TAKEX

Wafer mapping sensor

ASW Series

CE

(8 Inch/12 Inch)

The wafer mapping sensor speeds up the sensing process while maintaining relaiable detection.

POINT 01

Equipped with two detection modes the sensor is capable to detect the latest high transmittance wafers. (8 and 12 inch models)

Normal mode : Wafers of 30% or less tansmissivity
Latch mode : Wafers of 70% or less transmissivity (*1)

(*1): Latch mode is for detecting an edge of a wafer. Perform detection test in advance.
The sensor may not detect the edge depending on the thickness or shape of the wafer.

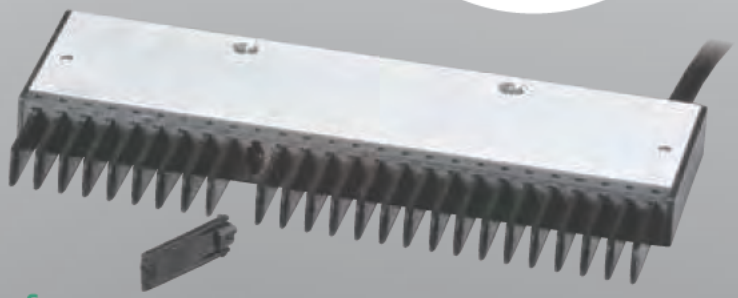
- Reliably detects SiC single crystal and other translucent wafers.
- Mixed wafers like Silicon and glass wafers in a cassette are detectable.

POINT 02

Each comb (sensor unit) can be replaced in a single operation. Easy maintenance !

Easy maintenance

Cost saving



POINT 03

Electrostatic malfunction free

The comb unit contains only optical structures with no electrical parts.

Output inhibit function

Enables to inhibit all outputs regardless to the sensor state.
Two sensors connected in parallel can be controlled by a single input.

Remote teaching and light emission inhibit function

The output operation can be checked by the light emission inhibit function. Teaching is restarted when the function is reset and the sensor gains the best sensitivity.

Trouble output and self diagnosis function

Generates an alarm during the teaching process. Each channel output turns on and off consecutively when a trouble occurs such like low receiving light intensity, comb breakage or foreign light disturbance.

CE compliant

8 and 12 inch models are CE compliant.

Robot cable and discrete output

All models are equipped with discrete output for each channel.
Highly flexible robot cable is employed for 6 and 8 inch models.

