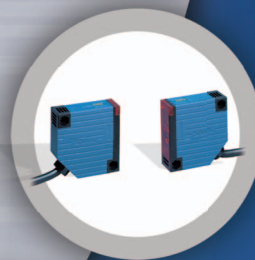


Sanil sensor for Elevator



Industrial Sensor

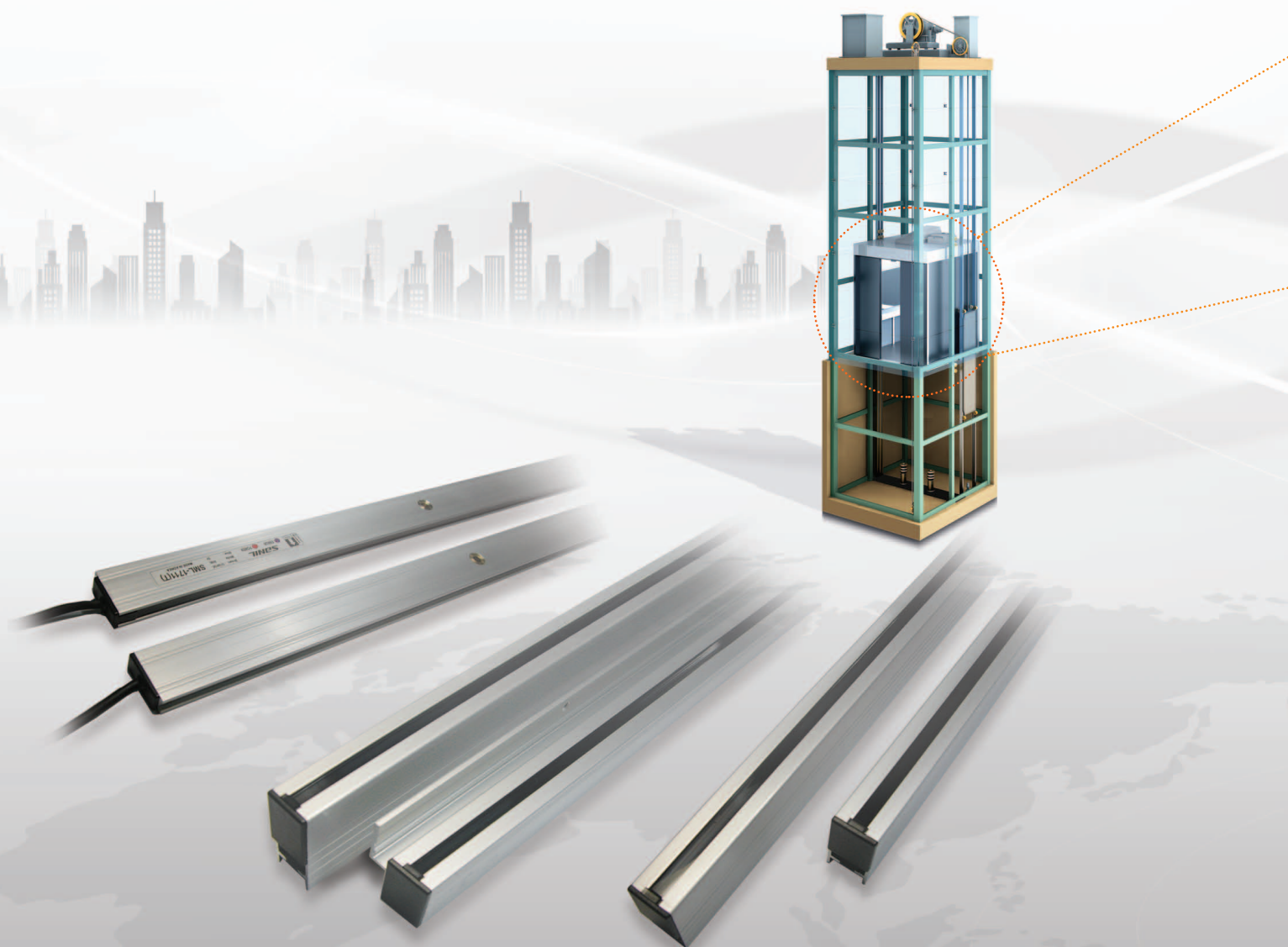
Sanil elevator Sensor

Our advanced technology is always with you.

We are supplying the sensor several years to global companies of elevators and factory automation, recognized the quality and outstanding technology.

Our strengthen the competitiveness by having high technologies and designing emotional products to impress customers.

We will continues research and development for the "Better life"

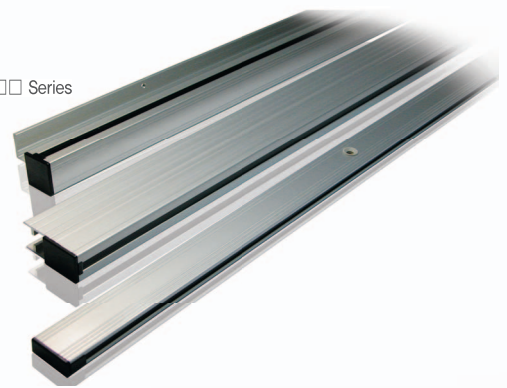




Light curtain

SML-□□□, SMF-□□□, SMH-□□□ Series

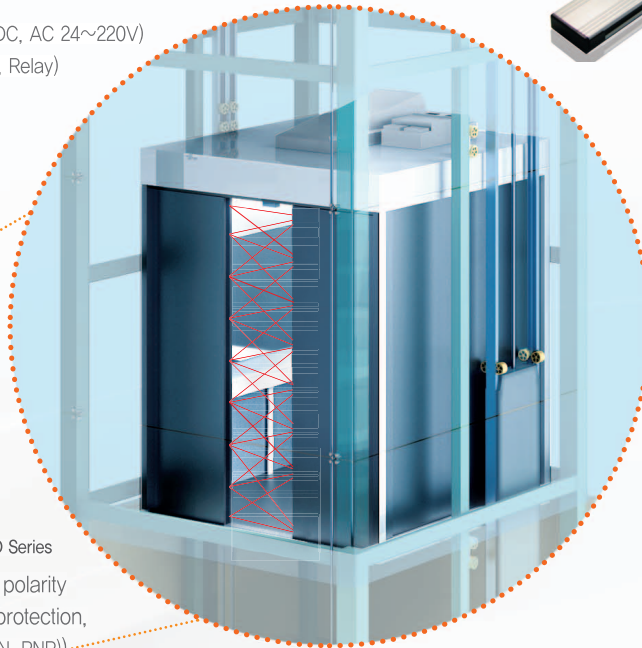
- Angle range : 20°
- Sunlight (100,000lx)
- Various items



Photocell

SB-31L, SB-51 Series

- Wide range power voltage (DC, AC 24~220V)
- Output (NPN, PNP, MOS Relay, Relay)



Linear Transformer

SLF-25, SLF-25S



Position Detector

SB-40, SL-73, SB-74, TKLD, ETSD Series

- Protection circuit (Reverse polarity protection, Direct sunlight protection, Short circuit protection (NPN, PNP))



Incremental Encoder

60H-20, 68F-10, 88H-30 Series

- High resolution (8,192 P/R)
- Wide range power voltage (5V, 12~24V)



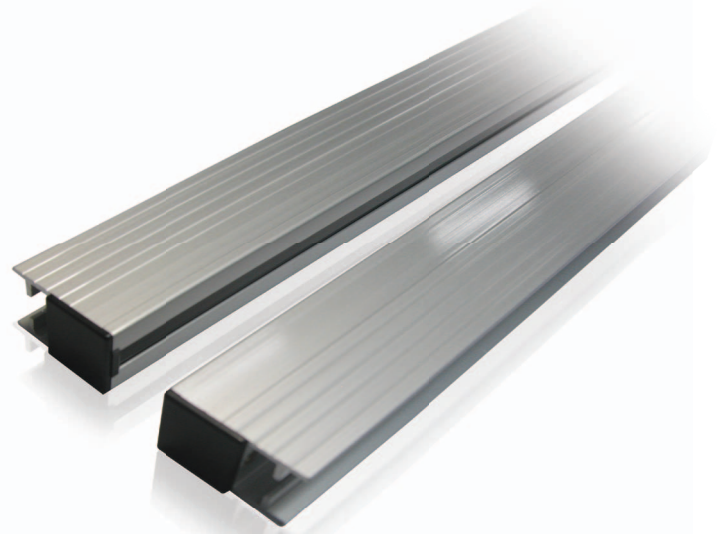
Contents

Multi beam sensor	Photocell	Position detector	Linear Transformer	Encoder
Shoe + Shoe4	SB-31L10	SB-40A14	SLF-25.....24	40H-8.....26
Slim + Shoe6	SB-5112	SB-7316		40S-6.....28
Slim + Slim8		SL-7318		50S-8.....30
		TKLD20		38H-8.....32
		ETSD.....22		60H-20.....34
				68F-10.....36
				88H-30.....38
				100H-35.....40

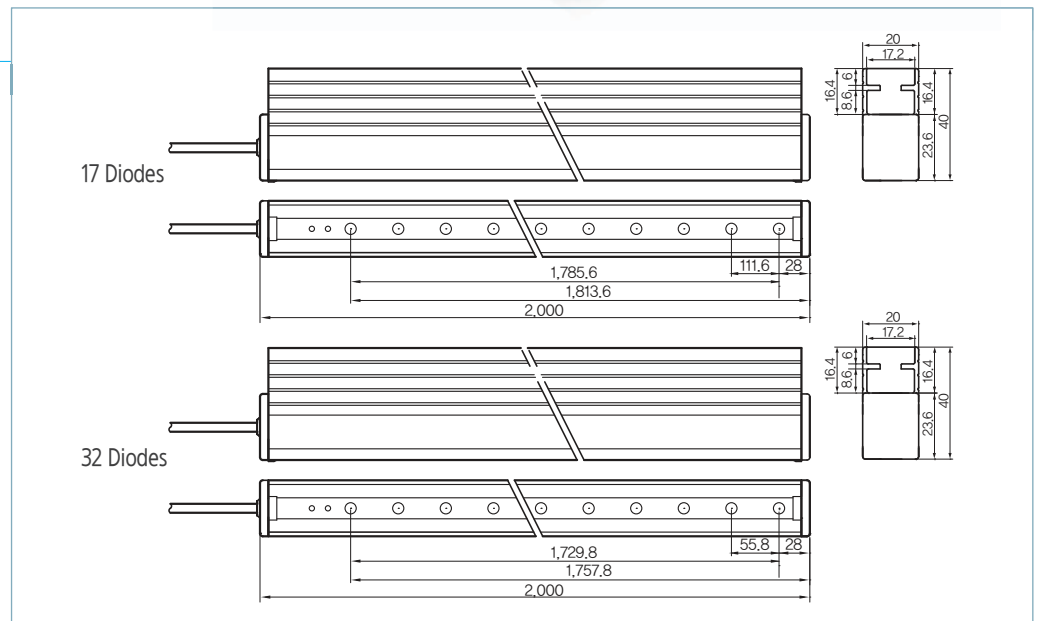
▶ Light curtain Elevator Multi Beam Sensor

Built in safety shoe type

- Angle range : 20°
- Sunlight (100,000Lx)
- Timeout function
- Case Range on request (2,100mm ~ 2,400mm)
- Various items (64beams, 79beams, 154beams, 194beams)

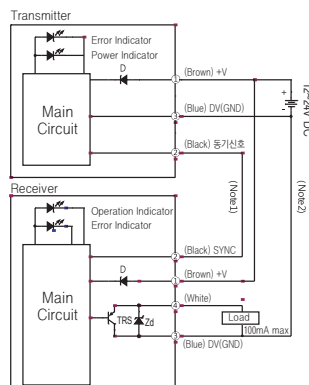


Dimension

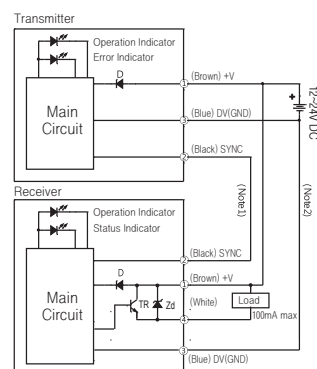


Control output diagram

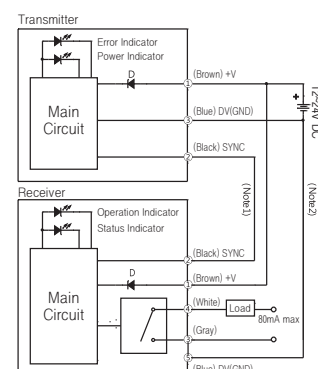
▶ NPN Output



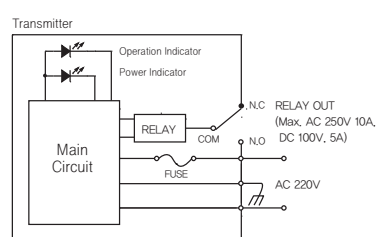
▶ PNP Output



▶ MOS Relay Output



▶ Relay Output (Controller is Used)

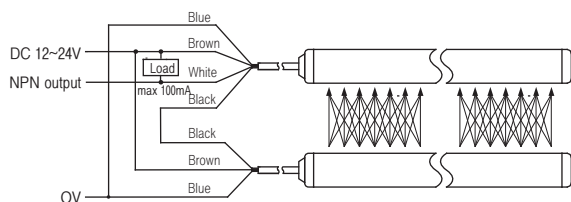


Specifications

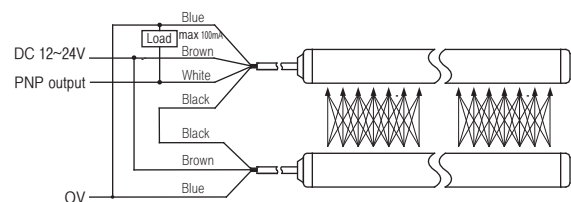
Model	Elevator Multi Beam Sensor (multi scan 1 : 5)			
	SM□-1411	SM□-1711	SM□-3206	SM□-4006
Diodes	14	17	32	40
Beams	64	79	154	194
Distance between diodes	111,6mm	111,6mm	55,8mm	47mm
Number of Beams according to distance	14Beams : ~350mm	17Beams : ~350mm	32Beams : ~175mm	40Beams : ~150mm
	40Beams : ~700mm	49Beams : ~700mm	93Beams : ~350mm	118Beams : ~300mm
	64Beams : ~3,000mm	79Beams : ~3,000mm	154Beams : ~3,000mm	194Beams : ~3,000mm
Operating voltage	DC 12V ~24V or AC 220V ±10% (Ripple P-P 10%)			
Consumption Current	Emitter + Receiver : Max. 110mA			
Controll Output	NPN, PNP, Relay, MOS Relay			
Response time (Light → Dark → Light)	Max. 150ms	Max. 150ms	Max. 170ms	Max. 190ms
Timeout function	Interrupted consecutively less than 3 non adjacent optical axis over 45sec : Normal operating after disregarding the optical axis, red LED flickered (1,5sec)			
Protection Circuit	Reverse polarity protection, Direct sunlight protection, Short circuit protection (NPN, PNP)			
Protection category	IPX3			
Ambient illumination	Sunlight: Max. 100,000lx, Lamp: Max. 5,000lx			
Ambient temperature	Operation: -10~65°C, Storage: -20~80°C (Non dew condition)			
Noise ability	2,000Vp, cycle 16ms, pulse 1μs(Noise simulator)			

