers a wide range of advanced products, devices and software that integrate perfectly with the mechanical parts of their machines, to automate them according to the highest standards of efficiency and productivity, in full compliance with the logic of Industry 4.0.

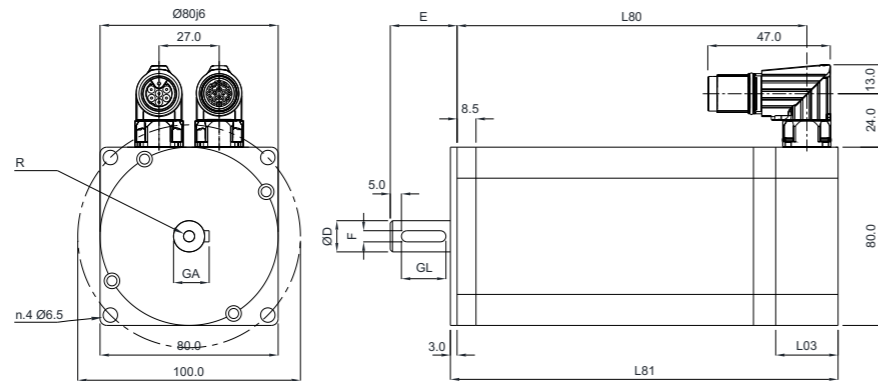
Customer needs are constantly at the heart of our business: all products are designed to offer superior and tangible value in terms of better performance and ease of use for machine operators.



Square 80 mm Motors - 400Vac

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 ($\Delta T=100\text{ }^{\circ}\text{C}$) - T_0	Nm	1,4		2,8		3,9	
Max velocity - N_{max}	rpm	3500	6000	3500	6000	3500	6000
Stall Current - I_0	Arms	1,15	1,8	2,15	3,5	3,1	4,9
Nominal current - I_N	Arms	0,9	1,5	1,8		2,9	
Nominal torque - T_N	Nm	1,2		2,3		3,1	
Max current - I_{max}	Arms	4,6	7,2	8,6	14	12,4	19,6
Max torque - T_{max}	Nm	5		9,5		13	
Voltage constant - K_E	V/Krpm	80	49	79	48	80	48
Torque constant - K_T	Nm/A	1,323	0,81	1,307		0,794	
Rotor inertia - J_R	gm ²	0,077		0,142		0,210	
Nominal power - P_N	W	400	720	970	2,4	1,3	3,8
Motor Poles		8		8		8	
Weight without brake - M	Kg	2,4	2,7	3,5		4,6	

Shaft **		
ØD	14J6	19J6
E	30	40
GL	20	32
GA	16	21,5
F	5	6
R	M5x15	M6x16



Motor's lenght	E-080-xx-014		E-080-xx-028		E-080-xx-039	
	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36
Shaft ØD	14	19	14	19	14	19
L80 without brake	80,5	90,5	87,5	97,5	105,5	115,5
L81 without brake	94,5	104,5	112,5	122,5	119,5	129,5
L80 with brake	132,1	139,1	157,1	164,1	182,1	189,1
L81 with brake	146,1	164,1	171,1	189,1	196,1	214,1
L03	28	46	28	46	28	46

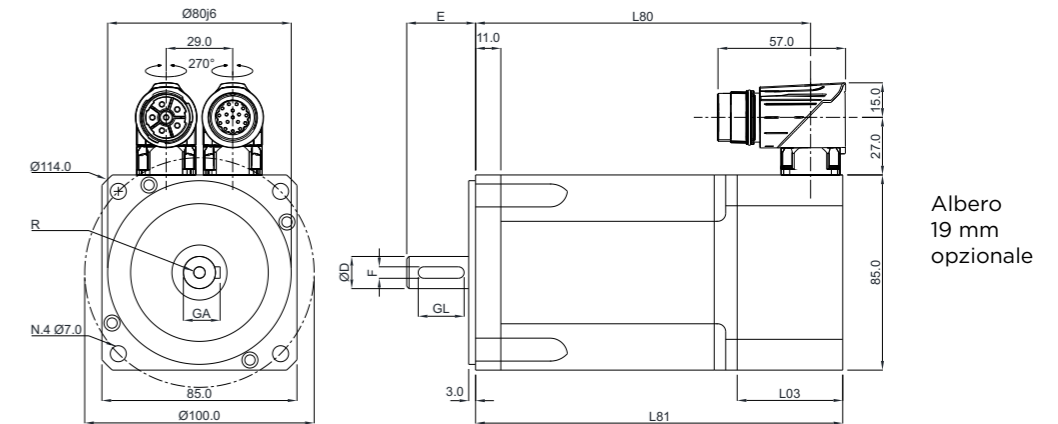
** standard shaft 14J6 - Optional shaft 19J6 on request

Brake Characteristics		E-080-xx-014	E-080-xx-028	E-080-xx-039
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc		
Braking Torque	Nm	9		
Inertia	gm ²	0,06		
Weight	Kg	1		
Ton/Toff	ms	20/40		

Square 85 mm Motors - 400Vac

Electrical Characteristics		E-085-50-010	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
Stall Torque $\Delta T=100\text{ }^{\circ}\text{C}$ - T_0	Nm	1	1,5		2,9		4,2		5,3	
Max velocity - N_{max}	rpm	5000	3500	5800	3500	5800	3500	5800	3000	5000
Nominal Current - I_N	Arms	1	0,9	1,4	1,7	2,6	2,3	3,6	2,6	4,4
Nominal Torque - T_N	Nm	0,9	1,3		2,4		3,3		4	
Max Current - I_{max}	Arms	4,5	4	6,6	8	13	12	19	15	24
Max Torque - T_{max}	Nm	3,6	4,8	5,1	10	10	14	14	18	18
Voltage Constant - K_E	V/Krpm	56	86	55	88	55	88	55	93	55
Torque Constant - K_T	Nm/A	0,93	1,42	0,91	1,45	0,91	1,45	0,91	1,54	0,91
Rotor Inertia - J_R	gm ²	0,07	0,092		0,172		0,253		0,333	
Max velocity at T_{max} - N_{max1}	rpm	3500	2300	4000	2500	4400	2600	4600	2400	4650
Max Torque at N_{max} - T_1	Nm	1,6	1,2	0,6	2,4	1,3	3,8	2,4	11,6	16,7
Nominal power - P_N	W	280	400		700		1000		1200	
Weight without brake - M	Kg	2	2,4		3,5		4,6		5,7	

Shaft **		
ØD	14J6	19J6
E	30	40
GL	20	32
GA	16	21,5
F	5	6
R	M5x15	M6x16



Motor's lenght	E-085-50-010		E-085-xx-015		E-085-xx-029		E-085-xx-042		E-085-xx-053	
	TTL 2048	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36
Shaft ØD	14	14	14	19	14	19	14	19	14	19
L80 without brake	73,5	83,5	101	111	116	126	131	141	146	156
L81 without brake	87	107	115	125	130	140	145	155	160	170
L80 with brake	101,5	111,5	149	164	179	194	209	224	239	254
L81 with brake	115	135	163	178	193	208	223	238	253	268
L03	26	46	31	46	31	46	31	46	31	46

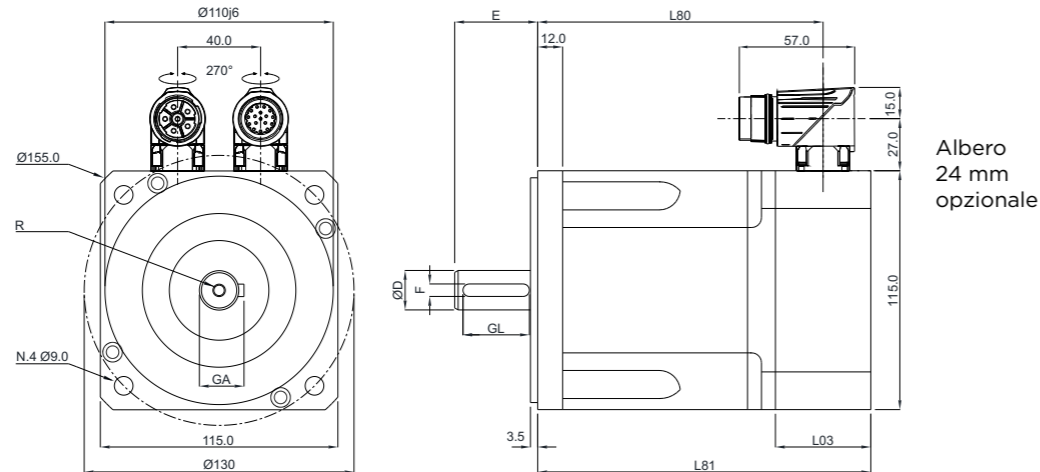
** standard shaft 14J6 - Optional shaft 19J6 on request

Brake Characteristics		E-085-50-010	E-085-xx-015	E-085-xx-029	E-085-xx-042	E-085-xx-053
Supply Voltage	Vdc	24 +/- 6% @ 0,46Adc		24 +/- 6% @ 0,75Adc		
Braking Torque	Nm	1,8		9		
Inertia	gm ²	0,1		0,06		
Weight	Kg	0,25		1		
Ton/Toff	ms	6/10		20/40		

