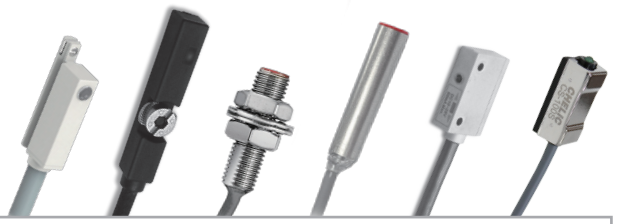
Accessories — Sensor Switch Series



Model	Cylinder type	Index	Page
CS - 5G **CS - 5GN(P)**	HDS (Ø10~Ø32) / HDM (Ø12~Ø32) / HDP (Ø10~Ø32) / HDZ (Ø16~Ø40)		**P.8-2.2**
CS - 6T(H)	TDX (Ø10~Ø20) / TDXU (Ø16~Ø25) / STX (Ø10~Ø25) / HCQ (Ø32~Ø80)		**P.8-2.4**
CS - 7B **CS - 7BN(P)**	NU (Ø6~Ø10) / TB(U)2 (Ø6~Ø10)		**P.8-2.5**
CS - 8G **CS - 8B** **CS - 8GN(P)**	MRB (Ø10~Ø40) / MRX (Ø10~Ø25) / MRU (Ø10~Ø40) / MRH (Ø15~Ø32) / MDX (Ø6~Ø25) / RTM (10 ~ 100) / HDZ (Ø16~Ø40) / HDF (Ø12~Ø20) / HDL (Ø20~Ø32) / HDT (Ø10~Ø40) / HDR (Ø25~Ø63)		**P.8-2.7**
CS - 9D(G) **CS - 9B** **CS - 9H** **CS - 9DN(P)**	JD · JTD · JTDF · JCB (Ø20~Ø63) / JE (Ø12~Ø100) / STB(C · D · F) (Ø32~Ø50) / TCR · TCF (Ø40~Ø80) / MRB (Ø10~Ø40) / MRX (Ø10~Ø25) / MRU (Ø10~Ø40) / MRH (Ø15~Ø32) / MQX (Ø6~Ø20) / MSR(L) (Ø10~Ø16) / FMR(L) (Ø10~Ø32) / TD (Ø6~Ø40) / STM(U) (Ø10~Ø32) / TB(U) · TSB(U) · TXB(U) (Ø10~Ø63) / RTB (3 ~ 500) / RTBM (10~100) / RTZA(B) (10~50) / SCR(L) (Ø12~Ø63) / HER (Ø20~Ø40) / HBR (Ø20~Ø80) / HFR (Ø20~Ø63) / HDZ (Ø16~Ø40) / HDF (Ø12~Ø20) / HDL (Ø20~Ø32) / HDT (Ø10~Ø40) / HDR (Ø25~Ø63) / HDW (Ø20~Ø100)		**P.8-2.9**
CS - 15T(B)(G) **CS - 15TN(P)**	HDS (Ø10~Ø32) / HDP (Ø10~Ø32) / HDM (Ø12~Ø32) / HDZ (Ø10)		**P.8-2.11**
CS - 30E(S)(G) **CS - 30EN(EP)**	JD · JTD (Ø12~Ø100) / TD · STU (Ø16~Ø32) / TB · TSB (Ø32~Ø63) / STB · STC · STD · STF (Ø32~Ø50) / TB(U)2 (Ø6~Ø100) / RTP (5~30) / SCR(L) (Ø20~Ø63) / STM (Ø16~Ø32) / TXB (Ø16~Ø63) / MRU (Ø10~Ø40)		**P.8-2.13**
CS-65			**P.8-2.15**
CS - 95 **CS - 95N(P)**	PRU (Ø16~Ø40) / PRF (Ø16~Ø40) / PRUT (Ø16~Ø40)		**P.8-2.16**
CS - 100(S)(G) **CS - 100N(P)**	FDA (Ø20~Ø40) / DBF (Ø20~Ø40) / DBS (Ø20~Ø40) / DBT (Ø25~Ø40) / SDA (Ø12~Ø40) / DMB (Ø32~Ø100) / DU (Ø40~Ø200) / DCK2 (Ø40~Ø80) / RTU (Ø32~Ø40)		**P.8-2.18**
CS - 120(G) **CS - 120N(P)**	SBA · SBB · SBD (Ø10 · Ø16) / SBR (Ø6 · Ø10 · Ø16) / SDA (Ø12)		**P.8-2.20**
CS - 130(G) **CS - 130N(P)**	SBA · SBB · SBD (Ø10 · Ø16) / SBR (Ø6 · Ø10 · Ø16) / SDA (Ø16~Ø40) / DBS2 · DBF2 (Ø20~Ø40)		**P.8-2.22**
CS - 180	DCK2 (Ø25~Ø80) / DCQ (Ø50)		**P.8-2.24**
CS - 190	DCK2 (Ø25~Ø80) / DCQ (Ø50)		**P.8-2.26**
CS - ☐ - PG	Sensor connector		**P.8-2.27**
CS-5GF			**P.8-2.28**
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NS-6N(P)	RTL(Ø18~Ø32)		**P.8-2.30**
NS-8(P)	HMQ (Ø44~Ø160) / HMW (Ø27~Ø125) / RTL(Ø40~Ø50)		**P.8-2.31**

CS-5G series Sensor Switch

CHELIC

- Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-5G	HDS	Ø10 ~ Ø32
	HDM	Ø12 ~ Ø32
	HDP	Ø10 ~ Ø32
	HDZ	Ø16 ~ Ø40

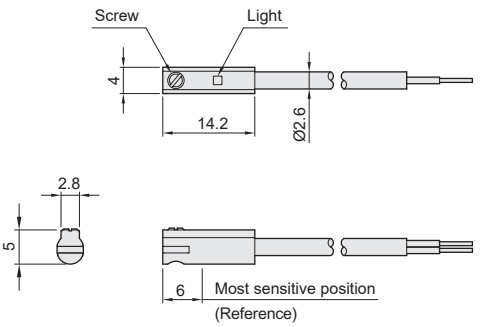
Specification

Item / Model	CS-5G
Wiring system	Two-wire
Switching voltage V	DC: 5 ~ 30
Switching current mA	50 MAX.
Contact capacity W	1.5 MAX.
Delay time	1000 Hz
Switching logic	Solid state output, Normally open
Enclosure classification	IP - 67
Indicator	Red
Cable	Ø2.6 Wire × 2M
Voltage drop V	3.5 MAX.
Leakage current mA	0.1 MAX.
Contact protective circuit	Yes
Ambient and fluid temperature °C	-10 ~ 70
Weight g	20 ± 2

Dimensions

Unit: mm

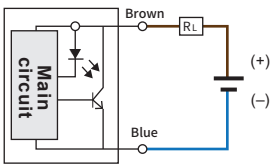
CS-5G



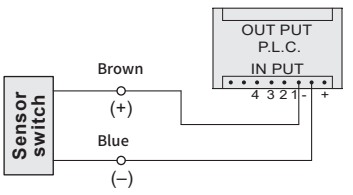
Sensor switch circuit and Connection diagram

- Basic connection: Connect to relay or other resistor

CS-5G

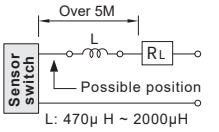


- Connect to the programmable controller



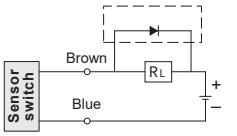
Notice

1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.

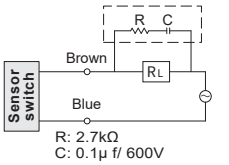


Protect electric circuit

DC load:
Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:
Connection in parallel one R.C electric circuit at two sides of load.



CS-5GN(P) series Sensor Switch

CHELIC

- Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-5GN(P)	HDS	Ø10 ~ Ø32
	HDM	Ø12 ~ Ø32
	HDP	Ø10 ~ Ø32
	HDZ	Ø16 ~ Ø40

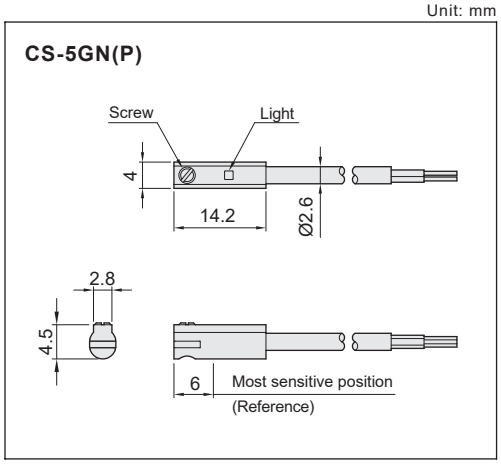
CS

Specification

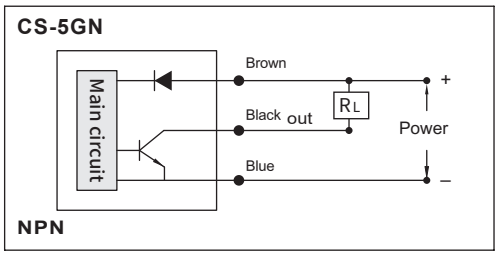
Item / Model	CS-5GN	CS-5GP
Wiring system	Three-wire	
Switching voltage V	DC: 4.5 ~ 28	
Switching current mA	50 MAX.	
Delay time	1000Hz	
Switching current	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	0.5 MAX.	
Voltage consumption	OFF: 7mA (24V) / ON: 10mA (24V) MAX.	
Indicator	Red	
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP - 67	
Cable	Ø 2.6, 3 Wire × 2M	
Weight g	20 ± 2	
Contact protective circuit	Yes	

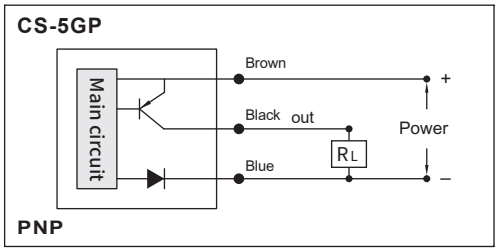
Dimensions

Unit: mm

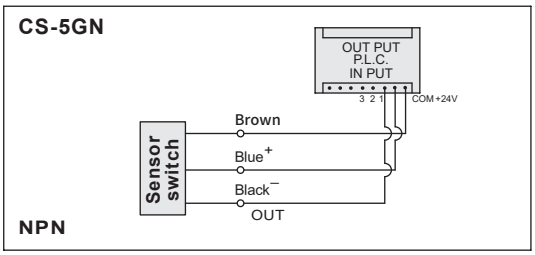


Sensor switch circuit and Connection diagram

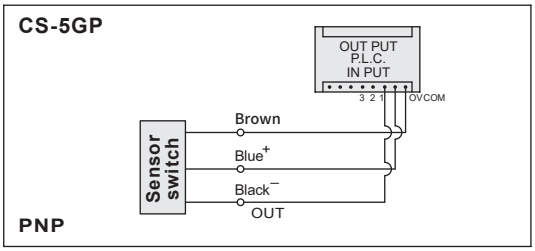




- Connect to the programmable controller (**NPN**)



- Connect to the programmable controller (**PNP**)



CS-6T(H) series Sensor Switch

CHELIC

Reed sensor switch

Suitable for cylinder

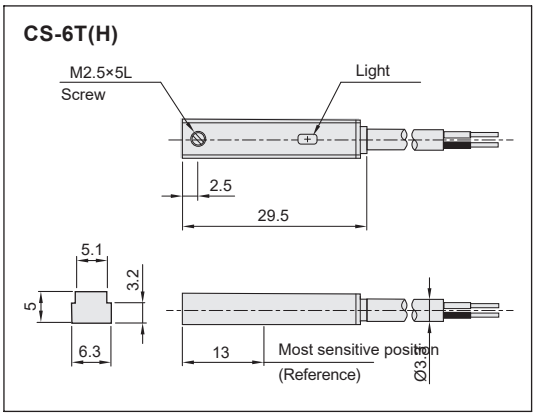
Model	Cylinder	Bore size
CS-5GN(P)	HDS	Ø10 ~ Ø32
	HDM	Ø12 ~ Ø32
	HDP	Ø10 ~ Ø32
	HDZ	Ø16 ~ Ø40

Specification

Item / Model		CS-6T	CS-6H
Wiring system		Two-wire	
Switching voltage	V	DC: 5 ~ 120/ AC: 5 ~ 120	
Switching current	mA	100 MAX.	
Contact capacity	W	10MAX.	
Delay time		200 Hz	
Switching logic		Normally open	
Enclosure classification		IP-67	
Indicator		Red	
Cable		Ø3.3 Wire × 2M	
Voltage drop	V	3.5 MAX.	
Sensitivity	Note	General	High
Contact protective circuit		No	
Ambient and fluid temperature	°C	-10 ~ 70	
Weight	g	32 ± 2	

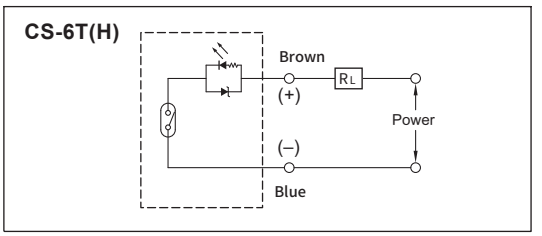
Dimensions

Unit: mm

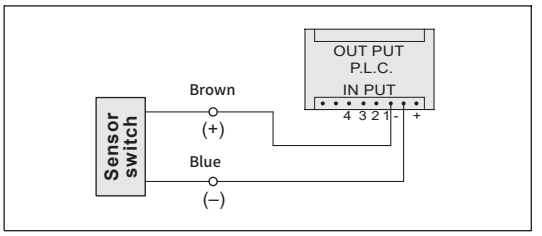


Sensor switch circuit and Connection diagram

Basic connection: Connect to relay or other resistor

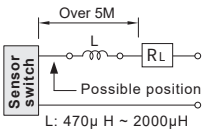


Connect to the programmable controller



Notice

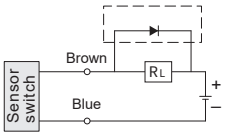
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

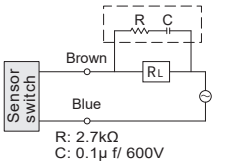
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:

Connection in parallel one R.C electric circuit at two sides of load.



