Capacitive switch

new

RoHS COMPLIANT

Description
- Capacitive touch sensor as momentary push button (NO or NC) or as latching switch (LA)
- Protection against unintended switching
- Multicolor illumination
- Floating switch connections
- Laser lettering possible
- Vandal resistant
- Wires (8 wires for Multicolor, 4 wires otherwise)[2]

Unique Selling Proposition
- Variable supply voltage
- Constant LED intensity
- Inputs protected against overvoltage
- Galvanic separated outputs

Standards
- DIN EN 61058-1
- UL 1054

Characteristics
- Housing made from stainless steel
- Various illumination colors and color combinations possible
- Touch surface made from scratch-resistant ceramics with area illumination or made from stainless steel with ring illumination
- Ring or area illumination
- Wearless, no moving parts
- Attractive design with or without finger guide available

Weblinks
html-datasheet, General Product Information, CE declaration of conformity, RoHS, CHINA-RoHS, CAD-Drawings, Product News, Detailed request for product

Important information
- The CPS is not suitable for use in sanitary or other applications exposed to water or other liquids.
- The housing is connected to gnd.

Technical Data

Electrical Data

Switching Function	momentary (NO[1]) or latching
Switching Voltage	max. 42 VAC / 60 VDC
Switching Current	max. 100 mA
Rated Breaking Capacity	1 W
Switch Resistance OFF	> 10 MΩ
Switch Resistance ON	< 16 Ω
Supply Voltage	5 - 28 VDC
Reverse Polarity Protection	yes
Short Circuit Protection	yes
Output Type	OptoMOS Relay
connection type	Wires (8 wires for Multicolor, 4 wires otherwise)[2]

Mechanical Data

Actuation Type	capacitive
Actuating Force	none
Shock Protection	IK 09
Mounting Depth	with Finger Guide: 30.3 mm
	without Finger Guide: 30 mm
Tightening Torque Plastic Nut	2.5 Nm

Climatical Data

|	
Operating Temperature	-20 to +60 °C
Storage Temperature	-40 to +85 °C
IP Protection Class Front Side	IP 67 acc. to IEC 60529

Material

Housings	Stainless Steel
Actuator	Area Illumination: Ceramics
	Ring Illumination: Stainless steel
Illuminated Ring (Ring Illumination)	PMMA (acrylic glass)
Gasket	NBR70

[1] on request also available as NC / [2] on request also available with cable or connector

Dimension

CPS with ring illuminating, with finger guide

```
                    max. 6


        B  C                              D  E


     1.6      (28.7)              4
            30.3
```
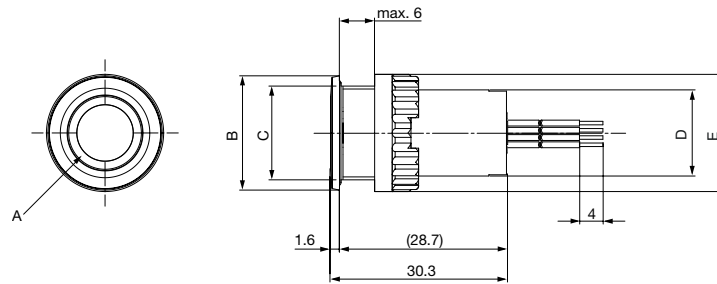
CPS with ring illuminating, no finger guide

```
                    max. 6


        B  C                              D  E


     1.5      (28.5)              4
            30
```
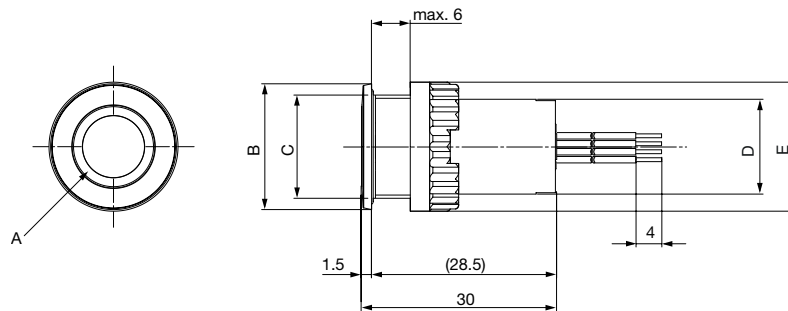
CPS with area illuminating, with finger guide

```
                    max. 6


        B  C                              D  E


     1.6      (28.7)              4
            30.3
```
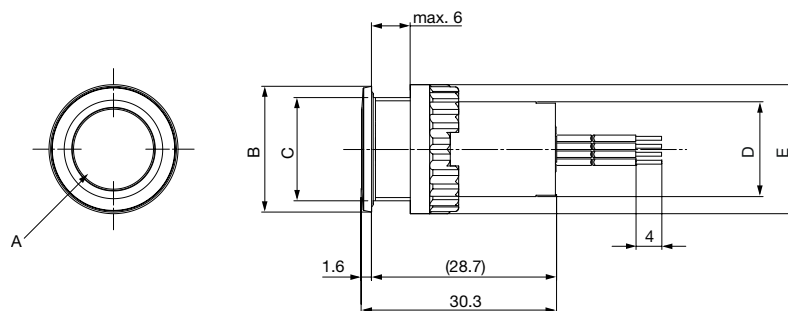
CPS with area illuminating, no finger guide
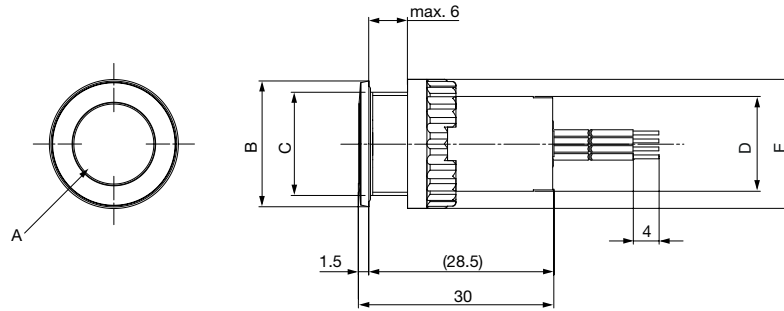
A= illuminating area

