

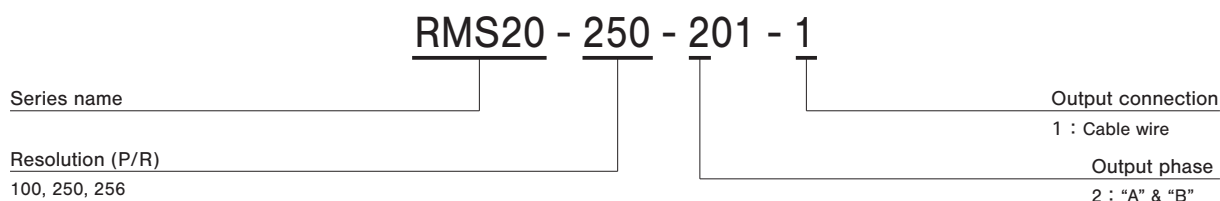
## FEATURES

- High resolution of 256 P/R and fine setting
- Lower consumption of electric power (15 mA maximum) due to magnetic method
- Long life for 10<sup>5</sup> times continuous run due to contactless & magnetic method
- Square wave output (with Amp.)
- Smooth rotation for setting
- RoHS compliant

RoHS compliant



## PART NUMBER DESIGNATION



## LIST OF PART NUMBERS

| Resolution | Item | Input voltage | Part number     |
|------------|------|---------------|-----------------|
| 100 (P/R)  |      | 5 V           | RMS20-100-201-1 |
| 250 (P/R)  |      |               | RMS20-250-201-1 |
| 256 (P/R)  |      |               | RMS20-256-201-1 |

※ Verify the above part numbers when placing orders.

## STANDARD SPECIFICATIONS

### Electrical characteristics

|                                   |                           |                 |     |
|-----------------------------------|---------------------------|-----------------|-----|
| Input voltage                     | DC5 V ± 5 %               |                 |     |
| Input current                     | 15 mA maximum (No load)   |                 |     |
| Output wave form                  | Square wave               |                 |     |
| Output phases                     | A, B                      |                 |     |
| Resolution                        | 100                       | 250             | 256 |
| Phase difference of outputs A & B | 90° ± 45°                 |                 |     |
| Maximum frequency response        | 5 kHz                     |                 |     |
| Output signal                     | "1 (High)"                | + 4.5 V minimum |     |
|                                   | "0 (Low)"                 | + 0.5 V maximum |     |
| Sensor                            | Magneto-resistive element |                 |     |

### Mechanical characteristics

|                                  |                               |                        |
|----------------------------------|-------------------------------|------------------------|
| Rotational torque                | 4.90 mN·m {50 gf·cm} maximum  |                        |
| Inertia                          | 3 g·cm <sup>2</sup> maximum   |                        |
| Shaft loading<br>(When mounting) | Radial                        | 9.81 N {1 kgf} maximum |
|                                  | Axial                         | 9.81 N {1 kgf} maximum |
| Rotational life                  | 10 <sup>5</sup> 回転 revolution |                        |
| Net weight                       | Approx. 20 g                  |                        |
| Strength of tighten screw        | 0.49 N·m {5 kgf·cm} maximum   |                        |

### Environmental characteristics

|                       |              |
|-----------------------|--------------|
| Operating temp. range | - 10 ~ 60 °C |
| Storage temp. range   | - 40 ~ 70 °C |
| Protection grade      | IP40         |

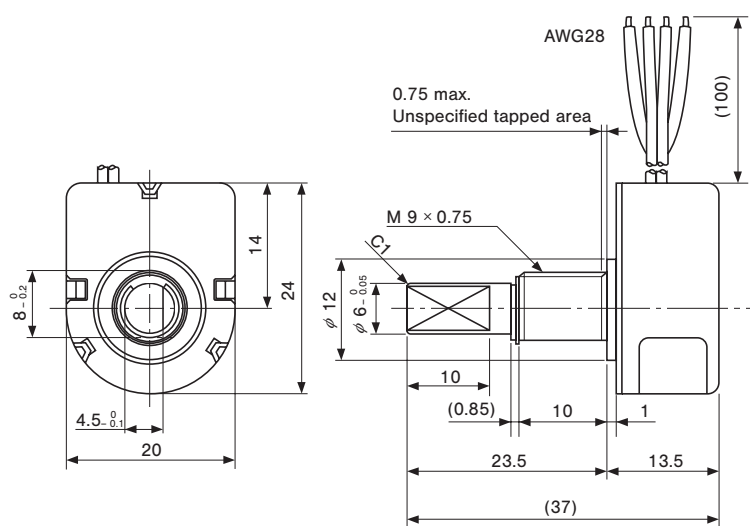
### RELIABILITY TEST

The output shall satisfy the criteria below after the following tests.

