

DC Spur Gear Motor DSST305

The spur gear motor DSST305 is a high-quality motor-gear combination with the following characteristics:

- Brushed DC motor (12 Vdc or 24 Vdc)
- Motor pinion made of milled metal
- Sun gears made of helical bakelite
- Sleeve bearing and interference suppression filter
- Repeatability $\leq 3,0^\circ$
- Radial load 10 mm from flange ≤ 200 N
- Axial load ≤ 100 N
- Radial clearance $\leq 0,05$ mm
- Axial clearance $\leq 0,35$ mm
- Operating temperature: -10°C to $+60^\circ\text{C}$

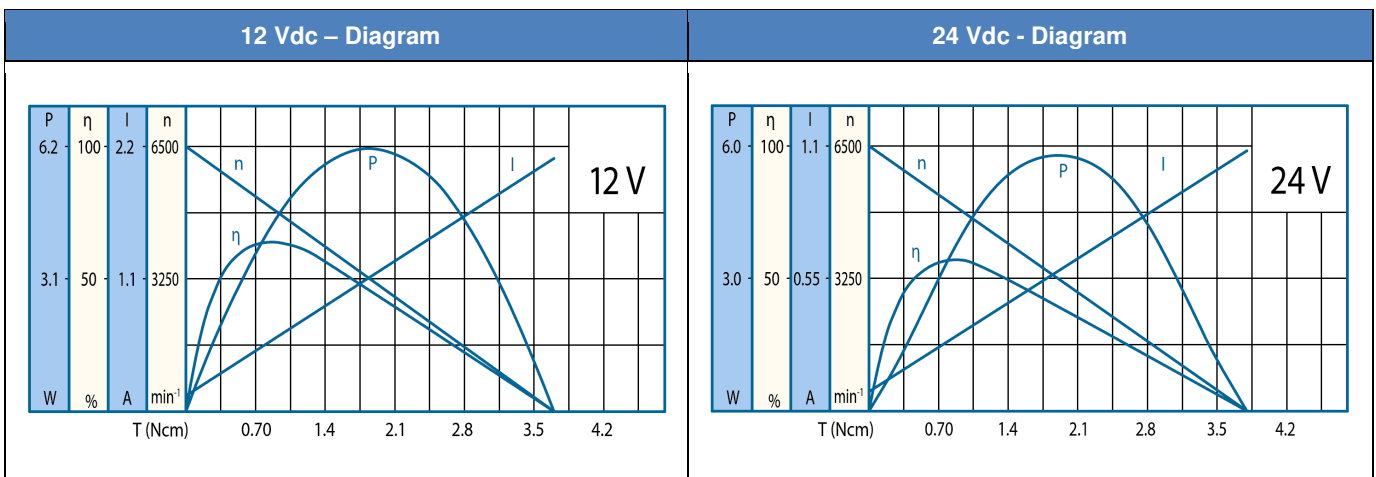
The spur gear motor can be equipped with a 2-channel Hall sensor for positioning purposes.



Type code (all options can be combined)

| | | | | | | | | |
|-------------|------------------|-------------------------|---|----------------|-------------------------|-------------------|---|---|
| DSST305 | - | 12 | - | 0020 | - | B | F | E |
| Type | Voltage | Gear reduction i | | Bearing | Filter | Optionally | | |
| | 12 Vdc 24 Vdc | 20 1,000 | | Sleeve bearing | Varistor + capacitor | E: Hall sensor | | |