Connection

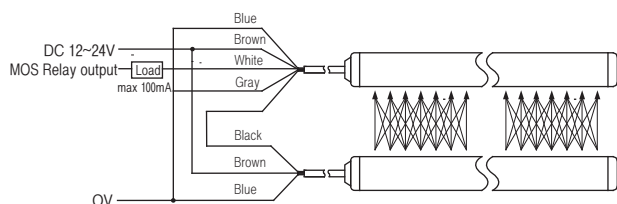
▶ NPN Output



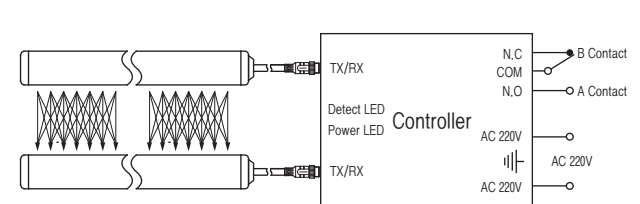
▶ PNP Output



▶ MOS Relay Output



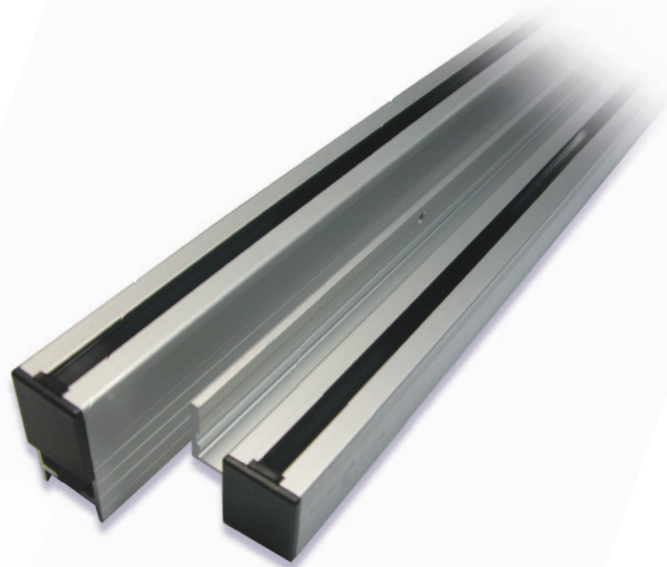
▶ Relay Output



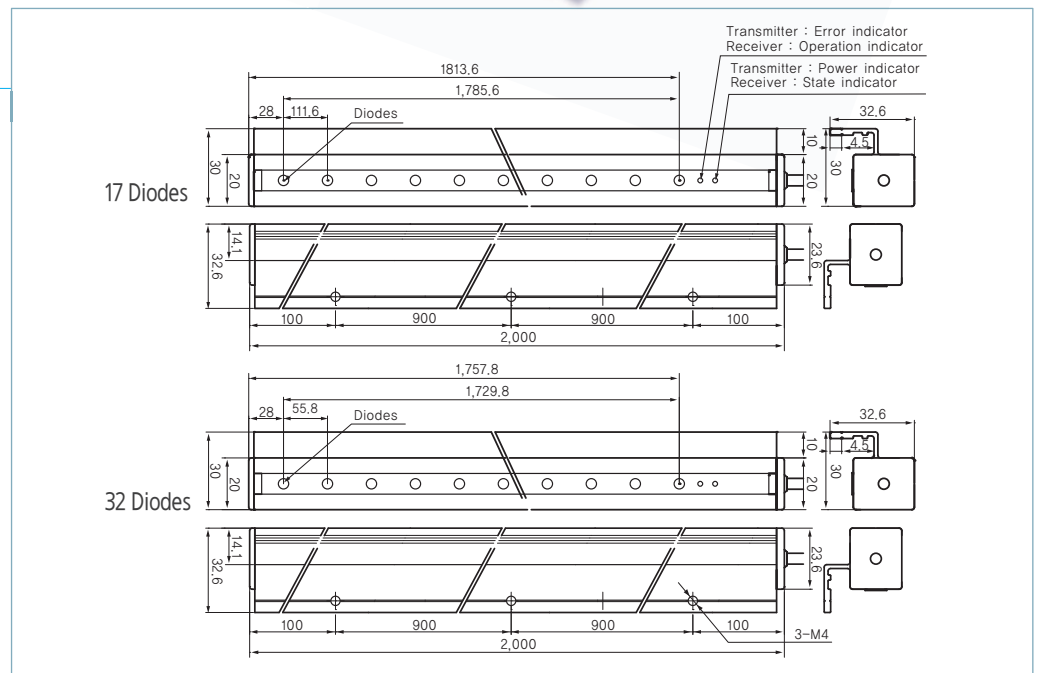
▶ Light curtain Elevator Multi Beam Sensor

Built in safety shoe + Fixed type

- Angle range : 20°
- Sunlight (100,000Lx)
- Timeout function
- Case Range on request (2,100mm ~ 2,400mm)
- Various items (64beams, 79beams, 154beams, 194beams)

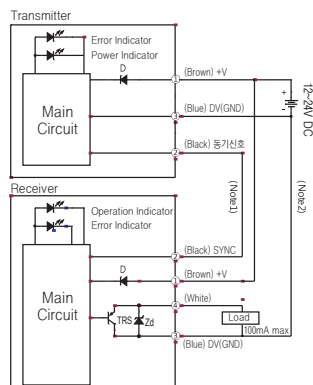


Dimension

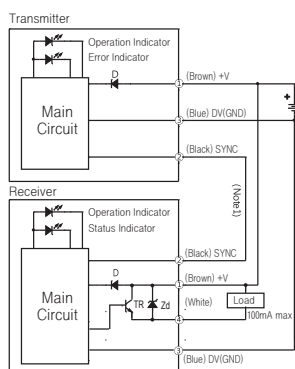


Control output diagram

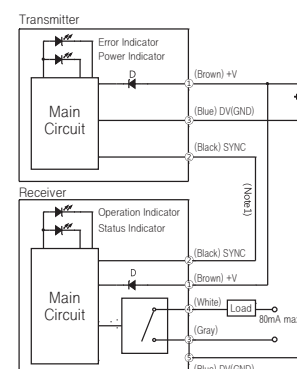
▶ NPN Output



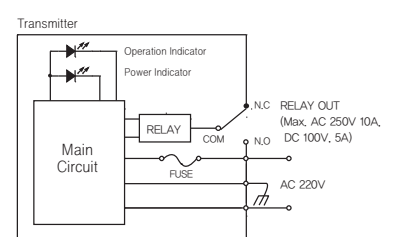
▶ PNP Output



▶ MOS Relay Output



▶ Relay Output (Controller is Used)

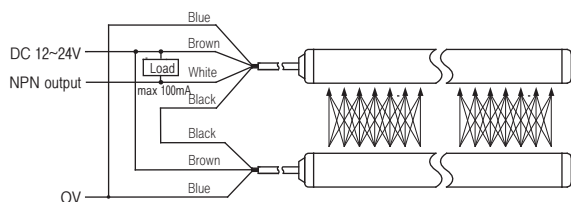


Specifications

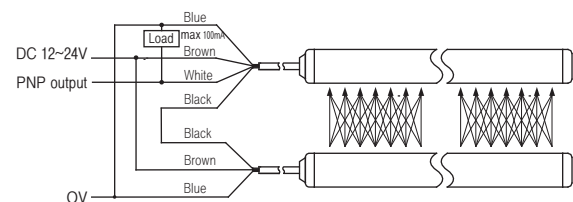
Model	Elevator Multi Beam Sensor (multi scan 1 : 5)			
	SM□-1411	SM□-1711	SM□-3206	SM□-4006
Diodes	14	17	32	40
Beams	64	79	154	194
Distance between diodes	111,6mm	111,6mm	55,8mm	47mm
Number of Beams according to distance	14Beams : ~350mm 40Beams : ~700mm 64Beams : ~3,000mm	17Beams : ~350mm 49Beams : ~700mm 79Beams : ~3,000mm	32Beams : ~175mm 93Beams : ~350mm 154Beams : ~3,000mm	40Beams : ~150mm 118Beams : ~300mm 194Beams : ~3,000mm
Operating voltage	DC 12V ~24V or AC 220V ±10% (Ripple P-P 10%)			
Consumption Current	Emitter + Receiver : Max. 110mA			
Controll Output	NPN, PNP, Relay, MOS Relay			
Response time (Light → Dark → Light)	Max. 150ms	Max. 150ms	Max. 170ms	Max. 190ms
Timeout function	Interrupted consecutively less than 3 non adjacent optical axis over 45sec : Normal operating after disregarding the optical axis, red LED flickered (1,5sec)			
Protection Circuit	Reverse polarity protection, Direct sunlight protection, Short circuit protection (NPN, PNP)			
Protection category	IPX3			
Ambient illumination	Sunlight: Max. 100,000lx, Lamp: Max. 5,000lx			
Ambient temperature	Operation: -10~65°C, Storage: -20~80°C (Non dew condition)			
Noise ability	2,000Vp, cycle 16ms, pulse 1μs(Noise simulator)			

Connection

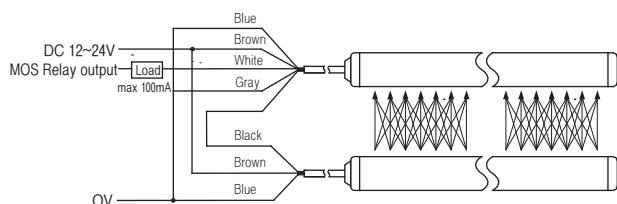
► NPN Output



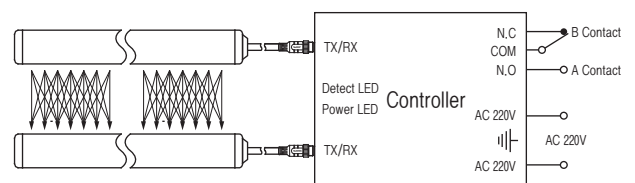
► PNP Output



► MOS Relay Output



► Relay Output



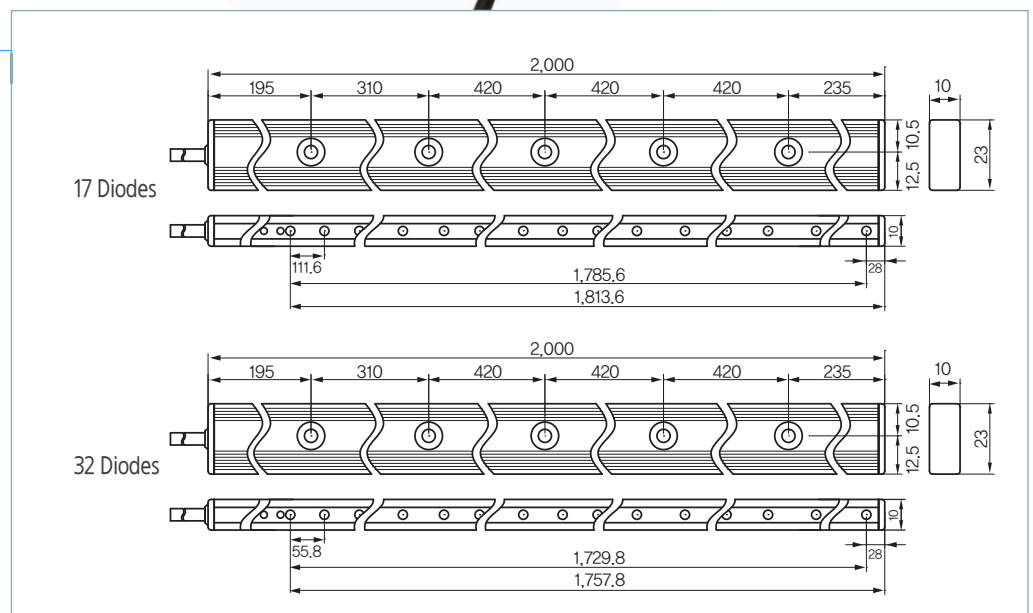
▶▶ Light curtain Elevator Multi Beam Sensor

Slim type

- Angle range : 20°
- Sunlight (100,000Lx)
- Timeout function
- Case Range on request (2,100mm ~ 2,400mm)
- Various items (64beams, 79beams, 154beams, 194beams)

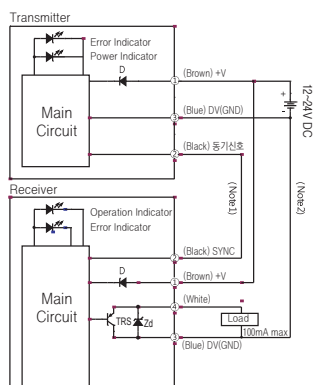


Dimension

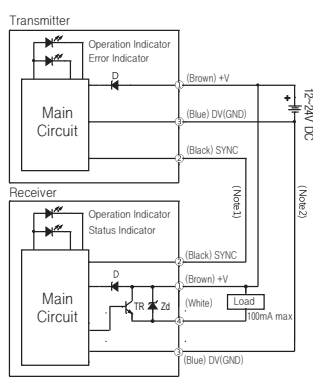


Control output diagram

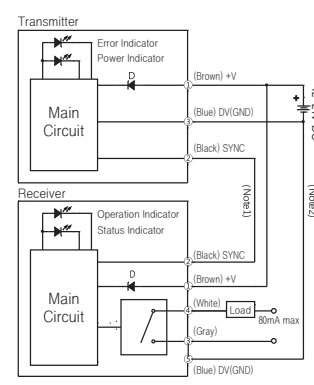
▶ NPN Output



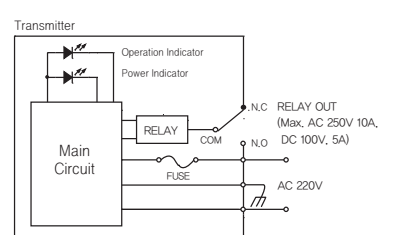
▶ PNP Output



▶ MOS Relay Output



▶ Relay Output (Controller is Used)

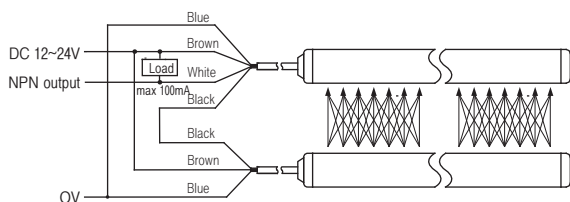


Specifications

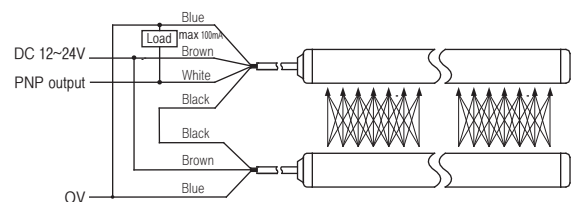
Model	Elevator Multi Beam Sensor (multi scan 1 : 5)			
	SM□-1411	SM□-1711	SM□-3206	SM□-4006
Diodes	14	17	32	40
Beams	64	79	154	194
Distance between diodes	111,6mm	111,6mm	55,8mm	47mm
Number of Beams according to distance	14Beams : ~350mm 40Beams : ~700mm 64Beams : ~3,000mm	17Beams : ~350mm 49Beams : ~700mm 79Beams : ~3,000mm	32Beams : ~175mm 93Beams : ~350mm 154Beams : ~3,000mm	40Beams : ~150mm 118Beams : ~300mm 194Beams : ~3,000mm
Operating voltage	DC 12V ~24V or AC 220V ±10% (Ripple P-P 10%)			
Consumption Current	Emitter + Receiver : Max. 110mA			
Controll Output	NPN, PNP, Relay, MOS Relay			
Response time (Light → Dark → Light)	Max. 150ms	Max. 150ms	Max. 170ms	Max. 190ms
Timeout function	Interrupted consecutively less than 3 non adjacent optical axis over 45sec : Normal operating after disregarding the optical axis, red LED flickered (1,5sec)			
Protection Circuit	Reverse polarity protection, Direct sunlight protection, Short circuit protection (NPN, PNP)			
Protection category	IPX3			
Ambient illumination	Sunlight: Max. 100,000lx, Lamp: Max. 5,000lx			
Ambient temperature	Operation: -10~65°C, Storage: -20~80°C (Non dew condition)			
Noise ability	2,000Vp, cycle 16ms, pulse 1μs(Noise simulator)			

