Capacitive switch

CPS
Ring illumination
green

CPS
Illumination area
red

CPS
Ring illumination
blue

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
- Potential free output contacts
- Laser lettering possible
- Vandal resistant
- Wires (8 wires for Multicolor, 4 wires otherwise)[2]; 26AWG, 0.128 mm²

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

pdf data sheet, 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
Electrical Rating	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
Lifetime	5 million actuations
Connection type	Wires (8 wires for Multicolor, 4 wires otherwise)[2]; 26AWG, 0.128 mm²

Mechanical Data	
Actuation Type	capacitive
Actuating Force	none
Shock Protection	IK09
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	IP67 acc. to IEC 60529
Salt Spray Test (acc. to DIN 50021-SS)	24 h / 48 h / 96 h Residence Time
Material	
Housing	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

SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical technology according to ISO 13485 or in the aerospace industry can be offered exclusively with customer-specific, individual agreements by SCHURTER.

Product standards

Product standards that are referenced

Organization	Design	Standard	Description
IEC	Designed according to	IEC 61000-6-1	Switches for appliances. Part 1. General requirements

Application standards

Application standards where the product can be used

Organization	Design	Standard	Description
IEC	Designed for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

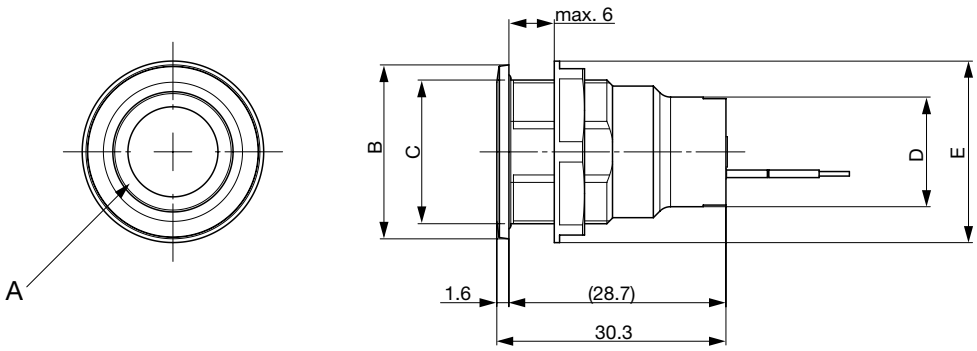
Compliances

The product complies with following Guide Lines

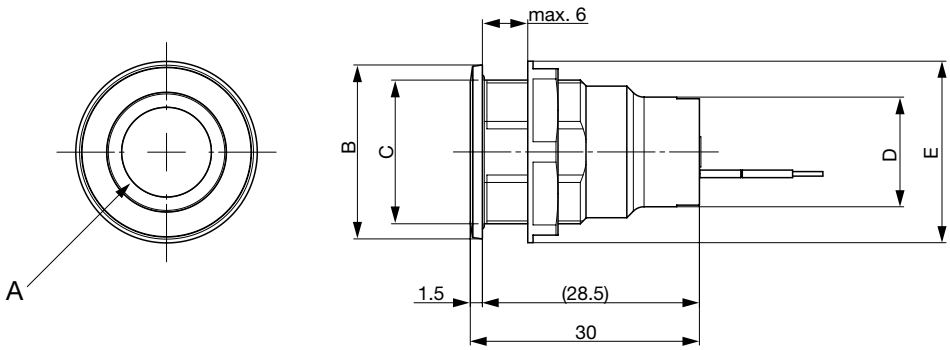
Identification	Details	Initiator	Description
RoHS	RoHS	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
REACH	REACH	SCHURTER AG	On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.

Dimension [mm]

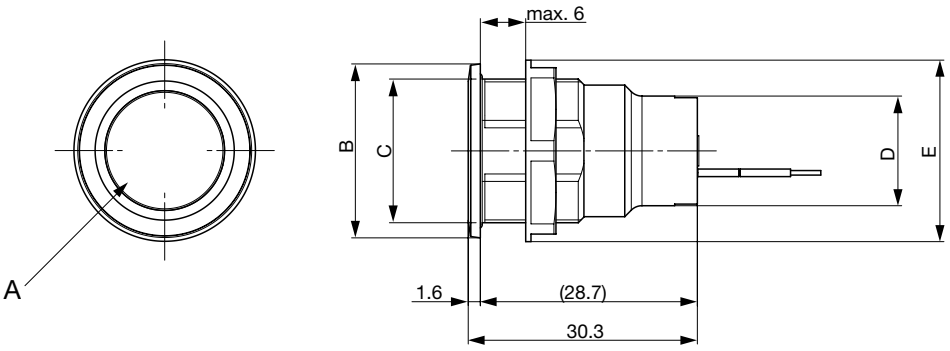
CPS with ring illuminating, with finger guide



