

# CAPTRON Capacitive Switches

## Overview

SENSORswitches are capacitive pushbuttons that are activated without pressure, using a hand or other parts of the body. The buttons have a determinate sensing distance, which may be altered by varying the approach speed and/or damping factor. A quickly approaching finger will achieve a higher sensing distance than a slowly approaching finger. A hand, with its larger damping surface, will achieve a greater sensing distance than a finger at the same speed. The sensitivity of the buttons is specified by the electronic circuit and cannot be changed. All sensors are checked for consistent sensitivity values, which have been determined by long-standing experience.



## Switch Type

### Static

- The output signal is continuously on as long as the sensor area is activated.

### Dynamic

- The output signal length is limited to x milliseconds when the sensor area is activated.

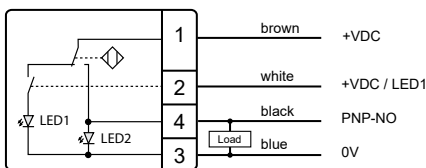
### Toggle

- The output signal turns on when the sensor area is activated and stays on until the sensor area is activated again.

## LED Control

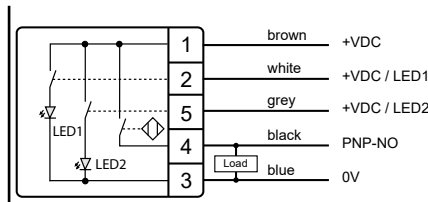
### Semi-Automatic

Semi-Automatic (4-Pin) LED1 can be controlled separately. Ideal for when the system designer would like to display a flashing signal to prompt the user to activate and or touch the switch.



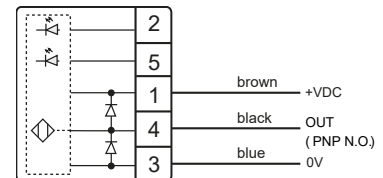
### Manual

Manual (5-Pin) LED1 and LED2 can be controlled separately. Ideal for use when the user would like to show optical feedback acting like a signal indicator (e.g. CDL series or CML series indicator lights).



### Automatic

Automatic (3-Pin) LED1 turns off and the LED2 lights up when the operating surface is touched. Ideal choice for all Human-Machine Interface (HMI) applications that require an intuitive and clearly visible status display.



