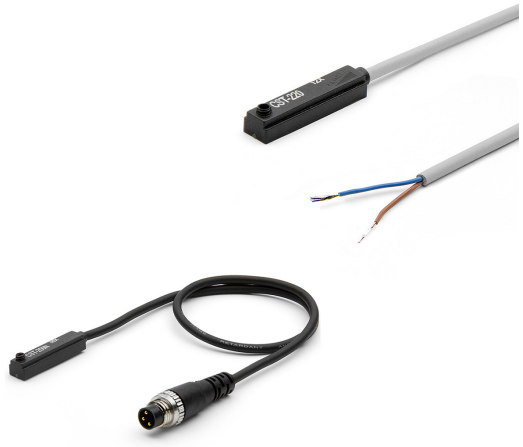
MAGNETIC PROXIMITY SWITCHES
SERIES CST

Reed contact
Magnetoresistive - Hall effect



The Mod. CST recessed magnetic proximity switch detects the position of the magnetic piston in cylinders through the actuator's integrated slot. When the piston magnet activates the sensor, the internal contact switches and generates an output signal for direct use with a solenoid valve or PLC.

A yellow LED immediately shows switching status.
CST is available in Reed, Hall effect, or magnetoresistive versions, with electronic models preferred for frequent cycles and strong vibrations thanks to their reliable repeatability.

General Data

Operation	Reed contact Magnetoresistive Hall effect
Output	Static or electronic PNP and NPN
Contact in Reed switches	Normally Open (NO) Normally Closed (NC)
Voltage output	10 ÷ 110 V AC/DC-230 V AC (CST-220..) 10 ÷ 110 V AC/DC (CST-250N..) 5 ÷ 30 V AC/DC (CST-232..CST-432..CST-262..) 10 ÷ 27 V DC (CST-332..CST-532..CST-362..CST-562..)
Max. current	250 mA (CST-220.. CST-232..CST-432..CST-250N..CST-262..) 100 mA (CST-332..CST-532..CST-362..CST-562..)
Max. load	8 W DC and 10 VA AC (Reed)
Protection class	IP67
Materials	Plastic body encapsulating epoxy resin; Cable in PU
Mounting	Directly into the groove or by means of adapters directly into the groove
Signalling	Signalling by means of a yellow diode Led
Protection	See the characteristics of each model
Switching time	<1,8 ms (Reed); <1 ms (Magnetoresistive - Hall effect)
Operating temperature [°C]	-10°C ÷ 80°C
Electrical duration	10.000.000 cycles (Reed); 1.000.000.000 cycles (Magnetoresistive - Hall effect)
Electrical connection	With a 2-wire cable, section 2x0.14, 2m (standard), high flexibility; With a 3-wire cable, section 3x0.14, 2m (standard), high flexibility; With a M8 connector and cable of 0.3 m

