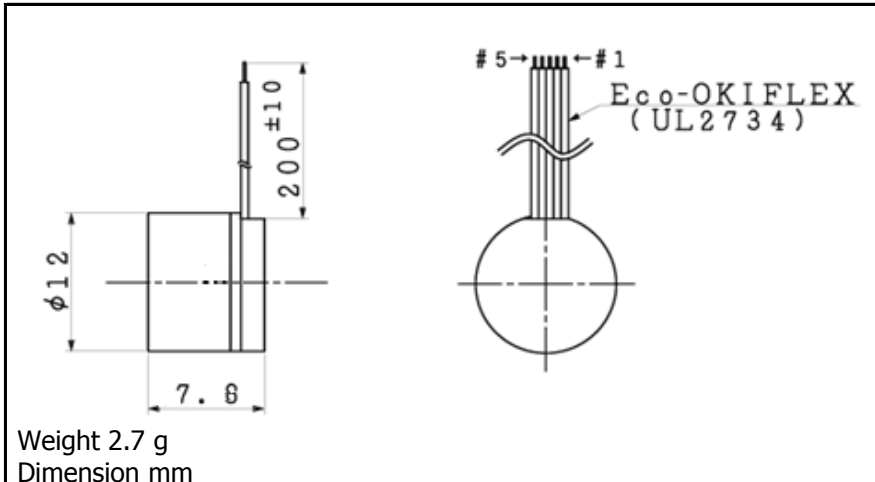


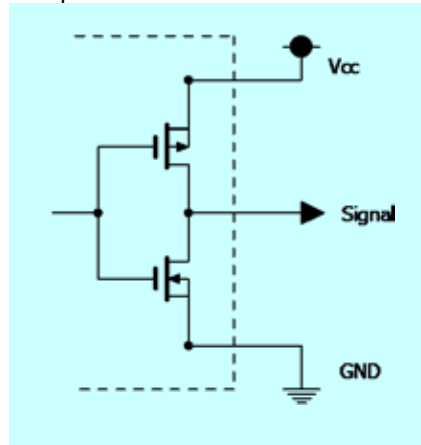
# ETD12-3F

3 Channels optical incremental encoder

Special Specification



Output circuit



Weight 2.7 g

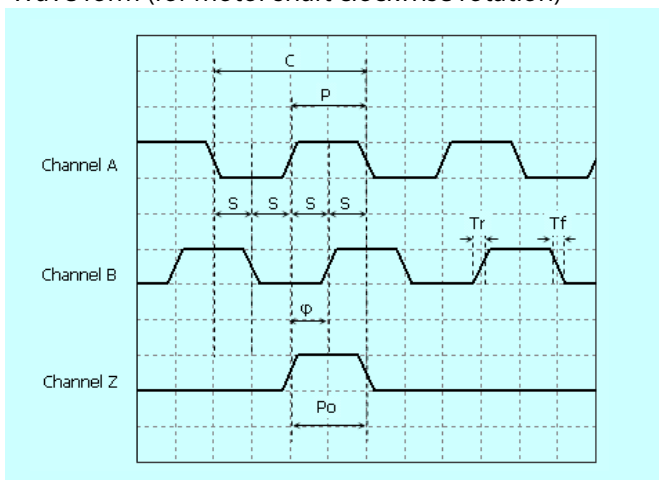
Dimension mm

For combination with motors :CGE16 Series

Specifications at 25 °C

	ETD12-3F	
1 Sensor	Optical	
2 Encoder Type	Incremental	
3 Output Signal	Push-Pull	
4 Number of Channels	3	channel
5 Resolution (Max. speed = 17,000 rpm)	1024	pulse/rev
6 Max. Frequency Response	290	kHz
7 Supply Voltage, Vcc	4.5 . . 5.5	V
8 Supply Current, typical	21	mA
9 Output Voltage "H"	$\geq 4.0$ (Max. Vcc)	V
10 Output Voltage "L"	$\leq 0.6$	V
11 Output current per channel	30	mA
12 Rise and fall time ( $R_L = 2.7 \text{ k}\Omega$ and $C_L = 25 \text{ pF}$ ), typical	$T_r = 200, T_f = 50$	ns
13 Inertia	TBD	$\text{gmm}^2$
14 Operating Temperature	-25 . . +85	°C
15 Storage Temperature	-40 . . +85	°C

Wave form (for motor shaft clockwise rotation)



### Output signal information

Cycle C	360±45	° e
Pulse P	180±45	° e
A to B channel phase shift, $\phi$	90±45	° e
Logic state width, S	90±45	° e
Z channel width, $P_0$	180±45	° e

 ※Maximal error ( $\pm$  e) indicated above.

### Electrical connections

# 1 (Green)	Ch.A
# 2	Ch.B
# 3	Ch.Z
# 4	Vcc
# 5	GND

V01

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Specifications subject to change without notice