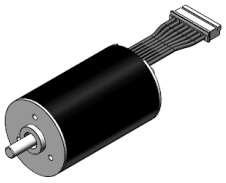
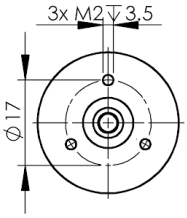
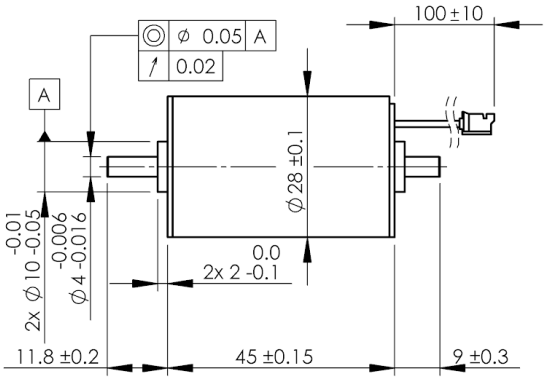
728-401 Brushless motor Slotless (inrunner)

Ø28 x 45mm / with dual shafts / with sensors

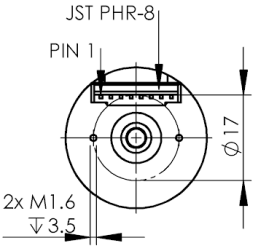
PRECISION MICRODRIVES ™



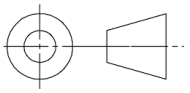




DIMENSIONS ARE IN mm
SURFACE FINISH: N7
TOLERANCES:
LINEAR: ±0.2
ANGULAR: ±1°



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		**Units**	**728-401**	**728-800**	**728-C00**	**728-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 ~ 1:5033
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	28	28	28	
K	Body length	mm	45	45	45	
L	Weight	g	115.0	115.0	115.0	
Performance characteristics						
1	Nominal voltage	v	12	24	36	This motor can be wound for nominal voltages in a 12 ~ 48V 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	13 040	13 490	14 800	
3	No load current	A	0.32	0.14	0.11	
4	Nominal speed	rpm	11 080	11 620	12 680	
5	Nominal torque	mNm	18.95	21.40	17.75	
6	Nominal current	A	2.52	1.41	0.88	
7	Stall torque	mNm	129.04	157.68	126.23	
8	Stall current	A	15.00	9.41	5.54	
9	Maximum efficiency	%	72.90	77.50	74.40	
Winding specific characteristics						
10	Terminal resistance	Ω	0.80	2.55	6.50	Winding dependent
11	Terminal inductance	mH	0.09	0.37	0.73	
12	Torque constant (Kt)	mNm/A	8.60	16.75	22.79	
13	Speed constant (Kv)	rpm/V	1 110	570	419	
14	Speed / torque gradient	rpm/mNm	103	87	120	
15	Mechanical time constant	ms	5.5	4.6	6.4	
16	Rotor inertia	g·cm²	5.2	5.2	5.2	

Motor body characteristics				
17	Thermal resistance housing-ambient		°C/W	9.6
18	Thermal resistance winding-housing		°C/W	6.3
19	Thermal time constant winding		s	37
20	Thermal time constant motor		s	584
21	Ambient temperature	min	°C	-30
		max	°C	+100
22	Max. permissable winding temperature		°C	+150
23	Max. permissable rotor speed		rpm	25 000
24	Axial play at axial load		mm	0.3 max
25	Radial play			Preloaded
26	Max. axial load (dynamic)		N	7.5
27	Max. force for press fits (static)		N	100.0
	with shaft supported		kN	2.0
28	Max. radial loading (5mm from flange)		N	25.0
29	Number of pole pairs			1
30	Number of winding phases			3

Operating range (based on ambient 25°C)

728-401