Connection

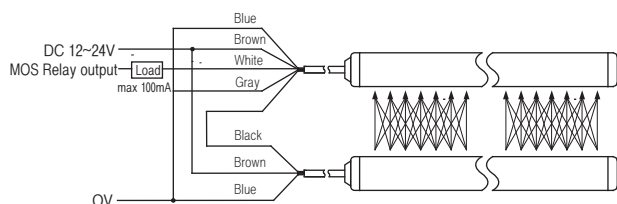
▶ NPN Output



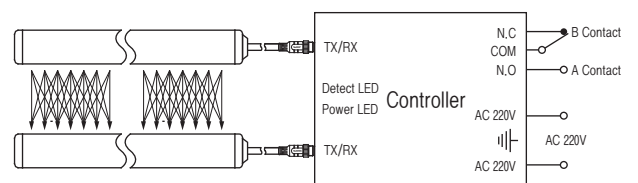
▶ PNP Output



▶ MOS Relay Output



▶ Relay Output



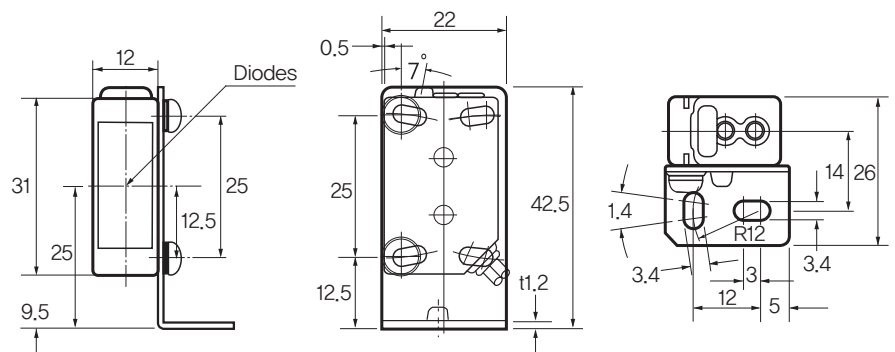
▶▶ SB-31 Photocell

Through Beam

- Mini Type
- DC 12~24V
- Surge protection

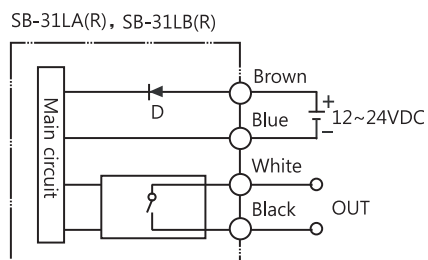
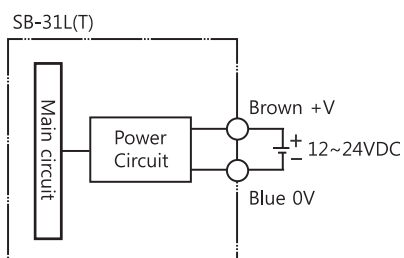


Dimension

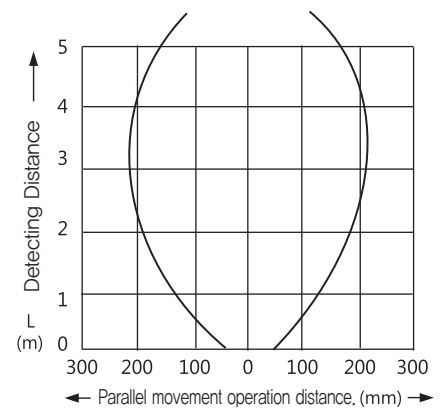


Control output diagram

▶ Mos Relay



Characteristics

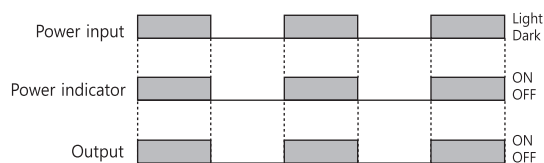


Specifications

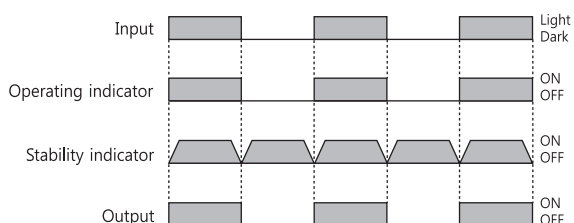
Model	SB-31L	SB-31LA	SB-31LB
Operating Mode	D/O, L/O Adjustable	Dark On	Light On
Operating Voltage	DC 12~24V (Ripple $\pm 10\%$)		
Detecting Distance	5m		
Detecting target of Min.	Min. $\Phi 10$ opaque materials		
Consumption current	Transmitter : Max. 20mA, Receiver : Max. 20mA		
Control output	Mos Relay output, 100mA 48V DC, 100mA 220V AC		
Light source	infrared LED		
Response time	Max. 1ms		
Protection category	IP 64 (IEC specification)		
Short circuit protection	no		
Reverse polarity protection	yes		
Ambient illumination	Sunlight : Max. 10,000 lx, Incandescent : Max. 3,000 lx		
Ambient temperature	Operating : $-20^{\circ}\text{C}\sim 60^{\circ}\text{C}$, Storage : $-25^{\circ}\text{C}\sim 70^{\circ}\text{C}$		
Dielectric strength	1kVAC, 50/60Hz for 1min		
Vibration	1.5mm amplitude at frequency of 10~55Hz in each of X,Y,Z directions for 2hours		
Shock resistance	500% (50G) X, Y, Z direction for 3 times		
Insulation resistance	Min. 20M Ω (DC 500V Megger)		
Indicator	Transmitter : Power (red LED) Receiver : Operating (red LED), Stability (green LED)		
Cable 2m : PVC	transmitter : $\Phi 4 \times 2\text{C} \times 0.2\text{SQ}$ receiver : $\Phi 4 \times 3\text{C} \times 0.2\text{SQ}$		

Operation chart

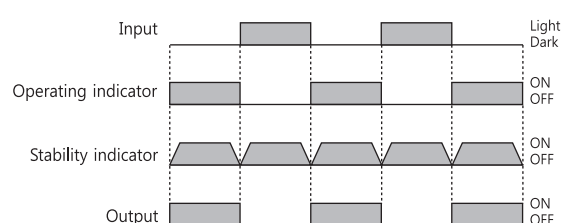
▶ Transmitter



▶ Receiver : Dark ON (SB-31L)



▶ Receiver : Light ON (SB-31LB)



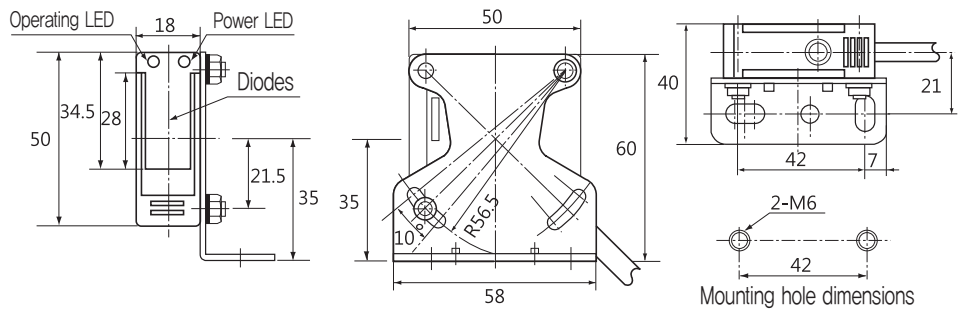
▶▶ SB-51 Photocell

Through Beam

- Free voltage
- Relay output

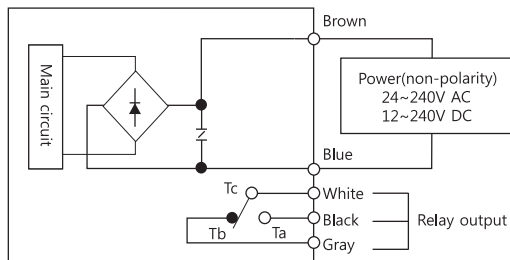


Dimension

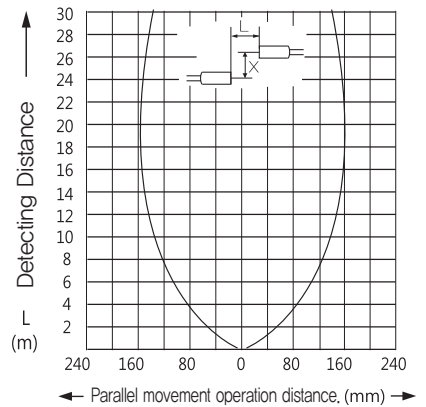
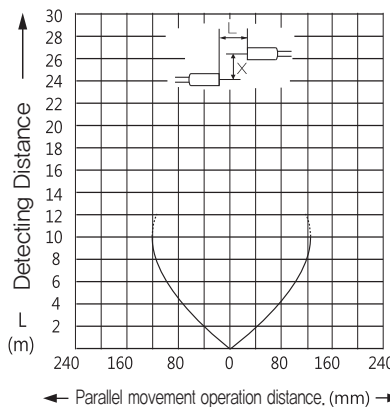


Control output diagram

▶ Relay



Characteristics

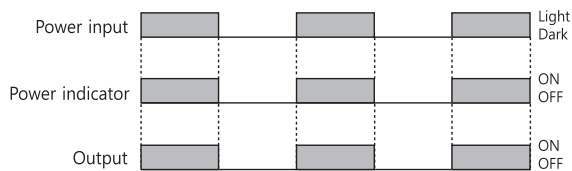


Specifications

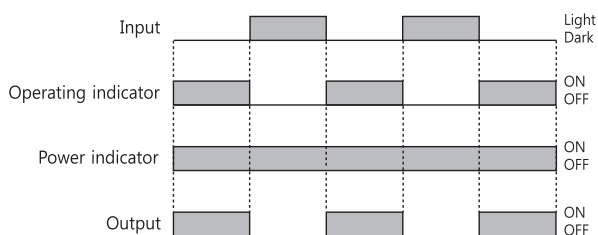
Model	SB-51	SB-51B
Operating Mode	Dark On	Light On
Operating Voltage	AC 24 ~ 240V, DC 12~240V (Ripple ±10%)	
Detecting Distance	10m	
Detecting target of Min.	Min. ϕ 15 opaque materials	
Consumption power	Transmitter : Max, 3W, Receiver : Max, 3W	
Control output	Relay output, Min. DC 5V 10mA, AC 250V 3A(cos ϕ =1)	
Light source	infrared LED	
Response time	Max, 30ms	
Protection category	IP 65 (IEC specification)	
Ambient illumination	Sunlight : Max, 10,000 lx, Incandescent : Max, 3,000 lx	
Ambient temperature	Operating : -22°C~55°C, Storage : -25°C~70°C	
Dielectric strength	1.5 kVAC, 50/60Hz for 1min	
Vibration	1.5mm amplitude at frequency of 10~55Hz in each of X,Y,Z directions for 2hours	
Shock resistance	500% (50G) X, Y, Z direction for 3 times	
Insulation resistance	Min, 20M Ω (DC 500V Megger)	
Indicator	Transmitter : Power (red LED) Receiver : Operating (red LED), Stability (green LED)	
Cable 2m : PVC	transmitter : ϕ 5.6 x 2C x 0.2SQ receiver : ϕ 5.6 x 5C x 0.2SQ	

Operation chart

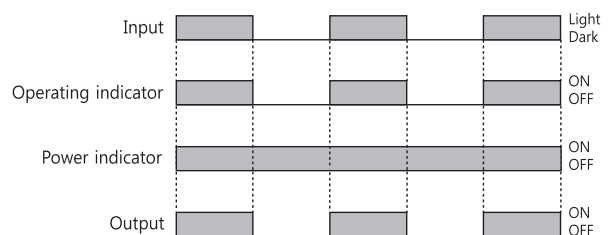
▶ Transmitter



▶ Receiver : Dark ON(SB-51)



▶ Receiver : Light ON(SB-51B)



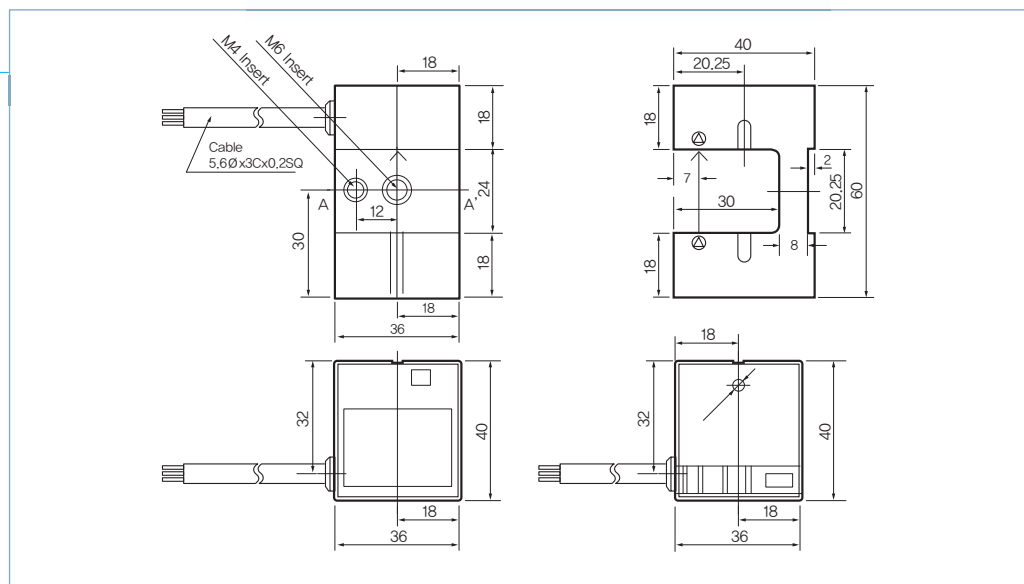
▶▶ SB-40 Position detector

Photo U-Type Sensor

- Single Beam
- Infrared
- IP 65



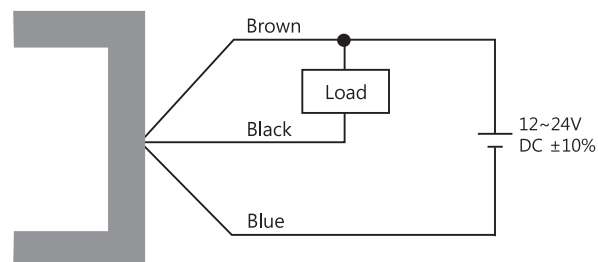
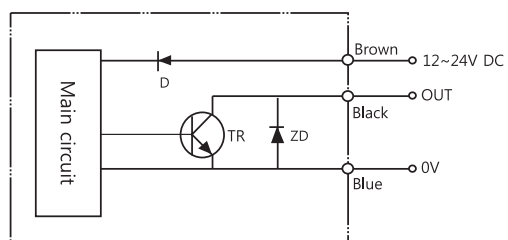
Dimension



Control output diagram

Connection

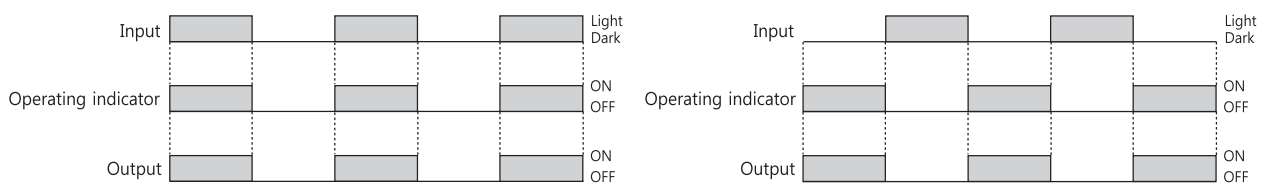
▶ Relay



Specifications

Model	SB-40A	SB-40B
Operating Voltage	36~60V DC \pm 10% (Ripple P-P max, 10%)	
Consumption Current	Max. 25mA	
Detecting distance	24mm fixed.	
Detecting target of Min	Min. \varnothing 6mm opaque materials	
Light intensity margin	Initial value, Operated transmissivity 3%	
Control output	PNP Transistor Open Collector Max. DC 60V, 50mA	
Residual voltage	Max. 1.5V	
Response time	Max. 2ms	
Light source	Infrared LED	
Indicator (Red LED)	Dark-ON	Light-ON
Ambient illumination	Sunlight: Max. 30,000 lux , Incandescent: Max. 5,000 lux	
Ambient Temperature	Operate : $-10\sim 55^{\circ}\text{C}$, Storage : $-30\sim 70^{\circ}\text{C}$	
Ambient Humidity	Operate : 35~85%RH, Storage : Max. 35~95%RH	
Insulation resistance	Min. 20M Ω (DC 500V Megger, Between case and cable)	
Dielectric strength	AC 1,000V 50/60Hz for 1 minute (Between case and cable)	
Shock resistance	980%, X, Y, Z direction for 3times	
Vibration resistance	1.5mm amplitude at frequency of 10~55Hz X,Y,Z direction for 2 hours	
Noise resistance	240Vp, cycle 10ms, pulse 0.5 μ s (by the noise simulator)	
Protection category	IP65 (IEC specification)	
Protection circuit	Reverse polarity protection	
Cable	\varnothing 5.6, 3Wire, 0.2mm ² (0.08mmX 40Core), 250mm	