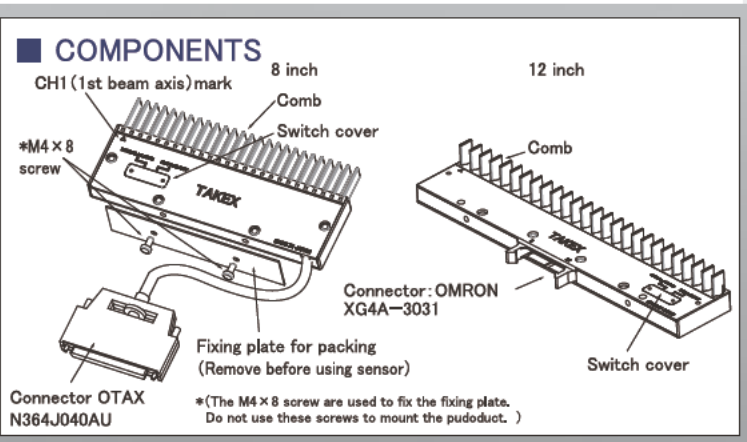
SPECIFICATIONS

Model	ASW-SG625AP	ASW-SG85F	ASW-SG85F-Y05	ASW-SG86F	ASW-SG86F-Y05	ASW-SG125VF
Applicable Wafer	6 inch transmittance: 30% or less	8 inch normal mode: transmittance: 30% or less latch mode: transmittance:70% or less				12 inch normal mode: transmittance: 30% or less latch mode: transmittance: 70% or less
Number of channels	25ch	25ch		26ch		25ch
Wafer pitch	4.76mm	6.35mm				10.0mm
Detection method	Through beam					
Comb	Replaceable					
Power supply	DC24V ±10% ripple 10% or less					DC12～24V ±10% ripple 10% or less
Current consumption	250mA or less	1.8W or less				1.9W or less
Operation mode	Dark ON ON/OFF when trouble	Dark ON Normal mode / Latch mode selectable(with switch) ON/OFF when trouble				
Output mode	NPN open collector Rating: sink current 30VDC or less, 20mA or less					NPN open collector Rating: sink current 30VDC or less, 30mA or less
Response time	12ms or less					35ms or less
Light source	Infrared LED(830nm)	Infrared LED(870nm)				
Light emission inhibit input / re-teaching (self diagnosis function)	Open collector input or contact input Light emission inhibit ON: 1.5V or less OFF: 4V or more					
	Light emission inhibit at ON Re-teaching at OFF.	Normal mode: Light emission inhibit at ON. Re-teaching at OFF. Latch mode: Reset the latch output and inhibit light emission at ON. Re-teaching at OFF.				
Output inhibit input	Open collector or contact input Output inhibit ON: 1.5V or less OFF: 4V or more					
Connection	Attached cable with connector (OTAX N364J040AU)					Connector type OMRON MIL connector XG4A-3031
	Cable length: 3m	Cable length: 3m	Cable length: 0.5m	Cable length: 3m	Cable length: 0.5m	
Material	Sensor unit : Polycarnonate Housing : Aluminum					
Mass	Approx. 330g	Approx. 390g	Approx. 250g	Approx. 400g	Approx. 260g	Approx. 270g(non including cable)
Accessories	Operation manual					

OPRATING ENVIROMENT

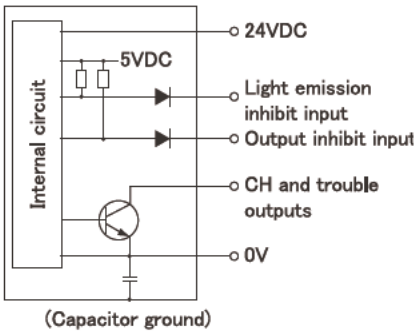
Ambient temperature	−10 – +55℃(non-freezing)
Ambient humidty	35 – 85%RH (non-condensation)
Protective structure	IP40
Ambient illumination	1500 l x or less
Vibration	10-55Hz double amplitude 0.5mm X, Y, Z directions, 2 hours each
Shock	300m/s^2 X, Y, Z directions, 3 times each

COMPONENTS

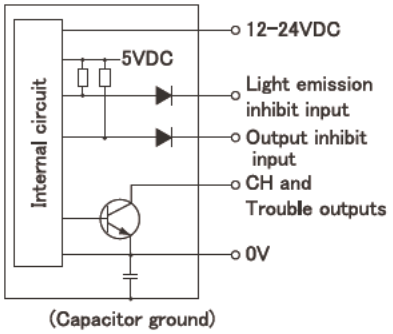


INPUT/OUTPUT CIRCUIT

ASW-SG625AP
ASW-SG85F
ASW-SG86F
ASW-SG85F-Y05
ASW-SG86F-Y05

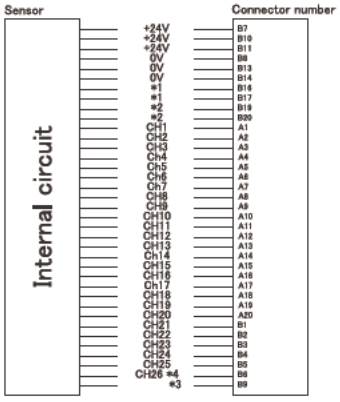


ASW-SG125VF



PIN CONFIGURATION DIAGRAM

External wiring and connector number



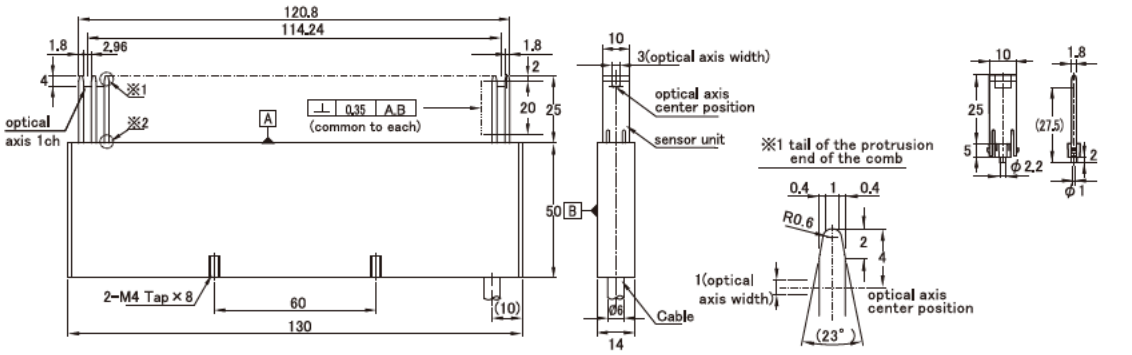
(For a noise prevention, a capacitor is installed between the 0V power supply and the sensor's aluminum case.
Do not conduct withstand voltage Test between any input / output and the sensor case.)

