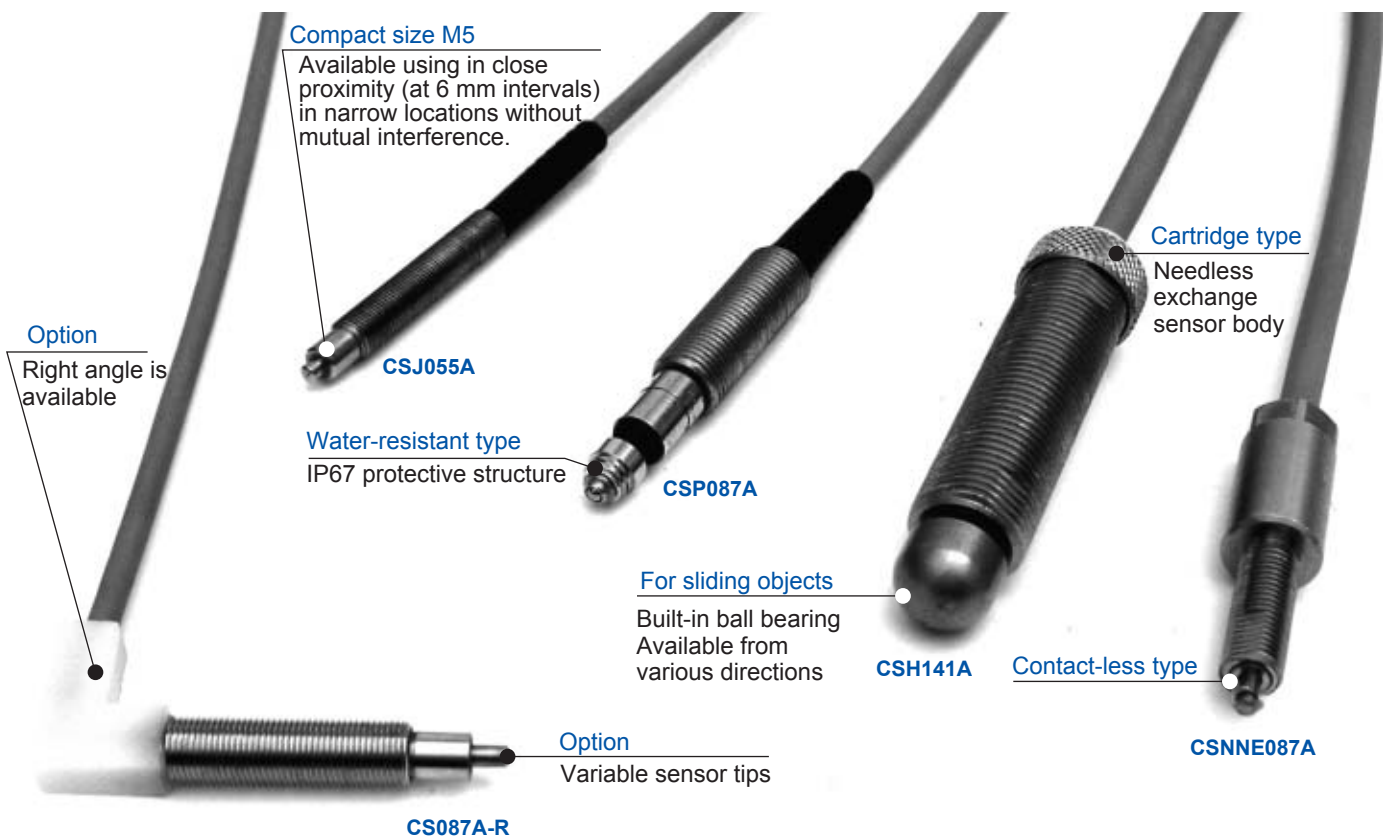


## CS-touch Sensors



# 10 micron repeatability without an amplifier. Compact size for High Economically Efficiency

## High cost performance

Position signals having repeatability of 10 microns can be obtained without an amplifier. The price is less than 1/2 of our High accuracy MT-touch Sensors. Higher accuracy and lower maintenance costs in comparison with proximity sensors and limit switches.

## Compact design

The slim shape allows use in close proximity (at 6mm intervals) in narrow locations without mutual interference.

## Highly reliable touch type

The 2.8mm stroke prevents damage to the sensors even if there is a slight amount of overrun. There is also minimal susceptibility to the effects of dust and cutting oil and there are no restrictions on the material or surface conditions of detected objects.

