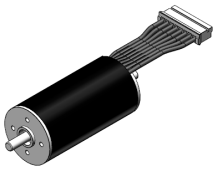
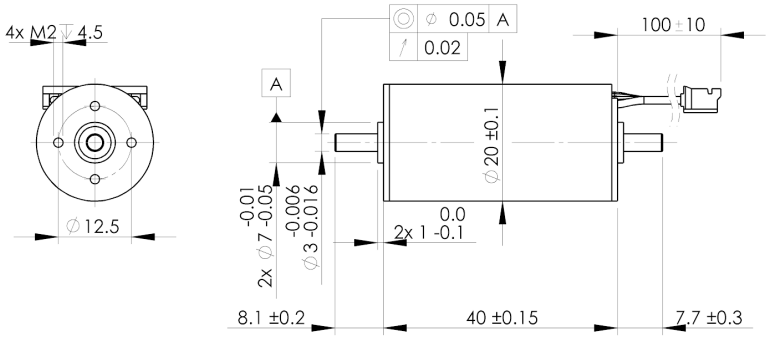
720-400 Brushless motor Slotless (inrunner)

Ø20 x 40mm / with dual shafts / with sensors

PRECISION MICRODRIVES ™

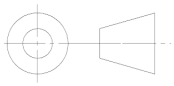


PIN	Description
1	3-18 VDC
2	Hall a
3	Hall b
4	Hall c
5	GND
6	Phase 1
7	Phase 2
8	Phase 3



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

3RD ANGLE PROJECTION



			Samples available	Manufacturable on request		Custom design
Design and accessories		**Units**	**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	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
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	
Winding specific characteristics						
10	Terminal resistance	Ω	1.40	1.95	4.00	Winding dependent
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·cm²	2.3	2.3	2.3	

Motor body characteristics				
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. permissable winding temperature		°C	+150
23	Max. permissable 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

Operating range (based on ambient 25°C)

720-400