

Dedicated to delivering
exceptional versatility



Optical beam axes
SS10A(10mm), SS20(20mm)
and SS40(40mm)

A wide range of lineup
selectable for the
installation location

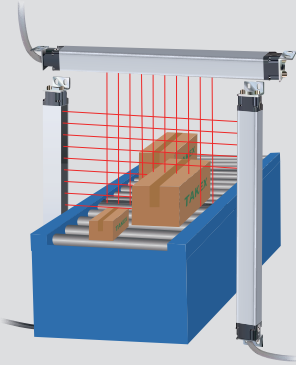
Individual output for each
optical axis type (SS10A)
ON/OFF output types
(SS20 and SS40) available

Light curtain sensor is capable of the various detection

The optimal solution for your application

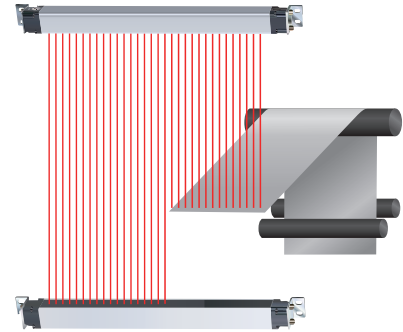
Carton dimension sizing

Mutual interference prevention function allows to install two sensors adjacently



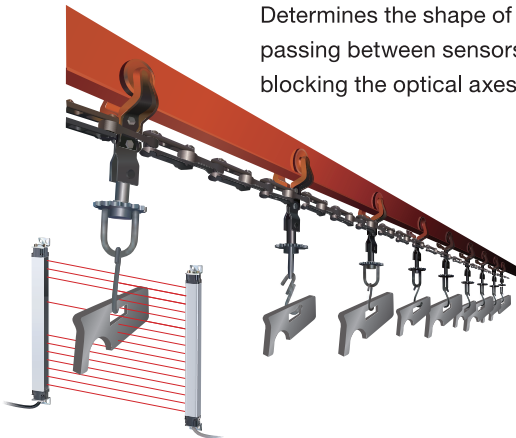
Edge position control of steel plate

Optimal position detection



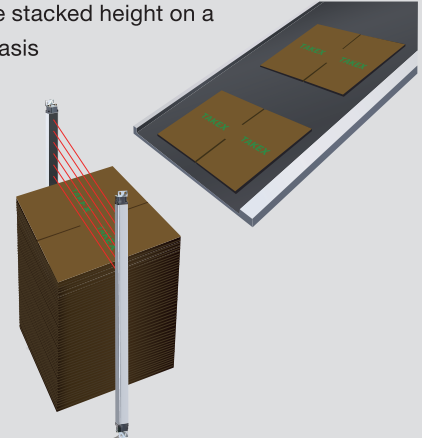
Parts shape identification

Determines the shape of the object passing between sensors by blocking the optical axes



Height detection of stacked cardboard boxes

Detects the stacked height on a real-time basis



SS10A Series

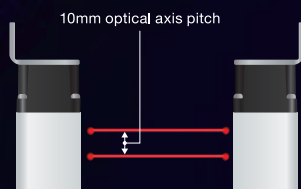
Ideal for object size and position detection

Light curtain sensor with individual output for each optical axis



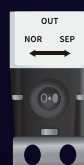
No missed detection

10mm optical axis pitch
Four types with detection width:
150 mm, 310 mm, 630 mm and
950 mm



Two modes switchable

Equipped with two different
outputs with serial and NPN
Capable of selecting modes
according to the application



Individual output for
each optical axis
(Serial output)



Versatile output
(NPN open
collector output)

Conversion board (B-1304MA/SA)

