

Touch Display Switch



CDS1 unpowered



Example: partial mode pictures



Backside with terminals

See below:

[Approvals and Compliances](#)

Description

- Capacitive touch technology in combination with an OLED Display
- Four softkeys and one touch button
- Functions: rotating, swiping horizontally or vertically, and tapping
- Upload of own pictures in png format and animated gif videos via USB Interface
- No operation system software necessary for the operation of the CDS1, only the machine simulator runs on MS Windows 7 and higher
- Selection from three interfaces: I2C, SPI, RS232

Unique Selling Proposition

- Configurable Input System
- Full Size Touchscreen
- Round shaped OLED Display
- Plug and Play

Weblinks

[pdf data sheet](#), [html datasheet](#), [General Product Information](#), [CAD-Drawings](#), [Product News](#), [Detailed request for product](#), [Landing Page](#), [Video](#)

Technical Data

| Electrical Data | |
|---|---|
| Supply Voltage Vcc | 3.3 VDC ± 5% |
| Logic Input Low | min. 70% Vcc |
| Logic Input High | max. 30% Vcc |
| Reverse Polarity Protection ¹⁾ | yes |
| Connector to internal Mass Storage | Micro USB-B 2.0 |
| Connector to Customer System Control Unit | JST XHP 10, protected against torsion |
| Interface to Customer System Control Unit | I2C (100 kHz or 400 kHz), 4-line SPI or RS232 |
| Current Consumption (Vcc = 3.3 VDC, RS232 Interface) | |
| All features off, sleep mode | 20 mA |
| Only Touch active | 20 mA |
| Only LED active (white) | 110 mA |
| Only Display active, full white | 210 mA |
| All features on, LED and Display full white | 260 mA |
| Display | |
| Type | Graphic-PMOLED |
| Color Resolution | 65k colors |
| Resolution | 128 x 128 RGB Pixels |
| Brightness | 90 cd/m ² , adjustable in 16 steps |
| Contrast | 2000:1 |
| Viewing Angle | 160° |
| Refresh Rate | 25 Pictures per sec. |
| Display Life Time ²⁾³⁾ | min. 11000 h |
| Home Button LED on 6 o'clock position | |
| Type | RGB |
| Illumination type | constant, blinking 2x per sec., pumping from 0% to 100% within 1 sec and back |
| Brightness | adjustable in 16 steps |
| Touch Data | |
| Technology | PCAP |
| Touch Pattern | Full X-Y |
| Soft Key Positions | 3, 6, 9, and 12 o'clock position on the Touch Wheel |
| Touch Button Position | Center of the display |
| Soft Key / Touch Button short | 128 to 500 ms |
| Soft Key / Touch Button long | > 500 ms |
| Touch Movements | Swipe Left to Right Swipe Right to Left Swipe Top to Bottom Swipe Bottom to Top Rotation Left Rotation Right Tap on Soft Key / Touch Button |
| System Response Time | < 150 ms |

| Media Data | |
|------------------------------------|-----------------|
| Mass Storage Size | 4 Mbyte |
| Picture Format | png |
| Picture Size ⁴⁾ | 128 x 128 pixel |
| File Size for Pictures | max. 20 kByte |
| Video Format | gif |
| Video Picture Size | 128 x 128 pixel |
| File Size for Videos | max. 128 kByte |
| Frame Rate for animated gif videos | min. 60 ms |

| Ambient Light Sensor | |
|-----------------------------|--------------|
| Sensitive Wavelength Range | 390 - 700 nm |
| Resolution | 12 Bit |

| Mechanical Data | |
|---|---------------------------|
| Shock Protection | IK05 acc. to IEC/EN 62262 |
| Screw Tightening Torque for Mounting Ring | max. 0.2 Nm |

| Climatical Data | |
|--------------------------------|---|
| Operating Temperature | -20 to 60 °C |
| Storage Temperature | -20 to 70 °C |
| IP Protection Class Front Side | IP67 when mounted with Seal Ring ⁵⁾ , IP40 otherwise |
| Moisture sensitivity level | MSL 1 |