Square 115 mm Motors - 400Vac

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 $\Delta T=100\text{ }^{\circ}\text{C} - T_0$	Nm	2,1	4		7,6			11,3		
Max velocity - N_{max}	rpm	5000	3000	5800	3000	5000	5500	3000	5000	6000
Nominal Current - I_N	Arms	1,8	2,3	3,5	3,3	5,5	5,5	4,8	7,9	11,3
Nominal Torque - T_N	Nm	1,8	3,2		5,4			7,6		
Max Current - I_{max}	Arms	8	10	18	19	31	31	28	47	68
Max Torque - T_{max}	Nm	6,9	14	14	26	26	26	39	40	39
Voltage Constant - K_E	V/Krpm	61	96	55	98	59	59	98	59	41
Torque Constant - K_T	Nm/A	1	1,59	0,91	1,62	0,98	0,98	1,62	0,98	0,68
Rotor Inertia - J_R	gm ²	0,28	0,5		0,96			1,4		
Max velocity at $T_{max} - N_{max1}$	rpm	3400	2300	4350	2500	4400	4400	2600	4650	6000
Max Torque at $N_{max} - T_1$	Nm	1,7	6,2	1,9	13,1	16,6	16,6	22,2	30,9	39
Nominal power - PN	W	570	1000		1700			2400		
Weight without brake - M	Kg	3,6	5,6		8,5			11,4		

Shaft **		
ØD	19J6	24J6
E	40	50
GL	32	32
GA	21,5	27
F	6	8
R	M6x16	M8x15



Motor's Lengths		E-115-50-021		E-115-xx-040		E-115-xx-076		E-115-xx-113	
		TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36
L80 without brake	mm	80,5	90,5	123,5	137,5	163,5	177,5	203,5	217,5
L81 without brake	mm	94	114	146,5	160,5	186,5	200,5	226,5	240,5
L80 with brake	mm	124	134	172,5	186,5	212,5	226,5	232,5	266,5
L81 with brake	mm	137	157	195,5	209,5	235,5	249,5	275,5	289,5
L03	mm	26	46	32	46	32	46	32	46

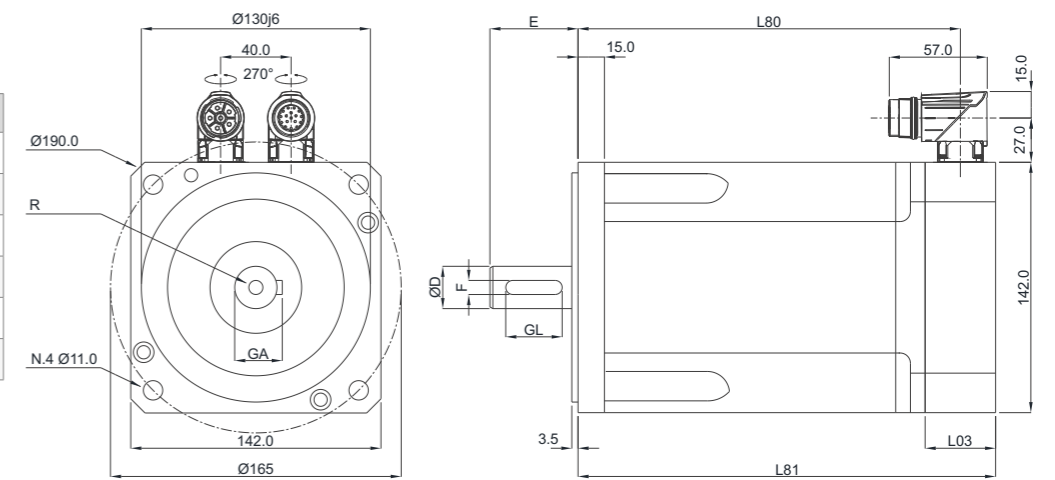
** standard shaft 19J6 - Optional shaft 24J6 on request

Brake Characteristics		E-115-50-021	E-115-xx-040	E-115-xx-076	E-115-xx-113
Supply Voltage	Vdc	24 +/- 6% @ 0,75Adc		24 +/- 6% @ 1Adc	
Braking Torque	Nm	9		18	
Inertia	gm ²	0,06		0,24	
Weight	Kg	1,0		1,4	
Ton/Toff	ms	20/40		10/50	

Square 142 mm Motors - 400Vac

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 $\Delta T=100\text{ }^{\circ}\text{C} - T_0$	Nm	5	10		19			27		35			
Max velocity - N_{max}	rpm	5000	3000	5000	6000	3000	4500	5800	3000	4500	5000	3000	4000
Nominal Current - I_N	Arms	3,3	4,9	7,5	9,4	8	10,3	13,2	10,3	13,9	16,4	13,5	17,2
Nominal Torque - T_N	Nm	3,6	7,6		12,3			18		23,4			
Max Current - I_{max}	Arms	18	26	42	52	50	64	84	62	84	104	80	100
Max Torque - T_{max}	Nm	17	34	36	36	66	65	66	93	93	97	118	119
Voltage Constant - K_E	V/Krpm	66	93	62	49	93	72	56	106	78	66	106	85
Torque Constant - K_T	Nm/A	1,1	1,54	1,02	0,81	1,54	1,19	0,93	1,74	1,3	1,1	1,74	1,41
Rotor Inertia - J_R	gm ²	1,2	2,2		4,3			6,5		8,7			
Max velocity at $T_{max} - N_{max1}$	rpm	3600	2500	4100	5200	2700	3600	4400	2450	3300	4100	2500	2950
Max Torque at $N_{max} - T_1$	Nm	3	22,6	13,2	23,4	52	3,8	3,7	19,3	32,9	9,9	27,7	11,6
Nominal power - PN	W	1100	2400		3700			3800		4900			
Weight without brake - M	Kg	6	11		16			21		26			

Shaft **		
ØD	24J6	32K6
E	50	58
GL	32	45
GA	27	35
F	8	10
R	M8x15	M12x22



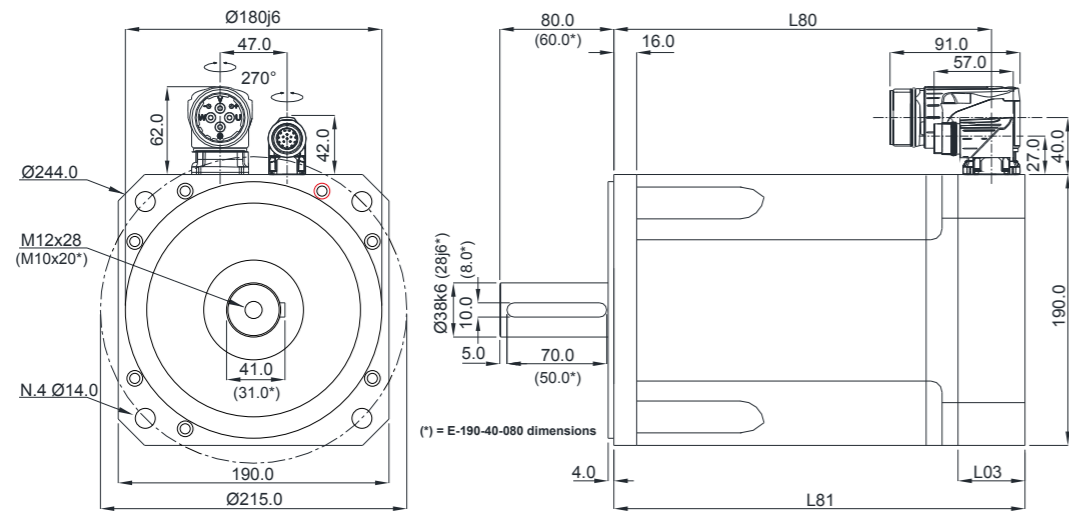
Albero 32 mm opzionale

Motor's Lengths		E-142-50-050		E-142-xx-100		E-142-xx-190		E-142-xx-270		E-142-xx-350	
		TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36
L80 without brake	mm	95	103	154	167	204	217	254	267	304	317
L81 without brake	mm	108,5	124,5	174	187	224	237	274	287	324	337
L80 with brake	mm	134,5	142,5	207,5	220,5	257,5	270,5	307,5	320,5	357,5	370,5
L81 with brake	mm	148	164	227,5	240,5	277,5	290,5	327,5	340,5	377,5	390,5
L03	mm	27	43	27	40	27	40	27	40	27	40

Brake Characteristics		E-142-50-050	E-142-xx-100	E-142-xx-190	E-142-xx-270	E-142-xx-350
Supply Voltage	Vdc	24 +/- 6% @ 1Adc		24 +/- 6% @ 1Adc		
Braking Torque	Nm	18		40		
Inertia	gm ²	0,24		1,37		
Weight	Kg	1,4		3,1		
Ton/Toff	ms	10/50		25/73		