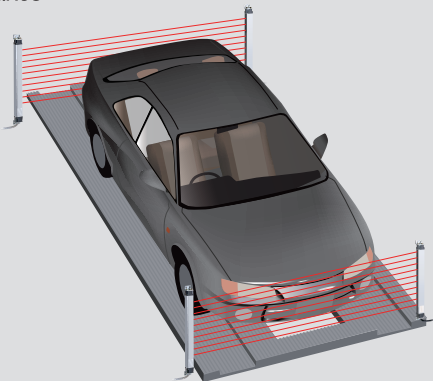
Provided a dedicated circuit
board that converts serial to
parallel output by each optical
axis(optional)

* Make sure B-1304SA together when
using with 65 or more optical axes



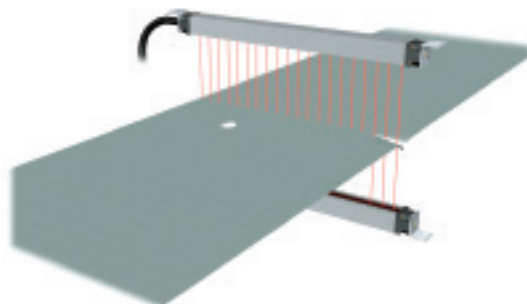
Detecting the protrusion of a vehicle

Stably detects the front and rear protrusions by multiple optical axes



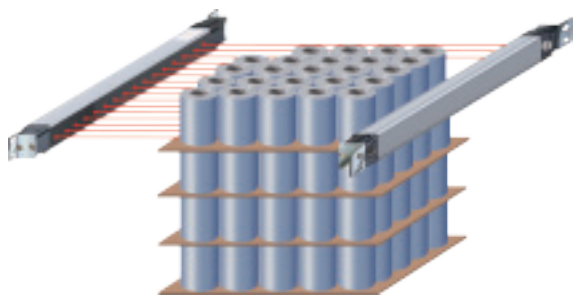
Detection of hole or tear in opaque sheet

Detects the hole or tear by activating the output when receiving one optical axis



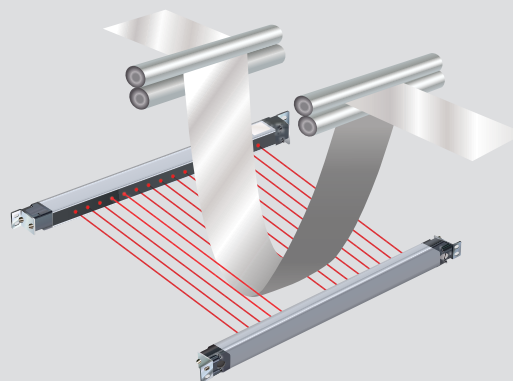
Upper level detection of the stacked objects

Stably detects the multiple objects with a single sensor



Coil loop detection

Covers wider detection area with a single sensor



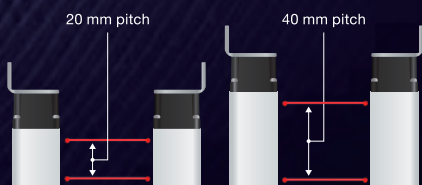
SS20/SS40 Series



Ideal for presence/absence, positioning,
and long-distance detection
Light curtain sensor

A wide range of lineup available

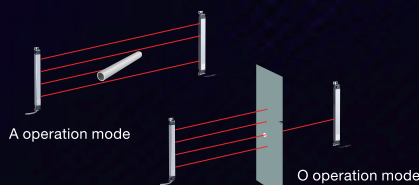
Two types of optical axis pitch:
20 mm, 40 mm
Detection width: 120 mm to 1,240 mm



Two different modes selectable

Modes can be selected according to the application

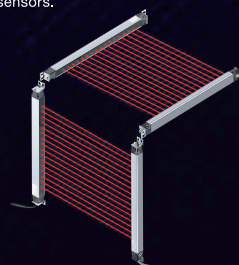
A: ON only when receiving all optical axes
(OFF when not receiving even on optical axis)
O: ON when receiving at least one optical axis
(OFF when receiving no optical axis)



Adjacent installation possible

Equipped with mutual interference prevention function which allows two sensors to be installed adjacently

* Possible only between the same series of sensors.



