

Operation Manual

KEW-M8162H-E

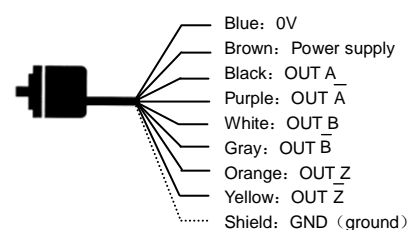
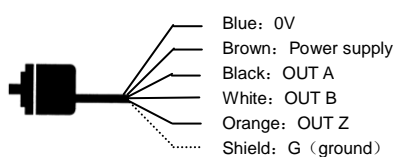
Power supply
4.5-13.2V, 10.8-26.4V
Output A,B,Z
0V

Power supply 4.75~5.25V
4.75~28V

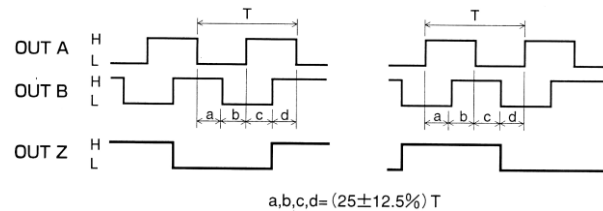
Output A,B,Z
Output \bar{A} , \bar{B} , \bar{Z}

0V

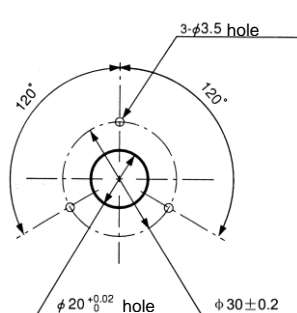
- TRD-2T□V/V1/VH
- TRD-2TH□V/V1/VH



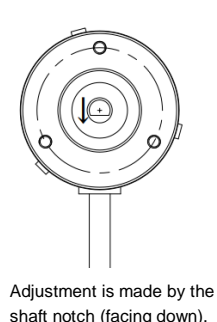
- TRD-2T□A/B/AF/BF
- TRD-2TH□A/B/AF/BF
- TRD-2T□V/V1/VH
- TRD-2TH□V/V1/VH



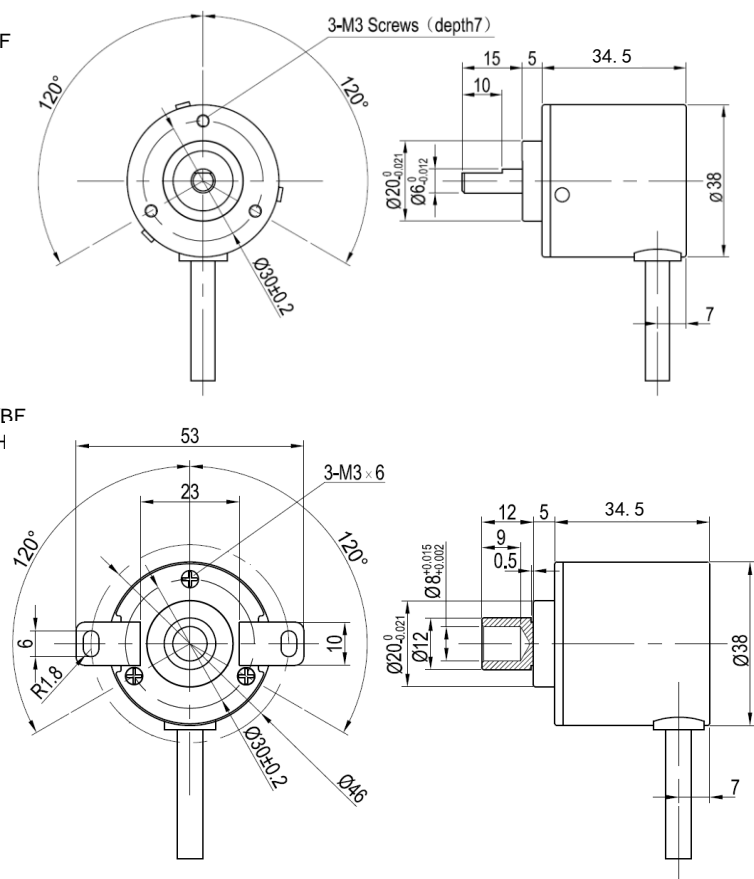
- TRD-2T□A/B/AF/BF
- TRD-2T□V/V1/VH



- TRD-2T□A/B/AF/BF
- TRD-2T□V/V1/VH
- TRD-2T□A/B/AF/BF
- TRD-2T□V/V1/VH





- TRD-2T□A/B/AF/BF
- TRD-2T□V/V1/VH





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

 This symbol indicates a compulsory item or an instruction.

