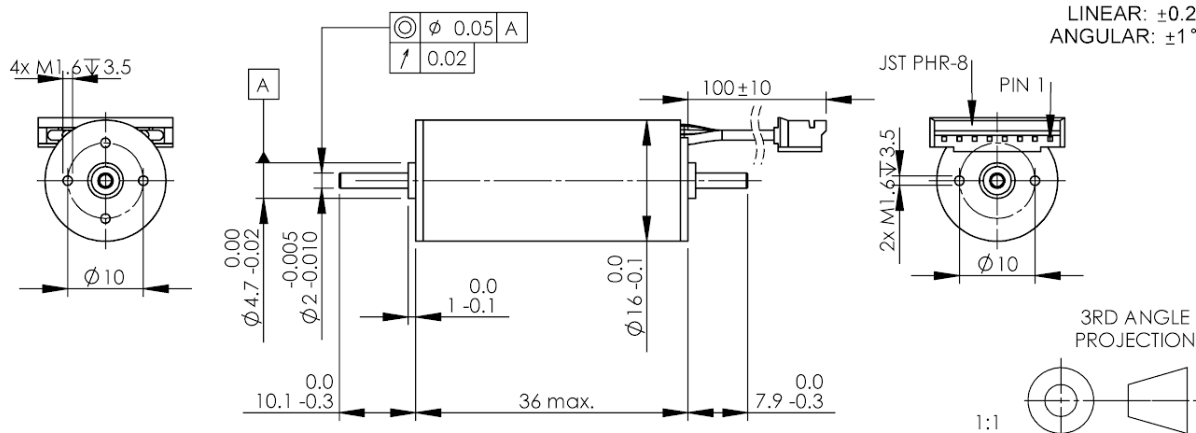
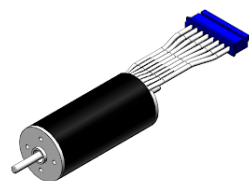


716-403 Brushless motor Slotless (inrunner)

Ø16 x 36mm / 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°

Design and accessories	Units	Samples available			Manufacturable on request			Custom design	
		716-403	716-201	716-802	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	Sensored / sensorless	Sensored / sensorless				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 ~ 1:3560	
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	14 080	13 690	14 390	
3 No load current	A	0.17	0.24	0.09	
4 Nominal speed	rpm	10 020	9 670	10 530	
5 Nominal torque	mNm	8.56	9.95	8.71	
6 Nominal current	A	1.10	2.44	0.57	
7 Stall torque	mNm	30.19	34.89	34.00	
8 Stall current	A	3.87	8.57	2.22	
9 Maximum efficiency	%	71.20	74.00	71.70	

Winding specific characteristics		716-403	716-201	716-802	Winding dependent
10 Terminal resistance	Ω	3.10	0.70	10.80	
11 Terminal inductance	mH	0.15	0.04	0.81	
12 Torque constant (Kt)	mNm/A	7.80	4.07	15.30	
13 Speed constant (Kv)	rpm/V	1 227	2 347	625	
14 Speed / torque gradient	rpm/mNm	474	404	444	
15 Mechanical time constant	ms	3.1	2.6	2.9	
16 Rotor inertia	mNm ²	0.062	0.062	0.062	

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	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		

