



KOCO
MOTION

A VARIETY OF APPLICATIONS



PRECISION DC CORELESS MOTOR

1



BRUSHLESS DC MOTOR

2



ELECTRONIC SPEED CONTROLLER

3



PRECISION GEARMOTOR

4



PRECISION SERVO MOTOR

5



DC CORELESS MOTOR

6



FLAT DC MOTOR

7



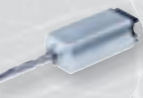
DC CORE MOTOR

8



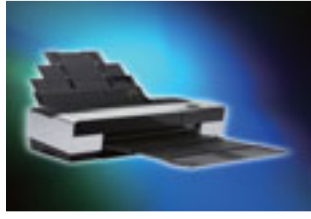
MINI STEP MOTOR

9



SONIC MOTOR

10



Overview of the PRECISION SERVO MOTORS

| | Motor No. | Dia x Length (max) | Max. Power | Page |
|---|--------------------|---------------------------|-------------------|-------------|
| 1 | 0837M5**M** | 10.00 x 41.40 mm | 0.2 W | 4 |
| 2 | 1043M5**M** | 10.00 x 43.00 mm | 1.3 W | 5 |
| 3 | 1238M7**M** | 12.40 x 38.00 mm | 0.6 W | 6 |
| 4 | 1654C5**M** | 16.00 x 54.00 mm | 2.7 W | 7 |
| 5 | 2281C5**M** | 22.00 x 81.00 mm | 7.2 W | 8 |
| 6 | 2581C9**M** | 25.00 x 80.30 mm | 22.1 W | 9 |

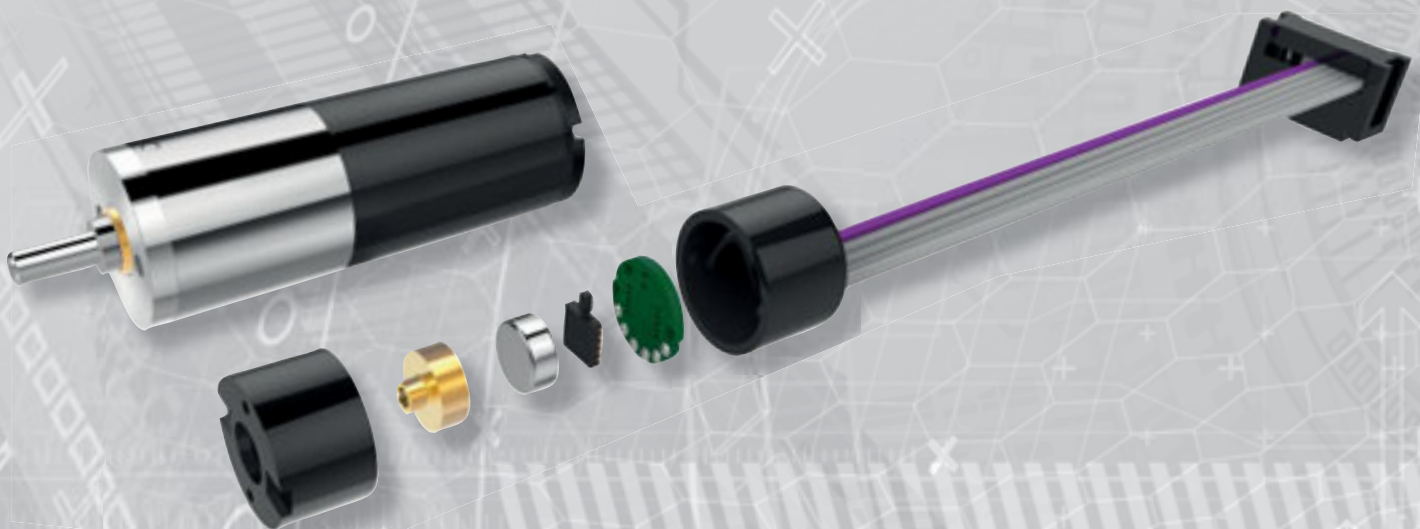
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Product Introduction



PRECISION SERVO MOTOR

Text PRECISION SERVO MOTOR operational lifetime is extremely long. Excellent performance of the motor also lies in its good reliability, high rotation speed, small size, high overloading capability and low electromagnetic interference. It has good speed regulating performance and it can work in a poor environment as well. The motor is applicable in the fields of medical equipment, industrial equipment, UAV, electrical tools and mini household appliances.



