

YKAN

Reflective Incremental Encoder Series KEI-38RH5 Operation Manual

Thank you for purchasing this series KEI-38RH5 Reflective Incremental Encoders. Please read this Operation Manual carefully before applying this product. PLEASE KEEP MANUAL IN A SAFE PLACE!

JTEKT ELECTRONICS (WUXI) CO.,LTD.

Add: No.6 Lianhe Road, Hudai Town Binhu District, Wuxi, Jiangsu, P.R.China

Pc: 214161 https://www.jktele.com.cn
Tel: (0510)85167888 Fax: (0510)85161393

JELWX-M8580B-E

Safety Consideration

Warning This indicates contents which can cause large accidents leading to loss of life or severe injury when the indication is disregarded and wrong handling is executed.

Caution This indicates contents which can cause injury or material damage when the indication is disregarded and wrong handling is executed.

Explanation of the pictograms

- This symbol indicates a general prohibition.
- This symbol indicates a compulsory item or an instruction.

[Operating environment and conditions]

Warning

- Do not use in a combustible or explosive atmosphere. Otherwise personal injury or fire may be caused.
- Do not use this product for applications related to human safety. Use is assumed in an application where an accident or incorrect use will not immediately cause danger to humans.

[Operating environment and conditions]

Caution

- Use and store the equipment within the scope of the environment (vibrations, impact, temperature, humidity etc.) specified in the specifications. Otherwise fire or product damage may be caused.
- Understand the product first before use it.

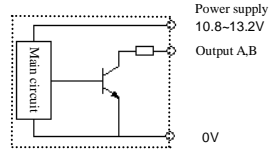
[Installation and wiring]

Warning

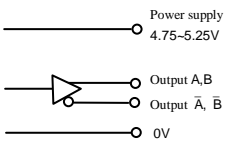
- Use only with the power supply voltage listed in the specifications. Otherwise fire, electric shock, or accidents may be caused.
- Use only with the wiring and layout specified in the specifications. Otherwise fire, electric shock, or accidents may be caused.
- Do not apply any kind of stress to the wires. Otherwise electric shock or fire may be caused.

Output circuit

Open collector output

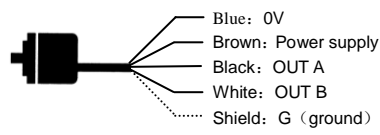


Line driver output



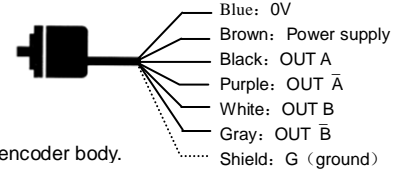
Connection

Open collector output



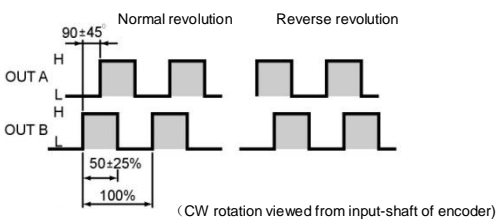
The shield wire (GND) is not connected to the encoder body.

