high-torque BLDC motors

# BL80TL

BL80T:

The high-torque BLDC motors from ELRA have significantly higher torque compared to standard motors of this size.

The high-pole rotor design with a rated speed of 750 rpm makes the motors ideal as direct drives. The elimination of an otherwise necessary gear reduction eliminates mechanical wear, increasing the drive's operating life to up to 20,000 hours (depending on the application).

Specification:

- Flange dimensions: 80 and 100mm
- Overall lengths: 105 to 170mm
- Rated torque: 2,4 to 8Nm
- Protection class: IP65
- Rated speed: 750rpm

Optional:

- incremental Encoder with up to 4096 pulses/rev.
- connector assembly
- external speed and position controller with CAN-Bus, Profibus, EtherCAT
- Shaft modifications like D-cut, or runthrough shaft
- Other windings for higher Voltages or speed

## Details

**BL80TL**high-torque BLDC motors


Phone

*NL*
+31 499 371007

*DE*
+49 2157 128990

Address

*NL*
Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*
Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany

Specifications BL80TL

- Brushless DC motor
- Votage: 48V/DC
- Nom. Torque:  3,5 Nm
- Max. Torque: 4,8 Nm
- Torque at 20% ED: 4,0 Nm
- current at  20% ED: 9,5 A
- performance at 20% ED 340 W
- Current: 8,7 A
- speed:  850 rpm
- current at max. Torque:  11,7 A
- Weight: 3,8 Kg
- operating temp.: 0 ~40 deg C
- Nom. performance: 312 W
- Max. performance: 371 W
- connection resistance: 0,70 Ohm
- Connection inductivity 0,90 mH
- torque constant: 0,41 Nm/A
- sizes (length): 185mm (L= 155)
- Frame size: 80mm

## Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Voltage (rating) +** | 48 V | **Rated torque** | 3500 mNm | **Nominal speed** | 850 rpm |
| **Rated current** | 8.7 mA | **Driver electronics implemented =** | no | **Motor + gear** | motor only |
| **Motor Frame Size** | 80 (mm) | **Body Length** | 185 mm | **Supplier =** | Elra |

## Detail images


Phone

*NL*

+31 499 371007

*DE*

+49 2157 128990

Address

*NL*

Dynetics B.V.
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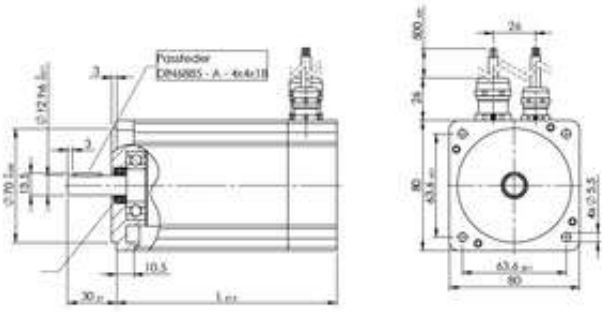
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany




Phone

*NL*

+31 499 371007

*DE*

+49 2157 128990

Address

*NL*

Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-
Kaldenkirchen
Germany

IP65 high-torque motors BLDC motors

# BL80TS

## BL80T:

The high-torque BLDC motors from ELRA have significantly higher torque compared to standard motors of this size.

The high-pole rotor design with a rated speed of 750 rpm makes the motors ideal as direct drives. The elimination of an otherwise necessary gear reduction eliminates mechanical wear, increasing the drive's operating life to up to 20,000 hours (depending on the application).

Specification:

Optional:

- incremental Encoder with up to 4096 pulses/rev.
- connector assembly
- external speed and position controller with CAN-Bus, Profibus, EtherCAT
- Shaft modifications like D-cut, or runthrough shaft
- Other windings for higher Voltages or speed

## Details

**BL80TS**IP65 high-torque motors BLDC motors

- Brushless DC motor
- Votage: 48V/DC
- Nom. Torque:  2,2 Nm
- Max. Torque: 3 Nm
- Torque at 20% ED: 2,6 Nm


Phone

*NL*

+31 499 371007

*DE*

+49 2157 128990

Address

*NL*

Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany

- current at  20% ED: 5,7 A
- performance at 20% ED 155 W
- Current: 4,9 A
- speed:  650 rpm
- current at max. Torque:  7 A
- Weight: 1,8 Kg
- operating temp.: 0 ~40 deg C
- Nom. performance: 150W
- Max. performance: 140W
- connection resistance: 1,87 Ohm
- Connection inductivity 2,10 mH
- torque constant: 0,42 Nm/A
- sizes (length): 145mm (L= 115mm)
- frame size: 80 mm

## Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Voltage (rating) +** | 48 V | **Body Length** | 145 mm | **Rated torque** | 2200 mNm |
| **Rated Speed** | 650 rpm | **Motor Frame Size** | 80 (mm) | **Supplier =** | Elra |
| **Nominal speed** | 650 rpm | **Rated output** | 150 W | **Motor + gear** | motor only |
| **Driver electronics implemented =** | no | **Body Length** | 135 mm | | |

