

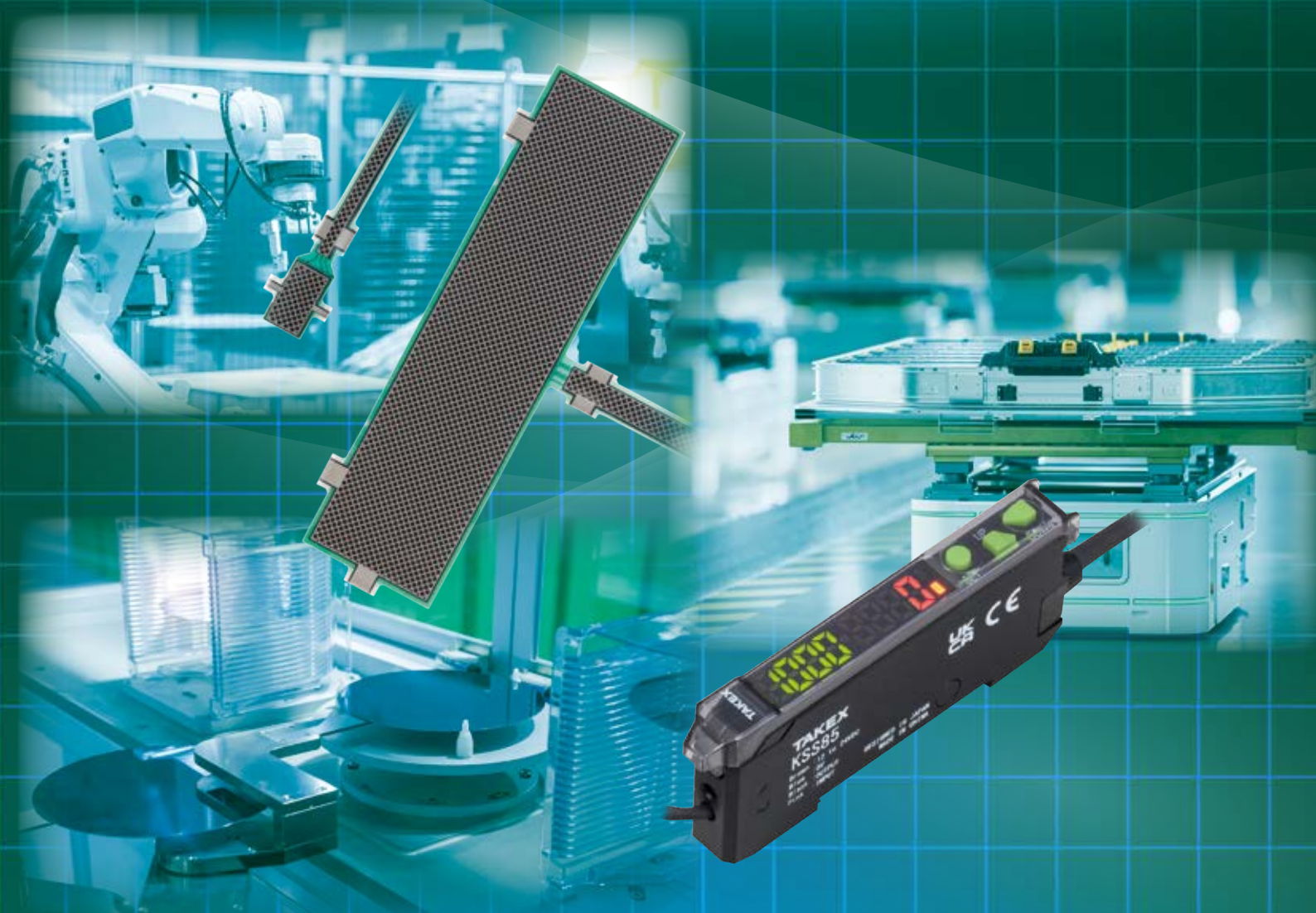
# TAKEX

## Force Sensitive Sheet Sensor

### KSS85 Series



# Just sticking sheet ensures reliable object detection



**Patent pending**

**Sensitive sheet with versatile installation location**  
**Contact method unaffected by any color, material or shape**  
**Stable detection regardless of ambient lights or other sensors**

