

# SHAFT TYPE

# OVF<sub>Model</sub>



## Water Resistant 38mm Diameter Encoder

- Most Advanced IP65 Encoder.
- Mating Shaft Diameter Up to 8mm.

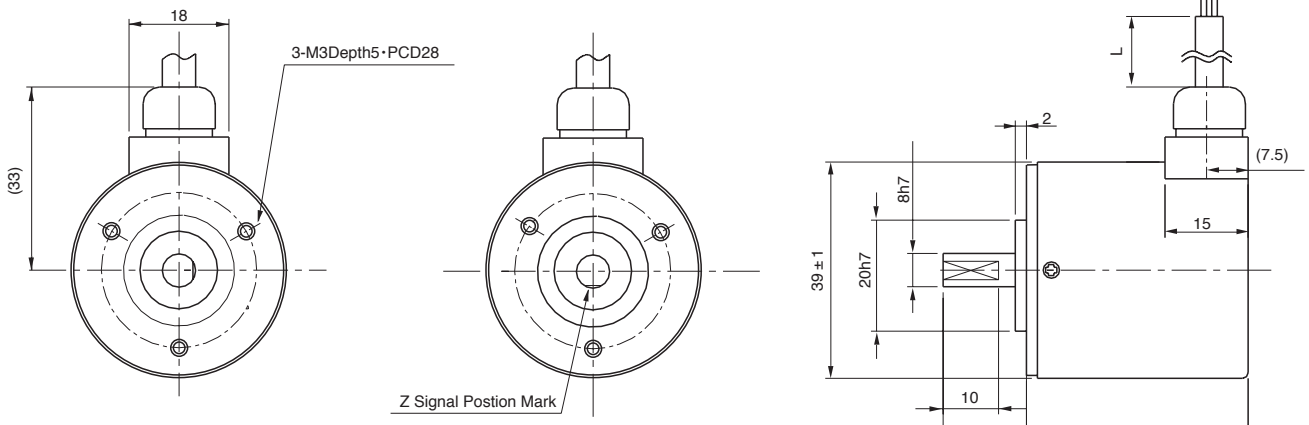
### Model

**OVF-**     **- 2M**               **00**

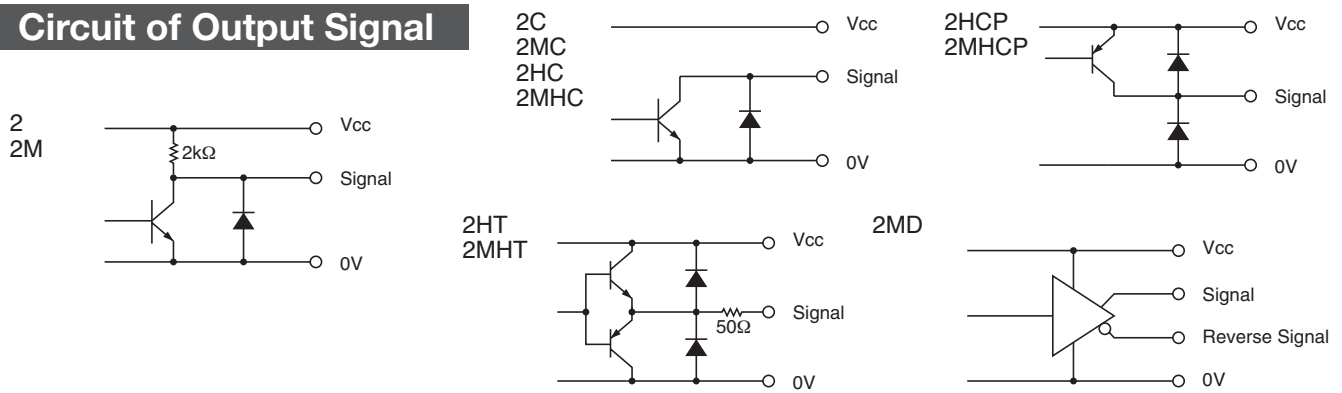
Resolution				Outer diameter shaft		Cable Length		Output Mode	
002	20P/R	05	500P/R	800	8	050: 500mm (Standard) 100: 1000mm 300: 3000mm	No Indication : Other than D output No Indication : D output with LS C : D output with C-MOS	No Indication	: Voltage Output
003	30P/R	0512	512P/R	( 635 : 6.35 )	Option			C	: Open Collector Output
0032	32P/R	06	600P/R	( 600 : 6 )				HC	: Open Collector Output / High Voltage
004	40P/R	08	800P/R	( 500 : 5 )		HCP	: PNP Mode Open Collector Output / High Voltage		
005	50P/R	09	900P/R			HT	: Push-Pull Output / High Voltage		
006	60P/R	10	1000P/R			D	: Line Driver Output		
01	100P/R	1024	1024P/R				Low Power Consumption C-MOS Output Available		
0125	125P/R	12	1200P/R						
02	200P/R	15	1500P/R						
0250	250P/R	18	1800P/R						
0256	256P/R	20	2000P/R						
03	300P/R	2048	2048P/R						
036	360P/R	25	2500P/R						
04	400P/R	36	3600P/R						

