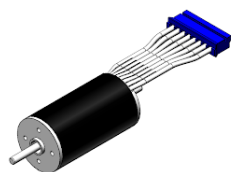
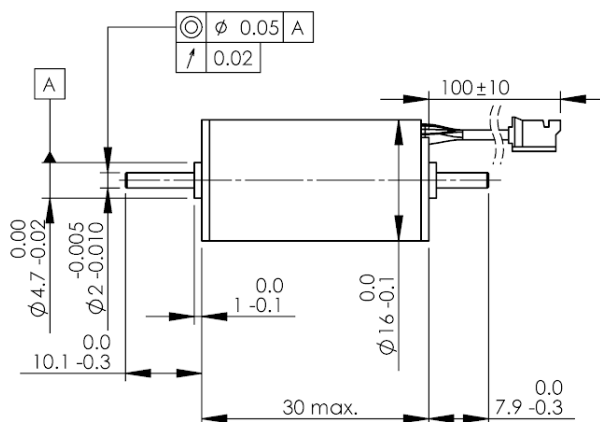
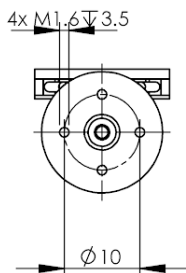


716-402 Brushless motor Slotless (inrunner)

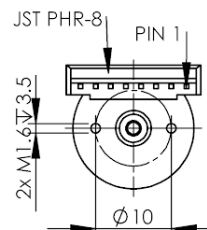
Ø16 x 30mm / with dual shafts / with sensors



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

1:1

Design and accessories	Units	Samples available	Manufacturable on request	Custom design
		716-402	716-600	716-XXX

A	Availability	Stocked design	8 weeks	8 weeks
B	Motor Type	Brushless	Brushless	Brushless
C	Commutation	Digital hall	Sensored / sensorless	Sensored / sensorless
D	Shafts	Dual	Dual	Dual / single
E	Encoder	Not fitted	Not fitted	Magnetic / optical
F	Gearbox	Not fitted	Not fitted	Range 1:4 ~ 1:3560
G	Connections	8-pinned JST PHR-8	8-pinned JST PHR-8	To requirement
H	Cable	100mm x AWG26	100mm x AWG26	To requirement
I	Housing Material	Aluminium alloy	Aluminium alloy	Aluminium alloy
J	Body diameter	mm	16	16
K	Body length	mm	30	30
L	Weight	g	25.0	25.0

Performance characteristics

1	Nominal voltage	v	12	18	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	21 210	23 520	
3	No load current	A	0.17	0.15	
4	Nominal speed	rpm	16 320	19 120	
5	Nominal torque	mNm	4.80	3.85	
6	Nominal current	A	0.92	0.55	
7	Stall torque	mNm	21.15	21.60	
8	Stall current	A	4.07	3.10	
9	Maximum efficiency	%	71.80	70.30	

Winding specific characteristics

10	Terminal resistance	Ω	3.00	5.80	Winding dependent
11	Terminal inductance	mH	0.10	0.20	
12	Torque constant (Kt)	mNm/A	5.20	7.00	
13	Speed constant (Kv)	rpm/V	1 842	1 373	
14	Speed / torque gradient	rpm/mNm	1 017	1 144	
15	Mechanical time constant	ms	5.8	5.7	
16	Rotor inertia	mNm ²	0.048	0.048	

Motor body characteristics

17	Thermal resistance housing-ambient	°C/W	20.0
18	Thermal resistance winding-housing	°C/W	8.8
19	Thermal time constant winding	s	8
20	Thermal time constant motor	s	236
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	< 1.8N	mm 0.0
		> 1.8N	mm 0.3 max
25	Radial play	Preloaded	
26	Max. axial load (dynamic)	N	1.3
27	Max. force for press fits (static)	N	15.0
	with shaft supported	N	350.0
28	Max. radial loading (5mm from flange)	N	5.0
29	Number of pole pairs		1
30	Number of winding phases		3

Operating range (based on ambient 25°C)