Line driver output

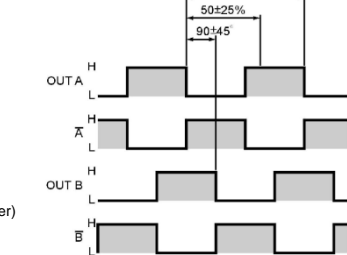


Output signal timing chart

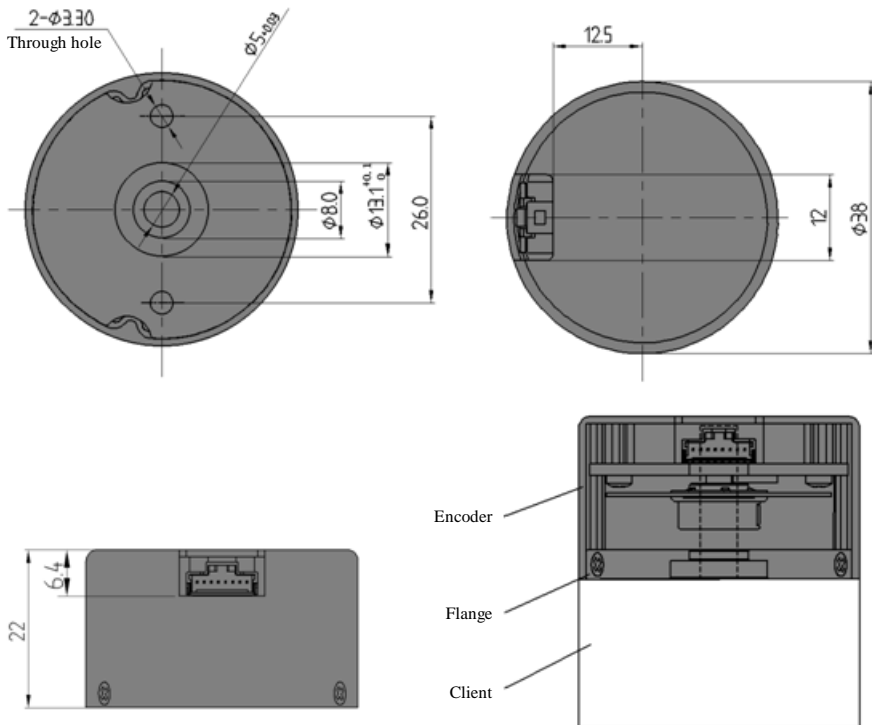
Open collector output



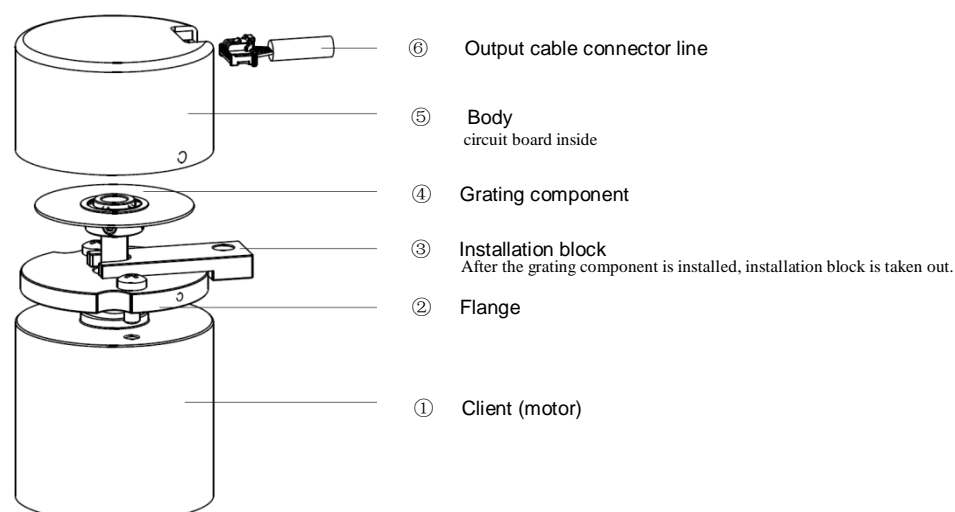
Line driver output



External dimensions



Installation diagram



Mechanical specifications

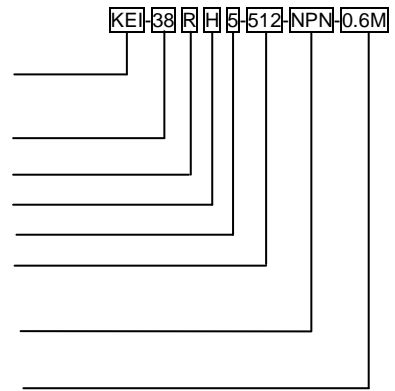
Max. allowable speed	6000rpm	
Cable	Material	Oil-resistant PVC(with shielded cable)
	Nominal core cross section	AWG28(0.08mm ²)
	External diameter	Approx. 5.5mm
Weight	Approx.22g(without cable)	

Environmental requirements

Ambient temperature	Operation temperature: -20~+85°C Storage temperature: -25~+90°C
Ambient humidity	35~85%RH (non-condensing)
Withstand voltage	AC500V 1minute
Insulation resistance	≥20MΩ
Vibration resistance	Durable for 1h along 3 axes at 10 to 55Hz with 0.75mm amplitudes
Shock resistance	11ms with 490m/s ² applied 3 times 3 axes

Composition of model number

- KE: KEW(koyo)
- I: Incremental
- 38: Outer diameter(mm)
- R: Reflective
- H: Hollow shaft
- 5: Inner diameter(mm)
- Resolution
- Output type
NPN: NPN open collector output
V: DC5V line driver output (26C31 or equivalent)
- Cable length (M: meter)



Electrical specifications

Type No.	KEI-□-□-NPN-□	KEI-□-□-V-□		
Power supply	Operating voltage	DC 10.8V~13.2V	DC 4.75V~5.25V	
	Allowable ripple	3%rms Max.		
	Current consumption	60mA Max. (without load)		
Output waveform	Signal format	Two-phase output		
	Max. response frequency	100kHz		
	Electric Max. allowable speed	(Maximum response frequency/Pulse)×60 (The encoder can not respond to revolution faster than the electric maximum allowable speed.)		
	Duty rate	50%		
	Phase difference width	25±12.5%		
Output	Rising/falling time	1.0μs Max. (with a cable of 0.6m)		
	Output type	open collector output(NPN)	Line driver output (26C31 or equivalent)	
	Output logic	Negative logic (low active)	Positive logic (high active)	
	Output current	Inflow	≤30mA	≤20mA
		Outflow	-	≤20mA
	Output voltage	"H"	≥[(Power supply voltage)-2.5V]	≥2.5V
"L"		≤0.5V	≤0.5V	
Load power supply voltage	≤13.2V	≤5.25V		

Cautions for use

- Do not wire the cable in parallel with other power lines and do not share a duct with other cables.
- Use capacitors or surge absorption elements to remove the sparks caused by relays and switches in the control panel as far as possible.
- Be sure to connect all wires properly, as wrong wiring can damage the internal circuitry.
- Erroneous pulses may be caused at the time of power ON and power OFF. After power ON, wait for at least 0.5 sec. before use.
- As the rotary encoder is composed of precision parts, its function will be impaired when it is subjected to shocks. Use sufficient care for handling and mounting.