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

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/m2, 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 Pattern	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	IK 05 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	IP 67 when mounted with Seal Ring[5)], IP40 otherwise
Moisture sensitivity level	MSL 1
Material	
Housings	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 picutes 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 134485 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
IEC	Designed for applications acc.	IEC/UL 60950	IEC 60950-1 includes the basic requirements for the safety of information technology equipment.

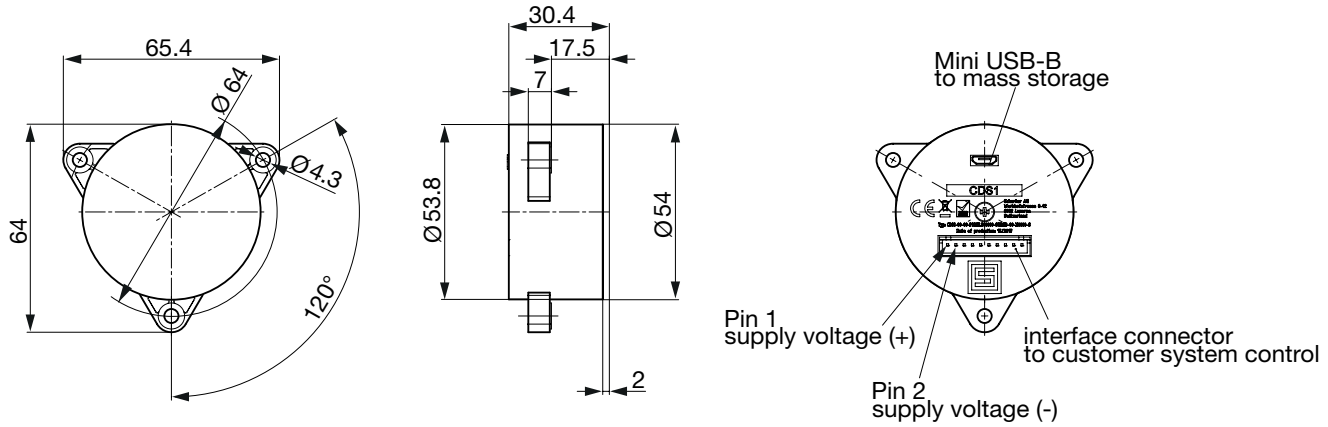
Compliances

The product complies with following Guide Lines

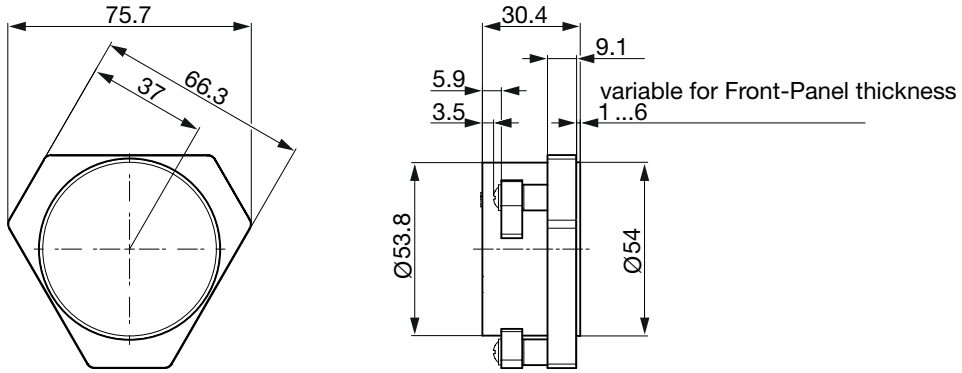
Identification	Details	Initiator	Description
CE	CE declaration of conformity	SCHURTER AG	The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008.
RoHS	RoHS	SCHURTER AG	EU Directive RoHS 2011/65/EU
50	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	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]

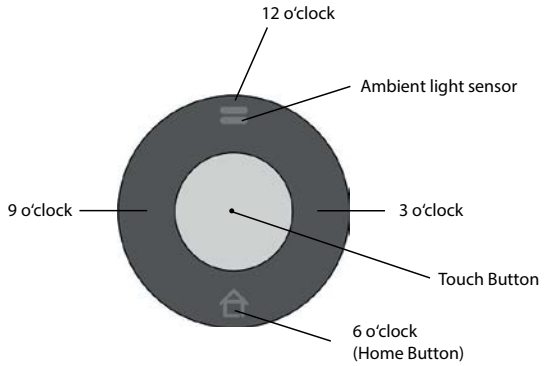
CDS1 Module



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_n²	x¹	x¹	x¹
4	CS_n²	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

¹ Optional signal
² Signal is active low

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

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

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