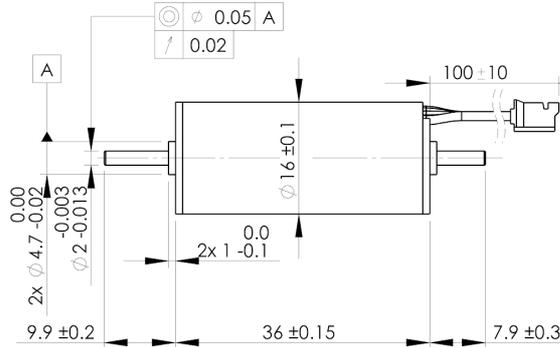
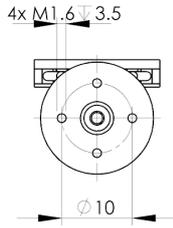
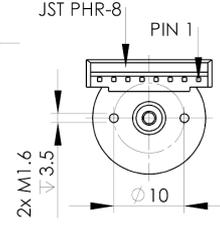


716-403 Brushless motor Slotless (inrunner)

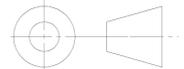
Ø16 x 36mm / with dual shafts / with sensors / fit for gearbox and encoder



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



3RD ANGLE PROJECTION



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

Design and accessories	Units	Samples available	Manufacturable on request		Custom design
		716-403	716-201	716-802	716-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	16	16	16	
K Body length	mm	36	36	36	
L Weight	g	32.0	32.0	32.0	

Performance characteristics		716-403	716-201	716-802	This motor can be wound for nominal voltages in a 6 ~ 24V range. Nominal load, no load, and stall points, and efficiency will depend on the winding design. Please contact support@pmdri.com
1 Nominal voltage	v	12	6	24	
2 No load speed	rpm	14 020	13 580	13 780	
3 No load current	A	0.05	0.18	0.07	
4 Nominal speed	rpm	9 980	9 070	9 990	
5 Nominal torque	mNm	7.98	7.98	9.00	
6 Nominal current	A	1.04	2.13	0.63	
7 Stall torque	mNm	28.05	24.83	33.90	
8 Stall current	A	3.48	6.06	2.11	
9 Maximum efficiency	%	78.1	68.5	67.3	

Winding specific characteristics		716-403	716-201	716-802	Winding dependent
10 Terminal resistance	Ω	3.45	0.99	11.40	
11 Terminal inductance	mH	0.18	0.04	0.81	
12 Torque constant (Kt)	mNm/A	8.07	4.10	16.10	
13 Speed constant (Kv)	rpm/V	1 184	2 331	593	
14 Speed / torque gradient	rpm/mNm	507	563	420	
15 Mechanical time constant	ms	3.2	3.7	2.7	
16 Rotor inertia	g·cm ²	0.62	0.62	0.62	

Motor body characteristics		Operating range (based on ambient 25°C)	
17 Thermal resistance housing-ambient	°C/W	17.1	716-403
18 Thermal resistance winding-housing	°C/W	5.3	
19 Thermal time constant winding	s	6	
20 Thermal time constant motor	s	252	
21 Ambient temperature	min °C	-30	
	max °C	+100	
22 Max. permissible winding temperature	°C	+150	
23 Max. permissible rotor speed	rpm	60 000	
24 Axial play at axial load	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
28 Max. radial loading (5mm from flange)	N	5.0	
29 Number of pole pairs		1	
30 Number of winding phases		3	

