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Different designs, installation depths and mounting types enable the versatile use of the CHT1 series.

Depending on the application, select the SENSORswitch with the appropriate profile: Flush, flat or with raised housing ring. The compact, wear-free and vandal-proof design of CAPTRON's CHT1 SENSORswitches is ideal for use in potentially harsh environments such as machine control, door and access control.

In accordance with the requirements of DIN EN 1672-2, the hygienic stainless steel SENSORswitches with edgeless housing ring from the CHT1 series are suitable for applications in the health care sector and in food technology. Depending on requirements, the CHT1 SENSORswitches can also be supplied with a transistor output or a relay output.

Please find below the most important features listed:

- Ø 22,5 mm mounting hole required
- total diameter between 28,5mm und 40mm (depending on variant)
- Ø 20 mm switch surface
- Height between 6,5mm and 10mm
- Hygienic design (depending on variant) according to DIN EN 1672-1/2
- Feedback - optical signals through two LED colour rings
- Impact-resistant - vandal-proof
- 100 % water & oil-proof - IP69K
- Durable service life – More than 100 million switching cycles (depending on variant)
- Switches on touch - high operating comfort, no pressure necessary

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT1 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Relay Output: Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24 V (19,2 ... 28V)	Voltage drop:	max. 30 mA at 24V DC
Load current:	Max. 400 mA / DC 48 V	Operation temperature:	-30 ... +70°C
Output:	Relay Normally Open (NO) / Normally Closed (NC)	Degree of protection (IP)	Frontside IP69K
Output signal:	Permanent signal (Option „Static“)	Type of operation	Capacitive
Reverse polarity protection:	+VDC and 0V	Operation force:	No operation force required
Short-circuit protection:	No		



Configuration help CHT1 (with relay output)

Type code 1 – with standard LED colours Green / Red ¹:

C1	-	C2	C3	C4	C5	C6	-	C7	/	O1	/	O2
----	---	----	----	----	----	----	---	----	---	----	---	----

Example: CHT1 - 1 7 9 P RS - H

Type code 2 – with deviating LED colours (e.g. Blue / White) ¹:

C1	-	C2	C3	C4	C5	C6	-	C7	/	C8	-	C9	/	O1	/	O2
----	---	----	----	----	----	----	---	----	---	----	---	----	---	----	---	----

C1 - Switch type

Code	Description
CHT1	Switching output
CHT12	Toggle / Flip-Flop

C2 & C4 – Mounting / design of the housing ring ²

Code C2	Code C4	Description	
1	9	Mounting M18x1 - fixing by means of the knurled nut supplied Aluminium ring natural anodized // Total - Ø = 28,5mm	
1	G	Mounting M18x1 - fixing by means of the knurled nut supplied Aluminium ring black anodized // Total - Ø = 28,5mm	
5	9	Mounting M18x1 - fixing by means of the knurled nut supplied Protector ring aluminium natural anodized // Total - Ø = 28,5mm	
1	8	Mounting M18x1 - fixing by means of the knurled nut supplied Stainless steel ring in hygienic housing design // Total - Ø = 40mm	
T	8	Snap-in mounting (front plate thickness = min. 1.5mm) Stainless steel ring in hygienic housing design // Total - Ø = 40mm	
6	8	Mounting M18x1 - fixing by means of the knurled nut supplied Raised stainless steel ring to prevent unintentional activation // Total - Ø = 40mm	
1	8	Mounting M18x1 - fixing by means of the knurled nut supplied Stainless steel ring slim design (requires > O2!) // Total - Ø = 28,5mm	
1	X	Flush installation in a front plate - Mounting by means of locking ring (optionally available) without housing ring // Total - Ø = 26,5mm	

C3 - Type of connection ³

Code	Description
5	Connector M8 *
7	Single strands 200mm with ferrules
9	Cable + connector M12
K	Terminal block *

C5 - LED control ⁴

Code	Description
D	Automatic
P	Semi-Automatic
B	Manual

* these connection types are only available with the LED functions "D" and "P" and one relay output (Normally open OR Normally closed) ("DRS" / "DRO" / "PRS" / "PRO").

For LED function "B" and all other relay versions, only the connection types "single strands" and "cable + connector M12" are possible! (Example: BRS / BRO / DRSO / PRSO ...)

C6 – Relay output ⁵

Code	Description
RS	Relay 1x NO (Normally open)
RO	Relay 1x NC (Normally closed)
RSS	Relay 2x NO (Normally open) *
ROO	Relay 2x NC (Normally closed) *
RSO	Relay 1x NO + 1x NC (Normally Closed + Normally Open) *
RW	Relay 1x CO (Changeover) *

* These relay versions are only possible with the connection types "7 - single strands 200mm" or "9 - cable + connector M12".

C7 - Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)
28	Reset
29	Start (green on white)
64	START / STOP



For further symbols please see our Symbol list ([Link](#))*

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

LED colours: Please select only if deviating from standard design green / red! Otherwise please leave blank

C8 – LED colour LED1 (= Operating state) *

Code	Description
RD	Red
GN	Green
WH	White
BU	Blue
YW	Yellow
XX	LED1 not used

* LED colour combination only necessary if different from the standard configuration green / red!
The standard version already has the following LED configuration without separate specification: Green / Red
At least 1 LED (LED1 or LED2) must be equipped with LED colour; a configuration "XX-XX" is not possible

C9 – LED colour LED2 (= Switching state) *

Code	Description
RD	Red
GN	Green
WH	White
BU	Blue
YW	Yellow
XX	LED2 not used

O1 – Stainless steel ring design

Code	Description
CPM20	Stainless steel ring slim design (CPM20)

* Only when selecting the configuration "Mounting / Version housing ring "1 / 8" (C2 + C4) - slim design required!

O2 - Output signal:

Code	Description
CP70	Switching function "Dynamic" / approx. 300ms *

* Without mentioning the option "CP70", the CHT1 SENSORswitches are equipped with the switching function "static".

--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to 1):


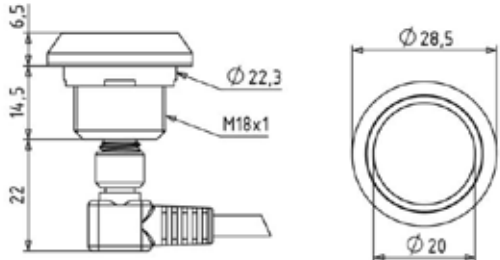

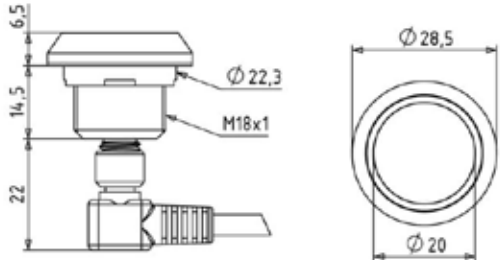

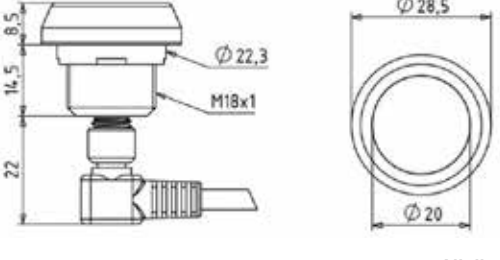
The CHT1 series SENSORswitches are equipped with LEDs in the following colours as standard

- Green (LED1 / Operating state)
- Red (LED2 / Switching state)


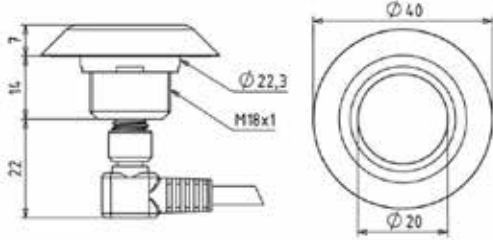

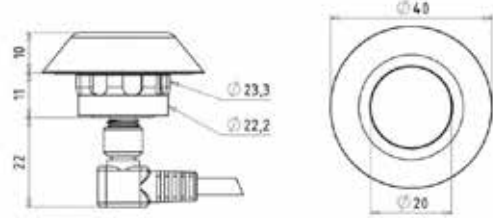

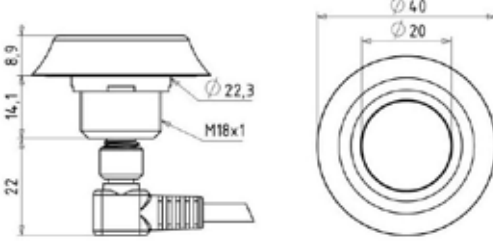

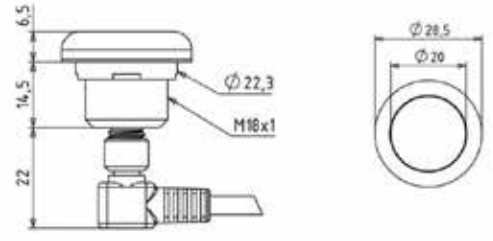
The colours are not listed in the article description for the standard version! (> [Type Code 1](#))

However, if a different LED colour configuration is required, the two LED colours must be listed in the article designation (> [Type Code 2](#)). The first specified LED colour (> C8) is illuminated in the operating state, the second specified LED colour (> C9) in the switching state (with LED control "B - Manual" both LEDs can be controlled as required).

to 2) / Design of the housing ring:

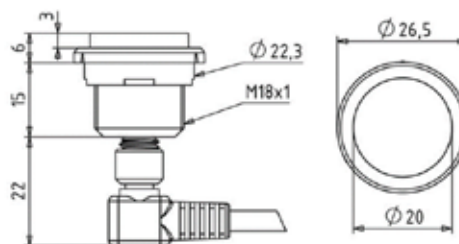
<p>„CHT1-1_9“ – Standard design Aluminium natural anodised Screw mounting with knurled nut</p> 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„CHT1-1_G“ – Standard design Aluminium black anodised Screw mounting with knurled nut</p> 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„CHT1-5_9“ – Protector design Aluminium natural anodised Screw mounting with knurled nut</p> 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>

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<p>„CHT1-1_8“ – stainless steel hygienic Stainless steel ring in wide version Screw mounting with knurled nut</p> 	 <p>All dimensions in mm</p>
<p>„CHT1-T_8“ – stainless steel Snap-In design Stainless steel ring in wide version Snap-In mounting</p> 	 <p>All dimensions in mm</p>
<p>„CHT1-6_8“ – stainless steel raised design Stainless steel ring in wide version Screw mounting with knurled nut</p> 	 <p>All dimensions in mm</p>
<p>„CHT1-1_8.../CPM20“ – stainless steel design Stainless steel ring in <i>slim</i> design Screw mounting with knurled nut</p> 	 <p>All dimensions in mm</p>

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„CHT1-1_X“ – Flush mounting
Without housing ring for front plate mounting
Assembly with optional locking ring



All dimensions in mm

to ³⁾ / Types of connection:

<p>Connector M8 („CHT1-5...“)</p> <p>3-pin 4-pin 5-pin</p>	<p>Cable + Connector M12 („CHT1-9...“)</p> <p>8-pin</p>
<p>Terminal block („CHT1-K...“)</p> <p>5-pin</p>	<p>Single strands 200mm („CHT1-7...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>3-pin 4-pin 5-pin 6-pin 7-pin 8-pin</p>

to ⁴⁾ / LED control & connection diagram:

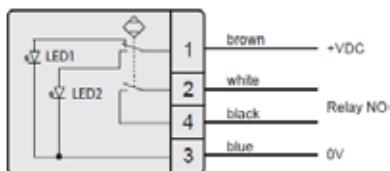
- | | |
|---|--|
| <p>LED control</p> <ul style="list-style-type: none"> - Automatic (D): - Semi-Automatic (P): - Manual (B): | <p>LED1 (= e.g. green) lights up in operating state.
When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up.</p> <p>LED1 (e.g. green / operating state) can be controlled separately.
When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.</p> <p>Both LED1 and LED2 can be controlled separately as required.</p> |
|---|--|

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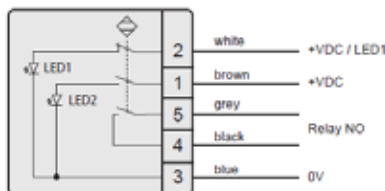
to 5) / Connection diagram

Connection diagram – RELAY OUTPUT:

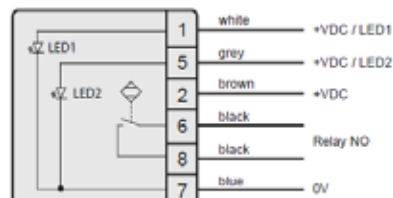
Relay 1x NO (Normally open)



Connection diagram „DRS“
Automatic / Relay 1x NO (4-pin)

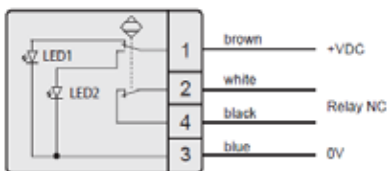


Connection diagram „PRS“
Semi-Automatic / Relay 1x NO (5-pin)

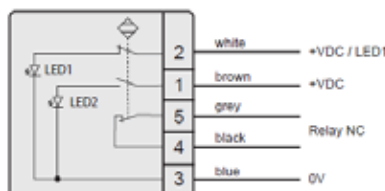


Connection diagram „BRS“
Manual / Relay 1x NO (6-pin)

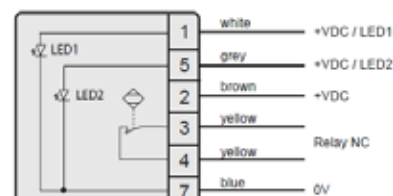
Relay 1x NC (Normally Closed)



Connection diagram „DRO“
Automatic / Relay 1x NC (4-pin)

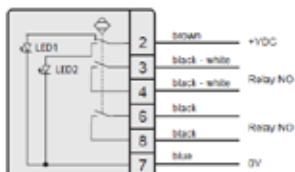


Connection diagram „PRO“
Semi-Automatic / Relay 1x NC (5-pin)

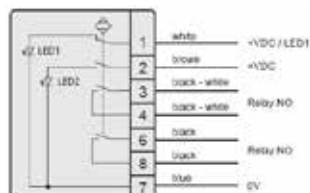


Connection diagram „BRO“
Manual / Relay 1x NC (6-pin)

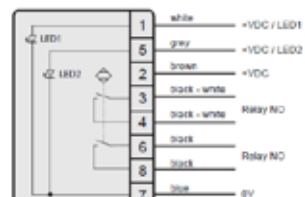
Relay 2x NO (Normally Open)