Signals — 2M: AB90° Phase Difference + Zero Signal

### External Dimension



### Circuit of Output Signal



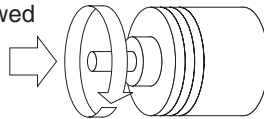
### Electrical Spec.

※1) at Maximum Output Current    ※2) Maximum Source Current

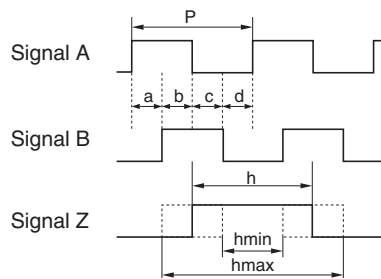
TYPE		2•2M	2C•2MC	2HC•2MHC	2HCP•2MHCP	2HT•2MHT	2MD
Supply Voltage		DC4.5 ~ 13.2 V			DC10.8 ~ 26.4 V		DC4.75 ~ 5.25V C-MOS DC4.5 ~ 5.5V
Requirement		80 mA Max	60 mA Max		100 mA Max	90 mA Max	150 mA Max C-MOS 60 mA Max
Output Voltage	“H”	Within -1 Power Volt	_____		Within -1 <sup>2</sup> Power Volt	Within -3 Power Volt	2.5 V or More
	“L” ※1	0.5 V Max			_____	3 V Max	0.5 V Max
Maximum Output Current		20 mA MAX				40 mA MAX	20 mA MAX
Rise & Fall Time		1 μs Max					200 ns Max
Maximum Frequency Response		200 kHz			50 kHz	200 kHz	
Withstanding Voltage of Output Tr.		_____	50 V MAX.		_____		

### Wave Form.

CW → Rotating Toward Clockwise Viewed from an Arrow



Rising point of A-Signal is always at one point while Z-Signal is at H-Level in CW.



$$P = \frac{1}{1 \text{ Resolution}} \quad \frac{P}{2} \leq h \leq \frac{3P}{2}$$

$$a, b, c, d = \frac{P}{4} \pm \frac{P}{8}$$

Wave Ratio (Duty); 50 ± 25 (%)

### Electrical Connections

2  
2M  
2C  
2MC  
2HC  
2MHC  
2MCP  
2MHCP  
2HT  
2MHT

Color of Lead Wire	Description
Red	Power Source
Black	0V Common
Green or Blue	Signal A
White	Signal B
Yellow	Signal Z
Shielding Braid	NC

2MD

Color of Lead Wire	Description	Color of Lead Wire	Description
Red	Power Source	White	Signal B
Black	0V Common	Gray	Signal B
Green	Signal A	Yellow	Signal Z
Blue	Signal A	Orange	Signal Z
Shielding Braid	NC		

### Mechanical Spec.

Starting Torque		4.9×10 <sup>-3</sup> N • m Max
Angular Acceleration		1×10 <sup>5</sup> rad/s <sup>2</sup>
Shaft Loading	Thrust axial	9.8N
	Radial	19.6N
Moment of Inertia		1.2×10 <sup>-6</sup> kg • m <sup>2</sup>
Maximum RPM		5000r/min
Net Weight		140g Max

### Environmental Spec.

Operating Temperature	-10°C ~ +70°C
Storage Temperature	-30°C ~ +80°C
Humidity	RH 85% Max No Condensation
Vibration	10~55 Hz / 1.5mm 2 h
Shock	294m/s <sup>2</sup> , 11ms X, Y, Z Each 3 times
Degree of Protection	IP65