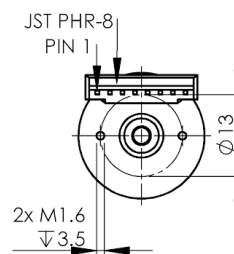
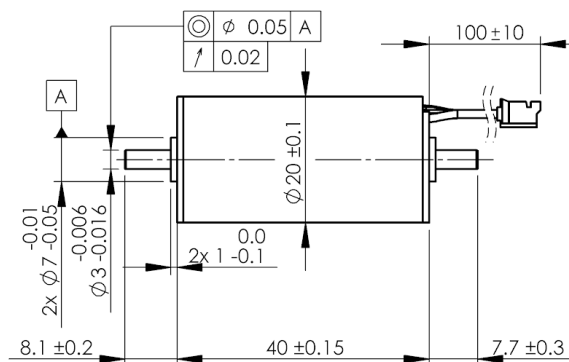
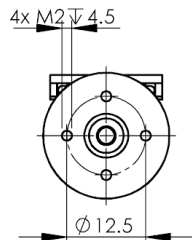
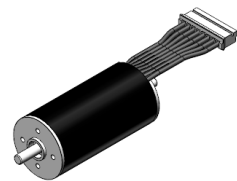


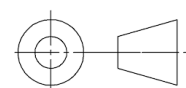
720-400 Brushless motor Slotless (inrunner)

Ø20 x 40mm / with dual shafts / with sensors



DIMENSIONS ARE IN mm
SURFACE FINISH: N7
TOLERANCES:
LINEAR: ±0.2
ANGULAR: ±1°

3RD ANGLE
PROJECTION



PIN	Description
1	U
2	V
3	W
4	GND
5	Hu
6	Hv
7	Hw
8	Vcc

		Samples available	Manufacturable on request		Custom design
Design and accessories		720-400	720-600	720-801	720-XXX
A	Availability	Stocked design	8 weeks	8 weeks	8 weeks
B	Motor Type	Brushless	Brushless	Brushless	Brushless
C	Commutation	Digital Hall	Digital Hall	Digital Hall	Sensored / sensorless
D	Shafts	Dual	Dual	Dual	Dual / single
E	Encoder	Not fitted	Not fitted	Not fitted	Magnetic / optical
F	Gearbox	Not fitted	Not fitted	Not fitted	Range 1:4 ~ 1:3373
G	Connections	8-pinned JST PHR-8	8-pinned JST PHR-8	8-pinned JST PHR-8	To requirement
H	Cable	100mm x AWG26	100mm x AWG26	100mm x AWG26	To requirement
I	Housing Material	Aluminium alloy	Aluminium alloy	Aluminium alloy	Aluminium alloy
J	Body diameter	mm	20	20	20
K	Body length	mm	40	40	40
L	Weight	g	56.0	56.0	56.0

Performance characteristics					
1	Nominal voltage	v	12	18	24
2	No load speed	rpm	17 410	18 270	18 310
3	No load current	A	0.20	0.18	0.07
4	Nominal speed	rpm	13 650	15 220	14 860
5	Nominal torque	mNm	11.60	13.95	13.80
6	Nominal current	A	2.00	1.69	1.18
7	Stall torque	mNm	55.12	85.17	74.31
8	Stall current	A	8.57	9.23	6.00
9	Maximum efficiency	%	71.80	74.00	80.30

This motor can be wound for nominal voltages in a 12 ~ 24V range. Nominal load, no load, and stall points, and efficiency will depend on the winding design. Please contact support@pmdri.com

Winding specific characteristics					
10	Terminal resistance	Ω	1.40	1.95	4.00
11	Terminal inductance	mH	0.09	0.17	0.31
12	Torque constant (Kt)	mNm/A	6.43	9.23	12.39
13	Speed constant (Kv)	rpm/V	1 485	1 035	771
14	Speed / torque gradient	rpm/mNm	323	219	249
15	Mechanical time constant	ms	7.8	5.3	6.0
16	Rotor inertia	g·cm ²	2.3	2.3	2.3

Winding dependent

Motor body characteristics		Operating range (based on ambient 25°C)	
17	Thermal resistance housing-ambient	°C/W	13.8
18	Thermal resistance winding-housing	°C/W	4.3
19	Thermal time constant winding	s	8
20	Thermal time constant motor	s	366
21	Ambient temperature	min °C	-30
		max °C	+100
22	Max. permissible winding temperature	°C	+150
23	Max. permissible rotor speed	rpm	30 000
24	Axial play at axial load	mm	0.3 max
25	Radial play		Preloaded
26	Max. axial load (dynamic)	N	3.5
27	Max. force for press fits (static)	N	44.0
	with shaft supported	kN	1.2
28	Max. radial loading (5mm from flange)	N	15.0
29	Number of pole pairs		1
30	Number of winding phases		3

720-400