Square 190 mm Motors - 400Vac

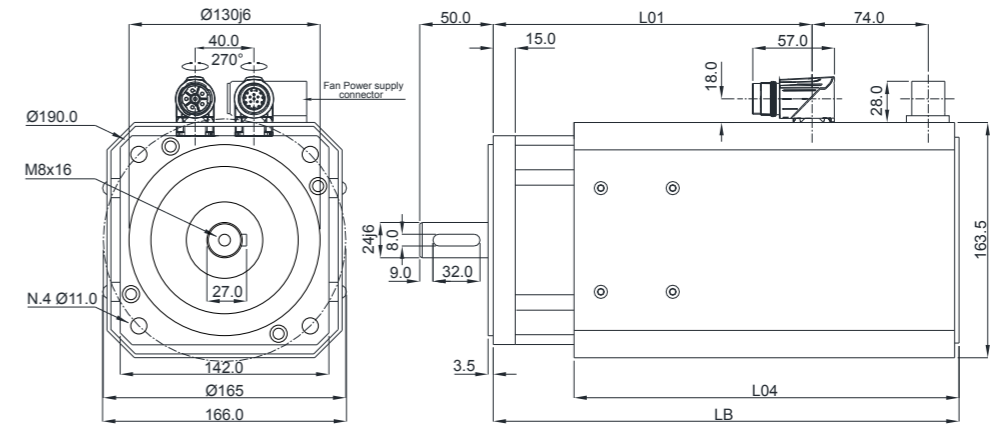
Electrical Characteristics		E-190-40-080	E-190-30-150	E-190-40-150	E-190-25-280	E-190-40-280	E-190-20-500	E-190-30-500	E-190-20-700	E-190-30-700
Stall Torque $\Delta T = 100^\circ\text{C} - T_0$	Nm	8	15	28	50	70				
Max velocity - N_{max}	rpm	4000	3000	4000	2400	4000	1900	3000	2000	3000
Nominal Current - I_N	Arms	5,1	7,2	9,1	8,6	16,2	12,5	19,7	18	26,3
Nominal Torque - T_N	Nm	6,5	12	19	35	47				
Max Current - I_{max}	Arms	18	27	36	38	72	55	84	80	117
Max Torque - T_{max}	Nm	21	38	42	72	72	130	127	184	177
Voltage Constant - K_E	V/Krpm	80	100	79	134	71	169	108	162	108
Torque Constant - K_T	Nm/A	1,32	1,66	1,32	2,22	1,17	2,8	1,78	2,7	1,79
Rotor Inertia - J_R	gm ²	2,7	5,4	9,1	17,7	26,4				
Max velocity at $T_{\text{max}} - N_{\text{max1}}$	rpm	2800	2550	3350	1950	3450	1700	2700	1800	2700
Max Torque at $N_{\text{max}} - T_1$	Nm	2,2	20,6	12,1	8,8	51,6	25,4	12,2	18,9	21,5
Nominal power - P_N	W	2000	3100	4000	5500	7400				
Weight without brake - M	Kg	10	17	23	36	50				



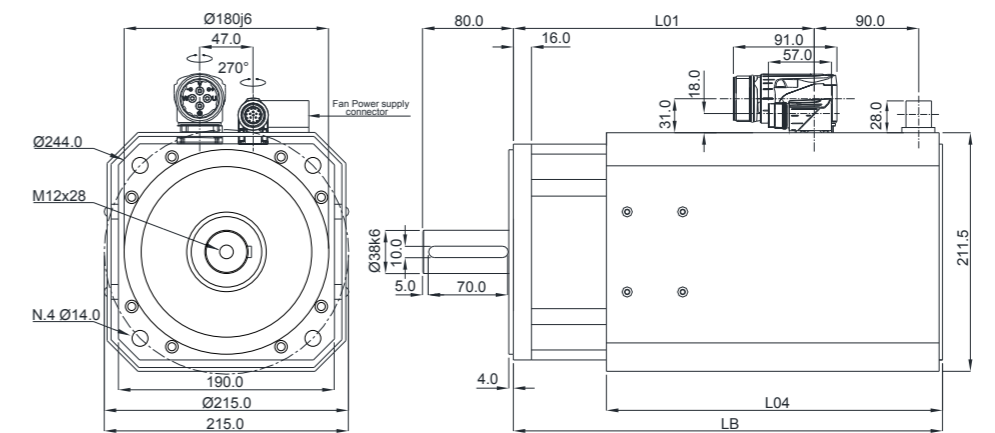
Motor's Lengths		E-190-40-080		E-190-xx-150		E-190-xx-280		E-190-xx-500		E-190-xx-700	
		TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36	TTL 2048 Smart ABS	Hip SKM36
L80 without brake	mm	106,5	116,5	139,5	159,5	174,5	194,5	264,5	264,5	334,5	334,5'
L81 without brake	mm	120	140	163	183	198	218	288	288	358	358
L80 with brake	mm	143,5	153,5	210	230	245	265	335	335	405	405
L81 with brake	mm	157	177	233,5	253,5	268,5	288,5	358,5	358,5	428,5	428,5
L03	mm	27	47	27	47	27	47	47	47	47	47

Brake Characteristics		E-190-40-080	E-190-xx-150	E-190-xx-280	E-190-xx-500	E-190-xx-700
Supply Voltage	Vdc	24 +/- 6% @ 1A _{dc}	24 +/- 6% @ 1,46A _{dc}			
Braking Torque	Nm	40	80			
Inertia	gm ²	1,37	4,36			
Weight	Kg	3,1	6,9			
Ton/Toff	ms	25/73	53/97			

Forced Cooling Motors



Servomotor Size	Fan Power (W)		Fan Current (A)		LB (mm)	L01 (mm)	L04 (mm)
	230Vac 1P	400Vac 1P	230Vac 1P	400Vac 1P			
E-142-xx-100-0xx-01	45	41	0,3	0,16	267	154	212
E-142-xx-190-0xx-01	45	41	0,3	0,16	317	204	262
E-142-xx-270-0xx-01	45	41	0,3	0,16	367	254	312
E-142-xx-350-0xx-01	45	41	0,3	0,16	417	304	362
E-142-xx-100-1xx-01 - Brake	45	41	0,3	0,16	320,5	207,5	262
E-142-xx-190-1xx-01 - Brake	45	41	0,3	0,16	370,5	257,5	312
E-142-xx-270-1xx-01 - Brake	45	41	0,3	0,16	420,5	307,5	362
E-142-xx-350-1xx-01 - Brake	45	41	0,3	0,16	470,5	357,5	362



Servomotor Size	Fan Power (W)	Fan Current (A)	LB (mm)	L01 (mm)	L04 (mm)
	400Vac 3P	400Vac 3P			
E-190-xx-280-0xx-01	53	0,15	307,5	174,5	226
E-190-xx-500-0xx-01	53	0,15	377,5	264,5	296
E-190-xx-700-0xx-01	53	0,15	447,5	334,5	366
E-190-xx-280-1xx-01 - Brake	53	0,15	378	245	296
E-190-xx-500-1xx-01 - Brake	53	0,15	448	335	366
E-190-xx-700-1xx-01 - Brake	53	0,15	518	405	366

Motors Characteristics

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 + ΔT = 100°C) obtained using components in F and H class
Constructive Shape:	B5
Degree of Protection:	IP65 - Natural cooling
Thermal Protection:	PTC
Shaft:	Standard with key
Connections:	FEEDBACK CONNECTORS - Transducer and PTC connections: M17- 90° orientable (square 60mm motors), M23 - 17poles - 90° orientable. POWER CONNECTOR - Motor and brake connections : M17 7poles - 90° orientable (square 60mm motors), M23/M40 6poles - 90° orientable. Motors with Stall current > 20A are fitted with the M40 power connector.
Transducer:	Line Drive incremental encoder 2048p/r with hall sensor Absolute Multi Turn Hiperface Absolute Smart ABS Tamagawa 17/33Bit
Painting:	Protective resins (half luster black)
Options:	24Vdc Brake - Shaft without key - Forced cooling - Coupling with epicycloidal gearbox - safety