CS-7B series Sensor Switch

CHELIC

Reed sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-7B	NU	Ø6 ~ Ø10
	TB2	Ø6 ~ Ø10

CS

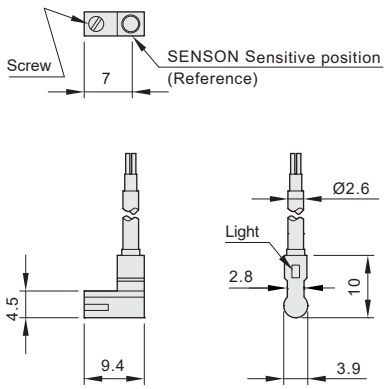
Specification

Item / Model	CS-7B
Wiring system	Two-wire
Switching voltage V	DC: 5 ~ 30
Switching current mA	50 MAX.
Contact capacity W	1.5 MAX.
Delay time	1000Hz
Switching logic	Normally open
Sensor type	—
Voltage drop V	3.5 MAX.
Voltage consumption	—
Indicator	Red
Ambient and fluid temperature °C	-10 ~ 70
Enclosure classification	IP - 67
Cable	Ø2.6PVC - 26AWG(0.15mm2) - 2cores
Magnet requirement	40~1000 Gauss
Contact protective circuit	Yes

Dimensions

Unit: mm

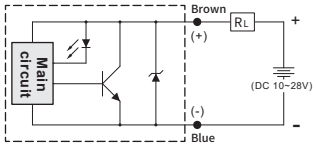
CS-7B



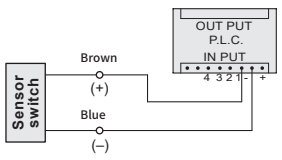
Sensor switch circuit and Connection diagram

Basic connection: Connect to relay or other resistor

CS-7B

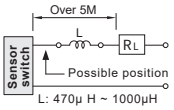


Connect to the programmable controller



Notice

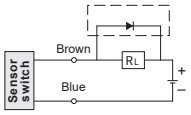
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

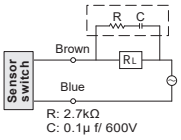
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:

Connection in parallel one R. C electric circuit at two sides of load.



CS-7BN(P) series Sensor Switch

CHELIC

Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-7BN(P)	NU	Ø6 ~ Ø10
	TB2	Ø6 ~ Ø10

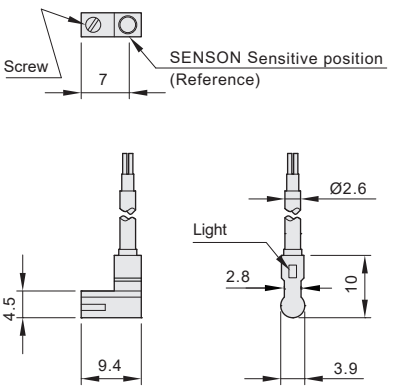
Specification

Item / Model	CS-7BN	CS-7BP
Wiring system	Three-wire	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	80 MAX.	
Contact capacity W	2.2 MAX.	
Delay time	1000Hz	
Switching logic	Normally open	
Sensor type	NPN Current Sinking	PNP Current Sinking
Voltage drop V	0.5V @ 50mA MAX.	
Voltage consumption	6mA@DC 24V MAX	
Indicator	Red	
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP - 67	
Cable	Ø2.6PVC - 26AWG(0.15mm2) - 3cores	
Magnet requirement	40~1000 Gauss	
Contact protective circuit	Yes	

Dimensions

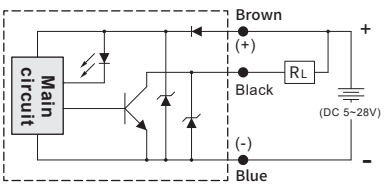
Unit: mm

CS-7BN(P)



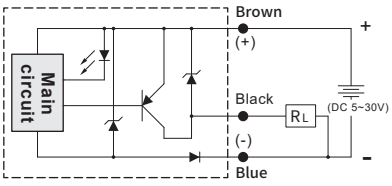
Sensor switch circuit and Connection diagram

CS-7BN



NPN

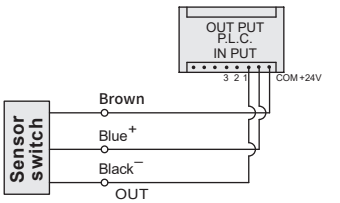
CS-7BP



PNP

Connect to the programmable controller (**NPN**)

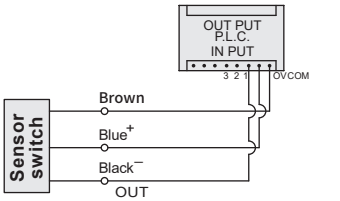
CS-7BN(P)



NPN

Connect to the programmable controller (**PNP**)

CS-7BN(P)



PNP

CS-8G(B) series Sensor Switch

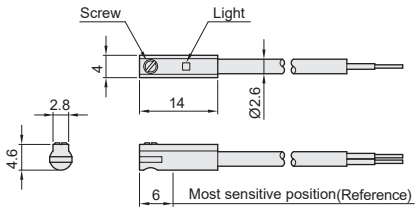
CHELIC

CS-8G series

Specification

Item / Model		CS-8G
Wiring system		Two-wire
Switching voltage	V	5~30V DC
Switching current	mA	50mA
Contact capacity	W	1.5W
Delay time		1000 Hz
Switching logic		Normally open
Enclosure classification		IP-67
Color of indicator light		Red
Cable		Ø2.6 Wire × 2M
Voltage drop	V	3.5 MAX.
Sensitivity		High
Contact protective circuit		Yes
Ambient and fluid temperature	°C	-10 ~ 70
Weight	g	20 ± 2

Dimensions

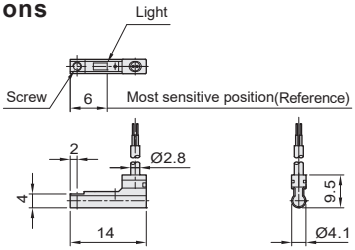


CS-8B series

Specification

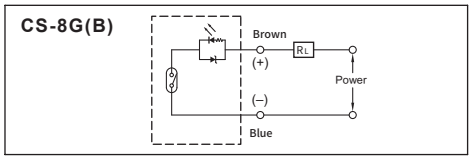
Item / Model		CS-8B
Wiring system		Two-wire
Switching voltage	V	5~30V DC
Switching current	mA	50mA
Contact capacity	W	1.5W
Delay time		1000 Hz
Switching logic		Normally open
Enclosure classification		IP-67
Color of indicator light		Red
Cable		Ø2.6 Wire × 2M
Voltage drop	V	3.5 MAX.
Sensitivity		High
Contact protective circuit		Yes
Ambient and fluid temperature	°C	-10 ~ 70
Weight	g	20 ± 2

Dimensions

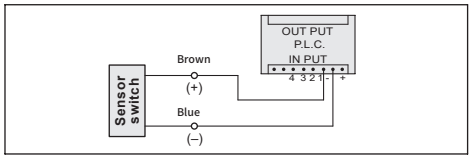


Sensor switch circuit and Connection diagram

Basic connection: Connect to relay or other resistor

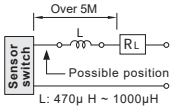


Connect to the programmable controller



Notice

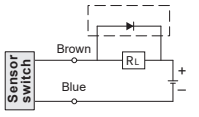
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

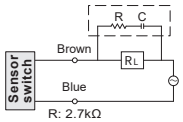
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:

Connection in parallel one R. C electric circuit at two sides of load.



CS-8GN(P) series Sensor Switch

CHELIC

Solid state sensor switch

Suitable for cylinder

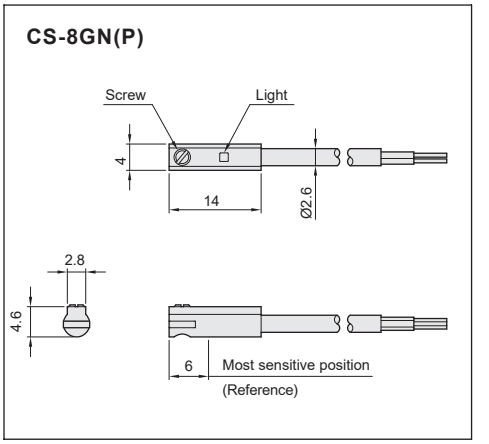
Model	Cylinder	Bore size
CS-8GN(P)	MRB	Ø10 ~ Ø40
	MRX	Ø10 ~ Ø25
	MRU	Ø10 ~ Ø40
	MRH	Ø15 ~ Ø32
	MDX	Ø 6 ~ Ø25
	RTM	10 ~ 100
	HDZ	Ø16 ~ Ø40
	HDF	Ø12 ~ Ø20
	HDL	Ø20 ~ Ø32
	HDT	Ø10 ~ Ø40
	HDR	Ø25 ~ Ø63

Specification

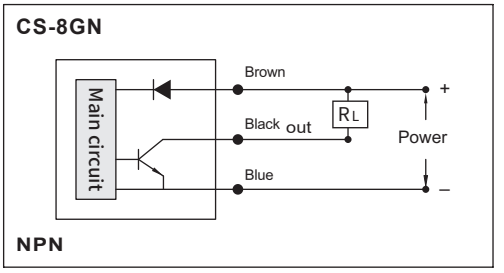
Item \ Model	CS-8GN	CS-8GP
Wiring system	Three-wire	
Switching voltage V	DC: 4.5 ~ 28	
Switching current mA	50 MAX.	
Delay time	< 1ms (1000Hz)	
Switching current	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	0.5 MAX.	
Voltage consumption	OFF: 7mA (24V) / ON: 10mA (24V) MAX.	
Indicator	Red	
Ambient and fluid temperature °C	-10 ~ 70	
Protection grade	IP - 67	
Cable	Ø 2.6, 3 Wire x 2M	
Weight g	22 ± 2	
Contact protective circuit	Yes	

Dimensions

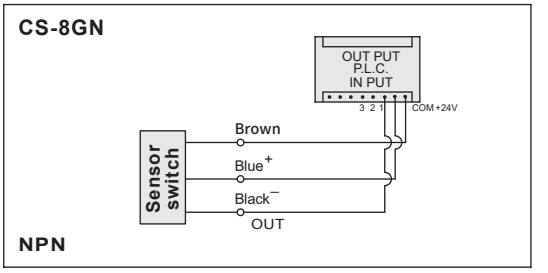
Unit: mm

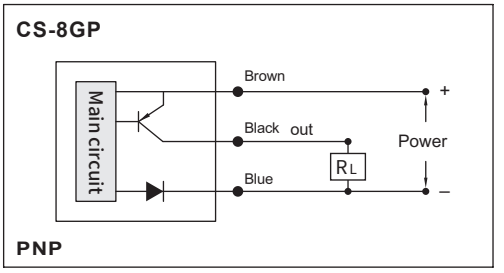


Sensor switch circuit and Connection diagram

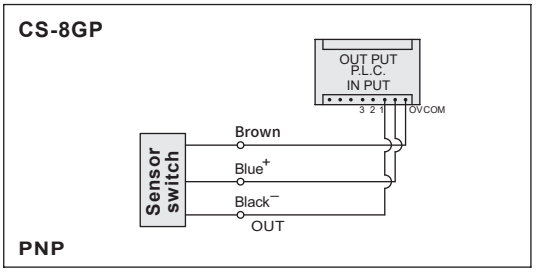


Connect to the programmable controller (**NPN**)