Precious Metal Commutation · 0837M5**M**

| Motor Characteristics | | | 0816N5M10-90-3.0 |
|-----------------------|-----------------------|------------------|------------------|
| 1 | Voltage | V | 3.0 |
| 2 | Terminal resistance | Ω | 14.2 |
| 3 | No-load speed | rpm | 9000 |
| 4 | No-load current | mA | 8 |
| 5 | Stall torque | mNm | 0.6 |
| 6 | Stall current | mA | 210 |
| 7 | Nominal torque | mNm | 0.3 |
| 8 | Nominal speed | rpm | 5490 |
| 9 | Nominal current | mA | 88 |
| 10 | Max. output power | W | 0.2 |
| 11 | Max. efficiency | % | 67 |
| 12 | Back-EMF constant | mV/rpm | 0.32 |
| 13 | Torque constant | mNm/A | 3.06 |
| 14 | Speed/torque gradient | rpm/mNm | 13994 |
| 15 | Rotor inertia | gcm ² | 0.03 |
| 16 | Weight | g | 7.2 |

Applications

Precision control fields such as medical instruments, industrial robots, etc.

Operating temperature range

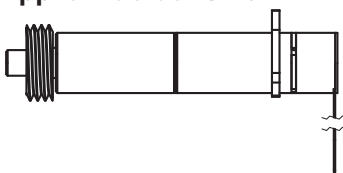
-20 ~ +85°C

Options

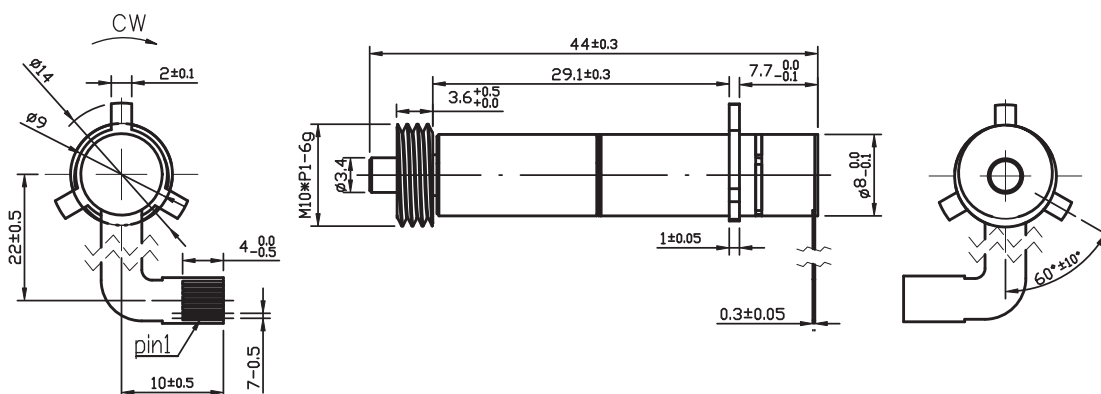
- Lead wires length
- Shaft length
- Special coils
- Gearheads
- Encoder channels
- Encoder counts per turn

| Encoder Characteristics | | | | |
|-------------------------|--------------------|-----|------------|------------|
| 1 | Number of channels | | 2 | 3 |
| 2 | Counts per turn | cpt | 16, 32, 64 | 16, 32, 64 |
| 3 | Supply voltage | V | 5.0 (5.0) | 5.0 (5.0) |
| 4 | Max. speed | rpm | 30000 | 30000 |
| 5 | Phase shift | °e | 90±45 | 90±45 |
| 6 | Output signal | | TTL | TTL |
| 7 | Diameter | mm | 10 | 10 |
| 8 | Length | mm | 8.5 | 8.5 |

