



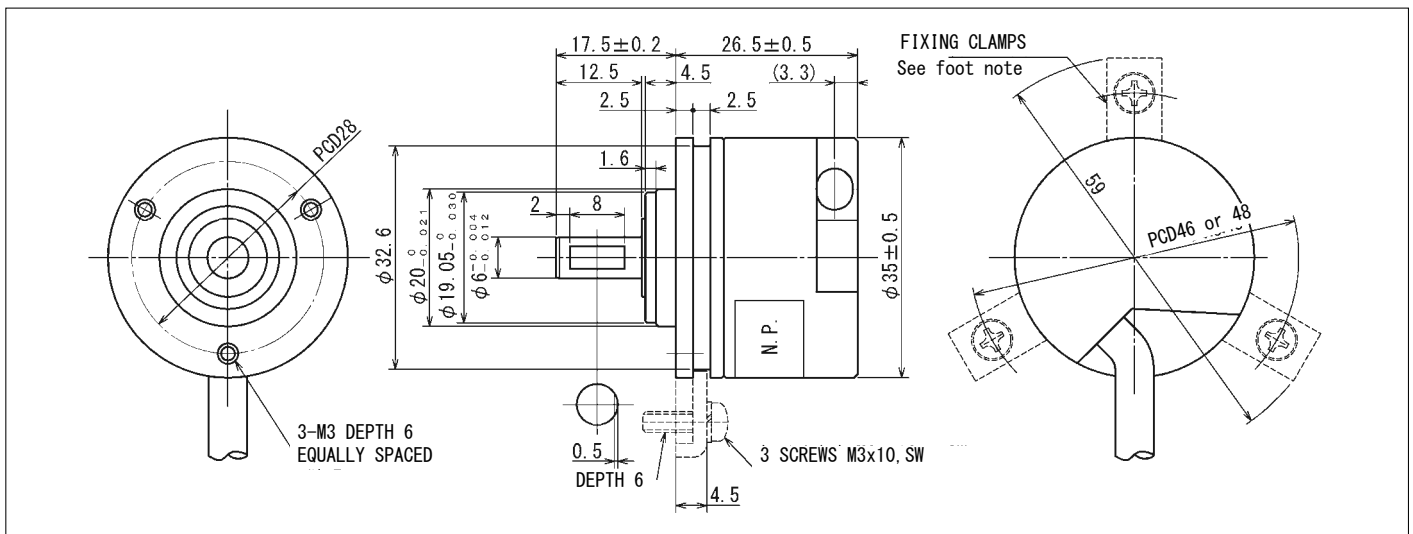
IRS3Series



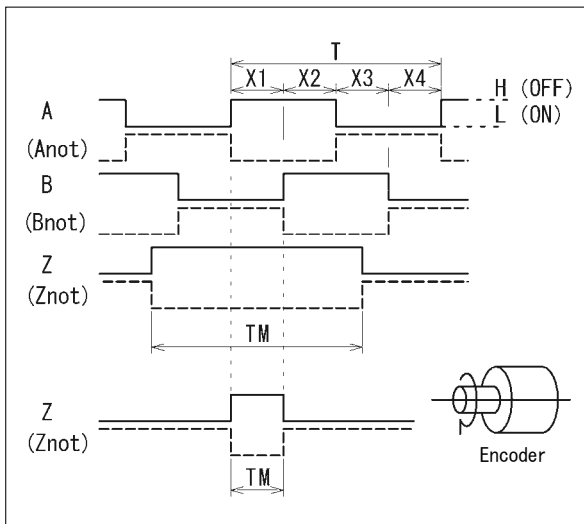
●Outer Diameter 35mm ●Length 26.5mm ●Shaft Diameter 6.0mm

Model Name IRS3X0 — XXXX — XXX
 Model Output Pulse (P/R) Function Number

Dimensions



Output Signals



Square-wave Accuracy

~2500P/R	3000P/R	3001~6000P/R (: ×2)
$X1+X2=0.5T \pm 0.1T$	$X1+X2=0.5T \pm 0.1T$	$X1+X2=0.5P \pm 0.15P$
$X2+X3=0.5T \pm 0.1T$	$X2+X3=0.5T \pm 0.1T$	$X2+X3=0.5P \pm 0.15P$
$Xn \geq 0.15T$ (n=1,2,3,4)	$Xn \geq 0.15T$ (n=1,2,3,4)	$Xn \geq 0.1P$ (n=1,2,3,4)
$TM=1.0T \pm 0.5T$	$TM=0.25T \pm 0.1T$ (=X1)	$TM=0.25P \pm 0.15P$ (=X1)
Position relationship of A&B channels and Z channel are not specified.	Position relationship of A&B channels and Z channel are as left.	Position relationship of A&B channels and Z channel are as left.
		$P=1.0T \pm 0.1T$