Connect to the programmable controller (**PNP**)



CS-9D/ CS-9B/ CS-9H/ CS-9G series Sensor Switch

CHELIC

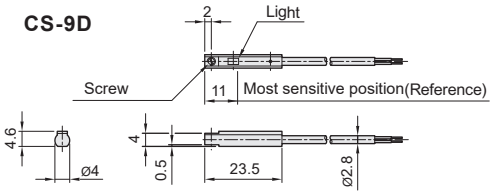
CS-9D series

Item \ Model	CS-9D	CS-9D-S	CS-9H	CS-9G
Wiring system	Two-wire			
Switching voltage V	DC: 5 ~ 120 / AC: 5 ~ 120		DC: 5~240/ AC: 5~240	5 ~ 30V
Switching current mA	100 MAX.		100 MAX.	50 MAX.
Contact capacity W	10 MAX.		10 MAX.	1.5 MAX.
Delay time	< 2ms (500Hz)		< 2ms (500Hz)	100Hz
Switching logic	Normally open		Normally open	Solid state output, Normally open
Enclosure classification	IP-67			
Indicator	Red		Green	Red
Cable	Ø2.8 Wire × 2M			
Voltage drop V	3.5 MAX.			3.7 MAX.
Sensitivity Note	General	High	General	High
Contact protective circuit	No			Yes
Ambient and fluid temperature °C	-10 ~ 70			
Weight g	20 ± 2			

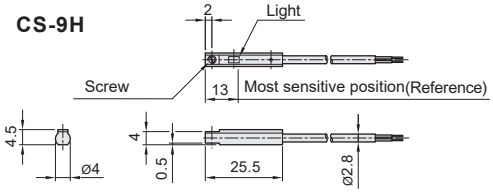
Note: For high sensitivity, add "-S" to the port number.

Dimensions

CS-9D



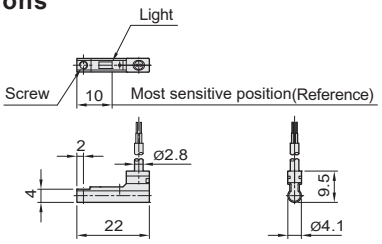
CS-9H



CS-9B series

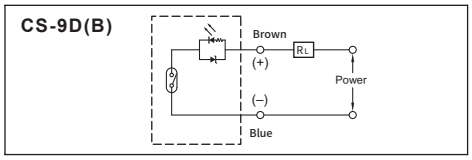
Item \ Model	CS-9B
Wiring system	Two-wire
Switching voltage V	DC: 5 ~ 120 / AC: 5 ~ 120
Switching current mA	100 MAX.
Contact capacity W	6 MAX.
Delay time	< 2ms (500Hz)
Switching logic	Normally open
Enclosure classification	IP-67
Indicator	Red
Cable	Ø2.8 Wire × 2M
Voltage drop V	3.5 MAX.
Sensitivity	General
Contact protective circuit	No
Ambient and fluid temperature °C	-10° ~ 70°
Weight g	18 ± 2

Dimensions

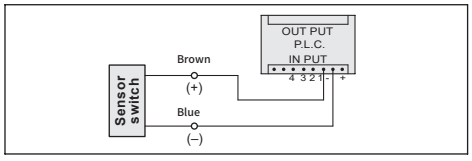


Sensor switch circuit and Connection diagram

Basic connection: Connect to relay or other resistor

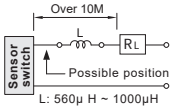


Connect to the programmable controller



Notice

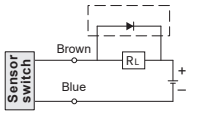
1. When wire length of sensor switch connection load is more than 10 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

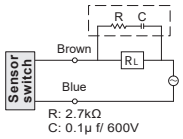
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:

Connection in parallel one R. C electric circuit at two sides of load.



CS-9DN(P) series Sensor Switch

CHELIC

Suitable for cylinder

Solid state sensor switch

Model	Cylinder	Bore size	Cylinder	Bore size	Cylinder	Bore size	Cylinder	Bore size
CS-9DN(P)	JD	Ø6 ~Ø63	MRX	Ø10~Ø25	TB(U)	Ø10~Ø63	HBR	Ø20~Ø80
	JTD	Ø20~Ø63	MRU	Ø10~Ø40	TSB(U)	Ø10~Ø63	HFR	Ø20~Ø63
	JCB	Ø20~Ø63	MRH	Ø15~Ø32	TXB(U)	Ø10~Ø63	HDZ	Ø16~Ø40
	STB	Ø32~Ø50	MSR(L)	Ø10~Ø16	RTB	3~500	HDF	Ø12~Ø20
	STC	Ø32~Ø50	FMR(L)	Ø10~Ø32	RTBM	10~100	HDL	Ø20~Ø32
	STD	Ø32~Ø50	MQX	Ø 6 ~Ø20	RTZB	10~50	HDT	Ø10~Ø40
	STF	Ø32~Ø50	TD	Ø10~Ø40	SCR(L)	Ø12~Ø63	HDR	Ø25~Ø63
	MRB	Ø10~Ø40	STU(M)	Ø10~Ø32	HER	Ø20~Ø40	HDW	Ø20~Ø100

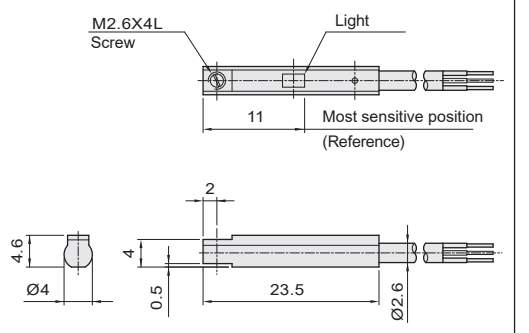
Specification

Item \ Model	CS-9DN	CS-9DP
Wiring system	Three-wire	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	80 MAX.	
Delay time	< 1ms (1000Hz)	
Switching logic	Normally	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	0.5V @ 50mA MAX.	
Voltage consumption	10 mA @ 24V DC MAX.	
Indicator	Red	
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP - 67	
Cable	Ø2.6 , 3C , PUR	
Contact capacity W	2.2W MAX.	
Contact protective circuit	Reverse polarity protection, surge absorption protection.	

Dimensions

Unit: mm

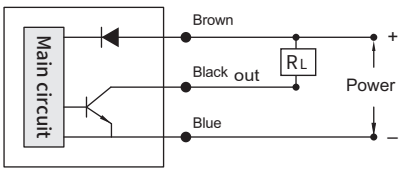
CS-9DN(P)



Sensor switch circuit and Connection diagram

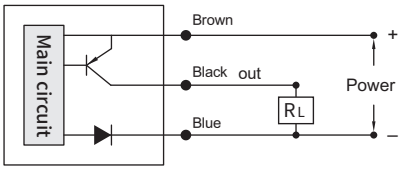
g

CS-9DN



NPN

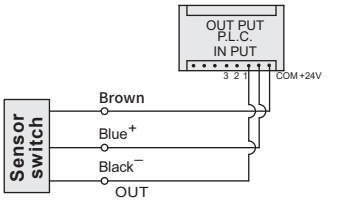
CS-9DP



PNP

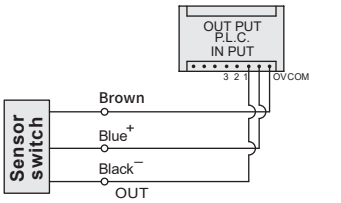
Connect to the programmable controller (**NPN**)

CS-9DN



Connect to the programmable controller (**PNP**)

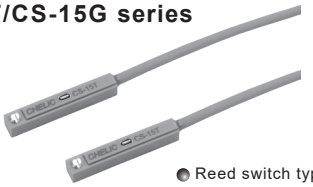
CS-9DP



CS-15T(B, G) series Sensor Switch

CHELIC

CS-15T/CS-15G series

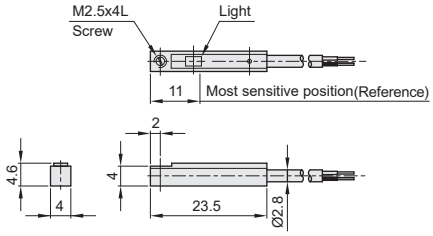


Reed switch type

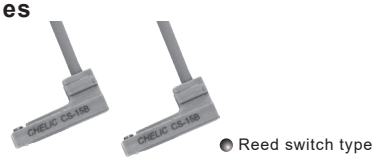
Specification

Item \ Model	CS-15T	CS-15G
Wiring system	Two-wire	
Switching voltage V	5~120V DC/AC	5~30V
Switching current mA	500mA	50MAX.
Contact capacity W	10 W	1.5 MAX.
Delay time	200Hz	1000 Hz
Switching logic	Normally open	Solid state output, Normally open
Enclosure classification	IP-67	
Indicator	Red	
Cable	Ø2.8 Wire × 1M	
Voltage drop V	3.5 MAX.	3.7 MAX.
Sensitivity	General	High
Contact protective circuit	No	Yes
Ambient and fluid temperature °C	-10 ~ 70	
Weight g	20 ± 2	

Dimensions



CS-15B series

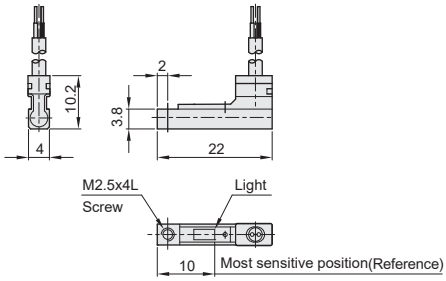


Reed switch type

Specification

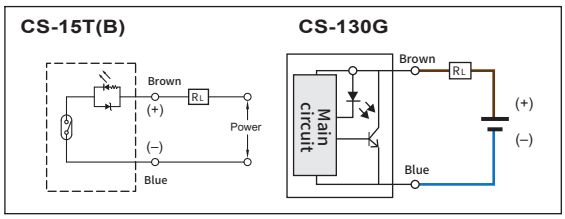
Item \ Model	CS-15B
Wiring system	Two-wire
Switching voltage V	5 ~ 120V DC/AC
Switching current mA	100mA
Contact capacity W	10 W
Delay time	< 2ms (500Hz)
Switching logic	Normally open
Enclosure classification	IP-67
Indicator	Red
Cable	Ø2.8 Wire × 2M
Voltage drop V	3.5 MAX.
Sensitivity	General
Contact protective circuit	No
Ambient and fluid temperature °C	-10 ~ 70
Weight g	18 ± 2

Dimensions

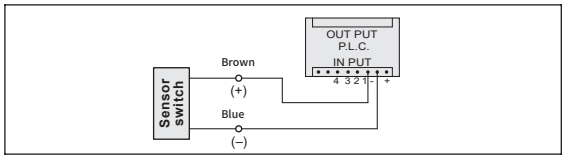


Sensor switch circuit and Connection diagram

Basic connection: Connect to relay or other resistor

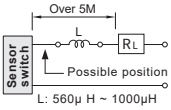


Connect to the programmable controller



Notice

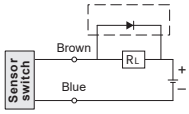
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

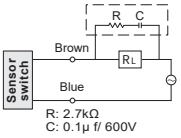
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:

Connection in parallel one R. C electric circuit at two sides of load.