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. |

⚠ Caution

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

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.

Type No.			TRD-2T□A/B	TRD-2T□AF/BF	TRD-2T□V	TRD-2T□V 1	TRD-2T□V H
			TRD-2TH□A/B	TRD-2TH□AF/BF	TRD-2TH□V	TRD-2TH□V1	TRD-2TH□VH
Power supply	Operating voltage		A/AF: DC4.5V~13.2V		DC4.75V~5.25V		DC4.75V~28V
			B/BF: DC10.8V~26.4V				
	Allowable ripple		≤3%rms				
	Current consumption (no load)		≤50mA			≤90mA	
Output waveform	Signal format		Two-phase + home position output				
	Max. response frequency		200kHz				
	Operating speed		(Maximum response frequency/Pulse) × 60				
	Duty Ratio		50 ± 25%				
	Quadrature phasing		25 ± 12.5%				
	Home position signal width		100 ± 50%				
Output	Rising/falling time		≤1μs ^{*1}	≤3μs ^{*1}	—		
	Output configuration		NPN open collector	Totem-pole output	Line driver 26C31 equivalent	Line driver 26LS31 equivalent	Line driver OL7272 equivalent
	Output logic		Negative logic (active low)	—	Positive logic (active high)		
	Output current	Inflow	≤30mA	≤30mA	—		
		Outflow	—	≤10mA	—		
	Output voltage	"H"	—	≥[(LPV) - 3V] ^{*2}	≥2.5V		≥[(LPV) - 4V] ^{*2}
		"L"	≤0.4V	≤0.4V	≤0.5V		≤2V
	Load power supply voltage		≤DC30V	≤DC30V	—		
Short-circuit protection		Between output and power supply			—		

*1 with a cable of 1m ; *2: LPV: Load power voltage

Starting torque		Max. 0.01N・m (+20℃)
Shaft moment of inertia		$0.3 \times 10^{-6} \text{ kg} \cdot \text{m}^2$
Max. allowable shaft load	Radial	30N
	Thrust	20N
Max. allowable speed		5000rpm
Cable	Material	Oil-resistant PVC ¹³
	Nominal core cross section	0.14mm ²
	External diameter	Φ 5mm
Weight		Approx. 160g (with 1m cable)

*3 2T□A/B/AF/BF、2TH□A/B/AF/BF : 5-core shielded cable (AWG26)

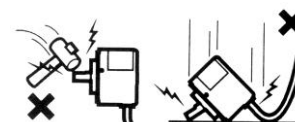
2T□VV/1/VH、 2TH□VV/1/VH : 8-core shielded cable (AWG26)

Ambient temperature	Operation	-10~+70℃
	Store	-25~+85℃
Ambient humidity		35~85%RH (non-condensing)
Withstand voltage		AC500V (50/60Hz) for 1 min.
Insulation resistance		50MΩ min.
Vibration resistance		10~55Hz with 0.75mm amplitude *4
Shock resistance		11ms with 490m/s ² *5
Protection construction		IP50:Dust proofed

*4: Durable for 1h along 3 axes

*5: Applied 3 times 3 axes

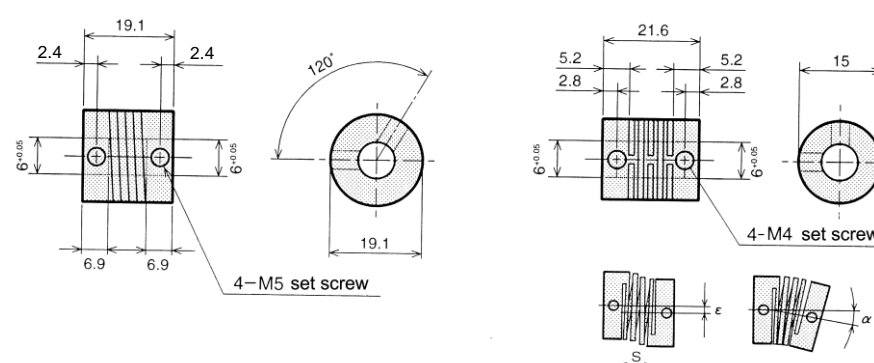
- Do not wire the cable in parallel with other power lines and do not share a duct with other cables.
- Use capacitors or surge absorption elements to remove the sparks caused by relays and switches in the control panel as far as possible.
- Be sure to connect all wires properly, as wrong wiring can 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.
- 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.



- Coupling

RU-075

GJ-6



Type No.	Material	α	ϵ	s
RU-075	Aluminum alloy (7075)	5° MAX	0.25mmMAX	0.12mmMAX
GJ-6	Glass-fiber reinforced polyacetal resin	5° MAX	0.5mmMAX	0.12mmMAX