Connection diagram „DRSS“
Automatic / Relay 2x NO (6-pin)

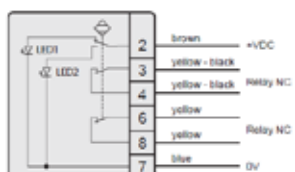


Connection diagram „PRSS“
Semi-Automatic / Relay 2x NO (7-pin)

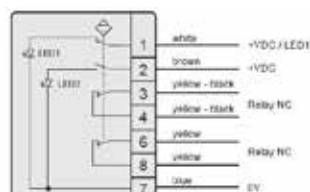


Connection diagram „BRSS“
Manual / Relay 2x NO (8-pin)

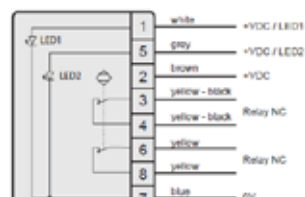
Relay 2x NC (Normally Closed)



Connection diagram „DROO“
Automatic / Relay 2x NC (6-pin)



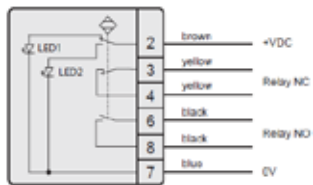
Connection diagram „PROO“
Semi-Automatic / Relay 2x NC (7-pin)



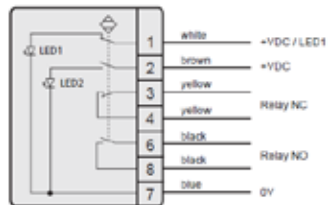
Connection diagram „BROO“
Manual / Relay 2x NC (8-pin)

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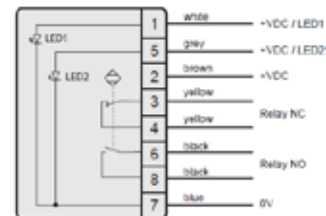
Relay 1x NO & 1x NC (Normally Open / Normally Closed)



Connection diagram „DRSO“
Automatic / Relay 1x NO + 1x NC (6- pin)

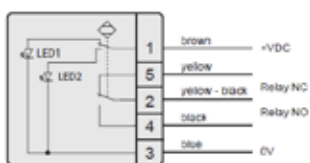


Connection diagram „PRSO“
Semi-Automatic / Relay 1x NO + 1x NC (7- pin)

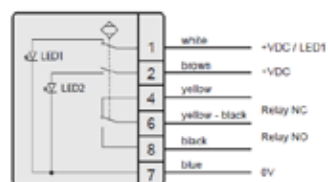


Connection diagram „BRSO“
Manual / Relay 1x NO + 1x NC (8- pin)

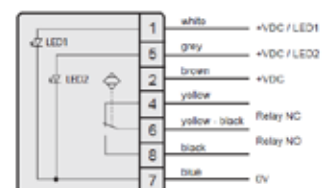
Relay 1x CO (Changeover)



Connection diagram „DRW“
Automatic / Relay 1x CO (5- pin)



Connection diagram „PRW“
Semi-Automatic / Relay 1x CO (6- pin)



Connection diagram „BRW“
Manual / Relay 1x CO (7- pin)

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help CHT with transistor output \(Page 2 + 3\)](#)
[Additional information / Connection diagram \(Page 4 - 8\)](#)



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In accordance with the requirements of DIN EN 1672-2, the hygienic stainless steel SENSORswitches with edgeless housing ring from the CHT1 series are suitable for applications in the health care sector and in food technology. Depending on requirements, the CHT1 SENSORswitches can also be supplied with a transistor output or a relay output.

Please find below the most important features listed:

- Ø 22,5 mm mounting hole required
- total diameter between 28,5mm und 40mm (depending on variant)
- Ø 20 mm switch surface
- Height between 6,5mm and 10mm
- Hygienic design (depending on variant) according to DIN EN 1672-1/2
- Feedback - optical signals through two LED colour rings
- Impact-resistant - vandal-proof
- 100 % water & oil-proof - IP69K
- Durable service life – More than 100 million switching cycles operation cycles (transistor output)
- Switches on touch - high operating comfort, no pressure necessary

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT1 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

TRANSISTOR OUTPUT: Technical data at 24 V and 20 °C:			
Supply voltage:	10 ... 30 V DC	Voltage drop:	max. 2 V at 200 mA
Load current:	Max. 200 mA	Current consumption:	max. 20 mA at 24V DC
Output:	PNP-NO (<i>NPN-NO optional</i>)	Operation temperature:	-30 ... +70°C
Output signal:	ca. 300ms (Option „Dynamic“)	Degree of protection (IP)	Frontside IP69K
	Permanent signal (Option „Static“)	Type of operation	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required
Short-circuit protection:	Short-circuit and overload protection		



Configuration help CHT1 (with transistor output)

Type code 1 – with standard LED colours Green / Red ¹:

C1	-	C2	C3	C4	C5	-	C6	/	O1	/	O2
----	---	----	----	----	----	---	----	---	----	---	----

Example: CHT1 - 1 5 9 P - H

Type code 2 – with deviating LED colours (e.g. Blue / White) ¹:

C1	-	C2	C3	C4	C5	-	C6	/	C7	-	C8	/	O1	/	O2
----	---	----	----	----	----	---	----	---	----	---	----	---	----	---	----

C1 - Switch type

Code	Description
CHT1	Switching output
CHT12	Toggle / Flip-Flop

C2 & C4 – Mounting / design of the housing ring ²

Code C2	Code C4	Description
1	9	Mounting M18x1 - fixing by means of the knurled nut supplied Aluminium ring natural anodized // Total - Ø = 28,5mm
1	G	Mounting M18x1 - fixing by means of the knurled nut supplied Aluminium ring black anodized // Total - Ø = 28,5mm
5	9	Mounting M18x1 - fixing by means of the knurled nut supplied Protector ring aluminium natural anodized // Total - Ø = 28,5mm
1	8	Mounting M18x1 - fixing by means of the knurled nut supplied Stainless steel ring in hygienic housing design // Total - Ø = 40mm
T	8	Snap-in mounting (front plate thickness = min. 1.5mm) Stainless steel ring in hygienic housing design // Total - Ø = 40mm
6	8	Mounting M18x1 - fixing by means of the knurled nut supplied Raised stainless steel ring to prevent unintentional activation // Total - Ø = 40mm
1	8	Mounting M18x1 - fixing by means of the knurled nut supplied Stainless steel ring slim design (requires > O2!) // Total - Ø = 28,5mm
1	X	Flush installation in a front plate - Mounting by means of locking ring (optionally available) without housing ring // Total - Ø = 26,5mm



C3 - Type of connection ³

Code	Description
5	Connector M8
7	Single strands 200mm with ferrules
9	Cable + connector M12
K	Terminal block

C5 - LED control ^{4/5} / Number of pins / Transistor output

Code	Description
D	Automatic / 3-pin / PNP- NO (Normally open)
DO	Automatic / 3-pin / PNP- NC (Normally closed)
P	Semi-Automatic / 4-pin / PNP- NO (Normally open)
PO	Semi-Automatic / 4-pin / PNP- NC (Normally closed)
B	Manual / 5-pin / PNP- NO (Normally open)
BO	Manual / 5-pin / PNP- NC (Normally closed)
F	Automatic / 3-pin / NPN-NO * (Normally open)

* only available with the switching function „CP70 – Dynamic“ (> O2)!

C6 - Symbol on switch surface

Code	Description
------	-------------

30	White surface
----	---------------

H	Hand (green on white)
---	-----------------------

29	Start (green on white)
----	------------------------



For further symbols please see our [Symbol list \(Link\)](#) *

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

LED colours: Please select only if deviating from standard design green / red! Otherwise please leave blank

C7 - LED colour LED1 (= Operating state) *

Code	Description
------	-------------

RD	Red
----	-----

GN	Green
----	-------

WH	White
----	-------

BU	Blue
----	------

YW	Yellow
----	--------

XX	LED1 not used
----	---------------



C8 - LED colour LED2 (= Switching state) *

Code	Description
------	-------------

RD	Red
----	-----

GN	Green
----	-------

WH	White
----	-------

BU	Blue
----	------

YW	Yellow
----	--------

XX	LED2 not used
----	---------------



* LED colour combination only necessary if different from the standard configuration green / red!
The standard version already has the following LED configuration without separate specification: Green / Red
At least 1 LED (LED1 or LED2) must be equipped with LED colour; a configuration "XX-XX" is not possible!

O1 - Stainless steel ring design

Code	Description
------	-------------

CPM20	Stainless steel ring narrow design (CPM20)
-------	--

* Only when selecting the configuration "Mounting / Version housing ring "1 / 8" (C2 + C4) - slim design required!

O2 - Output signal:

Code	Description
------	-------------

CP70	Switching function "Dynamic" / approx. 300ms *
------	--

* Without mentioning the option "CP70", the CHT1 SENSORswitches are equipped with the switching function "static".

--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to 1):


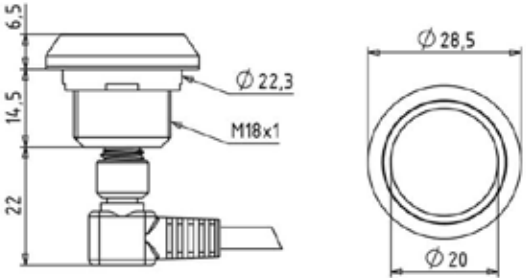

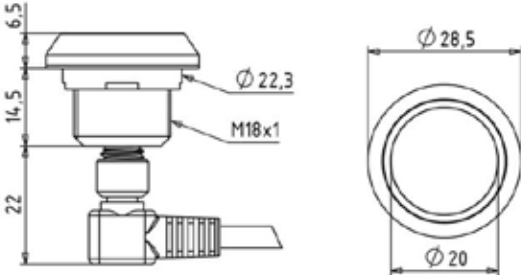

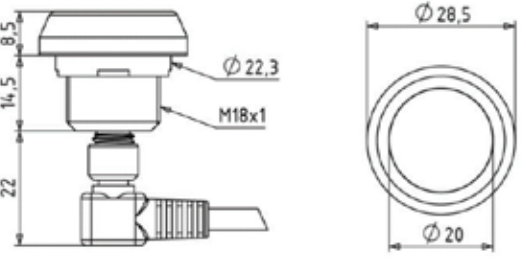
The CHT1 series SENSORswitches are equipped with LEDs in the following colours as standard

- Green (LED1 / Operating state)
- Red (LED2 / Switching state)


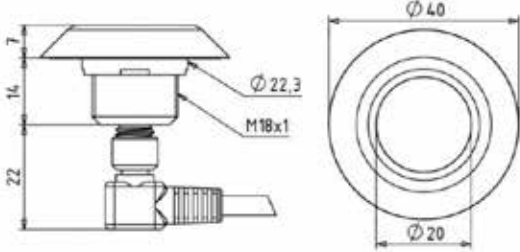

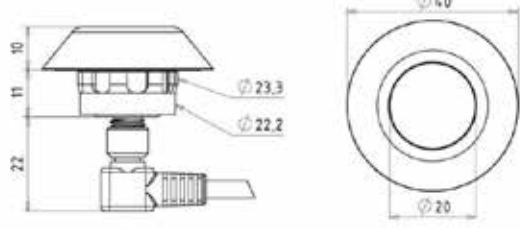

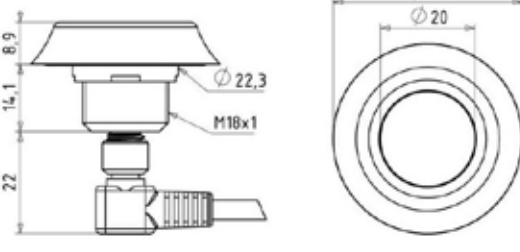

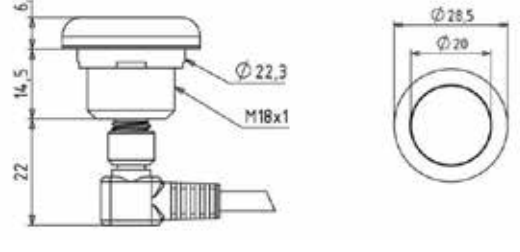
The colours are not listed in the article description for the standard version! (> **Type Code 1**)

However, if a different LED colour configuration is required, the two LED colours must be listed in the article designation (> **Type Code 2**). The first specified LED colour (> C8) is illuminated in the operating state, the second specified LED colour (> C9) in the switching state (with LED control "B - Manual" both LEDs can be controlled as required).