Specifications

SS10A Series

Model	SS10A-T16-CH	SS10A-T32-CH	SS10A-T64-CH	SS10A-T96-CH
Detecting distance	3m			
Detecting object	ø17mm (Min.) Opaque object			
Number of optical axes	16	32	64	96
Detecting width	150mm	310mm	630mm	950mm
Beam interval	10mm			
Power supply	24V DC ±10%, Ripple: 10% or less			
Current consumption	90mA or less	120mA or less	170mA or less	220mA or less
Output mode	Individual output for each optical axis: serial output Versatile output: NPN open collector output Rating: Sink current 100mA (at up to 30V DC)			
Operation mode	Individual output for each optical axis: Serial output Versatile output: ON only when receiving all optical axes			
Response time	Individual output for each optical axis: 40ms or less (for SS10A only) When combined with B-1304/MA/SA: 45ms or less Versatile output: 25ms or less			
Light source	Infrared LED			
Indicators	Transmitter: M/S indicator (Orange LED), Power indicator (Green LED) Receiver: Light stability indicator (Green LED), Operation indicator (Orange LED)			
Switches	Transmitter: M/S operation switch: integrated with the rear screw (M: master operation, S: slave operation) Receiver: output operation switch: integrated with the rear screw (NOR: general-purpose wide output, SEP: light-axis-specific output)			
Auxiliary functions	Mutual interference prevention when sensors are mounted in close proximity to each other. Power reverse connection prevention. Output short-circuit protection.			
Materials	Case: Aluminum, Front cover and lens: PMMA, Caps at both ends: PBT			
Connection method	Attached cable with connector (length: 0.2m) Attached cable with connector: 0.5mm ² × 4-core, ø6.8mm o.d.			
Weight	Transmitter / Receiver: Approx. 250g to 800g			
Conversion board	B-1304MA/SA *Output operation for each light axis (separately sold)			
Accessory	Attached cable with connector (length: 5m, Weight: approx. 350g), Instruction manual			
Ambient light	9,000 lx or less			
Ambient temperature	-10 to +55°C (at storage), -30 to +70°C (non-freezing or non-condensing)			
Ambient humidity	35 to 85%RH (non-condensing)			
Protective structure	IP 66			
Vibration	10 to 55Hz, double amplitude 1.5 mm, X, Y, Z directions, 2 hours each			
Shock	500 m/s ² , 3 times each in X, Y and Z directions			
Dielectric withstand voltage	500V AC for 1 min			
Insulation resistance	At least 20MQ with 500V DC Megger			

This product includes parts for noise attenuation which are connected between the housing and the battery charging section to prevent erroneous operation due to noise.
The dielectric withstand voltage and the insulation resistance values quoted in the specifications are with these attenuators removed.

B-1304MA/SA

Model		B-1304MA / B-1304SA
Rating and Performance	Connected sensor	SS10A series
	Channel number	B-1304MA: 64CH, B-1304SA: 32CH
	Maximum number of optical axes	96
	Power supply	24V DC ±10%, Ripple: 10% or less
	Current consumption	400mA or less for B-1304MA and B-1304SA in total (Sensor part and each optical axis output + COM excluded)
	Output operation mode	Dark-ON operation: operation indicator: OFF with light received in all axes, ON with light blocked in one or more optical axes Indicator of each optical axis output: OFF with light received, ON with light blocked Light-ON operation: operation indicator: OFF with light received in all axes, ON with light blocked in one or more optical axes Indicator of each optical axis output: ON with light received, OFF with light blocked
	Output	FET open drain output Rating: 30V DC 30mA, Residual voltage : 2V or less
	Response time	Up to 45ms including sensor *Data update cycle: Approx. 3ms
Specifications	Sensor and power connection method	Terminal board (SMKDS1 Phoenix contact)
	Connection method of each optical axis output	40P connector (N365P040 Otax)
	Connection method between main and sub boards	Attached cable with connector
	Indicators	Power indicator (Green LED), Operation indicator (Orange LED), Operation indicator of each optical axis (Red LED)
	Other functions	Output operation switches, Optical axis number selection switches
Ambient temperature		-10 to +55°C (no dew condensation)
Ambient humidity		35 to 85%RH (no dew condensation)
Protective structure		None (board open structure)

