

Optical Incremental Encoder with High resolution and robustness

「CE44R」

■ Features

High resolution

Wide variety of shape

Superior robustness

■ High resolution

- 360~144,000 (P/R) wide customization range as requested

■ Wide variety of shape

- Customized shaft end shape
- Space saving with Hollow type

■ Superior robustness

- High performance of shock proof with metal pulse disk
- Operating temperature: -20~85°C

Solid shaft



CE44RS

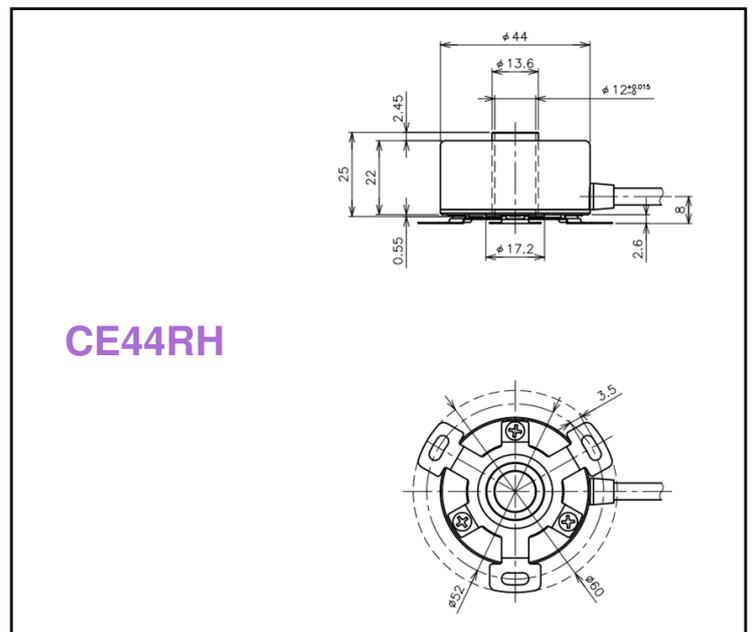
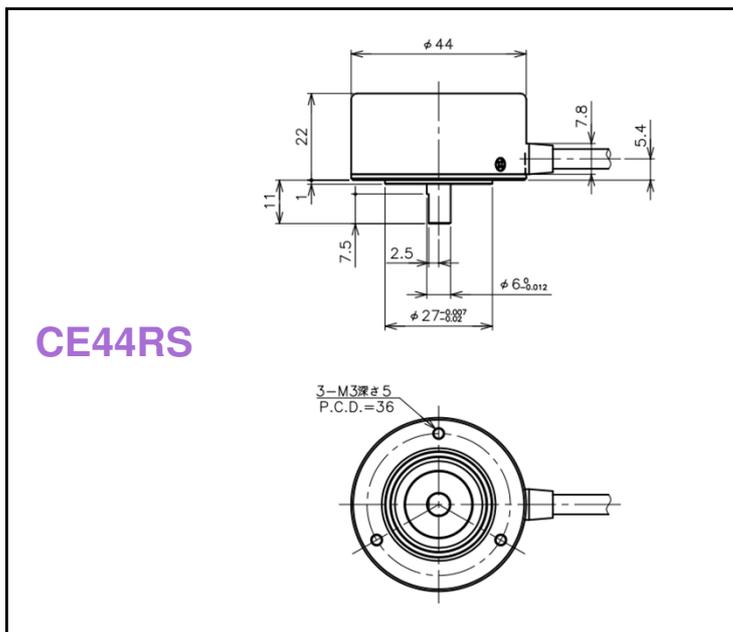
Hollow shaft



