#### **Touchless Switch**





# Description

- Touchless momentary push button (MO<sup>1</sup>) or as latching switch (LA)
- Protection against unintended switching
- Precise operating
- Potential free output contactsLaser lettering possible
- Vandal resistant

## **Unique Selling Proposition**

- Variable supply voltage, RGB with integrated series resistor
- High reliability
- Wiping and cleaning the surface does not trigger a switching operation

#### **Technical Data** Electrical Date

Switching FunctionMomentary (MO¹) or latching (LA)Switching Voltagemax. 42 VAC / 60 VDCSwitching currentmax. 100 mAElectrical Rating1 WSwitch Resistance OFF> 10 MΩSwitch Resistance ON< 16 ΩSupply Voltage LED5 - 28 VDCCurrent Consumption all LEDs6.0 mA (typ) / 13.0 mA (max)offPeak: 29 mA (switch is closed)8.0 mA (typ) / 15.0 mA (max)Peak: 34 mA (switch is open)Current Consumption10.0 mA (typ) / 17.0 mA (max)Ilumination red, green or bluePeak: 34 mA (switch is closed)11.0 mA (typ) / 19.0 mA (max)Peak: 38 mA (switch is open)Current Consumption14.0 mA (typ) / 21.0 mA (max)Illumination yellow, cyan or magenta16.0 mA (typ) / 22.0 mA (max)Peak: 43 mA (switch is closed)Illumination whitePeak: 43 mA (switch is closed)Reverse Polarity ProtectionyesOutput TypeOptoMOS RelayLifetime>20 million actuationsconnection type2TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm²TTS RGB 6 Litzen, 26AWG, 0.128 mm²	Electrical Data	
Switching currentmax. 100 mAElectrical Rating1 WSwitch Resistance OFF> 10 MQSwitch Resistance ON< 16 Q	Switching Function	Momentary (MO <sup>1</sup> ) or latching (LA)
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	Switching Voltage	max. 42 VAC / 60 VDC
Switch Resistance OFF> 10 MQSwitch Resistance ON< 16 $\Omega$ Supply Voltage LED5 - 28 VDCCurrent Consumption all LEDs6.0 mA (typ) / 13.0 mA (max)offPeak: 29 mA (switch is closed)8.0 mA (typ) / 15.0 mA (max)Peak: 34 mA (switch is open)Current Consumption10.0 mA (typ) / 17.0 mA (max)Ilumination red, green or bluePeak: 34 mA (switch is closed)11.0 mA (typ) / 19.0 mA (max)Peak: 38 mA (switch is open)Current ConsumptionIllumination yellow, cyan or magenta16.0 mA (typ) / 21.0 mA (max) Peak: 38 mA (switch is closed)16.0 mA (typ) / 22.0 mA (max) Peak: 43 mA (switch is open)Current Consumption19.0 mA (typ) / 25.0 mA (max) Peak: 43 mA (switch is closed)Reverse Polarity Protection yesOutput TypeOptoMOS Relay LifetimeLifetime connection type2TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm²	Switching current	max. 100 mA
Switch Resistance ON       < 16 Ω	Electrical Rating	1 W
Supply Voltage LED       5 - 28 VDC         Current Consumption all LEDs       6.0 mA (typ) / 13.0 mA (max)         off       Peak: 29 mA (switch is closed)         8.0 mA (typ) / 15.0 mA (max)       Peak: 34 mA (switch is open)         Current Consumption       10.0 mA (typ) / 17.0 mA (max)         Ilumination red, green or blue       Peak: 34 mA (switch is closed)         11.0 mA (typ) / 19.0 mA (max)       Peak: 38 mA (switch is open)         Current Consumption       14.0 mA (typ) / 21.0 mA (max)         Peak: 38 mA (switch is closed)       16.0 mA (typ) / 22.0 mA (max)         Peak: 43 mA (switch is closed)       16.0 mA (typ) / 22.0 mA (max)         Peak: 43 mA (switch is closed)       19.0 mA (typ) / 25.0 mA (max)         Peak: 43 mA (switch is closed)       19.0 mA (typ) / 25.0 mA (max)         Illumination white       Peak: 43 mA (switch is closed)         Reverse Polarity Protection       yes         Output Type       OptoMOS Relay         Lifetime       >20 million actuations         connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>	Switch Resistance OFF	> 10 MΩ
Current Consumption all LEDs6.0 mA (typ) / 13.0 mA (max)offPeak: 29 mA (switch is closed)8.0 mA (typ) / 15.0 mA (max)Peak: 34 mA (switch is open)Current Consumption10.0 mA (typ) / 17.0 mA (max)Ilumination red, green or bluePeak: 34 mA (switch is closed)11.0 mA (typ) / 19.0 mA (max)Peak: 38 mA (switch is open)Current Consumption14.0 mA (typ) / 21.0 mA (max)Ilumination yellow, cyan or magenta16.0 mA (typ) / 21.0 mA (max)Peak: 43 mA (switch is closed)11.0 mA (typ) / 22.0 mA (max)Peak: 43 mA (switch is open)Current Consumption19.0 mA (typ) / 25.0 mA (max)Peak: 43 mA (switch is open)Current Consumption19.0 mA (typ) / 25.0 mA (max)Peak: 43 mA (switch is closed)Reverse Polarity ProtectionyesOutput TypeOptoMOS RelayLifetime>20 million actuationsconnection type2TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm²	Switch Resistance ON	< 16Ω