| Material | |
|-----------------------------|-------|
| Housing | PC |
| Mounting Ring ⁵⁾ | PC |
| Seal Ring | NBR70 |
| Touch Surface | Glass |

| Product Tests | |
|-------------------------|---|
| EMC | IEC/EN 61000-4-2 IEC/EN 61000-4-3 IEC/EN 61000-4-4 IEC/EN 61000-4-6 IEC/EN 61000-4-8 IEC/EN 61000-6-1:2016 IEC/EN 61000-6-2:2016 IEC/EN 61000-6-3:2011 IEC/EN 61000-6-4:2011 EN 61326-1:2013 EN 55014-1:2006 + A1:2009 + A2:2011 EN 55014-2:2015 EN 61058-1-1:2015-05 |
| Change of temperature | -25°C / +65°C / 50%RH according to IEC 60068-2-14 Test N |
| Damp heat, steady state | 40°C / 95%RH / 21 days according to IEC 60068-2-78 |
| Glow wire test | 750°C and 850°C according to IEC/EN 60695-2-11:2014 and IEC/EN 60335-1 |

1) Mechanical reverse polarity protection made from the combination of the plug and the socket, no internal reverse polarity protection

2) The life time of the display is typically defined as the time it takes for the display to lose half of its brightness and depends on the displayed pictures and animated gif video pictures. The darker the pictures and the lower the brightness, the longer the display life time

3) The display of static images or videos with static image areas over a long period of time may lead to a so-called burn-in effect, in which the static image remains permanently visible on the display

4) Partial pictures are allowed to have smaller size

5) O-Ring is not included in the 10 pcs package


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 | Audio/video, information and communication technology equipment - Part 1: Safety requirements |

