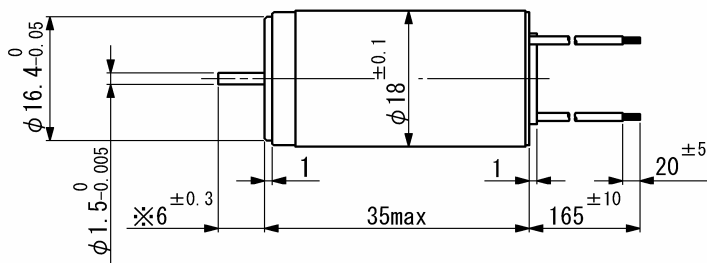
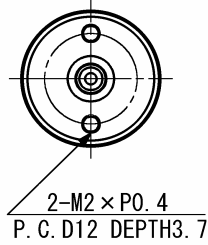


SCL18-33

Precious metal commutation



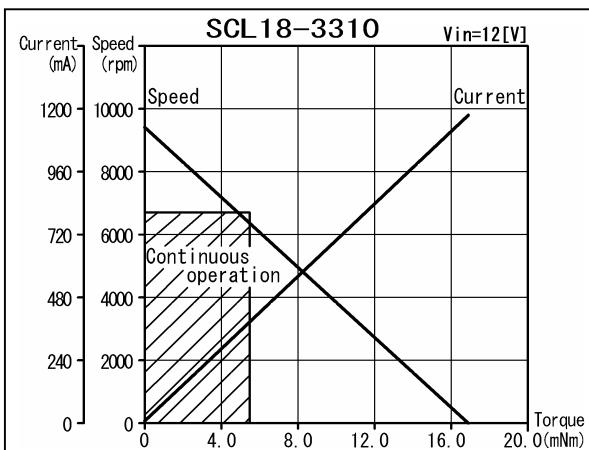
Weight 57 g
Dimension in mm

Note) Dimension marked ※ is measured with shaft pushed against motor.

For combination with gearheads: SSG18, SPG16

| Ordering number | | | SCL18-3306 | SCL18-3310 |
|-----------------------------|--|--|------------|-----------------------|
| 1 Nominal voltage | | | 9 | 12 V |
| 2 Terminal resistance | | | 6.2 | 10.2 Ω |
| 3 Output power | | | 3.2 | 3.5 W |
| 4 Efficiency | | | 85 | 83 % |
| 5 No-load speed | | | 7980 | 9420 rpm |
| 6 No-load current | | | 9 | 9 mA |
| 7 Stall torque | | | 15.4 | 14.09 mNm |
| 8 Friction torque | | | 0.1 | 0.11 mNm |
| 9 Back-EMF constant | | | 1.12 | 1.26 mV/rpm |
| 10 Torque constant | | | 10.7 | 12.07 mNm/A |
| 11 Slope of N-T curve | | | 520 | 669 rpm/mNm |
| 12 Coil inductance | | | 0.12 | 0.13 mH |
| 13 Mechanical time constant | | | 8.3 | 7.2 ms |
| 14 Rotor inertia | | | 1.53 | 1.03 gcm ² |

| Continuous operation | | | | |
|----------------------|--|--|------|----------|
| 15 Speed range | | | 6400 | 6300 rpm |
| 16 Max. torque | | | 5.68 | 4.97 mNm |



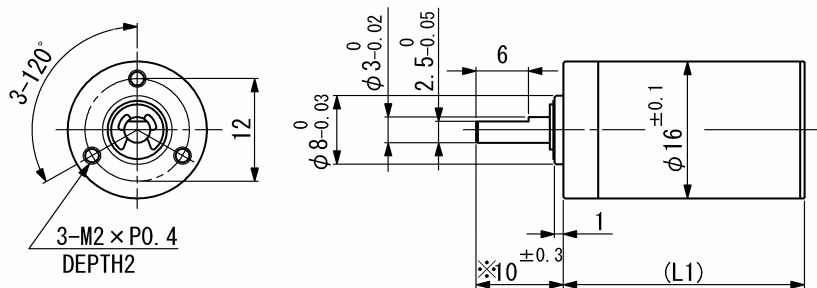
General specifications

| | | |
|----------------------------------|---|-----|
| 17 Operating temperature | -20...+60 | °C |
| 18 Max. coil temperature | +80 | °C |
| 19 Thermal resistances | R _{th1} = 5, R _{th2} = 20 | K/W |
| 20 Bearings type | Sintered sleeves | |
| 21 Max. shaft radial load | 1.2 (5 mm) | N |
| 22 Max. shaft axial load | 0.2 | N |
| 23 Max. axial load at standstill | 9.8 | N |
| 24 Shaft radial play | 0.05 | mm |
| 25 Shaft axial play | 0.03...0.2 | mm |

Options: Lead wires length, shaft length, special coils, commutator with capacitors.

SPG16

Planetary gearhead



Dimension in mm Note) Dimension marked ※ is measured with shaft pushed against gearhead.