offPeak: 29 mA (switch is closed)8.0 mA (typ) / 15.0 mA (max) Peak: 34 mA (switch is open)Current Consumption10.0 mA (typ) / 17.0 mA (max) Peak: 34 mA (switch is closed)Ilumination red, green or bluePeak: 34 mA (switch is closed)11.0 mA (typ) / 19.0 mA (max) Peak: 38 mA (switch is open)Current Consumption14.0 mA (typ) / 21.0 mA (max) Peak: 38 mA (switch is closed)Illumination yellow, cyan or magenta16.0 mA (typ) / 21.0 mA (max) Peak: 38 mA (switch is closed)Current Consumption19.0 mA (typ) / 22.0 mA (max) Peak: 43 mA (switch is open)Current Consumption19.0 mA (typ) / 25.0 mA (max) Peak: 43 mA (switch is closed)Illumination whitePeak: 43 mA (switch is closed)Reverse Polarity ProtectionyesOutput TypeOptoMOS Relay LifetimeLifetime>20 million actuations connection type2TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm²	Supply Voltage LED	5 - 28 VDC
Peak: 34 mA (switch is open)Current Consumption10.0 mA (typ) / 17.0 mA (max)Ilumination red, green or bluePeak: 34 mA (switch is closed)11.0 mA (typ) / 19.0 mA (max)Peak: 38 mA (switch is open)Current Consumption14.0 mA (typ) / 21.0 mA (max)Illumination yellow, cyan or magentaPeak: 38 mA (switch is closed)16.0 mA (typ) / 22.0 mA (max) Peak: 43 mA (switch is open)Current Consumption19.0 mA (typ) / 22.0 mA (max) Peak: 43 mA (switch is open)Current Consumption19.0 mA (typ) / 25.0 mA (max) Illumination whiteReverse Polarity ProtectionyesOutput TypeOptoMOS Relay LifetimeLifetime>20 million actuations connection type2TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm²	•	
Ilumination red, green or blue       Peak: 34 mA (switch is closed)         11.0 mA (typ) / 19.0 mA (max)         Peak: 38 mA (switch is open)         Current Consumption         Illumination yellow, cyan or         magenta         16.0 mA (typ) / 21.0 mA (max)         Peak: 38 mA (switch is closed)         16.0 mA (typ) / 22.0 mA (max)         Peak: 43 mA (switch is open)         Current Consumption         19.0 mA (typ) / 25.0 mA (max)         Peak: 43 mA (switch is closed)         Reverse Polarity Protection         yes         Output Type       OptoMOS Relay         Lifetime       >20 million actuations         connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>		()))
Peak: 38 mA (switch is open)         Current Consumption         Illumination yellow, cyan or         magenta         16.0 mA (typ) / 21.0 mA (max)         Peak: 38 mA (switch is closed)         16.0 mA (typ) / 22.0 mA (max)         Peak: 43 mA (switch is open)         Current Consumption         19.0 mA (typ) / 25.0 mA (max)         Peak: 43 mA (switch is closed)         Reverse Polarity Protection         yes         Output Type       OptoMOS Relay         Lifetime       >20 million actuations         connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>	•	()))
Illumination yellow, cyan or magenta       Peak: 38 mA (switch is closed)         16.0 mA (typ) / 22.0 mA (max)         Peak: 43 mA (switch is open)         Current Consumption       19.0 mA (typ) / 25.0 mA (max)         Illumination white       Peak: 43 mA (switch is closed)         Reverse Polarity Protection       yes         Output Type       OptoMOS Relay         Lifetime       >20 million actuations         connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>		()))
Peak: 43 mA (switch is open)         Current Consumption       19.0 mA (typ) / 25.0 mA (max)         Illumination white       Peak: 43 mA (switch is closed)         Reverse Polarity Protection       yes         Output Type       OptoMOS Relay         Lifetime       >20 million actuations         connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>	Illumination yellow, cyan or	())) ())
Illumination white         Peak: 43 mA (switch is closed)           Reverse Polarity Protection         yes           Output Type         OptoMOS Relay           Lifetime         >20 million actuations           connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>		()))
Output Type         OptoMOS Relay           Lifetime         >20 million actuations           connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>	•	
Lifetime         >20 million actuations           connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>	Reverse Polarity Protection	yes
connection type <sup>2</sup> TTS Bi-Color 4 Litzen, 26AWG, 0.128 mm <sup>2</sup>	Output Type	OptoMOS Relay
mm <sup>2</sup>	Lifetime	>20 million actuations
TTS RGB 6 Litzen, 26AWG, 0.128 mm	connection type <sup>2</sup>	
		TTS RGB 6 Litzen, 26AWG, 0.128 mm <sup>2</sup>