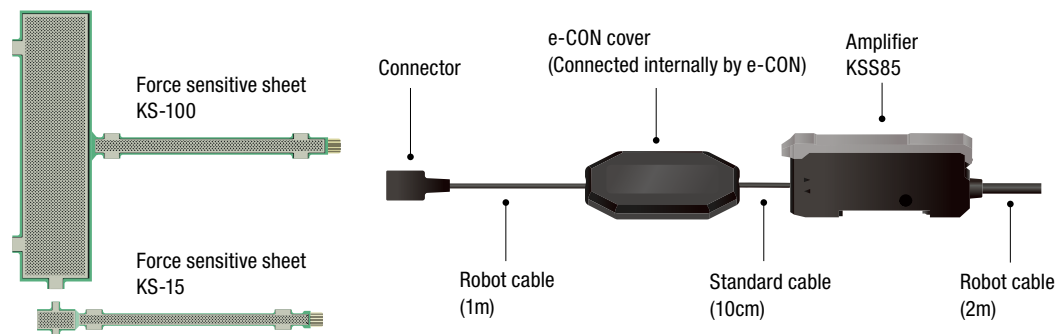
# “Just Sticking”

Best suited for gripping object  
and presence check

# A versatile sensor for any object and installation location

## System Configuration

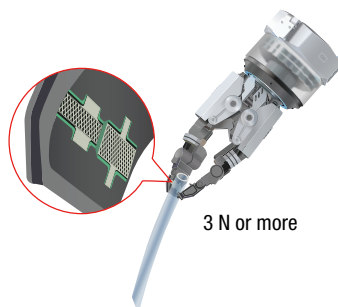
Be sure to connect the force sensitive sheet into the connector.  
Two types of force sensitive sheets available : Small and Area types  
Robot cables are applied for movable part.



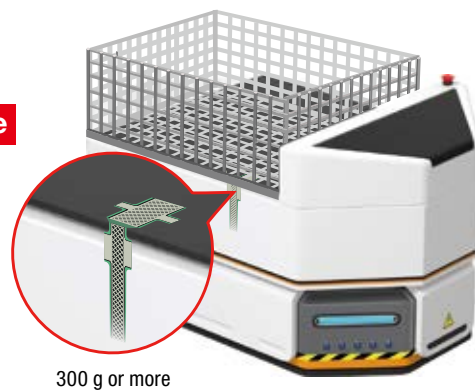
## Contact method

Adopted force sensitive sheet sensing load or pressure  
Regardless of any color, material, or shape of detecting object  
Load (pressure) : 3 N (300 g) or more

### Gripping

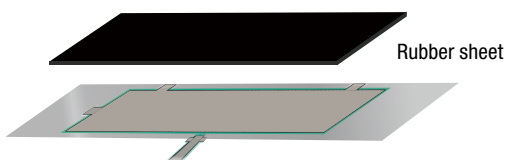


### Presence



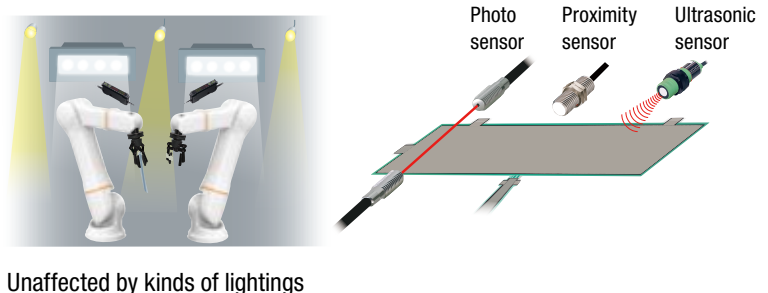
## Simple installation “Just Sticking”

Easier and simpler installation than  
any other sensors  
\*Use rubber sheet on force sensitive sheet  
\*Recommended rubber sheet : 1 mm thickness,  
CR in material, and A60 shore hardness