B= CPS16: 16 mm
CPS19: 19 mm
CPS22: 22 mm

C= CPS16: M16x1
CPS19: M19x0.75
CPS22: M22x0.75

D= CPS16: 14.7 mm
CPS19: 14.5 mm
CPS22: 14.5 mm

E= CPS16: ø20 mm
CPS19: ø24 mm
CPS22: ø27.6 mm

For multicolor configurations

Connection wire assignment		
Wire-number	Wire color	function
Wire 1	brown	Vin = 5 VDC...28 VDC
Wire 2	black	GND
Wire 3	white	OUT1
Wire 4	white	OUT2
Wire 5	red	LED red GND = ON Open* = OFF
Wire 6	green	LED green GND = ON Open* = OFF
Wire 7	blue	LED blue GND = ON Open* = OFF
Wire 8	black	GND

For all other configurations

Connection wire assignment		
Wire-number	Wire color	function
Wire 1	brown	Vin = 5 VDC...28 VDC
Wire 2	black	GND
Wire 3	white	OUT1
Wire 4	white	OUT2

* internal pull-up resistor to vcc = 3.3 V

Dimension

CPS16

ø16.10 $^{+0.1}_{0}$

15.15 $^{+0.05}_{0}$

CPS19

ø19.10 $^{+0.1}_{0}$

18.15 $^{+0.05}_{0}$

CPS22

ø22.10 $_{±0.1}$

21.15 $_{±0.5}$
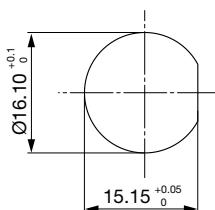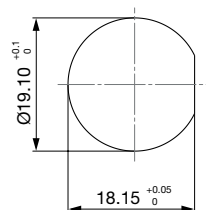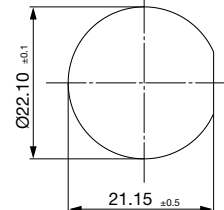
Diagrams

Multicolor variant

example for system controlled colors
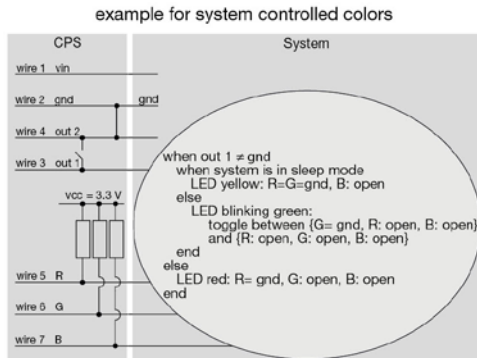
Lighting options Multicolor