<sup>1</sup> on request also available as NC / <sup>2</sup> on request also available with cable or connector

## **Approvals and Compliances**

#### See below: **Approvals and Compliances**

#### **Characteristics**

- Housing made from stainless steel
- With ring illumination
  Wearless, no moving parts
- Attractive design
- Insensitive to water and rain

#### Weblinks

pdf data sheet, html datasheet, General Product Information, CAD-Drawings, Product News, Detailed request for product, Landing Page

Mechanical Data	
Actuation Type	optical
Actuating Force	none
Shock Protection	IK06
Mounting Depth	16.5 mm
Tightening Torque Plastic Nut	2.5 Nm
Climatical Data	
Operating Temperature	-30 to 85 °C
Storage Temperature	-40 to 85 °C
IP Protection Class Front Side	IP67 acc. to IEC 60529
Material	
Housing	Stainless Steel
Illuminated Ring (Ring Illumi-	PMMA
nation)	
Sensor Window	PC
Seal Ring	NBR70

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

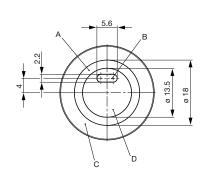
SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical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

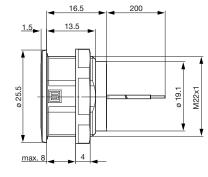
### Compliances

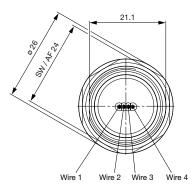
The product complies with following Guide Lines

	Ũ		
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.
UK CA	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	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]



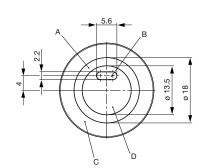




A ring illumination

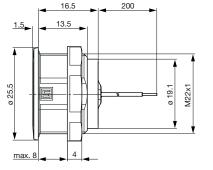
- B sensor window
- C housing
- D actuator

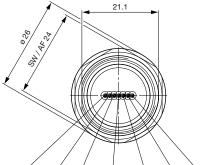
### **Dimension for RGB Variants**



A ri	ing illumination
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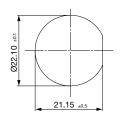
- C housing
- D actuator





Wire 7 Wire 6 Wire 5 Wire 4 Wire 3 Wire 2 Wire 1

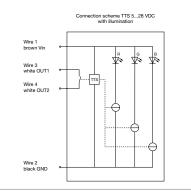




# Diagrams

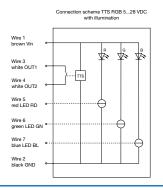
Connection diagram

TTS Bicolor Connection wire assignment						
Wire-number Wire color function						
Wire 1brownVin = 5 VDC28 VDC						
Wire 2 black GND						
Wire 3	white	OUT1				
Wire 4 white OUT2						