Approx. actual size



Dimension (mm) · 0837M5**M**



Precious Metal Commutation · 1043M5**M**

| Motor Characteristics | | | 1025N5M04-115-12.0 |
|-----------------------|-----------------------|------------------|--------------------|
| 1 | Voltage | V | 12.0 |
| 2 | Terminal resistance | Ω | 28.0 |
| 3 | No-load speed | rpm | 11500 |
| 4 | No-load current | mA | 10 |
| 5 | Stall torque | mNm | 4.2 |
| 6 | Stall current | mA | 430 |
| 7 | Nominal torque | mNm | 1.0 |
| 8 | Nominal speed | rpm | 8100 |
| 9 | Nominal current | mA | 140 |
| 10 | Max. output power | W | 1.3 |
| 11 | Max. efficiency | % | 74 |
| 12 | Back-EMF constant | mV/rpm | 1.02 |
| 13 | Torque constant | mNm/A | 9.73 |
| 14 | Speed/torque gradient | rpm/mNm | 2748 |
| 15 | Rotor inertia | gcm ² | 0.09 |
| 16 | Weight | g | 8 |

Applications

Precision control fields such as medical instruments, industrial robots, etc.

Operating temperature range

-20 ~ +85°C

Options

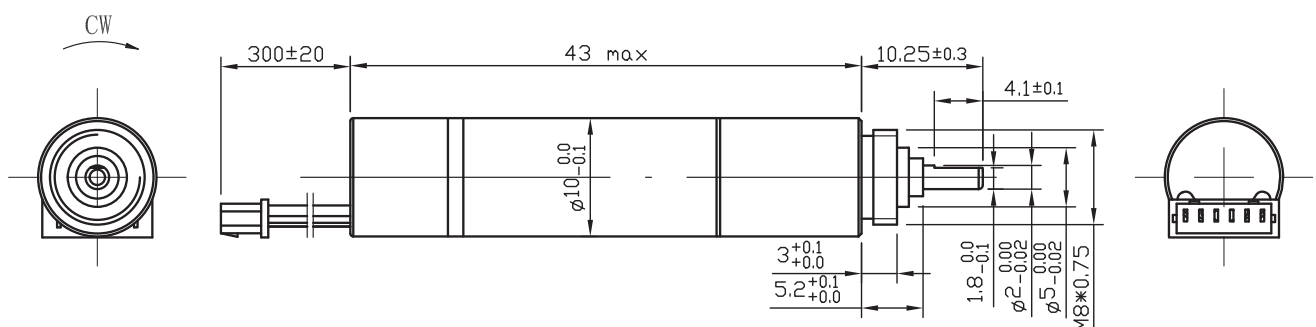
- Lead wires length
- Shaft length
- Special coils
- Gearheads
- Encoder channels
- Encoder counts per turn

| Encoder Characteristics | | | | |
|-------------------------|--------------------|-----|------------|------------|
| 1 | Number of channels | | 2 | 3 |
| 2 | Counts per turn | cpt | 16, 32, 64 | 16, 32, 64 |
| 3 | Supply voltage | V | 5.0 (5.0) | 5.0 (5.0) |
| 4 | Max. speed | rpm | 30000 | 30000 |
| 5 | Phase shift | °e | 90±45 | 90±45 |
| 6 | Output signal | | TTL | TTL |
| 7 | Diameter | mm | 10 | 10 |
| 8 | Length | mm | 8.5 | 8.5 |

Approx. actual size



Dimension (mm) · 1043M5**M**



Precious Metal Commutation · 1238M7**M**

| Motor Characteristics | | | 1230N7M01-48-4.5 |
|-----------------------|-----------------------|------------------|------------------|
| 1 | Voltage | V | 4.5 |
| 2 | Terminal resistance | Ω | 8.5 |
| 3 | No-load speed | rpm | 4800 |
| 4 | No-load current | mA | 15 |
| 5 | Stall torque | mNm | 4.6 |
| 6 | Stall current | mA | 530 |
| 7 | Nominal torque | mNm | 2.0 |
| 8 | Nominal speed | rpm | 2760 |
| 9 | Nominal current | mA | 235 |
| 10 | Max. output power | W | 0.6 |
| 11 | Max. efficiency | % | 71 |
| 12 | Back-EMF constant | mV/rpm | 0.91 |
| 13 | Torque constant | mNm/A | 8.70 |
| 14 | Speed/torque gradient | rpm/mNm | 1041 |
| 15 | Rotor inertia | gcm ² | 0.25 |
| 16 | Weight | g | 17.7 |

Applications

Precision control fields such as medical instruments, industrial robots, etc.

