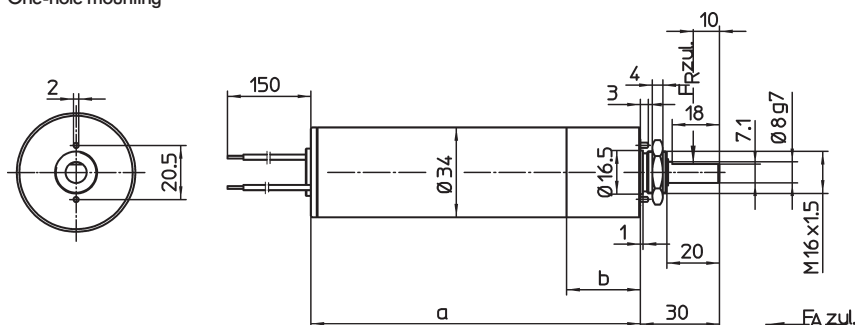


GNM 21 - G 5

DC
Geared Motors
with permanent magnet field

Motor series GNM 21
Planetary gear series G 5
up to 5 Nm

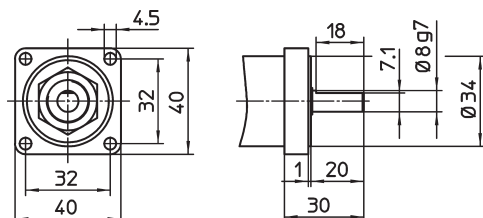
One-hole mounting



Mounting nut for one-hole mounting must be tightened up to 10 Nm.
Excessive torque will damage the bearing.

| Type | Gear Ratio | Dimension | |
|-----------|------------------|-----------|----|
| | | a | b |
| GNM 2130C | 360:1 - 840:1 | 140 | 41 |
| GNM 2130C | 1080:1 - 1890:1 | 147 | 48 |
| GNM 2130C | 5880:1 | 147 | 48 |
| GNM 2130C | 2430:1 - 4320:1 | 154 | 55 |
| GNM 2130C | 7680:1 - 30870:1 | 154 | 55 |
| GNM 2145C | 30:1 | 141 | 27 |
| GNM 2145C | 90:1 - 210:1 | 148 | 34 |
| GNM 2145C | 270:1 | 155 | 41 |

Flange mounting



Flange order number: 09798/5
Flange weight: ca. 0,130 kg

| | |
|---------------------------------------|------------------|
| type | GNM 21 - G 5 |
| series | C |
| operation acc. to standards VDE 0530 | S1 |
| isolation acc. to standards VDE 0530 | F |
| protection acc. to standards VDE 0530 | IP 21 |
| kind of connection | free leads |
| rotating direction | reversible |
| bearing (motor) | ball bearing |
| bearing (gear box) | friction bearing |

Motor design:

Pinion milled in the motor shaft. Free leads.

One-hole or flange mounting, see drawings.

Rotating direction:

The rotating direction can be changed by inverting the connections.

Order example

Motor - gear box

GNM 2145C - G 5

24 V, 6000 rpm - 30:1

Special designs on request.