TTS RGB Connection wire assignment							
Wire-number	Wire-number Wire color function						
Wire 1	brown	Vin = 5 VDC28 VDC					
Wire 2	black GND						
Wire 3	white	OUT1					
Wire 4	Wire 4 white OUT2						
Wire 5	Wire 5 red LED red						
Wire 6	green	LED green					
Wire 7 blue LED blue							

Lettering Colour of Laser Lettering						
Material Lettering Colour						
Stainless Steel	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 = <b>=</b>	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 =+	057 = <b>STOP</b>	077 =			
018 = <b>R</b>	038 =-	058 = <b>ENTER</b>				
019 = <b>S</b>	039 =.	059 = <b>BACK</b>				
020 = <b>T</b>	040 = x	060 = <b>LINE</b>				
Please note that the font size depends on the number of characters						

## Order number key

TTS-22-LA N	O A10	F0 - RI	ORG V/	R F0	- SO	NC	- B - 06 - SO NC NF	٦ ـ ٦	0 000 -	C
1 2 3		5 6	7 8	3 9	10				17 18	19
Diameter		۹,	1				Housing color		0	11
22 mm	=	22					Natural	=	NC	
Switch type		۹,	2				Mounting		0	12
Latching	=	LA					Thread (M) W/anti-rotation	=	В	
Momentary	=	MO					protection			
Switch function		٩,	3				Detection distance *		۹,	13
Normally open	=	NO					6 cm	=	06	
Rated current		9	4				Actuator material		۹,	14
100mA	=	A10					Stainless steel	=	S0	
Terminal switch		0	5				Actuator color		۹,	15
Flexible wires	=	F0					Natural	=	NC	
Illumination /		۹,	6				Actuator style		۹,	16
appearance							No Finger guided	=	NF	
Ring illumination	=	RI					Lettering type		Q	17
Illumination / appearance color		Q,	7				None	=	0	
Red-green	=	0RG					Marking type		Q	18
RGB	=	RGB					None	=	000	
Supply voltage		0	8				Accessories		۹,	19
illumination		_					Hex nut plastic w /	=	С	
5-28V	=	VAR					O-Ring			
Terminal illuminatio	on	0	9							
Flexible wires	=	F0								
Hous ing material		۹,	10							
Stainless	=	S0								

 $^{*}$  Distance can be changed at the production site. MOQ > 100 pcs.

# All Variants

Diameter [mm]	Illumination	Illumination Color inactive / active	Function	Accessories	Order Number
22	Ring Illumination	multicolor	latching (LA)	Hex nut plastic	3-135-364
22	Ring Illumination	multicolor	momentary (MO)	Hex nut plastic	3-135-363
22	Ring Illumination	bi-colored green / red	latching (LA)	Hex nut plastic	3-131-913
22	Ring Illumination	bi-colored green / red	momentary (MO)	Hex nut plastic	3-131-894

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

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.

Packaging unit

10 Pcs

# **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Pushbutton Switches category:

Click to view products by Schurter manufacturer:

Other Similar products are found below :

 8971K1133
 LW2L-M1C20M-A
 01-153.025
 M22-D-R-GB0/K11
 67021K512
 701PB580
 7199K101
 810K12910
 810KSV30B
 FLT 2U EE

 01A
 MML21EA2ADK
 MML21KA3ABK
 MML23KW3AA01W
 8418K2
 8442K3
 8450K1
 860K11911T01A
 861901
 861K11911T01A07

 861K13810T00A14
 861K13911
 8646AB6X718UL
 9533CD4+U574+U4922
 99-450.837
 99-453.837
 A2PMA1X03EC56
 A3A-7310
 A3A-7340

 7340
 12037A2ULCSA
 1203A2UL
 ABGW410-R
 1211390004
 ABN400-R
 121382
 1213C3
 HE3B-M2
 1211500044
 121194
 1212MRA

 1232A6NF
 121489
 1223A2ULCSA
 D5P-MT4
 13435AG
 13445AD29GX768
 AG23-L2
 AH165-2SGLG1TE3
 AH165-TGFY22
 AH165 

 TGL5Y11E3
 AH165-TGLR11AA3
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