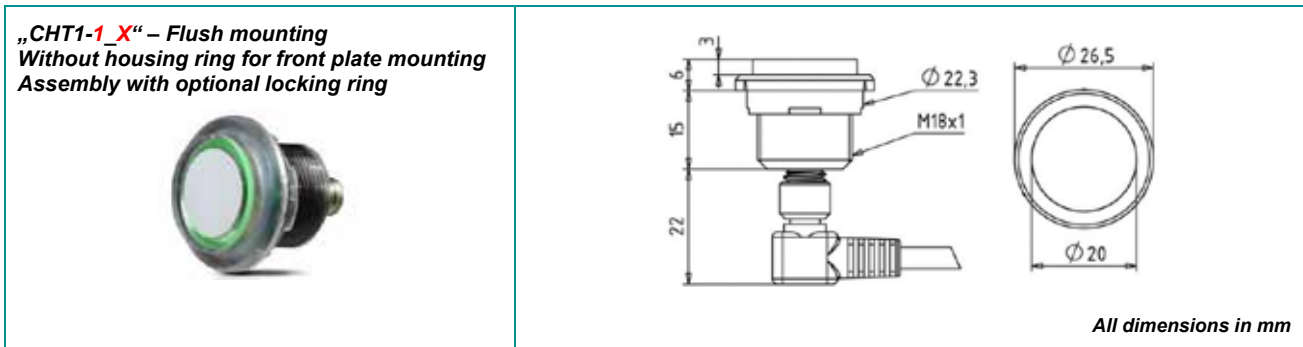
to 2) / Design of the housing ring:

<p>„CHT1-1_9“ – Standard design Aluminium natural anodised Screw mounting with knurled nut</p> 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„CHT1-1_G“ – Standard design Aluminium black anodised Screw mounting with knurled nut</p> 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„CHT1-5_9“ – Protector design Aluminium natural anodised Screw mounting with knurled nut</p> 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>

--- PLEASE TURN OVER ---

<p>„CHT1-1_8“ – stainless steel hygienic Stainless steel ring in wide version Screw mounting with knurled nut</p> 	 <p style="text-align: right;">All dimensions in mm</p>
<p>„CHT1-T_8“ – stainless steel Snap-In design Stainless steel ring in wide version Snap-In mounting</p> 	 <p style="text-align: right;">All dimensions in mm</p>
<p>„CHT1-6_8“ stainless steel – raised design Stainless steel ring in wide version Screw mounting with knurled nut</p> 	 <p style="text-align: right;">All dimensions in mm</p>
<p>„CHT1-1_8.../CPM20“ – stainless steel design Stainless steel ring in <u>slim</u> design Screw mounting with knurled nut</p> 	 <p style="text-align: right;">All dimensions in mm</p>

--- PLEASE TURN OVER ---



to 3) / Types of connection:

<p>Connector M8 („CHT1-_5_...“)</p> <p style="text-align: center;">3-polig 4-polig 5-polig</p>	<p>Cable + Connector M12 („CHT1-_9_...“)</p> <p style="text-align: center;">8-polig</p>
<p>Terminal block („CHT1-_K_...“)</p> <p style="text-align: center;">5-polig</p>	<p>Single strands 200mm („CHT1-_7_...“)</p> <p style="text-align: center;"><i>Single strands 200mm with ferrules</i> <i>(Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</i></p> <p style="text-align: center;">3-pin 4-pin 5-pin</p>

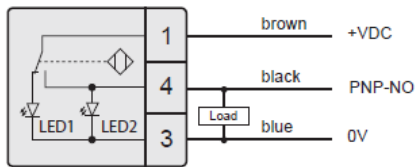
to 4) / LED control & connection diagram:

<p>LED control</p> <ul style="list-style-type: none"> - Automatic (D): - Semi-Automatic (P): - Manual (B): 	<p>LED1 (= e.g. green) lights up in operating state. When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up.</p> <p>LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.</p> <p>Both LED1 and LED2 can be controlled separately as required.</p>
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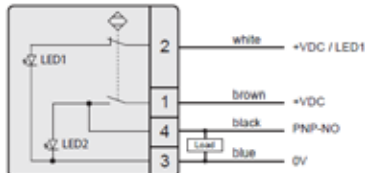
- - - PLEASE TURN OVER - - -

to 5) / **Connection diagram**

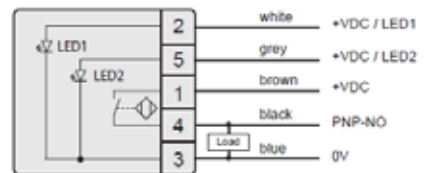
Connection diagram – TRANSISTOR OUTPUT:



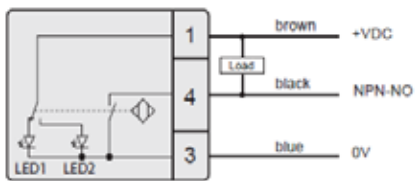
Connection diagram „D“
PNP-NO // Automatic (3-pin)



Connection diagram „P“
PNP-NO // Semi-Automatic (4-pin)



Connection diagram „B“
PNP-NO // Manual (5-pin)



Connection diagram „F“
NPN-NO // Automatic (3-pin)

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.



Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 - 5\)](#)

Different shapes, installation depths and plug-in connections mean that the CHT3 series is suitable for a wide range of uses.

The CHT3-1 or CHT3-2 series has a glass fibre-reinforced coloured cover ring and is attached to smooth surfaces (e.g. walls / tables) by screw mounting.

According to the requirements of TSI-PRM for persons with reduced mobility, the certified CHT3 switches are suitable for the traffic and transport industry. The coloured cover ring is available with Braille or raised pictograms. The SENSORswitches can be ordered in addition to the visual feedback by 16 bright LEDs with signal tone and/or tactile feedback (vibration).

Their field of application includes installation in buses and trains as well as for emergency call and information pillars.

Please find below the most important features listed:

- Ø 88 mm total diameter
- Ø 50 - 58 mm mounting hole required
- 7mm height
- TSI-PRM compliant: Pictograms and braille available; optical feedback through LEDs
- A- / V-mounting
- Customization through symbols and colours of the cover ring
- Optional: Tactile feedback (Vibration) / acoustical feedback (signal tone)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT3 series for the required specifications and applications.

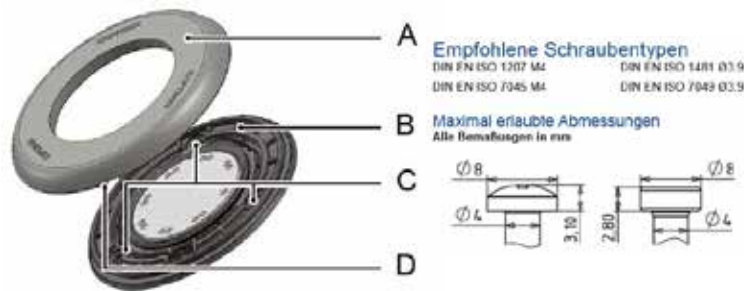
Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Legend:

- (A) = Coloured cover ring
- (B) = Mounting flange
- (C) = Mounting holes
- (D) = Groove on the back of the coloured cover ring

Übersichtsgrafik



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V DC (16,8 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO (NPN-NO optional)	Current consumption:	max. 30 mA at 24V DC
Output signal:	approx. 300ms (Option „Dynamic“) Permanent signal (Option „Static“)	Operation temperature:	-30 ... +80°C (Dynamic) 0 ... +55°C (Static)
LED 1:	8 green LEDs	Degree of protection (IP):	Frontside IP69K
LED 2:	8 red LEDs	Type of operation:	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required



Configuration help CHT3-1 / CHT3-2 (STANDARD)

Type code 1 – with output signal Dynamic ¹:

CHT3	-	C1	C2	C3	C4	O1	-	C5	/	-	C6	/	O2
------	---	-----------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	-----------

Example: CHT3 - 1 5 1 P - H / TG - SR

Type code 2 – with output signal Static ¹:

CHT3	-	C1	C2	C3	C4	O1	-	C5	/	-	C6	/	ST	/	O2
------	---	-----------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	----	---	-----------

C1 – Mounting / version of the coloured cover ring ²

Code	Description
1	A-mounting / Standard coloured cover ring
A	A-mounting / TSI-PRM compliant cover ring
2	V-mounting / Standard coloured cover ring
V	V-mounting / TSI-PRM compliant cover ring
N	A-mounting / cover ring „INFO“ version *
S	A-mounting / cover ring „SOS“ version *

* only available in colours Traffic red and Traffic yellow!

C2 – Type of connection ⁴

Code	Description
1	Cable + connector AMP 6,3 (Pin-assignment: 1-2-4-3) *
4	Cable + connector AMP 6,3 (Pin-assignment: 1-4-2-3) *
5	Connector M8
6	Connector JST
7	Single strands 200mm with ferrules
8	Connector M12

* only available with the LED function "Semi-Automatic (4-pin)"!

C3 – Colour of the coloured cover ring

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
4	Light grey (RAL 7035)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
H	Traffic blue (RAL 5017)	
8	Stainless steel *	

* Material = stainless steel; requires additional option „O2“!

C4 – LED control ³ / Numbers of pins / Output

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO
B	Manual / 5-pin / PNP-NO
N	Semi-Automatic / 4-pin / NPN-NO *
-	-
-	-
-	-
-	-

* currently only available with connection type "5 - connector M8"!

O1 – Option 1 / Acoustic and tactile feedback

Code	Description	
S	Acoustic feedback (signal tone)	
V	Tactile feedback (vibration) *	
SV	acoustic + tactile feedback *	

* only available with connection type „7 – single strands“ (LED control „P“ / „B – Manual“) or „5 – connector M8“ (LED control „P – Semi-Automatic“)

C5 – Symbol on switch surface

Code	Description	
30	White surface	
H	Hand (green on white)	

For further symbols please see our Symbol list ([Link](#)) *

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - Standard	
TG-YW	Green (LED1) / Yellow (LED2)	
BU-SR	Blue (LED1) / Red (LED2)	

O2 – Version of stainless steel ring (with selection „8“ for C3)

Code	Description
CP161-2	with 3x lettering „CAPTRON“ ²


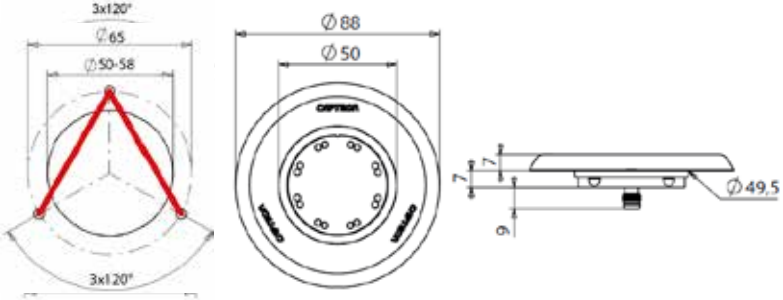

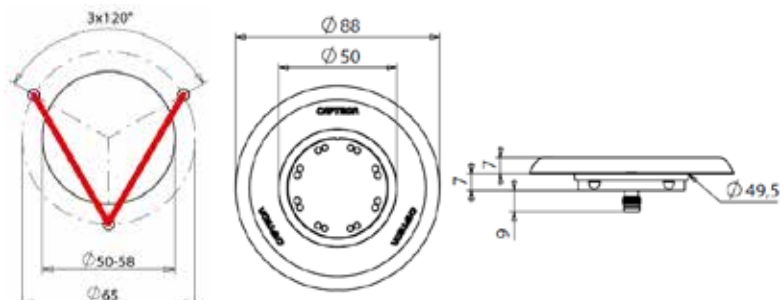

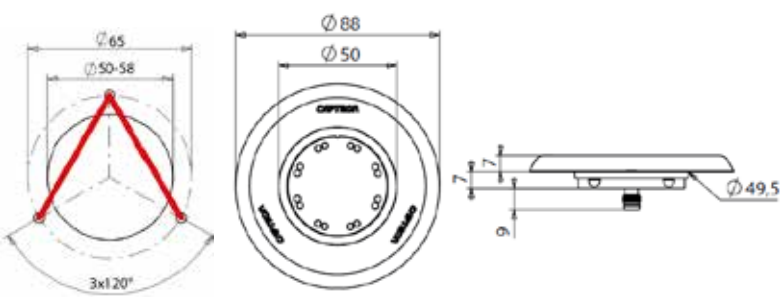
--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:


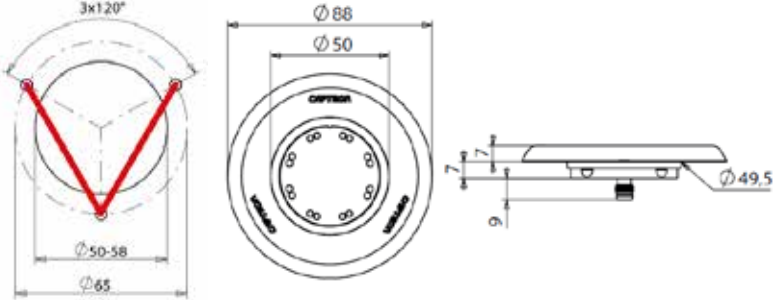

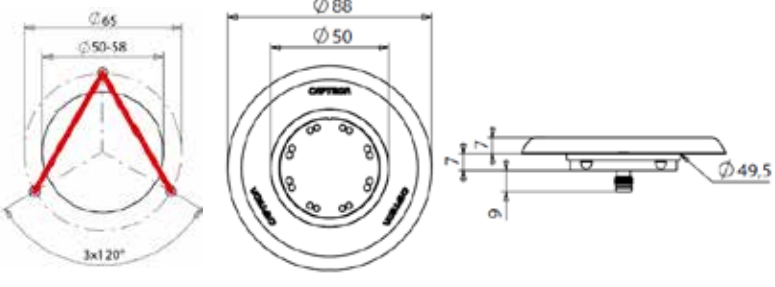

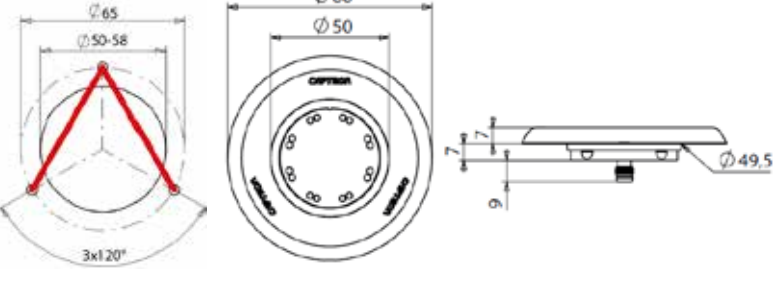

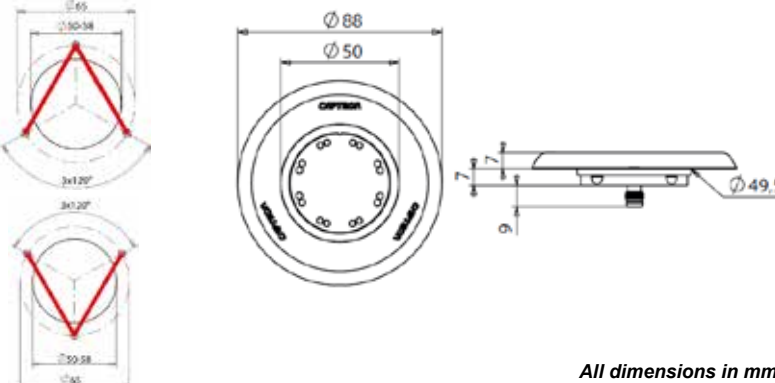
to 1):

- Output signal**
- **Dynamic:** The output signal is time-limited to 300ms, independent of the duration of actuation.
 - **Static:** The SENSORswitch switches as long as the switch surface is touched (= permanent signal).

to 2) / Version of coloured cover ring:

<p>„1“ - Standard version, A-mounting</p>  <ul style="list-style-type: none"> - 3x lettering „CAPTRON“ 	 <p>Hole pattern (A-mounting)</p> <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„2“ - Standard version; V-mounting</p>  <ul style="list-style-type: none"> - 3x lettering „CAPTRON“ 	 <p>Hole pattern (V-mounting)</p> <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„A“ - TSI-PRM compliant, A-mounting</p>  <ul style="list-style-type: none"> - 3x tactile Pictograms „<“ - 3x Braille „OPEN“ 	 <p>Hole pattern (A-mounting)</p> <p style="text-align: right;"><i>All dimensions in mm</i></p>

--- PLEASE TURN OVER ---

<p>„V“ – TSI-PRM compliant, V-mounting</p>  <ul style="list-style-type: none"> - 3x tactile Pictograms „<>“ - 3x Braille „OPEN“ 	 <p>Hole pattern (V-mounting)</p> <p>All dimensions in mm</p>
<p>„N“ - „INFO“-cover ring; A-mounting</p>  <ul style="list-style-type: none"> - 3x tactile Pictograms „i“ - 3x Brailleschrift „INFO“ 	 <p>Hole pattern (A-mounting)</p> <p>All dimensions in mm</p>
<p>„S“ - „SOS“-cover ring; A-mounting</p>  <ul style="list-style-type: none"> - 3x tactile Pictograms „SOS“ - 3x Brailleschrift „SOS“ 	 <p>Hole pattern (A-mounting)</p> <p>All dimensions in mm</p>
<p>„CP161-2“ - „stainless steel ring „CAPTRON“ A- or V-mounting</p>  <ul style="list-style-type: none"> - 3x lettering „CAPTRON“ 	 <p>All dimensions in mm</p>

to 3) / LED control & connection diagrams:

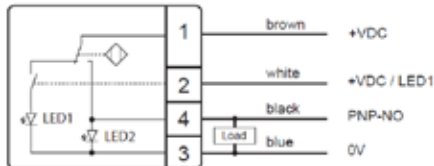
LED-control - Semi-Automatic (P / N):

LED1 (e.g. green / operating status) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching status) lights up

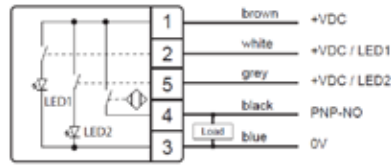
- Manual (B):

Both LED1 and LED2 can be controlled separately as required.