MAGNETIC PROXIMITY SWITCHES
SERIES CST - CODING EXAMPLES

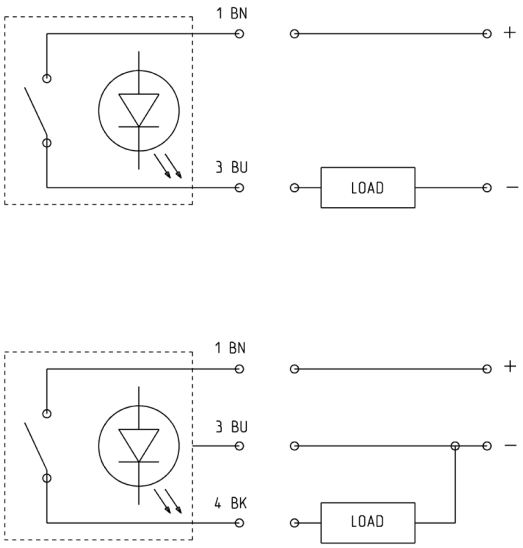
Coding Example

CS	T	2	2	0	N	5	EX

CS	SERIES
T	TYPE OF SLOT: T = T-slot
2	OPERATION: 2 = Reed NO 3 = Magnetoresistive 4 = Reed NC 5 = Hall effect
2	CONNECTIONS: 2 = 2 wires (Reed only) 3 = 3 wires 5 = 2 wires with M8 connector (Reed only) 6 = 3 wires with M8 connector
0	POWER SUPPLY VOLTAGE: 0 = 10 ÷ 110 V DC; 10 ÷ 230 V AC (PNP) 1 = 30 ÷ 110 V DC; 30 ÷ 230 V AC (PNP) 2 = 3 wires cst (PNP) 3 = 10 ÷ 30 V AC/DC (PNP) 4 = 10 ÷ 27 V DC (PNP)
N	NOTE (CST-250N only): N = according to norm
5	LENGTH OF THE CABLE: = 2m 5 = 5m
EX	CERTIFICATION = No certification EX = ATEX

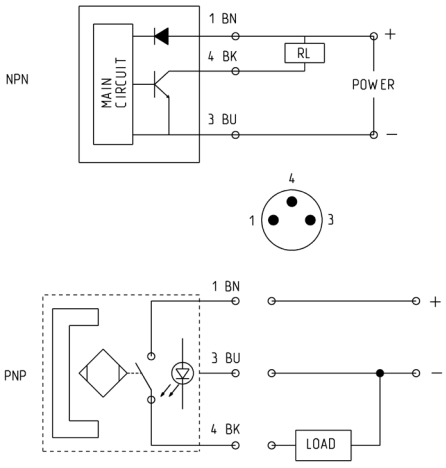
Switches electrical connections

Reed switches



Legend:
BN = brown
BU = blue
BK = black

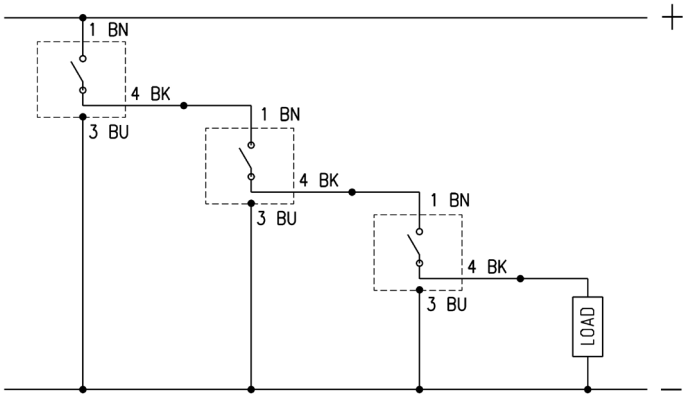
Magnetoresistive and Hall effect switches



Legend:
BN = brown
BU = blue
BK = black

Connecting schemes in series

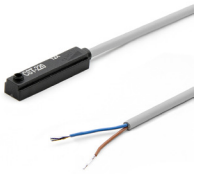
The 3-wire version of the Reed sensors has been designed to allow the connection of several sensors in series, as there is no voltage drop between the supply and the load.
See connecting scheme.
The voltage drop is 2.8V for the 2-wire Reed sensors and 1.0V for 3-wire Magnetoresistive and Hall effect sensors.