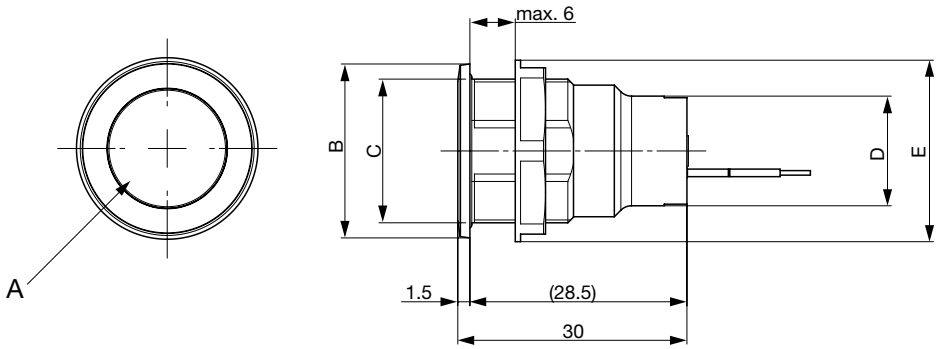
CPS with ring illuminating, no finger guide



CPS with area illuminating, with finger guide



CPS with area illuminating, no finger guide



A= illuminating area

B= CPS16: 19.5mm	CPS19: 23.0mm	CPS22: 25.5mm
C= CPS16: M16x1	CPS19: M19x0.75	CPS22: M22x1
D= CPS16: 14.7mm	CPS19: 14.5mm	CPS22: 14.5mm
E= CPS16: ø20mm	CPS19: ø24mm	CPS22: ø27.6mm

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

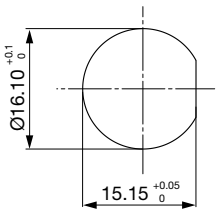
For all other configurations

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

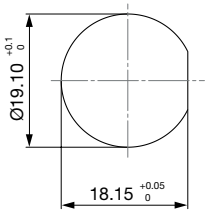
* internal pull-up resistor to vcc = 3.3 V

Dimension

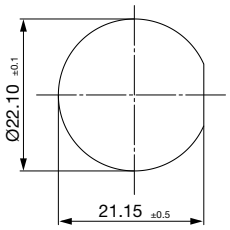
CPS16



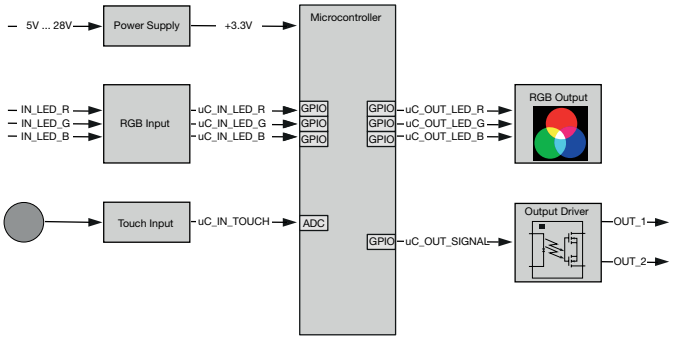
CPS19



CPS22

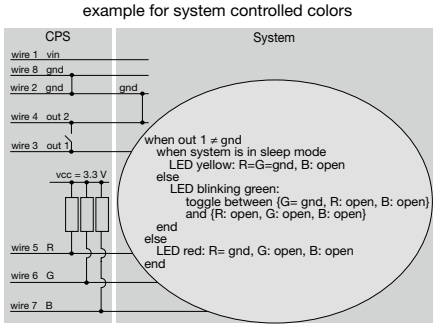


Diagrams



Illumination options for RGB

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**	
Please note that the font size depends on the number of characters			