For combination with motors: SCL16-25, SCL16-30, SCL17-30, SCL18-25, SCL18-33

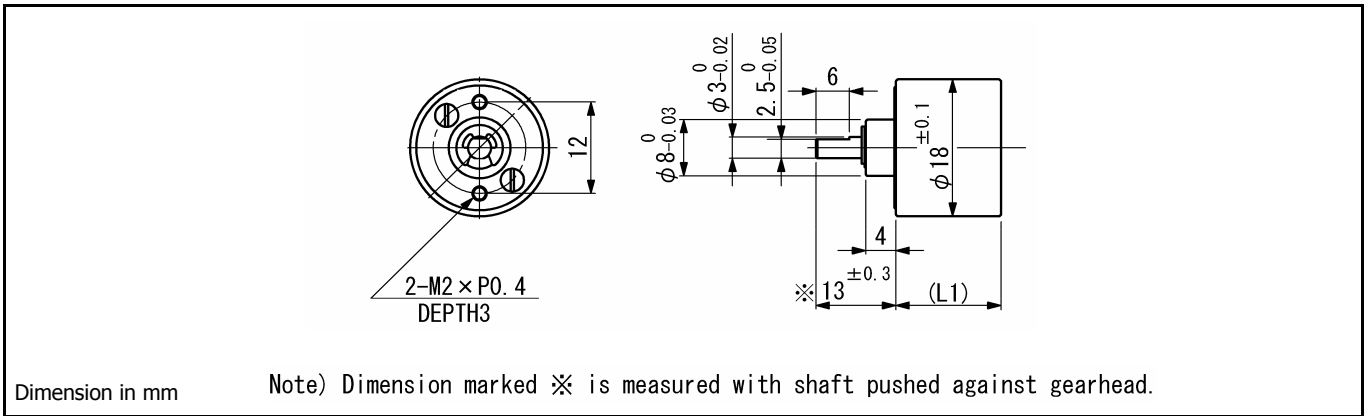
| General specifications | SPG16 | |
|---|--------------------------|-----|
| Housing material | Metal | |
| Geartrain material | Steel | |
| Recommended max. input speed | 6000 | rpm |
| Operating temperature range | -10...+60 | °C |
| Backlash at no-load per stage | ≤ 1 | ° |
| Bearings on output shaft | Sintered sleeve bearings | |
| Max. shaft radial load (7 mm from flange) | 4 (25) | N |
| Max. shaft axial load | 2 | N |
| Max. shaft press fit force | 30 | N |
| Shaft radial play | ≤ 0.03 | mm |
| Shaft axial play | ≤ 0.2 | mm |

In parenthesis the max. radial load with ball bearing option.

| Ratio (nominal) | Stage | Gearhead length, L1 [mm] | Gearhead weight [g] | Max. allowable torque [mNm] | | Length with motor [mm] | | | | | Efficiency [%] | Direction of rotation |
|-----------------|-------|--------------------------|---------------------|-----------------------------|--------------|------------------------|----------|----------|----------|----------|----------------|-----------------------|
| | | | | Continuous | Intermittent | SCL16-25 | SCL16-30 | SCL17-30 | SCL18-25 | SCL18-33 | | |
| 3.6 : 1 | 1 | 15.3 | 20 | 200 | 400 | 40.3 | 46.7 | 46.7 | 40.8 | 50.3 | 85 | = |
| 4.7 : 1 | 1 | 15.3 | 20 | 200 | 400 | 40.3 | 46.7 | 46.7 | 40.8 | 50.3 | 85 | = |
| 13 : 1 | 2 | 19.5 | 24.5 | 200 | 400 | 44.5 | 50.9 | 50.9 | 45 | 54.5 | 72 | = |
| 22 : 1 | 2 | 19.5 | 24.5 | 200 | 400 | 44.5 | 50.9 | 50.9 | 45 | 54.5 | 72 | = |
| 61 : 1 | 3 | 23.7 | 29 | 200 | 400 | 48.7 | 55.1 | 55.1 | 49.2 | 58.7 | 61 | = |
| 105 : 1 | 3 | 23.7 | 29 | 200 | 400 | 48.7 | 55.1 | 55.1 | 49.2 | 58.7 | 61 | = |

SSG18

Spur gearhead



For combination with motors: SCL18-25, SCL18-33

For combination with motor-tachogenerator: SCL18-44

General specifications

| | SSG18 | |
|--|--------------------------|-----|
| Housing material | Metal | |
| Geartrain material | Metal | |
| Recommended max. input speed | 4000 | rpm |
| Operating temperature range | -10...+60 | °C |
| Max. backlash at no-load, 4 stages | ≤ 4 | ° |
| Bearings on output shaft | Sintered sleeve bearings | |
| Max. shaft radial load (10 mm from flange) | 4 | N |
| Max. shaft axial load | 2 | N |
| Max. shaft press fit force | 30 | N |
| Shaft radial play | ≤ 0.03 | mm |
| Shaft axial play | ≤ 0.2 | mm |

| Ratio (nominal) | Stage | Gearhead length, L1 [mm] | Gearhead weight [g] | Max. allowable torque [mNm] | | Length with motor [mm] | | | | Efficiency [%] | Direction of rotation | |
|-----------------|-------|--------------------------|---------------------|-----------------------------|--------------|------------------------|----------|----------|--|----------------|-----------------------|---|
| | | | | Continuous | Intermittent | SCL18-25 | SCL18-33 | SCL18-44 | | | | |
| 15 : 1 | 3 | 12.5 | 16.4 | 40 | 80 | 38 | 47.5 | 56.7 | | | 73 | ≠ |
| 27 : 1 | 3 | 12.5 | 16.4 | 40 | 80 | 38 | 47.5 | 56.7 | | | 73 | ≠ |
| 47 : 1 | 4 | 14.9 | 19.2 | 40 | 80 | 40.4 | 49.9 | 59.1 | | | 66 | = |
| 75 : 1 | 4 | 14.9 | 19.2 | 40 | 80 | 40.4 | 49.9 | 59.1 | | | 66 | = |
| 95 : 1 | 4 | 14.9 | 19.2 | 40 | 80 | 40.4 | 49.9 | 59.1 | | | 66 | = |