SS20 Series

Model	NPN Output	SS20-T8	SS20-T12	SS20-T16	SS20-T20	SS20-T24	SS20-T28	SS20-T32	SS20-T36	SS20-T40	SS20-T44	SS20-T48
	PNP Output	SS20-T8-PN	SS20-T12-PN	SS20-T16-PN	SS20-T20-PN	SS20-T24-PN	SS20-T28-PN	SS20-T32-PN	SS20-T36-PN	SS20-T40-PN	SS20-T44-PN	SS20-T48-PN
Detecting distance		7m										
Detecting object		ø32mm (Min.) Opaque object										
No. of optical axis		8	12	16	20	24	28	32	36	40	44	48
Detecting width		140mm	220mm	300mm	380mm	460mm	540mm	620mm	700mm	780mm	860mm	940mm
Optical axis interval		20mm										
Power supply		12 to 24 VDC ±10%, Ripple 10% or less										
Current consumption		70mA or less	80mA or less	90mA or less	100mA or less	110mA or less	120mA or less	130mA or less	140mA or less	150mA or less	160mA or less	170mA or less
Output mode	NPN Output	NPN Open collector Current Output: Sink current 100mA or less, 30VDC or less										
	PNP Output	PNP Open collector Current Output: Source current 100mA or less, 30VDC or less										
Operation mode		A/O mode selectable, Mode A: The output transistor turns on when beams of all optical axes are received. Deactivated when beam of any optical axis is blocked. Mode O: The output transistor turns on when beams of any optical axis is received. Deactivated when beam of all optical axes are blocked.										
Response time		15ms or less										
Light source		Infrared LED										
Indicators		Transmitter: Power indicator (Green LED), M/S indicator (Red LED) Receiver: Operation indicator (Red LED), Stability indicator (Green LED)										
Switch		Transmitter: Built-in M/S operation selectable switch (M side...Master operation, S side...Slave operation)...Lid on the back side Receiver: Built-in A/O operation selectable switch (A side...ON operation when all light axis lights on, O side ON operation when one light axis lights on)...Lid on the back side										
Auxiliary Functions		Output short circuit protection, Mutual interference prevention function provided for adjacent installation										
Material		Case: Aluminum, Front cover and Lens: Acrylic, End cap: PBT										
Connection		Connector 0.5mm ² ×4, Outer dia.ø6.8, 0.2m length, with 4 pins in the connector										
Weight	Transmitter	Approx 250g	Approx 300g	Approx 350g	Approx 400g	Approx 450g	Approx 500g	Approx 600g	Approx 650g	Approx 700g	Approx 750g	Approx 800g
	Receiver	Approx 250g	Approx 300g	Approx 350g	Approx 400g	Approx 450g	Approx 500g	Approx 600g	Approx 650g	Approx 700g	Approx 750g	Approx 800g
Accessory		Cable with connector (5m), Instruction manual										
Ambient light		9,000 lx or less										
Ambient temperature		-10 to +55°C (non-freezing)										
Ambient humidity		35 to 85%RH (non-condensing)										
Protective structure		IP 66										
Vibration		10 to 55Hz, 1.5mm Double amplitude 2Hr., 3 Directions										

*1 The mutual interference prevention function is available only when products of the same model series are connected.