CE44RH

■ Dimension

<Unit : mm>



■ Specification

Model No.		CExxR□△-○X	CExxR□△-○C	CExxR□△-○E		
Standard Spec	Input Voltage	DC4.5V~30V		DC4.5V~13.5V		
	Current Consumption	Under 120mA (at no load)				
	Resolution	360	2,000	6,000	16,384	50,000
		500	2,500	7,200	18,000	65,536
		512	2,048	8,000	20,000	72,000
		720	3,000	8,192	21,600	90,000 (※)
		1,000	3,600	9,000	25,000	100,000 (※)
		1,024	4,096	10,000	32,768	125,000 (※)
		1,500	5,000	10,800	36,000	131,072 (※)
		1,800	5,400	12,500	40,000	144,000 (※)
	(※) only for X : Line Driver Output					
	Output Phase	A, B, Z, -A, -B, -Z phase		A, B, Z phase		
	Output Phase Difference	A phase/ B phase difference: : 90°±45° (1/4T±1/8T)				
	Output Format	Line Driver	NPN Open Collector		Voltage	
Output Capacity	Output voltage: H level : Above 2.5V L level : Under 0.8V	Applied voltage : under DC30V Sink current : 30mA Output residual voltage : under 0.5V		Output resistance : 1.2kΩ Sink current : under 20mA Output residual voltage : under 0.5V		
Max response frequency	2MHz	125kHz				
Output start-up/fall time	Less than 0.1μs	Less than 1μs				
Moment of inertia	Under 3×10 ⁻⁶ kg·m ²					
Load tolerance	Radial : 19.6N (2kgf) / Thrust : 9.8N (1kgf)					
Rotation speed tolerance	6,000 r/min.					
Protection circuit	Power supply reverse connection protection circuit					
Weight	CE44R : 150g					
Cable	AWG28/8 core shield cab tire cable L=1000mm					
Environment Spec	Operating temp.	-20~85℃				
	Storage temp.	-20~85℃				
	Operating humidity	35~85%RH (No condensation)				
	Storage humidity	35~85%RH (No condensation)				
	Vibration	200m/s ² (IEC60068-2-6)				
	Shock	1000m/s 2 100G X Y Z Directions,3times IEC60068 2 27				
	IP level	IP50				

■ Please refer to the following when selecting specifications

CE44R

Series No.

44 : Φ44
Outer diameter



Shaft shape

H : Hollow shaft
S : Solid shaft



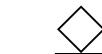
IP level

0 : IP50



Output resolution

As above



Output format

X : Line driver
C : Open collector
E : voltage

■ LIST of PART NUMBER

Shaft shape	Output resolution	Line driver output	Open collector output	Voltage Output
Hollow shaft (1P50)	360	CE44RH0-360X	CE44RH0-360C	CE44RH0-360E
	500	CE44RH0-500X	CE44RH0-500C	CE44RH0-500E
	512	CE44RH0-512X	CE44RH0-512C	CE44RH0-512E
	720	CE44RH0-720X	CE44RH0-720C	CE44RH0-720E
	1000	CE44RH0-1000X	CE44RH0-1000C	CE44RH0-1000E
	1024	CE44RH0-1024X	CE44RH0-1024C	CE44RH0-1024E
	1500	CE44RH0-1500X	CE44RH0-1500C	CE44RH0-1500E
	1800	CE44RH0-1800X	CE44RH0-1800C	CE44RH0-1800E
	2000	CE44RH0-2000X	CE44RH0-2000C	CE44RH0-2000E
	2048	CE44RH0-2048X	CE44RH0-2048C	CE44RH0-2048E
	2500	CE44RH0-2500X	CE44RH0-2500C	CE44RH0-2500E
	3000	CE44RH0-3000X	CE44RH0-3000C	CE44RH0-3000E
	3600	CE44RH0-3600X	CE44RH0-3600C	CE44RH0-3600E
	4096	CE44RH0-4096X	CE44RH0-4096C	CE44RH0-4096E
	5000	CE44RH0-5000X	CE44RH0-5000C	CE44RH0-5000E
	5400	CE44RH0-5400X	CE44RH0-5400C	CE44RH0-5400E
	6000	CE44RH0-6000X	CE44RH0-6000C	CE44RH0-6000E
	7200	CE44RH0-7200X	CE44RH0-7200C	CE44RH0-7200E
	8000	CE44RH0-8000X	CE44RH0-8000C	CE44RH0-8000E
	8192	CE44RH0-8192X	CE44RH0-8192C	CE44RH0-8192E
	9000	CE44RH0-9000X	CE44RH0-9000C	CE44RH0-9000E
	10000	CE44RH0-10000X	CE44RH0-10000C	CE44RH0-10000E
	10800	CE44RH0-10800X	CE44RH0-10800C	CE44RH0-10800E
	12500	CE44RH0-12500X	CE44RH0-12500C	CE44RH0-12500E
	16384	CE44RH0-16384X	CE44RH0-16384C	CE44RH0-16384E
	18000	CE44RH0-18000X	CE44RH0-18000C	CE44RH0-18000E
	20000	CE44RH0-20000X	CE44RH0-20000C	CE44RH0-20000E
	21600	CE44RH0-21600X	CE44RH0-21600C	CE44RH0-21600E
	25000	CE44RH0-25000X	CE44RH0-25000C	CE44RH0-25000E
	32768	CE44RH0-32768X	CE44RH0-32768C	CE44RH0-32768E
36000	CE44RH0-36000X	CE44RH0-36000C	CE44RH0-36000E	
40000	CE44RH0-40000X	CE44RH0-40000C	CE44RH0-40000E	
50000	CE44RH0-50000X	CE44RH0-50000C	CE44RH0-50000E	
65536	CE44RH0-65536X	CE44RH0-65536C	CE44RH0-65536E	
72000	CE44RH0-72000X	CE44RH0-72000C	CE44RH0-72000E	
90000	CE44RH0-90000X	-	-	
100000	CE44RH0-100000X	-	-	
125000	CE44RH0-125000X	-	-	
131072	CE44RH0-131072X	-	-	
144000	CE44RH0-144000X	-	-	