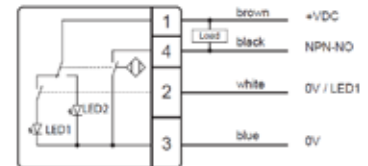
Connection diagrams:



Connection diagram „P“
PNP-NO // Semi-Automatic



Connection diagram „B“
PNP-NO // Manual



Connection diagram „N“
NPN-NO // Semi-Automatic

to 4) / Types of connection:

<p>Connector M8 („CHT3-5...“)</p> <p>4-pin 5-pin</p>	<p>Connector JST („CHT3-6...“)</p> <p>4-pin 5-pin</p>
<p>Connector AMP („CHT3-4...“)</p> <p>4-pin 4-pin</p>	<p>Single strands 200mm („CHT3-7...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>4-pin 5-pin</p>
<p>Connector M12 („CHT3-8...“)</p> <p>4-pin 5-pin</p>	

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Version 2.0 data status: 02.09.2021

Configuration help for SENSORswitch series CHT3-4

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

Different shapes, installation depths and plug-in connections mean that the CHT3 series is suitable for a wide range of uses.

The CHT3-4 series has been developed for mounting = Ø 22.5mm. So this SENSORswitch series can be installed in Siemens or Möller housings, for example. The mounting is done by a knurled nut which is included in the delivery.

The main area of application for the CHT3-4 SENSORswitch series is mechanical engineering and plant building.

The customer can choose from a wide range of available symbols for the switch surface (symbol list: [Link](#)). In addition to the optical feedback by 16 bright LEDs, the SENSORswitches can be ordered with a tactile feedback by vibration.

Please find below the most important features listed:

- Ø 50 mm total diameter
- For 22,5mm mounting holes
- M18x1 knurled nut mounting
- 25mm height
- Customization through symbols
- Optional: Tactile feedback (Vibration)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT3 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V DC (16,8 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO (<i>NPN-NO optional</i>)	Current consumption:	max. 30 mA at 24V DC
Output signal:	approx. 300ms (Option „Dynamic“) Permanent signal (Option „Static“)	Operation temperature:	-30 ... +80°C (Dynamic) 0 ... + 55°C (Static)
LED 1:	8 green LEDs	Degree of protection (IP):	Frontside IP69K
LED 2:	8 red LEDs	Type of operation:	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required



Configuration help CHT3-4

Type code 1 – with output signal Dynamic ¹:

CHT3	-	C1 4	C2	C3 6	C4	O1	-	C5	/	-	C6
Example: CHT3 - 4 5 6 P - H / TG - SR											

Type code 2 – with output signal Static ¹:

CHT3	-	C1 4	C2	C3 6	C4	O1	-	C5	/	-	C6	/	ST
------	---	----------------	-----------	----------------	-----------	-----------	---	-----------	---	---	-----------	---	----


C1 – Mounting ²

Code	Description
4	Ø 60mm, M18 thread; for mounting Ø 22.5mm
-	-
-	-
-	-

C2 – Type of connection ⁴

Code	Description
5	Connector M8
7	Single strands 200mm with ferrules
8	Connector M12
-	-

C3 – Colour of housing


Code	Description
6	Traffic black (RAL 9017) 
-	-
-	-
-	-

C4 – LED control ³ / Numbers of pins / Output

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO
B	Manual / 5-pin / PNP-NO
N	Semi-Automatic / 4-pin / NPN-NO*
-	-


 * currently only available with connection type "5 - connector M8"!

O1 – Option 1 / Tactile feedback


Code	Description
V	Tactile feedback (vibration) * 
-	-
-	-


C5 – Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)







For further symbols please see our Symbol list ([Link](#))*

 * only available with connection type „7 – single strands“ (LED control „P“ / „B – Manual“) or „5 – connector M8“ (LED control „P - Semi-Automatic“)

 * all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i> 
TG-YW	Green (LED1) / Yellow (LED2) * 
BU-SR	Blue (LED1) / Red (LED2) * 

 * currently only available with the LED control "Semi-Automatic" as standard!

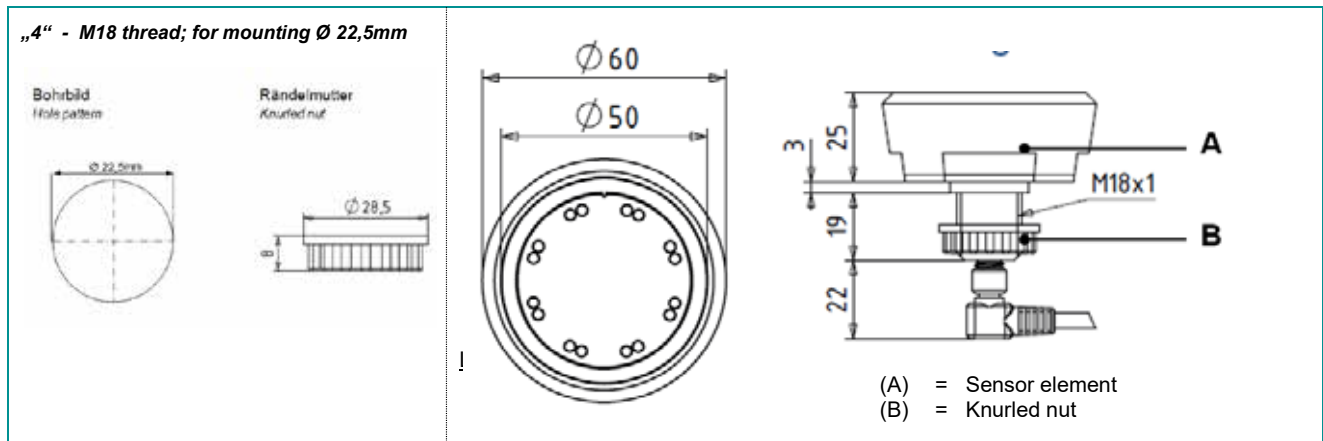
- - - Please note the additional information and explanations on the following pages. Thank you! - - -

Additional information & explanations on the previously described configuration items:

to ¹⁾:

- Output signal**
- **Dynamic:** The output signal is time-limited to 300ms, independent of the duration of actuation.
 - **Static:** The SENSORswitch switches as long as the switch surface is touched (= permanent signal).

to ²⁾ / **Mounting & dimensions**



to ³⁾ / **LED control & connection diagrams:**

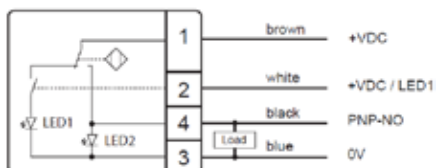
LED-control - **Semi-Automatic (P / N):**

LED1 (e.g. green / operating state) can be controlled separately.
When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up

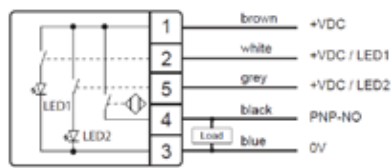
- **Manual (B):**

Both LED1 and LED2 can be controlled separately as required.

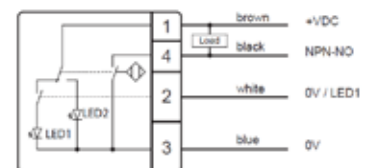
Connection diagram:



Connection diagram „P“
PNP-NO // Semi-Automatic



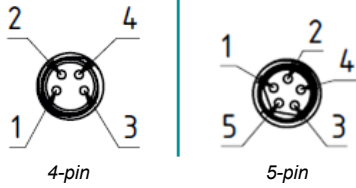
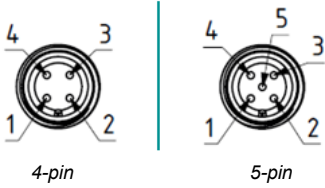
Connection diagram „B“
PNP-NO // Manual



Connection diagram „N“
NPN-NO // Semi-Automatic

--- PLEASE TURN OVER ---

to ⁴⁾ / Types of connection:

<p>Connector M8 („CHT3-5_...“)</p>  <p style="text-align: center;">4-pin 5-pin</p>	<p>Connector M12 („CHT3-8_...“)</p>  <p style="text-align: center;">4-pin 5-pin</p>
<p>Single strands 200mm („CHT3-7_...“)</p> <p style="text-align: center;"><i>Single strands 200mm with ferrules</i></p> <p style="text-align: center;"><i>(Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</i></p> <p style="text-align: center;">4-pin 5-pin</p>	

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

Different shapes, installation depths and plug-in connections mean that the CHT3 series is suitable for a wide range of uses.

The CHT3-4 series has been developed for mounting = Ø 22.5mm. So, this SENSORswitch series can be installed in Siemens or Möller housings, for example. The mounting is done by a knurled nut which is included in the delivery. The protective collar ("Protector") prevents unintentional activation.

The main area of application for the CHT3-4 SENSORswitch series is mechanical engineering and plant building.

The customer can choose from a wide range of available symbols for the switch surface (symbol list: [Link](#)). In addition to the optical feedback by 16 bright LEDs, the SENSORswitches can be ordered with a tactile feedback by vibration.

Please find below the most important features listed:

- Ø 50 mm total diameter
- For 22,5mm mounting holes
- M18x1 knurled nut mounting
- Protector against unintended activation
- 55mm height
- Customization through symbols
- Optional: Tactile feedback (Vibration)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT3 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V DC (16,8 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO (<i>NPN-NO optional</i>)	Current consumption:	max. 30 mA at 24V DC
Output signal:	approx. 300ms (Option „Dynamic“) Permanent signal (Option „Static“)	Operation temperature:	-30 ... +80°C (Dynamic) 0 ... +55°C (Static)
LED 1:	8 green LEDs	Degree of protection (IP):	Frontside IP69K
LED 2:	8 red LEDs	Type of operation:	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required



Configuration help CHT3-5

Type code 1 – with output signal Dynamic ¹:

CHT3	-	C1 5	C2 5	C3 6	C4 P	O1	-	C5 H	/	TG	-	C6 SR
------	---	----------------	----------------	----------------	----------------	-----------	---	----------------	---	----	---	-----------------

Example: CHT3 - 5 5 6 P - H / TG - SR

Type code 2 – with output signal Static ¹:

CHT3	-	C1 5	C2 5	C3 6	C4 P	O1	-	C5 H	/	TG	-	C6 SR	/	ST
------	---	----------------	----------------	----------------	----------------	-----------	---	----------------	---	----	---	-----------------	---	----

C1 – Mounting ²

Code	Description
5	Ø 60mm, M18 thread; for mounting Ø 22.5mm with protection collar
-	-
-	-

C2 – Type of connection ⁴


Code	Description
5	Connector M8
7	Single strands 200mm with ferrules
8	Single strands 200mm with ferrules
-	-

C3 – Colour of housing


Code	Description
6	Traffic black (RAL 9017) 
-	-
-	-
-	-


C4 – LED control ³ / Numbers of pins / Output

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO
B	Manual / 5-pin / PNP-NO
N	Semi-Automatic / 4-pin / NPN-NO*
-	-



 * currently only available with connection type "5 - connector M8"!




O1 – Option 1 / Tactile feedback


Code	Description
V	Tactile feedback (vibration) * 
-	-
-	-

 * only available with connection type „7 – single strands“ (LED control „P“ / „B – Manual“) or „5 – connector M8“ (LED control „P - Semi-Automatic“)




C5 – Symbol on switch surface


Code	Description
30	White surface 
H	Hand (green on white) 

For further symbols please see our Symbol list ([Link](#)) *   

 * all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - Standard 
TG-YW	Green (LED1) / Yellow (LED2) * 
BU-SR	Blue (LED1) / Red (LED2) * 

 * currently only available with the LED control "Semi-Automatic" as standard!

