

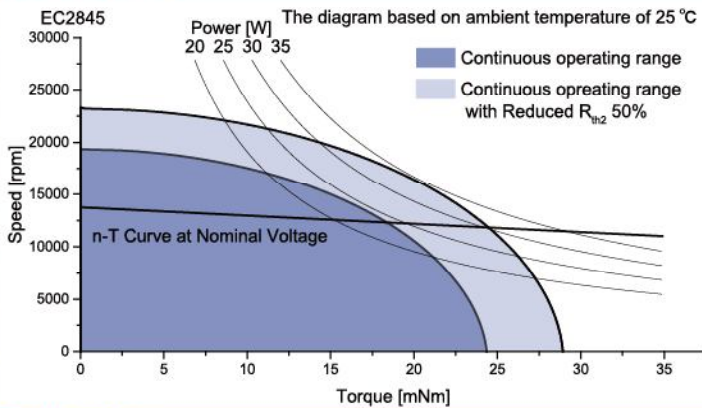
Φ ∇ M 1:1.5

| | Sensorless With hall sensor | EC2845L-... EC2845S-... | 1213 | 2413 | 3613 | 4813 | | | |
|--|--------------------------------|----------------------------|------|------|------|------|--|--|--|
|--|--------------------------------|----------------------------|------|------|------|------|--|--|--|

| Motor data | | | | | | | | | |
|----------------------------------|--------------------------|------------------|-------|-------|-------|-------|--|--|--|
| Values at nominal voltage | | | | | | | | | |
| 1 | Nominal voltage | V | 12 | 24 | 36 | 48 | | | |
| 2 | No load speed | rpm | 13737 | 13756 | 13783 | 13400 | | | |
| 3 | No load current | mA | 202 | 128 | 84 | 79 | | | |
| 4 | Nominal speed | rpm | 12232 | 12342 | 12432 | 11903 | | | |
| 5 | Nominal torque | mNm | 18 | 18 | 18 | 18 | | | |
| 6 | Nominal current | A | 2.38 | 1.22 | 0.81 | 0.61 | | | |
| 7 | Stall torque | mNm | 164 | 175 | 184 | 161 | | | |
| 8 | Stall current | A | 20.1 | 10.8 | 7.53 | 4.87 | | | |
| 9 | Max. efficiency | % | 81 | 79.4 | 80 | 76.1 | | | |
| 10 | Terminal resistance | Ω | 0.6 | 2.23 | 4.78 | 9.86 | | | |
| 11 | Terminal inductance | mH | 0.08 | 0.34 | 0.73 | 1.47 | | | |
| 12 | Torque constant | mNm/A | 8.26 | 16.5 | 24.7 | 33.7 | | | |
| 13 | Speed constant | rpm/V | 1156 | 580 | 387 | 284 | | | |
| 14 | Speed/torque gradient | rpm/mNm | 83.6 | 78.6 | 75 | 83.1 | | | |
| 15 | Mechanical time constant | ms | 4.5 | 4.3 | 4.1 | 4.5 | | | |
| 16 | Rotor inertia | gcm ² | 5.2 | 5.2 | 5.2 | 5.2 | | | |

| | | |
|----|--|-----------------|
| 17 | Thermal resistance housing-ambient | 9.6 K/W |
| 18 | Thermal resistance winding-housing | 6.3 K/W |
| 19 | Thermal time constant winding | 37 s |
| 20 | Thermal time constant motor | 584 s |
| 21 | Ambient temperature | -30...+100°C |
| 22 | Max. permissible winding temperature | +150°C |
| 23 | Max. permissible speed | 25000 rpm |
| 24 | Axial play at axial load <8 N | 0 mm |
| | >8 N | max. 0.3 mm |
| 25 | Radial play | preloaded |
| 26 | Max. axial load (dynamic) | 7.5 N |
| 27 | Max. force for press fits (static) (static, shaft supported) | 100 N 2000 N |
| 28 | Max. radial loading, 5mm from flange | 25 N |
| 29 | Number of pole pairs | 1 |
| 30 | Number of phases | 3 |
| 31 | Weight of motor | 120 g |