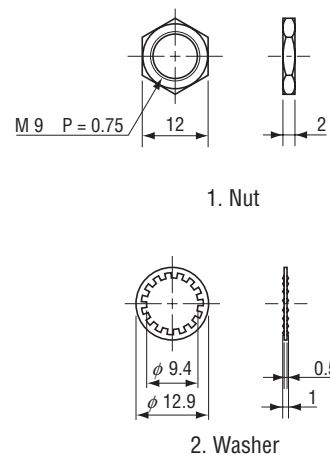
| Test item                 |           | Test conditions  |   |
|---------------------------|-----------|--|---|
| Vibration                 | Power OFF | Amplitude : 1.52 mm or 98.1 m/s <sup>2</sup> (10 G) whichever is smaller.<br>10 ~ 500 Hz excursion 15 min/cycle, 8 cycles each for X, Y, Z, directions.                              |   |
| Shock                     | Power OFF | 3 times each in directions (X, Z) at 490 m/s <sup>2</sup> (50 G), 11 ms.   |   |
| High temperature exposure | Power OFF | 70 °C 96 h   | (To be measured after leaving samples for 1 h at normal temperature and humidity after the test.) |
|                           | Power ON  | 60 °C 96 h   |   |
| Low temperature exposure  | Power OFF | - 40 °C 96 h   |   |
| Humidity                  | Power OFF | (To be measured after wiping out moisture and leaving samples for 1 h at normal temperature and humidity after the test.)  |   |
| Thermal shock             | Power OFF | To be done 10 cycles with the following condition<br>(To be measured after leaving samples for 1 h at normal temperature and humidity after the test.)<br>70 °C 0.5 h, - 40 °C 0.5 h |   |

### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance: ± 0.4 (Unit: mm)



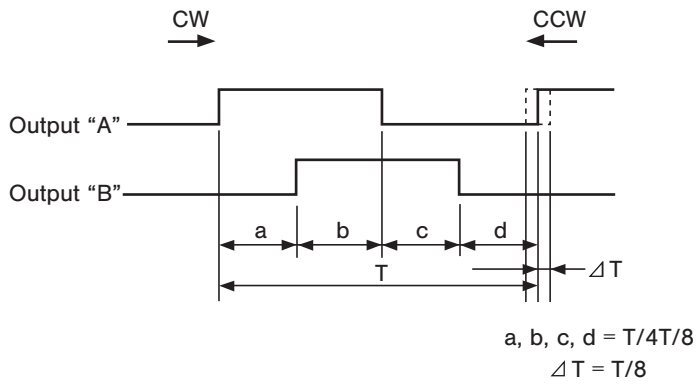
#### <Accessories>



# RMS20

## MAGNETIC ENCODERS

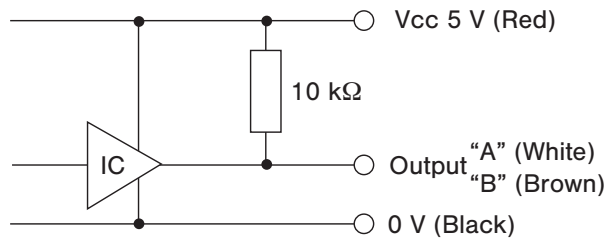
### OUTPUT



### ELECTRICAL WIRING

|       |             |
|-------|-------------|
| Red   | Power ⊕     |
| Brown | Output "B"  |
| White | Output "A"  |
| Black | Power 0 (V) |

### OUTPUT CIRCUIT



Sink current 1 mA maximum (at 25 C)

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