Lighting type	Wire red 🔴	Wire green 🟢	Wire blue 🔵	Resulting Color
Multicolor Singlecolor	x			Red 🔴
Multicolor Singlecolor		x		Green 🟢
Multicolor Singlecolor			x	Blue 🔵
Multicolor RGB Additive 2	x	x		Yellow 🟡
Multicolor RGB Additive 2	x		x	Magenta 🟣
Multicolor RGB Additive 2		x	x	Cyan 🔵
Multicolor RGB Additive 3	x	x	x	White ⚪

Lettering Colour of Laser Lettering

Material	Lettering Colour	
Stainless Steel	black	Filled letters
Ceramic	black	Filled letters

Order Index Lettering

Laser Marking

001 = **A**	021 = **U**	041 = **÷**	061 = **EIN**
002 = **B**	022 = **V**	042 = **✳**	062 = **AUS**
003 = **C**	023 = **W**	043 = **=**	063 = **AUF**
004 = **D**	024 = **X**	044 = **#**	064 = **AB**
005 = **E**	025 = **Y**	045 = **↔**	065 = **ON**
006 = **F**	026 = **Z**	046 = **↕**	066 = **OFF**
007 = **G**	027 = **0**	047 = **→**	067 = **UP**
008 = **H**	028 = **1**	048 = **←**	068 = **DOWN**
009 = **I**	029 = **2**	049 = **↓**	069 = **HIGH**
010 = **J**	030 = **3**	050 = **↑**	070 = **LOW**
011 = **K**	031 = **4**	051 = **%**	071 = **ON/OFF**
012 = **L**	032 = **5**	052 = **√**	072 = **START**
013 = **M**	033 = **6**	053 = **CTRL**	073 = **RESET**
014 = **N**	034 = **7**	054 = **RETURN**	074 = ⏻
015 = **O**	035 = **8**	055 = **SHIFT**	075 = ☼
016 = **P**	036 = **9**	056 = **LOCK**	076 = 🔔
017 = **Q**	037 = **+**	057 = **STOP**	077 = ⏼
018 = **R**	038 = **-**	058 = **ENTER**	
019 = **S**	039 = **.**	059 = **BACK**	
020 = **T**	040 = **x**	060 = **LINE**	

Configuration code (example)

Type

CPS22-NO00A10-SNCSNCNF-RI0GNVAR-W1077-S

Illumination Type
RI = Ring Illumination
AI = Area Illumination

Actuator Style
WF = With fingerguide
NF = No fingerguide

Switching Function
NO = Normally Open
NC = Normally Closed
LA = Latching

Diameter
16 = 16 mm
19 = 19 mm
22 = 22 mm

single
0RD	=	Red
0GN	=	Green
0BL	=	Blue
0CY	=	Cyan
0MA	=	Mangenta
0YL	=	Yellow
0WT	=	White

tricolour
RGB = Multicolour

bicolour (active color / inactive color)
0RG	=	Red/Green
0RB	=	Red/Blue
0RC	=	Red/Cyan
0RM	=	Red/Mangenta
0RY	=	Red/Yellow
0RW	=	Red/White
0GR	=	Green/Red
0GB	=	Green/Blue
0GC	=	Green/Cyan
0GM	=	Green/Mangenta
0GY	=	Green/Yellow
0GW	=	Green/White
0BR	=	Blue/Red
0BG	=	Blue/Green
0BC	=	Blue/Cyan
0BM	=	Blue/Mangenta
0BY	=	Blue/Yellow
0BW	=	Blue/White
0CR	=	Cyan/Red
0CG	=	Cyan/Green
0CB	=	Cyan/Blue
0CM	=	Cyan/Mangenta
0CE	=	Cyan/Yellow
0CW	=	Cyan/White
0MR	=	Mangenta/Red
0MG	=	Mangenta/Green
0MB	=	Mangenta/Blue
0MC	=	Mangenta/Cyan
0MY	=	Mangenta/Yellow
0MW	=	Mangenta/White
0YR	=	Yellow/Red
0YG	=	Yellow/Green
0YB	=	Yellow/Blue
0YC	=	Yellow/Cyan
0YM	=	Yellow/Mangenta
0YW	=	Yellow/White
0WR	=	White/Red
0WG	=	White/Green
0WB	=	White/Blue
0WC	=	White/Cyan
0WM	=	White/Mangenta
0WY	=	White/Yellow