CS-15TN(P) series Sensor Switch

CHELIC

- Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-15TN(P)	HDS, HDP	Ø10 ~ Ø32
	HDM	Ø6, Ø10, Ø16
	HDZ	Ø10 ~ Ø40

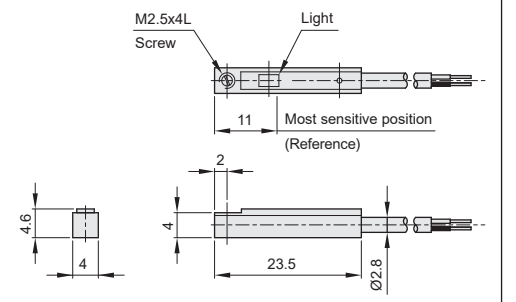
Specification

Item \ Model	CS-15TN	CS-15TP
Wiring system	Three-wire	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	200 MAX.	
Delay time	1000Hz	
Switching logic	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	1 MAX.	
Voltage consumption	OFF: 7mA (24V) ON: 8mA (24V) MAX.	
Indicator	Red	Green
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP - 67	
Cable	Ø 3.3, 3 Wire × 2M	
Weight g	22 ± 2	
Contact protective circuit	Yes	

Dimensions

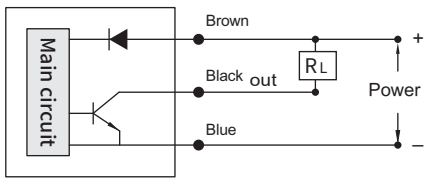
Unit: mm

CS-15TN(P)



Sensor switch circuit and Connection diagram

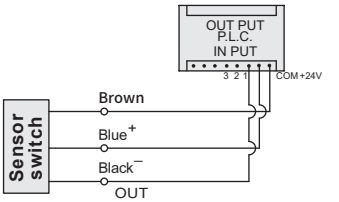
CS-15TN



NPN

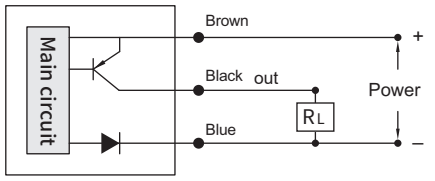
- Connect to the programmable controller (**NPN**)

CS-15TN



NPN

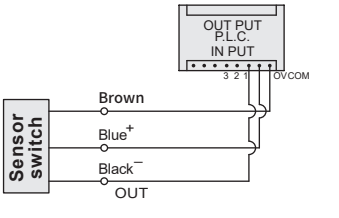
CS-15TP



PNP

- Connect to the programmable controller (**PNP**)

CS-15TP



PNP

CS-30E(S, G) series Sensor Switch

CHELIC

Suitable for cylinder

Model	Cylinder	Bore size
CS-30E	JD, JTD	Ø12 ~ Ø100
	TD, STU	Ø16 ~ Ø32
	TB, TSB	Ø32 ~ Ø63
	STB, STC, STD, STF	Ø32 ~ Ø50
	RTP	5 ~ 30
	SCR(L)	Ø20 ~ Ø63

CS

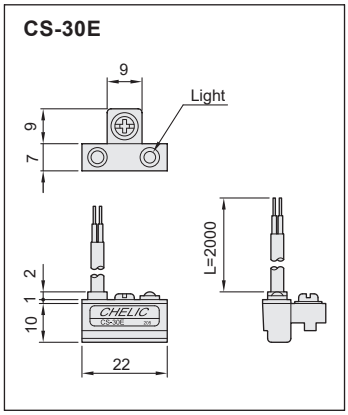
Specification

Item \ Model	CS-30E	CS-30S	CS-30G
Wiring system	Two-wire		
Switching voltage V	DC: 5 ~ 120V / AC: 5 ~ 120V		DC: 5~30V
Switching current mA	100 MAX.		50 MAX.
Contact capacity W	10 MAX.		1.5 MAX.
Delay time	2000 Hz		1000 Hz
Switching logic	Normally open		Solid state output, Normally open
Enclosure classification	IP-67		
Indicator	Red		Green
Cable	Ø3.3 Wire × 2M		
Voltage drop V	3.5 MAX.		3.7 MAX.
Sensitivity Note	General	High	
Contact protective circuit	No		Yes
Ambient and fluid temperature °C	-10 ~ 70		
Weight g	35 ± 2		

Note: For high sensitivity, add "-S" to the port number.

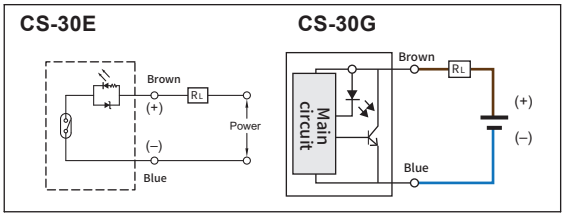
Dimensions

Unit: mm

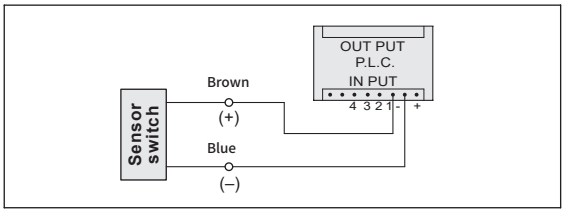


Sensor switch circuit and Connection diagram

Basic connection: Connect to relay or other resistor

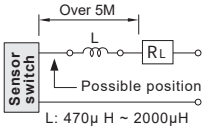


Connect to the programmable controller



Notice

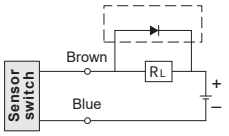
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

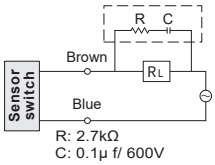
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:

Connection in parallel one R.C electric circuit at two sides of load.



CS-30EN(EP) series Sensor Switch

CHELIC

Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-30EN(EP)	JD, JTD	Ø12 ~ Ø100
	TD, STU	Ø16 ~ Ø32
	TB, TSB	Ø32 ~ Ø63
	STB, STC, STD, STF	Ø32 ~ Ø50
	RTP	5 ~ 30
	SCR(L)	Ø20 ~ Ø63
	STM	Ø16 ~ Ø32
	TXB	Ø16 ~ Ø63
	MRU	Ø10 ~ Ø40

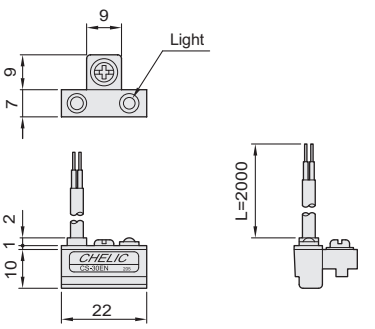
Specification

Item \ Model	CS-30EN	CS-30EP
Wiring system	Three wires	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	200 MAX.	
Delay time	1000 Hz	
Switching logic	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	0.5 MAX.	
Voltage consumption	OFF: 7mA (24V) / ON: 8 mA (24V) MAX.	
Indicator	Red	Green
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP-67	
Cable	Ø3.3, 3 Wire × 2M	
Weight g	35 ± 2	
Contact protective circuit	Yes	

Dimensions

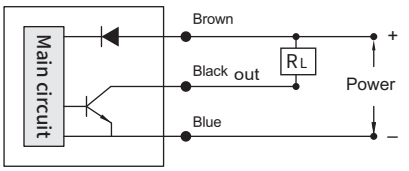
Unit: mm

CS-30EN(EP)



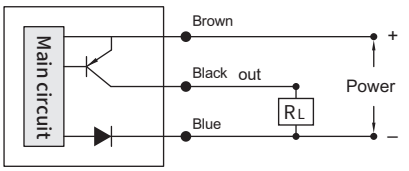
Sensor switch circuit and Connection diagram

CS-30EN



NPN

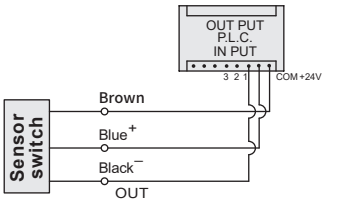
CS-30EP



PNP

Connect to the programmable controller (**NPN**)

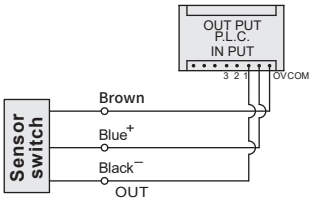
CS-30EN



NPN

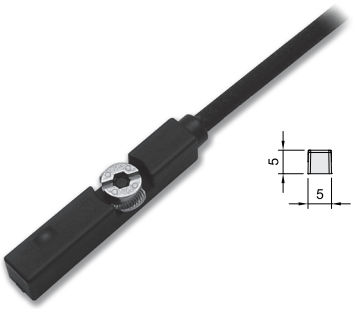
Connect to the programmable controller (**PNP**)

CS-30EP



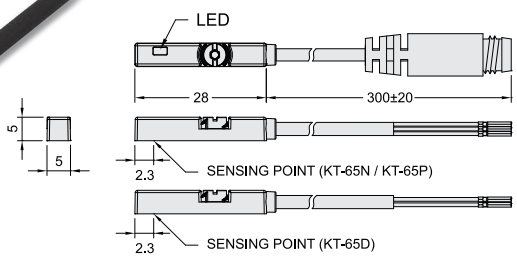
PNP

CS-65 series Sensor Switch



Dimensions

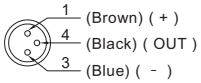
CS-65, CS-65-D, CS-65-NPN, CS-65-PNP



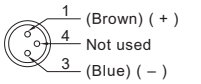
Unit: mm

M8 male connector Pinout

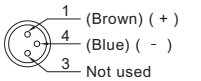
Three-wire (PG)



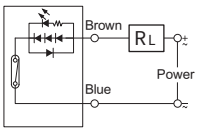
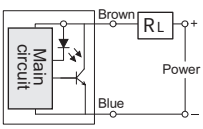
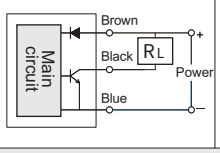
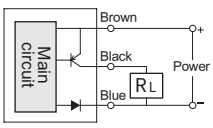
Two-wire (PG)



Two-wire (EPG)

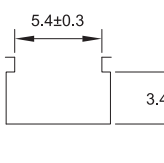


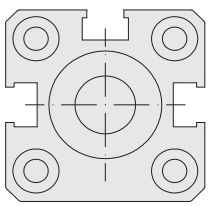
Specification

Model	CS-65	CS-65-G	CS-65-NPN	CS-65-PNP
Connection diagram / Item				
Wiring system	Two-wire		Three wires	
Switching logic	SPST Normally open	Solid state output, Normally open		
Sensor type	Reed switch	-	NPN Current sinking	PNP Current sourcing
Operating voltage V	5 ~ 240 DC/AC	5 ~ 30 DC	5 ~ 30 DC	
Switching current mA	100 Max.	50 Max.	200 Max.	
Contact rating Note1 W	10 Max.	1.5 Max.	6 Max.	
Current consumption	-		6mA @ 24V DC Max.	
Voltage drop V	3.0 Max.	3.7 Max.	0.5V @ 200 Max.	
Leakage current mA	–	0.1 (40uA) Max.	0.01 Max.	
Indicator	Red LED			Yellow LED
Cable	Ø2.8, 2C, PUR		Ø2.8,3C,PUR	
Operating frequency	200Hz	1000Hz		
Magnet requirement Note2	75 Gauss	40 ~ 1000 Gauss		
Ambient and fluid temperature °C	-10 ~ 70			
Shock Note3 g	30	50		
Vibration Note4 g	9			
Enclosure classification	IEC 60529 IP67			
Protection circuit Note5	1	3, 4		

※ Note: 1. 不可超過接點容量 (P = V x I)
2. Measuring standard target : ø15.5 × ø8 × 5t (Anisotropy rubber magnet).
3. Sin wave / X, Y, Z 3 directions, 3 times each direction, 11 ms each time.
4. Double amplitude 1.5 mm, 10 Hz ~ 55 Hz ~ 10 Hz (Sweep 1 min),
X , Y , Z 3 directions, 1 hour each time.
5. 1 = None, 2 = Short-circuit, 3 = Power Source Reverse polarity, 4 = Surge Suppression.

Groove dimensions





CS-95 series Sensor Switch

CHELIC

- Reed sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-95	PRU	Ø16 ~ Ø40
	PRF	Ø16 ~ Ø40
	PRUT	Ø16 ~ Ø40

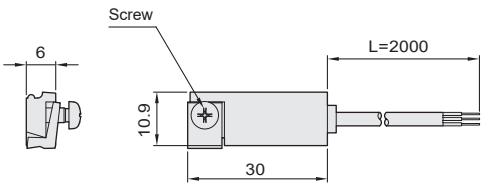
Specification

Item / Model		CS-95
Wiring system		Two-wire
Switching voltage	V	5~120V DC/AC
Switching current	mA	500mA
Contact capacity	W	10 W
Delay time		200Hz
Switching logic		Normally open
Enclosure classification		IP-67
Indicator		Yellow
Cable		Ø2 Wire × 2M
Voltage drop	V	3 MAX.
Sensitivity		General
Contact protective circuit		No
Ambient and fluid temperature	°C	-10 ~ 70
Weight	g	1.2

Dimensions

Unit: mm

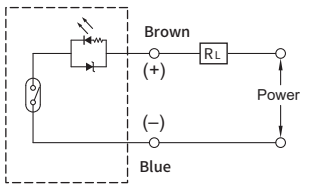
CS-95



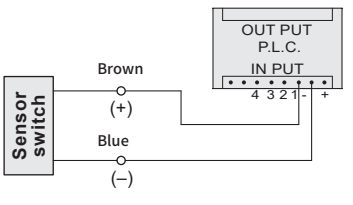
Sensor switch circuit and Connection diagram

- Basic connection: Connect to relay or other resistor

CS-95

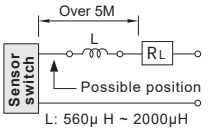


- Connect to the programmable controller



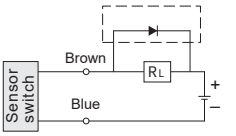
Notice

1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.