Dimension (Unit: mm)

ASW-SG625AP

The dimension shown in these drawingapply to the bottom end (※2), not the protrusion end(※1) of the comb.

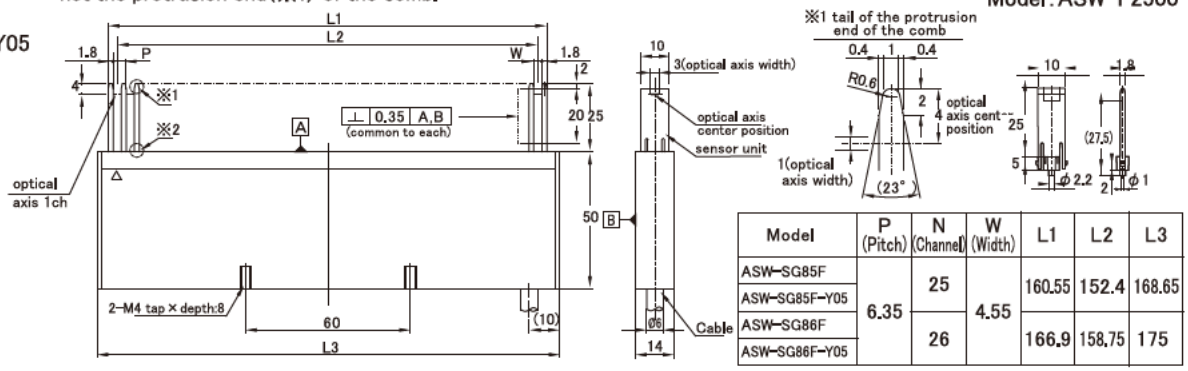
Comb sensor unit
Model: ASW-F2500



ASW-SG85F
ASW-SG85F-Y05
ASW-SG86F
ASW-SG86F-Y05

The dimension shown in these drawingapply to the bottom end (※2), not the protrusion end(※1) of the comb.

Comb sensor unit
Model: ASW-F2500

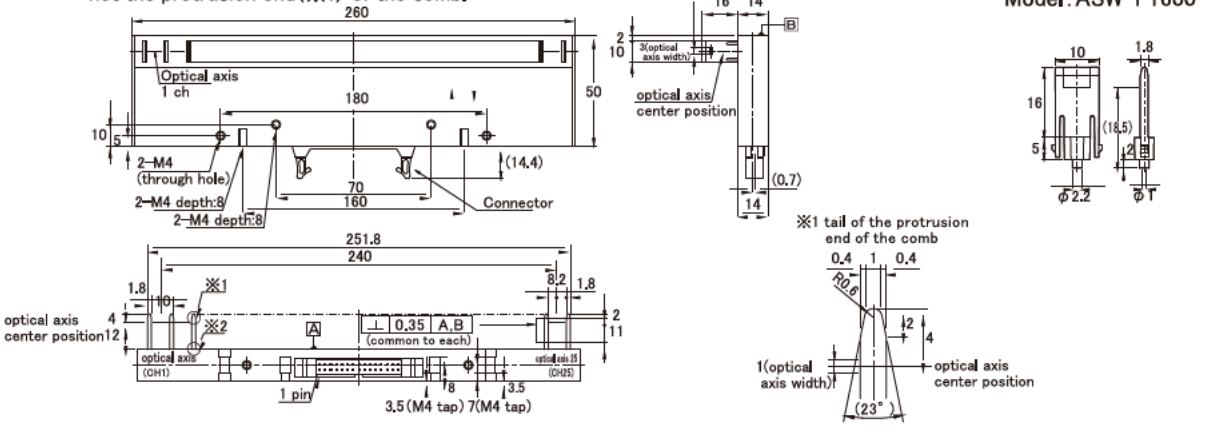


Model	P (Pitch)	N (Channel)	W (Width)	L1	L2	L3
ASW-SG85F	6.35	25	4.55	160.55	152.4	168.65
ASW-SG85F-Y05						
ASW-SG86F		26		166.9	158.75	175
ASW-SG86F-Y05						

ASW-SG125VF

The dimension shown in these drawingapply to the bottom end (※2), not the protrusion end(※1) of the comb.

Comb sensor unit
Model: ASW-F1600



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 reliabilty 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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