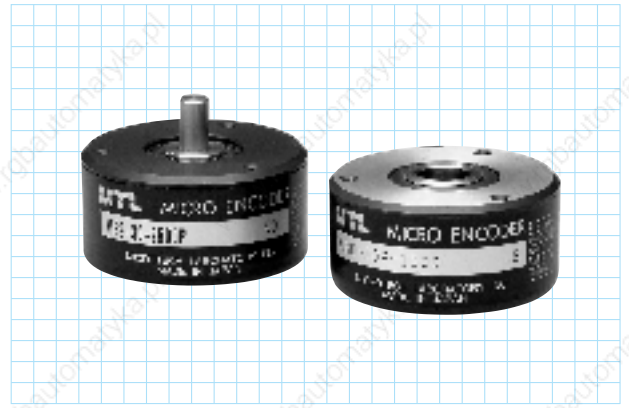


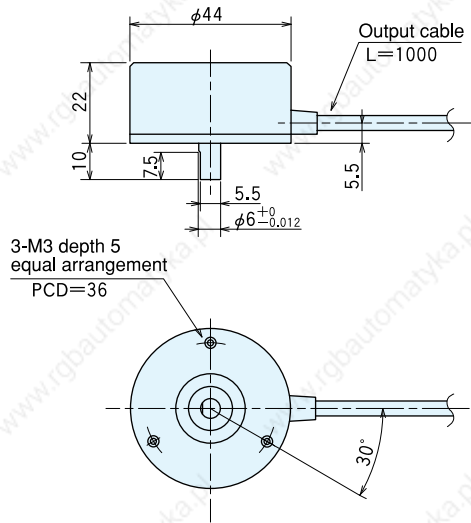
ME-30-P series

[Square Wave/Incremental]

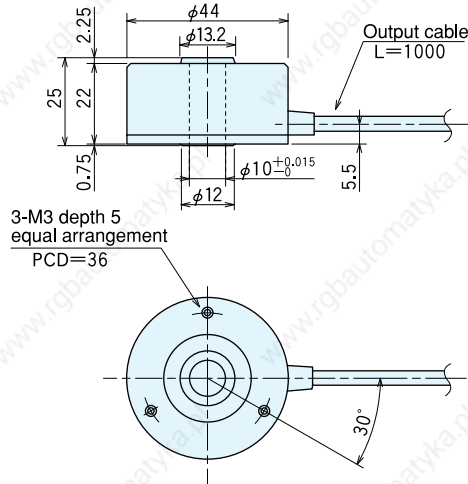


Outside dimensions

MES-30-P



MEH-30-P

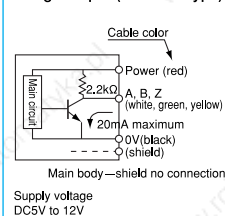


Specifications

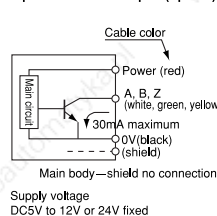
| Type name | | ME <input type="checkbox"/> -30- <input type="checkbox"/> P <input type="checkbox"/> | | |
|--|--|--|-------------------------------------|--------|
| Item | Shaft shape | ●S=single shaft | ●H=hollow shaft | |
| | Pulse number | ●C=open collector output | ●C4=open collector output DC24V | |
| Supply voltage | Output circuit | ●S=sine wave output | ●ST=built-in multiplication circuit | |
| | Current consumption | DC5~12V ±10% DC24V±10%(open collector output only) | | |
| Detection system | Incremental | | | |
| Output | Output pulse number (Standard) [Pulse number/rotation] | 40 | 250 | 500 |
| | | 50 | 300 | 512 |
| | | 60 | 360 | 600 |
| | | 100 | 400 | |
| | | 200 | 450 | |
| | | 720 | 2,000 | 10,800 |
| 800 | 2,048 | | | |
| 1,000 | 2,500 | | | |
| 1,024 | 3,600 | | | |
| 1,200 | 4,500 | | | |
| 1,500 | 9,000 | | | |
| 1,800 | 10,000 | | | |
| Output phase | A, B, Z phase | | | |
| Output form | Square wave | | | |
| Output capacity | Sink current: 20mA Residual voltage: 0.5V or less (at 10mA) | | | |
| Maximum response frequency (response pulse number) | 100kHz | | | |
| Output phase difference | A, B phase difference 90°±45° (T/4±T/8) Z phase T±T/2 (see Output Waveform) | | | |
| Waveform rise/fall time | 2μs or less (output cable 1m or less) | | | |
| Starting torque | 2×10 ⁻³ N·m (20gf·cm) or less | | | |
| Allowable load of shaft (electrical) | Radial | 19.6N (2kgf) | 14.7N (1.5kgf) | |
| | Thrust | 9.8N (1kgf) | 4.9N (0.5kgf) | |
| Maximum allowable revolutions (mechanical) | 6,000r/min | | | |
| Working ambient temperature/humidity | -10°C~70°C RH35%~90% no dewing | | | |
| Storing ambient temperature | -20°C~80°C | | | |
| Vibration resistance | Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions | | | |
| Impact resistance | Durability 500m/s ² (about 50G) 3 times each in X, Y, and Z directions | | | |
| Cable | Outside diameter φ4.2 5-core vinyl wire Insulated shield cable (length 1m) | | | |
| Mass | 140g | | | |

Output circuit diagram

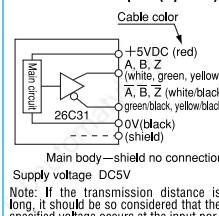
Voltage output (standard type)



Open collector output (option)

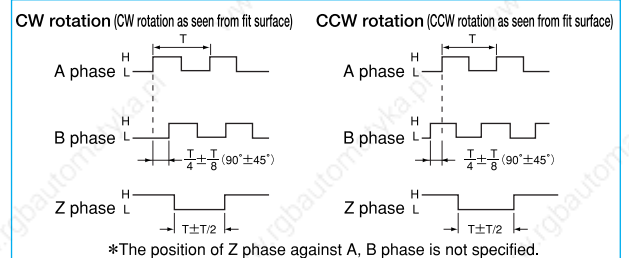


Line driver output (option)



A capacitor (0.1μF) is connected between 0V and FG (frame ground).

