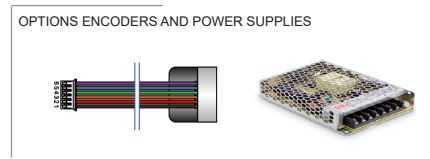


MODEL NO. DESIGNATION EXAMPLE

1 - 2 - 3 - 4

1 = empty → sleeve bearing
 1B = ball bearing
 2F = emc filter varistor / capacitor
 3E = magnetic encoder
 4 = empty → no encoder rear cover cap
 4C = magnetic encoder rear cover cap

PD1230 - VOLTAGE - REDUCTION - B - F - E - C



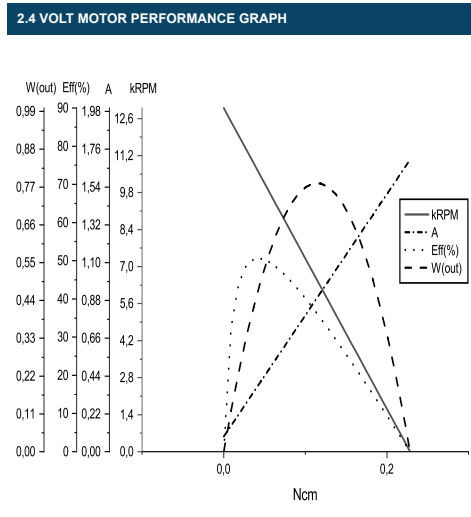
● C = customizations are offered on demand even for smaller quantities. Typical customizations indicated with green dot at column end. Please contact us for any customization request

| GEAR MOTOR DATA | | | | | | | | C |
|-----------------------------------|-----|-------|-------|-------|-------|--------|--------|---|
| Gear reduction | | 1:4 | 1:16 | 1:64 | 1:256 | 1:1024 | 1:4096 | |
| Nominal torque ^ gear box limit | mNm | 2.0 | 6.9 | 24.5 | 82.4 | 196^ | 196^ | |
| Nominal speed | rpm | 2400 | 600 | 150 | 38 | 10 | 2.8 | |
| Peak torque ^ gear box limit | mNm | 235 | 353 | 471 | 530 | 588^ | 588^ | |
| Mechanical power | W | 0.420 | 0.324 | 0.251 | 0.181 | 0.093 | 0.023 | |
| Efficiency gear head | % | 85 | 75 | 65 | 55 | 45 | 40 | |
| Length gear box = L | mm | 12.8 | 16.1 | 19.4 | 22.7 | 26.0 | 29.3 | |
| Weight | g | 25.1 | 27.2 | 29.3 | 31.4 | 33.5 | 35.6 | |

| GEAR MOTOR COMBINED DATA | | C |
|--------------------------|-------------------------------|---|
| Service life brush wear | 500 h continuous operation | ● |
| Performance tolerances | % ± 15 | |
| Operating temperature | -10...+60 °C | ● |
| IP code | 30 | |
| Manufacturing standard | ISO9001 ISO 14001 TS16949 | |
| Compliance | RoHS and REACH | |
| Label CE UL | CE no UL no | |

| GEAR BOX SHAFT DATA | | C |
|-------------------------------|------------------------------|---|
| Radial play thrust play | mm ≤ 0.08 ≤ 0.2 | |
| Shaft axial load | N 4.9 | |
| Radial load | N 4.9 | |
| Press fit force max. | N 14.7 | |
| Backlash no load | ° ≤ 3 | |
| Bearing type shaft material | Sleeve bearing hardened SS | |
| Motor pinion material shape | Brass straight | ● |

| GEAR BOX SPECIFIC DATA | | C |
|------------------------------|----------------------------------|---|
| Material gear stage | Ratio 1:4 brass | ● |
| Material > 1:4 ratio / stage | POM first + brass | ● |
| Direction of rotation | CW or CCW by reversed V polarity | |
| Assembly front bell | mm Maximum screw depth 2.5 | |



| MOTOR SPECIFIC DATA | | C |
|--------------------------|--------------------------------|---|
| Nominal voltage | V 2.4 (3V separate data sheet) | ● |
| No load speed | rpm 12500 | |
| No load current | A 0.09 | |
| Nominal speed | rpm 10125 | |
| Nominal torque | Ncm 0.043 | |
| Nominal current | A ≤ 0.45 | |
| Nominal mechanical power | W 0.46 | |
| Stall torque | Ncm 0.23 | |
| Starting current | A 1.7 | |
| Motor commutation | Metal brush | ● |
| Motor rotor stator | Iron rotor Ferrit magnet | |
| Varistor emc | V 1.5 - 3.5 | ● |
| Capacitor emc | No | |
| Resistance | ohm 1.7-2.5 | |
| Inductance | mH 0.31 | |
| Insulation class | B | ● |

| GEAR MOTOR RANGE STANDARD AVAILABILITY | |
|--|----------------------------------|
| Nominal voltage | V 2.4 - 24 separate data sheet |
| Nominal mechanical power | W 0.023 - 25 separate data sheet |
| Diameter | mm 12 - 42 separate data sheet |
| Feedback encoder | Hall see below |

| ACCESSORIES | |
|--------------------|--------------------------------|
| Power supplies LRS | V 3.3 - 48 separate data sheet |

| ENCODER OPTIONS | | MAGNETIC HALL SENSOR | C |
|------------------------|--|---|---|
| Pulses per revolution | | 3 x 2 | ● |
| Channels phase shift | | 2 90° ±(1/6)T | |
| Encoder rear cover | | No cover | |
| Sensor technical data | | Refer externally to brand and part UTC-SK1816 | |
| Size | | Ø 7 x 6 mm | |
| Harness connector | | JST ZHR-6 P=1.5-6P | ● |
| Harness cable | | UL1061 AWG26 100 mm | ● |
| Connection | | BLK M- RED M+ BRN Vcc GRN GND BLU A VIO B | |
| Supply voltage Vcc | | min.3.5 ref - max. 20 V | |
| Supply Current Ice | | Vcc 20V open output min. - ref. 5 max. 10 mA | |
| Open collector output | | Requires external output resistors | |