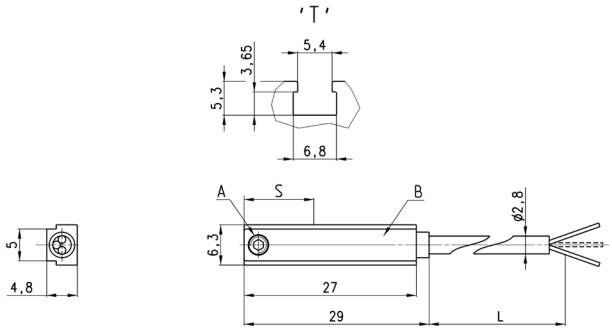


Legend:
BN = Brown
BU = Blue
BK = Black

MAGNETIC PROXIMITY SWITCHES
SERIES CST - DIMENSIONS

Magnetic proximity switches with 2 or 3 wire cable for T-slot





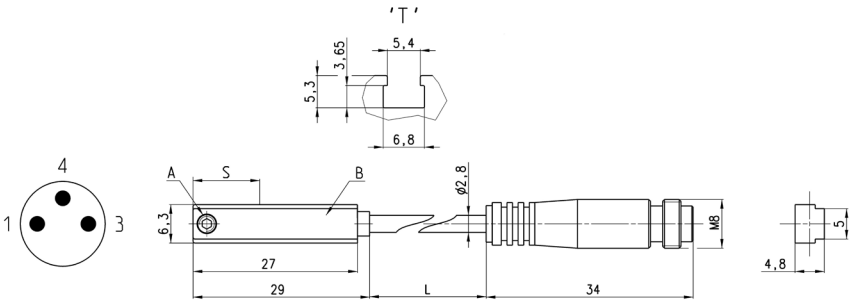
A = Fixing screw
B = Led indicator
S = Sensing point
L = Length cable

Mod.	Operation	Connections	Voltage	Output	Max. current	Max Load	Protection	L	S	LED colour
CST-220*	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8W	None	2 m	14,5 mm	Yellow
CST-220-5*	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8 W	None	5 m	14,5 mm	Yellow
CST-220EX	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8W	None	2 m	14,5 mm	Yellow
CST-220-5EX	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8W	None	5 m	14,5 mm	Yellow
CST-220-12EX	Reed	2 wires	10 ÷ 110 V AC/DC-230 V AC	-	250 mA	10 VA / 8W	None	12 m	14,5 mm	Yellow
CST-232	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-232-5	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	5 m	14,5 mm	Yellow
CST-232EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-232-5EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8W	Against polarity reversing and overvoltage	5 m	14,5 mm	Yellow
CST-332	Magnetoresistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	7,5 mm	Yellow
CST-332-5	Magnetoresistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	7,5 mm	Yellow
CST-332EX	Magnetoresistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	7,5 mm	Yellow
CST-332-5EX	Magnetoresistive	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	7,5 mm	Yellow
CST-432	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-432-5	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	5 m	14,5 mm	Yellow
CST-432EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	2 m	14,5 mm	Yellow
CST-432-5EX	Reed	3 wires	5 ÷ 30 V AC/DC	PNP-NC	250 mA	10 VA / 8 W	Against polarity reversing	5 m	14,5 mm	Yellow
CST-532	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	8,5 mm	Yellow
CST-532-5	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	8,5 mm	Yellow
CST-532EX	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	2 m	8,5 mm	Yellow
CST-532-5EX	Hall effect	3 wires	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	5 m	8,5 mm	Yellow

*Mod. CST-220, CST-220-5:
in case of polarity reversing the sensor will still be operating, but the LED diode won't turn on.

SENSORS
12

Magnetic proximity switches with M8 3-pin connector for T-slot



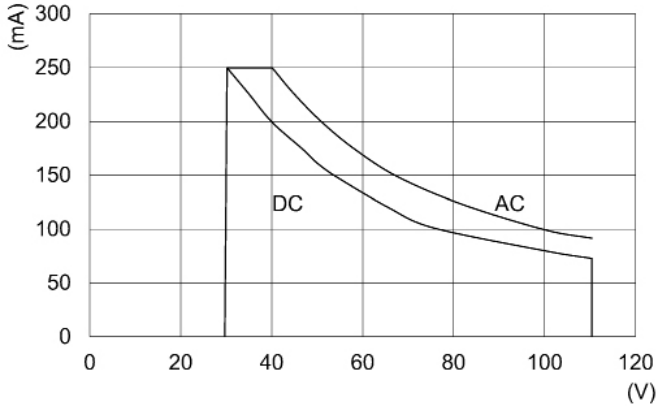
A = Fixing screw
B = Led indicator
S = Sensing point
L = Length cable

Mod.	Operation	Connection	Voltage	Output	Max. current	Max Load	Protection	L	S	LED colour
CST-250N*	Reed	2 wires M8 male 3 pin	10 ÷ 110 V AC/DC	-	250 mA	10 VA / 8 W	None	0,3 m	14,5 mm	Yellow
CST-250NEX	Reed	2 wires M8 male 3 pin	10 ÷ 110 V AC/DC	-	250 mA	10 VA / 8 W	None	0,3 m	14,5 mm	Yellow
CST-262	Reed	3 wires M8 male 3 pin	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	0,3 m	14,5 mm	Yellow
CST-262EX	Reed	3 wires M8 male 3 pin	5 ÷ 30 V AC/DC	PNP	250 mA	10 VA / 8 W	Against polarity reversing	0,3 m	14,5 mm	Yellow
CST-362	Magnetoresistive	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	7,5 mm	Yellow
CST-362EX	Magnetoresistive	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	7,5 mm	Yellow
CST-562	Hall effect	3 wires M8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	8,5 mm	Yellow
CST-562EX	Hall effect	3 wiresM8 male 3 pin	10 ÷ 27 V DC	PNP	100 mA	6 W	Against polarity reversing and overvoltage	0,3 m	8,5 mm	Yellow

