



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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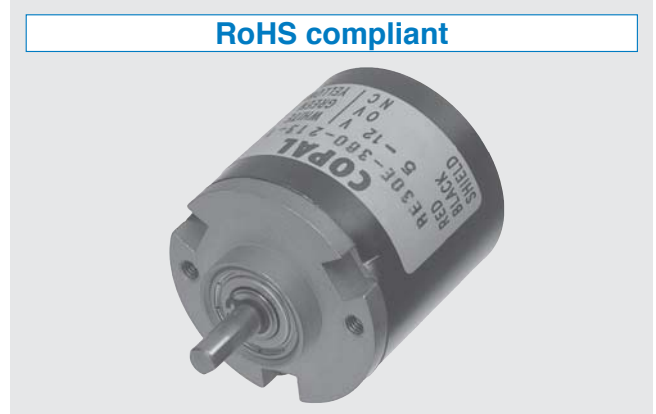
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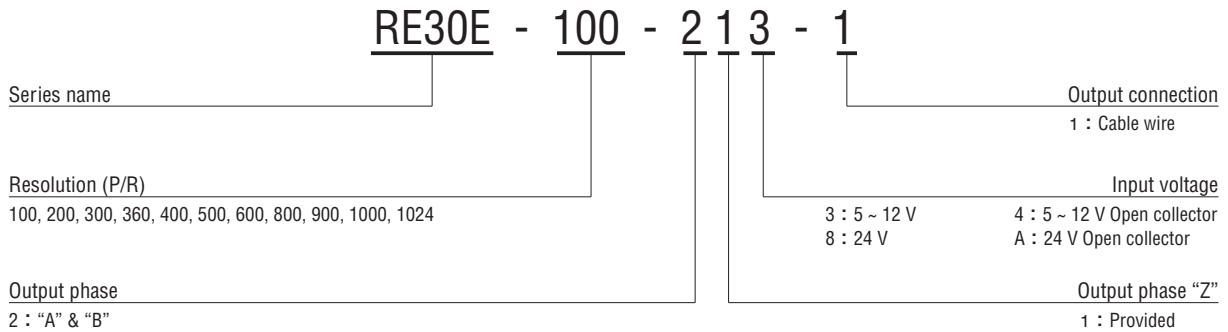


FEATURES

- With temp. compensation circuit
- With zero index signal
- Power supply voltage is for 5 ~ 12 V, 24V
- Economy type
- RoHS compliant



PART NUMBER DESIGNATION



LIST OF PART NUMBERS

Resolution	Item	Input voltage			
		5 ~ 12 V	5 ~ 12 V Open collector	24 V	24 V Open collector
100 (P/R)	RE30E-100-213-1		↗ RE30E-100-214-1	↗ RE30E-100-218-1	↗ RE30E-100-21A-1
200 (P/R)	RE30E-200-213-1		↗ RE30E-200-214-1	↗ RE30E-200-218-1	↗ RE30E-200-21A-1
300 (P/R)	RE30E-300-213-1		↗ RE30E-300-214-1	↗ RE30E-300-218-1	↗ RE30E-300-21A-1
360 (P/R)	RE30E-360-213-1		↗ RE30E-360-214-1	↗ RE30E-360-218-1	↗ RE30E-360-21A-1
400 (P/R)	RE30E-400-213-1		↗ RE30E-400-214-1	↗ RE30E-400-218-1	↗ RE30E-400-21A-1
500 (P/R)	RE30E-500-213-1		↗ RE30E-500-214-1	↗ RE30E-500-218-1	↗ RE30E-500-21A-1
600 (P/R)	RE30E-600-213-1		↗ RE30E-600-214-1	↗ RE30E-600-218-1	↗ RE30E-600-21A-1
800 (P/R)	RE30E-800-213-1		↗ RE30E-800-214-1	↗ RE30E-800-218-1	↗ RE30E-800-21A-1
900 (P/R)	RE30E-900-213-1		↗ RE30E-900-214-1	↗ RE30E-900-218-1	↗ RE30E-900-21A-1
1000 (P/R)	RE30E-1000-213-1		↗ RE30E-1000-214-1	↗ RE30E-1000-218-1	↗ RE30E-1000-21A-1
1024 (P/R)	RE30E-1024-213-1		↗ RE30E-1024-214-1	↗ RE30E-1024-218-1	↗ RE30E-1024-21A-1

※ Verify the above part numbers when placing orders.

The products indicated by ↗ mark are manufactured upon receipt of order basis.