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*DE*

+49 2157 128990

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Netherlands

*DE*

Dynetics GmbH
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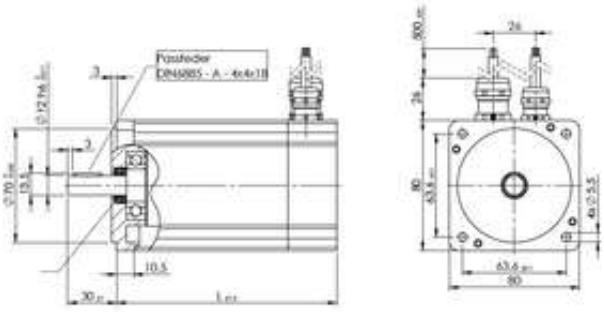
D-41334 Nettetal-Kaldenkirchen
Germany

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*DE*

+49 2157 128990

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De Rijn 12
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-
Kaldenkirchen
Germany

high-torque BLDC motors

# BL100TL

BL100T:

The high-torque BLDC motors from ELRA have significantly higher torque compared to standard motors of this size.

The high-pole rotor design with a rated speed of 750 rpm makes the motors ideal as direct drives. The elimination of an otherwise necessary gear reduction eliminates mechanical wear, increasing the drive's operating life to up to 20,000 hours (depending on the application).

Specification:

- Flange dimensions: 80 and 100mm
- Overall lengths: 105 to 170mm
- Rated torque: 2,4 to 8Nm
- NdFeB 45SH
- Protection class: IP65
- Rated speed: 750rpm

Optional:

- incremental Encoder with up to 4096 pulses/rev.
- connector assembly
- external speed and position controller with CAN-Bus, Profibus, EtherCAT
- Shaft modifications like D-cut, or runthrough shaft
- Other windings for higher Voltages or speed

## Details

**BL100TL**high-torque BLDC motors


Phone

*NL*
+31 499 371007

*DE*
+49 2157 128990

Address

*NL*
Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*
Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany

Specifications BL80

- Brushless DC motor
- Votage: 48V/DC
- Nom. Torque:  5,5 Nm
- Max. Torque: 8,0 Nm
- Torque at 20% ED: 6,5 Nm
- current at  20% ED: 14,5 A
- performance at 20% ED 510 W
- Nom. Current: 12,8 A
- Nom. speed:  800 rpm
- current at max. Torque:  17,8 A
- Weight: 6,4 Kg
- operating temp.: -20 ~ +40 deg C
- Nom. performance: 460 W
- Max. performance: 553W
- connection resistance: 0,42 Ohm
- Connection inductivity 0,68 mH
- torque constant: 0,45 Nm/A
- sizes (length): 215mm (L= 175 mm)
- frame size: 94 mm

## Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Voltage (rating) +** | 48 V | **Rated torque** | 5500 mNm | **Current (rating)** | 12.8 mA |
| **Supplier** | Elra | **Rated output** | 460 W | **Driver electronics implemented =** | no |
| **Motor + gear** | motor only | **Motor Size (mm)** | 100 | **Body Length** | 215 mm |

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Phone

*NL*

+31 499 371007

*DE*

+49 2157 128990

Address

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Netherlands

*DE*

Dynetics GmbH
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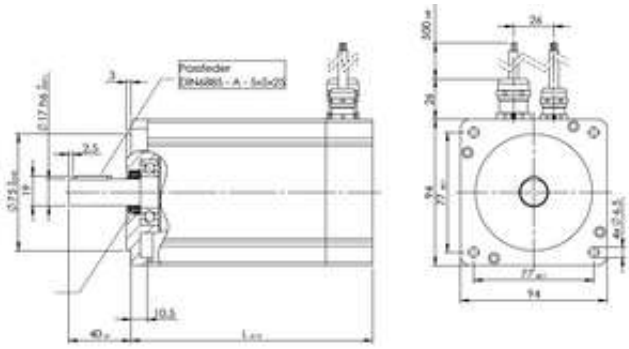
D-41334 Nettetal-Kaldenkirchen
Germany

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+31 499 371007

*DE*

+49 2157 128990

Address

*NL*

Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-
Kaldenkirchen
Germany

high-torque BLDC motors

# BL100TM

BL100T:

The high-torque BLDC motors from ELRA have significantly higher torque compared to standard motors of this size.

The high-pole rotor design with a rated speed of 750 rpm makes the motors ideal as direct drives. The elimination of an otherwise necessary gear reduction eliminates mechanical wear, increasing the drive's operating life to up to 20,000 hours (depending on the application).

