

# RMS20

## MANUAL SETTING TYPE MAGNETIC ENCODERS

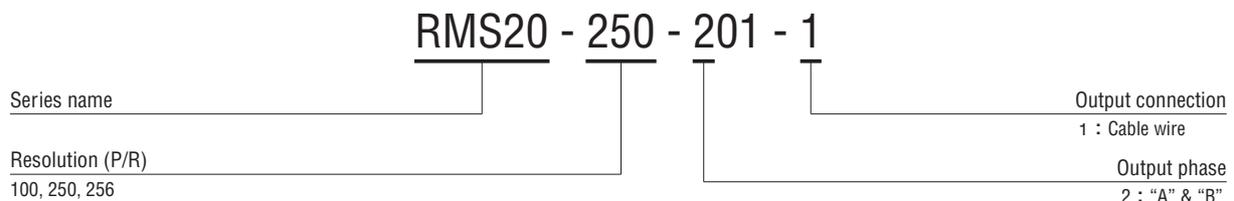
### FEATURES

- 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	Magnetoresistive element		

#### Mechanical characteristics

Rotational torque	4.90 mN·m (50 gf·cm) maximum	
Inertia	3 g·cm <sup>2</sup> maximum	
Shaft loading (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	IP - 40

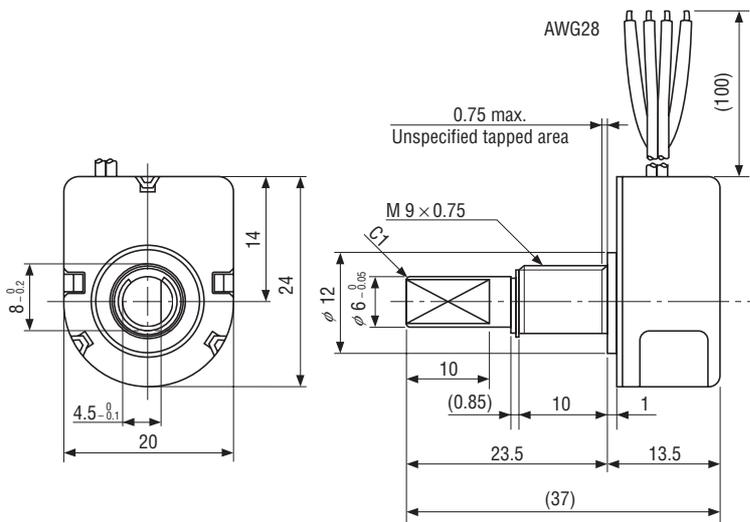
**RELIABILITY TEST**

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

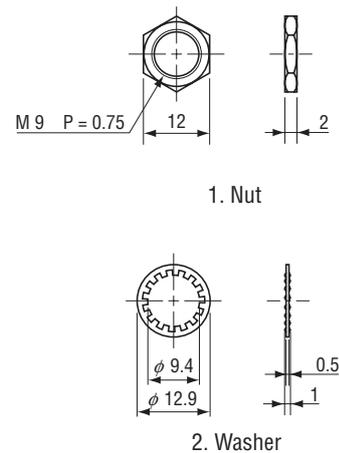
Test item		Test conditions
Vibration	Power OFF	Amplitude : 1.52 mm or 98.1 m/s <sup>2</sup> (10 G) whichever is smaller. 10 ~ 500 Hz excursion 15 min/cycle, 8 cycles each for X, Y, Z, directions.
Shock	Power OFF	3 times each in directions (X, Z) at 490 m/s <sup>2</sup> (50 G), 11 ms.
High temperature exposure	Power OFF	70 °C 96 h
	Power ON	60 °C 96 h
Low temperature exposure	Power OFF	- 40 °C 96 h
Humidity	Power OFF	40 °C Relative humidity 90~95 % 96 h (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 (To be measured after leaving samples for 1 h at normal temperature and humidity after the test.) 70 °C 0.5 h、- 40 °C 0.5 h

**OUTLINE DIMENSIONS**

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

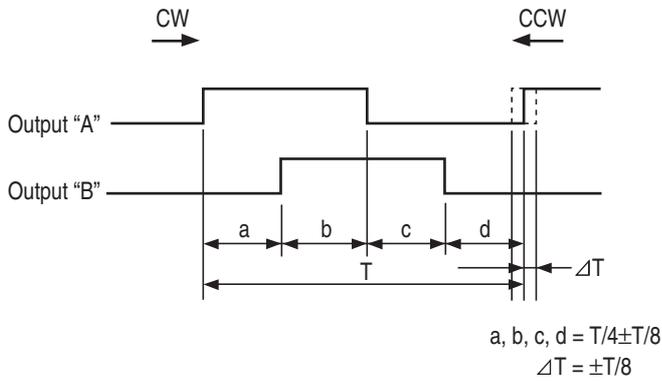


**<Accessories>**



**RMS20  
MAGNETIC ENCODERS**

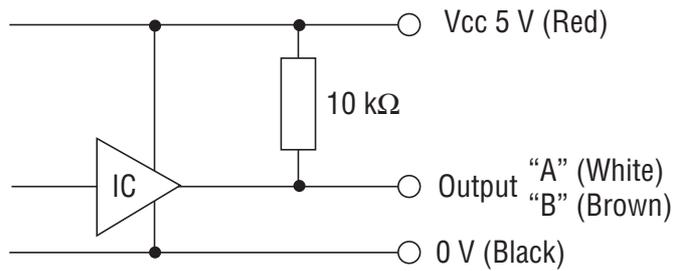
**OUTPUT**



**ELECTRICAL WIRING**

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

**OUTPUT CIRCUIT**



Sink current 1 mA maximum (at 25 °C)