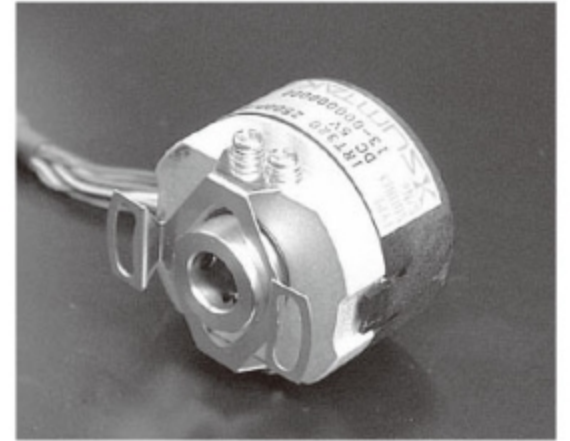


インクリメンタル スルーシャフトエンコーダ (E)

IRT3Series

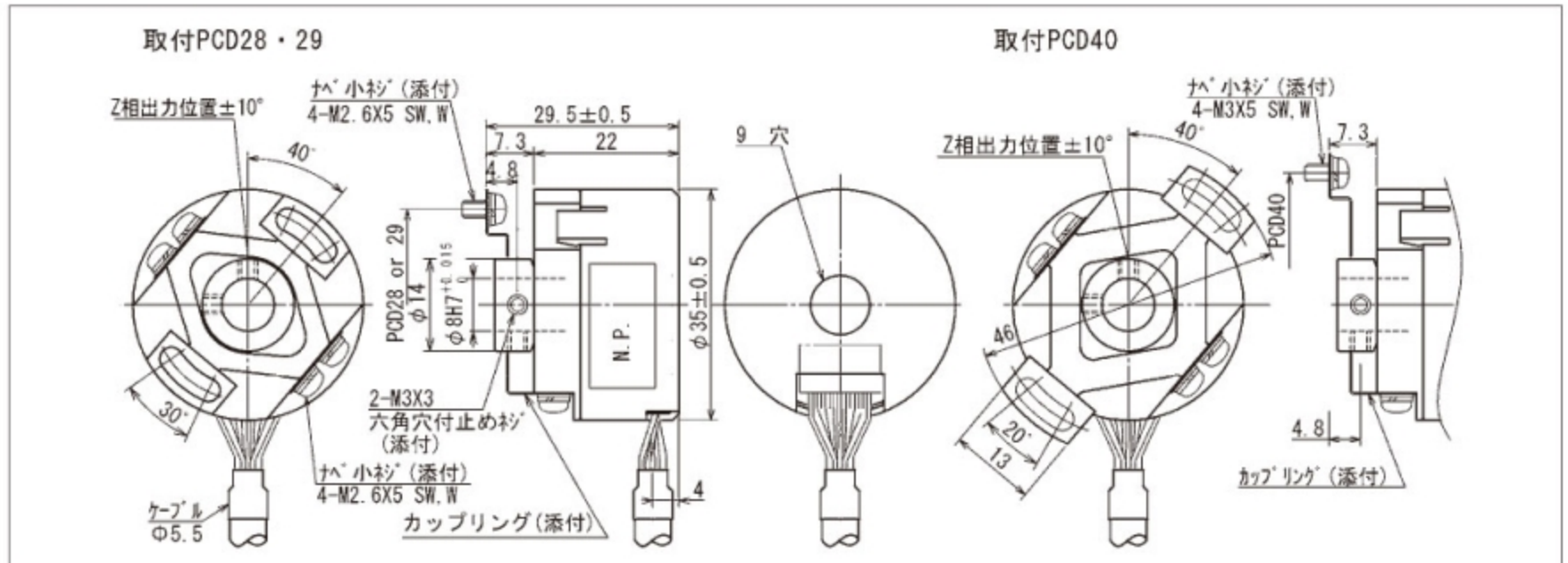
●外径 35mm ●L寸法 29.5mm ●取付軸径 8.0mm



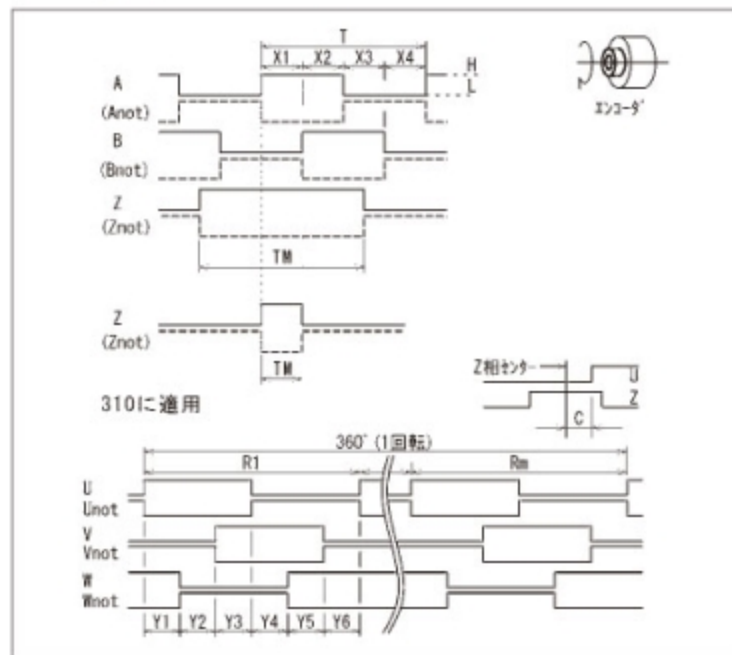
型式の説明

IRT3X0 — **XXXX** — **XXX**
 型式 出力パルス数(P/R) 機能番号

■外形図



■出力波形



■波形精度

~2500P/R	3000P/R	3001~6000P/R (:×2)
$X2+X3=0.5T \pm 0.1T$	$X1+X2=0.5T \pm 0.1T$	$X1+X2=0.5P \pm 0.15P$
$Xn \geq 0.15T$ (n=1,2,3,4)	$X2+X3=0.5T \pm 0.1T$	$X2+X3=0.5P \pm 0.15P$
$TM=1.0T \pm 0.5T$	$Xn \geq 0.15T$ (n=1,2,3,4)	$Xn \geq 0.1P$ (n=1,2,3,4)
A, B相とZ相との位置規定はなし	$TM=0.25T \pm 0.1T$ (=X1)	$TM=0.25P \pm 0.15P$ (=X1)