Operation chart



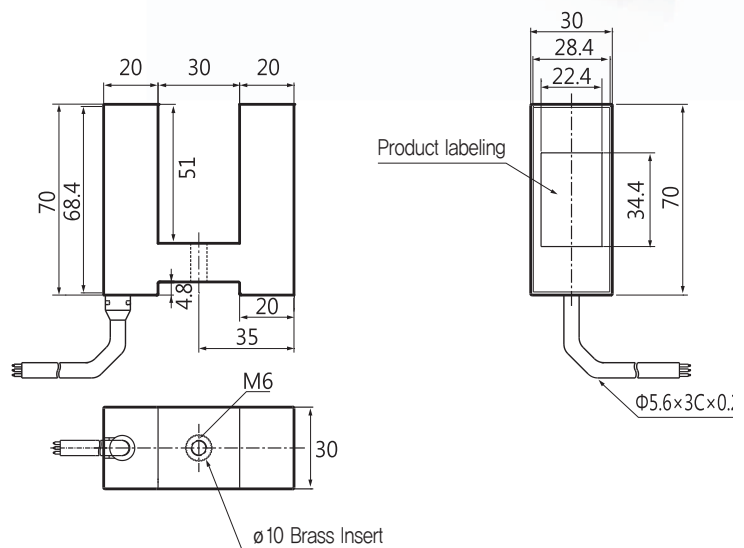
▶▶ SB-73 Position detector

Photo U-Type Sensor

- Single Beam
- Infrared
- IP 65



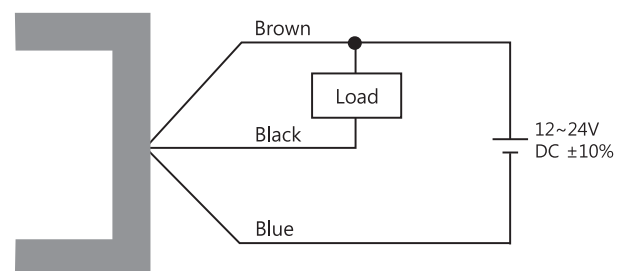
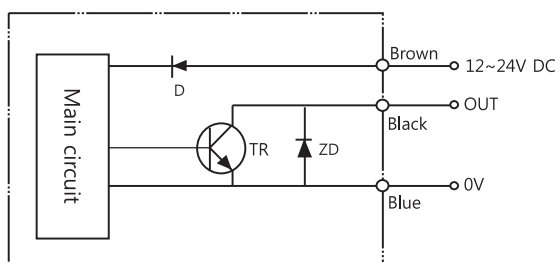
Dimension



Control output diagram

Connection

▶ Relay

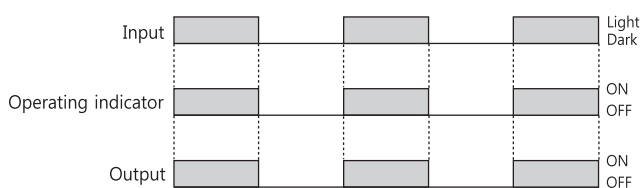


Specifications

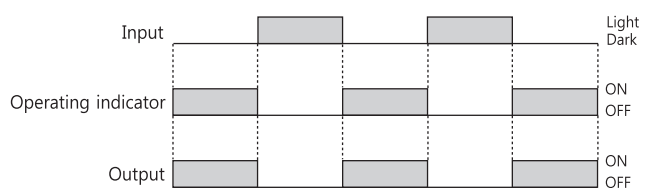
Model	SB-73A	SB-73B
Operating Voltage	DC 12~24V (Ripple ±10%)	
Consumption Current	30mA	
Detecting target of Min.	Min. Φ5mm opaque materials	
Detecting type	photoelectric	
Consumption current	Max. 30mA	
Control output	NPN Transistor open collector, load current : Max. 100mA	
Light source	infrared LED	
Response time	Max. 1ms	
Protection category	IP 65 (IEC specification)	
Surge protection	yes	
Reverse polarity protection	yes	
Ambient illumination	Sunlight : Max. 11,000 lx, Incandescent : Max. 3,000 lx	
Ambient temperature	Operating : -10°C~60°C, Storage : -20°C~70°C	
Dielectric strength	1kVAC, 50/60Hz for 1min	
Vibration	1.5mm amplitude at frequency of 10~55Hz in each of X,Y,Z directions for 2hours	
Shock resistance	500% (50G) X, Y, Z direction for 3 times	
Insulation resistance	Min. 20MΩ (DC 500V Megger)	
Indicator	Operating (red LED)	
Cable 2m : PVC	Φ5.6 x 3C x 0.2SQ	

Operation chart

▶ Receiver : Dark ON (SB-73A)



▶ Receiver : Light ON (SB-73B)



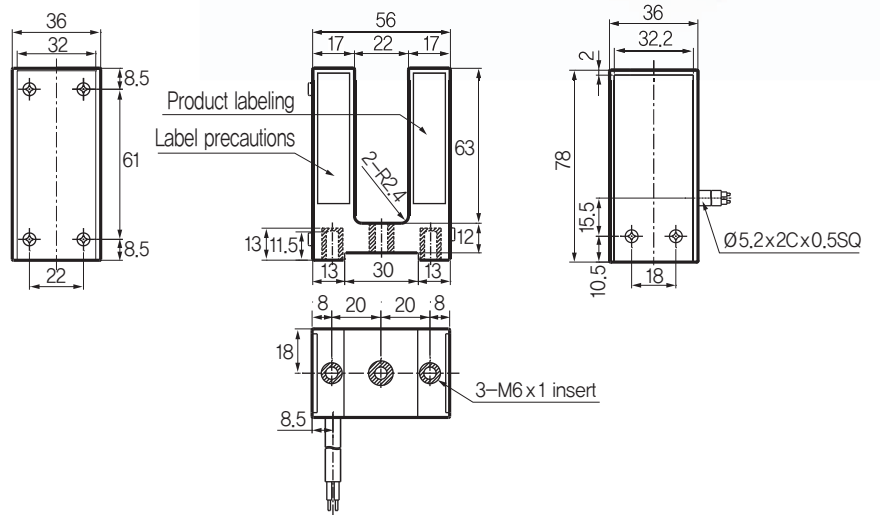
▶▶ SL-73 Position detector

Magnetic U-Type Sensor

- Read Switch
- IP 67

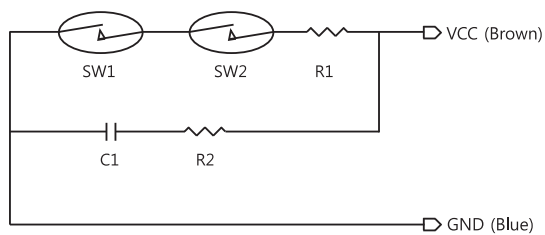


Dimension

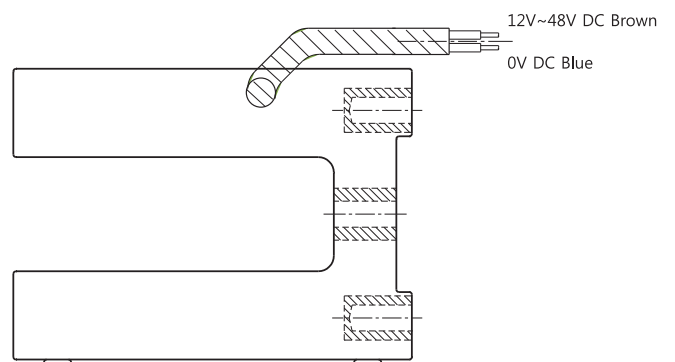


Control output diagram

▶ Relay



Connection

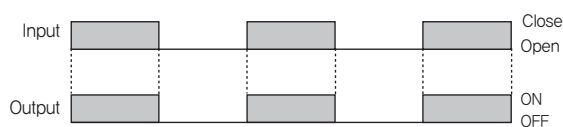


Specifications

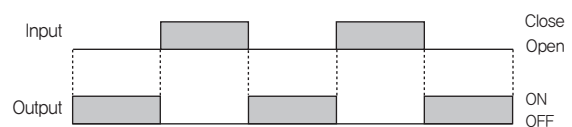
Model	SL-73A (1a contact)	SL-73B (1b contact)
Operating Voltage	DC 12~24V (Ripple ±10%)	
Consumption Current	30mA	
Detecting target of Min.	60 × 100 × 1t steel	
Max. switching power	50W (resistive load)	
Max. switching voltage	AC 150V, DC 200V	
Max. switching current	AC 0.7A, DC 1A	
Response time	Max. 3ms, operating time : Max. 4ms, release time : Max. 2ms	
Protection category	IP 67 (IEC specification)	
Surge protection	yes	
Reverse polarity protection	yes	
Life cycle	mechanical : Min. 100million, electrical : Min. 15million (at 30V, 20mA)	
Ambient temperature	operating : -10°C~60°C, storage : -25°C~70°C	
Dielectric strength	contact/contact : 500VAC for 1min, terminal/case : 1500VAC for 1min	
Vibration	1.5mm amplitude at frequency of 30Hz in each of X,Y,Z directions for 2hours	
Shock resistance	100%(10G) X,Y,Z direction for 3times	
Insulation resistance	Min. 20MΩ (DC 500V Megger)	
Indicator	Operating (red LED)	
Cable 2m : PVC	Φ5.0 x 2C x 0.5SQ	

Operation chart

▶ Receiver : Dark ON (SL-73A)



▶ Receiver : Light ON (SL-73B)



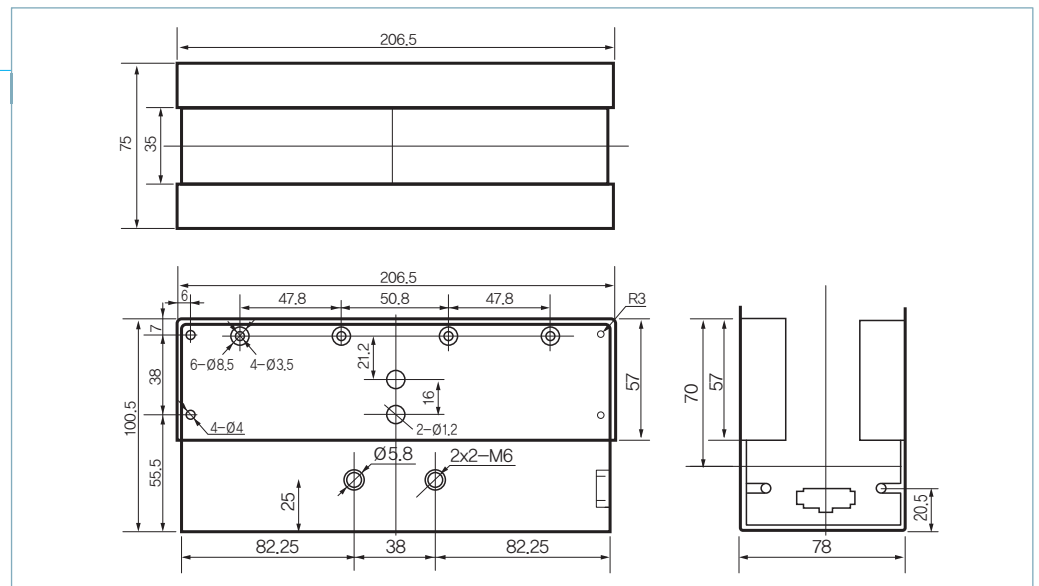
TKLD Position detector

Photo U-Type Sensor

- Landing control of elevator
- 4-Beams, 6-Beams

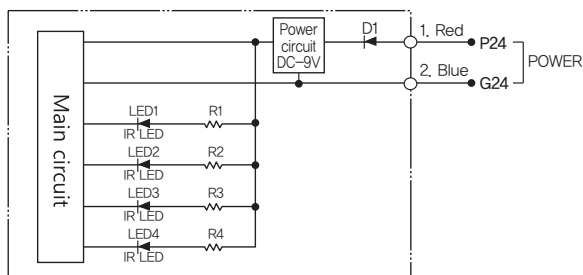


Dimension



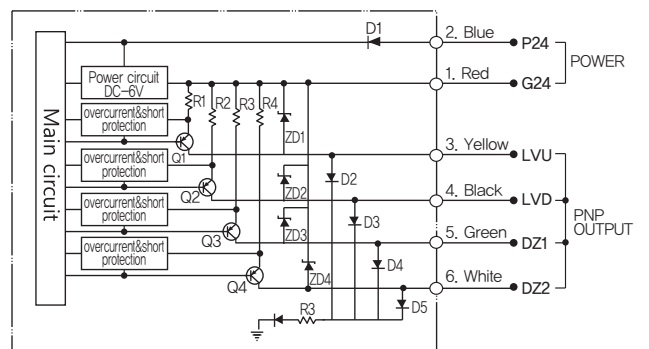
Control output diagram

Transmitter



Connection

Receiver



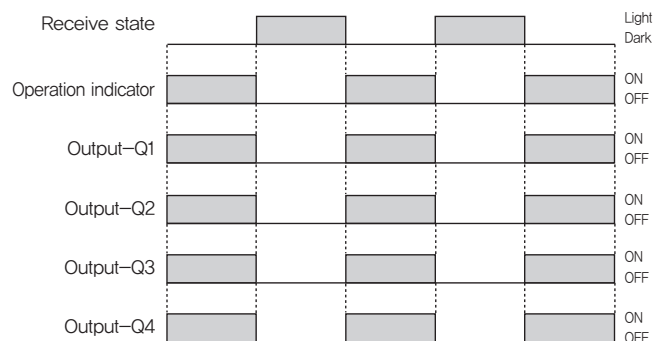
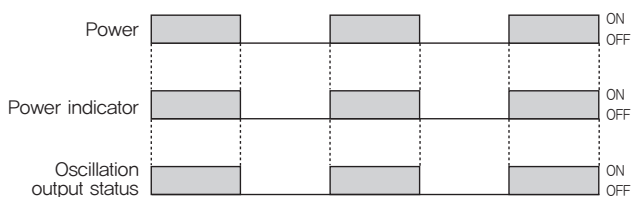
Specifications

Model	TKLD
Operating Voltage	24V DC ± 20% (Ripple P-P Max. 10%)
Consumption Current	Max. 50mA
Detecting target of Min	Min. Ø5mm opaque materials
Control output	PNP Transistor Open Collector Max. DC 35V, 500mA
Residual voltage	Max. 1.5V
Response time	Max. 1ms
Light source	Infrared LED
Ambient illumination	Sunlight: Max. 10,000 lux
Ambient Temperature	Operate : -30~65°C, Storage : -30~70°C
Ambient Humidity	Operate : 35~85%RH, Storage : Max. 35~90%RH
Protection circuit	Reverse polarity protection, Short circuit protection
Protection category	IP65 (IEC specification)
Insulation resistance	Min. 20MΩ (DC 500V Megger)
Dielectric strength	AC 1,000V 50/60Hz for 1 minute
Shock resistance	200%, X, Y, Z direction for 3times
Vibration resistance	1.5mm amplitude at frequency of 10~55Hz X,Y,Z direction for 2 hours
Noise resistance	300Vp, pulse 0.5μs (by the noise simulator)
Cable	Ø7.2, 6C, 0.5SQ Capture cable 5m

