



CUSTOMIZED MOTOR SOLUTIONS



AEROSPACE



SPACE



DEFENCE

PRODUCTS

Brushless DC Motors



Specification:

Type : Housed Brushless dc motor
Operating voltage : 400 V DC
Operating speed : 4500 rpm $\pm 10\%$
Operating torque : 10Nm @ 11A
Peak torque : 13.5Nm for 10s

Overall size & Weight:

Dia 91mm L132mm, weight: 3Kg.

BDC for fuel pumping system



Specification:

Type : Housed Three phase BLDC motor
Operating voltage : 190V DC
Operating speed : 25000 rpm $\pm 10\%$
Operating torque : 2.5Nm
Rated load current : 40A
Duty cycle : 30 mins ON

Overall size & Weight:

138mm X dia 116mm, Motor weight: ≤ 8.0 Kg.

7.5kW BDC Torque motor



Specification:

Type : Unhoused
Voltage : 300V DC
Current : 33.0A (max)
Torque : 8.9Nm (max)
Speed : 10000 rpm
Output power : 7.5KW; No of poles : 6

Overall size & Weight:

$\varnothing 95 \times 87$ L (mm),
Stator: 2.100 Kg; Rotor: 0.878 Kg.

BDC for Optical Communication Terminal



Specification:

Type : Separable Stator & Rotor
Redundant Winding (Duplex)
Operating voltage : 24V DC
Operating speed : > 50 rpm $\pm 10\%$
Operating torque : > 3 Nm @ 5A,
Peak torque : > 10 Nm@16.67A

Overall size & Weight:

ID $\varnothing 175$ mm-OD $\varnothing 214.80$ mm L 33mm, weight: ~ 3 Kg.

BDC for Laser Doppler Velocimeter (LDV)



Specification:

Type : Frameless BLDC motor
Operating voltage : 15V DC
Operating speed : 100 rpm $\pm 10\%$
Operating torque : 0.03Nm @ 0.3A,
Peak torque : 0.1Nm@1A for 10 Sec (max)

Overall size & Weight:

ID $\varnothing 125$ mm-OD $\varnothing 149$ mm L 30mm,
Motor weight: ~ 600 g.

3Nm 6A 410rpm Quadruplex type



Specification:

Type : Separable BLDC
Redundancy : Quadruplex winding, 3 ph
Sensor : Four sets
Operating voltage : 28 DC
Rated speed : 410 rpm $\pm 10\%$ @28V DC
Rated torque : 2.4 to 3.6 Nm
Rated current : 6A

Overall size & Weight:

$\varnothing 120$ mmX 52mm

1Nm 10A 1800rpm BDC Motor



Specification:

Type : Housed BLDC
Redundancy : Quadruplex winding, 3 ph
Sensor : Four sets
Operating voltage : 26 to 50V DC
Rated speed : 1700 rpm $\pm 10\%$ @28V DC
Rated torque : 1.45 Nm $\pm 10\%$
Rated current : 10A, 45V
Duty cycle : Peak current 60s

Overall size & Weight:

$\varnothing 62$ mmX 105mm,
Motor Weight: < 1.4 Kg.

Earth Sensor BDC Motors



Specification:

Type : Frameless Separable stator with Hall sensor & PM rotor
Operating voltage : 15V DC
Operating speed : 100 rpm $\pm 10\%$
Operating torque : 0.025Nm @ 1.25A,
Peak torque : 0.1Nm@3A ;
Cogging torque : Near Zero

Overall size & Weight:

ID $\varnothing 28$ mm-OD $\varnothing 60$ mm
L 12.7mm

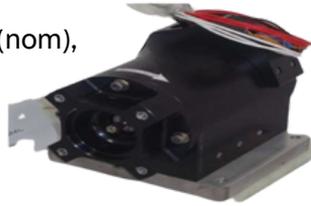
10KW BDC Motors

Specification:

Type : Housed
 Operating voltage : 100V±10, DC, (90V min)
 Rated speed : 5000 rpm ±10%
 Rated torque : 18Nm (min), 20Nm (max)
 Output power : 10KW
 No of poles: 6
 Life : >500hrs
 Duty cycle : 50%
 Continuous run : 1200sec (nom),
 1500sec (max).
 Efficiency : >90%

Overall size & Weight:

185 X245L (mm)
 Motor Weight: 17 Kg



25KW Quadruplex BDC Motors

Specification:

Type : Housed BLDC
 Redundancy : Quadruplex winding, 3ph
 Operating voltage : 250V DC
 Rated speed : 3500 rpm ±10%
 Rated torque : 69 Nm ±10%
 Rated current : 100A
 Duty cycle : Peak current 10s,
 25% peak current 190S
 Rotor inertia : $\leq 4 \times 10^{-3}$ Kg-m²
 Di electric strength : ≤ 2 mA
 @1500V AC, 50 Hz

Overall size & Weight:

Ø145mmX 175mmL,
 Shaft Extension - Ø25x60L(mm)
 Motor Weight: <20 Kg.