SS40 Series

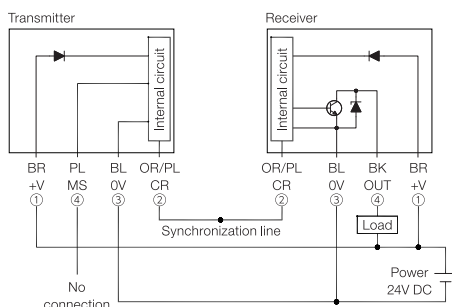
Model	NPN Output	SS40-T4	SS40-T6	SS40-T8	SS40-T10	SS40-T12	SS40-T16	SS40-T20	SS40-T24	SS40-T28	SS40-T30	SS40-T32
	PNP Output	SS40-T4-PN	SS40-T6-PN	SS40-T8-PN	SS40-T10-PN	SS40-T12-PN	SS40-T16-PN	SS40-T20-PN	SS40-T24-PN	SS40-T28-PN	SS40-T30-PN	SS40-T32-PN
Detecting distance		7m										
Detecting object		ø52mm (Min.) Opaque object										
No. of optical axis		4	6	8	10	12	16	20	24	28	30	32
Detecting width		120mm	200mm	280mm	360mm	440mm	600mm	760mm	920mm	1080mm	1160mm	1240mm
Optical axis interval		40mm										
Power supply		12 to 24 VDC ±10%, Ripple 10% or less										
Current consumption		80mA or less			85mA or less		90mA or less	105mA or less		115mA or less		
Output mode	NPN Output	NPN Open collector Current Output: Sink current 100mA or less, 30VDC or less										
	PNP Output	PNP Open collector Current Output: Source current 100mA or less, 30VDC or less										
Operation mode		A/O mode selectable, Mode A: The output transistor turns on when beams of all optical axes are received. Deactivated when beam of any optical axis is blocked. Mode O: The output transistor turns on when beams of any optical axis is received, Deactivated when beam of all optical axes are blocked.										
Response time		7ms or less										
Light source		Infrared LED										
Indicators		Transmitter: Power indicator (Green LED), M/S indicator (Red LED) Receiver: Operation indicator (Red LED), Stability indicator (Green LED)										
Switch		Transmitter: Built-in M/S operation selectable switch (M side...Master operation, S side...Slave operation)...Lid on the back side Receiver: Built-in A/O operation selectable switch (A side...ON operation when all light axis lights on, O side ON operation when one light axis lights on)...Lid on the back side										
Auxiliary Functions		Output short circuit protection, Mutual interference prevention function provided for adjacent installation										
Material		Case: Aluminum, Front cover and Lens: Acrylic, End cap: PBT										
Connection		Connector 0.5mm ² ×4, Outer dia.ø6.8, 0.2m length, with 4 pins in the connector										
Weight	Transmitter	Approx 250g	Approx 300g	Approx 350g	Approx 400g	Approx 450g	Approx 550g	Approx 650g	Approx 800g	Approx 900g	Approx 950g	Approx 1000g
	Receiver	Approx 250g	Approx 300g	Approx 350g	Approx 400g	Approx 450g	Approx 550g	Approx 650g	Approx 800g	Approx 900g	Approx 950g	Approx 1000g
Accessory		Cable with connector (5m), Instruction manual										
Ambient light		9,000 lx or less										
Ambient temperature		-10 to +55°C (non-freezing)										
Ambient humidity		35 to 85%RH (non-condensing)										
Protective structure		IP 66										
Vibration		10 to 55Hz, 1.5mm Double amplitude 2Hr., 3 Directions										

*1 The mutual interference prevention function is available only when products of the same model series are connected.

