

EC/BLDC Motors



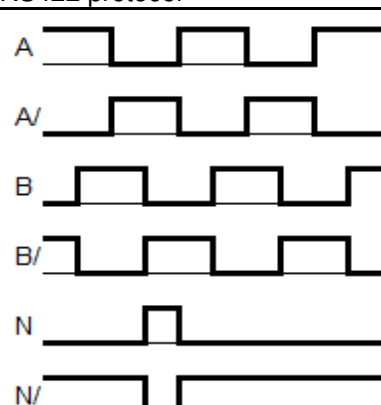
- 3 Phase EC/BLDC Motor
- IP-Rating: 40
- electrical connection by cables
- Optional with Encoder

Part number (not configurable, only for illustration)

MOT - EC - 42 - C - H - A

Specification	
A	Standard
Options	
H	Hall
I	Hall & Encoder
Connection Motor	
C	Cable
Flange Dimension	
42	42mm (NEMA17)
56	56mm (NEMA23)
60	60mm (NEMA24)
86	86mm (NEMA34)
Type	
EC	EC/BLDC Motor
Product Type	
MOT	Motor

Technical data					
Flange Dimension		42(NEMA17)	56(NEMA23)	60(NEMA24)	86(NEMA34)
Motor					
Number of phases		3	3	3	3
Number of poles		8	8	8	8
Number of pole pairs		4	4	4	4
Nominal voltage	[VDC]	48	48	48	48
Nominal current	[A]	2,6	5,0	7,5	8,7
Peak current	[A]	7,8	15,0	22,5	26,1
Nominal torque	[Nm]	0,3	0,6	0,8	1,0
Maximum torque	[Nm]	0,5	1,8	2,4	3,0
Rated speed	[U/min]	3.000	3.000	3.000	3.000
Nominal power	[W]	90	188	250	314
Resistance/Phase	[Ω]	1,65	0,5	0,47	1,08
Inductivity/Phase	[mH]	1,00	0,7	0,65	1,27
Torque constant	[Nm/A]	0,115	0,12	0,11	0,11
Voltage constant	[V/krpm]	12	12	11	11
Rotor inertia	[kgcm ²]	0,052	0,91	0,95	1,20
Shaft load, axial	[N]	10	15	20	60
Shaft load, radial (20 mm)	[N]	28	70	80	220

Encoder		Only for MOT-EC-XX-C-I-A	
Operating voltage	[VDC]	5	
Impulse / turn		1000	
Zero impulse / index		yes	
Line driver		RS422 protocol	
Signal sequence (motor rotation clockwise)	CW		

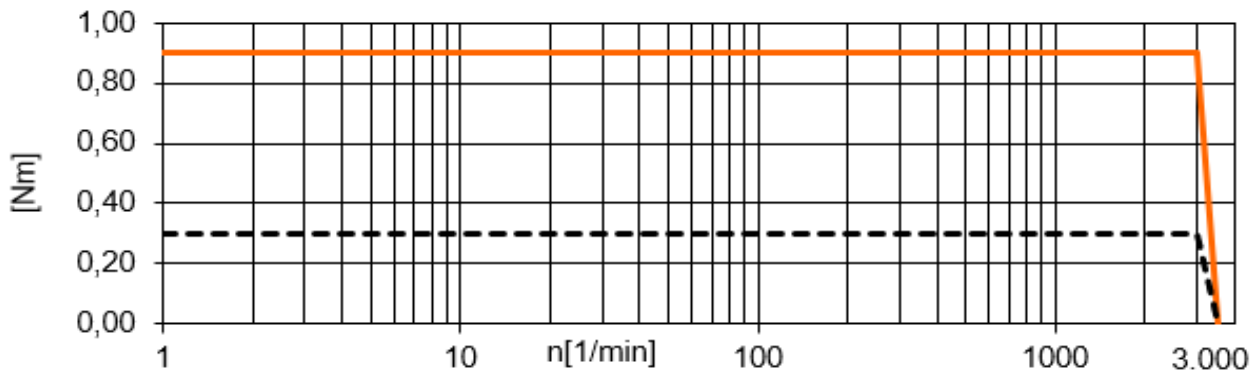
Weight Motor					
Hall	[kg]	0,75	1,30	1,35	2,30
Hall & Encoder	[kg]	0,80	1,40	1,40	2,50

Operating data	
Ambient temperature	[°C] -10 ...+50
Max. allowable temperature increase	[°C] 80
Insulation class	B
Air humidity (non-condensing)	[%] 85
IP rating - motor housing	IP40
CE conformity	EMV guideline

