Capacitive switch

new







See below:
Approvals and Compliances

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

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, CAD-Drawings, Product News, Detailed request for product, Microsite

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
Current Consumption all LEDs off	2.5 mA (switch is open)
	8.5 mA (switch is closed)
Current Consumption 1 LED on	8.0 mA (switch is open)
	14.0 mA (switch is closed)
Current Consumption 2 LED on	14.0 mA (switch is open)
	20.0 mA (switch is closed)
Current Consumption 3 LED on	19.0 mA (switch is open)
	25.0 mA (switch is closed)
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	-40 to +60 °C
Storage Temperature	-40 to +85 °C
IP Protection Class Front Side	IP 67 acc. to IEC 60529
Salt Spray Test (acc. to DIN 50021-SS)	24 h / 48 h / 96 h Residence Time
Material	
Housings	Stainless Steel
Actuator	Area Illumination: Ceramics
	Ring Illumination: Stainless steel
Illuminated Ring (Ring Illumination)	PMMA
Seal Ring	NBR70

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

Approvals and Compliances

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in Details about Approvals

Application standards

Application standards where the product can be used

Organization	Design	Standard	Description
IEC	Designed for applications acc.	IEC/UL 60950	IEC 60950-1 includes the basic requirements for the safety of information technologyequipment.

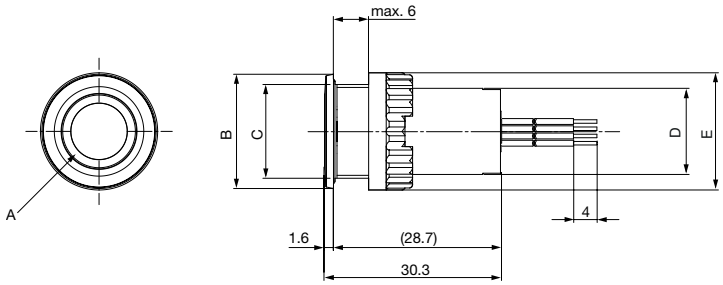
Compliances

The product complies with following Guide Lines

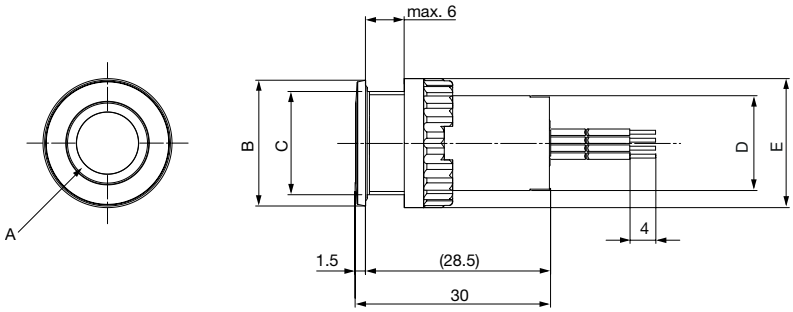
Identification	Details	Initiator	Description
RoHS	RoHS	SCHURTER AG	EU Directive RoHS 2011/65/EU
REACH	REACH	SCHURTER AG	On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.

Dimension [mm]

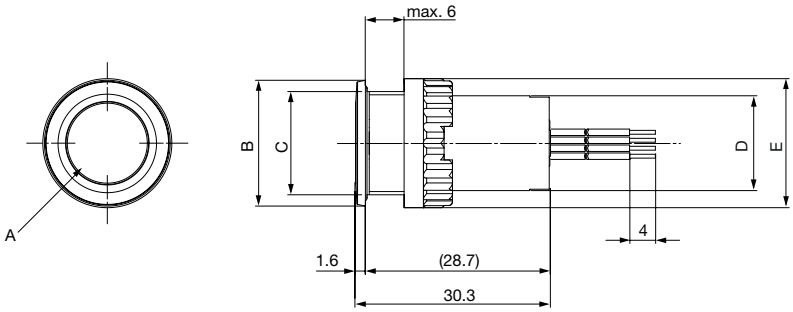
CPS with ring illuminating, with finger guide