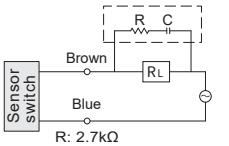


Protect electric circuit

DC load:
Connection in parallel one diode at counter clock-wire direction of two sides of load.



AC load:
Connection in parallel one R.C electric circuit at two sides of load.



R: 2.7kΩ
C: 0.1μ f/ 600V

CS-95N(P) series Sensor Switch

CHELIC

- Solid state sensor switch

Suitable for cylinder

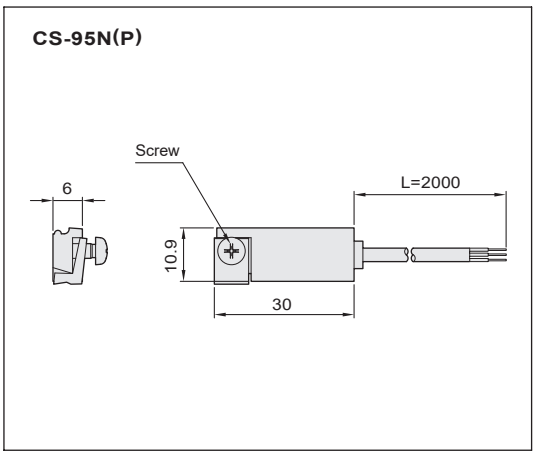
Model	Cylinder	Bore size
CS-95N(P)	PRU	Ø16 ~ Ø40
	PRF	Ø16 ~ Ø40
	PRUT	Ø16 ~ Ø40

Specification

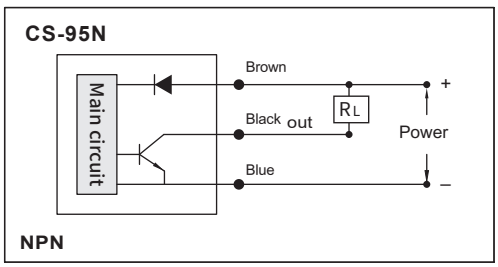
Item \ Model	CS-95N	CS-95P
Wiring system	Three wires	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	200 MAX.	
Delay time	1000Hz	
Switching logic	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	2 MAX.	2.5 MAX.
Voltage consumption mA	0.01 MAX.	
Indicator	Red	
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP - 67	
Cable	Ø 4, 3 Wire × 2M	
Sensitivity	General	
Weight g	22 ± 2	
Contact protective circuit	Yes	

Dimensions

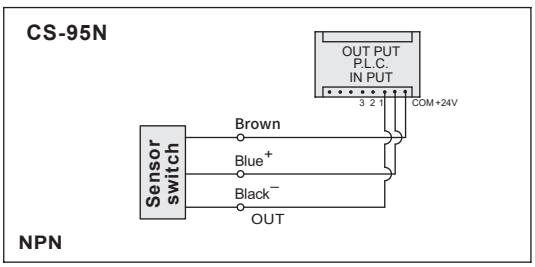
Unit: mm

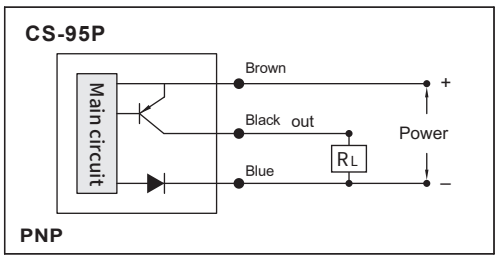


Sensor switch circuit and Connection diagram

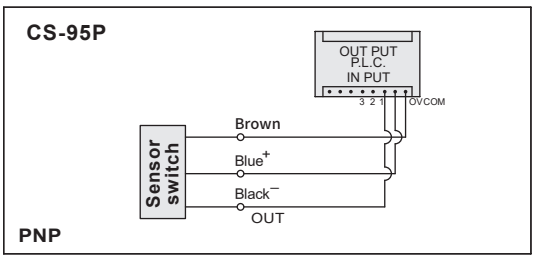


- Connect to the programmable controller (**NPN**)





- Connect to the programmable controller (**PNP**)

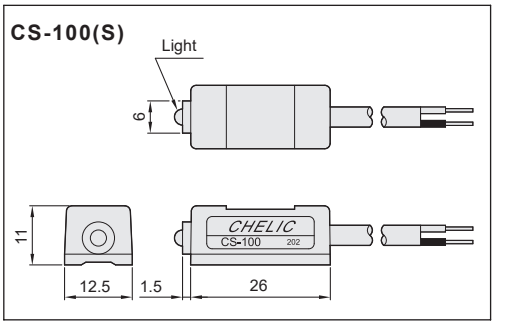


CS-100(S) series Sensor Switch

CHELIC

Dimensions

Unit: mm



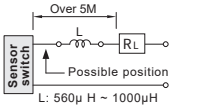
Specification

Item / Model	CS-100	CS-100(S)	CS-100G
Wiring system	Two-wire		
Switching voltage V	DC: 5~120/ AC: 5~120		DC 5~30V
Switching current mA	100 MAX.		50 MAX.
Contact capacity W	10 MAX.		1.5 MAX.
Delay time	200 Hz		1000 Hz
Switching logic	Normally open		Solid state output, Normally open
Enclosure classification	IP-67		
Indicator	Green		Red
Cable	Ø4 Wire × 2M		
Voltage drop V	3.5 MAX.		3.7 MAX.
Sensitivity Note	General	High	
Contact protective circuit	No		Yes
Ambient and fluid temperature °C	-10 ~ 70		
Weight g	43 ± 2		

Note: For high sensitivity, add "-S" to the port number.

Notice

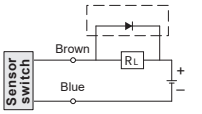
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

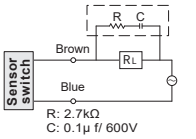
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



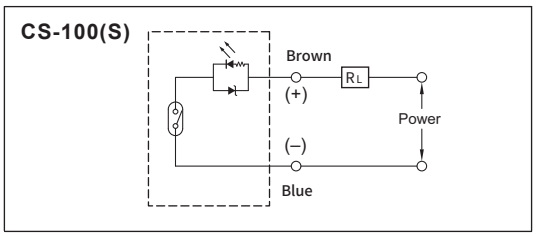
AC load:

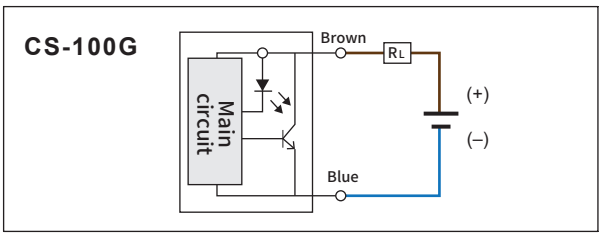
Connection in parallel one R. C electric circuit at two sides of load.



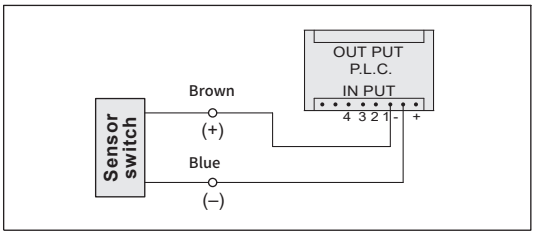
Sensor switch circuit and Connection diagram

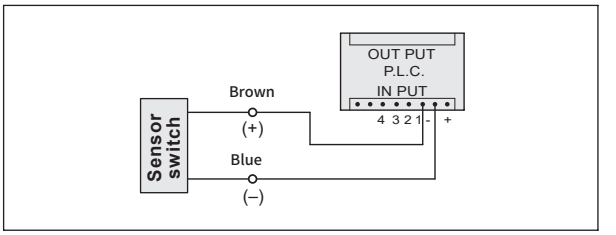
Basic connection: Connect to relay or other resistor





Connect to the programmable controller





CS-100N(P) series Sensor Switch

CHELIC

Solid state sensor switch

CS

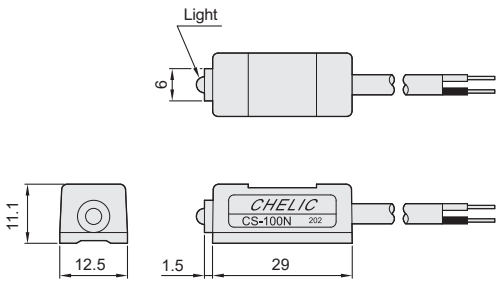
Specification

Item / Model	CS-100N	CS-100P
Wiring system	Three wires	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	200 MAX.	
Delay time	1000Hz	
Switching logic	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	1.5 MAX.	
Voltage consumption	OFF: 7 mA (24V) / ON: 15 mA (24V)MAX.	
Indicator	Red	Green
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP - 67	
Cable	Ø 4, 3 Wire × 2M	
Weight g	50 ± 2	
Contact protective circuit	Yes	

Dimensions

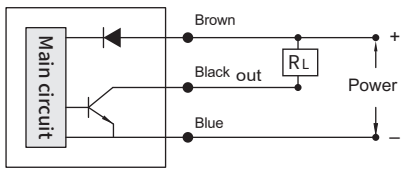
Unit: mm

CS-100N(P)



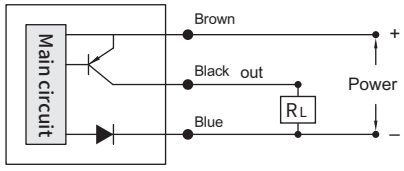
Sensor switch circuit and Connection diagram

CS-100N



NPN

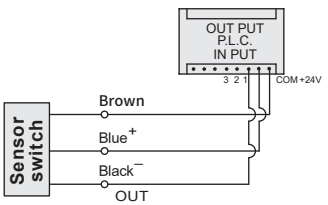
CS-100P



PNP

Connect to the programmable controller (**NPN**)

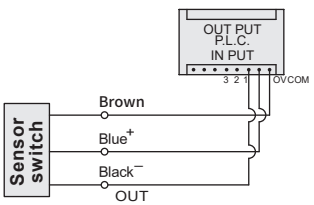
CS-100N



NPN

Connect to the programmable controller (**PNP**)

CS-100P



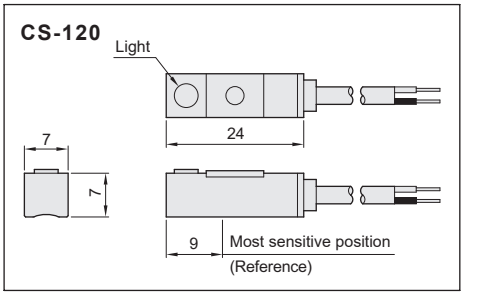
PNP

CS-120(G) series Sensor Switch

CHELIC

Dimensions

Unit: mm

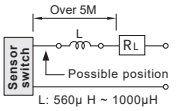


Specification

Item / Model	CS-120 – ☐	CS-120G
Wiring system	Two-wire	
Switching voltage V	5~120V DC/AC	5~30V DC
Switching current mA	100 MAX.	50 MAX.
Contact capacity W	10 MAX.	1.5 MAX.
Delay time	200 Hz	1000 Hz
Switching logic	Normally open	Solid state output, Normally open
Enclosure classification	IP-67	
Indicator	Red	
Cable V	Ø2.8 Wire × 2M	
Voltage drop Note	3 MAX.	3.7 MAX.
Sensitivity	General	High
Contact protective circuit °C	No	Yes
Ambient and fluid temperature	-10 ~ 70	
Weight g	25 ± 2	

Notice

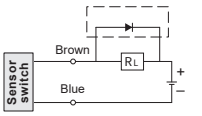
1. When wire length of sensor switch connection load is more than 5 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

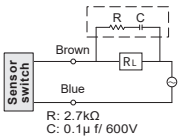
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



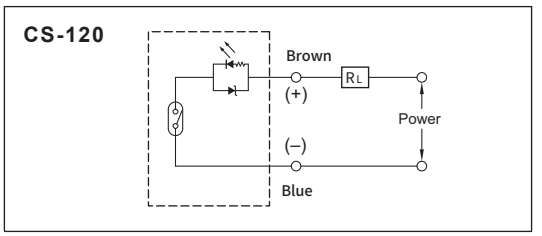
AC load:

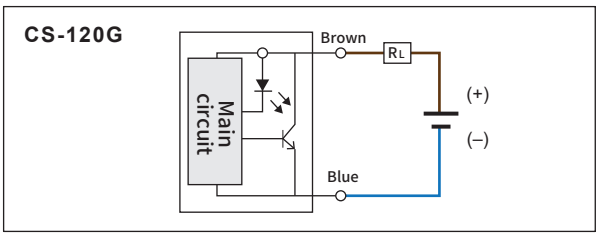
Connection in parallel one R. C electric circuit at two sides of load.



