

# 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.

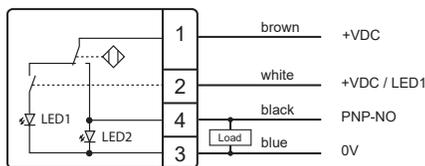
### Toggle

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

## LED Control

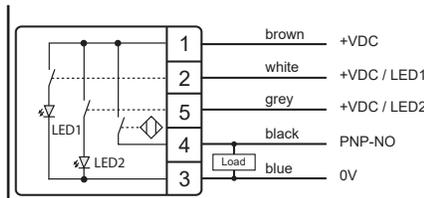
### Semi-Automatic

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.



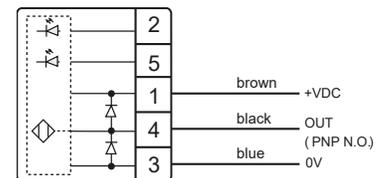
### Manual

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.





# 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>	\$104.00	red/green	Static	40.0 mm	Manual	-	No	5-pole	CE, CSA	0.09	<a href="#">PDF</a>						
<a href="#">CHT1-158B-30-CPM20</a>	\$104.00			28.5 mm		-				0.07	<a href="#">PDF</a>						
<a href="#">CHT1-158P-30</a>	\$85.00			40.0 mm	Semi-automatic	-		4-pole		0.08	<a href="#">PDF</a>						
<a href="#">CHT1-158P-30-CPM20</a>	\$85.00			-		0.06				<a href="#">PDF</a>							
<a href="#">CHT1-159B-29</a>	\$85.00			Toggle	Manual	START		5-pole		0.07	<a href="#">PDF</a>						
<a href="#">CHT1-159B-30</a>	\$85.00					-				0.06	<a href="#">PDF</a>						
<a href="#">CHT1-159P-29</a>	\$63.00				Semi-automatic	START		4-pole		0.05	<a href="#">PDF</a>						
<a href="#">CHT1-159P-30</a>	\$70.00					-				0.05	<a href="#">PDF</a>						
<a href="#">CHT12-159B-30</a>	\$93.00				Manual	-		5-pole		0.06	<a href="#">PDF</a>						
<a href="#">CHT12-159B-64</a>	\$93.00					START/STOP				0.06	<a href="#">PDF</a>						
<a href="#">CHT12-159P-30</a>	\$81.00		Semi-automatic		-	4-pole		0.05		<a href="#">PDF</a>							
<a href="#">CHT12-159P-64</a>	\$81.00				START/STOP			0.05		<a href="#">PDF</a>							
<a href="#">CHT3-456B-29-TGSR</a>	\$142.00		Dynamic		Manual	60.0 mm		START		5-pole	4-pole	CE, CSA	0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-29-TGSRs</a>	\$142.00							Static					START	0.22	<a href="#">PDF</a>		
<a href="#">CHT3-456B-30-TGSR</a>	\$142.00			Dynamic				-					0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-30-TGSRs</a>	\$142.00			Static				-					0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-H-TGSR</a>	\$142.00			Dynamic				Hand Symbol					0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456B-H-TGSRs</a>	\$142.00			Static				Hand Symbol					0.22	<a href="#">PDF</a>			
<a href="#">CHT3-456P-29-TGSR</a>	\$124.00			Dynamic				Semi-automatic					START	4-pole	CE, CSA	0.22	<a href="#">PDF</a>
<a href="#">CHT3-456P-29-TGSRs</a>	\$124.00			Static									START			0.22	<a href="#">PDF</a>
<a href="#">CHT3-456P-30-TGSR</a>	\$124.00	Dynamic		-			0.22		<a href="#">PDF</a>								
<a href="#">CHT3-456P-30-TGSRs</a>	\$124.00	Static		-			0.22		<a href="#">PDF</a>								
<a href="#">CHT3-456P-H-TGSR</a>	\$124.00	Dynamic	Hand Symbol	0.22	<a href="#">PDF</a>												
<a href="#">CHT3-456P-H-TGSRs</a>	\$124.00	Static	Hand Symbol	0.22	<a href="#">PDF</a>												

Purchase cable separately.