■ LIST of PART NUMBER

Shaft shape	Output resolution	Line driver output	Open collector output	Voltage Output
Solid shaft(IP50)	360	CE44RS0-360X	CE44RS0-360C	CE44RS0-360E
	500	CE44RS0-500X	CE44RS0-500C	CE44RS0-500E
	512	CE44RS0-512X	CE44RS0-512C	CE44RS0-512E
	720	CE44RS0-720X	CE44RS0-720C	CE44RS0-720E
	1000	CE44RS0-1000X	CE44RS0-1000C	CE44RS0-1000E
	1024	CE44RS0-1024X	CE44RS0-1024C	CE44RS0-1024E
	1500	CE44RS0-1500X	CE44RS0-1500C	CE44RS0-1500E
	1800	CE44RS0-1800X	CE44RS0-1800C	CE44RS0-1800E
	2000	CE44RS0-2000X	CE44RS0-2000C	CE44RS0-2000E
	2048	CE44RS0-2048X	CE44RS0-2048C	CE44RS0-2048E
	2500	CE44RS0-2500X	CE44RS0-2500C	CE44RS0-2500E
	3000	CE44RS0-3000X	CE44RS0-3000C	CE44RS0-3000E
	3600	CE44RS0-3600X	CE44RS0-3600C	CE44RS0-3600E
	4096	CE44RS0-4096X	CE44RS0-4096C	CE44RS0-4096E
	5000	CE44RS0-5000X	CE44RS0-5000C	CE44RS0-5000E
	5400	CE44RS0-5400X	CE44RS0-5400C	CE44RS0-5400E
	6000	CE44RS0-6000X	CE44RS0-6000C	CE44RS0-6000E
	7200	CE44RS0-7200X	CE44RS0-7200C	CE44RS0-7200E
	8000	CE44RS0-8000X	CE44RS0-8000C	CE44RS0-8000E
	8192	CE44RS0-8192X	CE44RS0-8192C	CE44RS0-8192E
	9000	CE44RS0-9000X	CE44RS0-9000C	CE44RS0-9000E
	10000	CE44RS0-10000X	CE44RS0-10000C	CE44RS0-10000E
	10800	CE44RS0-10800X	CE44RS0-10800C	CE44RS0-10800E
	12500	CE44RS0-12500X	CE44RS0-12500C	CE44RS0-12500E
	16384	CE44RS0-16384X	CE44RS0-16384C	CE44RS0-16384E
	18000	CE44RS0-18000X	CE44RS0-18000C	CE44RS0-18000E
	20000	CE44RS0-20000X	CE44RS0-20000C	CE44RS0-20000E
	21600	CE44RS0-21600X	CE44RS0-21600C	CE44RS0-21600E
	25000	CE44RS0-25000X	CE44RS0-25000C	CE44RS0-25000E
	32768	CE44RS0-32768X	CE44RS0-32768C	CE44RS0-32768E
36000	CE44RS0-36000X	CE44RS0-36000C	CE44RS0-36000E	
40000	CE44RS0-40000X	CE44RS0-40000C	CE44RS0-40000E	
50000	CE44RS0-50000X	CE44RS0-50000C	CE44RS0-50000E	
65536	CE44RS0-65536X	CE44RS0-65536C	CE44RS0-65536E	
72000	CE44RS0-72000X	CE44RS0-72000C	CE44RS0-72000E	
90000	CE44RS0-90000X	-	-	
100000	CE44RS0-100000X	-	-	
125000	CE44RS0-125000X	-	-	
131072	CE44RS0-131072X	-	-	
144000	CE44RS0-144000X	-	-	