SS10A Series

• Versatile output operation

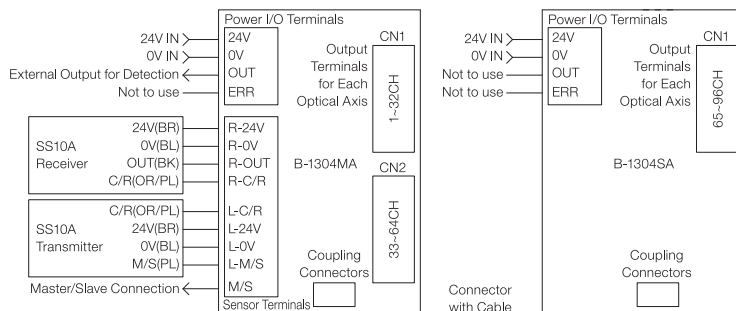
For single use
(without using the interference prevention function)



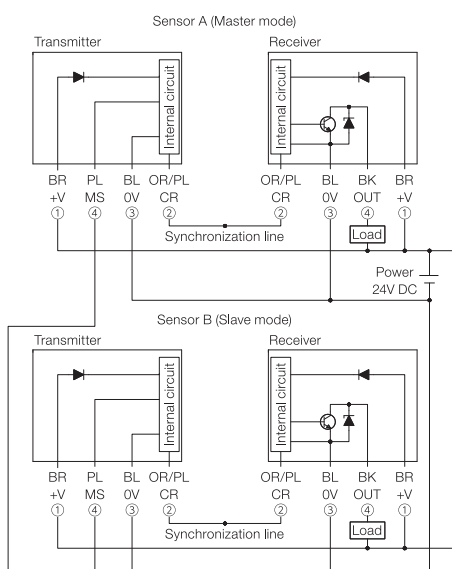
• Individual output for each optical axis

For single use (without using the interference prevention function)

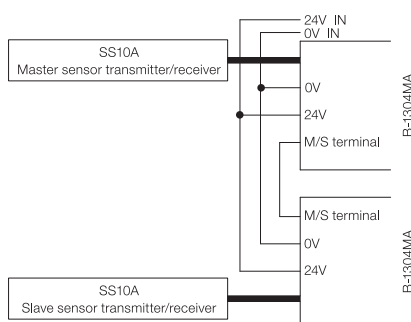
* For the sensor of 65 optical axes or more, use the connector with cable (attached to B-1304SA as an accessory) to connect with B-1304MA.



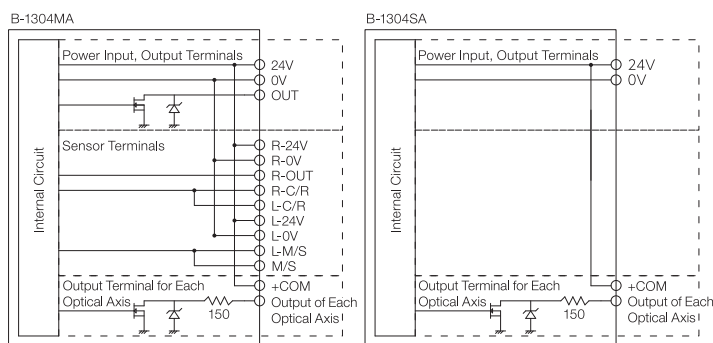
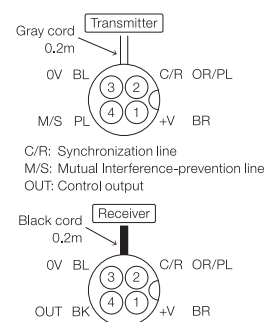
Mutual interference prevention connection