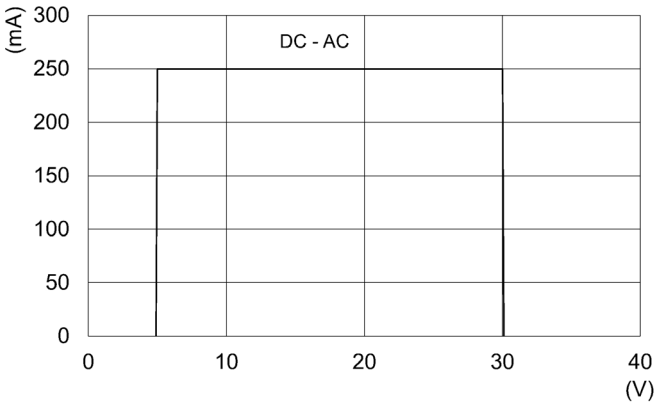
*Mod. CST-250N:
in case of polarity reversing the sensor will still be operating, but the LED diode won't turn on.

Load curves of sensors Mod. CST

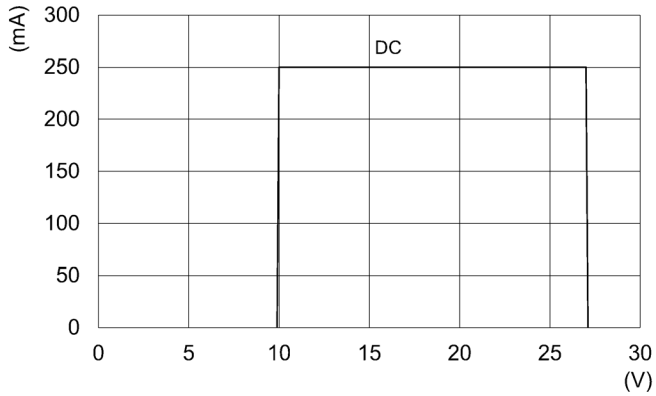
CST-250N



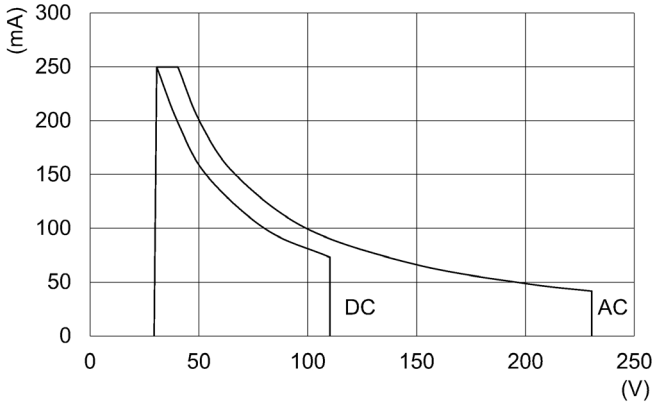
CST-232, CST-262



CST-332, CST-362, CST-532



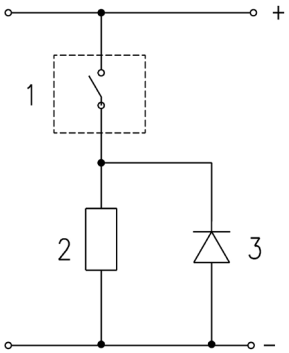
CST-220



Electric circuit with protection against voltage spikes

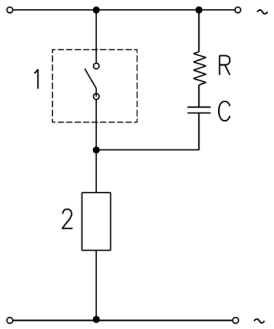
There is no protection on the Reed sensors on the inductive load, therefore it is advisable to use an electric ciruit with protection against the voltage spikes.
See picture for a typical example.