Motor specifications



Motor – additional technical specifications

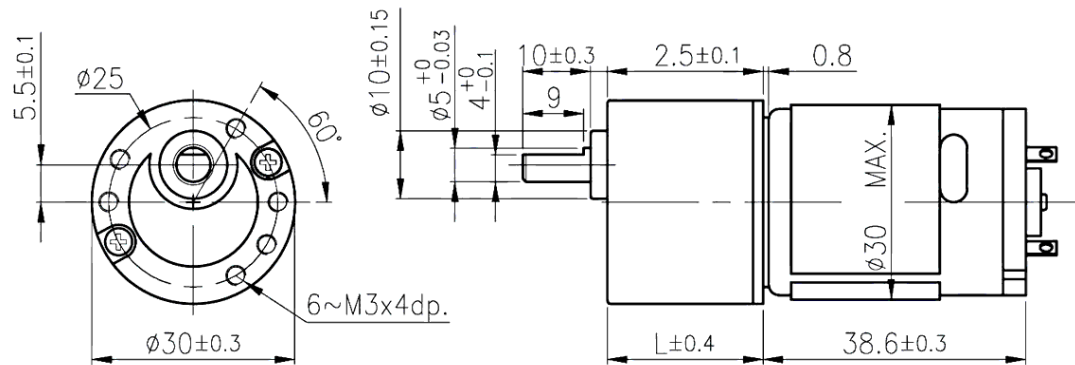
| Voltage in Vdc | Rated torque in Ncm | Rated speed in U/min | Rated current in A | No-load speed in U/min | No-load current in A | Rated output in W |
|----------------|---------------------|----------------------|--------------------|------------------------|----------------------|-------------------|
| 12 | 0.78 | 5,290 | ≤ 0.53 | 6,500 | ≤ 0.15 | 4.22 |
| 24 | 0.74 | 5,250 | ≤ 0.25 | 6,500 | ≤ 0.085 | 2.97 |

Spur gear motor – technical specifications

| Gear stages | | 1 | | | | | | | | | | 2 | | | | | | | | | |
|---------------------|----------------------|------|-----|-----|-----|----|----|----|-----|------|------|------|------|-----|------|------|------|------|-----|-----|-------|
| Gear length L in mm | | 23.0 | | | | | | | | | | 28.0 | | | | | | | | | |
| Weight in g | | 162 | | | | | | | | | | 171 | | | | | | | | | |
| Gear reduction i | | 20 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 | 250 | 300 | 400 | 500 | 600 | 810 | 900 | 1,000 |
| 12 Vdc | Rated torque in Ncm | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 30 | 40 | 40 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| | Rated speed in U/min | 255 | 168 | 150 | 107 | 91 | 73 | 62 | 56 | 46.3 | 37.5 | 32 | 28.8 | 24 | 19.5 | 15.2 | 12.1 | 10.4 | 7.7 | 6.8 | 6.3 |
| 24 Vdc | Rated torque in Ncm | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 30 | 40 | 40 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| | Rated speed in U/min | 258 | 168 | 150 | 107 | 91 | 73 | 62 | 56 | 46.3 | 37.4 | 31.8 | 28.7 | 24 | 19.5 | 15.1 | 12.1 | 10.3 | 7.7 | 6.8 | 6.3 |

Caution: The reductions are rounded down or rounded up. Please ask for the exact values, if you are interested!

Dimensioning



Option: 2-channel Hall sensor

Optionally, the gear motor can be equipped with a magnetic 2-channel Hall sensor. It provides two channels offset by 90° . The Hall sensor has a diameter of 30.0 mm and a depth of approx. 12.5 mm and accordingly lengthens the geared motor by this value.

| | | | |
|---------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of pulses per revolution | 2 x 6 pulses | <p>The diagram shows the Hall sensor (IST PHR-6 P=2-6P) with a length of 100mm and a diameter of $\phi 30$ mm. The electrical circuit shows the sensor connected to a 3.5V - 20V (Sensor Vcc) supply. The output (A & B) is connected to a 1kΩ resistor and a 0V ground. An extra resistor (1kΩ) is required for the signal.</p> | <p>Connector pin assignment:</p> <ul style="list-style-type: none"> 1 red : + Motor 2 black : - Motor 3 brown : Hall sensor Vcc 4 green : Hall sensor GND 5 blue : Hall sensor A 6 violet : Hall sensor B |
| Operating Voltage | 3.5 - 20 Vdc | | |
| Output current per channel | 5 mA | | |
| Temperature range | -10 to +60 °C | | |
| Relative humidity of the air | 20 - 80 % RH | | |

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|--------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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