Operation chart

▶ Transmitter

▶ Receiver



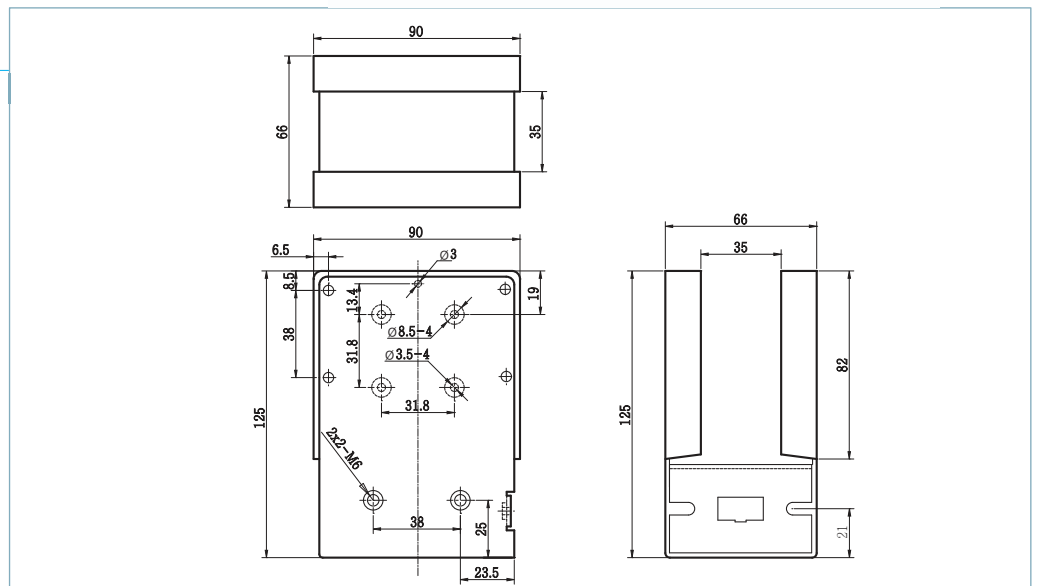
▶▶ ETSD Terminal Slow Down Switch

Photo U-Type Sensor

- Landing control of elevator
- 2-Beams



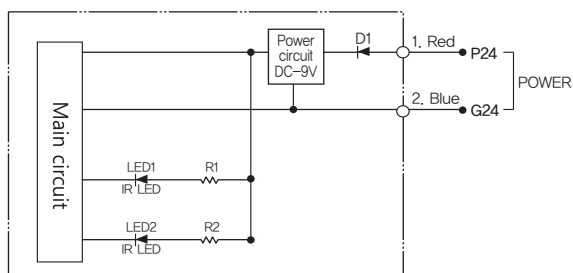
Dimension



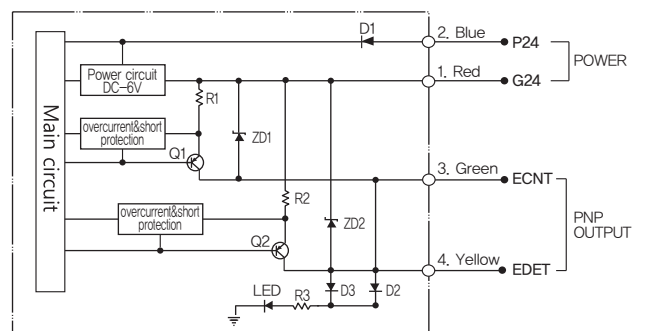
Control output diagram

Connection

▶ Transmitter



▶ Receiver



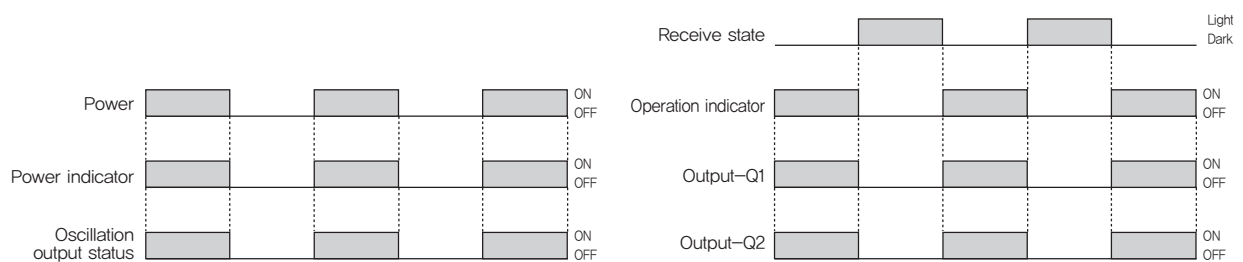
Specifications

Model	ETSD
Operating Voltage	12~24V DC \pm 10% (Ripple P-P max. 10%)
Consumption Current	Max. 30mA
Detecting target of Min	Min. \varnothing 5mm opaque materials
Control output	PNP Transistor Open Collector Max. DC 35V, 300mA
Residual voltage	Max. 1.5V
Response time	Max. 1ms
Light source	Infrared LED
Ambient illumination	Sunlight: Max. 10,000 lux
Ambient Temperature	Operate : $-30\sim 60^{\circ}\text{C}$, Storage : $-30\sim 70^{\circ}\text{C}$
Ambient Humidity	Operate : 35~85%RH, Storage : Max. 35~90%RH
Protection circuit	Reverse polarity protection, Short circuit protection
Protection category	IP65 (IEC specification)
Insulation resistance	Min. 20M Ω (DC 500V Megger)
Dielectric strength	AC 1,000V 50/60Hz for 1 minute
Shock resistance	200%, X, Y, Z direction for 3times
Vibration resistance	1.5mm amplitude at frequency of 10~55Hz X,Y,Z direction for 2 hours
Noise resistance	300Vp, pulse 0.5 μ s (by the noise simulator)
Cable	\varnothing 5.6, 4C, 0.5SQ Captire cable 5m

Operation chart

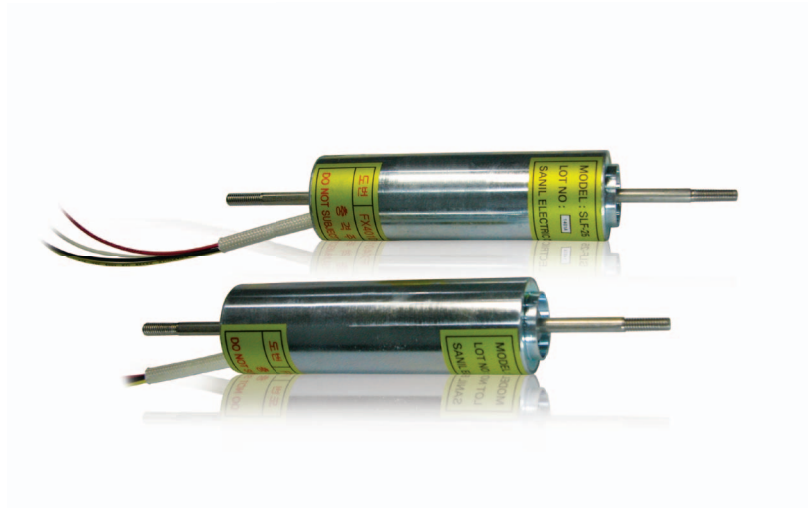
▶ Transmitter

▶ Receiver

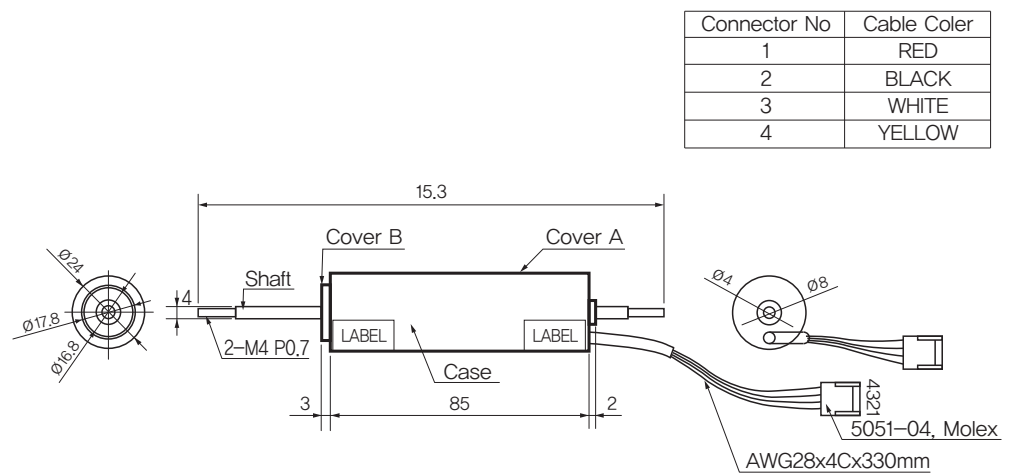


▶▶ SLF-25 Linear Transformer

Linear Transformer



Dimension

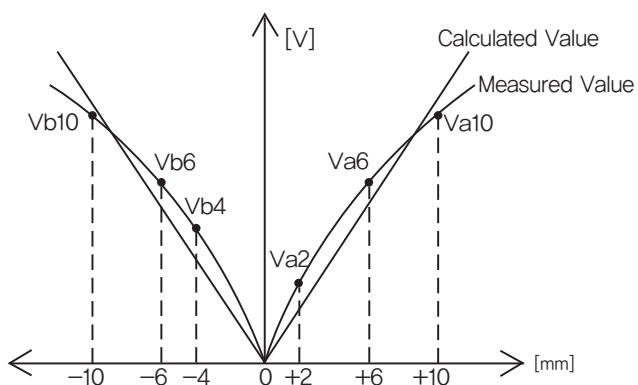


Specifications

Model	SLF-25	SLF-25S
Power Supply	AC 5V ±10%, 1kHz (±30%)	
Input Impedance	Min. 250Ω	
Output Voltage Change	Max. 0.51[Vrms/mm] ±15%	
Sensitivity	Max. 1%	
Output Drift	Max. 1.5%	
Mechanical Stroke	Max. 28mm	
Center	7.5~8.5mm	11~13mm
Guarantee Range	2~14mm	2~22mm
Dielectric Strength	AC 1,500V, 1 minute	
Insulation Resistance	Min. 5MΩ	
Ambient Temperature	-15°C~65°C	
Temperature Drift	Output Voltage Variation Max. ±2%	
Shaft Tension	Max. 20kg	
Cable	UL3266 AWG28 x 330mm (Red, Black, White, Yellow)	

Sensitivity Drift, linearity

▶ Sensitivity Drift, linearity



▶ Sensitivity

• SLF-25 : $\{(Va6-Vb6)/Va6\} \cdot 100$, Max. 1% example) $Va6 = 3.06V$, $Vb6 = 3.04V$
Sensitivity Drift : 0.65%

• SLF-25S : $\{(Va10-Vb10)/Va10\} \cdot 100$, Max. 1% example) $Va10 = 5.5V$, $Vb10 = 5.48V$
Sensitivity Drift : 0.36%

▶ linearity

• SLF-25 : 0~ $Va6$, 0~ $Vb6$, calculated value : Measured Value Max. 1.5% example) at +2mm linearity ($Va6 = 3.06V$, $Va2 = 1V$)
 $Va2$ linearity = $\{[(Va6/6) \cdot 2 - Va2]/Va6\} = 0.65\%$

• SLF-25S : 0~ $Va10$, 0~ $Vb10$ calculated value : Measured Value Max. 1.5% example) at -4mm linearity ($Vb10 = 5.05V$, $Vb4 = 2V$)
 $Vb4$ linearity = $\{[(Vb10/10) \cdot 4 - Vb4]/Vb10\} = 0.4\%$

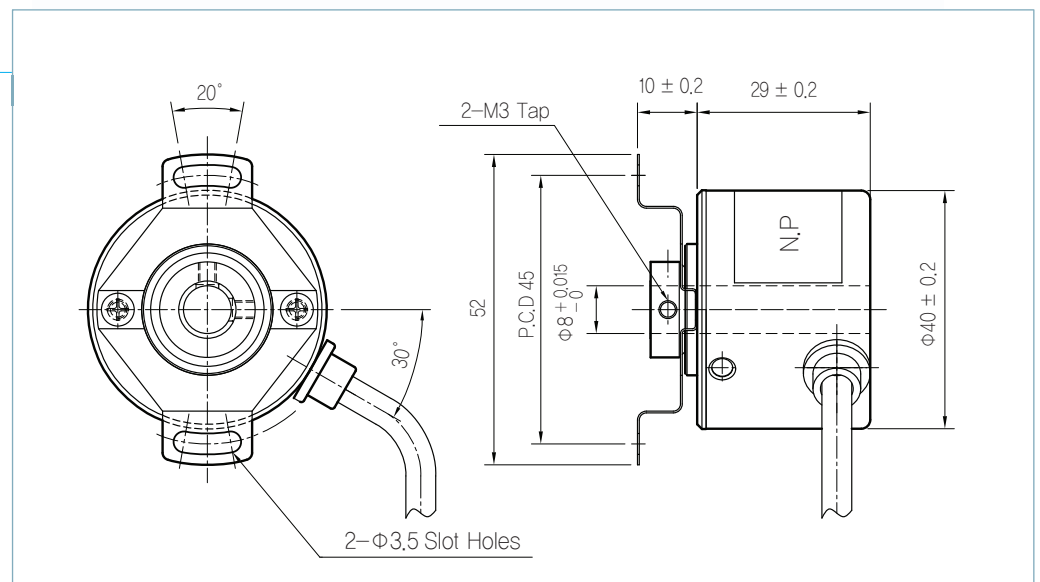
▶▶ 40H-8 Series Incremental Type Outer Diameter $\varnothing 40$, Shaft Size $\varnothing 8$

Features

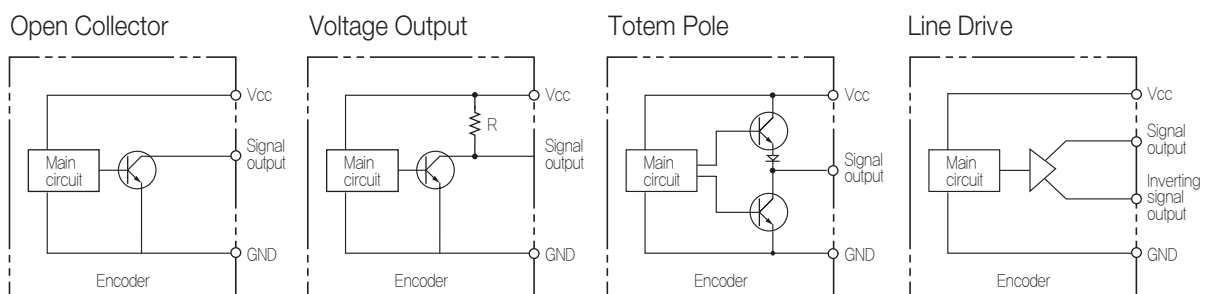
- Industrial Motor, Machine Tools
- Easy to Attach
- Wide Ranging Power Voltage



Dimension



Output Circuit



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	75, 100, 150, 192, 200, 300, 360, 500,	SIE40H-8-LS-Pulse
Open Collector		SIE40H-8-OZ-Pulse
Voltage Output	512, 600, 720, 1000, 1024, 2000, 2048,	SIE40H-8-VZ-Pulse
Totem Polt	2500, 3000, 4096, 5000, 6000	SIE40H-8-TZ-Pulse

Electrical Spec.

Output Form	Line Drive	Totem Pole	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%		
Consumption Current	200mA Max		80mA Max	
Max. Response Frequency	300kHz Max			
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V			
Output Phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z}	A, B, Z		
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)		2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length			


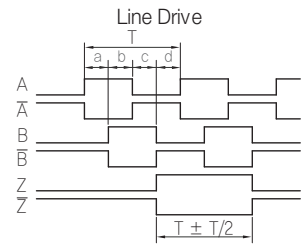
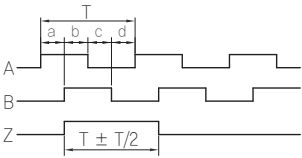
Mechanical Spec.

Starting Torque	50gf-cm Max. (at 20°C)
Max. Rotating Speed	5,000 rpm
Allowable Shaft Load	• Radial : 3.0kg Max. • Axial : 1.5kg Max.
Cable Spec.	• Diameter : Φ 5.0 ± 0.3mm. • Length : 1m
Mass	Max. 200g

Environmental Spec.