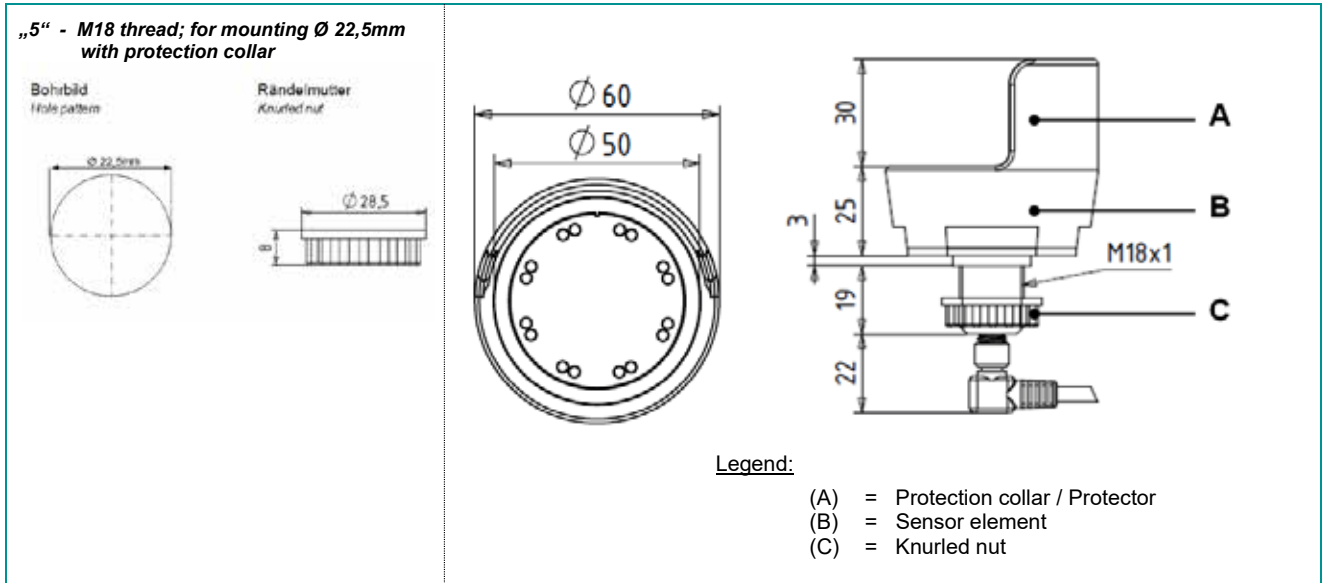
--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to 1):

- Output signal**
- **Dynamic:** The output signal is time-limited to 300ms, independent of the duration of actuation.
 - **Static:** The SENSORswitch switches as long as the button surface is touched (= permanent signal).

to 2) / Mounting & dimensions



to 3) / LED control & connection diagrams:

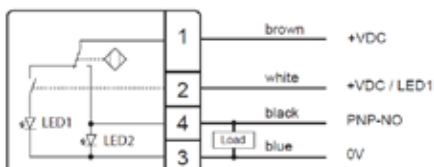
LED control - Semi-Automatic (P / N):

LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up

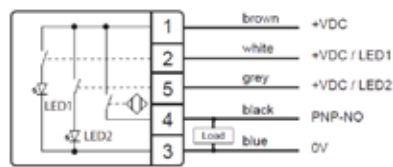
- Manual (B):

Both LED1 and LED2 can be controlled separately as required.

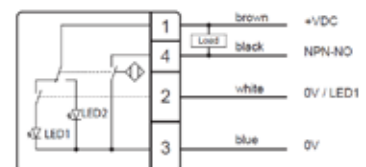
Connection diagram:



Connection diagram „P“
PNP-NO // Semi-Automatic



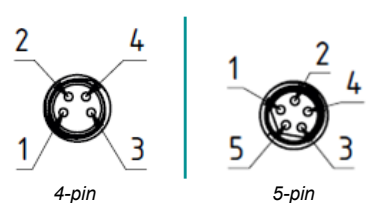
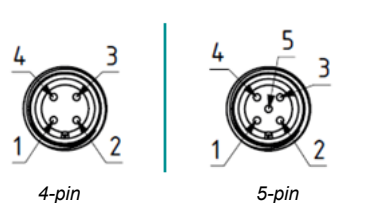
Connection diagram „B“
PNP-NO // Manual



Connection diagram „N“
NPN-NO // Semi-Automatic

--- PLEASE TURN OVER ---

to ⁴⁾ / Types of connection:

<p>Connector M8 („CHT3-5...“)</p>  <p style="text-align: center;">4-pin 5-pin</p>	<p>Connector M12 („CHT3-8...“)</p>  <p style="text-align: center;">4-pin 5-pin</p>
<p>Single strands 200mm („CHT3-7...“)</p> <p style="text-align: center;"><i>Single strands 200mm with ferrules</i></p> <p style="text-align: center;"><i>(Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</i></p> <p style="text-align: center;">4-pin 5-pin</p>	

You need support with the configuration?

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You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.



Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional Information / Connection diagram \(Page 3 & 4\)](#)

Different shapes, installation depths and plug-in connections mean that the CHT3 series is suitable for a wide range of uses.

The CHT3-F series has been developed for mounting in front plates. The sensor element is inserted into the front plate from the front and fastened from the back by means of a locking ring (locking ring included in delivery).

Please note that the front plate may have a thickness of max. 4.5mm so that the CHT3-F SENSORswitch can be mounted.

The customer can choose from a wide range of available symbols for the switch surface (symbol list: [Link](#)). In addition to the optical feedback by 16 bright LEDs, the SENSORswitches can be ordered with a tactile feedback by vibration.

This series is mainly used in industrial automation and building technology.

Please find below the most important features listed:

- Ø 50 mm total diameter
- Front plate mounting with locking ring
- Ø 48 – 48,5 mm mounting hole
- 3,3mm height
- Customization through symbols
- Optional: Tactile feedback (Vibration)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT3 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V DC (16,8 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO (<i>NPN-NO optional</i>)	Operation temperature:	max. 30 mA at 24V DC
Output signal:	approx. 300ms (Option „Dynamic“)	Operation temperature:	-30 ... +80°C (Dynamic)
	Permanent signal (Option „Static“)		0 ... + 55°C (Static)
LED 1:	8 green LEDs	Degree of protection (IP):	Frontside IP69K
LED 2:	8 red LEDs	Type of operation:	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required



Configuration help CHT3-F (Front plate mounting)

Type code 1 – with output signal Dynamic ¹:

CHT3	-	C1	C2	C3	C4	O1	-	C5	/	-	C6
------	---	-----------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------

Example: CHT3 - F 5 X P - H / TG - SR

Type code 2 – with output signal Static ¹:

CHT3	-	C1	C2	C3	C4	O1	-	C5	/	-	C6	/	ST
------	---	-----------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	----

C1 – Mounting ²

Code	Description
F	Front plate mounting
-	-
-	-
-	-
-	-
-	-

C2 - Type of connection ⁴

Code	Description
1	Cable + connector AMP 6,3 (Pin-assignment: 1-2-4-3) *
4	Cable + connector AMP 6,3 (Pin-assignment: 1-4-2-3) *
5	Connector M8
6	Connector JST
7	Single strands 200mm with ferrules
8	Connector M12

* only available with the LED function "Semi-Automatic (4-pin)"!

C3 – Colour of the coloured cover ring

Code	Description
X	Without coloured cover ring (front plate mounting)
-	-
-	-
-	-
-	-
-	-

C4 - LED control ³ / Numbers of pins / Output

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO
B	Manual / 5-pin / PNP-NO
N	Semi-Automatic / 4-pin / NPN-NO *
-	-
-	-
-	-

* currently only available with connection type "5 - connector M8"!

O1 – Option 1 / Acoustic and tactile feedback

Code	Description
S	Acoustic feedback (signal tone)
V	Tactile feedback (vibration) *
SV	Acoustic + tactile feedback *

* only available with connection type „7 – single strands“ (LED control „P“ / „B – Manual“) or „5 – connector M8“ (LED control „P - Semi-Automatic“)

C5 - Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)

For further symbols please see our Symbol list ([Link](#)) *

 * all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - Standard
TG-YW	Green (LED1) / Yellow (LED2) *
BU-SR	Blue (LED1) / Red (LED2) *

* currently only available with the LED control "Semi-Automatic" as standard!

--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to ¹⁾:

- Output signal**
- **Dynamic:** The output signal is time-limited to 300ms, independent of the duration of actuation.
 - **Static:** The SENSORswitch switches as long as the button surface is touched (= permanent signal).

to ²⁾ / Mounting & dimensions

„F“ - Front plate mounting

Bohrbild
Hole pattern

Klemmung
Locking ring

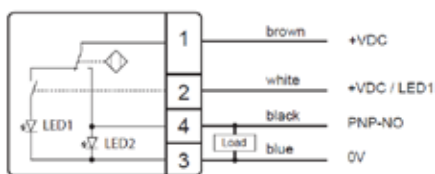
Legend:

- (A) = Sensor element
- (B) = locking ring (included in delivery)

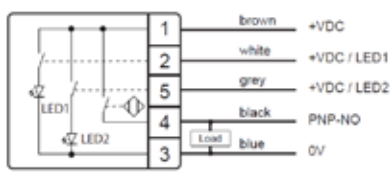
to ³⁾ / LED control & connection diagrams:

- LED-control**
- **Semi-Automatic (P / N):** LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up
 - **Manual (B):** Both LED1 and LED2 can be controlled separately as required.

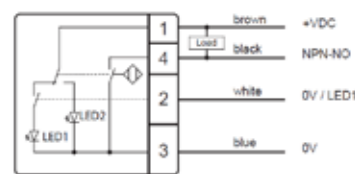
Connection diagram:



Connection diagram „P“
PNP-NO // Semi-Automatic



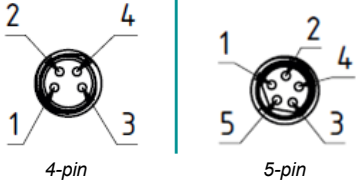


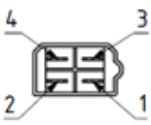
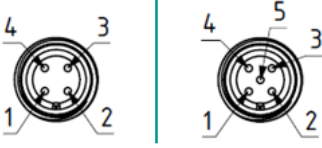
Connection diagram „B“
PNP-NO // Manual



Connection diagram „N“
NPN-NO // Semi-Automatic

--- PLEASE TURN OVER ---

to ⁴⁾ / **Types of connection:**

<p>Connector M8 („CHT3-5_...“)</p>  <p>4-pin 5-pin</p>	<p>Connector JST („CHT3-6_...“)</p>  <p>4-pin 5-pin</p>
<p>Connector AMP („CHT3-4_...“)</p>  <p>4-pin</p> <p>(„CHT3-1_...“)</p>  <p>4-pin</p>	<p>Single strands 200mm („CHT3-7_...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>4-pin 5-pin</p>
<p>Connector M12 („CHT3-8_...“)</p>  <p>4-pin 5-pin</p>	

You need support with the configuration?

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You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

SENSORswitches of the CHT4 series have a very large sensing area of \varnothing 63 mm and are designed for screw mounting.

Customers from the field of industrial automation and building technology choose the CHT4 SENSOR switch for flush mounting (CHT4-0) or the SENSOR switch with glass fibre reinforced polycarbonate coloured cover ring (CHT4-2), depending on the application.

In private and public transport, the CHT4 SENSORswitch is used as a door opening SENSORswitch. Equipped with Braille, raised pictograms, 16 bright LEDs, signal tone and vibration, the CHT4 is particularly user-friendly for persons with limited mobility. Other areas of use are emergency call and information pillars at train and bus stations and taxi stands.



Please find below the most important features listed:

- \varnothing 63 mm total diameter
- 9,7mm height of the sensor element
- Required accessories: Robust metal housing AH-1X9/CPM07 (110 x 110 mm)
- Customization through symbols
- Optional: Acoustic feedback (signal tone); tactile feedback (vibration)
- Switches on touch - high operating comfort, no pressure necessary

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT4 series for the required specifications and applications.

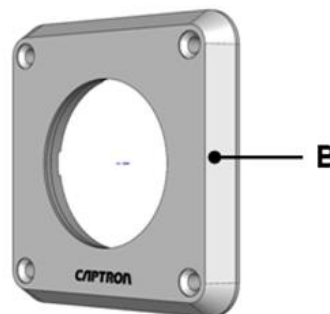
Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Legend:

- (A) = Sensor element CHT4-0
- (B) = Metal housing AH4-1X9/CPM07



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Reverse polarity protection:	Protection of all lines
	DC 12 V (10 ... 15V) - Option -	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO	Current consumption:	max. 30 mA at 24V DC
	PNP / NPN changeable by reversing polarity (Option)	Operation temperature:	-30 ... +80°C
Output signal:	approx. 100-300ms („Dynamic“)	Degree of protection (IP):	Frontside IP69K
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required



Configuration help CHT4-0

Type code ¹:

CHT4	-	C1	C2	C3	C4	O1	-	C5	/	-	C6	/	O2
------	---	-----------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	-----------

Example: CHT4 - 0 5 X P - H / TG - SR

- Please note: The mounting bracket AH4-1X9/CPM07 must be ordered together with the CHT4-0 SENSORswitch -

C1 - Mounting / version of the coloured cover ring ²

Code	Description
0	clip-on mounting / without coloured cover ring
-	-
-	-
-	-
-	-

C2 - Type of connection ⁴

Code	Description
1	Cable + connector AMP 6,3 (Pin-assignment: 1-2-4-3)*
4	Cable + connector AMP 6,3 (Pin-assignment: 1-4-2-3)*
5	Connector M8
6	Connector JST
7	Single strands 200mm with ferrules

* only available with the LED function "Semi-Automatic (4-pin)"!

C3 - Colour of the coloured cover ring

Code	Description
X	Without coloured cover ring
-	-
-	-
-	-
-	-

C4 - LED-control / Numbers of pins / output ³

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO / DC 24V
B	Manual / 5-pin / PNP-NO / DC 24V
W	Automatic / 3-pin / PNP/NPN-NO changeable by reversing polarity* / DC 24V
G	Semi-Automatic / 4-pin / PNP-NO / DC 12V

* currently only available with the connection type "7- single strands"!

O1 - Option 1 / Acoustic and tactile feedback

Code	Description
S	Acoustic feedback (signal tone) *
V	Tactile feedback (vibration) *
SV	Acoustic + tactile feedback *

* only available with the LED functions "P - Semi-Automatic" and "B - Manual"!

C5 - Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)

For further symbols please see our Symbol list ([Link](#))*

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 - LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - Standard
TG-YW	Green (LED1) / Yellow (LED2)
BU-SR	Blue (LED1) / Red (LED2)

O2 - Option 2 / Switching distance

Code	Description
- (w/o)	Standard switching distance
CP12	Increased switching distance
-	-



- - - Please note the additional information and explanations on the following pages. Thank you! - - -

Additional information & explanations on the previously described configuration items:

to ¹⁾:

Switching function - Dynamic: The output signal is time-limited to 300ms, independent of the duration of actuation.

