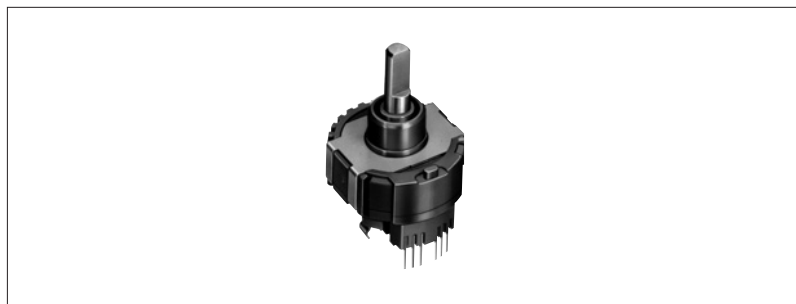


# 20mm Size Metal Shaft Magnetic Type Encoder

EM20B Series

31-point LED level indicator can be installed based on the contactless system of high reliability.



## Features

- Non-contact (magnetic) system provides zero-chattering and high reliability.
- A type with 0.5 mm stroke push switch is also available.

## Applications

- Controls for audio mixers and broadcasting devices

## Typical Specifications

Items	Specifications
Rating	5V DC±5%
Operating life	500,000 cycles

## Products Line

Length of operating section (mm)	torque		Number of detent	Resolution	Operating direction	Push switch	Display function	Response time	Minimum packing unit (pcs.)	Products No.	Drawing No.
	Rotational torque	Detent torque									
15.5	7mN·m max.	—	Without	40	Vertical	Without	Without	1.3 μsec. (TYP)	480	EM20B4000000	1
16	—	8±5 mN·m	40			With (Switch operating force 6±3N)				EM20B4010000	
10						With (Color : Orange)				EM20B4014000	2
						EM20B4014A01				3	

## Notes

1. This product uses a Hall IC. Be aware of ESD damages.
2. Shaft shape, mounting height, touch-line and others can be customized.
3. For products ready for use with RoHS, contact our sales division.

Power

Push

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration Sensors

Dual-in-line Package Type

Multi Control Devices

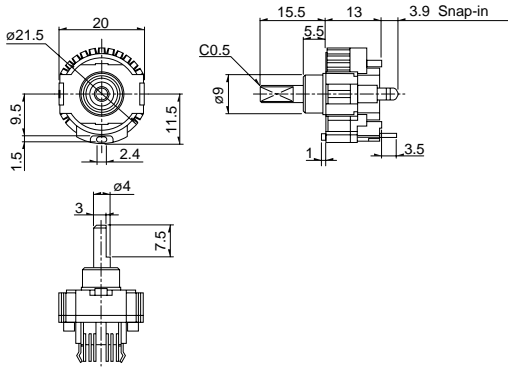
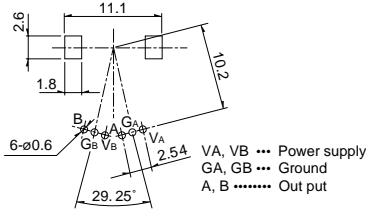
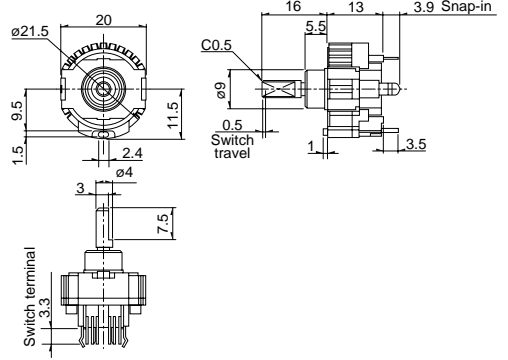
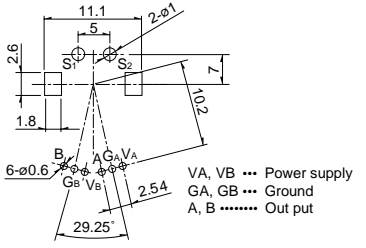
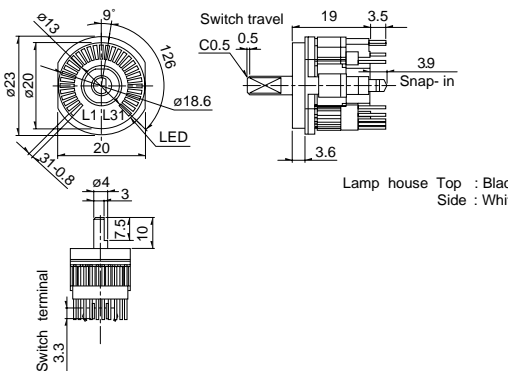
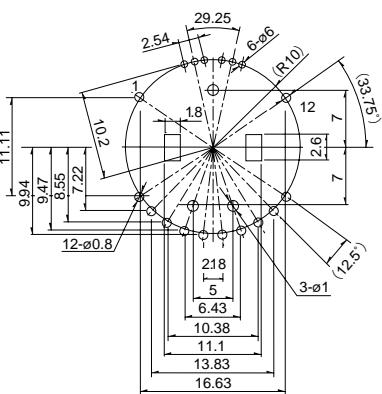
TACT