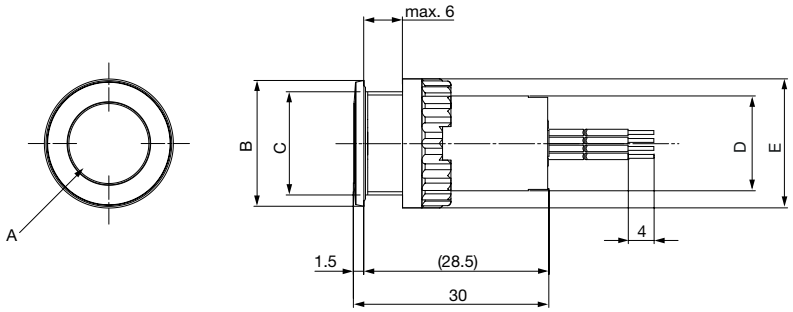
CPS with ring illuminating, no finger guide



CPS with area illuminating, with finger guide



CPS with area illuminating, no finger guide



A= illuminating area	B= CPS16: 19.5 mm CPS19: 23.0 mm CPS22: 25.5 mm	C= CPS16: M16x1 CPS19: M19x0.75 CPS22: M22x1	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

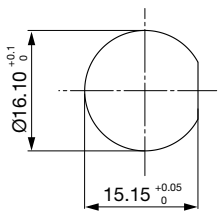
For all other configurations

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

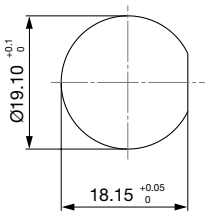
* internal pull-up resistor to vcc = 3.3 V

Dimension

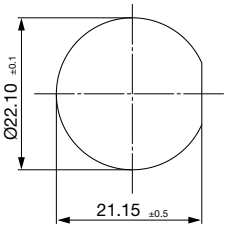
CPS16



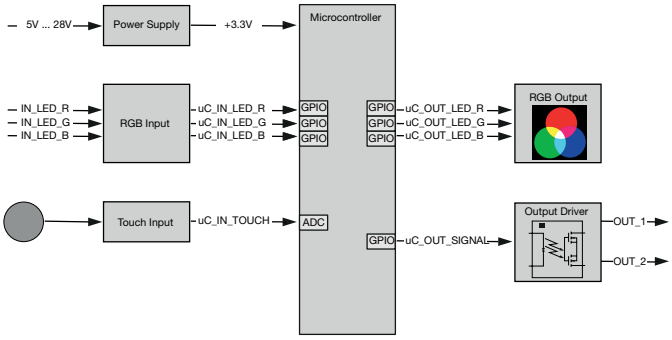
CPS19



CPS22

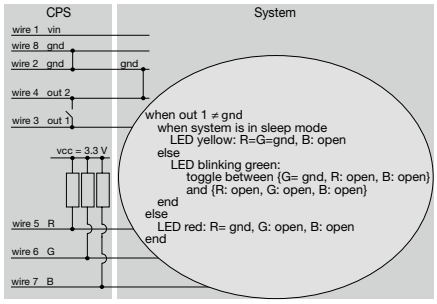


Diagrams



Illumination options for Multicolor

example for system controlled colors



Multicolor variant

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 for configuring customized variants (example)

For customized variants a minimum order quantity of 100 pieces has to be fulfilled.

Type

CPS22-NO00A10-SNCSNCNF-RI0GNVAR-W1077-S

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

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

Actuator material
SNC = For ring illumination
CWT = For area illumination

Actuator Style
WF = With fingerguide
NF = No fingerguide

Illumination Type
RI = Ring Illumination
AI = Area Illumination

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

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

Symbol
000 = None
001 - 077
(see table for laser lettering)
please contact us for customer specific 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	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	with	momentary (NO)	Stainless Steel	Hexnut	3-101-422	▮
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	multicolor	with	latching	Stainless Steel	Knurled nut	3-101-404	▮
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	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

Latching and momentary NO switch are open after power-up (protection against unintended switching)
NO: normaly open

▮ Most Popular.

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

Minimum order quantity for standard variants with or without laser marking is 10 pieces.

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

04.04.2018

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.