


 PRECISION MICRODRIVES

DESCRIPTION: 212-409

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN MILLIMETERS  
TOLERANCES:  
LINEAR:  $\pm 0.2$   
ANGULAR:  $\pm 1^\circ$ 3RD ANGLE PROJECTION  


DO NOT SCALE DRAWING

DRAWING: 212-409

A4

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	Samples available			
Units	212-409			

**Design and Accessories**

1	Commutation	Precious Metal Brush
2	No. of Output Shafts	2
3	Unit Weight	g 9.5
4	Body Diameter	mm 12
5	Body Length	mm 24
6	Rotation Direction	CW
7	Bearing Type	Sintered Bronze

**Physical Characteristics**

8	Shaft Diameter	mm 3
9	Shaft Length	mm 8
10	Shaft Orientation	Inline
11	Rear Shaft Diameter	mm 1
12	Rear Shaft Length	mm 6
13	Motor Construction	Iron Core

**Operational Characteristics**

14	Typical Max. Mech. Noise	dB(A) 50
15	Rated Operating Voltage	V 12
16	Rated Load	mN·m 50
17	Rated Load Speed	rpm 47
18	N/L Speed	rpm 72
19	Max. Start Voltage	V 2.2
20	Max. N/L Current	mA 42
21	Max. Operating Voltage	V 12
22	Max. Rated Load Current	mA 145
23	Min. Insulation Resistance	MΩ 1
24	Max. Start Current	mA 290
25	Typical Rated Load Power Consumption	mW 1,450
26	Typical N/L Current	mA 35
27	Typical Peak Efficiency	% 21
28	Typical Peak Eff. Torque	mN·m 53
29	Typical Peak Eff. Speed	rpm 58

30	Typical Peak Eff. Current	mA	125
31	Typical Peak Eff. Power Out	mW	320
32	Typical Start Current	mA	290
33	Typical Max. Output Power	mW	385
34	Typical Stall Torque	mN·m	132

**Gear Characteristics**

35	Gear Ratio	:	1	297.9
36	Gearhead Type			Spur

**Winding Characteristics**

37	Typical Terminal Resistance	Ohm	28
38	Typical Terminal Inductance	uH	3,800

**Environmental Characteristics**

39	Max. Operating Temp.	°C	50
40	Min. Operating Temp.	°C	-10
41	Max. Storage & Transportation Temp.	°C	60
42	Min. Storage & Transportation Temp.	°C	-20

**Packaging**

43	No. of Units per Carton	pcs	500
44	Carton Type		Boxed Trays

**Motor Body Characteristics**

45	No. of Poles		
46	Shaft Axial Float	mm	
47	Max. Axial Compression	N	
48	Max. Radial Load	mN	

**Performance**