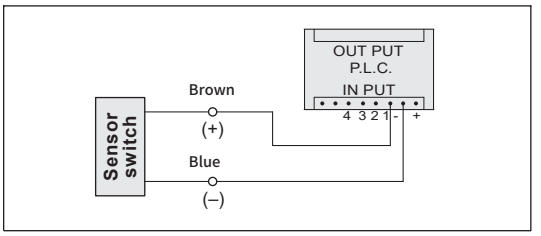
Sensor switch circuit and Connection diagram

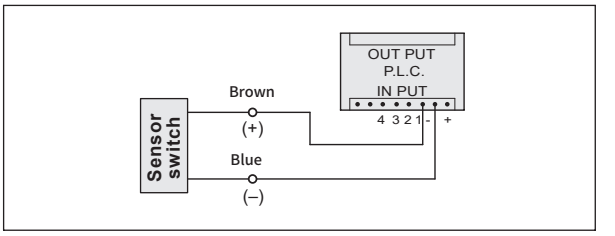
Basic connection: Connect to relay or other resistor





Connect to the programmable controller





CS-120N(P) series Sensor Switch

CHELIC

- Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-120N(P)	SBA, SBB, SBD	Ø10, Ø16
	SBR	Ø6, Ø10, Ø16
	SDA	Ø12

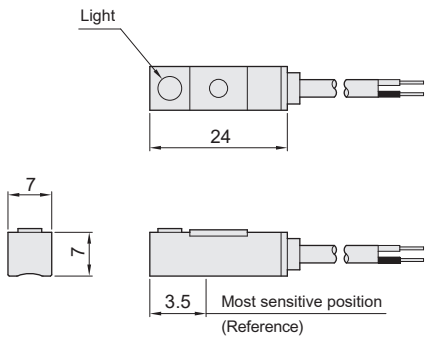
Specification

Item / Model	CS-120N	CS-120P
Wiring system	Three-wire	
Switching voltage V	DC: 5 ~ 30	
Switching current mA	200 MAX.	
Delay time	1000 Hz	
Switching logic	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	0.5 MAX.	
Voltage consumption	ON: 20 mA (24V) MAX.	
Indicator	Red	Green
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP-67	
Cable	Ø 2.8, 3 Wire × 2M	
Weight g	28±2	
Contact protective circuit	Yes	

Dimensions

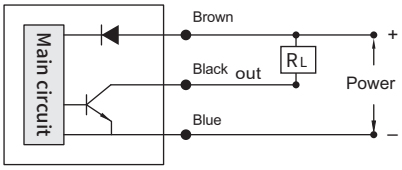
Unit: mm

CS-120



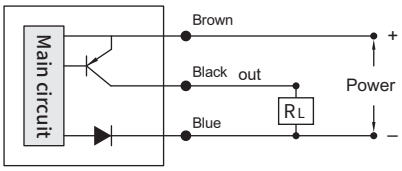
Sensor switch circuit and Connection diagram

CS-120N



NPN

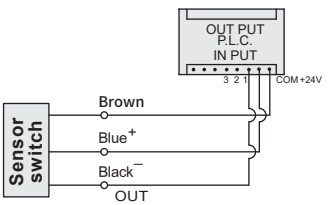
CS-120P



PNP

- Connect to the programmable controller (**NPN**)

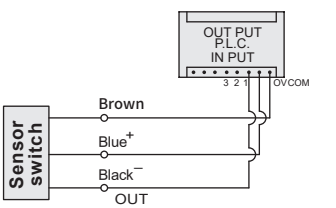
CS-120N



NPN

- Connect to the programmable controller (**PNP**)

CS-120P



PNP

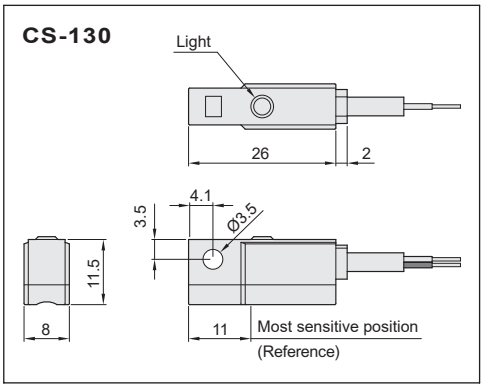
CS-130(G) series Sensor Switch

CHELIC

Reed sensor switch

Dimensions

Unit: mm

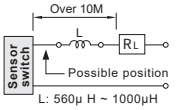


Specification

Item / Model	CS-130 – ☐	CS-130G
Wiring system	Two-wire	
Switching voltage V	5~120V DC/AC	5~30V DC
Switching current mA	100 MAX.	50 MAX.
Contact capacity W	10 MAX.	1.5 MAX.
Delay time	200 Hz	1000 Hz
Switching logic	Normally open	Solid state output, Normally open
Enclosure classification	IP-67	
Indicator	Red	
Cable	Ø3.3 Wire × 2M	
Voltage drop V	2.5 MAX.	3.7 MAX.
Sensitivity	General	High
Contact protective circuit	No	Yes
Ambient and fluid temperature °C	-10 ~ 70	
Weight g	50 ± 2	

Notice

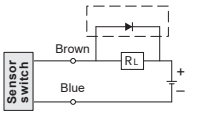
1. When wire length of sensor switch connection load is more than 10 meters, inductor shall be installed near to sensor side to avoid ripple.
2. Applied voltage and current shall not exceed the specified value.
3. When inductive load is connected it is advisable to install protection circuit.



Protect electric circuit

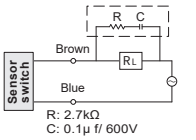
DC load:

Connection in parallel one diode at counter clock-wire direction of two sides of load.



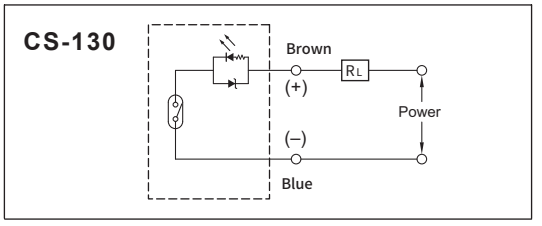
AC load:

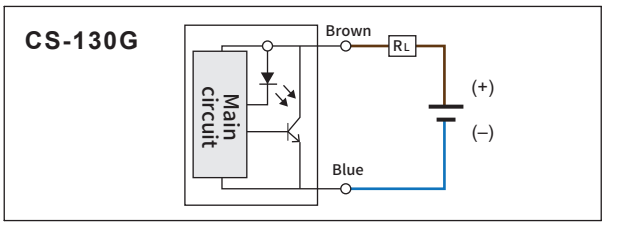
Connection in parallel one R. C electric circuit at two sides of load.



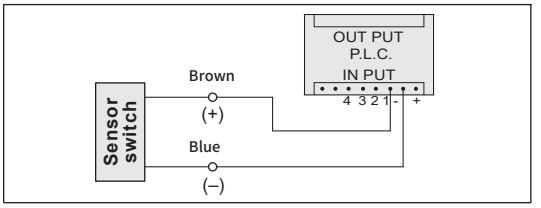
Sensor switch circuit and Connection diagram

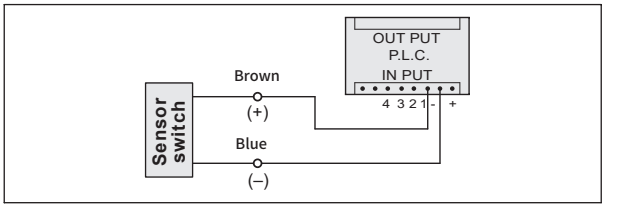
Basic connection: Connect to relay or other resistor





Connect to the programmable controller





CS-130N(P) series Sensor Switch

CHELIC

- Solid state sensor switch

Suitable for cylinder

Model	Cylinder	Bore size
CS-130N(P)	SBA, SBB, SBD	Ø10, Ø16
	SBR	Ø6, Ø10, Ø16
	SDA	Ø16
	DBS2	Ø20 ~ Ø40
	DBF2	Ø20 ~ Ø40

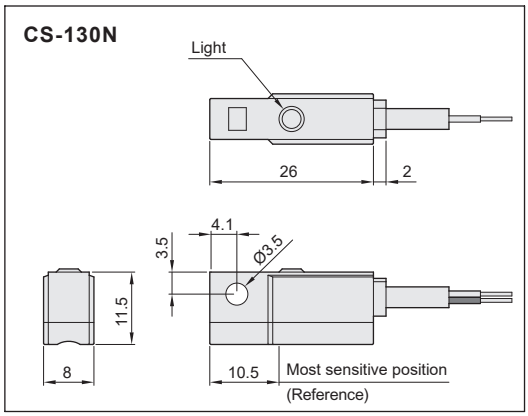
CS

Specification

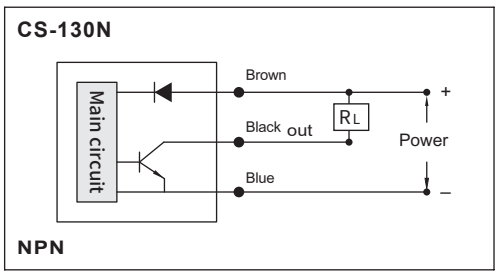
Item / Model	CS-130N	CS-130P
Wiring system	Three-wire	
Switching voltage V	DC: 5 ~ 28V	
Switching current mA	50 MAX.	
Delay time	1000 Hz	
Switching logic	Normally open	
Sensor type	NPN. Current sinking	PNP. Current sourcing
Voltage drop V	0.5 MAX.	
Voltage consumption	ON: 10 mA (24V) MAX.	
Indicator	Red	Green
Ambient and fluid temperature °C	-10 ~ 70	
Enclosure classification	IP-67	
Cable	Ø 3.3, 3 Wire × 2M	
Weight g	50±2	
Contact protective circuit	Yes	

Dimensions

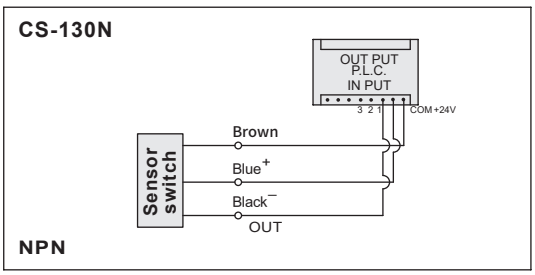
Unit: mm

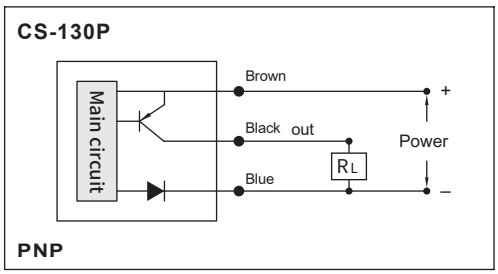


Sensor switch circuit and Connection diagram

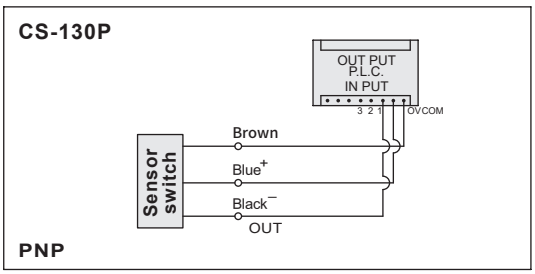


- Connect to the programmable controller (**NPN**)



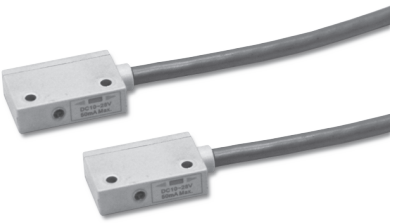


- Connect to the programmable controller (**PNP**)