DC applications



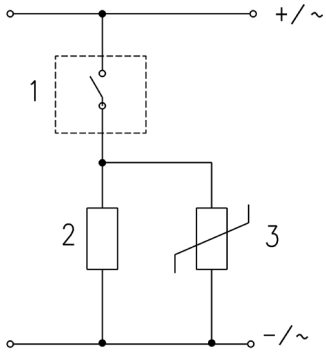
Legend:
1 = Sensor
2 = Load
3 = Protection diode

AC applications



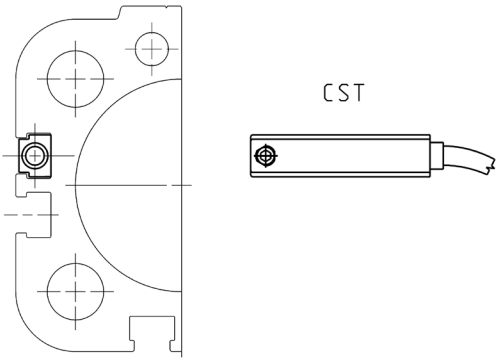
Legend:
1 = Sensor
2 = Load
C + R = Series of resistor and protection capacitor

DC and AC applications



Legend:
1 = Sensor
2 = Load
3 = Protection varistor

Mounting of Series CST sensors

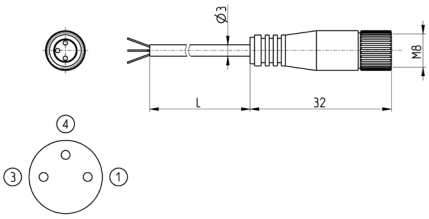


CST sensors can be directly mounted on cylinders:

- Series 31, 31R, 32, 32R
- Series 52
- Series 61
- Series 69
- Series 6PF
- Series QC, QCBF, QCTF

3-wire extension with M8 3-pin female connector

With PU sheathing, non shielded cable.
Protection class: IP65

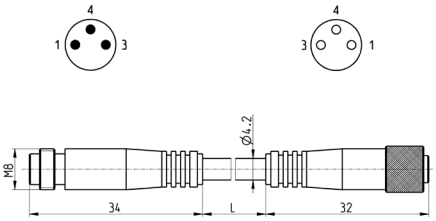


1 BN = Brown +/-
4 BK = Black +/-
3 BU = Blue NC

Mod.	Cable length [mm]
CS-2	2
CS-5	5
CS-10	10

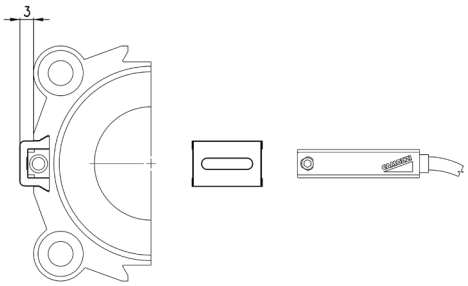
Extension with M8 connector, 3 pin male/female (Non shielded)

Non shielded
General Purpose Input/
Output (GPIO)



Mod.	Description	Type of connector	Connection	L (cable length) [m]
CS-DW03HB-C250	Moulded cable	Straight	M8 3 pin male / female	2,5
CS-DW03HB-C500	Moulded cable	Straight	M8 3 pin male / female	5

Adapters for Series CST-CSG sensors, V-slot



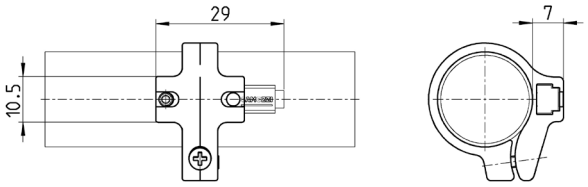
Mod.	Series QP-QPR cylinders	Series 50 cylinders
S-CST-01	Ø 20 ÷ 100	Ø 32 ÷ 80