Signal Accuracy

~2500P/R	3000P/R	3001~6000P/R (: ×2)
Accumulative Angle Error: $\leq 0.2T$	Accumulative Angle Error: $\leq 0.3T$	Accumulative Angle Error: $\leq 0.4T$
Pitch Error : $\pm 0.01T$	Pitch Error : $\pm 0.01T$	Pitch Error : $\pm 0.1T$
Adjacent Pitch Error: $\pm 0.005T$	Adjacent Pitch Error: $\pm 0.005T$	

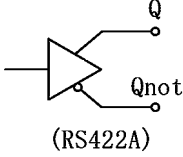
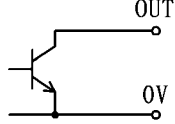
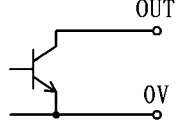
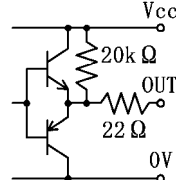
* $T=360^\circ / N$ (N : Number of pulse [P/R])

Wire Connection

Color	White	Black	Red	Pink	Olive	Blue	Yellow	Orange
IRS320	+5V	0V	A	Anot	B	Bnot	Z	Znot
IRS330 IRS350 IRS360	+Vcc	0V	A	0V	B	0V	Z	0V

※Shield=FG

Electrical Specifications

Item/Model	IRS320	IRS330	IRS350	IRS360	
Output Pulse	100, 200, 300, 360, 400, 500, 600, 900, 1000, 1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 4096, 5000, 6000				
Preferred Pulse	500, 600, 1000, 2000, 2500	1000, 2000	100, 500, 1000, 2000	100, 500, 600, 1000, 2000	
Supply Voltage (Vcc)	5V ±0.5V	5V ±0.5V	10.8V ~26.4V	10.8V ~26.4V	
Supply Current (No load)	≤70mA	≤70mA	≤70mA	≤70mA	
Output Type	Line Driver	Open Collector	Open Collector	Complementary	
Output Circuit					
Output Voltage	H	≥2.4V	—	—	≥Vcc-4.0V
	L	≤0.5V	—	—	≤2.0V
Output Current	±10mA	≤40mA	≤40mA	≤40mA	
Max. Applied Voltage	—	40V	40V	—	
Min. Load Resistance	—	—	—	500Ω	
Rise Time	≤100ns	350ns (Typ.)	350ns (Typ.)	500ns (Typ.)	
Fall Time	≤100ns	50ns (Typ.)	50ns (Typ.)	100ns (Typ.)	
Response Frequency	0~300kHz	0~200kHz	0~200kHz	0~200kHz	
Bypass Capacitor (0V-FG)	0.22μF	0.22μF	0.22μF	0.22μF	
Bypass Capacitor (Vcc-FG)	0.22μF	0.22μF	0.22μF	0.22μF	
Determinate Time of ABZ signals	Output signal is not stable in 30ms after the power is on.				

Mechanical Specifications

Mech. Perm. Speed	6000	min ¹		
Starting Torque	≤0.005	N·m	[Ta = +25°C]	
Shaft Load	Radial	≤20	N	[Shaft Center]
	Axial	≤10	N	
Moment of Inertia	0.4 × 10 ⁻⁶	kg·m ²		
Max. Accel. Speed	40000	rad/s ²		
Cable Length	1000	mm	[Wire Thickness 0.1mm ² , Diameter 5.5mm, Twist Pair Shield Cable]	
Mass	Approx. 0.07	kg	[Without Cable]	

Environmental Specifications

Operating Temperature	-20~+85	°C	[Without Dewfall]
Storage Temperature	-20~+85	°C	[Without Dewfall]
Vibration *1	100	m/s ²	[25~2000Hz, X·Y·Z Each Direction 2h]
Shock *1	1000	m/s ²	[6ms, Half Sin Pulse, X·Y·Z Each Direction 2 Times]
Protection Grade *1	IP66	Equivalent	[No Shaft Rotation]

*1 Test Condition

Notes: Specifications subject to change without notice.
Please inform us when fixing clamps are required.

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<http://www.heidenhain.co.jp>

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