CS-180 series Sensor Switch

CHELIC



- Solid state sensor switch

Suitable for cylinder

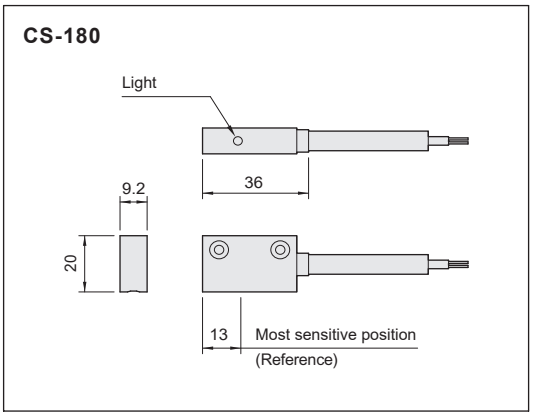
Model	Cylinder	Bore size
CS-180	DCK2S	Ø25 ~ Ø80
	DCQS	Ø50

Specification

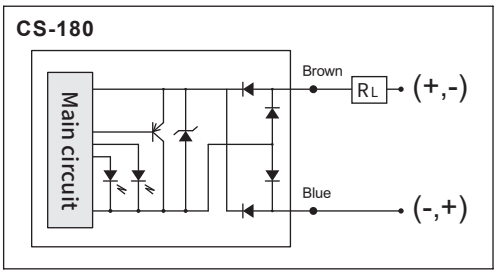
Item / Model		CS-180	
Wiring system		Two-wire	
Switching voltage	V	DC: 10 ~ 28	
Switching current	mA	5 ~ 50 MAX.	
Contact capacity	W	1.5 MAX.	
Operating time		50 ms MAX	
Switching logic		Normally open	
Voltage drop	V	5 MAX.	
Indicator		Unstable: Red	Stable: Green
Ambient and fluid temperature	°C	-10 ~ 60	
Enclosure classification		IP-67	
Cable		Ø5.4, 2C, PVC	
Contact protective circuit		Yes	
Weight	g	28 ± 2	

Dimensions

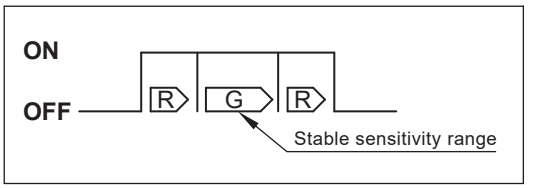
Unit: mm



Sensor switch circuit and Connection diagram



Switch Output: Indication lamp



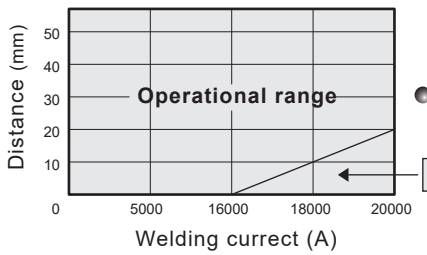
CS-180

The function of three sensing range indicators ensures the preciseness of setting position.

Unstable sensing range : Red LED light UP

Stable sensing range : Green LED light UP

Weld - field immune



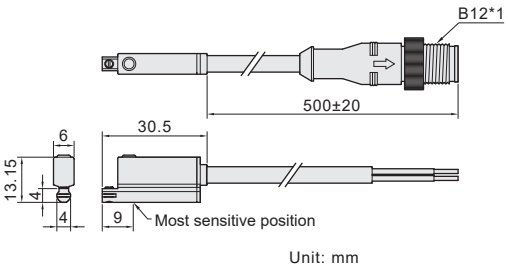
- The operational distance can be 0 mm between KT-1000D and welding gun (welding conductor or cable) when the welding current less than 16000 A.

CS-181 series Sensor Switch

CHELIC

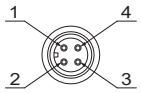
- Dual Color LED allow more precise positioning

Dimensions



Unit: mm

M12 male connector Pinout



1: Not used 3: Blue
2: Not used 4: Brown

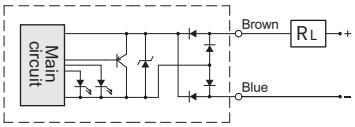
Code of order

CS-181 - ☐

Cable Length / Connector

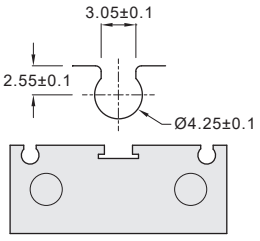
☐: With 3 meter cable
PG: With M12 4Pin male connector

Specification

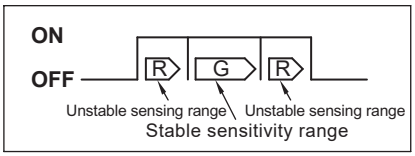
Model	CS-181
Connection diagram / Item	
Wiring system	Two-wire
Switching logic	Solid state output, Normally open
Sensor type	-
Operating voltage V	10 ~ 28 DC
Switching current mA	5 ~ 50 Max.
Contact rating (Note1)	1.5 Max.
Current consumption	-
Voltage drop V	5 Max.
Leakage current mA	1 Max.
Indicator	Unstable: Red / Stable: Green
Cable	Ø4.8,2C,PVC
Delay time	50ms Max.
Magnetic felid resistance (Note2)	16000A
Magnet requirement (Note3)	85 Gauss
Ambient and fluid temperature °C	-10 ~ 60
Shock (Note4) g	50
Vibration (Note5) g	9
Enclosure classification	IEC 60529 IP67
Protection circuit (Note6)	3, 4

※ Note: 1. Never exceed rating (watt=voltage×amperage)
2. The operational distance can be 0mm between CS-181 and weldinggun(welding conductor or cable) when the welding current less than 16000A.
3. Measuring standard target : Ø15.5 × Ø8 × 5t (Anisotropy rubber magnet).
4. Sin wave / X, Y, Z 3 directions, 3 times each direction, 11 ms each time.
5. Double amplitude 1.5 mm, 10 Hz ~ 55 Hz ~ 10 Hz (Sweep 1 min), X , Y , Z 3 directions, 1 hour each time.
6. 1 = None, 2 = Short-circuit, 3 = Power Source Reverse polarity, 4 = Surge Suppression.

Groove dimensions



Switch output: Indication iamp



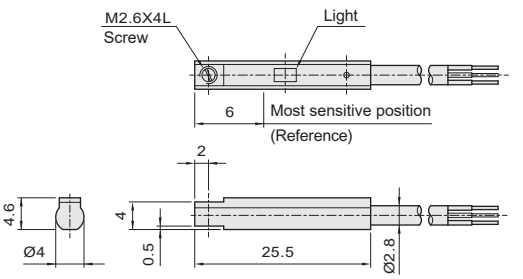
CS-190 series Sensor Switch

CHELIC

- Dual Color LED allow more precise positioning

Dimensions

CS-190, CS-190N, CS-190P
CS-190-PG, CS-190N-PG, CS-190P-PG



Unit: mm

M8 male connector Pinout

Three-wire (PG)

1 (Brown) (+)
4 (Black) (OUT)
3 (Blue) (-)

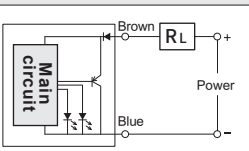
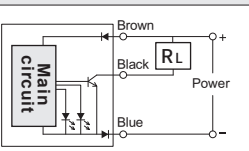
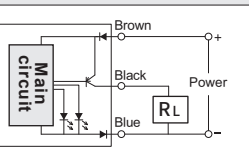
Two-wire (PG)

1 (Brown) (+)
4 Not used
3 (Blue) (–)

Two-wire (EPG)

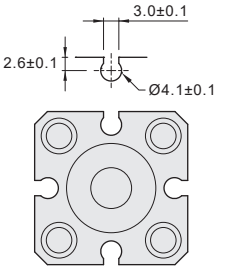
1 (Brown) (+)
4 (Blue) (-)
3 Not used

Specification

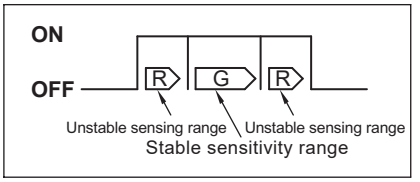
Model	CS-190	CS-190N	CS-190P
Connection diagram / Item			
Wiring system	Two-wire	Three wires	
Switching logic	Solid state output, Normally open		
Sensor type	-	NPN. Current sinking	PNP. Current sourcing
Operating voltage V	10 ~ 28 DC		
Switching current mA	80 Max.		
Contact rating (Note1) W	2 Max.		
Current consumption	-	10mA @ 24V DC Max.	
Voltage drop V	4 Max.	1.5 Max.	
Leakage current mA	1 Max.	0.05 Max.	
Indicator	Red/ Green LED		
Cable	Ø2.8, 2C, PU	Ø2.8, 3C, PU	
Operating frequency	1000Hz		
Magnet requirement (Note2)	85 Gauss		
Ambient and fluid temperature °C	-10 ~ 60		
Shock (Note3) g	50		
Vibratio (Note4) g	9		
Enclosure classification	IEC 60529 IP67		
Protection circuit (Note5)	2, 3, 4		

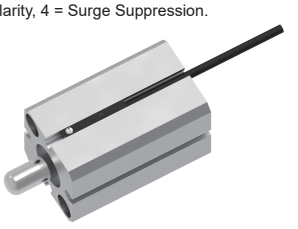
※ Note : 1. Never exceed rating (watt=voltage×amperage)
2. Measuring standard target : Ø15.5 × Ø8 × 5t (Anisotropy rubber magnet).
3. Sin wave / X, Y, Z 3 directions, 3 times each direction, 11 ms each time.
4. Double amplitude 1.5 mm, 10 Hz ~ 55 Hz ~ 10 Hz (Sweep 1 min),
X , Y , Z 3 directions, 1 hour each time.
5. 1 = None, 2 = Short-circuit, 3 = Power Source Reverse polarity, 4 = Surge Suppression.

Groove dimensions



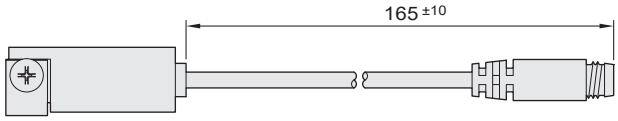
Switch output: Indication iamp





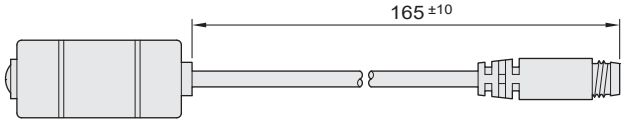
Sensor Switch Connectors

CS–95 –PG



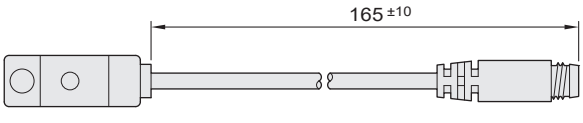
PIN 1 (Brown) (+)
PIN 4 (Black) (OUT)
PIN 3 (Blue) (–)

CS–100 –PG



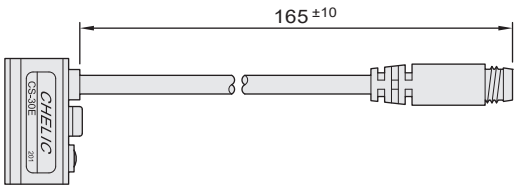
PIN 1 (Brown) (+)
PIN 4 (Black) (OUT)
PIN 3 (Blue) (–)

CS–120 –PG



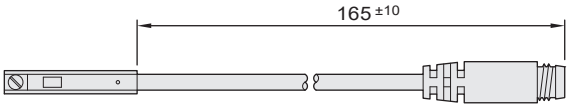
PIN 1 (Brown) (+)
PIN 4 (Black) (OUT)
PIN 3 (Blue) (–)

CS–30E(F) –PG



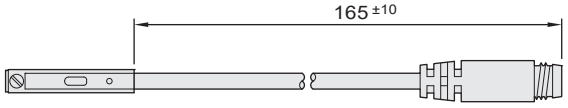
PIN 1 (Brown) (+)
PIN 4 (Black) (OUT)
PIN 3 (Blue) (–)

CS–9D –PG



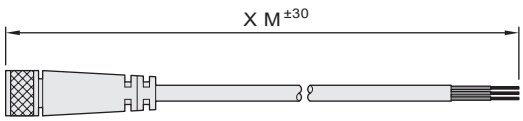
PIN 1 (Brown) (+)
PIN 4 (Black) (OUT)
PIN 3 (Blue) (–)

CS–15T –PG



PIN 1 (Brown) (+)
PIN 4 (Black) (OUT)
PIN 3 (Blue) (–)

CS–2M
CS–5M



CS - 2M - PVC: Female connector, cable length 2M.
CS - 5M - PVC: Female connector, cable length 5M.

