

YKAN

Absolute Encoder Series KEA-58KS

Operation Manual

Thank you for purchasing this series KEA-58KS Absolute 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.jtektele.com.cn
Tel: (0510)85167888 Fax: (0510)85161393

JELWX-M8586B-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]



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]



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]



Use only with the power supply voltage listed in the specifications. Otherwise fire, electric shock, or accidents may be caused.

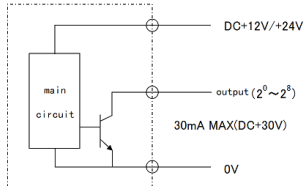


Use only with the wiring and layout specified in the specifications. Otherwise fire, electric shock, or accidents may be caused.



Do not apply any kind of stress to the wires. Otherwise electric shock or fire may be caused.

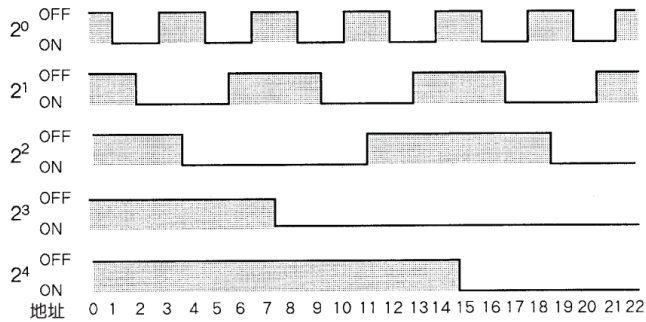
Output circuit



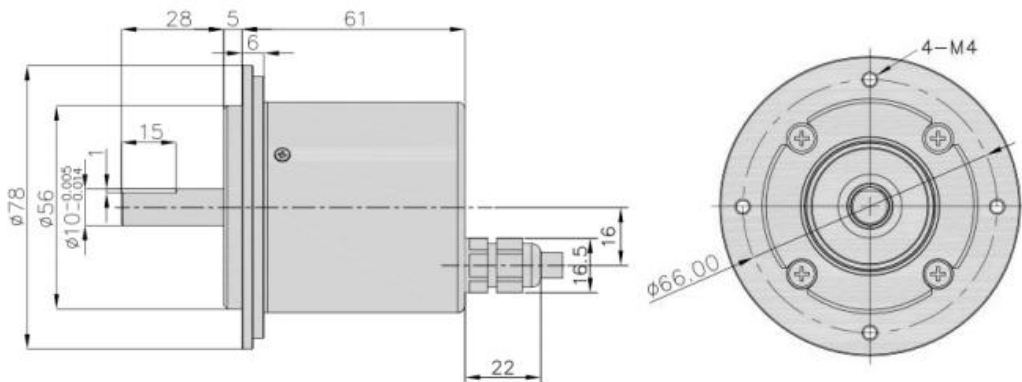
Connection

Pin number	Color of cable	Resolution			
		360			
1	Brown	DC+12/24V			
2	Blue	0V			
3	Black	No connect			
4	Red	Bit1 (2 ⁰)			
5	Orange	Bit2 (2 ¹)			
6	Yellow	Bit3 (2 ²)			
7	Green	Bit4 (2 ³)			
8	Purple	Bit5 (2 ⁴)			
9	Gray	Bit6 (2 ⁵)			
10	White	Bit7 (2 ⁶)			
11	Black/White	Bit8 (2 ⁷)			
12	Red/White	Bit9 (2 ⁸)			
	Shield	GND			

Output Waveform



External dimensions (Unit: mm)



Mechanical specifications

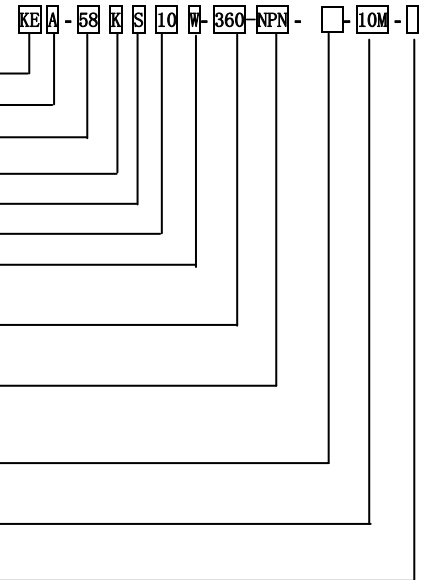
Starting torque		Max. 0.04N·m (+20°C)
Shaft moment of inertia		5.7×10 ⁻⁶ kg·m ²
Max. allowable shaft load	Radial	100N
	Thrust	50N
Max. allowable speed		5000rpm
Cable	Material	Oil-resistant PVC(with shielded cable)
	Nominal core cross section	About 0.14mm ² (AWG26)
	External diameter	Approx. 7.0mm(12pin)
	length	10m(standard)
Weight		Approx.1100g(cable length 10m)

Environmental requirements

Ambient temperature	Operation temperature: -10~+50°C Storage temperature: -25~+80°C
Ambient humidity	35~85%RH (non-condensing)
Withstand voltage	AC500V (50/60Hz) 1minute
Insulation resistance	10MΩ min.
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
Protection construction	IP65(Dustproof and water jet-proof type)

Composition of model number

- KE: Fixed
- A: Absolute type
- 58: Outside diameter(mm)
- K: Series
- S: Solid Shaft
- Shaft diameter: φ 10
- Protection Construction
Blank: IP54 W: IP65
- Pulse resolution
360:360PPR
- Output Type
NPN:NPN open collector output
- Counting increasing Direction
Blank: CW R:CCW
- Cable Length
10M:10meters
- Special Specification



Electrical specifications

Type No.	KEA-58KS10W-360-NPN-10M	
Power supply	Operating voltage	DC+10.8V~26.4V DC
	Allowable ripple	3%rms Max.
	Current consumption	50mA Max. (without load)
Output waveform	Signal format	Binary gray code
	Max. response frequency	20KHz
	Electric Max. allowable speed	(Maximum response frequency/Pulse)×60 (The encoder can not respond to revolution faster than the electric maximum allowable speed.)
	Precision	[360/ (resolution×2)]
Output	Direction	Output code increments in positive direction of CW. Output code decrements in negative direction of CCW (CW means clockwise revolution viewed from the shaft.)
	Rising/falling time	2μs Max.(Load Resistance less than 1kΩ) (with 10m cable)
	Rising/falling time	2μs Max.(Load Resistance less than 1kΩ) (with 10m cable)
	Output type	open collector output(NPN)
	Output logic	Negative logic (low active)
	Residual voltage	0.4V Max.
Inflow current	30mA Max.	
Load power supply voltage	DC30V Max.	

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.
- Use a specified coupling for connecting the encoder shaft and the shaft of a machine to be controlled. Do not squeeze the shaft into the coupling.
- The service life of the bearing is largely affected by the amount of load to the shaft. Try to reduce the load as much as possible.
- Do not disassemble the product.
- 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.