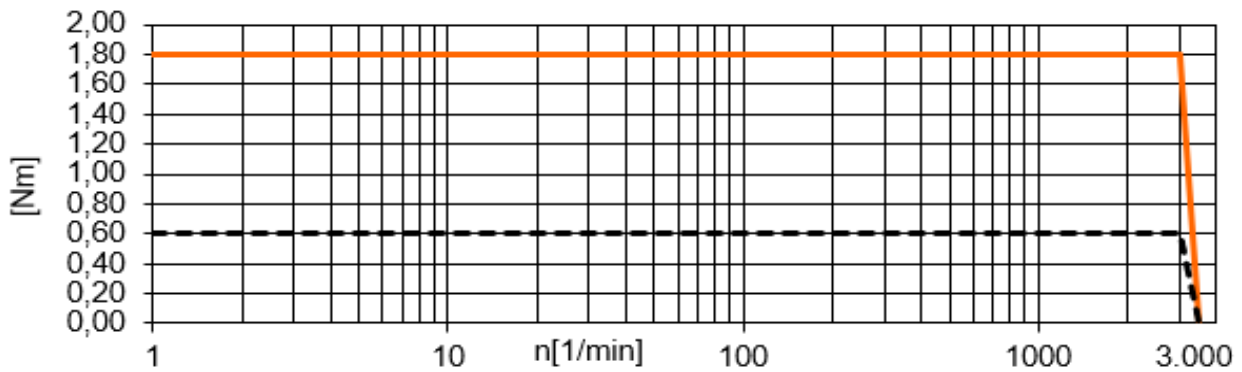
Motor-Connection MOT-EC-XX-C-H-A							
Motor				Hall			
PIN	Signal	Cable-colour	Cross-section	PIN	Signal	Cable-colour	Cross-section
1	U	yellow	0,750 mm ²	1	5V DC	red	0,125 mm ²
2	V	green	0,750 mm ²	2	0V	black	0,125 mm ²
3	W	blue	0,750 mm ²	3	Hall1	yellow	0,125 mm ²
* Cable length approx.300mm				4	Hall2	green	0,125 mm ²
				5	Hall3	blue	0,125 mm ²
					Shield		

Motor-Connection MOT-EC-XX-C-I-A							
Motor				Hall & Encoder			
PIN	Signal	Cable-colour	Cross-section	PIN	Signal	Cable-colour	Cross-section
1	U	yellow	0,750 mm ²	1	5V DC	red	0,125 mm ²
2	V	green	0,750 mm ²	2	0V	black	0,125 mm ²
3	W	blue	0,750 mm ²	3	A	green	0,125 mm ²
* Cable length approx.300mm				4	A/	green/black	0,125 mm ²
				5	B	white	0,125 mm ²
				6	B/	white/black	0,125 mm ²
				7	N	yellow	0,125 mm ²
				8	N/	yellow/black	0,125 mm ²
				9	Hall1	brown	0,125 mm ²
				10	Hall2	grey	0,125 mm ²
				11	Hall3	orange	0,125 mm ²
					Shield		

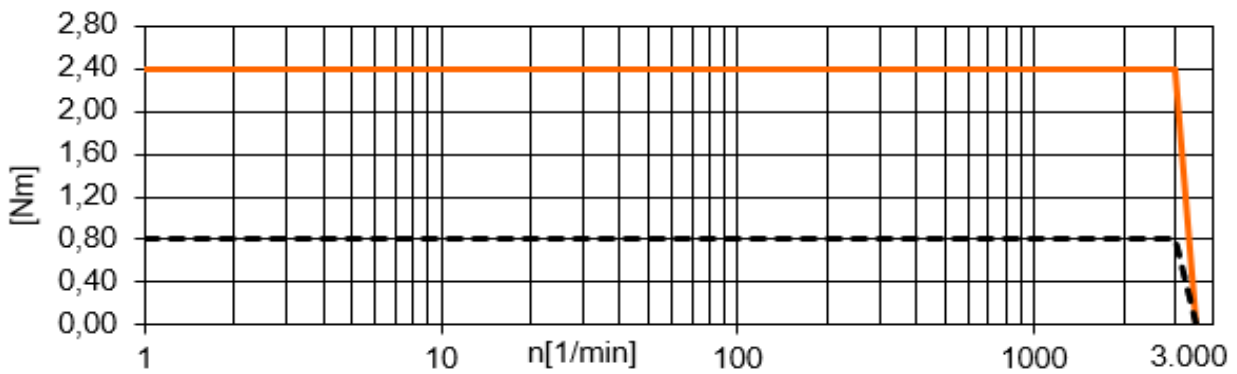
Characteristic curve
Flange Dimension 42 (NEMA17)