## Useable with other sensors

Stable detection regardless of ambient lights or other sensors







# Force Sensitive Sheet Sensor

KSS85 Series



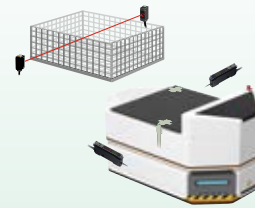
## Gripping confirmation by robot hands

Preventing interference with other photo sensors



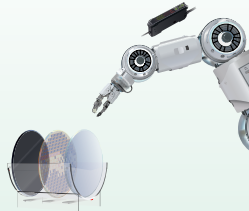
## Detecting presence of mesh pallet

Reliably detect even object like net without malfunction



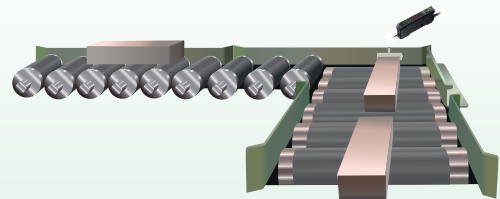
## Object detection with various transparency

Contact method ensuring detection unaffected by any color



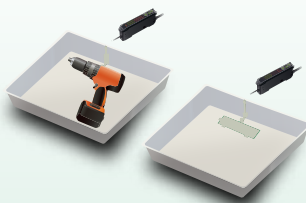
## Arrival confirmation of lumber

Just sticking on wall surface



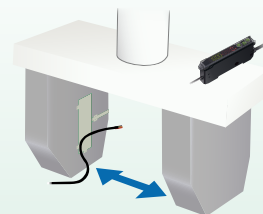
## Detection of tool in tray

Flexible installation to suit tool in tray



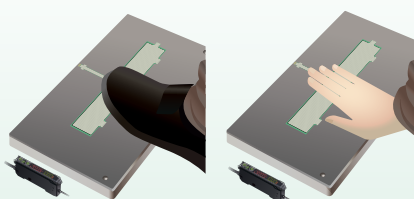
## Confirmation of gripping cable or tube

Detect object reliably passing through unfixed position



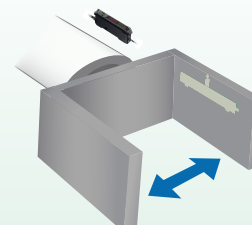
## Start switch

Sheet shape allowing installation in any location



## Gripping check of various robot hands

Useable at kinds of robot hands with Area sheet type



## SPECIFICATION

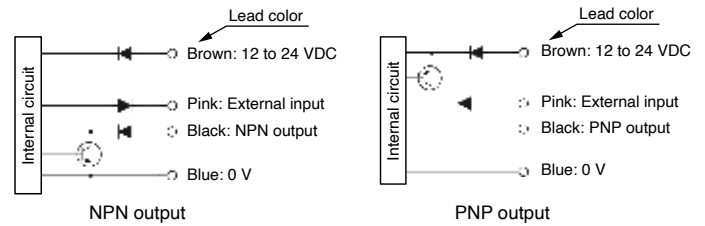
<b>Model</b>	Force sensitive sheet sensor (amplifier: KSS85, force sensitive sheet: KS-100, KS-15)
<b>Power supply</b>	12 to 24 VDC, Ripple: 10% or less
<b>Current consumption</b>	at 24 V DC Normal mode: 600 mW (current consumption 25 mA or less) ECO mode: 480 mW (current consumption 20 mA or less)
<b>Detection sensitivity</b>	300 g = approx. 3 N (reference value)
<b>Output mode</b>	NPN/PNP switchable NPN open collector output Load current: 100 mA (30 V DC) or less, residual voltage: 2 V or less PNP open collector output Load current: 100 mA (30 V DC) or less, residual voltage: 2 V or less
<b>Operation mode</b>	NO (Normally Open) / NC (Normally Closed) switchable
<b>Timer</b>	ON delay / OFF delay / ON/OFF delay / One shot / Timer off Delay timer: 1 ms to 9999 ms (can be set at intervals of 1 ms)
<b>Response time</b>	Without load → with load: 1 ms, with load → without load: 100 ms
<b>Indicator</b>	Operation indicator, setting indicator, NO/NC indicator: orange LED
<b>Display</b>	Operation level display: 4-digit red LED, threshold indicator: 4-digit green LED
<b>Switch</b>	[SET/TEACHING] button: teaching / setting [UP/DOWN] button: adjust threshold value / select settings
<b>Protection circuit</b>	Power reverse connection / reverse output / output short circuit protection
<b>Sensitivity setting</b>	Maximum sensitivity teaching
<b>Sensitivity adjustment function</b>	Equipped (automatic adjustment / manual adjustment)
<b>Connection method</b>	Cord drawing type (φ4.2 mm o.d.) 0.2 mm <sup>2</sup> x 4-core, 2 m (robot cable)
<b>Weight</b>	KSS85 (amplifier): approx. 100 g, KS-100: approx. 4 g, KS-15: approx. 1 g
<b>Accessory</b>	Instruction manual