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 = Magenta
0YL = Yellow
0WT = White

tricolour
RGB = Multicolour

bicolour (active color / inactive color)
0RG = Red/Green
0RB = Red/Blue
0RC = Red/Cyan
0RM = Red/Magenta
0RY = Red/Yellow
0RW = Red/White
0GR = Green/Red
0GB = Green/Blue
0GC = Green/Cyan
0GM = Green/Magenta
0GY = Green/Yellow
0GW = Green/White
0BR = Blue/Red
0BG = Blue/Green
0BC = Blue/Cyan
0BM = Blue/Magenta
0BY = Blue/Yellow
0BW = Blue/White
0CR = Cyan/Red
0CG = Cyan/Green
0CB = Cyan/Blue
0CM = Cyan/Magenta
0CE = Cyan/Yellow
0CW = Cyan/White
0MR = Magenta/Red
0MG = Magenta/Green
0MB = Magenta/Blue
0MC = Magenta/Cyan
0MY = Magenta/Yellow
0MW = Magenta/White
0YR = Yellow/Red
0YG = Yellow/Green
0YB = Yellow/Blue
0YC = Yellow/Cyan
0YM = Yellow/Magenta
0YW = Yellow/White
0WR = White/Red
0WG = White/Green
0WB = White/Blue
0WC = White/Cyan
0WM = White/Magenta
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	Ceramics	Hexagon nut	3-101-398
16	Backlighted	red / green	without	latching	Ceramics	Hexagon nut	3-101-395
16	Backlighted	multicolor	without	latching	Ceramics	Hexagon nut	3-101-394
16	Ring Illumination	red / green	with	latching	Stainless Steel	Hexagon nut	3-101-413
16	Ring Illumination	red / green	without	latching	Stainless Steel	Hexagon nut	3-101-401
16	Ring Illumination	multicolor	without	latching	Stainless Steel	Hexagon nut	3-101-400
16	Backlighted	multicolor	with	momentary (NO)	Ceramics	Hexagon nut	3-101-397
16	Backlighted	multicolor	without	momentary (NO)	Ceramics	Hexagon nut	3-101-403
16	Ring Illumination	multicolor	with	momentary (NO)	Stainless Steel	Hexagon nut	3-101-412
16	Ring Illumination	multicolor	without	momentary (NO)	Stainless Steel	Hexagon nut	3-101-399
19	Backlighted	red / green	with	latching	Ceramics	Hexagon nut	3-101-418
19	Backlighted	red / green	without	latching	Ceramics	Hexagon nut	3-101-416
19	Backlighted	multicolor	without	latching	Ceramics	Hexagon nut	3-101-415
19	Ring Illumination	red / green	with	latching	Stainless Steel	Hexagon nut	3-101-423
19	Ring Illumination	red / green	without	latching	Stainless Steel	Hexagon nut	3-101-421
19	Ring Illumination	multicolor	without	latching	Stainless Steel	Hexagon nut	3-101-420
19	Backlighted	multicolor	with	momentary (NO)	Ceramics	Hexagon nut	3-101-417
19	Backlighted	multicolor	without	momentary (NO)	Ceramics	Hexagon nut	3-101-414
19	Ring Illumination	multicolor	with	momentary (NO)	Stainless Steel	Hexagon nut	3-101-422
19	Ring Illumination	multicolor	without	momentary (NO)	Stainless Steel	Hexagon nut	3-101-419
22	Backlighted	red / green	with	latching	Ceramics	Hexagon nut	3-101-428
22	Backlighted	red / green	without	latching	Ceramics	Hexagon nut	3-101-426
22	Backlighted	multicolor	without	latching	Ceramics	Hexagon nut	3-101-425
22	Ring Illumination	red / green	with	latching	Stainless Steel	Hexagon nut	3-101-405
22	Ring Illumination	red / green	without	latching	Stainless Steel	Hexagon nut	3-101-431
22	Ring Illumination	multicolor	without	latching	Stainless Steel	Hexagon nut	3-101-430
22	Backlighted	multicolor	with	momentary (NO)	Ceramics	Hexagon nut	3-101-427
22	Backlighted	multicolor	without	momentary (NO)	Ceramics	Hexagon nut	3-101-424
22	Ring Illumination	multicolor	with	momentary (NO)	Stainless Steel	Hexagon nut	3-101-404
22	Ring Illumination	multicolor	without	momentary (NO)	Stainless Steel	Hexagon 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: IP67- IK protection: IK09
- 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

05.01.2022