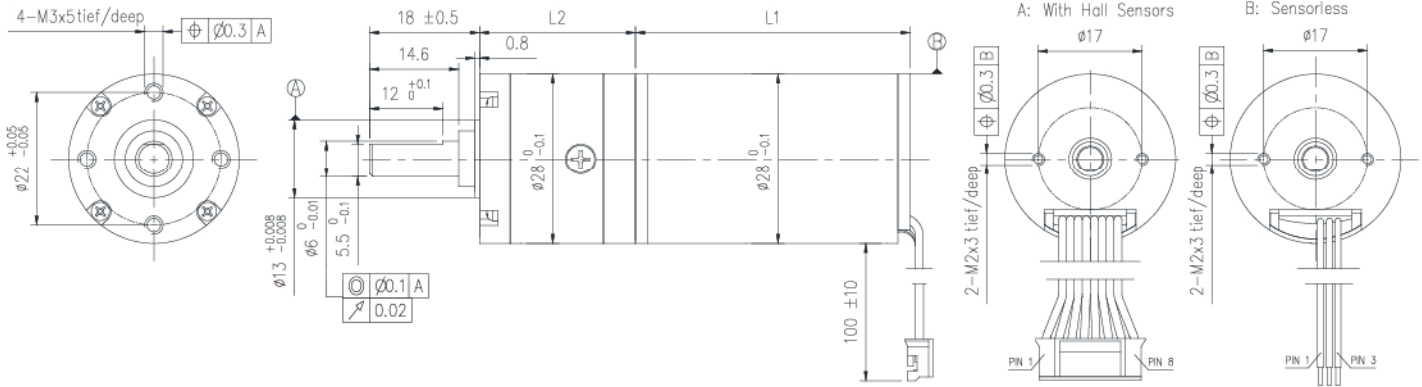
Operating Range



Connection Configuration

| | | |
|----------------------------------|-------|--------|
| Connection A (Sensor) | | |
| Pin 1 Vhall 3-18 VDC | PVC | |
| Pin 2 Hall sensor HA | AWG26 | black |
| Pin 3 Hall sensor HB | AWG26 | black |
| Pin 4 Hall sensor HC | AWG26 | black |
| Pin 5 GND | AWG26 | black |
| Pin 6 Motor winding MA | AWG26 | black |
| Pin 7 Motor winding MB | AWG26 | black |
| Pin 8 Motor winding MC | AWG26 | black |
| Connector | | |
| JST PH2.0-8P | | |
| Connection B (Sensorless) | | |
| Pin 1 Motor winding MA | PVC | yellow |
| Pin 2 Motor winding MB | AWG26 | green |
| Pin 3 Motor winding MC | AWG26 | blue |

Performance: Customized in the continuous operating range
Ball bearing: Preload
Flange: Standard frange front&back/customize the frange
Shaft: Length/Diameter/Cut face/double shaft/hollow shaft
Leadwire: PVC/Silicon/Teflon/UL No/Dimension/length
Connector: JST/MOLEX/TE



M 1:1

| | | ECG28..L | ECG28..S | P28 | |
|-------------------|--------------------|------------|----------|-----|--------------------------|
| Motor type | | | | | |
| 1 | Length of motor L1 | ECG2845S/L | mm | 45 | Motor performance at P17 |
| | | ECG2854S/L | mm | 54 | Motor performance at P18 |
| | | ECG2864S/L | mm | 64 | Motor performance at P19 |
| | | ECDG2854S | mm | 54 | Motor performance at P34 |
| | | ECDG2863S | mm | 63 | Motor performance at P35 |

| Gearhead Data | | | | | | |
|----------------------|-------------------------------------|-----|--------------------|---|---|---|
| 2 | Housing material | | | | Steel | |
| 3 | Geartrain material | | | | Steel | |
| 4 | Bearing type on output shaft | | | | Ball bearing | |
| 5 | Max. radial load (10mm from flange) | N | | | 58.8 | |
| 6 | Max. axial load | N | | | 29.4 | |
| 7 | Radial play of shaft | mm | | | 0.04 | |
| 8 | Thrust play of shaft | mm | | | 0.4 | |
| 9 | Backlash at no load | ° | | | 2 | |
| 10 | Max. continuous speed | rpm | | | 36000 | |
| 11 | Operating temperature range | °C | | | -30..+100 | |
| 12 | Number of stages | | 1 | 2 | 3 | 4 |
| 13 | Max continuous torque | Nm | 1.55 | 2.1 | 2.6 | 3.1 |
| 14 | Max. intermittent torque | Nm | 3.1 | 4.2 | 5.2 | 6.2 |
| 15 | Max. efficiency | % | 90 | 83 | 77 | 72 |
| 16 | Gearhead length L2 | mm | 28.4 | 34.7 | 41 | 47.3 |
| 17 | Ratio | X:1 | 4.4, 5.2, 6.7, 8.3 | 15.1, 16.9, 18, 20.1, 23.1, 25.6, 27.6, 29.3, 31.8, 35, 43.5, 55.2, | 61.7, 68, 7, 77, 1, 87, 6, 100.6, 109, 120, 125, 129, 134.1, 139.8, 144.7, 149.1, 154, 166.8, 183.8, 211.7, 243, 264.5, 290 | 335.9, 385.5, 411.4, 494.8, 528, 630, 677.6, 705.8, 759.7, 860.4, 964.7, 1069, 1158, 1276, 1523, 1755, 2014, 3051, 3792, 4713 |

| Connection | | | Configuration | | |
|----------------------------------|------------------|--------------|---|--|--|
| Connection A (Sensor) | | | Pinion: Metal/Plastic | | |
| PVC | | | Ball bearing: Preload | | |
| Pin 1 | Vhall 3-18 VDC | AWG26 Black | Flange: Standard frange front&back/customize the frange | | |
| Pin 2 | Hall sensor HA | AWG26 Black | Shaft: Length/Diameter/Cut face/double shaft/hollow shaft | | |
| Pin 3 | Hall sensor HB | AWG26 Black | Leadwire: PVC/Silicon/Teflon/UL No/Dimensions/length | | |
| Pin 4 | Hall sensor HC | AWG26 Black | Connector: JST/MOLEX/TE | | |
| Pin 5 | GND | AWG26 Black | More: | | |
| Pin 6 | Motor winding MA | AWG26 Black | Special design for high speed/big torque | | |
| Pin 7 | Motor winding MB | AWG26 Black | ECD series can be chosen in some application | | |
| Pin 8 | Motor winding MC | AWG26 Black | Details please contact our sales engineer | | |
| Conector JST PH2.0-8P | | | | | |
| Connection B (Sensorless) | | | | | |
| PTFE | | | | | |
| Pin 1 | Motor winding MC | AWG26 Yellow | | | |
| Pin 2 | Motor winding MB | AWG26 Green | | | |
| Pin 3 | Motor winding MA | AWG26 Blue | | | |