	A, B相とZ相との位置規定は左図の通り	A, B相とZ相との位置規定は左図の通り
		$P=1.0T \pm 0.1T$

$Yn=Rm^\circ / 6 \pm 2^\circ$ (n=1,2,3,4,5,6) (機械角)
 $C \leq \pm 2^\circ$ (機械角)

■信号精度

~2500P/R	3000P/R	3001~6000P/R (:×2)
絶対角度誤差: $\leq 0.2T$	絶対角度誤差: $\leq 0.3T$	絶対角度誤差: $\leq 0.4T$
周期誤差: $\pm 0.01T$	周期誤差: $\pm 0.01T$	周期誤差: $\pm 0.1T$
隣接周期誤差: $\pm 0.005T$	隣接周期誤差: $\pm 0.005T$	

* $T=360^\circ / NI$ (NI:パルス数 [P/R])

* $Rm=360^\circ / Ncs \pm 2^\circ$ (Ncs: CS信号P/R) (機械角)

■結線仕様

線色	白	黒	赤	桃	黄緑	青	黄	橙	肌色	茶	緑	灰	水色	紫
IRT310	+5V	0V	A	Anot	B	Bnot	Z	Znot	U	Unot	V	Vnot	W	Wnot
IRT320	+5V	0V	A	Anot	B	Bnot	Z	Znot						
IRT360	+Vcc	0V	A	0V	B	0V	Z	0V						