RE30E

OPTICAL ENCODERS

STANDARD SPECIFICATIONS

Electrical characteristics

Input voltage	DC5 ~ 12 V ± 10 %	DC24 V ± 10 %
Input current	50 mA maximum	
Output wave form	Square wave	
Output phases	A, B, Z	
(P/R) Resolution	100, 200, 300, 360, 400, 500 600, 800, 900, 1000, 1024	
Phase difference of outputs A & B	90° ± 45°	
Maximum frequency response	10 kHz (100 P/R), 20 kHz (200P/R) 25 kHz (300 ~ 500 P/R), 60 kHz (600 P/R) 80 kHz (800 P/R), 90 kHz (900P/R) 100 kHz (1000 ~ 1024 P/R)	
Output signal	“1 (High)”	(Vcc – 1) V min. (Vcc – 2) V min.
	“0 (Low)”	+ 0.5 V max. + 1.0 V max.
Output impedance	2.2 kΩ	
Light source	LED	

Mechanical characteristics

Starting torque	0.29 mN·m {3 gf·cm} maximum	
Inertia	2 g·cm ² maximum	
Shaft loading (When mounting)	Radial	19.6 N {2 kgf} maximum
	Axial	9.81 N {1 kgf} maximum
Net weight	Approx. 70 g	

Environmental characteristics

Operating temp. range	0 ~ 70 °C
Storage temp. range	– 20 ~ 80 °C
Protection grade	IP40

RELIABILITY TEST

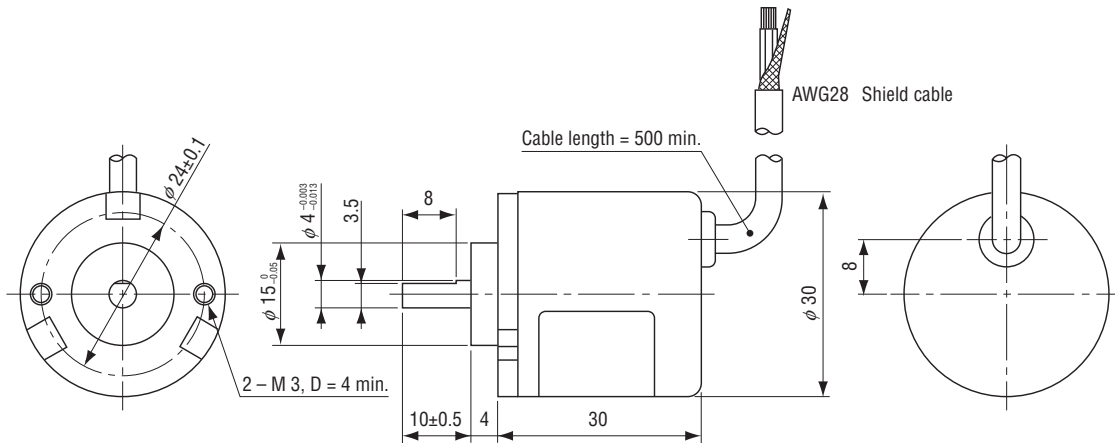
The output wave form shall satisfy the STANDARD SPECIFICATIONS after the following tests.

Test item		Test conditions	
Vibration	Power OFF	Amplitude : 1.52 mm or 98.1 m/s ² (10 G) whichever is smaller. 10 ~ 500 Hz excursion 0.25 h/cycle, 8 cycles each for X, Y, Z, directions.	
Shock	Power OFF	3 times each in 6 directions (X, Y, Z) at 490 m/s ² (50 G), 11 ms.	
High temperature exposure	Power OFF	80 °C 96 h	(To be measured after leaving samples for 1 h at normal temperature and humidity after the test.)
	Power ON	70 °C 96 h	
Low temperature exposure	Power OFF	– 20 °C 96 h	
	Power ON	0 °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.) 80 °C 1 h, – 20 °C 1 h	

RE30E OPTICAL ENCODERS

OUTLINE DIMENSIONS

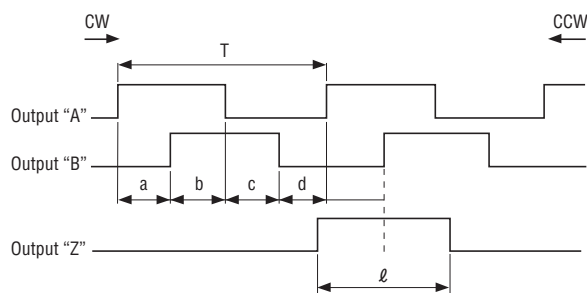
Unless otherwise specified, tolerance: ± 0.4 (Unit: mm)



ELECTRICAL WIRING

Red	Power \oplus
Black	Power 0 (V)
White	Output "A"
Green	Output "B"
Yellow	Output "Z"
Cable shield	NC

OUTPUT



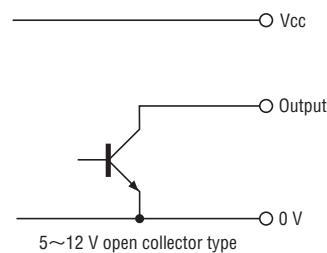
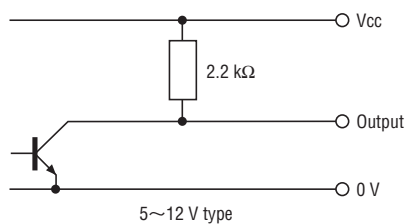
$$a, b, c, d = 1/4 \pm T1/8T$$

$$\ell = T \pm 3/4T$$

The "Z" phase, however, includes no more than two "B" phase startups (CW rotation)

OUTPUT CIRCUIT

RE30E



Sink current of output circuit 80 mA maximum (at 25 $^{\circ}$ C)