Symbol
000 = None
001 - 077
(see table for laser lettering)
please contact us for customer specific
laser lettering

Lettering
0 = No lettering
    (Symbol Code must be 000)
1 = Laser lettering

All Variants

Diameter [mm]	Illumination	Illumination Color active / inactive	Finger Guide	Function	Actuator Material	Accessories	Order Number	
16	Backlighted	red / green	with	latching	Ceramic	Knurled nut	3-101-398	▮
16	Backlighted	red / green	without	latching	Ceramic	Knurled nut	3-101-395	▮
16	Backlighted	multicolor	without	latching	Ceramic	Knurled nut	3-101-394	▮
16	Ring Illumination	red / green	with	latching	Stainless Steel	Knurled nut	3-101-413	▮
16	Ring Illumination	red / green	without	latching	Stainless Steel	Knurled nut	3-101-401	▮
16	Ring Illumination	multicolor	without	latching	Stainless Steel	Knurled nut	3-101-400	▮
16	Backlighted	multicolor	with	momentary, NO	Ceramic	Knurled nut	3-101-397	▮
16	Backlighted	multicolor	without	momentary, NO	Ceramic	Knurled nut	3-101-403	▮
16	Ring Illumination	multicolor	with	momentary, NO	Stainless Steel	Knurled nut	3-101-412	▮
16	Ring Illumination	multicolor	without	momentary, NO	Stainless Steel	Knurled nut	3-101-399	▮
19	Backlighted	red / green	with	latching	Ceramic	Hexnut	3-101-418	▮
19	Backlighted	red / green	without	latching	Ceramic	Hexnut	3-101-416	▮
19	Backlighted	multicolor	without	latching	Ceramic	Hexnut	3-101-415	▮
19	Ring Illumination	red / green	with	latching	Stainless Steel	Hexnut	3-101-423	▮
19	Ring Illumination	red / green	without	latching	Stainless Steel	Hexnut	3-101-421	▮
19	Ring Illumination	multicolor	without	latching	Stainless Steel	Hexnut	3-101-420	▮
19	Ring Illumination	multicolor	with	momentary, NO	Ceramic	Hexnut	3-101-422	▮
19	Backlighted	multicolor	with	momentary, NO	Ceramic	Hexnut	3-101-417	▮
19	Backlighted	multicolor	without	momentary, NO	Ceramic	Hexnut	3-101-414	▮
19	Ring Illumination	multicolor	without	momentary, NO	Stainless Steel	Hexnut	3-101-419	▮
22	Backlighted	red / green	with	latching	Ceramic	Knurled nut	3-101-428	▮
22	Backlighted	red / green	without	latching	Ceramic	Knurled nut	3-101-426	▮
22	Backlighted	multicolor	without	latching	Ceramic	Knurled nut	3-101-425	▮
22	Ring Illumination	red / green	with	latching	Stainless Steel	Knurled nut	3-101-405	▮
22	Ring Illumination	red / green	without	latching	Stainless Steel	Knurled nut	3-101-431	▮
22	Ring Illumination	multicolor	without	latching	Stainless Steel	Knurled nut	3-101-430	▮
22	Backlighted	multicolor	with	momentary, NO	Ceramic	Knurled nut	3-101-427	▮
22	Backlighted	multicolor	without	momentary, NO	Ceramic	Knurled nut	3-101-424	▮
22	Ring Illumination	multicolor	with	momentary, NO	Stainless Steel	Knurled nut	3-101-404	▮
22	Ring Illumination	multicolor	without	momentary, NO	Stainless Steel	Knurled nut	3-101-429	▮

Common parameters for all standard variants:
- Housing material: stainless steel
- Switching current: 100 mA
- Illumination supply voltage: 5 V - 28 V (variable)
- IP protection: IP 67
- IK protection: IK 09
- Terminal connection: wires (8 wires for RGB, 4 wires otherwise), standard wire length is 200 mm

Switch is open after power-up (protection against unintended switching)
NO: normaly open

▮ Most Popular.

Availability for all products can be searched real-time:http://www.schurter.com/Stock-Check/Stock-Check-SCHURTER

Configurations which are not listed as standard in the table above can be requested as customized variants. The configuration code can be used for customizing this product. Please contact us in case more detail information is needed.

Packaging unit   10 Pcs

19.12.2016