GNM 21C - G5

| 1 nominal voltage | 2 nominal speed | 3 nominal torque | 4 starting torque | 5 nominal torque at undulatory current | 6 nominal power | 7 nominal current | 8 nominal current at undulatory current | 9 peak current | 10 power gear box input | 11 nominal speed gear box input | 12 ratio gear-box | 13 efficiency gear box | load limitations gear box | | | 17 total weight motor + gear box | 18 F _r (allow. radial shaft load) | 19 F _a (allow. axial shaft load) ¹⁾ | 20 motor type | |
|-------------------|-----------------|--------------------|--------------------|--|-----------------|--------------------|---|--------------------|-------------------------|---------------------------------|-------------------|------------------------|---------------------------|----------------------|-------------------------|----------------------------------|--|---|---------------|-----------|
| | | | | | | | | | | | | | 14 max. power | 15 max. cont. torque | 16 max. starting torque | | | | | |
| V | rpm | Nm | Nm | Nm | W | A | A | A | W | rpm | i | % | W | Nm | Nm | kg | N | N | | |
| 12 24 | 200 | 0,46 ²⁾ | 0,60 ²⁾ | 0,34 | 9,6 | 1,8 ²⁾ | 1,5 | 2,8 ²⁾ | 12 | 6000 | 30:1 | 80 | 9,6 | 0,46 | 0,60 | 0,55 | 30 | 0 | GNM 2145C | |
| | | | | | | 0,96 ²⁾ | 0,81 | 1,5 ²⁾ | | | | | | | | | | | | |
| 12 24 | 67 | 1,2 ²⁾ | 1,8 ²⁾ | 0,89 | 8,4 | 1,8 ²⁾ | 1,5 | 2,8 ²⁾ | 12 | 6000 | 90:1 | 70 | 8,4 | 1,2 | 1,8 | 0,60 | 30 | 0 | | |
| | | | | | | 0,96 ²⁾ | 0,81 | 1,5 ²⁾ | | | | | | | | | | | | |
| 12 24 | 50 | 1,6 ²⁾ | 2,2 ²⁾ | 1,2 | 8,4 | 1,8 ²⁾ | 1,5 | 2,7 ²⁾ | 12 | 6000 | 120:1 | 70 | 8,4 | 1,6 | 2,2 | 0,60 | 30 | 0 | | |
| | | | | | | 0,96 ²⁾ | 0,81 | 1,4 ²⁾ | | | | | | | | | | | | |
| 12 24 | 29 | 2,8 ²⁾ | 3,3 ²⁾ | 2,1 | 8,4 | 1,8 ²⁾ | 1,5 | 2,4 ²⁾ | 12 | 6000 | 210:1 | 70 | 8,4 | 2,8 | 3,3 | 0,60 | 30 | 0 | | |
| | | | | | | 0,96 ²⁾ | 0,81 | 1,2 ²⁾ | | | | | | | | | | | | |
| 12 24 | 22 | 2,9 ²⁾ | 3,3 ²⁾ | 2,5 | 6,7 | 1,7 ²⁾ | 1,5 | 2,0 ²⁾ | 10 | 6000 | 270:1 | 65 | 6,7 | 2,9 | 3,3 | 0,65 | 30 | 0 | | |
| | | | | | | 0,88 ²⁾ | 0,81 | 1,1 ²⁾ | | | | | | | | | | | | |
| 12 24 | 17 | 3,0 ²⁾ | 3,3 ²⁾ | 2,4 | 5,2 | 1,4 ²⁾ | 1,2 | 1,6 ²⁾ | 8,0 | 6000 | 360:1 | 65 | 5,2 | 3,0 | 3,3 | 0,65 | 30 | 0 | | GNM 2130C |
| | | | | | | 0,64 ²⁾ | 0,56 | 0,76 ²⁾ | | | | | | | | | | | | |
| 12 24 | 13 | 3,0 ²⁾ | 3,5 ²⁾ | 3,0 | 3,9 | 1,2 ²⁾ | 1,2 | 1,4 ²⁾ | 6,0 | 6000 | 480:1 | 65 | 3,9 | 3,0 | 3,5 | 0,65 | 30 | 0 | | |
| | | | | | | 0,54 ²⁾ | 0,54 | 0,65 ²⁾ | | | | | | | | | | | | |
| 12 24 | 9,5 | 3,5 ²⁾ | 4,0 ²⁾ | 3,5 | 3,5 | 1,1 ²⁾ | 1,1 | 1,3 ²⁾ | 5,4 | 6000 | 630:1 | 65 | 3,5 | 3,5 | 4,0 | 0,65 | 30 | 0 | | |
| | | | | | | 0,51 ²⁾ | 0,51 | 0,60 ²⁾ | | | | | | | | | | | | |