※シールド=本体

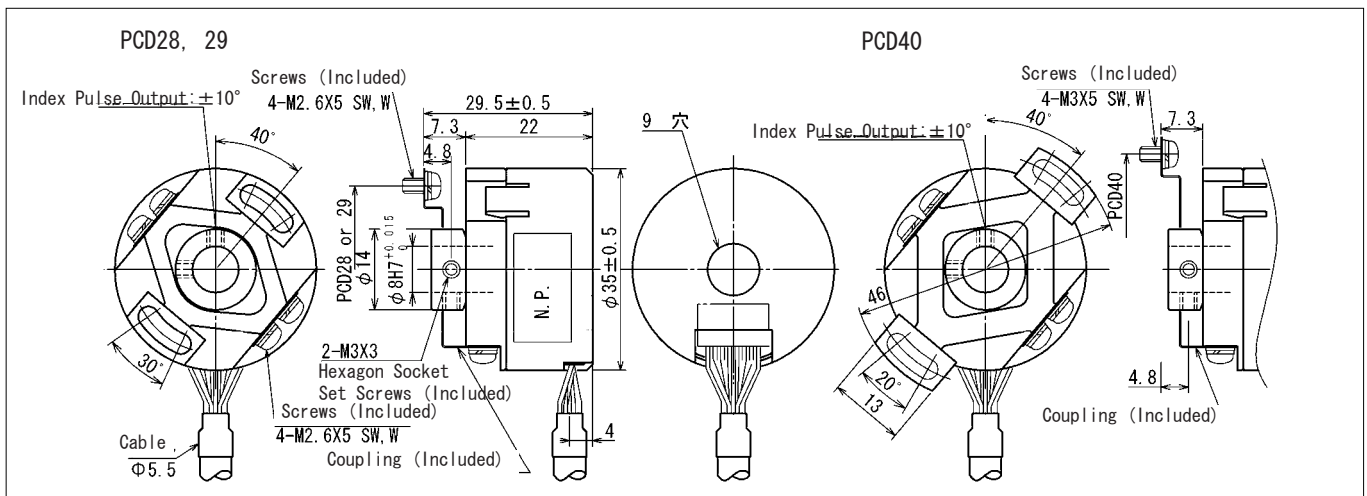
IRT3 Series



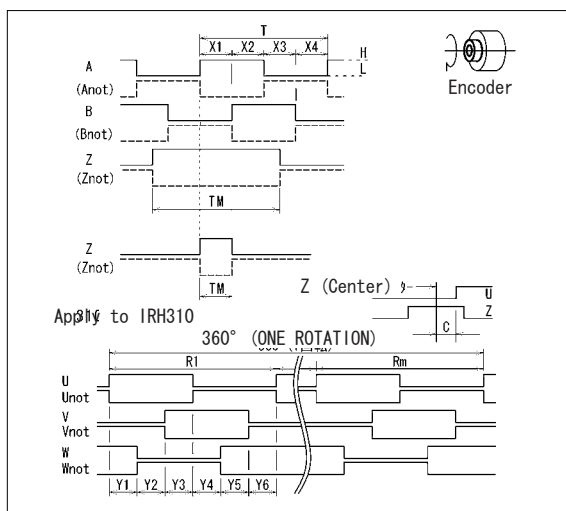
●Outer Diameter 35mm ●Length 29.5mm ●Shaft Diameter 8.0mm

Model Name **IRT3X0** — **XXXX** — **XXX**
 Model Output Pulse (P/R) Function Number

Dimensions



Output Signals



Square-wave Accuracy

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

$Yn=Rm^\circ / 6 \pm 2^\circ$ (n=1,2,3,4,5,6) (Mechanical Angle)
 $C \leq \pm 2^\circ$ (Mechanical Angle)

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 \square : $\pm 0.01T$	Pitch Error \square : $\pm 0.01T$	Pitch Error \square : $\pm 0.1T$
Adjacent Pitch Error : $\pm 0.005T$	Adjacent Pitch Error : $\pm 0.005T$	

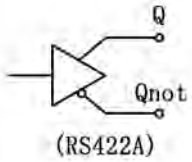
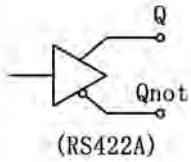
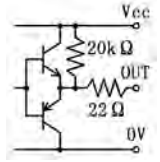
* $T=360^\circ / NI$ (NI:P/R)
 * $Rm=360^\circ / Ncs \pm 2^\circ$ (Ncs: CS signal P/R) (Mechanical Angle)

Wire Connection

Color	White	Black	Red	Pink	Olive	Blue	Yellow	Orange	Beige	Brown	Green	Grey	Light Blue	Violet
IRT310	+5V	0V	A	Anot	B	Bnot	Z	Znot	U	Unot	V	Vnot	W	Wnot
IRT320	+5V	0V	A	Anot	B	Bnot	Z	Znot						
IRT360	+Vcc	0V	A	0V	B	0V	Z	0V						

※Shield=FG

Electrical Specifications

Item/Model	IRT310	IRT320	IRT360
Output Pulse(CS)	500(2), 1000(4), 2000(4), 2500(4)	500, 600, 1000, 1024, 1800, 2000, 2048, 2500, 3000, 4096, 5000, 6000	
Supply Voltage (Vcc)	5V±0.5V	5V±0.5V	10.8V~26.4V
Supply Current (No load)	≤70mA	≤70mA	≤70mA
Output Type	Line Driver	Line Driver	Complementary
Output Circuit			
Output Voltage	H	≥2.4V	≥Vcc-4.0V
	L	≤0.5V	≤2.0V
Output Current	±10mA	±10mA	≤40mA
Max. Applied Voltage	—	—	—
Min. Load Resistance	—	—	500Ω
Rise Time	≤100ns	≤100ns	500ns (Typ.)
Fall Time	≤100ns	≤100ns	100ns (Typ.)
Response Frequency	0~300kHz	0~300kHz	0~200kHz
Bypass Capacitor(0V-FG)	0.22μF	0.22μF	0.22μF
Bypass Capacitor (Vcc-FG)	0.22μF	0.22μF	0.22μF
Determinate Time of ABZ signals	Output signal is not stable in 30ms after the power is on.		

IRT3 Series

Mechanical Specifications

Mech. Perm. Speed	6000	min ⁻¹	
Starting Torque	≤0.005	N·m	at 25°C
Moment of Inertia	0.5×10 ⁻⁶	kg·m ²	
Mounting Shaft Spec.	Axial End Play	0.15	mm
	Shaft Runout	0.03	mm (T.I.R.)
	Perpendicularity	0.1	mm R15mm
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. 0.06	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	IP00	Equivalent	With Plastic Cover

*1 Test Conditions

Notes Specifications subject to change without notice.
Coupling to be shipped separately.
Please specify the size of PCD.