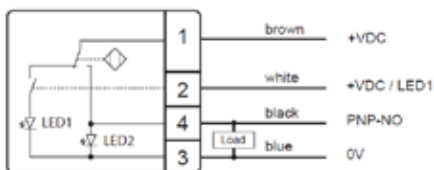
to ²⁾ / **Mounting:**

<p>„0 ... X“ – clip-on mounting / without cover ring</p> 	<p>Required accessories:</p>  <p><i>Metal housing „AH4-1X9/CPM07“</i></p>
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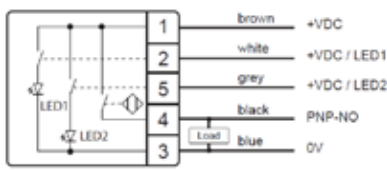
to ³⁾ / **LED control & connection diagram:**

- LED control - Semi-Automatic:** LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.
- Manual:** Both LED1 and LED2 can be controlled separately as required.
- Automatic:** LED1 (= e.g. green) lights up in operating state. When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up. **- this function is only available for connection diagram "W" -**

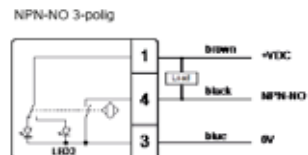
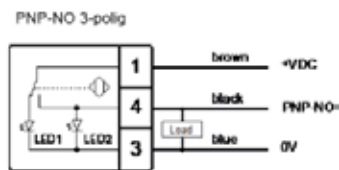
Connection diagram:



Connection diagram „P“
PNP-NO // Semi-Automatic



Connection diagram „B“
PNP-NO // Manual



Connection diagram „W“
PNP-NO / NPN-NO changeable by reversing polarity I // Automatic

--- PLEASE TURN OVER ---

to 4) / Types of connection:

<p>Connector M8 („CHT4-_5_...“)</p> <p>4-pin 5-pin</p>	<p>Connector JST („CHT4-_6_...“)</p> <p>4-pin 5-pin</p>
<p>Connector AMP („CHT4-_4_...“)</p> <p>4-pin 5-pin</p>	<p>Single strands 200mm („CHT4-_7_...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>3-pin 4-pin 5-pin</p>

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You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

Capacitive CHT4 SENSORswitches have a large touch operating surface of 63 mm and are designed for screw mounting.

Depending on the application, customers in the field of automation and building technology choose the CHT4 SENSORswitch for flush installation, optionally with a robust metal housing or with glass fibre-reinforced polycarbonate cover ring.

In private and public transport, the CHT4 SENSORswitch is used as a door opening SENSORswitch. Equipped with Braille, raised pictograms, 16 bright LEDs, signal tone and vibration, the CHT4 is particularly user-friendly for persons with limited mobility. Other areas of use are emergency call and information pillars at train and bus stations and taxi stands.



Please find below the most important features listed:

- Ø 100 mm total diameter
- Ø 27 - 60 mm mounting hole required
- 10mm height
- TSI-PRM compliant: Pictograms and braille available; optical feedback through LEDs
- V-mounting
- Customization through symbols and colours of the cover ring
- Optional: Acoustic feedback (signal tone) / tactile feedback (vibration)
- Switches on touch - high operating comfort, no pressure necessary

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT4 series for the required specifications and applications.

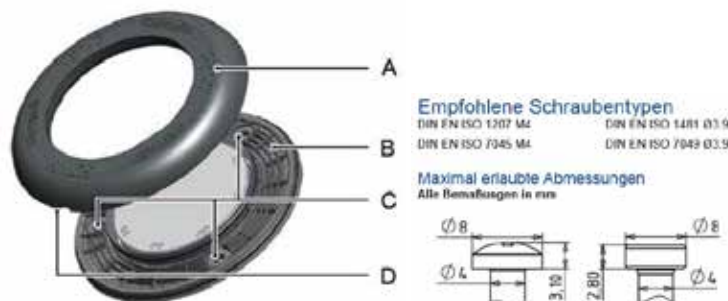
Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Legend:

- (A) = Coloured cover ring
- (B) = Mounting flange
- (C) = Mounting holes
- (D) = Groove on the back of the coloured cover ring

Übersichtsgrafik



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Reverse polarity protection:	Protection of all lines
	DC 12 V (10 ... 15V) - Option -	Short-circuit protection:	Short-circuit and overload protection
Load current:	max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO	Current consumption:	max. 30 mA at 24V DC
	PNP / NPN changeable by reversing polarity (Option)	Operation temperature:	-30 ... +80°C
Output signal:	approx. 100-300ms („Dynamic“)	Degree of protection (IP)	Frontside IP69K
LED 1:	8 green LEDs	Type of operation	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required



Configuration help CHT4-2 (STANDARD)

Type code 1 – with standard coloured cover ring ¹:

CHT4	-	C1	C2	C3	C4	O1	-	C5	/	-	C6	/	O2
------	---	----	----	----	----	----	---	----	---	---	----	---	----

Example: CHT4 - 2 5 1 P - H / TG - SR

Type code 2 – with TSI-PRM compliant coloured cover ring ¹:

CHT4	-	C1	C2	C3	C4	O1	-	C5	/	-	C6	/	T6	/	O2
------	---	----	----	----	----	----	---	----	---	---	----	---	----	---	----

C1 – Mounting / version of the coloured cover ring ²

Code	Description
2	V-mounting / Standard coloured cover ring
2	V-mounting / TSI-PRM compliant cover ring *
B	V-mounting / Blank coloured cover ring
-	-
-	-

* additionally requires the option "O2 -> T6"!

C2 - Type of connection ⁴

Code	Description
1	Cable + connector AMP 6,3 (Pin-assignment: 1-2-4-3) *
4	Cable + connector AMP 6,3 (Pin-assignment: 1-4-2-3) *
5	Connector M8
6	Connector JST
7	Single strands 200mm with ferrules

* only available with the LED function "Semi-Automatic (4-pin)"!

C3 – Colour of the coloured cover ring

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
H	Traffic blue (RAL 5017)	
C	Traffic white (RAL 9016)	
K	Traffic grey A (RAL 7042)	

C4 - LED-control ³ / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO / DC 24V
B	Manual / 5-pin / PNP-NO / DC 24 V
W	Automatic / 3-pin / PNP/NPN-NO changeable by reversing polarity * / DC 24V
G	Semi-Automatic / 4-pin / PNP-NO / DC 12V
-	-

* currently only available with the connection type "7- single strands"!

O1 – Option 1 / Acoustic and tactile feedback

Code	Description	
S	Acoustic feedback (signal tone) *	
V	Tactile feedback (vibration) *	
SV	acoustic + tactile feedback *	

* only available with the LED functions "P - Semi-Automatic" and "B - Manual"!

C5 - Symbol on switch surface

Code	Description	
30	White surface	
H	Hand (green on white)	

For further symbols please see our Symbol list ([Link](#)) *

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - Standard	
TG-YW	Green (LED1) / Yellow (LED2)	
BU-SR	Blue (LED1) / Red (LED2)	

O2 - Option 2 / Switching distance

Code	Description
-(w/o)	Standard switching distance
CP12	Increased switching distance
-	-


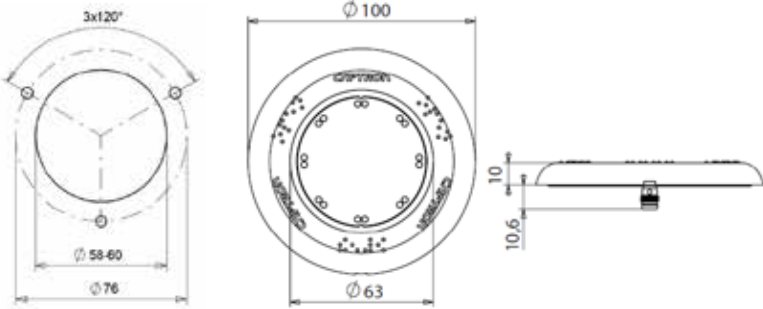

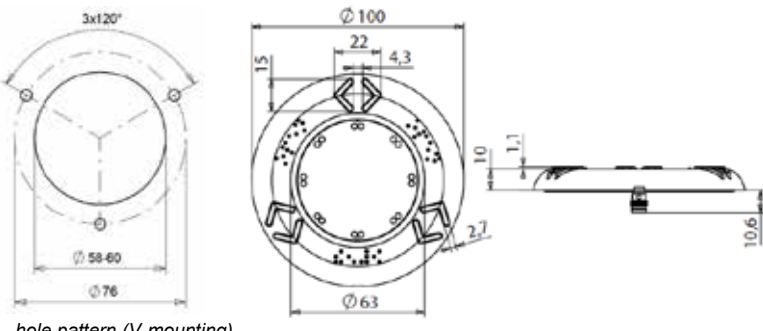

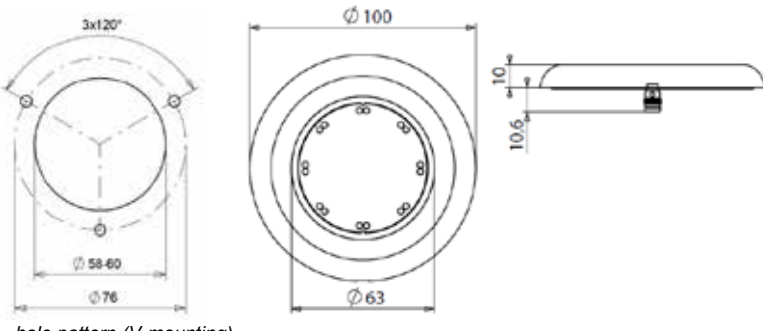
--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to ¹⁾:

Switching function - **Dynamic:** The output signal is time-limited to 300ms, independent of the duration of actuation.

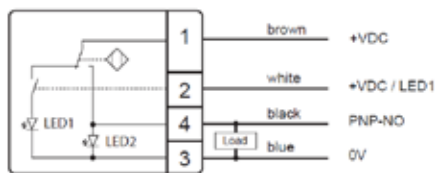
to ²⁾ / **Version of coloured cover ring:**

<p>„2“ – Standard version, V-mounting</p>  <ul style="list-style-type: none"> - 3x lettering „CAPTRON“ - 3x braille „OPEN“ 	 <p>hole pattern (V-mounting)</p> <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„2 ... T6“ - TSI-PRM compliant; V-mounting</p>  <ul style="list-style-type: none"> - 3x tactile Pictograms „<>“ - 3x Braille „OPEN“ 	 <p>hole pattern (V-mounting)</p> <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„B“ - Blank cover ring, V-mounting</p>  <ul style="list-style-type: none"> - without lettering - without tactile pictograms - without braille characters 	 <p>hole pattern (V-mounting)</p> <p style="text-align: right;"><i>All dimensions in mm</i></p>

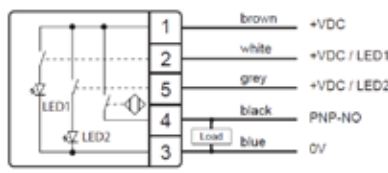
--- PLEASE TURN OVER ---

to ³⁾ / LED control & connection diagram:

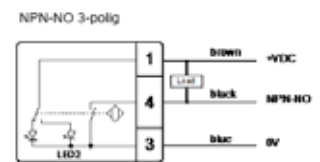
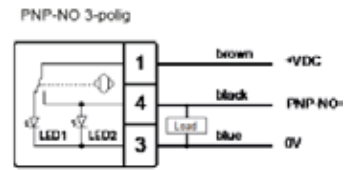
- LED control - Semi-Automatic:** LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.
- Manual:** Both LED1 and LED2 can be controlled separately as required.
- Automatic:** LED1 (= e.g. green) lights up in operating state. When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up.
- this function is only available for connection diagram "W -



Connection diagram „P“
PNP-NO // Semi-Automatic



Connection diagram „B“
PNP-NO // Manual



Connection diagram „W“
PNP-NO / NPN-NO changeable by reversing polarity I // Automatic

to ⁴⁾ / Types of connection:

<p>Connector M8 („CHT4-_5_...“)</p> <p>4-pin 5-pin</p>	<p>Connector JST („CHT4-_6_...“)</p> <p>4-pin 5-pin</p>
<p>Connector AMP („CHT4-_4_...“) („CHT4-_1_...“)</p> <p>4-pin 5-pin</p>	<p>Single strands 200mm („CHT4-_7_...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>3-pin 4-pin 5-pin</p>

You need support with the configuration?

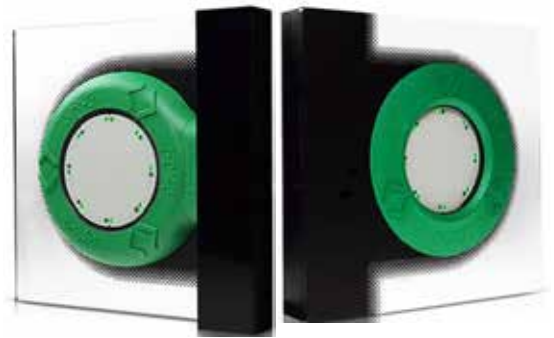
Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content

- [Short description / Technical data \(Page 1\)](#)
- [Configuration help \(Page 2\)](#)
- [Additional information / Connection diagram \(Page 3 – 5\)](#)



The capacitive SENSORswitches of the CHT5-2 series switch through single glass and, in contrast to mechanical switches, operate without wear. They are designed for two-sided operation and therefore can be used from the inside and outside of a vehicle or building.

No hole is required in the pane of glass for their installation. Industrial adhesive tape allows the uncomplicated gluing. CHT5 SENSORswitches are suitable as door opening switches for the high frequency continuous service used in the passenger transport and building technology.

The user receives optical feedback via 16 bright LEDs. According to the requirements of TSI-PRM for people with limited mobility, the outer ring can be equipped with Braille and raised pictograms..

Please find below the most important features listed:

- Two-sided operation through single-glass
- Ø 63mm switch surface
- 14mm height inside / 3,2mm height outside
- Profile angle 90° (Option: 84° / 80° / 60°)
- Customization through symbols and colours of the cover ring
- TSI-PRM compliant – Pictograms and braille available
- Optical feedback through LEDs

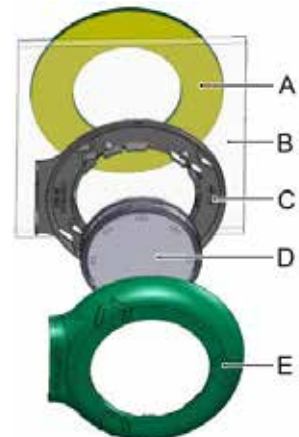
CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT5 series for the required specifications and applications.