Workable/Storage Temperature	-10 ~ +70°C / -20 ~ +85°C
Workable/Storage Humidity	35 ~ 80% RH / 35 ~ 85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	50G
Protective Construction	IP 50

Output Phase

Output Phase Shift		Connection Table	
<p>CW → Viewed from Shaft End</p> <p>$a+b, c+d = T/2 \pm T/10$ $a, b, c, d = T/4 \pm T/10$</p> 	<p>Line Drive</p> 	Lead Color	Output Phase
	<p>Open Collector, Voltage Output, Totem Pole</p> 	출력형태	Line Drive Open Collector Voltage Output Totem Pole
		Brown	Vcc
		Blue	GND
		Green	A Sig
		White	\bar{A} Sig
		Gray	B Sig
		Black	\bar{B} Sig
		Yellow	Z Sig
		Orange	\bar{Z} Sig
		C,G	Shield

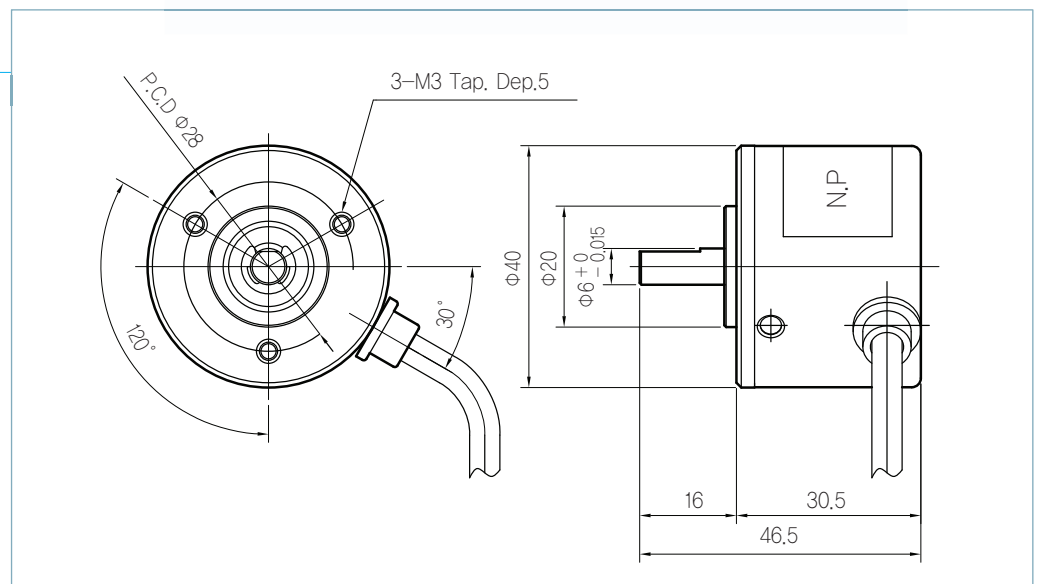
▶▶ 40S-6 Series Incremental Type Outer Diameter $\varnothing 40$, Shaft Size $\varnothing 6$

Features

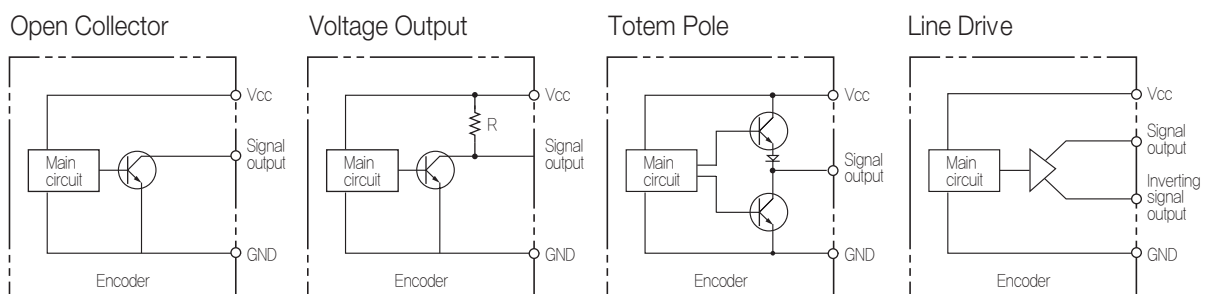
- Industrial Motor, Machine Tools
- Easy to Attach
- Wide Ranging Power Voltage



Dimension



Output Circuit



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	75, 100, 150, 192, 200, 300, 360, 500, 512, 600, 720, 1000, 1024, 2000, 2048, 2500, 3000, 4096, 5000, 6000	SIE40S-6-LS-Pulse
Open Collector		SIE40S-6-OZ-Pulse
Voltage Output		SIE40S-6-VZ-Pulse
Totem Polt		SIE40S-6-TZ-Pulse

Electrical Spec.

Output Form	Line Drive	Totem Pole	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%		
Consumption Current	200mA Max		80mA Max	
Max. Response Frequency	300kHz Max			
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V			
Output Phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z}	A, B, Z		
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)		2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length			


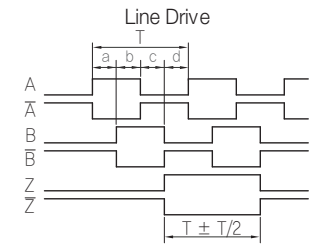
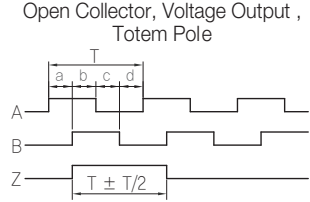
Mechanical Spec.

Starting Torque	50gf-cm Max. (at 20°C)
Max. Rotating Speed	5,000 rpm
Allowable Shaft Load	• Radial : 3.0kg Max. • Axial : 1.5kg Max.
Cable Spec.	• Diameter : $\Phi 5.0 \pm 0.3$ mm. • Length : 1m
Mass	Max. 200g

Environmental Spec.

Workable/Storage Temperature	-10 ~ +70°C / -20 ~ +85°C
Workable/Storage Humidity	35 ~ 80% RH / 35 ~ 85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	50G
Protective Construction	IP 50

Output Phase

Output Phase Shift		Connection Table																													
<p>CW → Viewed from Shaft End</p> <p>$a+b, c+d = T/2 \pm T/10$</p> <p>$a, b, c, d = T/4 \pm T/10$</p> 	<p>Line Drive</p> 	Lead Color	Output Phase																												
	<p>Open Collector, Voltage Output, Totem Pole</p> 	<table border="1"> <thead> <tr> <th>Output Form</th> <th>Line Drive</th> <th>Open Collector Voltage Output Totem Pole</th> </tr> </thead> <tbody> <tr> <td>Brown</td> <td>Vcc</td> <td>Vcc</td> </tr> <tr> <td>Blue</td> <td>GND</td> <td>GND</td> </tr> <tr> <td>Green</td> <td>A Sig</td> <td>A Sig</td> </tr> <tr> <td>White</td> <td>\bar{A} Sig</td> <td>-</td> </tr> <tr> <td>Gray</td> <td>B Sig</td> <td>B Sig</td> </tr> <tr> <td>Black</td> <td>\bar{B} Sig</td> <td>-</td> </tr> <tr> <td>Yellow</td> <td>Z Sig</td> <td>Z Sig</td> </tr> <tr> <td>Orange</td> <td>\bar{Z} Sig</td> <td>-</td> </tr> <tr> <td>C,G</td> <td>Shield</td> <td>Shield</td> </tr> </tbody> </table>	Output Form	Line Drive	Open Collector Voltage Output Totem Pole	Brown	Vcc	Vcc	Blue	GND	GND	Green	A Sig	A Sig	White	\bar{A} Sig	-	Gray	B Sig	B Sig	Black	\bar{B} Sig	-	Yellow	Z Sig	Z Sig	Orange	\bar{Z} Sig	-	C,G	Shield
Output Form	Line Drive	Open Collector Voltage Output Totem Pole																													
Brown	Vcc	Vcc																													
Blue	GND	GND																													
Green	A Sig	A Sig																													
White	\bar{A} Sig	-																													
Gray	B Sig	B Sig																													
Black	\bar{B} Sig	-																													
Yellow	Z Sig	Z Sig																													
Orange	\bar{Z} Sig	-																													
C,G	Shield	Shield																													

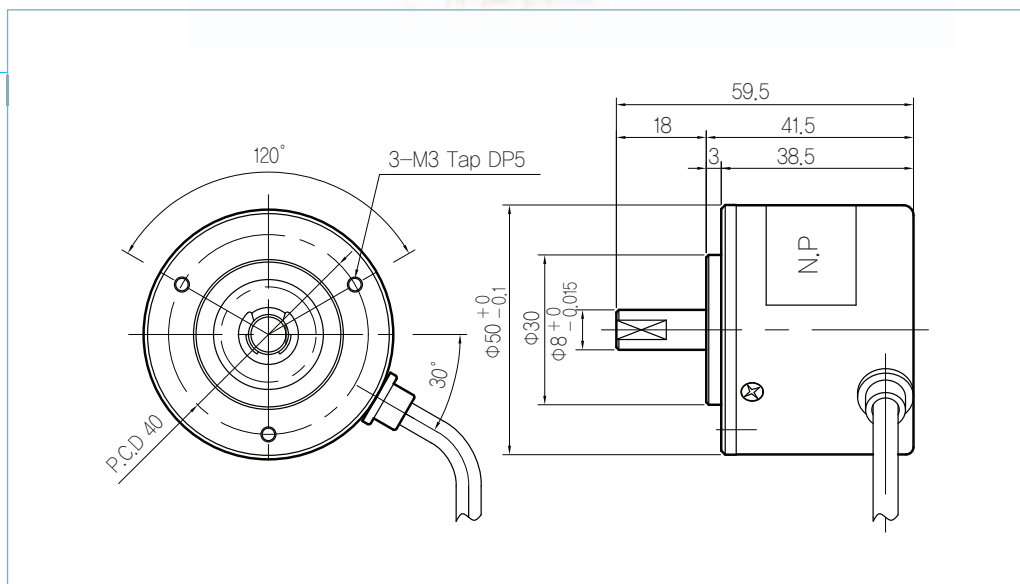
▶▶ 50S-8 Series Incremental Type Outer Diameter $\varnothing 50$, Shaft Size $\varnothing 8$

Features

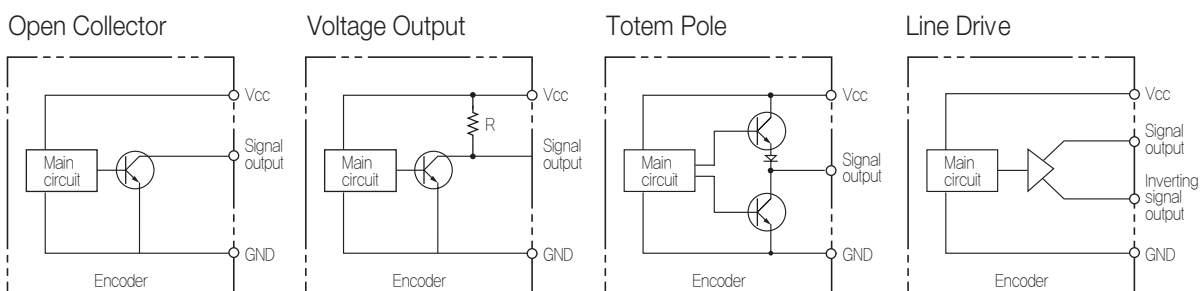
- Industrial Motor, Machine Tools
- Easy to Attach
- Wide Ranging Power Voltage



Dimension



Output Circuit



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	75, 100, 150, 192, 200, 300, 360, 500, 512, 600, 720, 1000, 1024, 2000, 2048, 2500, 3000, 4096, 5000, 6000	SIE50S-8-LS-Pulse
Open Collector		SIE50S-8-OZ-Pulse
Voltage Output		SIE50S-8-VZ-Pulse
Totem Polt		SIE50S-8-TZ-Pulse

Electrical Spec.

Output Form	Line Drive	Totem Pole	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%		
Consumption Current	200mA Max		80mA Max	
Max. Response Frequency	300kHz Max			
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V			
Output Phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z}		A, B, Z	
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)		2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length			


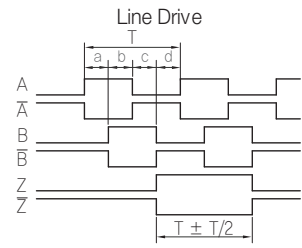
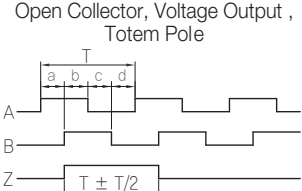
Mechanical Spec.

Starting Torque	80gf-cm Max. (at 20°C)
Max. Rotating Speed	5,000 rpm
Allowable Shaft Load	• Radial : 3.0kg Max. • Axial : 1.5kg Max.
Cable Spec.	• Diameter : $\Phi 5.0 \pm 0.3$ mm. • Length : 1m
Mass	Max. 250g

Environmental Spec.

Workable/Storage Temperature	-10 ~ +70°C / -20 ~ +85°C
Workable/Storage Humidity	35 ~ 80% RH / 35 ~ 85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	50G
Protective Construction	IP 50

Output Phase

Output Phase Shift		Connection Table																													
<p>CW → Viewed from Shaft End</p> <p>$a+b, c+d = T/2 \pm T/10$</p> <p>$a, b, c, d = T/4 \pm T/10$</p> 	<p>Line Drive</p> 	Lead Color	Output Phase																												
	<p>Open Collector, Voltage Output, Totem Pole</p> 	<table border="1"> <thead> <tr> <th>Output Form</th> <th>Line Drive</th> <th>Open Collector Voltage Output Totem Pole</th> </tr> </thead> <tbody> <tr> <td>Brown</td> <td>Vcc</td> <td>Vcc</td> </tr> <tr> <td>Blue</td> <td>GND</td> <td>GND</td> </tr> <tr> <td>Green</td> <td>A Sig</td> <td>A Sig</td> </tr> <tr> <td>White</td> <td>\bar{A} Sig</td> <td>-</td> </tr> <tr> <td>Gray</td> <td>B Sig</td> <td>B Sig</td> </tr> <tr> <td>Black</td> <td>\bar{B} Sig</td> <td>-</td> </tr> <tr> <td>Yellow</td> <td>Z Sig</td> <td>Z Sig</td> </tr> <tr> <td>Orange</td> <td>\bar{Z} Sig</td> <td>-</td> </tr> <tr> <td>C,G</td> <td>Shield</td> <td>Shield</td> </tr> </tbody> </table>	Output Form	Line Drive	Open Collector Voltage Output Totem Pole	Brown	Vcc	Vcc	Blue	GND	GND	Green	A Sig	A Sig	White	\bar{A} Sig	-	Gray	B Sig	B Sig	Black	\bar{B} Sig	-	Yellow	Z Sig	Z Sig	Orange	\bar{Z} Sig	-	C,G	Shield
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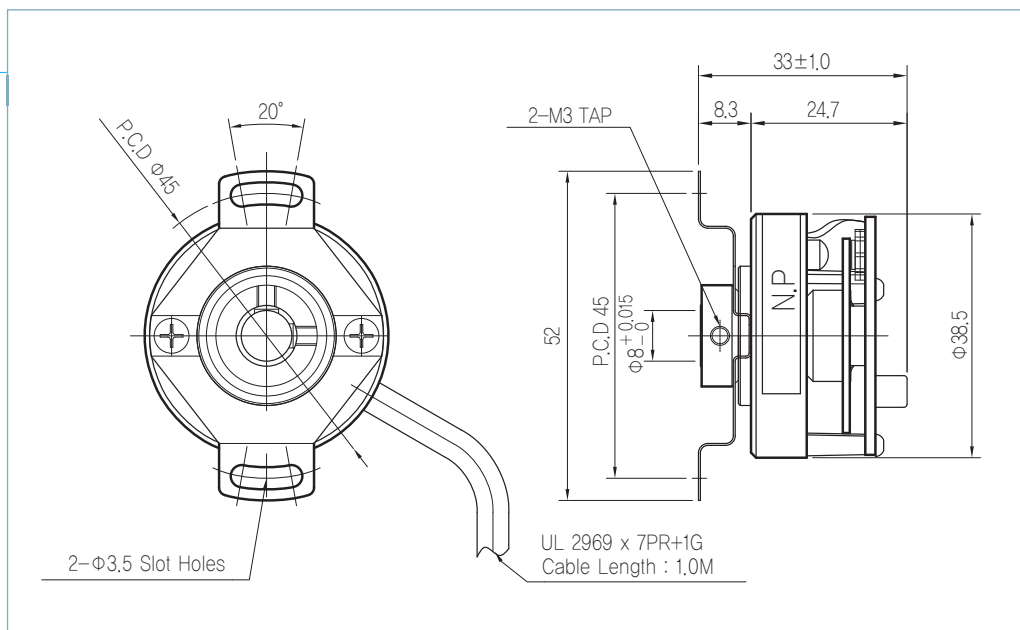
▶▶ 38H-8 Series Incremental Type Outer Diameter $\varnothing 38$, Shaft Size $\varnothing 8$

Features

- AC Servomotor
- Industrial Motor
- For Synchronous Machine

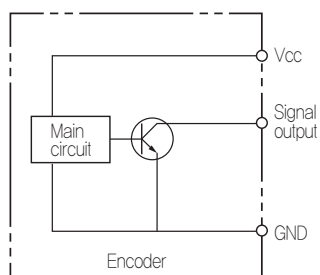


Dimension

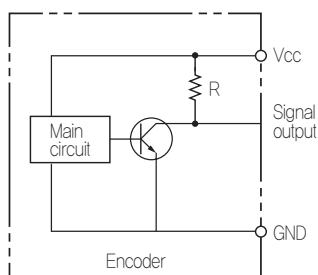


Output Circuit

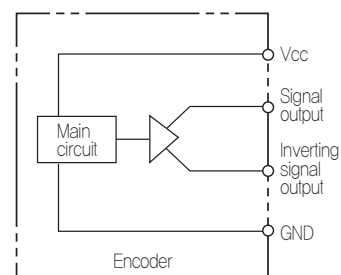
Open Collector



Voltage Output



Line Drive



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	Pulse : 2000, 2500, 3000, 5000, 6000 Pole : 4, 6, 8	SIE38H-8-LW- Pulse (Pole)
Open Collector		SIE38H-8-OZ- Pulse
Voltage Output		SIE38H-8-VZ- Pulse

Electrical Spec.