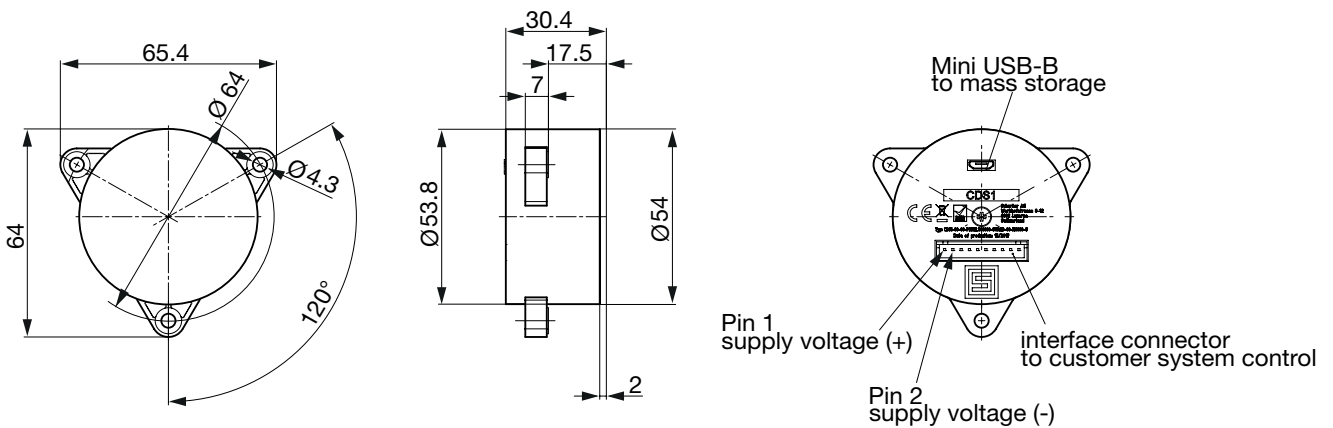
Compliances

The product complies with following Guide Lines

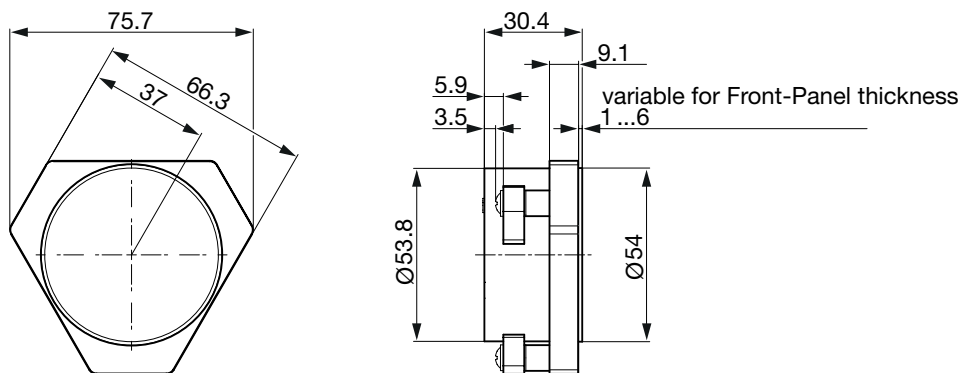
| Identification | Details | Initiator | Description |
|---|--|-------------|---|
|  | CE declaration of conformity | SCHURTER AG | The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008. |
|  | UKCA declaration of conformity | SCHURTER AG | The UKCA marking declares that the product complies with the applicable requirements laid down in the British Amendment of Regulation (EC) 765/2008. |
|  | RoHS | SCHURTER AG | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863 |
|  | China RoHS | SCHURTER AG | The law SJ / T 11363-2006 (China RoHS) has been in force since 1 March 2007. It is similar to the EU directive RoHS. |
|  | 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]

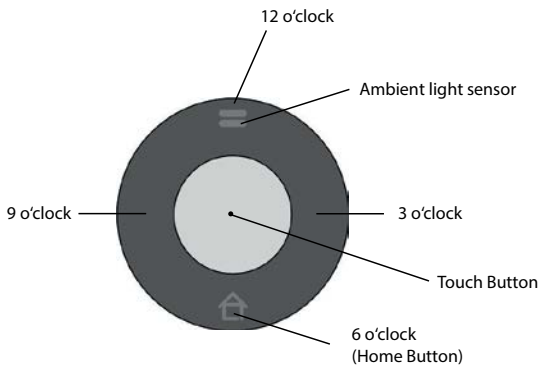
CDS1 Module



Mounting ring



Assembly Instructions



SoftKey and Touch Button positions



Mounting of the Design-In-Kit using the mounting ring (with double-sided adhesive tape)



Example for housing with integrated screw domes for mounting without mounting ring



Example for housing with screws from the panel front for mounting without mounting ring

Diagrams

| Pinout of FST XHP-10 | | | | |
|----------------------|--|----------------|----------------|----------------|
| Pin-Nr.: | Signal | application in | | |
| | | SPI | I2C | RS232 |
| 1 | VCC | x | x | x |
| 2 | GND | x | x | x |
| 3 | IRQ_n ² | x ¹ | x ¹ | x ¹ |
| 4 | CS_n ² | x | | |
| 5 | GND | x | x | x |
| 6 | SCLK / SCL (external pull-up resistance 2.7kΩ) | x | x | |
| 7 | GND | x | x | x |
| 8 | MOSI / TX / SDA (external pull-up resistance 2.7kΩ) | x | x | x |
| 9 | GND | x | x | x |
| 10 | MISO / RX | x | | x |

| Pinout USB Port | | |
|-----------------|------|---------------------------------|
| Pin-Nr.: | Name | Signal |
| 1 | VBUS | not connected |
| 2 | D- | negative differential data line |
| 3 | D+ | positive differential data line |
| 4 | ID | not connected |
| 5 | GND | ground |

¹ Optional signal
² Signal is active low

All Variants

| Packaging unit | Line Connector | Configurations Code | Order Number |
|----------------|----------------|---|--------------|
| 10 pack | - | CDS1-00-10-PBKGLS00000-SYRGB-00-X0000-S | 3-102-423 |
| Design-In-Kit | EU | CDS1-00-DI-PBKGLS00000-SYRGB-EU-X0000-S | 3-102-424 |
| Design-In-Kit | EU / US | CDS1-00-DI-PBKGLS00000-SYRGB-US-X0000-S | 3-102-436 |

Most Popular.

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



Contents of the Design-In-Kit



Contents of the 10 pack