Operating temperature range

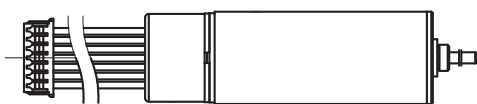
-20 ~ +85°C

Options

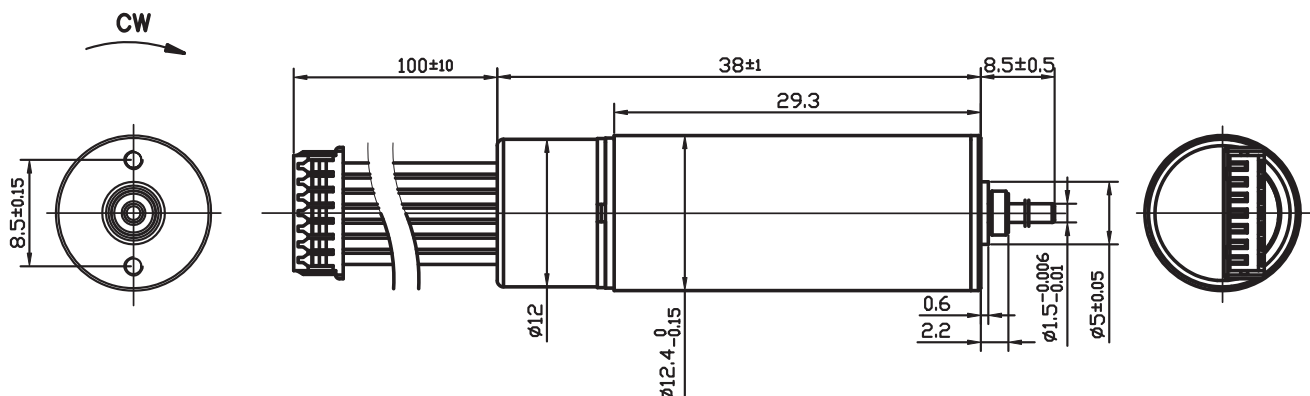
- Lead wires length
- Shaft length
- Special coils
- Gearheads
- Encoder channels
- Encoder counts per turn

| Encoder Characteristics | | | | |
|-------------------------|--------------------|-----|------------|------------|
| 1 | Number of channels | | 2 | 3 |
| 2 | Counts per turn | cpt | 16, 32, 64 | 16, 32, 64 |
| 3 | Supply voltage | V | 5.0 (5.0) | 5.0 (5.0) |
| 4 | Max. speed | rpm | 30000 | 30000 |
| 5 | Phase shift | °e | 90±45 | 90±45 |
| 6 | Output signal | | TTL | TTL |
| 7 | Diameter | mm | 12 | 12 |
| 8 | Length | mm | 8.5 | 8.5 |

Approx. actual size



Dimension (mm) · 1238M7**M**



Graphite Brush · 1654C5**M**

| Motor Characteristics | | | 1625N5C02-150-12.0 |
|-----------------------|-----------------------|------------------|--------------------|
| 1 | Voltage | V | 12.0 |
| 2 | Terminal resistance | Ω | 13.0 |
| 3 | No-load speed | rpm | 15000 |
| 4 | No-load current | mA | 25 |
| 5 | Stall torque | mNm | 6.8 |
| 6 | Stall current | mA | 920 |
| 7 | Nominal torque | mNm | 3.2 |
| 8 | Nominal speed | rpm | 7800 |
| 9 | Nominal current | mA | 455 |
| 10 | Max. output power | W | 2.7 |
| 11 | Max. efficiency | % | 72 |
| 12 | Back-EMF constant | mV/rpm | 0.78 |
| 13 | Torque constant | mNm/A | 7.43 |
| 14 | Speed/torque gradient | rpm/mNm | 2194 |
| 15 | Rotor inertia | gcm ² | 0.8 |
| 16 | Weight | g | 18.2 |

Applications

Precision control fields such as medical instruments, industrial robots, etc.

