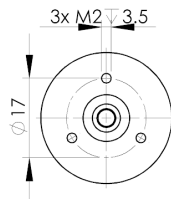
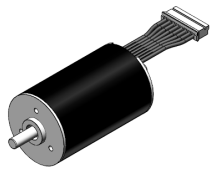
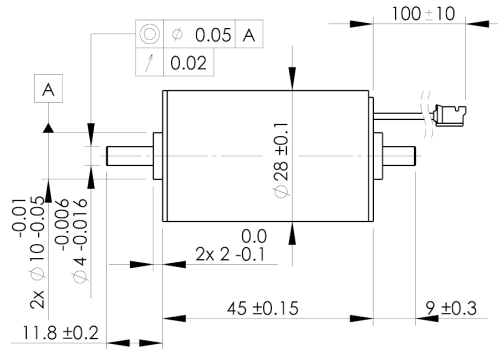


728-401 Brushless motor Slotless (inrunner)

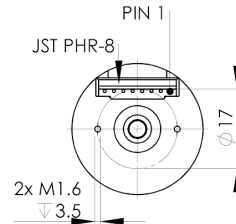
Ø28 x 45mm / with dual shafts / with sensors



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

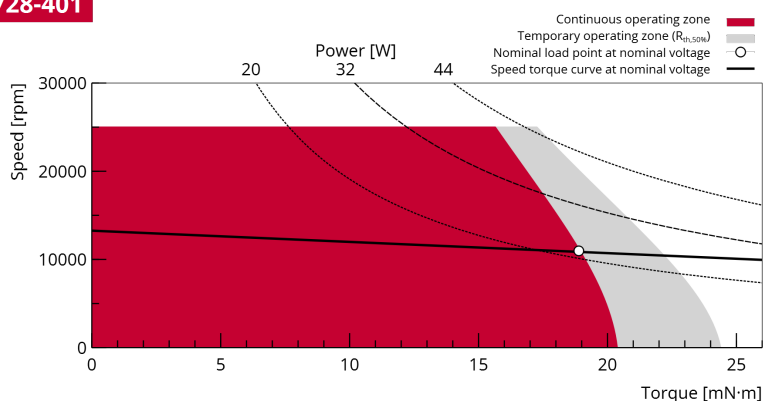
		Samples available	Manufacturable on request		Custom design
Design and accessories		728-401	728-800	728-C00	728-XXX
A	Availability	Stocked design	8 weeks	8 weeks	8 weeks
B	Motor Type	Brushless	Brushless	Brushless	Brushless
C	Commutation	Digital Hall	Digital Hall	Digital Hall	Sensored / sensorless
D	Shafts	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
I	Body diameter	mm	28	28	
K	Body length	mm	45	45	
L	Weight	g	115.0	115.0	115.0

Performance characteristics					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
1	Nominal voltage	v	12	24	36
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					Winding dependent
10	Terminal resistance	Ω	0.80	2.55	6.50
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		Operating range (based on ambient 25°C)	
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. permissible winding temperature	°C	+150
23	Max. permissible 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



Detailed datasheets, and stocked samples, are available upon request. Please contact support@precisionmicrodrives.com

V2 - Feb 2025