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

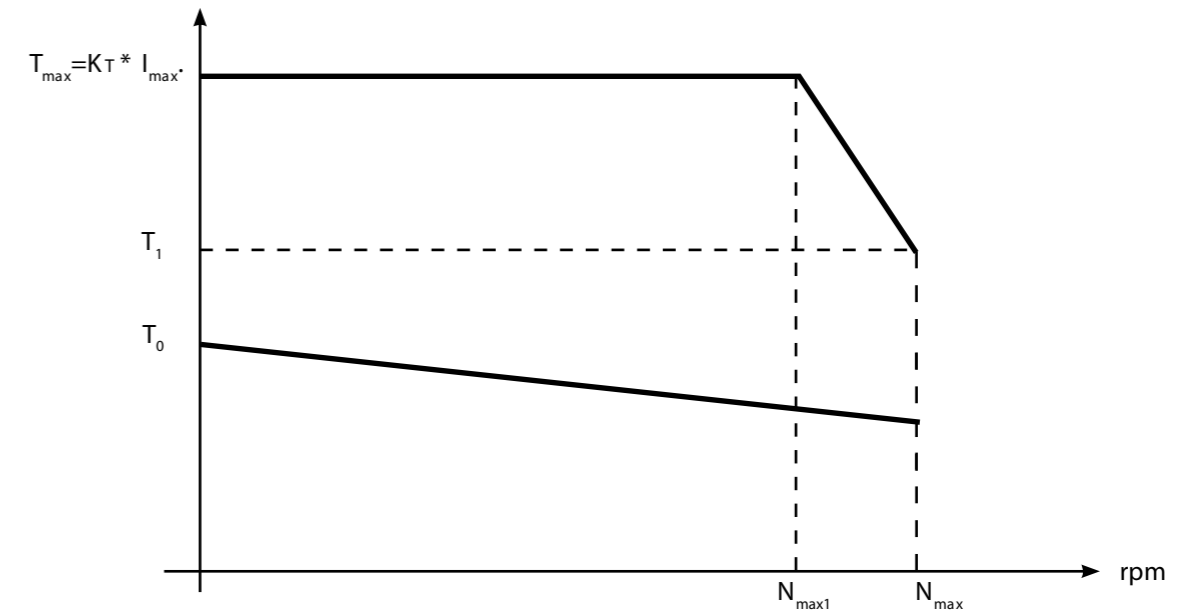
Pos.	Description
1	Motor identification label: "E"
2-3-4	Size: Identify the square side of the motor expressed in mm
5-6	Max velocity: Multiplied x 00 defines the motor nominal velocity expressed in rpm
7-8-9	Stall Torque: Defines the motor stall torque expressed in tenth of Nm
10	Brake: 0 = Brake not 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 SKM36 MT Hiperface
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 0G = M17 Connectors (available only for square 60mm motors) 03 = Shaft increased of one size respect standard version 07 = Shaft decreased of one size respect standard version

Regole per una corretta interpretazione dei Dati di Velocità Coppia Motori Forniti

I dati riportati per ogni motore consentono di tracciare una caratteristica stilizzata che lega la velocità del motore (in rpm) alla coppia da esso erogata (in Nm).

Rules to get a right interpretation of our motor's speed torque

The data reported for each motor, allows to define a characteristic that links the motor's speed (in rpm) to the output torque (in Nm)



T₀ = Coppia di stallo erogata dal motore continuamente in condizione di rotore pressochè fermo con sovratemperatura sugli avvolgimenti di T=100°C. Valore rilevato con motore in aria con flangia termoisolata.

T_{max} = Coppia massima erogabile dal motore per tempi limitati (in fase di accelerazione) approssimabile con il prodotto $K_T \cdot I_{max}$

T₁ = Coppia massima erogata dal motore, per tempi limitati (3-4 sec) alla velocità **N_{max1}**. La limitazione della coppia è dovuta alla tensione massima fornibile dal drive. I dati riportati nelle tabelle sono riferiti ad un drive alimentato a 400VAC trifase.

N_{max1} = Velocità a cui il motore continua ad erogare, per tempi limitati (3-4 sec) e in modo intermittente, la coppia **T_{max}**. La limitazione della velocità è dovuta alla tensione massima fornibile dal drive. I dati riportati nelle tabelle sono riferiti ad un drive alimentato a 400VAC trifase.

N_{max} = Velocità massima a cui il motore continua ad erogare, per tempi limitati (3-4 sec) e in modo intermittente la coppia **T₁**.

T₀ = Stall torque continuously supplied by the motor with its rotor practically still and an over temperature on its winding (respect the environment) of 100°C. This value is measured with the motor in air fixed with a thermo insulated flange.

T_{max} = Max Torque supplied by the motor for a limited time (during acceleration) can be approximate with the relation $K_T \cdot I_{max}$

T₁ = Max Torque that the motor can supply, for a limited time (3-4 sec), to the **N_{max1}** velocity. The restriction of the Torque is due to the maximum voltage supplied from the drive. The data reported in the tables refer to a drive supplied with a 400VAC three phase.

N_{max1} = Velocity till the motor supplies, for a limited time (3-4 sec), the **T_{max}** Torque. The restriction of the velocity is due to the maximum voltage supplied from the drive. The data reported on the tables refer to a drivesupplied with a 400VAC three phase.

N_{max} = Max velocity till the motor supplies, for a limited time (3-4 sec), the **T₁** Torque.

Motor	DRIVE	Stall torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
E-080-35-014-...	EBS 3/6	1,4	5,0	3500
E-080-60-014-...	EBS 3/6	1,4	4,9	6000
E-080-35-028-...	EBS 3/6	2,8	7,1	3500
E-080-60-028-... **	EBS 3/6 **	2,4 **	4,8 **	6000 **
E-080-60-028-...	EBS 6/12	2,8	9,5	6000
E-085-35-039-...	EBS 6/12	3,9	13,0	3500
E-085-60-039-...	EBS 6/12	3,9	9,5	6000
E-085-50-010-...	EBS 3/6	1,0	3,6	5000
E-085-35-015-...	EBS 3/6	1,5	4,8	3500
E-085-60-015-...	EBS 3/6	1,5	5,1	5800
E-085-35-029-...	EBS 3/6	2,9	8,7	3500
E-085-60-029-...	EBS 6/12	2,9	10	5800
E-085-35-042-...	EBS 3/6	4,2	8,7	3500
E-085-60-042-...	EBS 6/12	4,2	10,9	5800
E-085-30-053-...	EBS 6/12	5,3	18	3000
E-085-50-053-...	EBS 6/12	5,3	10,9	5000
E-115-50-021-...	EBS 3/6	2,1	6,0	5000
E-115-30-040-...	EBS 3/6	4,0	9,5	3000
E-115-60-040-...	EBS 6/12	4,0	10,9	5800
E-115-30-076-...	EBS 6/12	7,6	19,4	3000
E-115-50-076-...	EBS 12/24	7,6	23,5	5000
E-115-60-076-...	EBS 12/24	7,6	23,5	5500
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	24,5	6000
E-115-60-113-...	EBS 30/60	11,3	39	6000
E-142-50-050-...	EBS 6/12	5,0	13,2	4800
E-142-30-100-...	EBS 12/24	10,0	34	3000
E-142-50-100-...	EBS 12/24	10,0	24,5	5000
E-142-60-100-... **	EBS 12/24 **	9,7 **	19,4 **	6000 **
E-142-60-100-...	EBS 18/38	10	29,2	6000
E-142-30-190-... **	EBS 12/24 **	18,5 **	37,0 **	3000 **
E-142-30-190-...	EBS 30/60	19,0	66,0	3000
E-142-45-190-...	EBS 30/60	19,0	65	4500
E-142-60-190-...	EBS30/60	19,0	56	5800
E-142-30-270-...	EBS 30/60	27,0	93	3000
E-142-45-270-...	EBS 30/60	27,0	77,4	4000
E-142-50-270-...	EBS 50/60	27,0	66	5000
E-142-30-350-...	EBS 30/60	35,0	104,4	3000
E-142-40-350-...	EBS 30/60	35,0	81,6	3900
E-190-40-080-... **	EBS 6/12 **	7,9 **	15,8 **	4000 **
E-190-30-150-...	EBS 12/24	15,0	38	3000
E-190-40-150-...	EBS 12/24	15,0	31,7	4000
E-190-25-280-... **	EBS 12/24 **	26,6 **	53,3 **	2400 **
E-190-40-280-...	EBS 30/60	28,0	70,2	4000
E-190-20-500-...	EBS 30/60	50,0	130	1900
E-190-30-500-...	EBS 30/60	50,0	106,8	3000
E-190-20-700-...	EBS 30/60	70,0	162,0	2000
E-190-30-700-...	EBS 42/84	70,0	150,4	3000

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

DRIVE EBS

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

La gamma comprende cinque taglie principali: EBS3, EBS6, EBS18, EBS30, EBS42.

L'alimentazione è diretta da rete (220V-400V AC trifase).

Ogni convertitore è dotato di resistenza di frenatura interna, ad eccezione dai modelli EBS30 ed EBS42. Su tutti i modelli è possibile montare una resistenza di frenatura esterna. Per questi drives è richiesta un'alimentazione di servizio di 24Vdc (-15+ 20%).

CARATTERISTICHE PRINCIPALI DEGLI EBS

- Possibilità di gestire due schede opzionali (feedback, fieldbus, I/O expansion, ecc..)
- Gestione di 5 ingressi e 3 uscite digitali programmabili
- Gestione di trasduttori di tipo TTL + sensori HALL, ABS, 17 birs.
- 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
 - Rottura/sconnessione encoders
 - Sovra-velocità motore

EBS DRIVES

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

The complete range includes five main sizes: EBS3, EBS6, EBS12 EBS30, EBS42.

They are powered straight from the mains (220 V - 400 Vac threephase).

Each converter is equipped with an internal brake resistance with the exception of models EBS30 and EBS42. An external brake resistance can also be installed. 24Vdc (-15+ 20%) power is required for these drives.