Output waveform

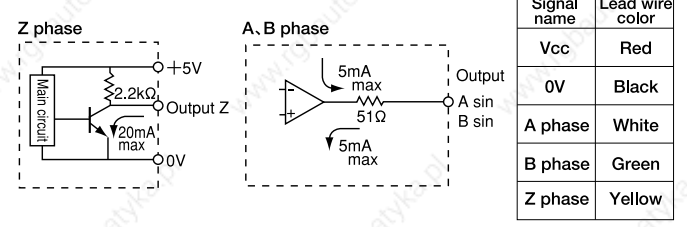


Specifications/Sine wave

| | | |
|---|--|----------------|
| Supply voltage | DC5V ±5% | |
| Current consumption | 40mA or less (under no load) | |
| Detection system | Sine wave·Incremental | |
| Output pulse number (Standard) [Pulse number/rotation] | 1,000 | 2,048 |
| | 1,500 | 3,600 |
| | 1,800 | 4,500 |
| | 2,000 | |
| Output phase | A, B, Z phase | |
| Output form | A, B phase SIN wave, Z phase square wave | |
| A, B, Z phase output | SIN wave 1.5 V _{p-p} ±0.3 V offset 2.0V±0.2V | |
| | Opamp output current 5mA Max. | |
| | Harmonic distortion factor to be within 10% (Measuring condition to be within 20 kHz, effective value mean distortion factor measuring instrument) | |
| Maximum response frequency | 50kHz | |
| Output phase difference | A, B phase difference 90°±45° (T/4±T/8) Z phase T±T/2 (see Output Waveform) | |
| Starting torque | 2×10 ⁻³ N·m (20gf·cm) or less | |
| Allowable load of shaft (electrical) | Radial | 14.7N (1.5kgf) |
| | Thrust | 4.9N (0.5kgf) |
| Maximum allowable revolutions (mechanical) | 6,000r/min | |
| Working ambient temperature/humidity | 0°C~50°C RH35%~90% no dewing | |
| Storing ambient temperature | -20°C~80°C | |
| Vibration resistance | Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions | |
| Impact resistance | Durability 500m/s ² (about 50G) 3 times each in X, Y, and Z directions | |
| Cable | Outside diameter φ4.2 5-core vinyl wire Insulated shield cable (length 1m) | |
| Mass | 140g | |

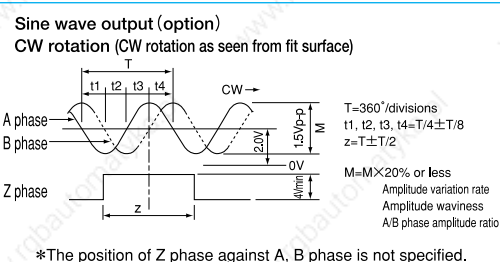
Output circuit diagram

Sine wave output (option)



A capacitor (0.1 μF) is connected between 0V and FG (frame ground).

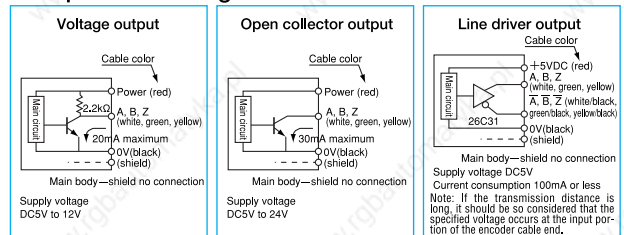
Output waveform



Specifications Built-in multiplication circuit (X2·X4·X8·X16)

| | | |
|---|--|-------------------|
| Supply voltage | Voltage:DC5V-5%~12V+10% Open collector:DC5V-5%~24V+10% Line driver:DC5V±5% | |
| Current consumption | 80mA or less (under no load) | |
| Detection system | Incremental | |
| Output pulse number (Standard) [Pulse number/rotation] | EX | 4,500×2 (9,000) |
| | | 4,500×4 (18,000) |
| | | 4,500×8 (36,000) |
| | | 4,500×16 (72,000) |
| Output phase | A, B, Z phase | |
| Output form | Square wave | |
| Maximum response frequency | Line driver output:50kHz× (by multiplication) Voltage output·Open collector output:100kHz | |
| Output phase difference | See the diagram below. | |
| Starting torque | 2×10 ⁻³ N·m (20gf·cm) or less | |
| Allowable load of shaft (electrical) | Radial | 14.7N (1.5kgf) |
| | Thrust | 4.9N (0.5kgf) |
| Maximum allowable revolutions (mechanical) | 6,000r/min | |
| Working ambient temperature/humidity | -10°C~70°C RH35%~90% no dewing | |
| Storing ambient temperature | -20°C~80°C | |
| Vibration resistance | Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions | |
| Impact resistance | Durability 500m/s ² (about 50G) 3 times each in X, Y, and Z directions | |
| Cable | Outside diameter φ4.2 5-core vinyl wire Insulated shield cable (length 1m) | |
| Mass | 140g | |

Output circuit diagram



A capacitor (0.1 μF) is connected between 0V and FG (frame ground).

Output waveform

