

## Capacitive switch



CPS  
Ring illumination  
green



CPS  
Surface backlighting  
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
- Floating switch connections
- Laser lettering possible
- Vandal resistant
- Wires (8 wires for Multicolor, 4 wires otherwise)<sup>2</sup>; 26AWG, 0.128 mm<sup>2</sup>

#### Unique Selling Proposition

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

#### 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.

#### 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](#)

#### Technical Data

##### Electrical Data

|                                  |                                                                                               |
|----------------------------------|-----------------------------------------------------------------------------------------------|
| Switching Function               | momentary (NO <sup>1</sup> ) 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) <sup>2</sup> ; 26AWG, 0.128 mm <sup>2</sup> |

##### 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         | IP67 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                              |

<sup>1</sup> on request also available as NC / <sup>2</sup> 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.

Application standards

Application standards where the product can be used

| Organization                                                                     | Design                         | Standard       | Description                                                                                                          |
|----------------------------------------------------------------------------------|--------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------|
|  | Designed for applications acc. | IEC/UL 62368-1 | IEC 62368-1 includes the basic requirements for safety of audio, video, information technology and office equipment. |

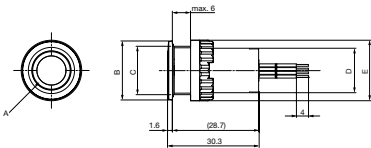
Compliances

The product complies with following Guide Lines

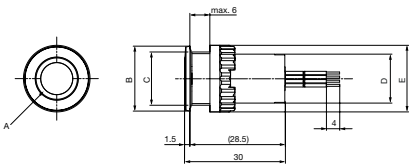
| Identification                                                                   | Details | Initiator   | Description                                                                                                                                                             |
|----------------------------------------------------------------------------------|---------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | RoHS    | SCHURTER AG | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863                                                                                                                      |
|  | 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]

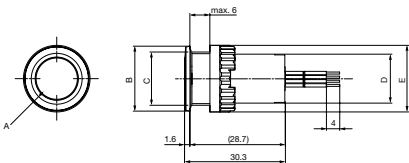
CPS with ring illuminating, with finger guide



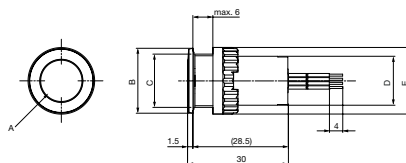
CPS with ring illuminating, no finger guide



CPS with area illuminating, with finger guide



CPS with area illuminating, no finger guide



A= illuminating area  
B= CPS16: 19.5 mm  
C= CPS16: M16x1  
D= CPS16: 14.7 mm  
E= CPS16: 20 mm  
CPS19: 23.0 mm  
CPS19: M19x0.75  
CPS19: 14.5 mm  
CPS19: 24 mm  
CPS22: 25.5 mm  
CPS22: M22x1  
CPS22: 14.5 mm  
CPS22: 27.6 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<br>GND = ON<br>Open* = OFF   |
| Wire 6                     | green      | LED green<br>GND = ON<br>Open* = OFF |
| Wire 7                     | blue       | LED blue<br>GND = ON<br>Open* = OFF  |
| Wire 8                     | black      | GND                                  |

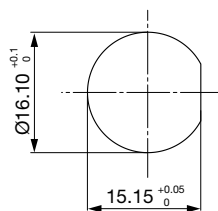
For all other configurations

| 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                 |

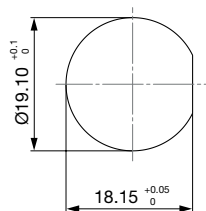
\* internal pull-up resistor to vcc = 3.3 V