Please contact us:

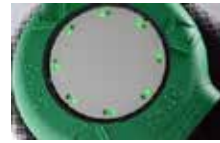
Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Legend:

- (A) = Coloured position ring (outside)
- (B) = Glass pane (single glass; thickness up to max. 6mm)
- (C) = Mounting flange BF95-2
- (D) = Sensor element
- (E) = Coloured cover ring AR5-2X_ (inside)



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
	DC 12V (10 ... 15V - Option -)		max. 3 V at 400 mA (24V)
Load current:	max. 200 mA (at 24V / 12V)	Voltage drop:	max. 3V at 200 mA (12 V)
	max. 15 mA (at 110V)		max. 3V at 10 mA (110 V)
Output:	PNP-NO	Current consumption:	max. 30 / 35 mA (24 V – 4-pin/5-pin)
			max. 20 mA (12V)
Output signal:	100-300 ms (depending on the duration of operation)	Operation temperature:	-30 °C ... +70° C
LED 1:	8 green LEDs	Degree of protection (IP):	Frontside IP69K
LED 2:	8 red LEDs	Type of operation:	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required



Configuration help CHT5-2

Type code 1 – Position ring and cover ring = same colour ¹:

CHT5	-	C1	C2	C3	C5	-	C6	/	-	C7	/	O1	/	O2
		2	6											

Example: CHT5 - 2 6 1 P - H / TG - SR / T6

Type code 2 – Position ring and cover ring = deviating colours ¹:

CHT5	-	C1	C2	C3	C4	C5	-	C6	/	C7	-	O1	/	O2	/
		2	6												

C1 – Mounting

Code	Description
2	Adhesive mounting on single glass pane

C2 - Type of connection ⁴

Code	Description
6	Connector JST (4-pin / standard)
M	Connector JST (5- pin / <i>only together with C5 -> B</i>)

C3 – Colour of the cover ring and the position ring (T1) Colour of the cover ring (Type code 2)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C4 - Colour of the position ring (Type Code 2 only)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C5 - LED-control ² / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / DC 24V
B	Manual / 5-pin / DC 24V
G	Semi-Automatic / 4-pin / DC 12V
U	Semi-Automatic / 4-pin / DC 110V

C6 - Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)



For further symbols please see our [Symbol list \(Link\)](#) ^{*}

^{*} all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C7 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i>
-	-
-	-

O1 - Version of the cover ring and position ring ³

Code	Description
-(w/o)	Standard version
T6	TSI-PRM compliant
-	-

O2 - Profile angle of the cover ring

Code	Description
-(w/o)	90° - <i>Standard</i> -
84°	84° angle version
80°	80° angle version
60°	60° angle version

Please note the additional information and explanations on the following pages.
Thank you!

Additional information & explanations on the previously described configuration items:

to 1) / Explanation of the type codes 1 / 2:

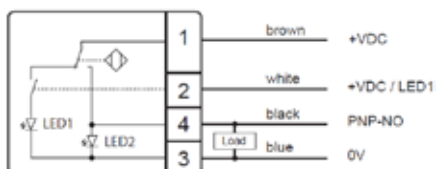
The CHT5-2 series SENSORswitches have a coloured position ring, which is attached to the outside of the glass pane by adhesive mounting, and a coloured cover ring, which is clipped onto the mounting flange on the inside.

These rings can either have the same colour (-> **type code 1**) or different colours (-> **type code 2**; e.g. coloured cover ring = traffic black, coloured position ring = traffic green)

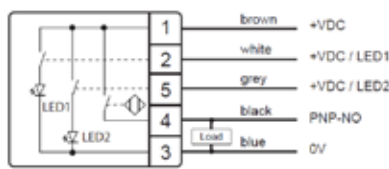
to 2) / LED control:

LED control - Semi-Automatic: Die LED1 (green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (red / switching state) lights up.

- Manual: Both LED1 and LED2 can be controlled separately as required. This function is currently only available when the **DC 24V version** is selected!



Connection diagram „P“ / „G“ / „U“
PNP-NO // Semi-Automatic

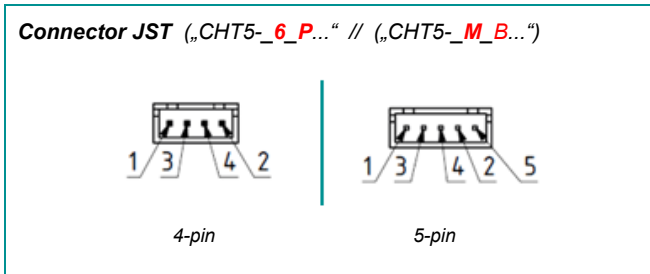


Connection diagram „B“
PNP-NO // Manual

to 3) / version of the coloured position ring and the coloured cover ring:

<p>Standard version</p>	<p>Position ring (outside)</p> <p>Cover ring (inside)</p> <p>All dimensions in mm</p>
<p>TSI-PRM compliant rings (T6)</p>	<p>Position ring (outside)</p> <p>Cover ring (inside)</p> <p>All dimensions in mm</p>

to ⁴⁾ / Types of connection:



You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)



The SENSORswitch CHT6 is designed for adhesive mounting on **single glass** and switch by touch. The SENSORswitch CHT6 can be switched one sided through single glass. For installation / application it is not required to have a hole in the glass.

the field of application extends over traffic engineering and building technology up to information services. The SENSORswitch is equipped with an optical feedback. Several million cycles and an extremely long life completes the SENSORswitch.

In accordance with TSI-PRM requirements for persons with reduced mobility, the position colour ring (= outer ring) can be equipped with Braille and raised pictograms.

Please find below the most important features listed:

- Single-sided operation through single-glass
- Ø 63mm switch surface
- 14mm height inside / 3,2mm height outside
- Profile angle 90° (Option: 84° / 80° / 60°)
- Customization through symbols and colours of the cover ring
- TSI-PRM compliant – Pictograms and braille available
- Optical feedback through LEDs

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT6 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Legend:

- (A) = Coloured position ring (outside)
- (B) = Glass pane (single glass; thickness up to max. 6mm)
- (C) = Mounting flange BF95-2
- (D) = Sensor element
- (E) = Coloured cover ring AR5-2X_ (inside)



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V) DC 12V (10 ... 15V - Option -)	Voltage drop:	max. 3 V at 400 mA (24V) max. 3V at 200 mA (12 V)
Load current:	max. 200 mA (at 24V / 12V)	Current consumption:	max. 30 / 35 mA (24 V) max. 20 mA (12V)
Output:	PNP-NO	Operation temperature:	-30 °C ... +70° C
Output signal:	100-300 ms (depending on the duration of operation)	Degree of protection (IP):	Frontside IP69K
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required
Reverse polarity protection:	Protection of all lines		
Short-circuit protection	Short-circuit and overload protection		



Configuration help CHT6-2

Type code 1 – Position ring and cover ring = same colour ¹:

CHT6	-	C1	C2	C3	C5	-	C6	/	-	C7	/	O1	/	O2
		2	6											

Example: CHT6 - 2 6 5 P - H / TG - SR / T6

Type code 2 – Position ring and cover ring = deviating colours ¹:

CHT6	-	C1	C2	C3	C4	C5	-	C6	/	-	C7	/	O1	/	O2
		2	6												

C1 – Mounting

Code	Description
2	Adhesive mounting on single glass pane

C2 – Type of connection ⁴

Code	Description
6	Connector JST (4-pin / standard)

C3 – Colour of the cover ring and the position ring (T1) Colour of the cover ring (Type code 2)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C4 – Colour of the position ring (Type Code 2 only)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C5 – LED-control ² / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / DC 24V
G	Semi-Automatic / 4-pin / DC 12V
-	-
-	-

C6 – Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)



For further symbols please see our [Symbol list \(Link\)](#) ^{*}

^{*} all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C7 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i>
-	-
-	-

O1 – Version of the cover ring and position ring ³

Code	Description
-(w/o)	Standard version
T6	TSI-PRM compliant
-	-

O2 – Profile angle of the cover ring

Code	Description
-(w/o)	90° - <i>Standard</i> -
84°	84° angle version
80°	80° angle version
60°	60° angle version

Please note the additional information and explanations on the following pages.
Thank you!

Additional information & explanations on the previously described configuration items:

to ¹⁾ / Explanation of the type codes 1 / 2:

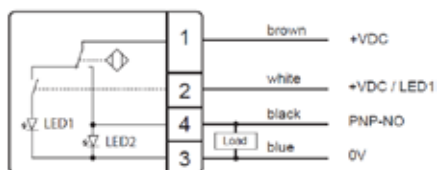
The CHT6-2 series SENSORswitches have a coloured position ring, which is attached to the outside of the glass pane by adhesive mounting, and a coloured cover ring, which is clipped onto the mounting flange on the inside.

These rings can either have the same colour (-> **type code 1**) or different colours (-> **type code 2**; e.g. coloured cover ring = traffic black, coloured position ring = traffic green)

to ²⁾ / LED control:

LED control - Semi-Automatic:

Die LED1 (green / operating state) can be controlled separately.
When the SENSORswitch is actuated, LED1 goes out and LED2 (red / switching state) lights up.



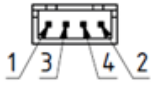
Connection diagram „P“
PNP-NO // Semi-Automatic

to ³⁾ / version of the coloured position ring and the coloured cover ring:

<p>Standard version</p>	<p>Position ring (outside)</p> <p>Cover ring (inside)</p>	<p><i>All dimensions in mm</i></p>
<p>TSI-PRM compliant rings (T6)</p>	<p>Position ring (outside)</p> <p>Cover ring (inside)</p>	

to ⁴⁾ / Types of connection:

Connector JST („CHT61-_6_...“)



4-pin

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

The CHT7 SENSORswitch series are designed for adhesive mounting on glass or other smooth surfaces such as aluminium, metal, etc. The capacitive SENSORswitches switch when the sensing surface is touched.

Actuation is only possible on one side from the inside of the vehicle or building.

For mounting on glass, we offer as an option a full-surface sight cover for the outside of the glass pane. Screen printing is not necessary here.

The CHT7 SENSORswitches are suitable as door opening buttons for highly frequented continuous use in buses, trains and in building technology. Equipped with Braille and raised pictograms on the colour ring (optional), 16 bright LEDs and vibration (optional), the SENSORswitches are particularly user-friendly for persons with limited mobility and children.

Please find below the most important features listed:

- Ø 63 mm switch surface
- Adhesive mounting
- 14 mm height inside
- Profile angle 90° (Option: 84° / 80° / 60°)
- 100% water and oil proof - IP69K
- Customization through symbols and colours of the cover ring
- TSI-PRM compliant – Pictograms and braille available, optical feedback by LEDs, no actuating force necessary
- Optional: tactile feedback (vibration)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT7 series for the required specifications and applications.

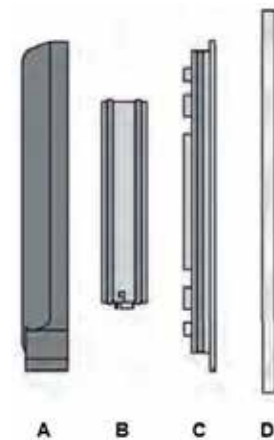
Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Legend:

- (A) = Coloured cover ring
- (B) = Sensor element
- (C) = Mounting flange
- (D) = Glass pane, acrylic or metal plate



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V DC (16,8 ... 32V)	Voltage drop:	max. 3 V at 400 mA
Load current:	Max. 400 mA	Current consumption:	max. 20 mA at 24V DC
Output:	PNP-NO	Operation temperature:	-30 ... +80°C
Output signal:	approx. 300ms (Option „Dynamic“ 1)	Degree of protection (IP):	Frontside & backside IP69K connector IP20
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required
Reverse polarity protection:	Protection of all lines	Type of connection:	connector JST
Short-circuit protection:	Short-circuit and overload protection		



Configuration help CHT7-2 / CHT7-2.../PL

Type code 1 – Standard Version ²:

CHT7	-	C1	C2	C3	C4	O1	-	C5	/	TG	-	C6	/	O2	/	O3
			6		P							SR				

Example: CHT7 - 2 6 1 P - H / TG - SR / 84°

Type code 2 – Version with sight cover ²:

CHT7	-	C1	C2	C3	C4	O1	-	C5	/	TG	-	C6	/	PL	/	O2	/	O3
			6		P							SR						

C1 – Mounting / version of coloured cover ring

Code	Description
2	adhesive mounting on glass pane or smooth surface
1	adhesive mounting on glass panes - old version (only in combination with option O2 -> „CPM10“!) *

* this option is only available with the coloured cover ring colour "sky blue"! this option is not available in combination with option O2 -> "T6"!

C2 – Type of connection ⁵

Code	Description
6	Connector JST
-	-

C3 – Colour of the cover ring

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C4 – LED-control ³ / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / DC 24V

O1 – Option 1 / tactile feedback

V	Tactile feedback (Vibration)	
---	------------------------------	--

C5 – Symbol on switch surface

Code	Description	
30	White surface	
H	Hand (green on white)	

For further symbols please see our Symbol list ([Link](#)) *

* all symbols marke das „Standarrd“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - Standard	
-	-	
-	-	

O2 – Option 2 / Version of the coloured cover ring ⁴

Code	Description
- (w/o)	Standard version
T6	TSI-PRM compliant
CPM10	with 2x braille „STOP“, without „CAPTRON“ -- only available with mounting "1"! --

O3 – Profile angle of the cover ring

Code	Description
- (w/o)	90° - Standard -
84°	84° angle version
80°	80° angle version
60°	60° angle version

--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to 1) / switching function

Switching function - Dynamic: The output signal is time-limited to 300ms, independent of the duration of actuation.