NaOH Compatible 3KW BDC Motor



Specification:

Type : Housed
 Supply voltage : 180 +10V/ - 15V,
 DC. Current (max) : 20.0A
 Speed : 10000rpm (max),
 8500rpm (min)
 Torque : 2.9Nm
 Output power : 3.0KW;
 No of poles: 6

100Nm BDC Motors



Specification:

Type : Simplex housed BLDC
 Operating voltage : 250V DC
 Rated torque : 100 Nm ±10%
 @2000rpm
 Rated current : 125A
 Motor Weight: <20kg

Zero Cogging BDC Motor



Specification:

Type : Unhoused
 Supply voltage : 28.0-42.5V, DC.
 Peak current : 2.0A
 Peak torque : 2.0Nm
 Cogging torque : Nearly zero
 No of poles: 14
 No load speed : 50 rpm.

Overall size & Weight:

Ø123 X 54L (mm),
 Stator: 0.750 Kg, Rotor: 1.480 Kg.

3 Phase Stepper Motor



Specification:

3 Phase Stepper Motor
 Type: Variable Reluctance
 Operating voltage : 12-32 VDC
 28V DC
 Step rate: 400-500 steps/sec
 No of Steps: 372 steps/turn
 dynamic torque : 240 - 600 gm-cm
 Current Control : 1 ± 10mA

22.5 Duplex stepper motor (Duplex winding)



Specification:

Type : Housed Duplex permanent magnet
 Stepper motor
 Supply voltage : 28V DC
 Peak current : 4A
 Frequency : 200±10Hz; 400±10Hz.
 Pull out torque @3A : >5.5Ncm at 200Hz;
 >4.5Ncm at 400Hz.
 Holding torque : >6.0Ncm.
 No of poles : 8
 No of phases : 4
 Step angle : 22.5°±1°
 No of steps/rev : 16

Permanent Magnet synchronous motor



Specification:

Type : Housed Permanent magnet synchronous motor
 Operating voltage : 24V DC
 Operating speed : 3000 rpm $\pm 10\%$
 Operating torque : 8Nm @ 100A,
 Peak torque : 32Nm@400A

Overall size & Weight:

L319mm H 149mm,
 Motor weight: ~8Kg.

Permanent magnet stepper motor (Simplex winding)



Specification:

Type : Housed permanent magnet simplex stepper motor
 Supply voltage : 28V DC
 Peak current : <5A
 Frequency : $200 \pm 10\text{Hz}$; $400 \pm 10\text{Hz}$.
 Pull out torque @3A: >6.0Ncm at 200Hz;
 >4.5Ncm at 400Hz.
 Holding torque : >8.0Ncm.
 No of poles : 8; No of phases : 4
 Step angle : $22.5^\circ \pm 1^\circ$;
 No of steps/rev 16

Limited Angle Torquer- Control Moment Gyro

Specification:

Type : Unhoused
 Supply voltage : 28V, DC
 Peak power : 50W
 Continuous power : 30W
 Peak torque : $\pm 2.5\text{Nm}$
 No of poles : 4
 Limited angle : ± 20 deg



Overall Size & Weight:

$\varnothing 175 \times 54\text{L}$ (mm)
 Stator: 3.100 Kg, Rotor: 1.730 Kg.

Miniature reaction wheel

Specification:

Speed range : ± 6000 rpm
 Angular Momentum : 30mNms (max)
 Reaction torque : $\pm 2\text{mNm}$ (max)
 Supply Voltage : 6 to 8.2 Volt
 Supply Power
 Full torque@6000RPM : $\leq 2.9\text{W}$
 Steady state@6000RPM : $\leq 0.5\text{W}$



Overall size & Weight:

50X 50X40mm, Motor Weight: $\leq 200\text{g}$

48V 110A 18Nm3000rpm PMSM

Specification:

Type : Housed Permanent magnet synchronous motor
 Operating voltage : 48V DC
 Operating speed : 3000 rpm $\pm 10\%$
 Operating torque : 18Nm @ 110A,
 Peak torque : 32Nm@200A

Overall size & Weight:

Dia 160mm L162mm
 Motor Weight: 10Kg



Quadruplex BDC Torque motor

Specification:

Type : Unhoused
 Supply voltage : 75V, DC.
 Current per channel : 12.4A
 Torque per channel : 8.0Nm.
 Current for all four channels : 49.6A
 Torque for all four channels : 32.0Nm.
 No of poles : 16; Base speed : 1000 rpm.

Overall size & Weight:

$\varnothing 129 \times 69\text{L}$ (mm)
 Stator: 2.97 Kg; Rotor: 0.914 Kg