Operating temperature range

-20 ~ +85°C

Options

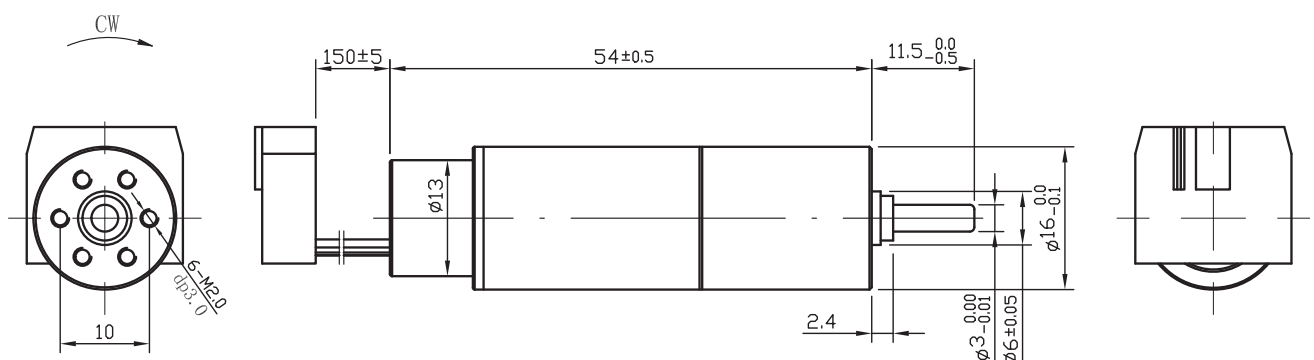
- Lead wires length
- Shaft length
- Special coils
- Gearheads
- Encoder channels
- Encoder counts per turn

| Encoder Characteristics | | | | |
|-------------------------|--------------------|-----|------------|------------|
| 1 | Number of channels | | 2 | 3 |
| 2 | Counts per turn | cpt | 16, 32, 64 | 16, 32, 64 |
| 3 | Supply voltage | V | 5.0 (5.0) | 5.0 (5.0) |
| 4 | Max. speed | rpm | 30000 | 30000 |
| 5 | Phase shift | °e | 90±45 | 90±45 |
| 6 | Output signal | | TTL | TTL |
| 7 | Diameter | mm | 13 | 13 |
| 8 | Length | mm | 8.5 | 8.5 |

Approx. actual size



Dimension (mm) · 1654C5**M**



Graphite Brush · 2281C5**M**

| Motor Characteristics | | | 2233N5C11-76-24.0 |
|-----------------------|-----------------------|------------------|-------------------|
| 1 | Voltage | V | 24.0 |
| 2 | Terminal resistance | Ω | 19.6 |
| 3 | No-load speed | rpm | 7600 |
| 4 | No-load current | mA | 20 |
| 5 | Stall torque | mNm | 36.2 |
| 6 | Stall current | mA | 1220 |
| 7 | Nominal torque | mNm | 9.8 |
| 8 | Nominal speed | rpm | 5510 |
| 9 | Nominal current | mA | 350 |
| 10 | Max. output power | W | 7.2 |
| 11 | Max. efficiency | % | 77 |
| 12 | Back-EMF constant | mV/rpm | 3.11 |
| 13 | Torque constant | mNm/A | 29.66 |
| 14 | Speed/torque gradient | rpm/mNm | 210 |
| 15 | Rotor inertia | gcm ² | 4 |
| 16 | Weight | g | 52 |

Applications

Precision control fields such as medical instruments, industrial robots, etc.