Mutual interference prevention connection

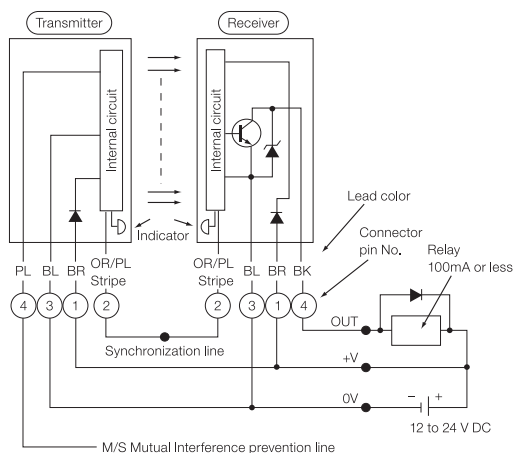


• Connector pin layout

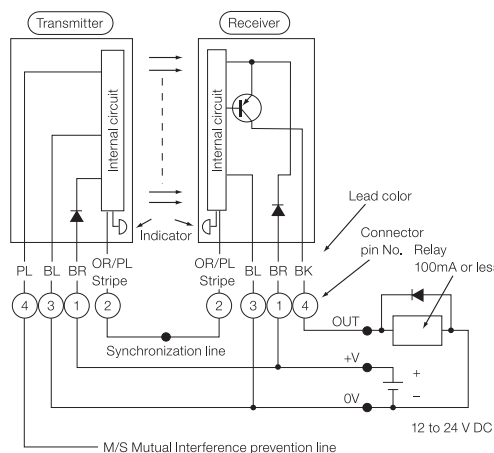


SS20/SS40 Series

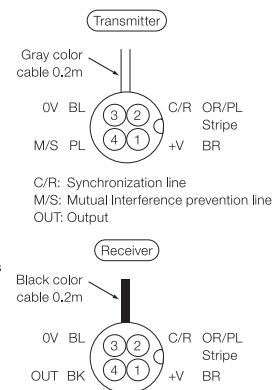
• NPN output



• PNP output



• Connector Pin. No.



- If a load short circuit or overload occurs, the output turns off. Check the load before restoring the power.
- Insulate the purple cable (Master/Slave for interference prevention) when the Interference Prevention Function is not used.

Only receiver is shown in the figure as an example. With transmitter, orientation of mounting bracket is reversed.

[illegible]

Model	A	B	C	D
SS10A-T16-CH	227	215	197	150
SS10A-T32-CH	387	375	357	310
SS10A-T64-CH	707	695	677	630
SS10A-T96-CH	1027	1015	997	950

Technical drawing of the M6P=1 antenna, showing side, top, and detail views with dimensions and labels.

Labels:

- M6P=1
- 4-ø5x7
- Trns.: M/S indicator (Red)
- Rcvr.: Operation indicator (Red)
- Trns.: Power indicator (Green)
- Rcvr.: Stability indicator (Green)

Dimensions (mm):

- Overall length: A
- Length to center of first connector: B
- Length to center of last connector: C
- Connector spacing: D
- Connector diameter: 4-ø5x7
- Mounting hole diameter: 13
- Mounting hole offset: 13
- Mounting hole offset: 7
- Mounting hole offset: (1)
- Mounting hole offset: 25
- Mounting hole offset: 25
- Mounting hole offset: 17.5
- Mounting hole offset: 11
- Mounting hole offset: 20
- Mounting hole offset: 20
- Mounting hole offset: 20
- Mounting hole offset: 20
- Mounting hole offset: 20
- Mounting hole offset: 20
- Mounting hole offset: 20
- Mounting hole offset: 11
- Mounting hole offset: 17.5
- Mounting hole offset: 6.8
- Mounting hole offset: 200
- Mounting hole offset: 44
- Mounting hole offset: 28
- Mounting hole offset: (15.5)
- Mounting hole offset: 12