\*Note 1 million operations min. Press 10 seconds at 300 g and release 10 seconds  
1,000 operations min. Press 10 seconds at 1 t and release 10 seconds

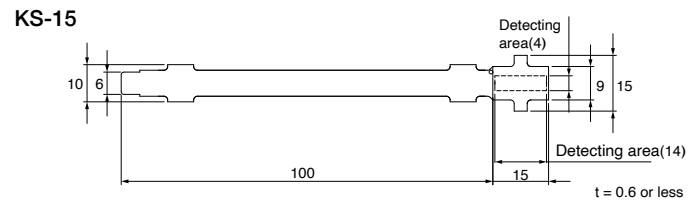
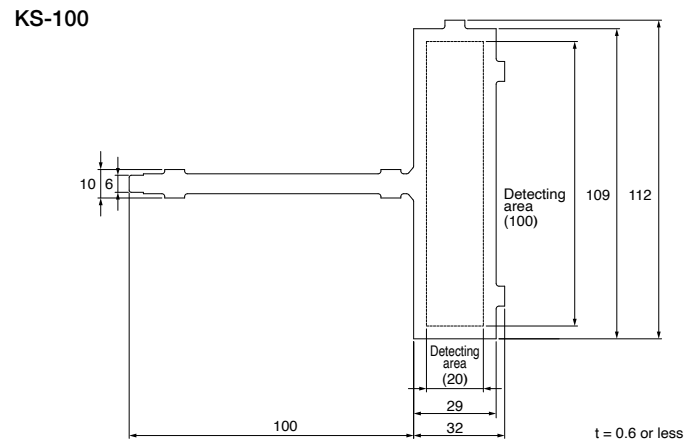
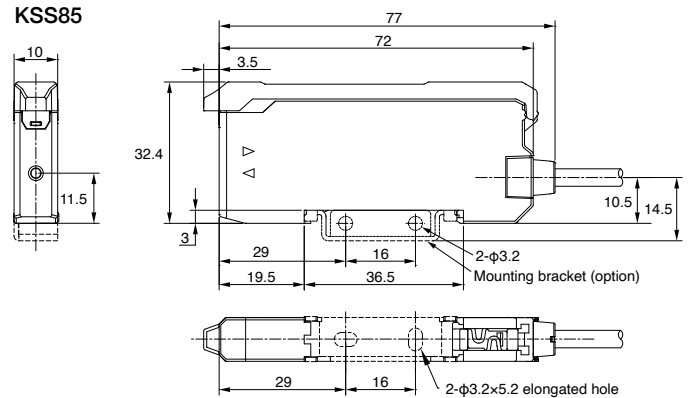
## ENVIRONMENTAL SPECIFICATION

<b>Ambient temperature</b>	Amplifier: -25 to +55°C, pressure-sensitive sheet: 0 to +55°C (non-freezing)
<b>Ambient humidity</b>	35 to 85% RH (non-condensing)
<b>Protection structure</b>	IP40
<b>Vibration</b>	10 to 55 Hz, double amplitude 1.5 mm, X, Y, Z directions, 2 hours each
<b>Shock</b>	500 m/s <sup>2</sup> , 3 times each in X, Y and Z directions
<b>Dielectric withstand voltage</b>	500 VAC for 1 min
<b>Insulation resistance</b>	At least 20MΩ with 500 VDC Megger

## CONNECTION



## DIMENSIONS (in mm)



**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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