## Dimension

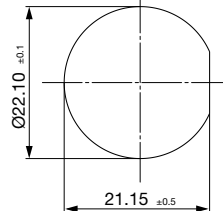
CPS16



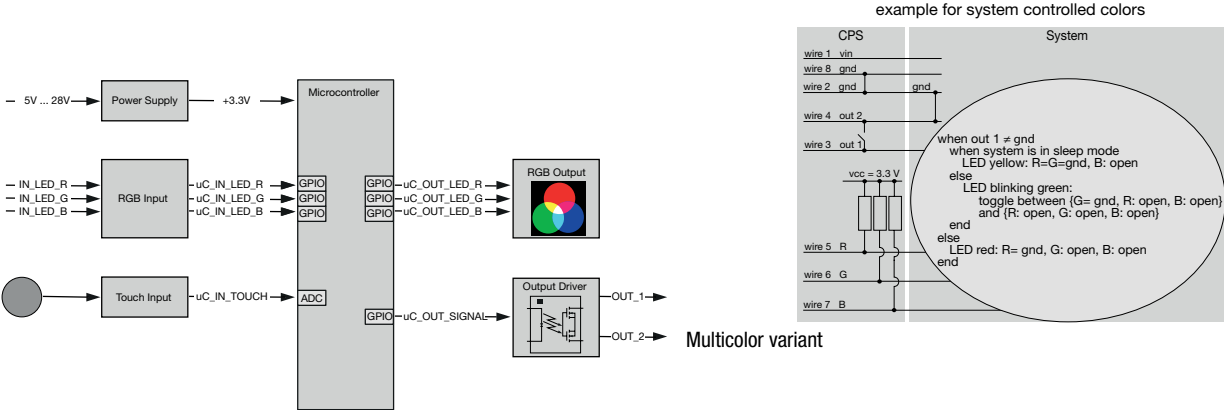
CPS19



CPS22



Diagrams



Illumination options for RGB

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

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

illumination Type

RI = Ring Illumination

AI = Area Illumination

Actuator Style

WF = With fingerguide

NF = No fingerguide

Actuator material

SNC = For ring illumination

CWT = For area illumination

Switching Function

NO = Normally Open

NC = Normally Closed

LA = Latching

Diameter

16 = 16 mm

19 = 19 mm

22 = 22 mm

single

ORD = 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

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

6

 SCHURTER  
ELECTRONIC COMPONENTS

Switches

## All Variants

| Diameter [mm] | Illumination      | Illumination Color active / inactive | Finger Guide | Function       | Actuator Material | Accessories | Order Number |
|---------------|-------------------|--------------------------------------|--------------|----------------|-------------------|-------------|--------------|
| 16            | Backlighted       | red / green                          | with         | latching       | Ceramics          | Knurled nut | 3-101-398    |
| 16            | Backlighted       | red / green                          | without      | latching       | Ceramics          | Knurled nut | 3-101-395    |
| 16            | Backlighted       | multicolor                           | without      | latching       | Ceramics          | 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) | Ceramics          | Knurled nut | 3-101-397    |
| 16            | Backlighted       | multicolor                           | without      | momentary (NO) | Ceramics          | 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       | Ceramics          | Hexnut      | 3-101-418    |
| 19            | Backlighted       | red / green                          | without      | latching       | Ceramics          | Hexnut      | 3-101-416    |
| 19            | Backlighted       | multicolor                           | without      | latching       | Ceramics          | 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) | Ceramics          | Hexnut      | 3-101-417    |
| 19            | Backlighted       | multicolor                           | without      | momentary (NO) | Ceramics          | 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       | Ceramics          | Knurled nut | 3-101-428    |
| 22            | Backlighted       | red / green                          | without      | latching       | Ceramics          | Knurled nut | 3-101-426    |
| 22            | Backlighted       | multicolor                           | without      | latching       | Ceramics          | 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) | Ceramics          | Knurled nut | 3-101-427    |
| 22            | Backlighted       | multicolor                           | without      | momentary (NO) | Ceramics          | 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: 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: normally 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

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)

[www.lifeelectronics.ru](http://www.lifeelectronics.ru)