MAIN FEATURES OF THE EBS DRIVES

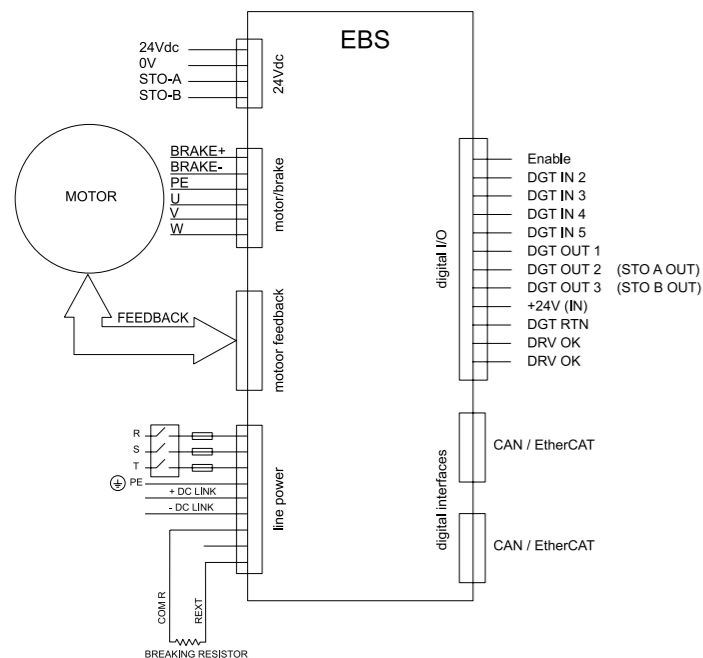
- Two optional boards can be controlled (feedback, fieldbus, I/O expansion, etc..).
- Management of 5 inputs and 3 outputs of the programmable digital type.
- Management of TTL + HALL sensor, ABS, 17 birs. transducer.
- Vectorial regulation is achieved by means of a latest generation DSP. The current 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



Technical Data

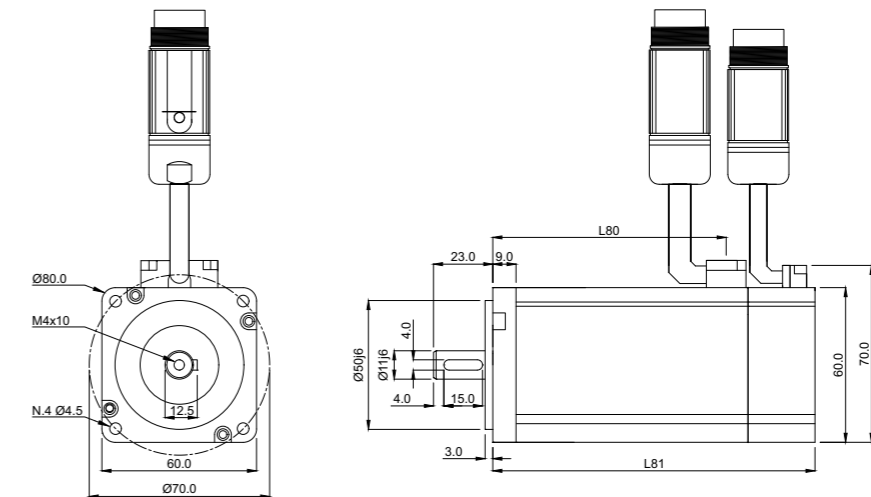
Modello / Model		EBS3/6	EBS6/12	EBS12/24	EBS18/36	EBS30/60	EBS42/84	EBS60/120	EBS80/120	EBS80/180
Output current	Arms	3 cont 6x5 sec	6 cont 12x5 sec	12 cont 24x5 sec	17 cont 34x5 sec	30 cont 60x5 sec	42 cont 84x5 sec	60 cont 120 x 5 sec	80 cont 120 x 5 sec	80 cont 180 x 5 sec
Dimensions (L x H x D)	mm	66 x 265 x 164,5			86 x 265 x 164,5		169 x 360 x 232,3		170 x 358 x 246	
Threephase pwr suppli voltage rating	Vac	230310% / 400310%					230310% / 480310%			
Bus DC rated voltage	Vda	320310% / 566310%					320310% / 676310%			
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
Capacity of BUS condensator	uF	235	235	500	500	1230	1500	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 suppli	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		
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		50		N.A.*		N.A.*		
Max continuous braking power on internal resistor	KW	5		10		N.A.*		N.A.*		
Max continuous braking power on external resistor	W	1000		1500		5000		10000		
Internal resistor value	ff	100		50		N.A.*				
External resistor value	ff	>66		>33		>12,5		>10		
Tripping voltage of brake circuit	V	390 / 720					391 / 836			

N.A.* Not available



Square 60 mm Motors - 230/400VAC

Electrical Characteristics		EH-60-60-023
Stall Torque (ΔT 100 °C) - TO	Nm	2,3
Max velocity - Nmax	rpm	6000
Nominal current - IN	Arms	3,9
Nominal torque - TN	Nm	1,75
Torque constant - KT	Nm/A	0,449
Max current - Imax	Arms	12
Stall Current - IO	Arms	5,1
Voltage constant - KE	V/Krpm	17,8
Rotor inertia - JR	gm ²	0,04
Nominal power - PN	W	550
Pair Poles		5
Max Torque - Tmax		5,2

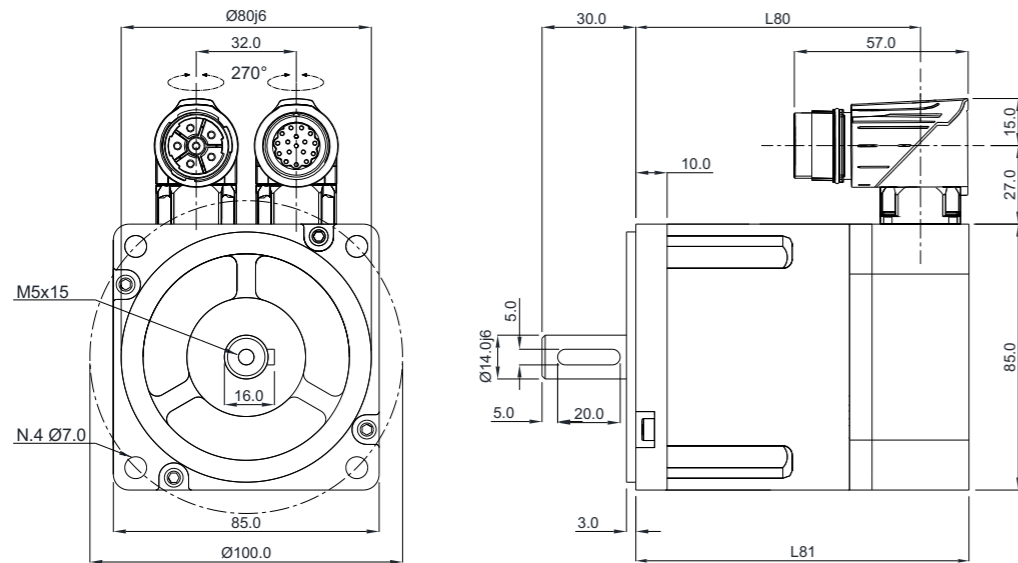


Motor's lenght		EH-060-60-023
L80 without brake	mm	90
L81 without brake	mm	125
L80 with brake	mm	90
L81 with brake	mm	154

Brake Characteristics		EH-060-60-023
Supply Voltage	Vdc	24 +/- 10% @ 0,4Adc
Braking Torque	Nm	1,75
Inertia	gm ²	0,01
Weight	Kg	0,23
Ton/Toff	ms	50/20

Square 85 mm Motors – 230/400VAC

Electrical Characteristics		EH-085-50-017	EH-085-60-031
Stall Torque (ΔT 100 °C) - TO	Nm	1,7	3,1
Max velocity - Nmax	rpm	5000	6000
Nominal current - IN	Arms	2,2	5,8
Nominal torque - TN	Nm	1,3	2,4
Torque constant - KT	Nm/A	0,59	0,41
Max current - Imax	Arms	6,8	17,5
Stall Current - IO	Arms	2,9	7,6
Voltage constant - KE	V/Krpm	22,7	18,5
Rotor inertia - JR	gm ²	0,123	0,186
Nominal power - PN	W	400	750
Pair Poles		5	5
Max torque - Tmax	Nm	3,9	7,2