# CAPTRON 22mm IP69K Capacitive Switches



**CHT1-158X-XX**  
(Hygienic)



**CHT1-XXXX-XX-CPM20**



**CHT1-159X-XX**



**CHT3-456X-X-XXXXX**



**CHT3-456X-X-XXXX**

22mm IP69K Capacitive Switches, PNP, N.O.													
Part Number	Price	LED Color (Idle/Active)	Switch Type	Diameter mm	LED Control	Legend	Symbol Illuminated	Connection (M8)	Agency Approvals	Weight lbs	Drawing Link		
<a href="#">CHT1-158B-30</a>		red/green	Static	40mm	Manual	-	No	5-pole	CE, CSA	0.09	<a href="#">PDF</a>		
<a href="#">CHT1-158B-30-CPM20</a>				28.5mm		-				0.07	<a href="#">PDF</a>		
<a href="#">CHT1-158P-30</a>				40mm	Semi-automatic	-				4-pole	0.08	<a href="#">PDF</a>	
<a href="#">CHT1-158P-30-CPM20</a>				-		0.06					<a href="#">PDF</a>		
<a href="#">CHT1-159B-29</a>				Manual	START	5-pole					0.07	<a href="#">PDF</a>	
<a href="#">CHT1-159B-30</a>											-	0.06	<a href="#">PDF</a>
<a href="#">CHT1-159P-29</a>				Semi-automatic	START			4-pole			0.05	<a href="#">PDF</a>	
<a href="#">CHT1-159P-30</a>											-	0.05	<a href="#">PDF</a>
<a href="#">CHT12-159B-30</a>				Toggle	Manual					-	5-pole	0.06	<a href="#">PDF</a>
<a href="#">CHT12-159B-64</a>										START/STOP		0.06	<a href="#">PDF</a>
<a href="#">CHT12-159P-30</a>					Semi-automatic	-				4-pole		0.05	<a href="#">PDF</a>
<a href="#">CHT12-159P-64</a>						START/STOP						0.05	<a href="#">PDF</a>
<a href="#">CHT3-456B-29-TGSR</a>			Dynamic	Manual	60mm	Manual	START	5-pole	0.22		<a href="#">PDF</a>		
<a href="#">CHT3-456B-29-TGSRs</a>							START		0.22		<a href="#">PDF</a>		
<a href="#">CHT3-456B-30-TGSR</a>							-		0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-30-TGSRs</a>							-		0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-H-TGSR</a>							Hand Symbol		0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-H-TGSRs</a>							Hand Symbol		0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456P-29-TGSR</a>				Dynamic		Semi-automatic	4-pole		Semi-automatic	START	0.22	<a href="#">PDF</a>	
<a href="#">CHT3-456P-29-TGSRs</a>										START	0.22	<a href="#">PDF</a>	
<a href="#">CHT3-456P-30-TGSR</a>		-								0.22	<a href="#">PDF</a>		
<a href="#">CHT3-456P-30-TGSRs</a>		-								0.22	<a href="#">PDF</a>		
<a href="#">CHT3-456P-H-TGSR</a>		Hand Symbol								0.22	<a href="#">PDF</a>		
<a href="#">CHT3-456P-H-TGSRs</a>		Hand Symbol								0.22	<a href="#">PDF</a>		

Purchase cable separately.



# 50 and 60mm IP69K Capacitive Switches



CHT3-15XX-XX-XXXX



CHT4-25XX-XX-XXXX





CHT4-25XX-X-XXXX

*50 and 60mm IP69K Capacitive Switches (Require AR3 or AR4 Cover Ring)															
Part Number	Price	LED Color (Idle/Active)	Switch Type	Barrel Size mm	Diameter (w/Cover ring) mm	LED Control	Legend	Symbol Illuminated	Connection (M8)	Agency Approvals	Weight lbs	Drawing Link			
<a href="#">CHT3-15XB-29-TGSR</a>		red/green	Dynamic	50mm	88mm	Manual	START	No	5-pole	CE, CSA	0.18	<a href="#">PDF</a>			
<a href="#">CHT3-15XB-29-TGSR</a>			Static				START					<a href="#">PDF</a>			
<a href="#">CHT3-15XB-30-TGSR</a>			Dynamic				-					<a href="#">PDF</a>			
<a href="#">CHT3-15XB-30-TGSR</a>			Static				-					<a href="#">PDF</a>			
<a href="#">CHT3-15XB-H-TGSR</a>			Dynamic				Hand Symbol					<a href="#">PDF</a>			
<a href="#">CHT3-15XB-H-TGSR</a>			Static				Hand Symbol					<a href="#">PDF</a>			
<a href="#">CHT3-15XP-29-TGSR</a>			Dynamic			START	Semi-automatic		4-pole			START	4-pole	0.21	<a href="#">PDF</a>
<a href="#">CHT3-15XP-29-TGSR</a>			Static			START						<a href="#">PDF</a>			
<a href="#">CHT3-15XP-30-TGSR</a>			Dynamic			-						<a href="#">PDF</a>			
<a href="#">CHT3-15XP-30-TGSR</a>			Static			-						<a href="#">PDF</a>			
<a href="#">CHT3-15XP-H-TGSR</a>			Dynamic			Hand Symbol						<a href="#">PDF</a>			
<a href="#">CHT3-15XP-H-TGSR</a>			Static			Hand Symbol						<a href="#">PDF</a>			
<a href="#">CHT4-25XB-29-TGSR</a>			Dynamic	Manual	60mm	100mm	START	5-pole	4-pole	0.21	<a href="#">PDF</a>				
<a href="#">CHT4-25XB-30-TGSR</a>							-				<a href="#">PDF</a>				
<a href="#">CHT4-25XB-H-TGSR</a>							Hand Symbol				<a href="#">PDF</a>				
<a href="#">CHT4-25XP-29-TGSR</a>							START				Semi-automatic	4-pole			<a href="#">PDF</a>
<a href="#">CHT4-25XP-30-TGSR</a>		-					<a href="#">PDF</a>								
<a href="#">CHT4-25XP-H-TGSR</a>		Hand Symbol					<a href="#">PDF</a>								
<a href="#">CHT4-25XP-H-TGSR</a>		Hand Symbol		<a href="#">PDF</a>											