Output Form	Line Drive	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%	
Consumption Current	200mA Max	80mA Max	
Max. Response Frequency	300kHz Max		
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V		
Output Phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z} , U, \bar{U} , V, \bar{V} , W, \bar{W}	A, B, Z	
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)	2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length		

Mechanical Spec.

Starting Torque	50gf-cm Max. (at 20°C)
Max. Rotating Speed	5,000 rpm
Allowable Shaft Load	• Radial : 3.0kg Max. • Axial : 1.5kg Max.
Cable Spec.	• Diameter : $\Phi 7.0 \pm 0.3$ mm. • Length : 1m
Mass	Max. 200g

Environmental Spec.

Workable/Storage Temperature	-20 ~ +85°C
Workable/Storage Humidity	35 ~ 80% RH / 35 ~ 85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	50G
Protective Construction	IP 00

Output Phase

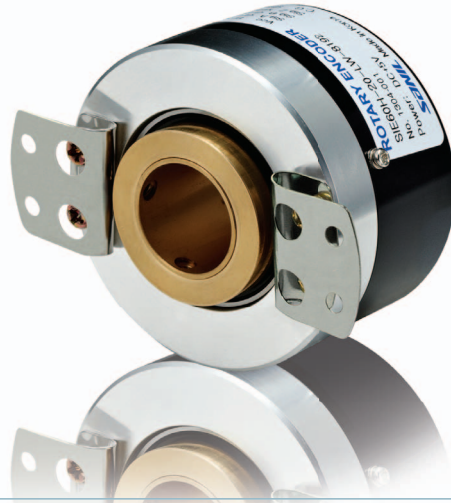
Output Phase Shift	Connection Table																																																			
<p>CCW → Viewed from Shaft End</p> <p>$a + b, c + d = T/2 \pm T/8$</p> <p>$a, b, c, d = T/4 \pm T/8$</p> <p>$f, g, h, i, j, k : 15^\circ \pm 1^\circ$</p> <p>$L1 : 90^\circ \pm 1^\circ$ (8 Pole)</p> <p>e : From Uch (rise point) to Zch center ($\pm 1^\circ$)</p>	<table border="1"> <thead> <tr> <th>Lead Color</th> <th colspan="2">Output Phase</th> </tr> <tr> <th>Output Form</th> <th>Line Drive</th> <th>Open Collector Voltage Output Totem Pole</th> </tr> </thead> <tbody> <tr> <td>Green</td> <td>A Sig</td> <td>A Sig</td> </tr> <tr> <td>White</td> <td>\bar{A} Sig</td> <td>-</td> </tr> <tr> <td>Gray</td> <td>B Sig</td> <td>B Sig</td> </tr> <tr> <td>Black</td> <td>\bar{B} Sig</td> <td>-</td> </tr> <tr> <td>Yellow</td> <td>Z Sig</td> <td>Z Sig</td> </tr> <tr> <td>Orange</td> <td>\bar{Z} Sig</td> <td>-</td> </tr> <tr> <td>White / Green</td> <td>U Sig</td> <td>-</td> </tr> <tr> <td>Black / White</td> <td>\bar{U} Sig</td> <td>-</td> </tr> <tr> <td>White / Gray</td> <td>V Sig</td> <td>-</td> </tr> <tr> <td>White / Black</td> <td>\bar{V} Sig</td> <td>-</td> </tr> <tr> <td>White / Yellow</td> <td>W Sig</td> <td>-</td> </tr> <tr> <td>White / Orange</td> <td>\bar{W} Sig</td> <td>-</td> </tr> <tr> <td>Brown</td> <td>Vcc</td> <td>Vcc</td> </tr> <tr> <td>Blue</td> <td>GND</td> <td>GND</td> </tr> <tr> <td>C,G</td> <td>Shield</td> <td>Shield</td> </tr> </tbody> </table>	Lead Color	Output Phase		Output Form	Line Drive	Open Collector Voltage Output Totem Pole	Green	A Sig	A Sig	White	\bar{A} Sig	-	Gray	B Sig	B Sig	Black	\bar{B} Sig	-	Yellow	Z Sig	Z Sig	Orange	\bar{Z} Sig	-	White / Green	U Sig	-	Black / White	\bar{U} Sig	-	White / Gray	V Sig	-	White / Black	\bar{V} Sig	-	White / Yellow	W Sig	-	White / Orange	\bar{W} Sig	-	Brown	Vcc	Vcc	Blue	GND	GND	C,G	Shield	Shield
Lead Color	Output Phase																																																			
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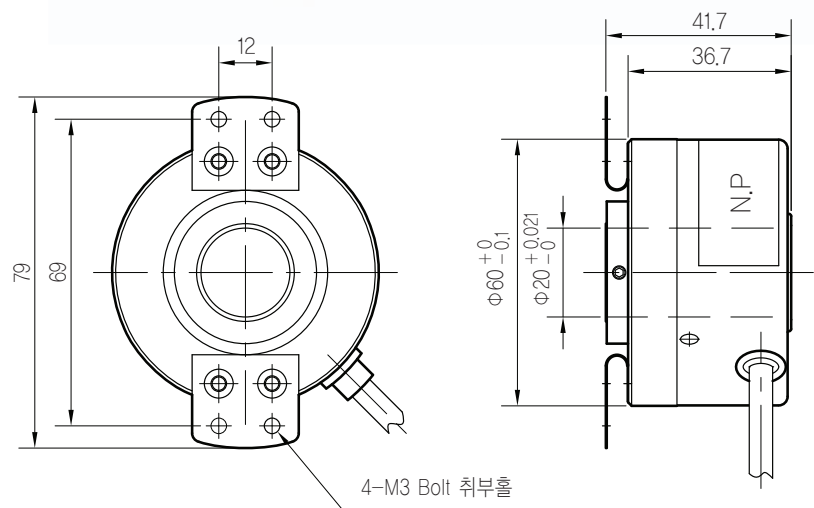
▶▶ 60H-20 Series Incremental Type Outer Diameter $\varnothing 60$, Shaft Size $\varnothing 20$

Features

- AC Servomotor
- For High Speed Elevators
- Wide Ranging Power Voltage

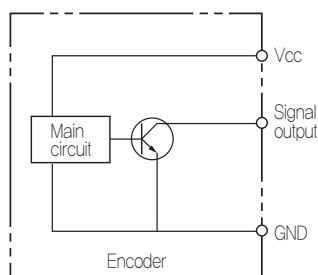


Dimension

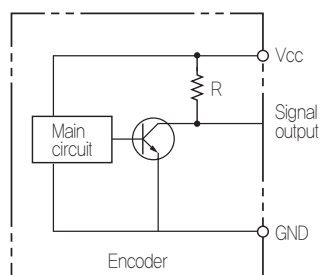


Output Circuit

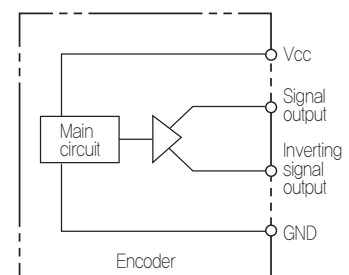
Open Collector



Voltage Output



Line Drive



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	Pulse : 2048, 4096, 8192 Pole : 6, 8, 16, 32	SIE60H-20-LW- Pulse (Pole)
Open Collector		SIE60H-20-OZ- Pulse
Voltage Output		SIE60H-20-VZ- Pulse

Electrical Spec.

Output Form	Line Drive	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%	
Consumption Current	200mA Max	80mA Max	
Max. Response Frequency	300kHz Max		
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V		
Output Phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z} , U, \bar{U} , V, \bar{V} , W, \bar{W}	A, B, Z	
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)	2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length		


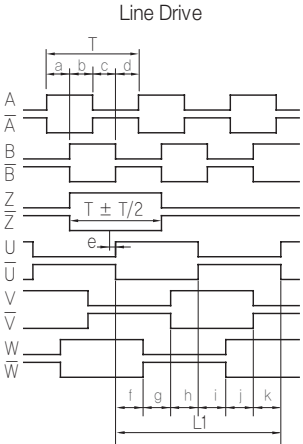
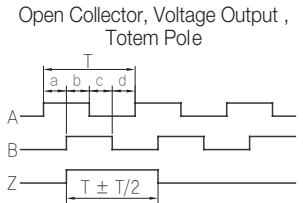
Mechanical Spec.

Starting Torque	150gf-cm Max. (at 20°C)
Max. Rotating Speed	3,000 rpm
Allowable Shaft Load	• Radial : 2.0kg Max. • Axial : 1.0kg Max.
Cable Spec.	• Diameter : $\Phi 7.0 \pm 0.3$ mm. • Length : 1m
Mass	Max. 300g

Environmental Spec.

Workable/Storage Temperature	-20 ~ +85°C
Workable/Storage Humidity	35 ~ 80% RH / 35 ~ 85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	50G
Protective Construction	IP 50

Output Phase

CCW → Viewed from Shaft End	Output Phase Shift	Connection Table																																																
		Lead Color	Output Phase																																															
<p>$a + b, c + d = T/2 \pm T/8$</p> <p>$a, b, c, d = T/4 \pm T/8$</p> <p>$f, g, h, i, j, k : 3.75^\circ \pm 1^\circ$</p> <p>$L1 : 22.5^\circ \pm 1^\circ$ (32 Pole)</p> <p>e : From Uch (rise point) to Zch center ($\pm 1^\circ$)</p> 	<p>Line Drive</p> 	<table border="1"> <thead> <tr> <th>Output Form</th> <th>Line Drive</th> <th>Open Collector Voltage Output Totem Pole</th> </tr> </thead> <tbody> <tr><td>Green</td><td>A Sig</td><td>A Sig</td></tr> <tr><td>White</td><td>\bar{A} Sig</td><td>-</td></tr> <tr><td>Gray</td><td>B Sig</td><td>B Sig</td></tr> <tr><td>Black</td><td>\bar{B} Sig</td><td>-</td></tr> <tr><td>Yellow</td><td>Z Sig</td><td>Z Sig</td></tr> <tr><td>Orange</td><td>\bar{Z} Sig</td><td>-</td></tr> <tr><td>White/Green</td><td>U Sig</td><td>-</td></tr> <tr><td>Black/White</td><td>\bar{U} Sig</td><td>-</td></tr> <tr><td>White/Gray</td><td>V Sig</td><td>-</td></tr> <tr><td>White/Black</td><td>\bar{V} Sig</td><td>-</td></tr> <tr><td>White/Yellow</td><td>W Sig</td><td>-</td></tr> <tr><td>White/Orange</td><td>\bar{W} Sig</td><td>-</td></tr> <tr><td>Brown</td><td>Vcc</td><td>Vcc</td></tr> <tr><td>Blue</td><td>GND</td><td>GND</td></tr> <tr><td>C,G</td><td>Shield</td><td>Shield</td></tr> </tbody> </table>	Output Form	Line Drive	Open Collector Voltage Output Totem Pole	Green	A Sig	A Sig	White	\bar{A} Sig	-	Gray	B Sig	B Sig	Black	\bar{B} Sig	-	Yellow	Z Sig	Z Sig	Orange	\bar{Z} Sig	-	White/Green	U Sig	-	Black/White	\bar{U} Sig	-	White/Gray	V Sig	-	White/Black	\bar{V} Sig	-	White/Yellow	W Sig	-	White/Orange	\bar{W} Sig	-	Brown	Vcc	Vcc	Blue	GND	GND	C,G	Shield	Shield
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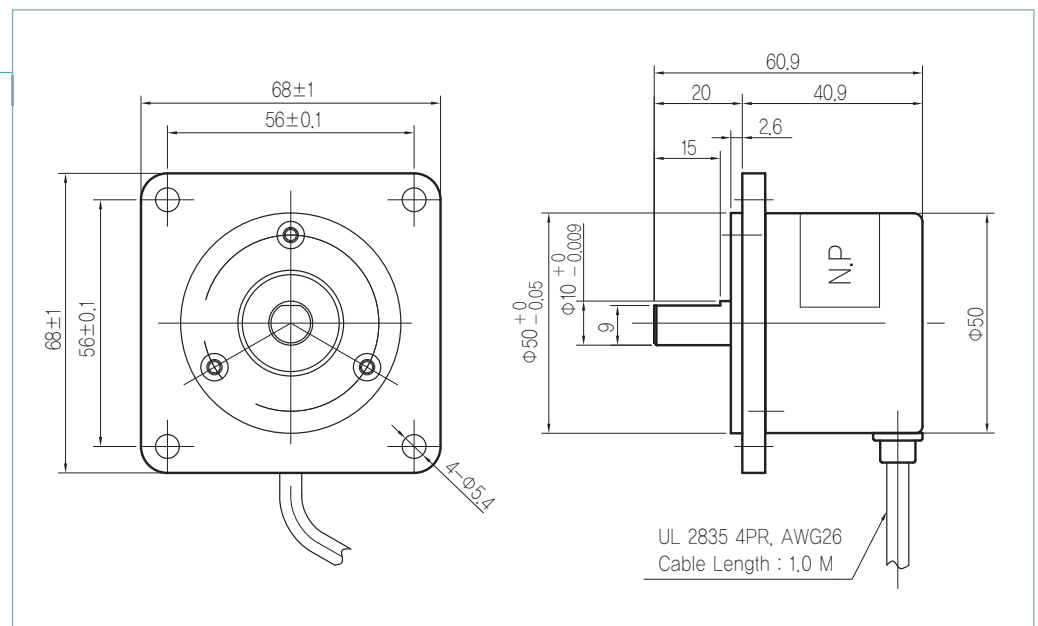
▶▶ 68F-10 Series Incremental Type Outer Diameter $\phi 68$, Shaft Size $\phi 10$

Features

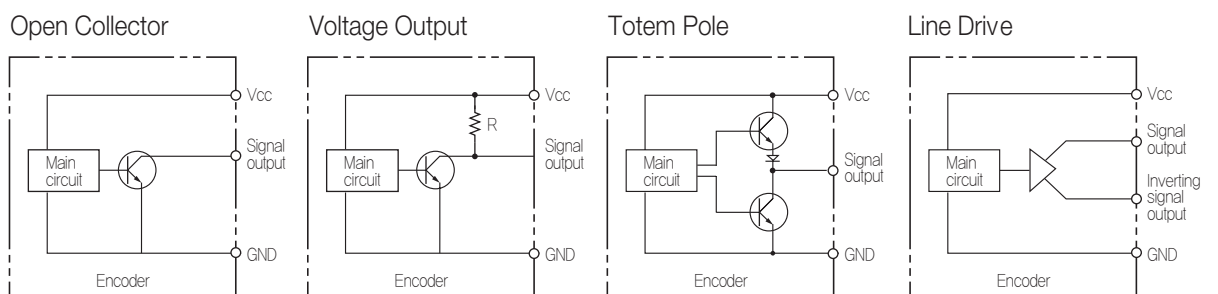
- Robots, X-Y Tables, Machine Tools
- Wide Ranging Power Voltage



Dimension



Output Circuit



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	75, 100, 150, 192, 200, 300, 360, 500, 512, 600, 720, 1000, 1024, 2000, 2048, 2500, 3000, 4096, 5000, 6000	SIE68F-10-LS-Pulse
Open Collector		SIE68F-10-OZ-Pulse
Voltage Output		SIE68F-10-VZ-Pulse
Totem Polt		SIE68F-10-TZ-Pulse

Electrical Spec.