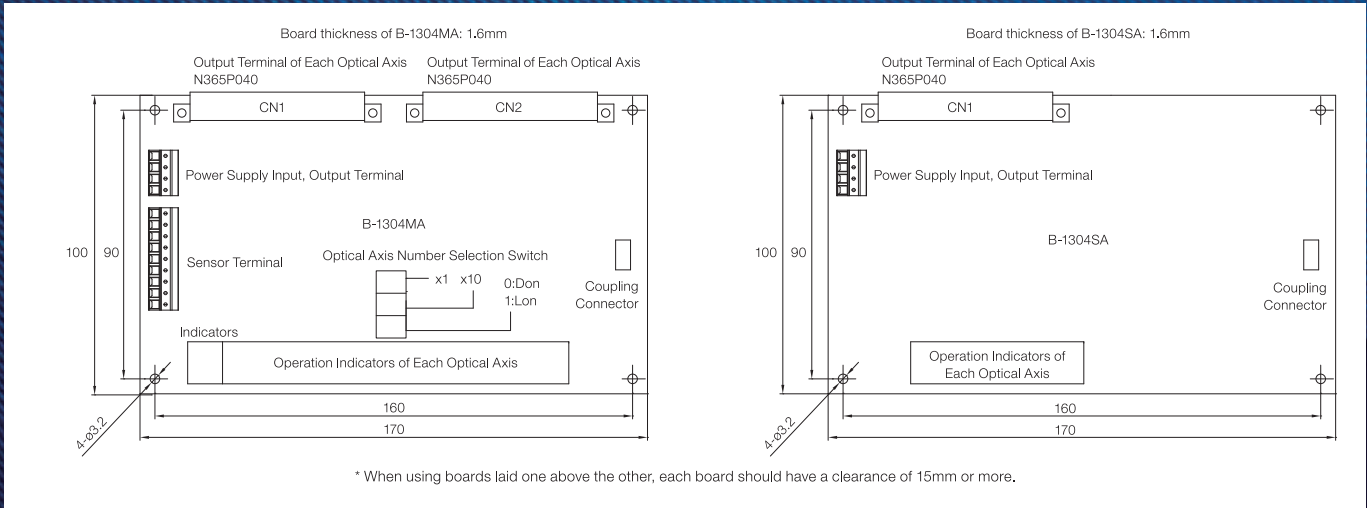
Model	A	B	C	D
SS20-T8	227	215	197	140
SS20-T12	307	295	277	220
SS20-T16	387	375	357	300
SS20-T20	467	455	437	380
SS20-T24	547	535	517	460
SS20-T28	627	615	597	540
SS20-T32	707	695	677	620
SS20-T36	787	775	757	700
SS20-T40	867	855	837	780
SS20-T44	947	935	917	860
SS20-T48	1027	1015	997	940

[illegible]

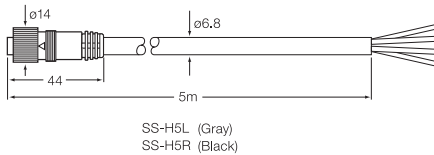
Model	A	B	C	D
SS40-T4	207	195	177	120
SS40-T6	287	275	257	200
SS40-T8	367	355	337	280
SS40-T10	447	435	417	360
SS40-T12	527	515	497	440
SS40-T16	687	675	657	600
SS40-T20	847	835	817	760
SS40-T24	1007	995	977	920
SS40-T28	1167	1155	1137	1080
SS40-T30	1247	1235	1217	1160
SS40-T32	1327	1315	1297	1240

■ Dimensions (in mm)

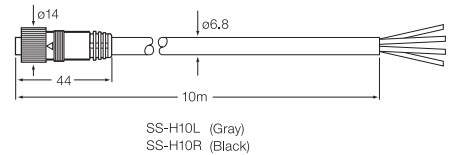
B-1304MA/SA



● Cable with connector (5m)



● Cable with connector (10m)



Do not use this product for safety critical applications such as where detection of human presence or intervention is required.



CAUTION

- This product is designed for industrial applications to detect a various kinds of objects. It has no function to prevent disasters, accidents, death or injuries.
- TAKEX will not held responsible for any damage or loss incurred due to accidents, faulty installation, abuse, misuse, improper maintenance or acts of God including lightning surge.
- This product cannot be used as safety equipment.
- This product is designed and manufactured for industrial use. It cannot be used where there is a requirement for a high degree of reliability or considerable care or attention to safety.
- Read this instruction manual carefully and use the product properly according to it.
- This instruction manual including the specifications and dimensions may be subject to change without notice.



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