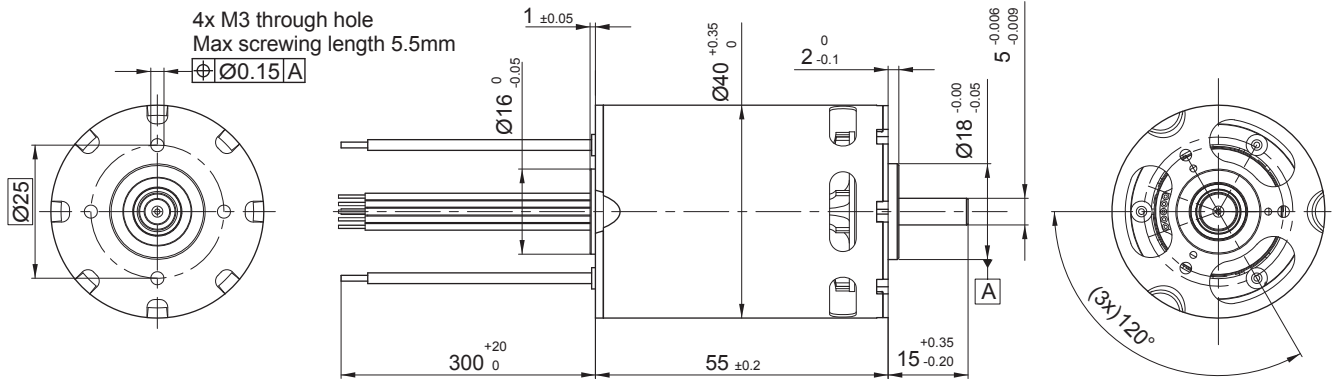


40ECP55

Ø 40mm • 4-pole • 425W



Dimensions in mm

Electrical Data	Symbol	40ECP55 8 XX		Unit
		7	10	
1 Nominal Voltage	U_N	18	18	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	26'310	18'000	rpm
4 Typical No Load Current	I_0	1'450	790	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	420	420	W
6 Max. Continuous Current	$I_{e,max}$	23.6	16.5	A
7 Max. Continuous Torque	$M_{e,max}$	150.2 (21.3)	150.2 (21.3)	mNm (oz-in)
8 Back EMF Constant	k_E	0.67	0.95	V/1000 rpm
9 Torque Constant	k_M	6.38 (0.9)	9.11 (1.29)	mNm/A
10 Motor Regulation	R/k^2	0.639	0.63	$10^3/Nms$
11 Motor Regulation	$k/R^{1/2}$	39.5 (5.6)	40 (5.66)	$mNm/W^{1/2}$ (oz-in/ $W^{1/2}$)
12 Internal Resistance - phase to phase	R_i	0.026	0.052	ohms
13 Line to Line Resistance at Connectors	R_L	0.04	0.066	ohms
14 Inductance Phase to Phase	L	0.005	0.01	mH
15 Mechanical Time Constant	τ_m	4.2	4.2	ms
16 Electrical Time Constant	τ_e	0.2	0.2	ms

General Data				
17 Maximum Motor Speed	n_{max}		30'000	rpm
18 Ambient Working Temperature Range	-		-30 to +100 (-22 to +212)	°C (°F)
19 Ambient Storage Temperature Range	-		-40 to +100 (-40 to +212)	°C (°F)
20 Ball Bearings Preload	-		16 (3.6)	N (lb)
21 Axial Static Force w/o Shaft Support (max)	-		134 (30)	N (lb)
22 Maximum Winding Temperature	-		125 (257)	°C (°F)
23 Thermal Resistance	R_{th}		2.3	°C/W
24 Thermal Time Constant	τ_w		110	s
25 Weight	-		240 (8.47)	g (oz)
26 Rotor Inertia	J		66 (935)	g-cm ²
27 Hall Sensor Electrical Phasing*	-		120	Electrical °

*Also available without Hall sensors

Wire	Description
Gray	Phase 1 (AWG 18)
Violet	Phase 2 (AWG 18)
Blue	Phase 3 (AWG 18)
Green	VDC (AWG 26)
Yellow	GND (AWG 26)
Orange	Hall Sensor 1 (AWG 26)
Red	Hall Sensor 2 (AWG 26)
Brown	Hall Sensor 3 (AWG 26)