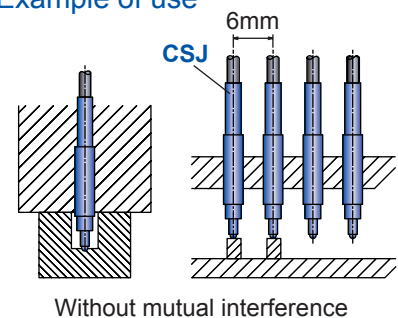
## Stable output of highly accurate position signals

Position signals are free of drift and movement differential accompanying fluctuations in power supply voltage or temperature, or overtime.

## Both contact and contact-less types are available

Contact types are free of movement differential and temperature drift. Contact-less types eliminate all the disadvantages of non-contact sensors except for movement differential and temperature drift, making it possible to utilize the advantages of contact-less sensors.

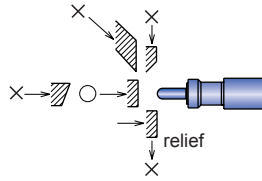
### ■ Example of use



# Outline of CS-touch Sensors

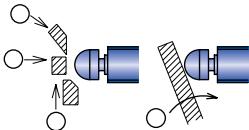
## Mechanical specifications (Metal bearing type)

unit : mm

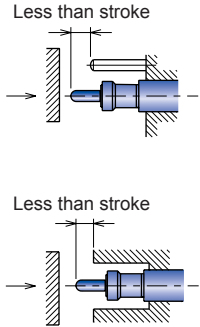
Type	CSJ055A	CS067A	CSS60A	CSS80A	CS087A	CSK087A	CSP087A	CSNNE067A CSNE067A	CSNNE087A CSNE087A	CSKNNE087A CSKNE087A
Bearing type	Metal bearing									
Contact type	Contact							Contact-less (NPN / PNP)		
Mode	A : NO (normally open)									
Repeatability	0.01									
Protective structure	I P65							I P67		
Stroke	1.5	2.8				5	2.8	3		5
Pretravel	0.3							0.4		
M×P	M5×0.5	M6×0.75	φ6	φ8	M8×0.75			M6×0.75	M8×0.75	
Normal contact shape	φ2 SR1.5			φ3.5 SR3			2 ball	φ2 SR3	φ3.5 SR3	
Movement differential (M.D.)	0							0.04		
Working temperature range	0~80 °C (with the exception of freeze)									
Temperature drift	—							0.03/10~40 °C (MAX)		
Contact force	1 N									
Contact life	10 million times							—		
Contact material	SUS HRc 50									
Cable	3m Oil-resistant 2-core φ3							3m Oil-resistant 3-core φ4		
Instructions for use	<p>● <b>How to apply detecting objects</b>                      Metal bearing type                      Apply straight. Otherwise, breakage may occur.                      (acceptable ±3°)</p> <p>• CSP087 : Provided with non-rotating shaft.</p> 									

## Types of sliding objects • Rotating objects (Ball bearing type)

unit : mm

Type	CSH121A	CSH141A	CSHNE121A CSHNE121A	CSHNE141A CSHNE141A
Bearing type	Ball bearing			
Contact type	Contact		Contact-less (NPN / PNP)	
Mode	A : NO (normally open)			
Repeatability	0.01			
Protective structure	I P65	I P67	I P67	
Stroke	2.8		3	
Pretravel	0.3		0.4	
M×P	M12×1	M14×1	M12×1	M14×1
Movement differential (M.D.)	0		0.04	
Working temperature range	0~80 °C (with the exception of freeze)			
Temperature drift	—		0.03/10~40 °C (MAX)	
Contact force	1.5 N			
Contact life	10 million times		—	
Contact material	SUS HRc 45~50			
Cable	2m Oil-resistant 2-core φ4		2m Oil-resistant 3-core φ4	
Instructions for use	<p>● <b>How to apply detecting objects</b>                      Ball bearing type                      Ball bearing type can be used for sliding in every direction.</p> 			

**!** Do not use the end face as a stopper. Doing so may cause breakage. Provide a separate stopper as shown below.




Orders for heat-resistant (ambient temperature: 200 °C) and sensors provided with vacuum, non-magnetic and other special specifications are also accepted. Please consult your dealer.

## Electrical Specification-Circuit Diagram

☞ P5