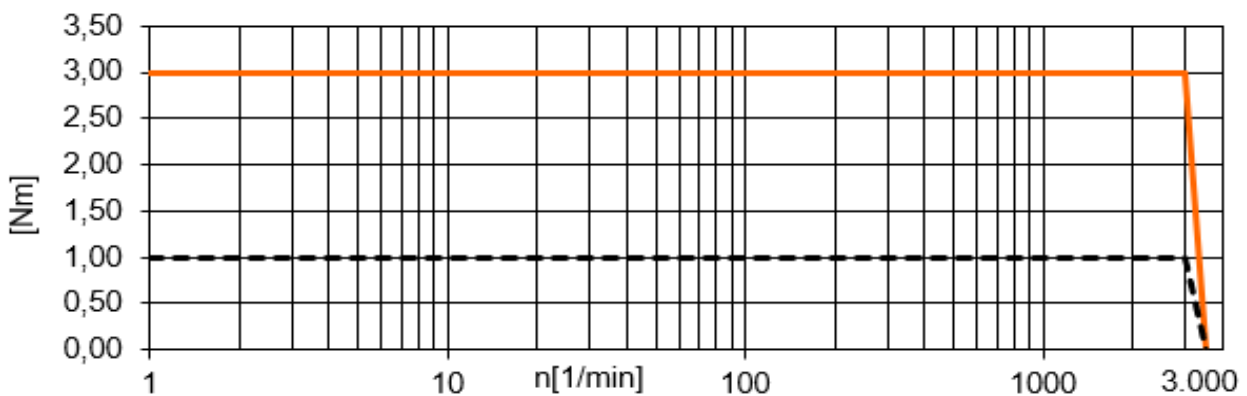
Flange Dimension 56 (NEMA23)



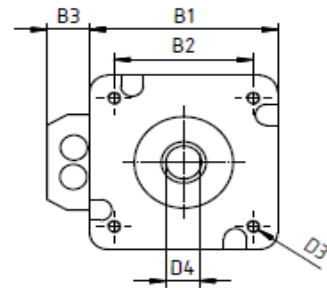
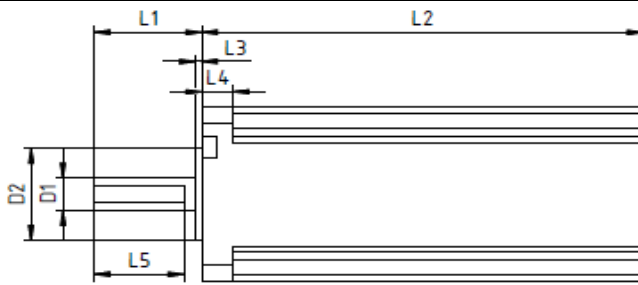
Flange Dimension 60 (NEMA24)



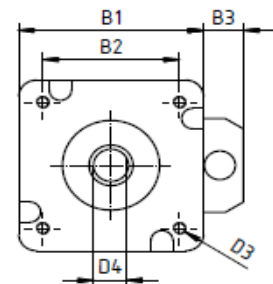
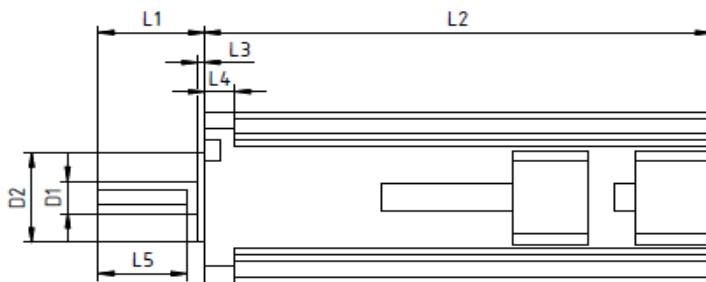
Flange Dimension 86 (NEMA34)



Dimensions
MOT-EC-XX-C-H-A



MOT-EC-XX-C-I-A



Model	B1 [mm]	B2 [mm] ±0,2	B3 [mm]	D1 Ø [mm] -0,013	D2 Ø [mm] ±0,025	D3 Ø [mm]	D4 [mm] ±0,15	L1 [mm] ±1	L2 [mm] ±1	L3 [mm]	L4 [mm]	L5 [mm] ±1
MOT-EC-42-C-H-A	42,0	31,00	9	8,00	22,00	M3	7,5	24,0	99	1,5	7	20,0
MOT-EC-56-C-H-A	56,4	47,14	9	8,00	38,10	5	7,5	24,0	98	1,6	5	20,0
MOT-EC-60-C-H-A	60,5	47,15	9	8,00	38,10	5,5	7,5	21,0	87,7	2,0	8	15,0
MOT-EC-86-C-H-A	86,0	69,60	9	14,00	73,00	6,5	13,0	35,0	80,5	1,6	10	25,0
MOT-EC-42-C-I-A	42,0	31,00	9	8,00	22,00	M3	7,5	24,0	115	1,5	7	20,0
MOT-EC-56-C-I-A	56,4	47,14	9	8,00	38,10	5	7,5	24,0	115	1,6	5	20,0
MOT-EC-60-C-I-A	60,5	47,15	9	8,00	38,10	5,5	7,5	21,0	97	2,0	8	15,0
MOT-EC-86-C-I-A	86,0	69,60	9	14,00	73,00	6,5	13,0	35,0	110,5	1,6	10	25,0

Accessories

You can find further accessories at <https://www.igus.eu/info/drylin-e-accessories>

Motor flanges



Spacer



Couplings



Limit and reference switches