\*Purchase cable separately.

# CAPTRON Cover Rings and Indicator Lights

AR3 Cover Ring (Fits All CHT3 Switches)			
Part Number	Price	Color	Image
<a href="#"><u>AR3-1X0</u></a>		Red	
<a href="#"><u>AR3-1X1</u></a>		Green	
<a href="#"><u>AR3-1X5</u></a>		Yellow	
<a href="#"><u>AR3-1X6</u></a>		Black	

AR4 Cover Ring (Fits All CHT4 Switches)			
Part Number	Price	Color	Image
<a href="#"><u>AR4-BX0</u></a>		Red	
<a href="#"><u>AR4-BX1</u></a>		Green	
<a href="#"><u>AR4-BX5</u></a>		Yellow	
<a href="#"><u>AR4-BX6</u></a>		Black	

*IP6K 22mm CDL and CML Series IP69K Indicator Lights											
Part Number	Price	Color	Material	Supply Voltage	Load Current	Current Consumption	Operating Temperature	Storage Temperature	Agency Approvals	Weight lbs	Drawing Links
<a href="#"><u>CDL1-158-30-GR</u></a>		Red/green	Plastic And Stainless Steel	24 VDC [21.6~26.4 V]	Max 400 mA	Max 20 mA @24V	-20 to 50°C [-4 to 122°F]	-25 to 55°C [-13 to 131°F]	CE, CSA	0.08	<a href="#">PDF</a>
<a href="#"><u>CDL1-159-30-GR</u></a>	Plastic And Aluminum		0.05							<a href="#">PDF</a>	
<a href="#"><u>CML1-158-30</u></a>	Red/yellow/ green/blue/ white/orange/ violet	Plastic And Stainless Steel	0.08			<a href="#">PDF</a>					
<a href="#"><u>CML1-159-30</u></a>		Plastic And Aluminum	0.05			<a href="#">PDF</a>					

\*Purchase cable separately.



[CDL1-158-30-GR](#)  
[CML1-158-30](#)  
(Hygienic)



[CDL1-159-30-GR](#)  
[CML1-159-30](#)





# Capacitive Switches Specifications

Specifications										
Part Number	Supply Voltage	Output	Output Pulse	Load Current	Current Consumption	Operating Temperature	Storage Temperature	IP Rating	Material	
<b><u>CHT1</u></b>	10–30 VDC	PNP-N.O.	Continuous when actuated	Max 400 mA	Max 20 mA @24V	-30 to 70°C [-22 to 158°F]	-35 to 75°C [-31 to 167°F]	IP69K	CHT1-158 Plastic and Stainless Steel CHT1-159 and CHT12 Plastic and Aluminum	
<b><u>CHT12</u></b>			Toggle							
<b><u>CHTX-XXXX-XX-TGSR</u></b>	24 VDC (21.6–26.4 V)		Approx. 300 ms		Max 30 mA @24V	-30 to 80°C [-22 to 176°F]	-35 to 85°C [-31 to 185°F]			CHT3-456X Plastic and Delrin CHT3-15XX and CHT4 Plastic and Polycarbonate
<b><u>CHTX-XXXX-XX-TGSRS</u></b>			Continuous when actuated							