

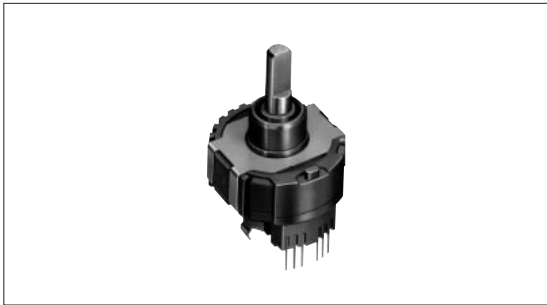
Encoder 20mm Size Metal Shaft Magnetic Type

EM20B Series



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

- Detector
- Push
- Slide
- Rotary
- Encoders**
- Power
- Dual-in-line Package Type
- Multi Control Devices
- TACT Switch™
- Custom-Products



Features

- Non-contact (magnetic type) 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±5% DC
Operating life	500,000 Rotations

Products Line

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

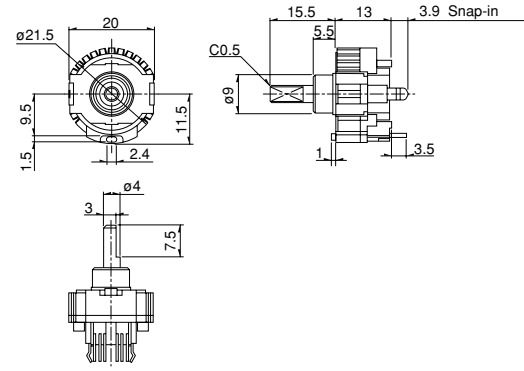
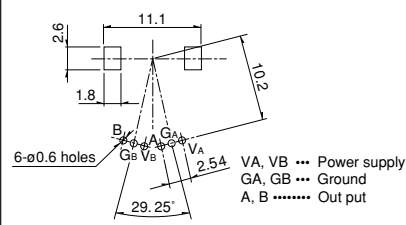
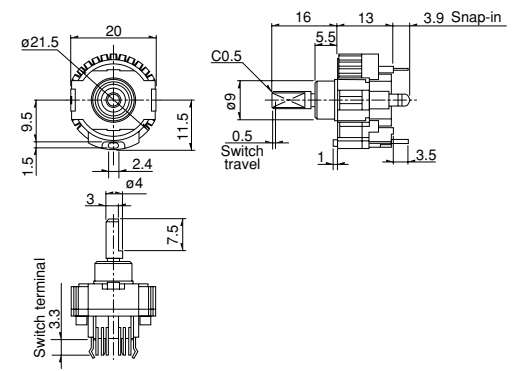
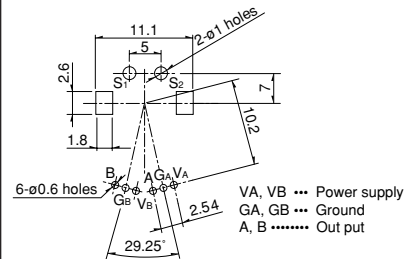
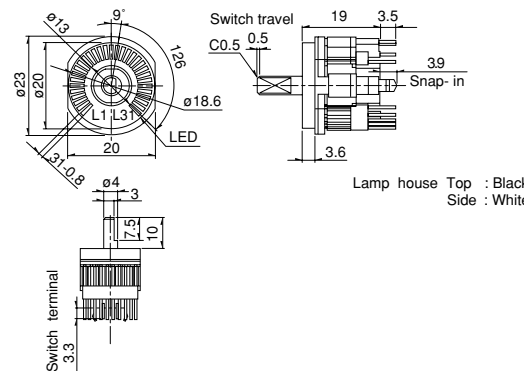
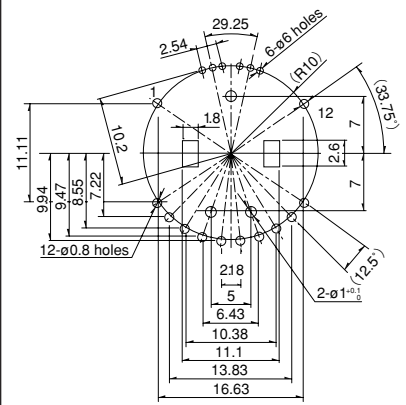
Notes

1. This product uses a Hall IC. Be aware of ESD damages.
2. Shaft shape, mounting height, and others can be customized.

For other specifications, see P.222

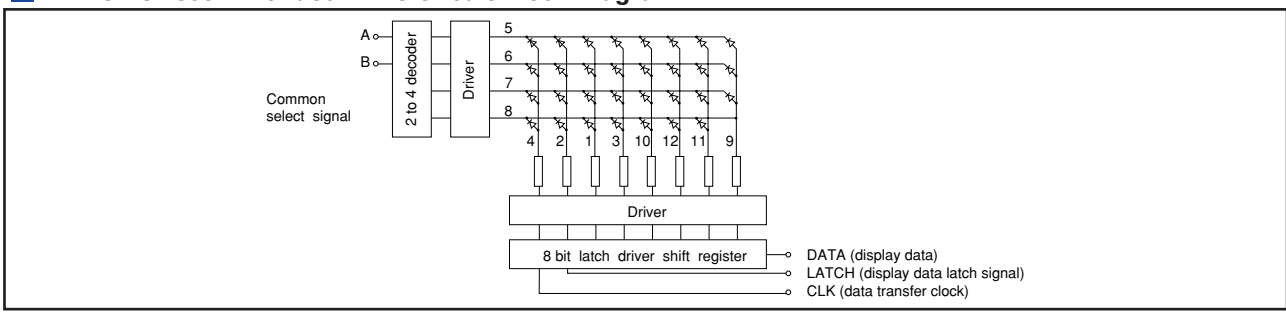
Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from mounting side)
1	<p>Without switch</p> 	
2	<p>With 0.5mm-travel</p> 	
3	<p>With LED</p> 	

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- Custom-Products
- Incremental Type
- Absolute Type

LED Unit Recommended Drive Circuit Block Diagram



Products Specifications

Series		EM11B	EM20B	
Items				
Operating temperature range		-20°C to +85°C	-10°C to +70°C	
Electrical performance	Rating	5V±5% DC		
	Output signal	V _{HI} : +4.0Vmin. V _{LO} : 0.5V max. (I _{sink} =5mA)		
	Output phase	A, B (Square wave)		
	Output type	Incremental		
	Insulation resistance	100MΩ min. 100V DC	100MΩ min. 250V DC	
	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 max. 3s max.	
		Dip soldering	260°C max. 3s max.	
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	

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package TypeMulti Control
Devices

TACT Switch™

Custom-
ProductsIncremental
TypeAbsolute
Type