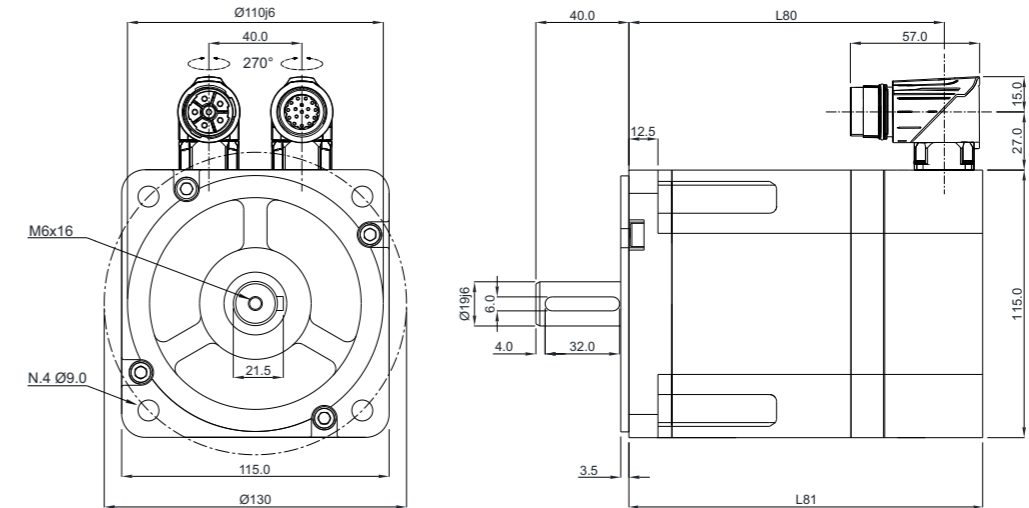


Motor's length		EH-085-50-017	EH-085-60-031
L80 without brake	mm	94	116
L81 without brake	mm	107,5	129,5
L80 with brake	mm	134	156
L81 with brake	mm	147,5	169,5

Brake Characteristics		EH-085-50-017	EH-085-60-031
Supply Voltage	Vdc	24 +/- 10% @ 0,6Adc	
Braking Torque	A	4,0	
Inertia	Nm	0,013	
Weight	gm ²	0,23	
Ton/Toff	ms	60/20	

Square 115 mm Motors – 230/400VAC

Electrical Characteristics		EH-115-40-055	EH-115-30-098
Stall Torque (ΔT 100 °C) - TO	Nm	5,5	9,8
Max velocity - Nmax	rpm	4000@230Vac 6000@400Vac	3000@230Vac 5000@400Vac
Nominal current - IN	Arms	6,5	8,0
Nominal torque - TN	Nm	4,2	7,5
Torque constant - KT	Nm/A	0,65	0,94
Max current - Imax	Arms	20	24,5
Stall Current - IO	Arms	8,5	10,4
Voltage constant - KE	V/Krpm	26,9	37,2
Rotor inertia - JR	gm ²	0,78	1,24
Nominal power - PN	W	1300	1600
Pair Poles		10	10
Max torque - Tmax	Nm	12,6	22,5



Motor's length		EH-115-40-055	EH-115-35-098
L80 without brake	mm	139,5	170,5
L81 without brake	mm	157,5	188,5
L80 with brake	mm	177,5	206,5
L81 with brake	mm	193,5	224,5

Brake Characteristics		EH-115-40-055	EH-115-30-098
Supply Voltage	Vdc	24 +/- 10% @ 0,7Adc	
Braking Torque	A	8,0	
Inertia	Nm	0,064	
Weight	gm ²	0,78	
Ton/Toff	ms	80/20	

Motors Characteristics

Technology:	Synchronous Brushless Servomotors with sinusoidal fcem. 10 poles construction
Thermal Insulation:	F class (Max T = 140°C → Ta = 40°C + ΔT = 100°C) obtained using components in F and H class
Constructive Shape:	B5
Degree of Protection:	IP65 – Natural cooling
Thermal Protection:	Not available
Shaft:	Standard with key
Connections:	FEEDBACK CONNECTORS - Transducer and PTC connections: M23 – 17poles POWER CONNECTOR - Motor and brake connections :M23 6poles.
Transducer:	Absolute Smart ABS Tamagawa 17/33Bit
Painting:	Protective resins (half luster black)
Options:	24Vdc Brake

Motors Coding

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

Pos.	Description
1	Motor identification label: "EH"
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: B = Absolute Multi Turn Smart ABS 17/33bit
12	Motor Shaft 1 = Shaft with key (standard)
13-14	Available for special version identification 0V = 230/400Vac Standard version - EH-085 - EH-115 1V = 230/400Vac Standard version - EH-060 00 = 400Vac version - only EH-115

EH Motors/EBS Drive Pairing Table

Motor	Drive	Drive Voltage	Stall torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
EH-060-60-023... **	EBS 3/6 **	230Vac/400Vac **	1,4 **	2,7 **	6000 **
EH-060-60-023...	EBS 6/12	230Vac/400Vac	2,3	5,1	6000
EH-085-50-017-...	EBS 3/6	230Vac/400Vac	1,7	3,5	5000
EH-085-60-031... **	EBS 6/12 **	230Vac/400Vac **	2,5 **	4,9 **	6000 **
EH-085-60-031...	EBS 12/24	230Vac/400Vac	3,1	7,2	6000
EH-115-40-055-...	EBS 12/24	230Vac/	5,5	12,6	4000
EH-115-40-055-...	EBS 12/24	400Vac	5,5	12,6	6000
EH-115-30-098-...	EBS 12/24	230Vac	9,8	22,5	3000
EH-115-30-098-...	EBS 12/24	400Vac	9,8	22,5	5000

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

EH Motors/EBSH Drive Pairing Table

Motor	Drive	Drive Voltage	Stall torque (Nm)	Peak Torque (Nm)	Max Velocity (rpm)
EH-060-60-023...	EBSH 6A	230Vac ***	2,3	5,25	6000
EH-085-50-017-...	EBSH 3A	230Vac ***	1,4	3,9	5000
EH-085-60-031...	EBSH 8A	230Vac ***	3,1	7,2	6000
EH-115-40-055-...	EBSH 10A	230Vac ***	5,5	12,6	4000
EH-115-30-098-...	EBSH 10A	230Vac ***	9,4	22,5	3000

*** EBSH drives are only available in the 230Vac version

DRIVE EBSH

Questi drive sono stati sviluppati per realizzare una totale integrazione digitale con i CNC Esautomation tramite bus di campo standard quali CAN open 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 dal 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 DEGLI EBSH

- Gestione di 8 ingressi digitali programmabili e 6 uscite digitali programmabili
- Gestione di trasduttori di tipo Assoluto/Incrementale 17/33Bit
- 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:
 - Sovraccorrente 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 open 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.

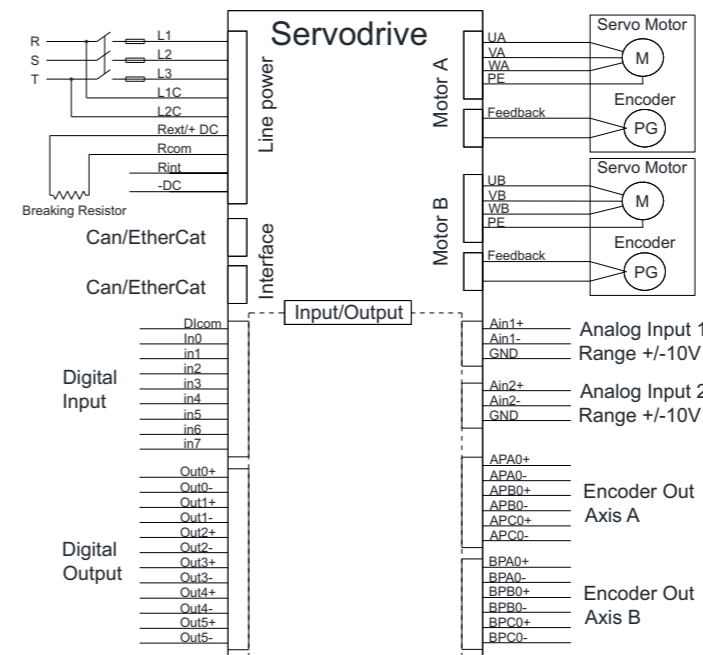
MAIN FEATURES OF THE EBSH DRIVES

- *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*

Technical Data

Modello 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	Threephase 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 Smart ABS (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 Qs							