Output Form	Line Drive	Totem Pole	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%		
Consumption Current	200mA Max		80mA Max	
Max. Response Frequency	300kHz Max			
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V			
Output Phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z}		A, B, Z	
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)		2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length			


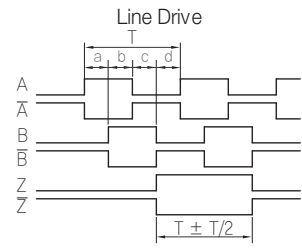
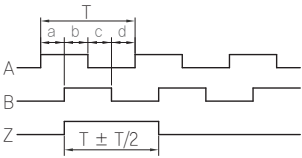
Mechanical Spec.

Starting Torque	80gf-cm Max. (at 20°C)
Max. Rotating Speed	5,000 rpm
Allowable Shaft Load	• Radial : 3.0kg Max. • Axial : 1.5kg Max.
Cable Spec.	• Diameter : $\Phi 5.0 \pm 0.3$ mm. • Length : 1m
Mass	Max.350g

Environmental Spec.

Workable/Storage Temperature	-10 ~ +70°C / -20 ~ +85°C
Workable/Storage Humidity	35~80% RH / 35~85% RH
Vibration	5~55Hz (Each 2hrs at X,Y,Z Axial Direction)
Shock	50G
Protective Construction	IP 50

Output Phase

Output Phase Shift		Connection Table																													
<p>CW → Viewed from Shaft End</p> <p>$a+b, c+d = T/2 \pm T/10$</p> <p>$a, b, c, d = T/4 \pm T/10$</p> 	<p>Line Drive</p> 	Lead Color	Output Phase																												
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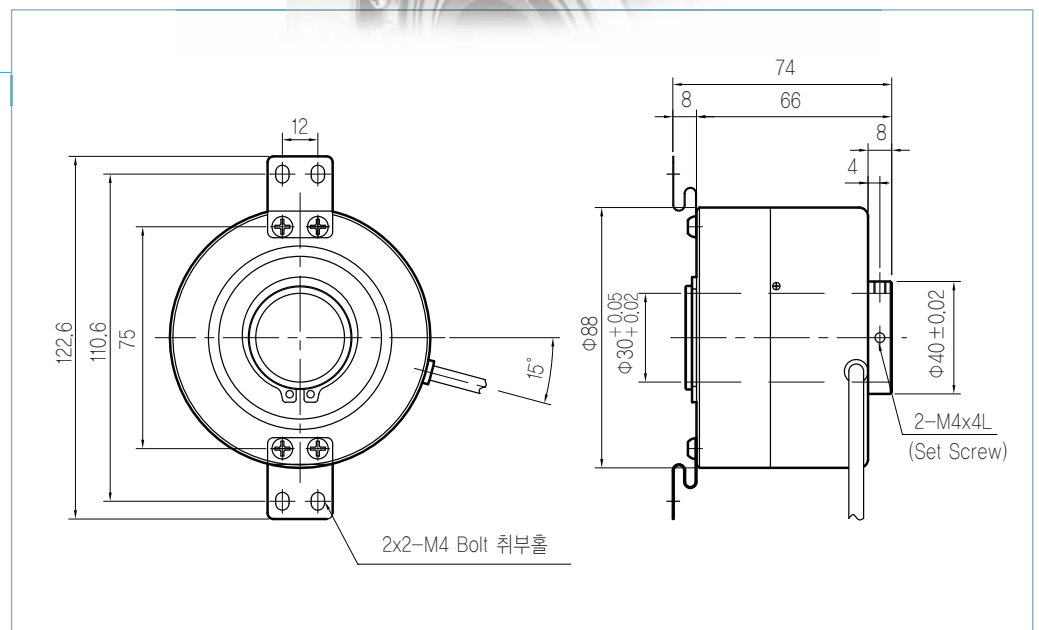
▶▶ 88H-30 Series Incremental Type Outer Diameter $\varnothing 88$, Shaft Size $\varnothing 30$

Features

- For Elevators
- Wide Ranging Power Voltage

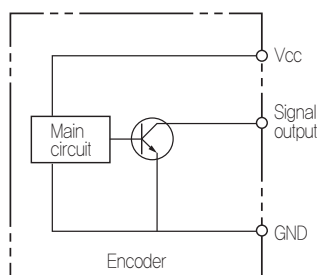


Dimension

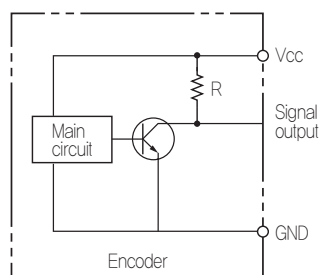


Output Circuit

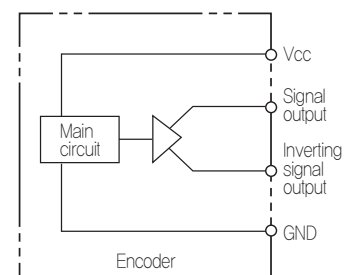
Open Collector



Voltage Output



Line Drive



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	1024, 4096	SE88H-30-LW- Pulse (Pole)
Open Collector		SE88H-30-OZ- Pulse
Voltage Output		SE88H-30-VZ- Pulse

Electrical Spec.

Output Form	Line Drive	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%	
Consumption Current	200mA Max	80mA Max	
Max. Response Frequency	100kHz Max		
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V		
Output Phase	\bar{A} , A, \bar{B} , B, \bar{Z} , Z,	A, B, Z	
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)	2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length		


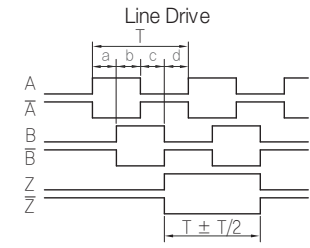
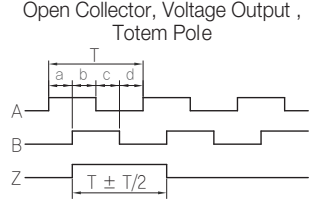
Mechanical Spec.

Starting Torque	500gf-cm Max. (at 20°C)
Max. Rotating Speed	3,000 rpm
Allowable Shaft Load	• Radial : 5.0kg Max. • Axial : 2.5kg Max.
Cable Spec.	• Diameter : $\Phi 5.0 \pm 0.3$ mm. • Length : 1m
Mass	Max. 800g

Environmental Spec.

Workable/Storage Temperature	-10~+70°C / -20~+85°C
Workable/Storage Humidity	35~80% RH / 35~85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	100G
Protective Construction	IP 50

Output Phase

Output Phase Shift		Connection Table			
<p>CW → Viewed from Shaft End</p> <p>$a+b, c+d = T/2 \pm T/10$</p> <p>$a, b, c, d = T/4 \pm T/10$</p> 	<p>Line Drive</p> 	Lead Color	Output Phase		
	<p>Open Collector, Voltage Output, Totem Pole</p> 	Output Form	Line Drive	Open Collector Voltage Output Totem Pole	
		Brown	Vcc	Vcc	
		Blue	GND	GND	
		Green	A Sig	A Sig	
		White	\bar{A} Sig	-	
		Gray	B Sig	B Sig	
		Black	\bar{B} Sig	-	
		Yellow	Z Sig	Z Sig	
		Orange	\bar{Z} Sig	-	
		C,G	Shield	Shield	

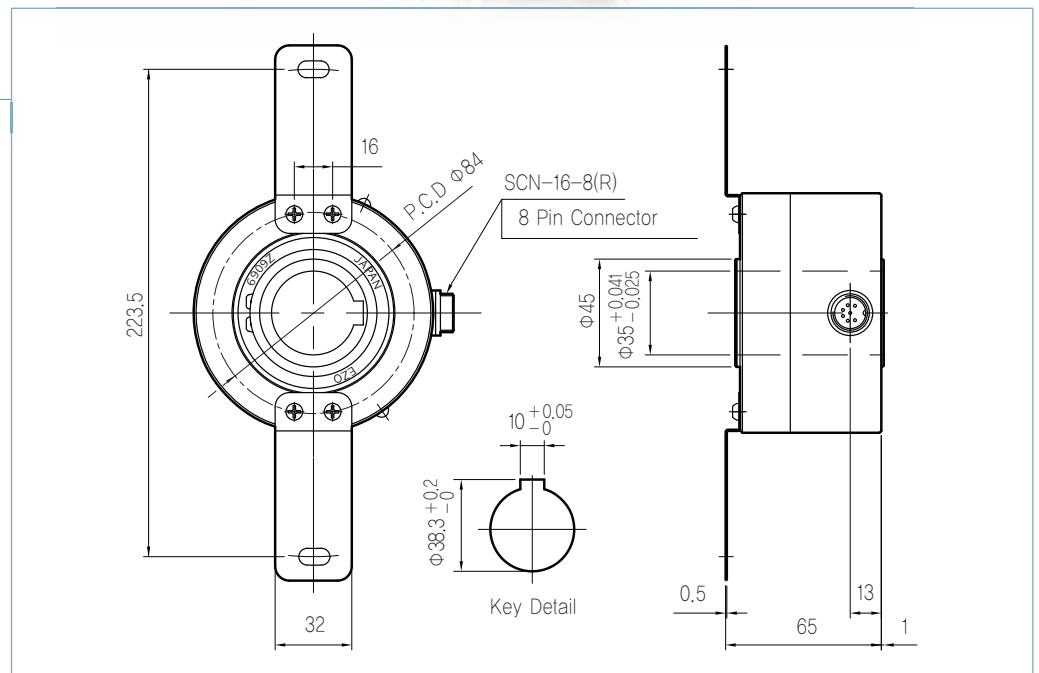
▶▶ 100H-35 Series Incremental Type Outer Diameter $\varnothing 100$, Shaft Size $\varnothing 35$

Features

- For Elevators
- 2 In 1 Resolution
- Wide Ranging Power Voltage

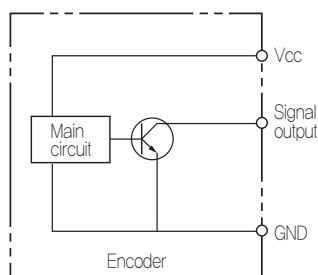


Dimension

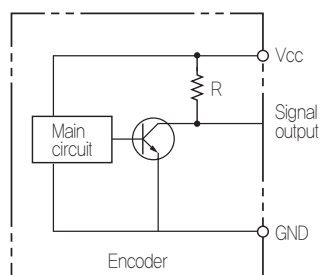


Output Circuit

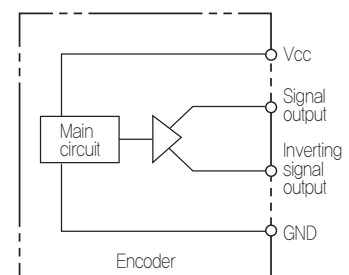
Open Collector



Voltage Output



Line Drive



Resolution

Output Form	Resolution (P/R)	Model No.
Line Drive	1024, 4096	SE100H-35-LW- Pulse (Pole)
Open Collector		SE100H-35-OZ- Pulse
Voltage Output		SE100H-35-VZ- Pulse

Electrical Spec.

Output Form	Line Drive	Open Collector	Voltage Output
Supply Voltage	DC 5V ± 5%	DC 5V ± 5%, DC 12V~24V ± 5%	
Consumption Current	200mA Max	80mA Max	
Max. Response Frequency	100kHz Max		
Output Voltage	High Level : Above +2.4V / Low Level : Below +0.5V		
Output Phase	\bar{A} , A, \bar{B} , B, \bar{Z} , Z,	A, B, Z	
Rise Time, Fall Time	1.0 μ s Max / 0.5 μ s Max (On Pull-Up Resistor 400 Ω)	2.0 μ s Max / 1.0 μ s Max (On Pull-Up Resistor 400 Ω)	
Option	Available to Order Various Connectors and Cable Length		


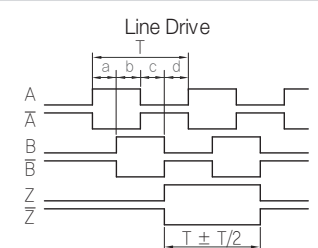
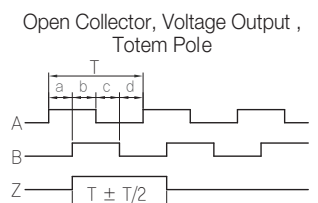
Mechanical Spec.

Starting Torque	800gf-cm Max. (at 20°C)
Max. Rotating Speed	3,000 rpm
Allowable Shaft Load	• Radial : 5.0kg Max. • Axial : 2.5kg Max.
Cable Spec.	• Diameter : $\Phi 5.0 \pm 0.3$ mm. • Length : 1m
Mass	Max. 1200g

Environmental Spec.

Workable/Storage Temperature	-10~+70°C / -20~+85°C
Workable/Storage Humidity	35~80% RH / 35~85% RH
Vibration	5~55Hz(Each 2hrs at X,Y,Z Axial Direction)
Shock	100G
Protective Construction	IP 50

Output Phase

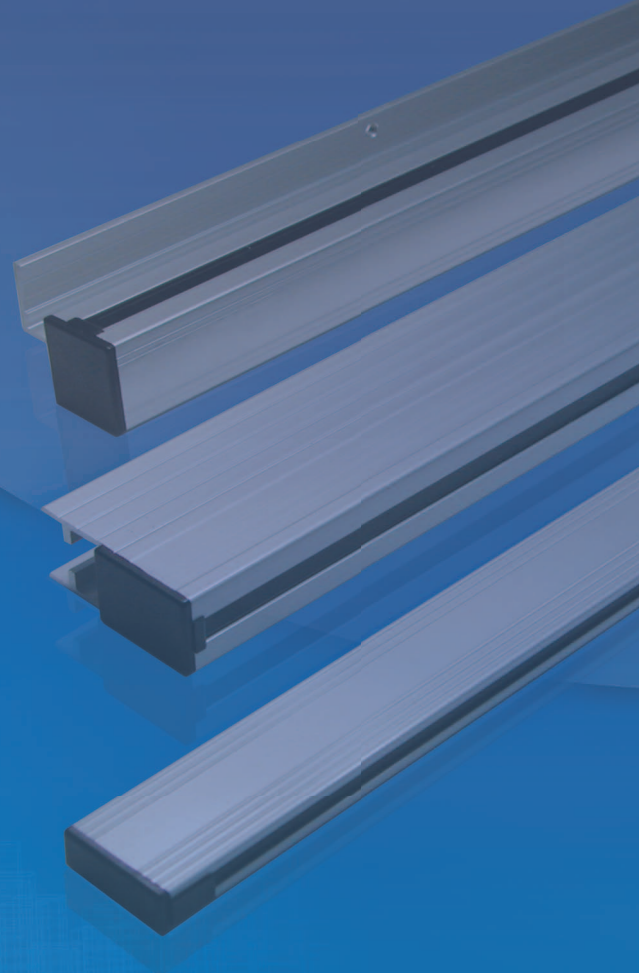
Output Phase Shift		Connection Table		
<p>CW → Viewed from Shaft End</p> <p>$a+b, c+d = T/2 \pm T/10$</p> <p>$a, b, c, d = T/4 \pm T/10$</p> 	<p>Line Drive</p> 	Lead Color	Output Phase	
	<p>Open Collector, Voltage Output, Totem Pole</p> 	Output Form	Line Drive	Open Collector Voltage Output Totem Pole
		Brown	Vcc	Vcc
		Blue	GND	GND
		Green	A Sig	A Sig
		White	\bar{A} Sig	-
		Gray	B Sig	B Sig
		Black	\bar{B} Sig	-
		Yellow	Z Sig	Z Sig
		Orange	\bar{Z} Sig	-
		C,G	Shield	Shield



Elevator Automation System

Only SANIL





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