| 12 24 | 7,1 | 3,5 ²⁾ | 4,0 ²⁾ | 3,5 | 2,6 | 0,94 ²⁾ | 0,94 | 1,1 ²⁾ | 4,0 | 6000 | 840:1 | 65 | 2,6 | 3,5 | 4,0 | 0,65 | 30 | 0 | | |
| | | | | | | 0,44 ²⁾ | 0,44 | 0,51 ²⁾ | | | | | | | | | | | | |
| 12 24 | 5,6 | 3,5 ²⁾ | 4,0 ²⁾ | 3,5 | 2,0 | 0,91 ²⁾ | 0,91 | 0,96 ²⁾ | 3,6 | 6000 | 1080:1 | 55 | 2,0 | 3,5 | 4,0 | 0,70 | 30 | 0 | | |
| | | | | | | 0,43 ²⁾ | 0,43 | 0,45 ²⁾ | | | | | | | | | | | | |
| 12 24 | 3,2 | 4,0 ²⁾ | 4,0 ²⁾ | 4,0 | 1,3 | 0,77 ²⁾ | 0,77 | 0,77 ²⁾ | 2,4 | 6000 | 1890:1 | 55 | 1,3 | 4,0 | 4,0 | 0,70 | 30 | 0 | | |
| | | | | | | 0,36 ²⁾ | 0,36 | 0,36 ²⁾ | | | | | | | | | | | | |
| 12 24 | 2,5 | 4,0 ²⁾ | 5,0 ²⁾ | 4,0 | 1,0 | 0,76 ²⁾ | 0,76 | 0,82 ²⁾ | 2,2 | 6000 | 2430:1 | 45 | 1,0 | 4,0 | 5,0 | 0,75 | 30 | 0 | | |
| | | | | | | 0,36 ²⁾ | 0,36 | 0,39 ²⁾ | | | | | | | | | | | | |
| 12 24 | 1,9 | 4,0 ²⁾ | 5,0 ²⁾ | 4,0 | 0,78 | 0,67 ²⁾ | 0,67 | 0,71 ²⁾ | 1,4 | 6000 | 3240:1 | 55 | 0,78 | 4,0 | 5,0 | 0,75 | 30 | 0 | | |
| | | | | | | 0,32 ²⁾ | 0,32 | 0,33 ²⁾ | | | | | | | | | | | | |
| 12 24 | 1,4 | 4,0 ²⁾ | 5,0 ²⁾ | 4,0 | 0,58 | 0,66 ²⁾ | 0,66 | 0,69 ²⁾ | 1,3 | 6000 | 4320:1 | 45 | 0,58 | 4,0 | 5,0 | 0,75 | 30 | 0 | | |
| | | | | | | 0,31 ²⁾ | 0,31 | 0,33 ²⁾ | | | | | | | | | | | | |
| 12 24 | 1,0 | 5,0 ²⁾ | 5,0 ²⁾ | 5,0 | 0,53 | 0,65 ²⁾ | 0,65 | 0,65 ²⁾ | 1,2 | 6000 | 5880:1 | 45 | 0,53 | 5,0 | 5,0 | 0,70 | 30 | 0 | | |
| | | | | | | 0,30 ²⁾ | 0,30 | 0,30 ²⁾ | | | | | | | | | | | | |
| 12 24 | 0,8 | 5,0 ²⁾ | 5,0 ²⁾ | 5,0 | 0,41 | 0,62 ²⁾ | 0,62 | 0,62 ²⁾ | 0,91 | 6000 | 7680:1 | 45 | 0,41 | 5,0 | 5,0 | 0,75 | 30 | 0 | | |
| | | | | | | 0,29 ²⁾ | 0,29 | 0,29 ²⁾ | | | | | | | | | | | | |
| 12 24 | 0,5 | 5,0 ²⁾ | 5,0 ²⁾ | 5,0 | 0,24 | 0,58 ²⁾ | 0,58 | 0,58 ²⁾ | 0,60 | 6000 | 13230:1 | 40 | 0,24 | 5,0 | 5,0 | 0,75 | 30 | 0 | | |
| | | | | | | 0,28 ²⁾ | 0,28 | 0,28 ²⁾ | | | | | | | | | | | | |
| 12 24 | 0,2 | 5,0 ²⁾ | 5,0 ²⁾ | 5,0 | 0,10 | 0,55 ²⁾ | 0,55 | 0,55 ²⁾ | 0,25 | 6000 | 30870:1 | 40 | 0,10 | 5,0 | 5,0 | 0,75 | 30 | 0 | | |
| | | | | | | 0,26 ²⁾ | 0,26 | 0,26 ²⁾ | | | | | | | | | | | | |

Tolerances ± 10 %

Columns 3 and 13

Values are valid at operating temperature after run-in period.

Columns 5 and 8

Current values should not exceeded during operation with undulatory current (single way rectification) with harmonic portion above 5%.

Columns 4 and 9

Figures correspond with the gearbox load limitations. For high gear ratios the allowed currents may be lower than the motors rated current. If so, please the current has to be limited, e.g. through adjusting the servo controller.

Columns 14, 15 and 16

To avoid gear box overload do not exceed the mentioned values. For oscillating operation the mentioned limitations must be multiplied by 0,75.

¹⁾ middle of the shaft-extension

²⁾ motor current must be limited to avoid excess of the mentioned value