

Enquiry N°:  
Created by: SB / Approved by: DB

### SERVO MOTOR 089LDB106FFCTC

**089LDB106FFCTC**



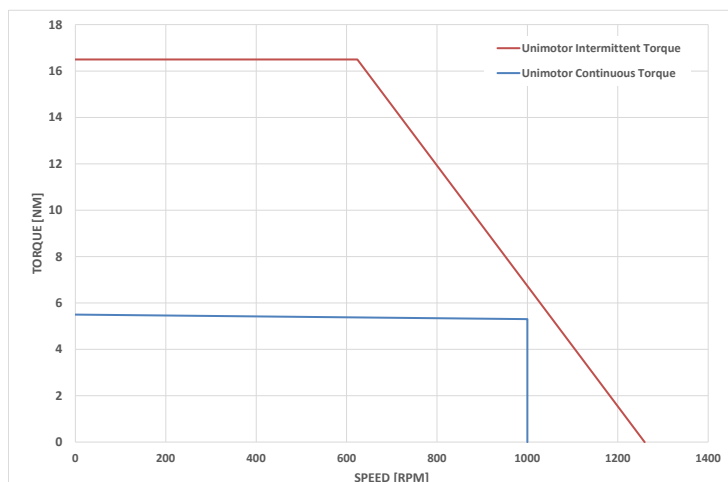
#### Definition

Type	Unimotor HD	
Frame Size (mm)	089	
Voltage	L	48 Vdc
Magnet type	D	High Dynamic
Frame Length	B	
Speed (min <sup>-1</sup> )	10	1000
Brake	6	Braked
Connection type	F	Flying leads 0.5m Power cut ends, Signal 16-way Molex connector
Output shaft	F	Half key and full key supplied in bag
Feedback device code	CT	4096 ppr Incremental encoder (TDK)
Inertia & thermistor	C	Standard inertia + KTY84-130 thermistor
PCD	100	100 (FF 100 / 80)
Shaft Diameter	190	19j6 x 40.0
Fan Box	-	
Insulation class	F	
UL Motor / UL Stator	UL Stator	

#### Nominal characteristics

Motor Ambient Temperature (°C)	40	Drive Fsw (kHz)	12
Motor Stall Torque (Nm)	5.5	Stall Current (A)	13.1
Rated Torque (Nm)	5.25	Nominal Current (A)	13.1
Motor Peak Torque (Nm)	16.5	Kt (Nm/A)	0.4
Rated Power (kW)	0.5	Ke (V/kmin <sup>-1</sup> )	25.6
Winding Thermal Time Constant (s)	93	R (ph-ph) (Ohm)	0.22
Number of Poles	10	L (ph-ph) (mH)	1.7
Typical Cogging (Nm)	0.08		
Inertia (kg.cm <sup>2</sup> )	1.88	Weight (kg)	~5.5
Ingress Protection Level (IP)	IP54		
Brake	Type 6	Static Torque (N.m)	10
Release Time (ms)	110	Backlash (°)	3
Brake Supply Voltage (V)	24	Brake Coil Power (W)	18

#### Torque / speed graph

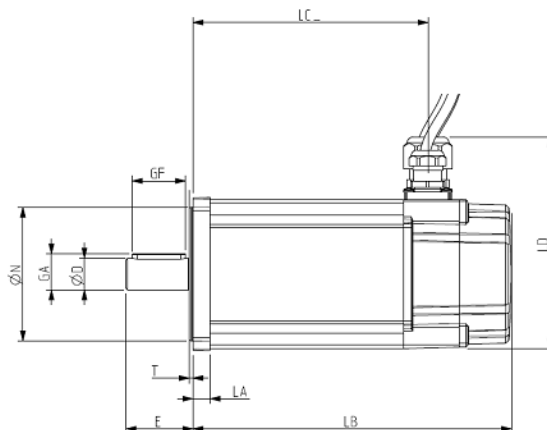
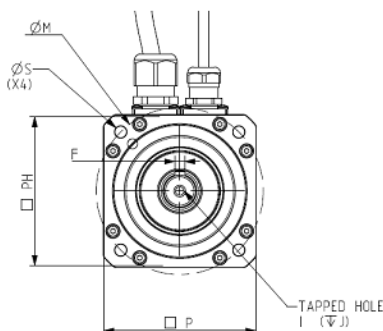


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#### Motors (° & mm)



LB	Total length	217.9
LC	Signal connector position	180.6
LA	Flange thickness	10.3
T	Register Length	2.2
N	Register Diameter	80.0
LD	Connector overall height	~119
P	Flange Square	91.0
S	Fixing Hole Diameter	7.0
M	Fixing hole PCD	100.0
PH	Motor Housing Width	89.0
D	Shaft Diameter	19j6
E	Shaft Length	40.0
GA	Key Height	21.5
GF	Key Length	32.0
G	Key to Shaft End	3.7
F	Key Width	6.0
I	Tapped Hole Thread Size	M6 x 1.0
J	Tapped Hole Depth	17.0
	Mounting Bolt	M6

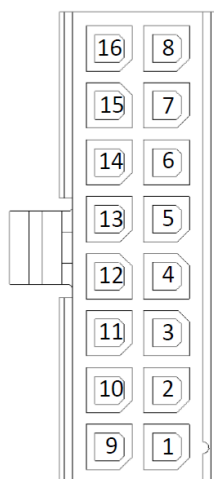
#### Motor electrical interface Connectors option:

Feedback device code: CT - 4096 ppr Incremental encoder (TDK),  
43025-1600 Molex 16-way female signal connector (0.5m lead)

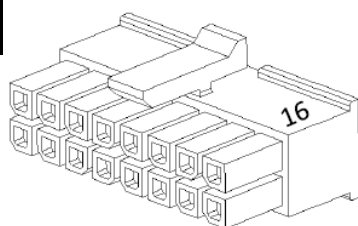
Connection type: Flying leads 0.5m Power cut ends, Signal 16-way  
Molex connector

SIGNAL FUNCTION	PIN END B
Thermistor	1
Thermistor	2
CH S1	3
CH S2	4
CH S3	5
CH A	6
CH B	7
CH Z	8
GND	9
VCC	10
CH S1-	11
CH S2-	12
CH S3-	13
CH A-	14
CH B-	15
CH Z-	16

#### PIN DETAIL



#### 16 - WAY CONNECTOR



#### POWER FLYING LEADS:

500mm from M16 gland to cable end  
4 cores of 16 AWG UL 1330 wire, with  
polyolefin heat-shrink sleeve

ORANGE (x 1)	U
RED (x 1)	V
YELLOW (x 1)	W
GREEN / YELLOW (x 1)	Earth

#### Brake connection: 0.5m flying lead

2 cores of 24 AWG UL1330 white wire, insulated: 500mm (from gland to customer end). 2-Way Molex minifit connector 39-01-3023

#### Brake connections

Pin 1	White	+ve
Pin 2		-ve



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### CT Encoder

Manufacturer:	CTD / Motion TDK
Model:	Magnetic
Signal periods:	4096
Output interface:	Differential
Supply voltage:	5V +/- 10%
Accuracy	±0.2 Deg