Specification:

- Flange dimensions: 80 and 100mm
- Overall lengths: 105 to 170mm
- Rated torque: 2,4 to 8Nm
- Protection class: IP65
- Rated speed: 750rpm

Optional:

- incremental Encoder with up to 4096 pulses/rev.
- connector assembly
- external speed and position controller with CAN-Bus, Profibus, EtherCAT
- Shaft modifications like D-cut, or runthrough shaft
- Other windings for higher Voltages or speed

## Details

**BL100TM**high-torque BLDC motors

Specifications BL100TM


Phone

*NL*
+31 499 371007

*DE*
+49 2157 128990

Address

*NL*
Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*
Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany

- Brushless DC motor
- Votage: 48V/DC
- Nom. Torque:  4,0 Nm
- Max. Torque: 6,4 Nm
- Torque at 20% ED: 6,4 Nm
- current at  20% ED: 9,8 A
- performance at 20% ED 365 W
- Nom. Current: 9,0 A
- Nom. speed:  800 rpm
- current at max. Torque:  13,7 A
- Weight: 5,2 Kg
- operating temp.: -20 ~ +40 deg C
- Nom. performance: 335 W
- Max. performance: 450W
- connection resistance: 0,57 Ohm
- Connection inductivity: 0,86 mH
- torque constant: 0,47 Nm/A
- sizes (length): 195 mm (L= 155mm)
- frame: 94mm

## Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Voltage (rating) +** | 48 V | **Nominal speed** | 800 rpm | **Current (rating)** | 9 mA |
| **Supplier** | Elra | **Rated output** | 335 W | **Rated torque** | 4000 mNm |
| **Driver electronics implemented =** | no | **Motor + gear** | motor only | **Motor Size (mm)** | 100 |
| **Body Length** | 195 mm | | | | |

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*DE*

+49 2157 128990

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5684 PJ Best
Netherlands

*DE*

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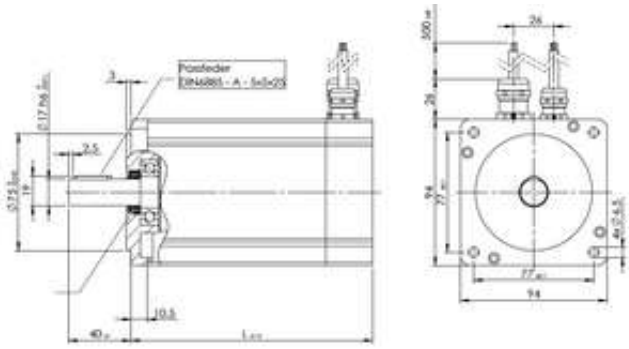


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# BL100TS

BL100T:

The high-torque BLDC motors from ELRA have significantly higher torque compared to standard motors of this size.

The high-pole rotor design with a rated speed of 750 rpm makes the motors ideal as direct drives. The elimination of an otherwise necessary gear reduction eliminates mechanical wear, increasing the drive's operating life to up to 20,000 hours (depending on the application).

Specification:

- Flange dimensions: 80 and 100mm
- Overall lengths: 105 to 170mm
- Rated torque: 2,4 to 8Nm
- NdFeB 45SH
- Protection class: IP65
- Rated speed: 750rpm

Optional:

- incremental Encoder with up to 4096 pulses/rev.
- connector assembly
- external speed and position controller with CAN-Bus, Profibus, EtherCAT
- Shaft modifications like D-cut, or runthrough shaft
- Other windings for higher Voltages or speed

## Details

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Phone

*NL*

+31 499 371007

*DE*

+49 2157 128990

Address

*NL*

Dynetics B.V.
De Rijn 12
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany

Specifications BL100TS

- Brushless DC motor
- Votage: 48V/DC
- Nom. Torque:  3,5 Nm
- Max. Torque: 4,8 Nm
- Torque at 20% ED: 4,0 Nm
- current at  20% ED: 7,9 A
- performance at 20% ED 278 W
- Nom. Current: 7,0 A
- Nom. speed:  700 rpm
- current at max. Torque:  9,6 A
- Weight: 3,8 Kg
- operating temp.: -20 ~ +40 deg C
- Nom. performance: 257 W
- Max. performance: 302 W
- connection resistance: 0,83 Ohm
- Connection inductivity 1,14 mH
- torque constant: 0,49 Nm/A
- sizes (length): 175mm (L=135)
- frame size: 94mm

## Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Voltage (rating) +** | 48 V | **Rated torque** | 3500 mNm | **Current (rating)** | 7 mA |
| **Supplier** | Elra | **Rated output** | 257 W | **Driver electronics implemented =** | no |
| **Motor + gear** | motor only | **Motor Size (mm)** | 100 | **Body Length** | 175 mm |

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Phone

*NL*

+31 499 371007

*DE*

+49 2157 128990

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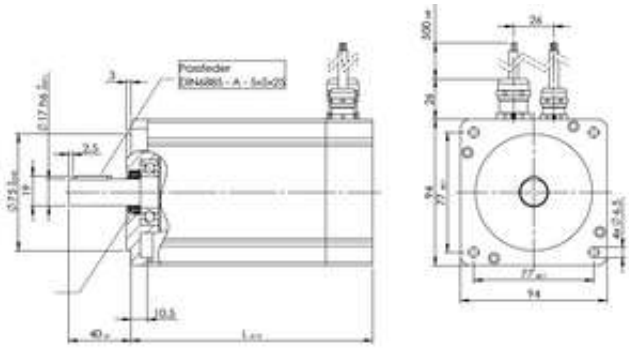
5684 PJ Best
Netherlands

*DE*

Dynetics GmbH
Klostergasse 6
D-41334 Nettetal-Kaldenkirchen
Germany

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