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



Azionamento brushless drive integrato tipo ED4 /ED4H - 220V Trifase



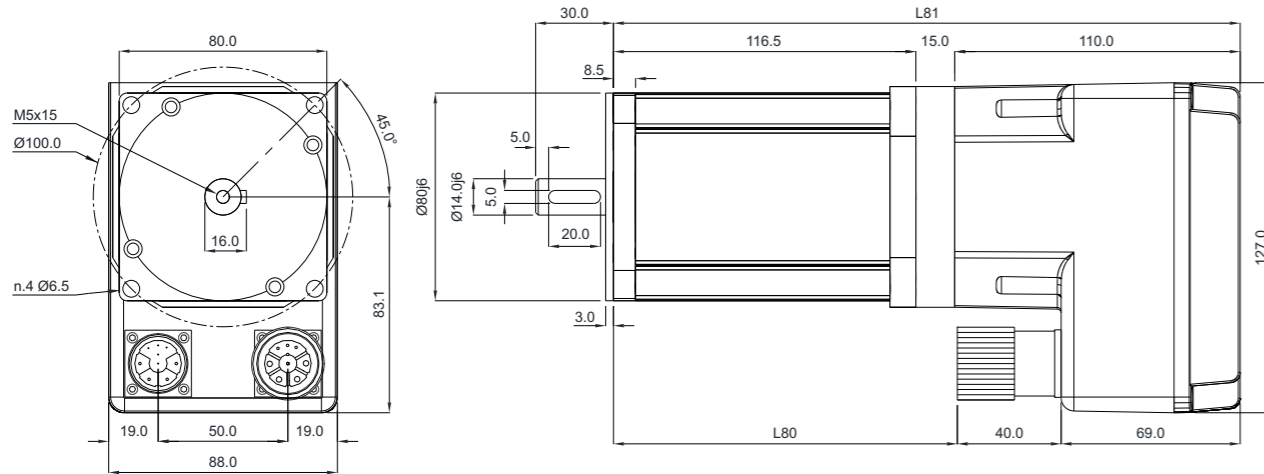
Motor's Range

Electrical Characteristics	ED4-080-35-014	ED4-080-50-014	ED4-085-35-028	ED4-080-50-028	ED4-080-35-039	ED4-080-50-039
Stall Torque (ΔT 100 °C) [Nm]	1,4		2,8		3,9	
Max velocity [rpm]	3500	5000	3500	5000	3000	5000
Nominal current [Arms]	1,5	2,6	2,9	4,8	3,0	5,2
Nominal torque [Nm]	1,2		2,3		3,1	
Torque constant [Nm/A]	0,81	0,463	0,794	0,48	0,794	0,595
Voltage constant [V/Krpm]	49	28	48	29	48	36
Stall Current [Arms]	1,8	3	3,5	5,7	4,9	6,5
Max torque [Nm]	4,9	2,8	9,5	5,8	9,5	9,5
Rotor inertia [gm ²]	0,04	0,123	0,168	0,78	1,24	
Power [W]	400		720		970	
Weight without brake (Kg)	2,8		3,9		4,4	

Type Motor	ED4-085-50-010	ED4-085-30-015	ED4-0805-50-015	ED4-085-30-029	ED4-115-45-021	ED4-115-30-040	ED4-115-40-040	ED4-115-30-076
Stall Torque $\Delta T=$ 100 °C	1	1,5	1,5	2,9	2,1	4	4	7,6
Max velocity [rpm]	5000	3000	5000	3000	4500	3000	4000	3000
Nominal Current [Arms]	1,5	1,4	2,2	2,6	2,8	3,5	4,4	5,5
Nominal Torque [Nm]	0,9	1,3	1,3	2,4	1,8	3,2	3,2	5,4
Torque Constant [Nm/A]	0,6	0,91	0,60	0,91	0,65	0,91	0,73	0,98
Electric Constant [V/Krpm]	36	55	36	55	39	55	44	59
Stall Current [Arms]	1,67	1,65	2,5	3,19	3,23	4,4	5,45	7,8
TPeak Torque [Nm]	3,6	5,5	3,6	10,9	7,8	10,9	8,8	15,8
Rotor Inertia [gm ²]	0,070	0,092	0,092	0,172	0,280	0,500	0,500	0,960
Power [W]	520	470	780	910	990	1250	1680	2100
Weight without brake (Kg)	2,8	3,2	3,2	4,3	4,8	6,8	6,8	9,7

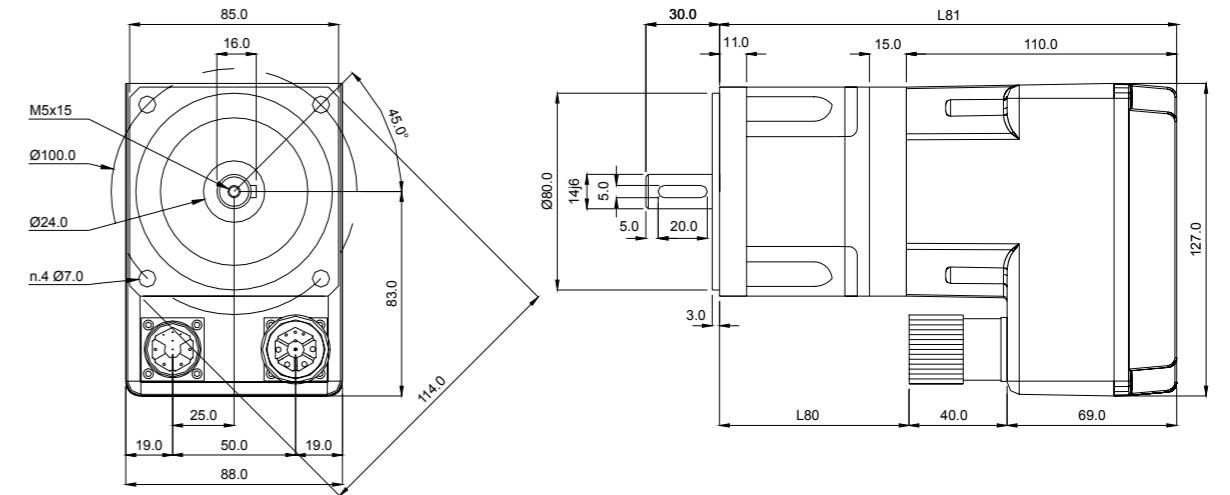
Square 80 mm Motors

Motor's lenght		ED4-080-xx-014	ED4-085-xx-028	ED4-080-xx-039
L80 without brake	mm	85,5	110,5	135,5
L81 without brake	mm	194,5	219,5	244,5
L80 with brake	mm	137,1	162,1	187,1
L81 with brake	mm	246,1	271,1	296,1



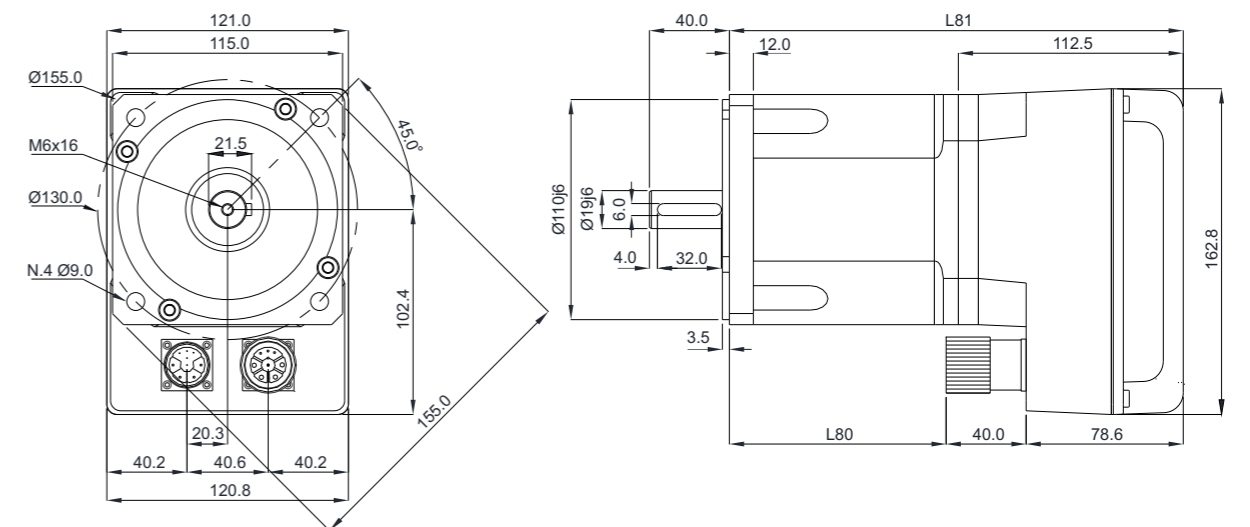
Square 85 mm Motors

Type motor		ED4-085-50-010	ED4-085-XX-015	ED4-085-30-029
L80 without brake	mm	77	100	130
L81 without brake	mm	186	209	29
L80 with brake	mm	105	148	178
L81 with brake	mm	214	257	287



Square 115 mm Motors

Type motor		ED4-115-45-021	ED4-115-60-040	ED4-115-30-076
L80 without brake	mm	62	108,5	148,5
L81 without brake	mm	180,5	227	267
L80 with brake	mm	105,5	157,5	197,5
L81 with brake	mm	224	276	316