Operating temperature range

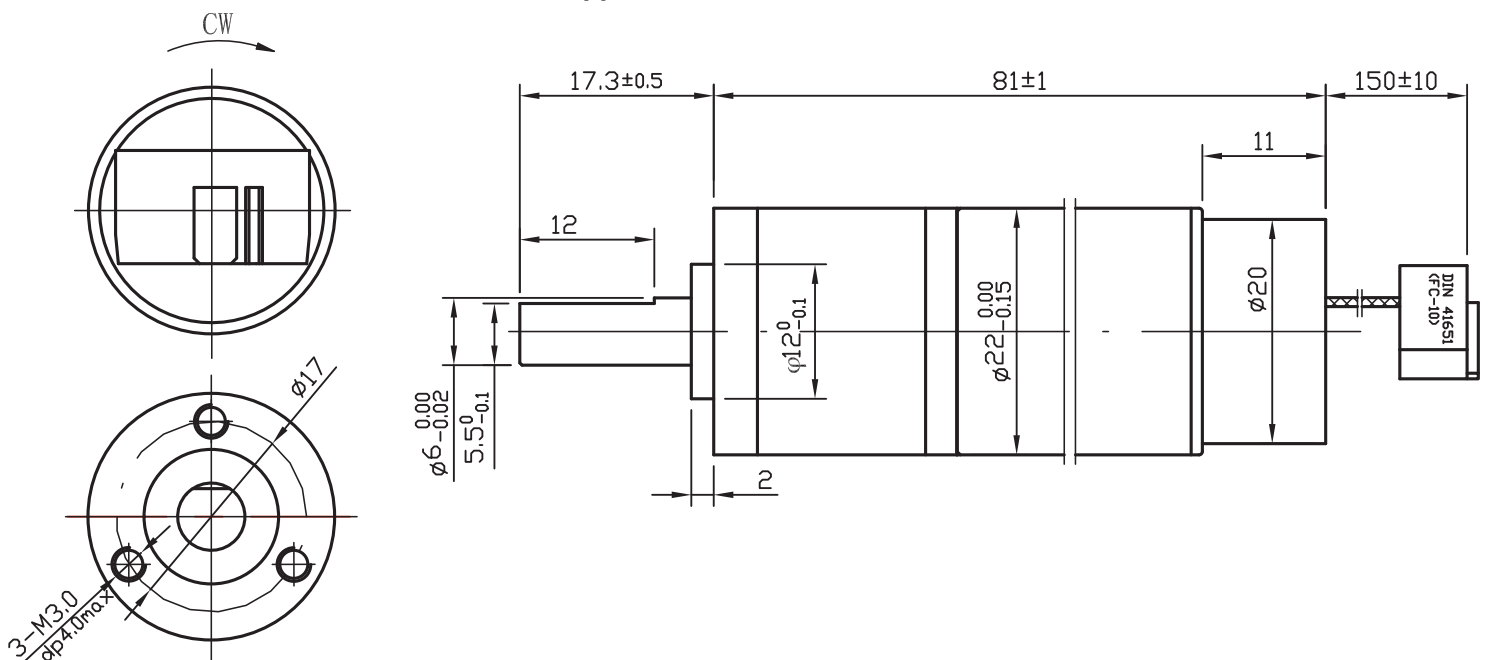
-20 ~ +85°C

Options

- Lead wires length
- Shaft length
- Special coils
- Gearheads
- Encoder channels
- Encoder counts per turn

| Encoder Characteristics | | | 2 | 3 |
|-------------------------|--------------------|-----|---------------------------------|---------------------------------|
| 1 | Number of channels | | 2 | 3 |
| 2 | Counts per turn | cpt | 16, 32, 64, 128, 256, 512, 1024 | 16, 32, 64, 128, 256, 512, 1024 |
| 3 | Supply voltage | V | 5.0 (5.0) | 5.0 (5.0) |
| 4 | Max. speed | rpm | 30000 | 30000 |
| 5 | Phase shift | °e | 90±45 | 90±45 |
| 6 | Output signal | | TTL | TTL |
| 7 | Diameter | mm | 20 | 20 |
| 8 | Length | mm | 11 | 11 |