MAGNETIC PROXIMITY SWITCHES
SERIES CST - ACCESSORIES

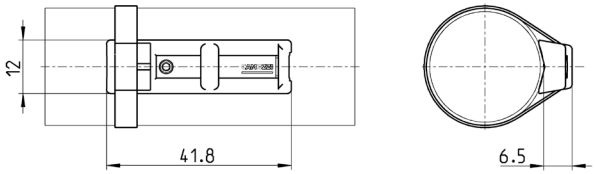
Adapters for Series CST-CSG sensors

Materials:
technopolymer
(S-CST-02÷04)

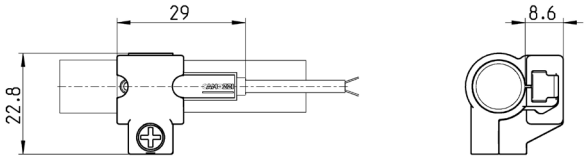
S-CST-02÷04 S-CST-18÷21



S-CST-05÷12

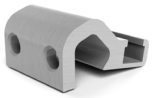


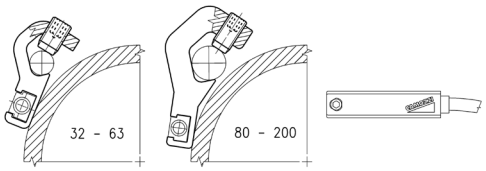
S-CST-32÷33



Mod.	Cylinders Series	Ø
S-CST-02	23, 24, 25, 27	16
S-CST-03	23, 24, 25, 27	20
S-CST-04	23, 24, 25, 27	25
S-CST-05	94, 95	16-20-25 (94), 16-20 (95)
S-CST-06	90, 97, 95	32 (90-97), 25 (95)
S-CST-07	90, 97	40
S-CST-08	90, 97	50
S-CST-09	90, 97	63
S-CST-10	90	80
S-CST-11	90	100
S-CST-12	90	125
S-CST-16	63	32
S-CST-18	27, 42	32
S-CST-19	27, 42	40
S-CST-20	27, 42	50
S-CST-21	27, 42	63
S-CST-32	24	10
S-CST-33	24	12

Adapters for Series CST-CSG sensors



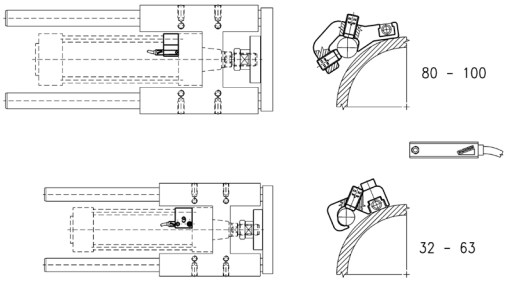


Material:
anodized aluminium

Mod.	Cylinders Series	Ø
S-CST-25	90, 63MT	32 ÷ 63
S-CST-26	90, 63MT	80 ÷ 100
S-CST-27	90, 63MT	125
S-CST-28	40	160 - 200

Adapters for Series CST-CSG sensors

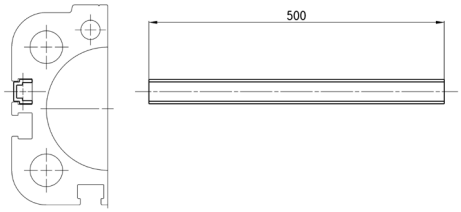
For Series 63MT cylinders mounted with guides 45NHT or 45NHB.



Mod.	Cylinders Series	Ø
S-CST-45N1	90, 63MT	32 ÷ 63
S-CST-45N2	90, 63MT	80 ÷ 100

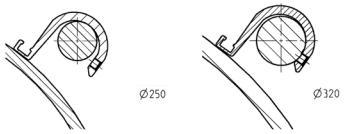
Slot cover profile Mod. S-CST-500

Supplied with 500 mm tube



Mod.	Series of cylinders
S-CST-500	31, 31 Tandem and Multi-position, QCT, QCB, QCBT, QCBF, 61, 63MP, 6E, 5E, 69, 32, 32 Tandem and Multi-position

Adapters for Series CST-CSG sensors



Material:
aluminium

Mod.	Series	Ø
S-CST-29	40K	250-320