# CAPTRON 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>	\$128.00	red/green	Dynamic	50.0 mm	88.0 mm	Manual	START	No	5-pole	CE, CSA	0.18	<a href="#">PDF</a>										
<a href="#">CHT3-15XB-29-TGSR</a>	\$128.00		Static				START					<a href="#">PDF</a>										
<a href="#">CHT3-15XB-30-TGSR</a>	\$128.00		Dynamic				-					<a href="#">PDF</a>										
<a href="#">CHT3-15XB-30-TGSR</a>	\$128.00		Static				-					<a href="#">PDF</a>										
<a href="#">CHT3-15XB-H-TGSR</a>	\$128.00		Dynamic				Hand Symbol					<a href="#">PDF</a>										
<a href="#">CHT3-15XB-H-TGSR</a>	\$128.00		Static				Hand Symbol					<a href="#">PDF</a>										
<a href="#">CHT3-15XP-29-TGSR</a>	\$118.00		Dynamic			START	Semi-automatic		4-pole			START	No	4-pole	CE, CSA	0.21	<a href="#">PDF</a>					
<a href="#">CHT3-15XP-29-TGSR</a>	\$118.00		Static			START						<a href="#">PDF</a>										
<a href="#">CHT3-15XP-30-TGSR</a>	\$118.00		Dynamic			-						<a href="#">PDF</a>										
<a href="#">CHT3-15XP-30-TGSR</a>	\$118.00		Static			-						<a href="#">PDF</a>										
<a href="#">CHT3-15XP-H-TGSR</a>	\$118.00		Dynamic			Hand Symbol						<a href="#">PDF</a>										
<a href="#">CHT3-15XP-H-TGSR</a>	\$118.00		Static			Hand Symbol						<a href="#">PDF</a>										
<a href="#">CHT4-25XB-29-TGSR</a>	\$163.00		Dynamic			Manual	60.0 mm		100.0 mm			Manual		START			No	5-pole	CE, CSA	0.21	<a href="#">PDF</a>	
<a href="#">CHT4-25XB-30-TGSR</a>	\$163.00													-							<a href="#">PDF</a>	
<a href="#">CHT4-25XB-H-TGSR</a>	\$163.00	Hand Symbol		<a href="#">PDF</a>																		
<a href="#">CHT4-25XP-29-TGSR</a>	\$128.00	START		Semi-automatic	4-pole			START		No	4-pole			CE, CSA							0.21	<a href="#">PDF</a>
<a href="#">CHT4-25XP-30-TGSR</a>	\$128.00	-						<a href="#">PDF</a>														
<a href="#">CHT4-25XP-H-TGSR</a>	\$128.00	Hand Symbol						<a href="#">PDF</a>														
<a href="#">CHT4-25XP-H-TGSR</a>	\$128.00	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>	\$23.00	Red	
<a href="#"><u>AR3-1X1</u></a>	\$23.00	Green	
<a href="#"><u>AR3-1X5</u></a>	\$23.00	Yellow	
<a href="#"><u>AR3-1X6</u></a>	\$23.00	Black	

AR4 Cover Ring (Fits All CHT4 Switches)			
Part Number	Price	Color	Image
<a href="#"><u>AR4-BX0</u></a>	\$23.00	Red	
<a href="#"><u>AR4-BX1</u></a>	\$23.00	Green	
<a href="#"><u>AR4-BX5</u></a>	\$23.00	Yellow	
<a href="#"><u>AR4-BX6</u></a>	\$23.00	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>	\$71.00	Red/green	Plastic And Stainless Steel	24VDC [21.6~26.4 V]	Max 400mA	Max 20mA @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>	\$48.00		Plastic And Aluminum							0.05	<a href="#">PDF</a>
<a href="#"><u>CML1-158-30</u></a>	\$74.00	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>	\$49.00		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
<a href="#"><u>CHT1</u></a>	10–30 VDC	PNP-N.O.	Continuous when actuated	Max 400mA	Max 20mA @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
<a href="#"><u>CHT12</u></a>			Toggle						
<a href="#"><u>CHTX-XXXX-XX-TGSR</u></a>	24VDC (21.6–26.4 V)		Approx. 300ms		Max 30mA @24V	-30 to 80°C [-22 to 176°F]	-35 to 85°C [-31 to 185°F]		
<a href="#"><u>CHTX-XXXX-XX-TGSRS</u></a>			Continuous when actuated			0 to 55°C [32 to 131°F]			