Motor Coding

1		2	3	4		5	6		7	8	9		10	11	12		13	14
ED4	-	0	8	5	-	3	0	-	0	1	5	-	X	1	X	-	X	X

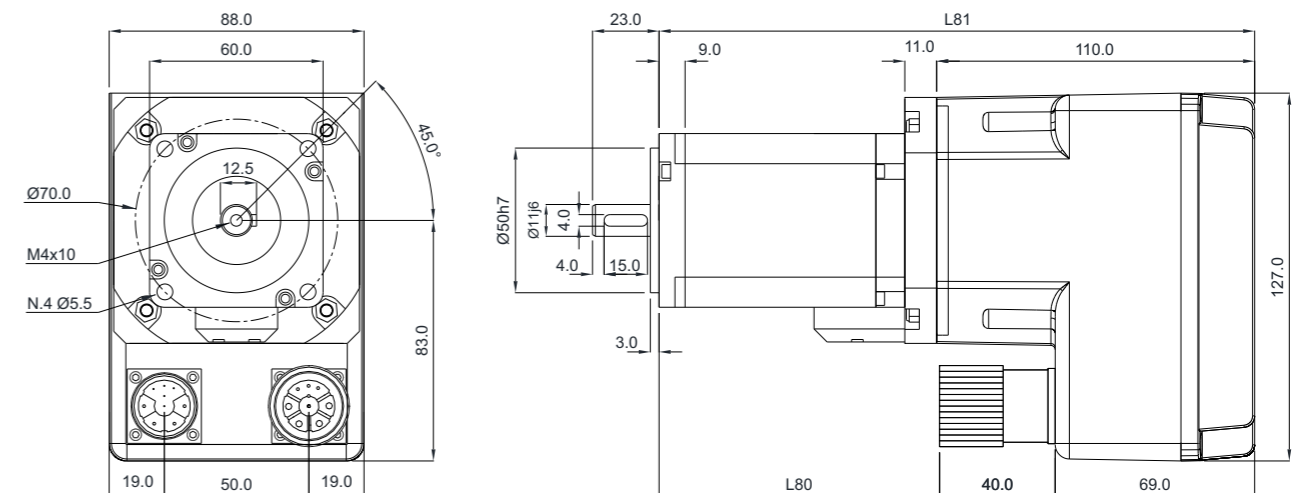
Pos.	Description
1	Servomotor identification label "ED3", "ED4"
2-3-4	Size Identify the square side of the motor expressed in mm
5-6	Max Velocity Multiplied x 00 defines the motor max velocity expressed in rpm
7-8-9	Stall Torque Defines the motor stall torque expressed in tenth of Nm (so 015 means 0,5 Nm)
10	Brake 0 = Brake not installed 1 = 24Vdc brake present
11	Transducer 1 = Line Drive 2048 pulses x rot. incremental Encoder with Hall sensors 5 = Absolute Multi-Turn Hengstler Encoder AD36 B = Absolute Smart ABS Tamagawa 17/33bit
12	Shaft 0 = Shaft without key. 1 = Shaft with key (standard).
13	Cable exit 0 = versus motor shaft.
14	Available for special version 0 = Standard version. 7 = Compact, smooth radiator.

Motor's Range

Electrical Characteristics	ED4H-060-60-023	ED4H-085-50-017	ED4H-080-50-031	ED4H-115-40-055	ED4H-115-30-098
Stall Torque (ΔT 100 °C) [Nm*]	2,3	1,7	3,1	5,2	7,5
Max velocity [rpm]	6000	5000	6000	4000	3000
Nominal current [Arms]	3,9	2,2	5,8	6,5	8
Nominal torque [Nm]	1,75	1,3	2,4	4,2	7,5
Torque constant [Nm/A]	0,449	0,59	0,41	0,65	0,94
Voltage constant [V/Krpm]	18	23	18,5	27	37,2
Stall Current [Arms]	5,1	2,9	7,6	8,0	8
Max torque [Nm]	5,25	3,5	6,5	10,4	15
Rotor Inertia [gm ²]	0,04	0,123	0,186	0,787	1,238
Nominal Power [W]	550	400	750	1300	1600

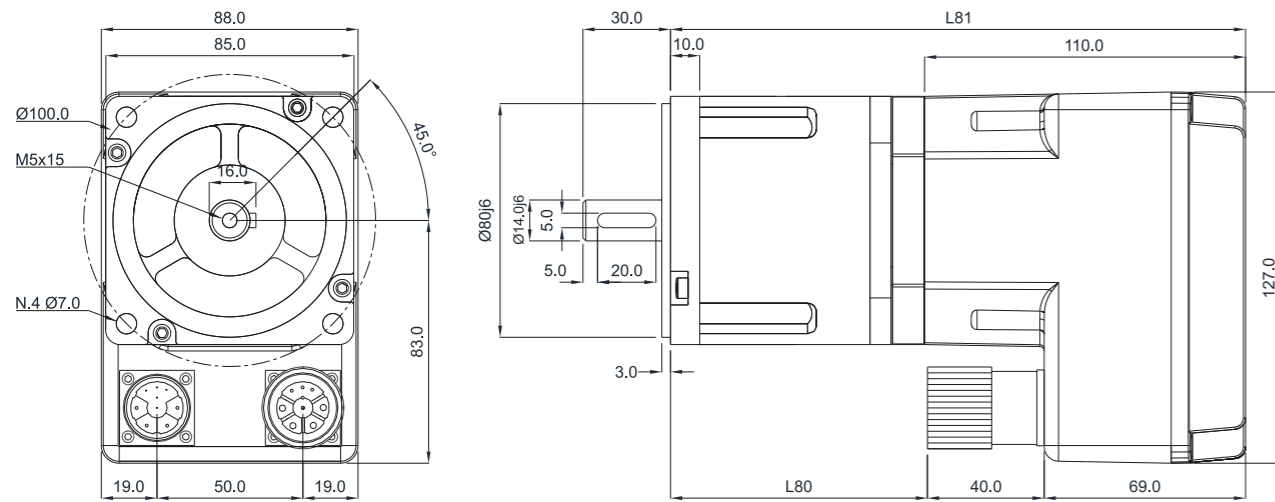
Square 60 mm Motors

Type motor		ED4H-060-60 023
L80 without brake	mm	112
L81 without brake	mm	221
L80 with brake	mm	141
L81 with brake	mm	250



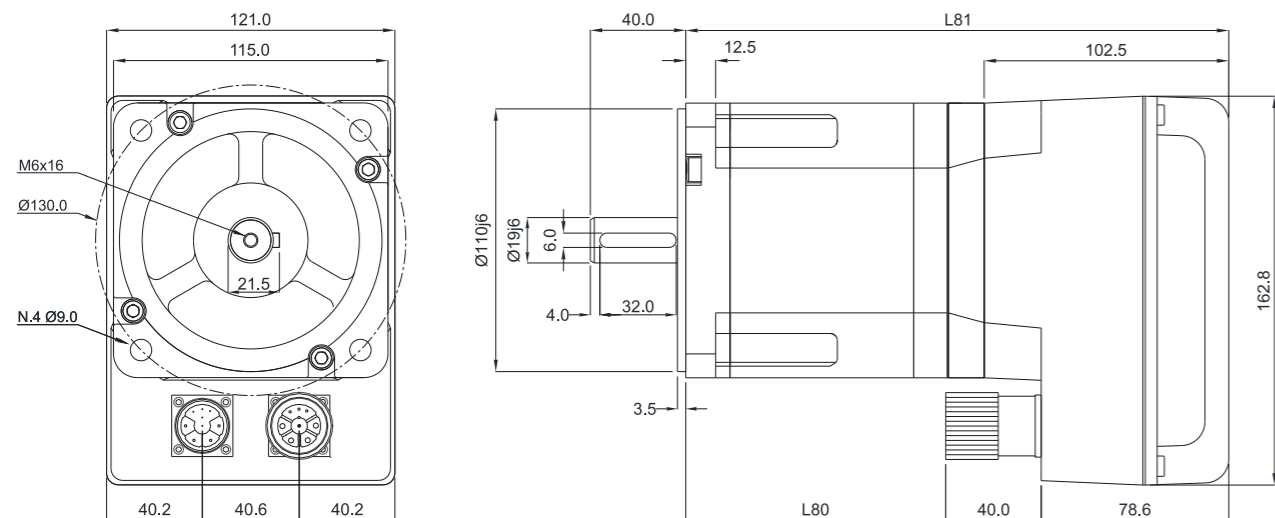
Square 85 mm Motors

Motor's lenght		ED4H-085-50-017	ED4H-085-50-017
L80 without brake	mm	87	109
L81 without brake	mm	196	218
L80 with brake	mm	127	149
L81 with brake	mm	236	258



Square 115 mm Motors

Motor's lenght		ED4H-115-40-055	ED4H-115-30-098
L80 without brake	mm	108,5	139,5
L81 without brake	mm	227	258
L80 with brake	mm	144,5	175,5
L81 with brake	mm	263	294



Motor Coding

1	2	3	4	5	6	7	8	9	10	11	12	13	14	
ED4H	-	0	8	5	-	6	0	-	0	3	1	-	x	x

Pos.	Description
1	Servomotor identification label: "ED4H"
2-3-4	Size: Identify the square side of the motor expressed in mm
5-6	Max Velocity: Multiplied x 00 defines the motor max velocity expressed in rpm
7-8-9	Stall Torque: Defines the motor stall torque expressed in tenth of Nm (so 015 means 0,5 Nm)
10	Brake: 0 = Brake not present 1 = 24vDC brake integrated inside the motor
11	Motor Transducer: B = Absolute Multi Turn Smart ABS 17/33bit
12	Motor Shaft 1 = Shaft with key (standard)
13-	Cable exit 0 = versus motor shaft
13-14	Available for special version identification 0 = Standard version 7 = Compact, smooth radiator



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