Incremental Type

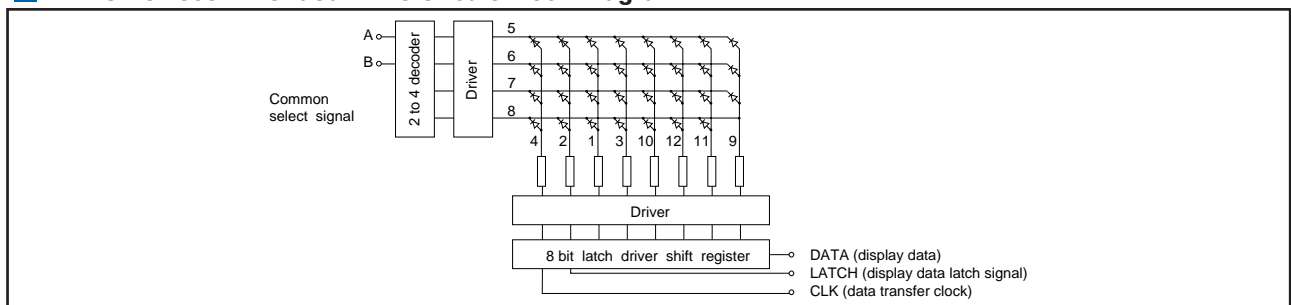
Absolute Type

Dimensions

Unit : mm

No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
1	Without switch 	
2	With 0.5mm stroke switch 	
3	With LED 	

LED Unit Recommended Drive Circuit Block Diagram



## Products Specifications

Items		Series	EM11B	EM20B	
Operating temperature range			-20°C to +85°C	-10°C to +70°C	
Electrical performance	Rating		5V DC ±5%		
	Output signal		V <sub>HI</sub> : +4.0V min. V <sub>LO</sub> : 0.5V max. (I <sub>sink</sub> =5mA)		
	Output phase		A,B (Square wave)		
	Output type		Incremental		
	Insulation resistance		100V DC 100MΩ min.	250V DC 100MΩ min.	
	Voltage proof		300V AC		
Mechanical performance	Rotational torque		—	7 mN · m max.	
	Detent torque		10±5 mN · m	8±5 mN · m	
	Puch-pull styrength		100N		
	Resistance to soldering heat	Manual soldering		350°C or less, or within 3s	
		Dip soldering		260°C or less, or within 3s	
Durability	Operating life		1,000,000 cycles	500,000 cycles	
Environmental performance	Cold		-40±3°C for 500h	-30±3°C for 240h	
	Dry heat		85±3°C for 500h	80±3°C for 240h	
	Damp heat		60±3°C, 90 to 95%RH for 500h	40±2°C, 90 to 95%RH for 240h	

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