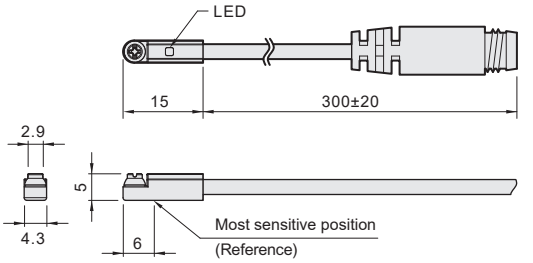
CS-5GF series Sensor Switch

CHELIC

- Solid state sensor switch

Dimensions

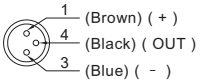
CS-5GF, CS-5GF-NPN, CS-5GF-PNP
CS-5GF-PG, CS-5GF-NPN-PG, CS-5GF-PNP-PG



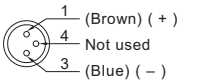
Unit: mm

M8 male connector Pinout

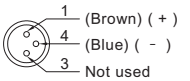
Three-wire (PG)



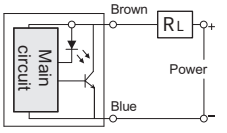
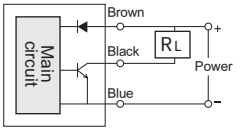
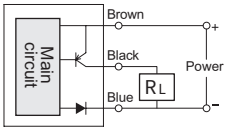
Two-wire (PG)



Two-wire (EPG)

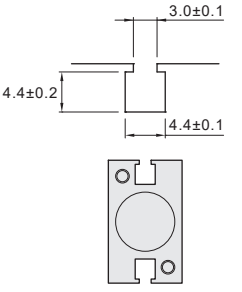


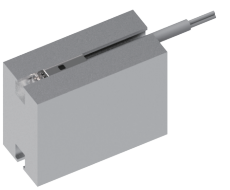
Specification

Model	CS-5GF	CS-5GF-NPN	CS-5GF-PNP
Connection diagram / Item			
Wiring system	Two-wire	Three wires	
Switching logic	Solid state output, Normally open		
Sensor type	-	NPN. Current sinking	PNP. Current sourcing
Operating voltage V	5 ~ 30 DC		
Switching current mA	50 Max.	80 Max.	
Contact rating (Note1) W	1.5 Max.	2.2 Max.	
Current consumption	–	10mA @ 24V DC Max.	
Voltage drop	3.5V Max.	0.5V @ 50mA Max.	
Leakage current mA	0.1 (40uA) Max.	0.01 Max.	
Indicator	Red LED		
Cable	Ø2.6,2C,PVC	Ø2.6,3C,PVC	
Operating frequency	1000Hz		
Magnet requirement (Note2)	40 ~ 1000 Gauss		
Ambient and fluid temperature °C	-10 ~ 70		
Shock (Note3) g	50		
Vibration (Note4) g	9		
Enclosure classification	IEC 60529 IP67		
Protection circuit (Note5)	3, 4		

※ Note: 1. Never exceed rating (watt=voltage×amperage)
2. Measuring standard target : ø15.5 × ø8 × 5t (Anisotropy rubber magnet).
3. Sin wave / X, Y, Z 3 directions, 3 times each direction, 11 ms each time.
4. Double amplitude 1.5 mm, 10 Hz ~ 55 Hz ~ 10 Hz (Sweep 1 min),
X , Y , Z 3 directions, 1 hour each time.
5. 1 = None, 2 = Short-circuit, 3 = Power Source Reverse polarity, 4 = Surge Suppression.

Groove dimensions



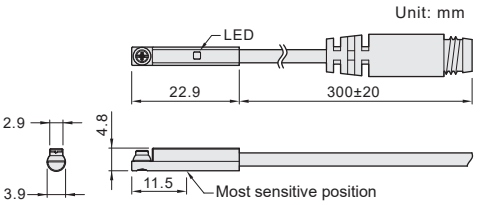


CS-9DF series Sensor Switch

CHELIC

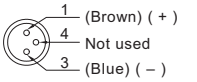
Dimensions

CS-9DF , CS-9DF-PG

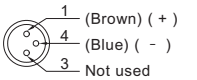


M8 male connector Pinout

Two-wire (PG)

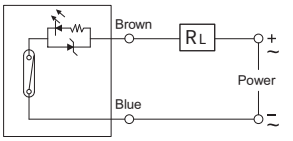


Two-wire (EPG)



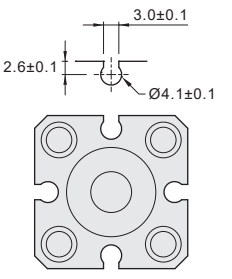
- Reed sensor switch

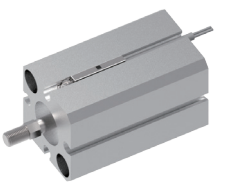
Specification

Model	CS-9DF
Connection diagram / Item	
Wiring system	Two-wire
Switching logic	SPST Normally open
Sensor type	Reed switch
Operating voltage V	5~120V DC/AC
Switching current mA	100mA
Contact rating (Note1) W	10 W
Voltage drop V	3.5 Max.
Indicator	Red LED
Cable	Ø2.6, 2C, PVC
Operating frequency	200Hz
Magnet requirement (Note2)	70 Gauss
Ambient and fluid temperature °C	-10 ~ 70
Shock (Note3) g	30
Vibration (Note4) g	9
Enclosure classification	IEC 60529 IP67
Protection circuit (Note5)	1

※ Note: 1. Never exceed rating (watt=voltage×amperage)
2. Measuring standard target : ø15.5 × ø8 × 5t (Anisotropy rubber magnet).
3. Sin wave / X, Y, Z 3 directions, 3 times each direction, 11 ms each time.
4. Double amplitude 1.5 mm, 10 Hz ~ 55 Hz ~ 10 Hz (Sweep 1 min),
X , Y , Z 3 directions, 1 hour each time.
5. 1 = None, 2 = Short-circuit, 3 = Power Source Reverse polarity, 4 = Surge Suppression.

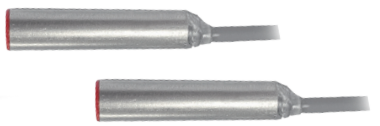
Groove dimensions





NS-6 series Proximity Sensor

CHELIC



Suitable for cylinder

Model	Cylinder	Bore size
NS-6N(P)	RTL	Ø18 ~ Ø32

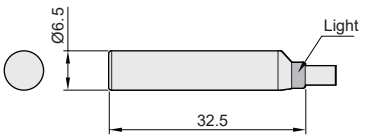
Specification

Item \ Model	NS-6N	NS-6P
Operating voltage	10 ~ 30VDC	
Power ripple	20%peak to peak	
Current consumption	10mA max.	
Detecting distance	1.4~1.6mm	
Hysteresis	10%of sensing distance max.	
Pesponse frequency	2.5KHz min.	
Output method	NPN	PNP
Output status	NO	
Output current	150mA max.	
Residual voltage	0.1V max.	
Leakage current	0.8mA max.	
Protection circuit	Short circuit & polarity reversed protection	
Cable	3c/ Ø 4.2; Grey sleeve, oil proof, durable	
Withstand Voltage	2.5kv / 1 minute min.	
Insulating strength	100 MΩ / 500vdc	
Working environment	-20℃ ~ +80℃; 35% ~ 85% RH	
Protection class	IP-67	
EMC	ESD: 8KV air charge（level 3）/ EN-61000-4-2 Burst test: 2KV / EN61000-4-4 RF interference: 10V / M / ENV-50140	

Dimensions

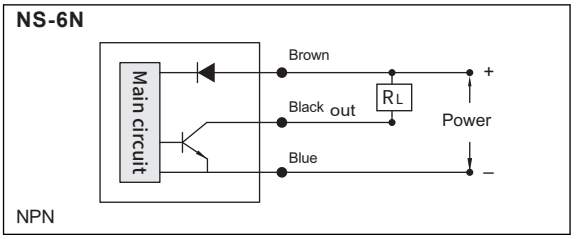
Unit: mm

NS-6N(P)

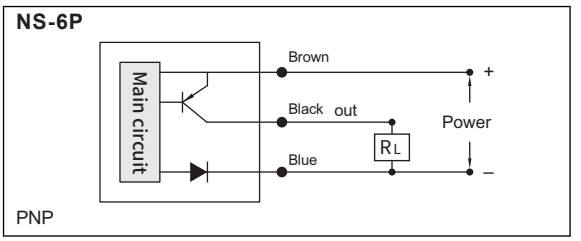


Sensor switch circuit and Connection diagram

NS-6N

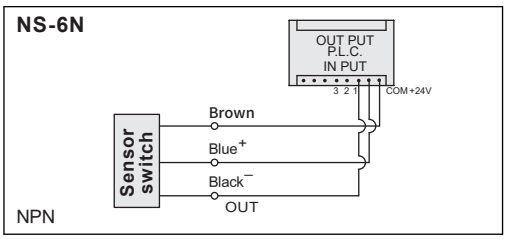


NS-6P

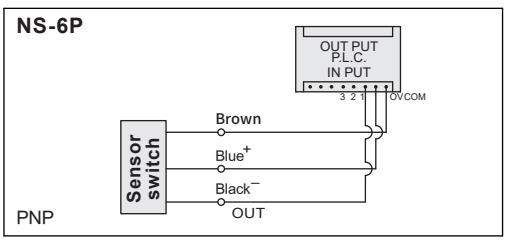


Connect to the programmable controller

NS-6N



NS-6P



NS-8 series Proximity Sensor

CHELIC

Suitable for cylinder

Model	Cylinder	Bore size
NS-8N(P)	HMQ	Ø44 ~ Ø160
	HMW	Ø27 ~ Ø125
	RTL	Ø40 ~ Ø50

CS

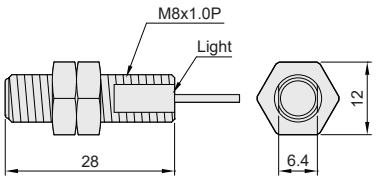
Specification

Item \ Model	NS-8N	NS-8P
Operating voltage	10 ~ 30VDC	
Power ripple	20%peak to peak	
Current consumption	10mA max.	
Detecting distance	1.0 ±0.2mm	
Hysteresis	10%of sensing distance max.	
Pesponse frequency	2.5KHz min.	
Output method	NPN	PNP
Output status	NO	
Output current	150mA max.	
Residual voltage	0.1V max.	
Leakage current	0.8mA max.	
Protection circuit	Short circuit & polarity reversed protection	
Cable	3c/Ø 4.2; Grey sleeve, oil proof, durable	
Withstand Voltage	2.5kv / 1 minute min.	
Insulating strength	100 MΩ / 500vdc	
Working environment	-20℃ ~ +80℃; 35% ~ 85% RH	
Protection class	IP-67	
EMC	ESD: 8KV air charge（level 3）/ EN-61000-4-2 Burst test: 2KV / EN61000-4-4 RF interference: 10V / M / ENV-50140	

Dimensions

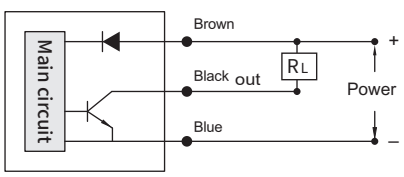
Unit: mm

NS-8N(P)



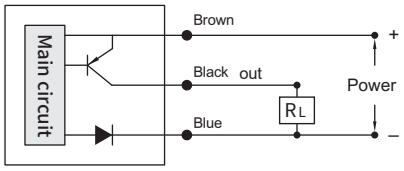
Sensor switch circuit and Connection diagram

NS-8N



NPN

NS-8P



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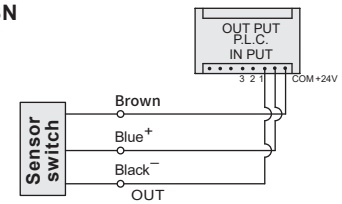
Connect to the programmable controller

NS-8N



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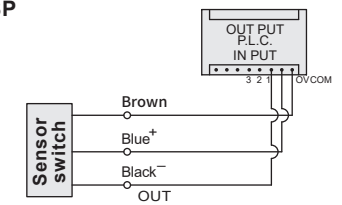

PNP

MEMO