Dimension (mm) · 2281C5**M** · Approx. actual size



Graphite Brush · 2581C9**M**

| Motor Characteristics | | | 2543N9C2B03-65-24.0 |
|-----------------------|-----------------------|------------------|---------------------|
| 1 | Voltage | V | 24.0 |
| 2 | Terminal resistance | Ω | 6.5 |
| 3 | No-load speed | rpm | 6500 |
| 4 | No-load current | mA | 15 |
| 5 | Stall torque | mNm | 129.6 |
| 6 | Stall current | mA | 3690 |
| 7 | Nominal torque | mNm | 37.6 |
| 8 | Nominal speed | rpm | 4570 |
| 9 | Nominal current | mA | 1070 |
| 10 | Max. output power | W | 22.1 |
| 11 | Max. efficiency | % | 88 |
| 12 | Back-EMF constant | mV/rpm | 3.68 |
| 13 | Torque constant | mNm/A | 35.12 |
| 14 | Speed/torque gradient | rpm/mNm | 50 |
| 15 | Rotor inertia | gcm ² | 13.2 |
| 16 | Weight | g | 98 |

Applications

Precision control fields such as medical instruments, industrial robots, etc.

Operating temperature range

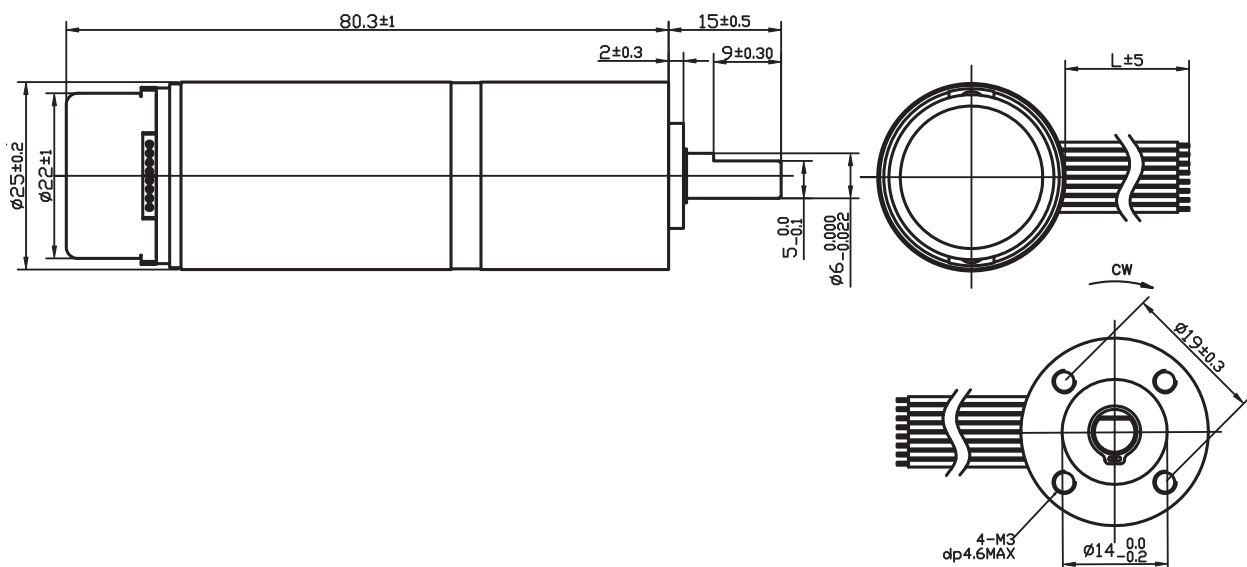
-20 ~ +100°C

Options

- Lead wires length
- Shaft length
- Special coils
- Gearheads
- Encoder channels
- Encoder counts per turn

| Encoder Characteristics | | | | |
|-------------------------|--------------------|-----|---------------------------------|---------------------------------|
| 1 | Number of channels | | 2 | 3 |
| 2 | Counts per turn | cpt | 16, 32, 64, 128, 256, 512, 1024 | 16, 32, 64, 128, 256, 512, 1024 |
| 3 | Supply voltage | V | 5.0 (5.0) | 5.0 (5.0) |
| 4 | Max. speed | rpm | 30000 | 30000 |
| 5 | Phase shift | °e | 90±45 | 90±45 |
| 6 | Output signal | | TTL | TTL |
| 7 | Diameter | mm | 22 | 22 |
| 8 | Length | mm | 12 | 12 |

Dimension (mm) · 2581C9**M** · Approx. actual size





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