Zu 2) / CHT7 version

Version of the CHT7:

- **Standard:**

In the "standard version", the SENSORswitch does not have a sight cover on the back. Therefore, this version is suitable for mounting on a printed glass pane, wall mounting or mounting on all other smooth, non-transparent surfaces

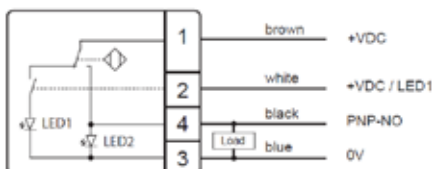
- **with sight cover:**

In this version, the SENSORswitch has a sight cover on the back. This makes it ideal for mounting on unprinted glass panes.

to 3) / LED control


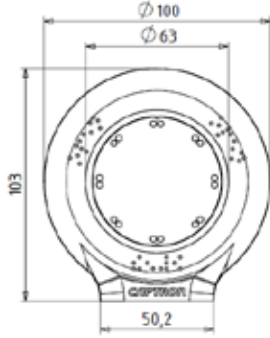



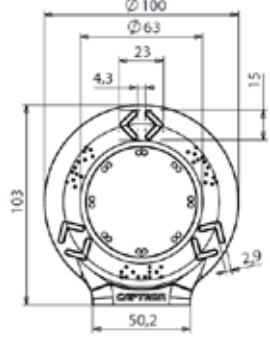


LED control - Semi-Automatic:

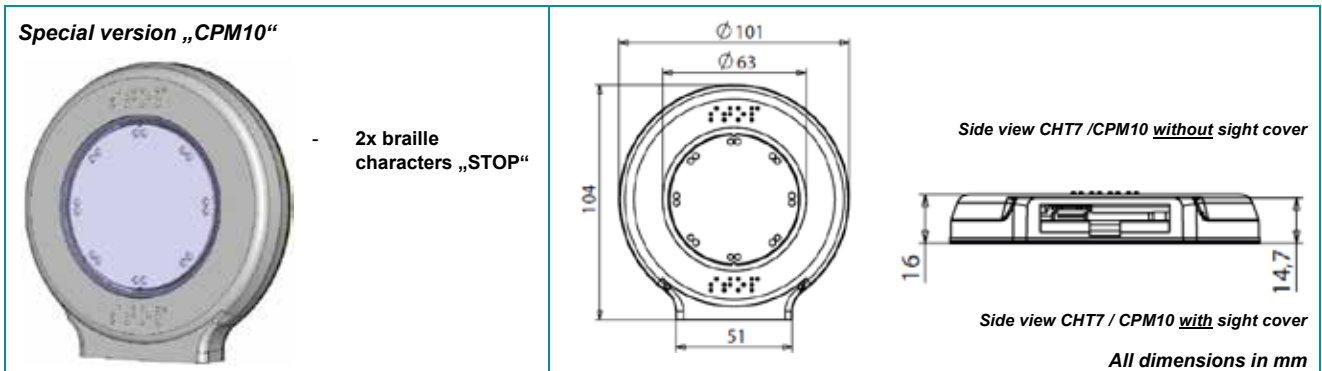
The LED1 (green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (red / switching state) lights up.



Connection diagram „P“
PNP-NO // Semi-Automatic

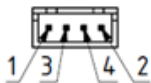
to 4) / versions of the coloured cover ring

<p>Standard coloured cover ring</p>  <ul style="list-style-type: none"> - 1x lettering „CAPTRON“ - 3x braille characters „OPEN“ 		 <p>Side view CHT7 <u>without</u> sight cover</p>  <p>Side view CHT7 <u>with</u> sight cover</p> <p>All dimensions in mm</p>
<p>TSI-PRM compliant cover ring (T6)</p>  <ul style="list-style-type: none"> - 3x tactile pictograms „<>“ - 3x braille characters „OPEN“ 		 <p>Side view CHT7 / T6 <u>without</u> sight cover</p>  <p>Side view CHT7 / T6 <u>with</u> sight cover</p> <p>All dimensions in mm</p>



to ⁴⁾ / Types of connection:

Connector JST („CHT7-_6_...“)



4-pin

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.



Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

The capacitive SENSORswitches of the CHT9-1 series are designed for adhesive mounting on glass or other smooth surfaces such as aluminium, metal etc.

Except for the sensor element, no further mounting holes are required.

The CHT9-1 SENSOR buttons are used in public transport, building technology and automation industries. The SENSORswitches have an optical feedback via 16 bright LEDs. In addition, they can be optionally equipped with an acoustic and/or tactile feedback via signal tone/vibration.

For people with limited mobility, the capacitive SENSOR buttons are equipped with Braille on the polycarbonate cover colour ring. As a TSI-PRM compliant version, the SENSORswitch series is also available with a coloured cover ring that has tactile pictograms "<>" in addition to Braille.

Please find below the most important features listed:

- Ø 100 mm total diameter
- Ø 69 - 72 mm mounting hole required
- 3mm height
- PRM compliant: Pictograms and braille available; optical feedback through LEDs
- Adhesive mounting; no screw connection necessary
- Switches on touch; no pressure necessary
- Customization through symbols and colours of the cover ring TSI-PRM compliant
- Optional: Tactile feedback (vibration) / acoustic feedback (signal tone)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT9-1 series for the required specifications and applications.

Please contact us:

Tel. +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Reverse polarity protection:	Protection of all lines
	DC 12V (10 ... 15V - Option -)	Short-circuit protection:	Short-circuit and overload protection
Load current:	max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO	Current consumption	max. 30 mA at 24V DC
	PNP / NPN changeable by reversing polarity (Option)	Operation temperature:	-30 ... +80°C
Output signal:	approx. 100-300ms („Dynamic“) ¹	Degree of protection (IP):	Frontside IP69K
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required



Configuration help CHT9-1 (STANDARD)

Type code 1 – with standard coloured cover ring ²:

CHT9	-	C1 1	C2	C3	C4	O1	-	C5	/	-	C6	/	O2
------	---	----------------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	-----------

Example: CHT9 - 1 6 1 P SV - H / TG - SR

Type code 2 – with TSI-PRM compliant coloured cover ring ²:

CHT9	-	C1 1	C2	C3	C4	O1	-	C5	/	-	C6	/	T6	/	O2
------	---	----------------	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	----	---	-----------

C1 – Mounting / version of the coloured cover ring ²

Code	Description
1	Adhesive mounting / Standard cover ring
1	Adhesive mounting / TSI-PRM compliant c. ring *
-	-
-	-

* additionally requires the option "O2 -> T6"!

C2 - Type of connection ⁴

Code	Description
1	Cable + connector AMP 6,3 (Pin-assignment: 1-2-4-3) *
4	Cable + connector AMP 6,3 (Pin-assignment: 1-4-2-3) *
5	Connector M8
6	Connector JST
7	Single strands 200mm with ferrules

* only available with the LED function "Semi-Automatic (4-pin)"!

C3 – Colour of the coloured cover ring

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
H	Traffic blue (RAL 5017)	
K	Traffic grey A (RAL 7042)	
-	-	

C4 - LED-control ³ / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO / DC 24V
B	Manual / 5-pin / PNP-NO / DC 24 V
W	Automatic / 3-pin / NP/NPN-NO changeable by reversing polarity * / DC 24V
G	Semi-Automatic / 4-pin / PNP-NO / DC 12V
-	-

* currently only available with connection type "7 - single strands"!

O1 – Option 1 / Acoustic and tactile feedback

Code	Description	
S	Acoustic feedback (signal tone) *	
V	Tactile feedback (vibration) *	
SV	acoustic + tactile feedback *	

* only available with the LED functions "P - Semi-Automatic" and "B - Manual"!

C5 - Symbol on switch surface

Code	Description	
30	White surface	
H	Hand (green on white)	

For further symbols please see our Symbol list ([Link](#))*

* all symbols marked as „Standard“ are already available from 11 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - Standard	
BU-SR	Blue (LED1) / Red (LED2)	
-	-	

O2 - Option 2 / Switching distance

Code	Description
- (w/o)	Standard switching distance
CP12	Increased switching distance
-	-


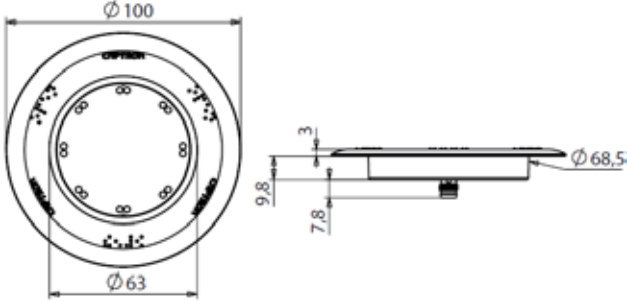

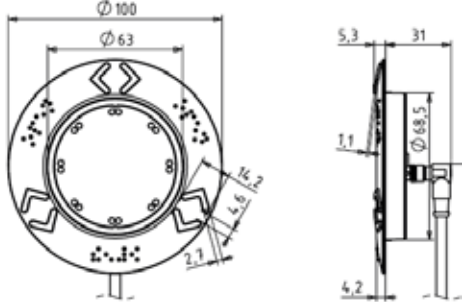
--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

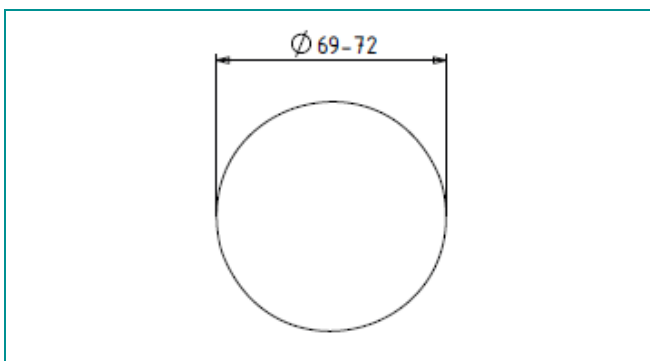
to ¹⁾ / Switching function:

Switching function - *Dynamic:* The output signal is time-limited to 300ms, independent of the duration of actuation.

to ²⁾ / Version of coloured cover ring:

<p>„1“ - Standard coloured cover ring</p>  <ul style="list-style-type: none"> - 3x lettering „CAPTRON“ - 3x braille „OPEN“ 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>
<p>„1 ... T6“ - TSI-PRM compliant cover ring</p>  <ul style="list-style-type: none"> - 3x tactile Pictograms „<>“ - 3x Braille „OPEN“ 	 <p style="text-align: right;"><i>All dimensions in mm</i></p>

Hole pattern:

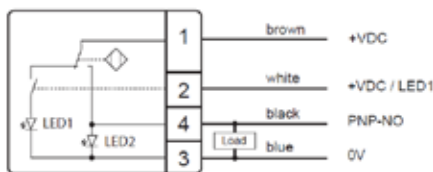


--- PLEASE TURN OVER ---

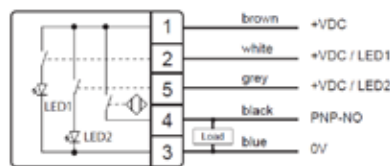
to ³⁾ / LED control

- LED control**
- **Semi-Automatic:** LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.
 - **Manual:** Both LED1 and LED2 can be controlled separately as required.
 - **Automatic:** LED1 (= e.g. green) lights up in operating state. When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up. **- this function is only available for connection diagram "W" -**

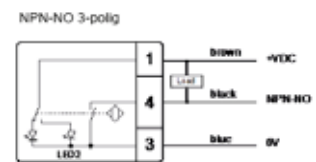
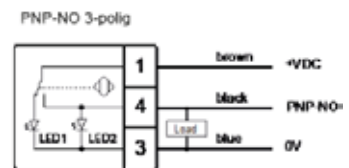
Connection diagram:



Connection diagram „P“
PNP-NO // Semi-Automatic



Connection diagram „B“
PNP-NO // Manual



Connection diagram „W“
PNP-NO / NPN-NO changeable by reversing polarity // Automatic

to ⁴⁾ / Types of connection:

<p>Connector M8 („CHT9-<u>5</u>_...“)</p> <p>4-pin 5-pin</p>	<p>Connector JST („CHT9-<u>6</u>_...“)</p> <p>4-pin 5-pin</p>
<p>Connector AMP („CHT9-<u>4</u>_...“) („CHT9-<u>1</u>_...“)</p> <p>4-pin 5-pin</p>	<p>Single strands 200mm („CHT9-<u>7</u>_...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>3-pin 4-pin 5-pin</p>

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

The capacitive SENSORswitches of the CHT9-G series are designed for adhesive mounting on glass or other smooth surfaces such as aluminium, metal etc.

Apart from the sensor element, no further mounting holes are required.

The hygienic version CHT9-G is mounted on a mounting support and can be sealed e.g. with silicone to achieve a high hygienic level.

The CHT9-G SENSORswitches are used in the pharmaceutical and medical sectors, but also in building technology. The operator receives optical feedback via 16 LEDs.



Please find below the most important features listed:

- Ø 100 mm total diameter
- Ø 69 - 72 mm mounting hole required
- 5mm height
- adhesive mounting, no screws required
- Optical feedback via LEDs
- Hygienic; full-surface front made of hardened glass
- Hygienic cleaning possible
- Customization through symbols
- 100% water and oil proof - IP69K
- Sensor completely sealed in cast resin.

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT9-G series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Reverse polarity protection:	Protection of all lines
	DC 12V (10 ... 15V - Option -)	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO	Current consumption:	max. 30 mA at 24V DC
	PNP / NPN changeable by reversing polarity (Option)	Operation temperature:	-30 ... +80°C
Output signal:	approx. 100-300ms („Dynamic“) ¹	Degree of protection (IP):	Frontside IP69K
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required

Configuration CHT9-G (Hygienic)



Type code:

CHT9	-	C1	C2	C3	C4	-	C5	/	-	C6	/	O1
------	---	-----------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	-----------

Example: CHT9 - G 5 C P - H / TG - SR

C1 - Mounting / version of the coloured cover ring ²

Code	Description
G	Adhesive mounting / hardened glass
-	-
-	-
-	-

C2 - Type of connection ⁴

Code	Description
1	Cable + connector AMP 6,3 (Pin-assignment: 1-2-4-3) *
4	Cable + connector AMP 6,3 (Pin-assignment: 1-4-2-3) *
5	Connector M8
6	Connector JST
7	Single strands 200mm with ferrules

* only available with the LED function "Semi-Automatic (4-pin)"!

C3 - Colour of the coloured cover ring

Code	Description
C	Traffic white (RAL 9016)
-	-
-	-
-	-
-	-
-	-
-	-
-	-

C4 - LED-control ³ / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO / DC 24V
B	Manual / 5-pin / PNP-NO / DC 24V
W	Automatic / 3-pin / PNP/NPN-NO changeable by reversing polarity * / DC 24V
G	Semi-Automatic / 4-pin / PNP-NO / DC 12V
-	-

* currently only available with the connection type "7- single strands"!

C5 - Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)



For further symbols please see our Symbol list ([Link](#))*

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge

C6 - LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - Standard
TG-YW	Green (LED1) / Yellow (LED2)
BU-SR	Blue (LED1) / Red (LED2)

O1 - Option 1 / Switching distance

Code	Description
- (w/o)	Standard switching distance
CP12	Increased switching distance
-	-

--- Please note the additional information and explanations on the following pages. Thank you! ---


Additional information & explanations on the previously described configuration items:

to ¹⁾ / Switching function:

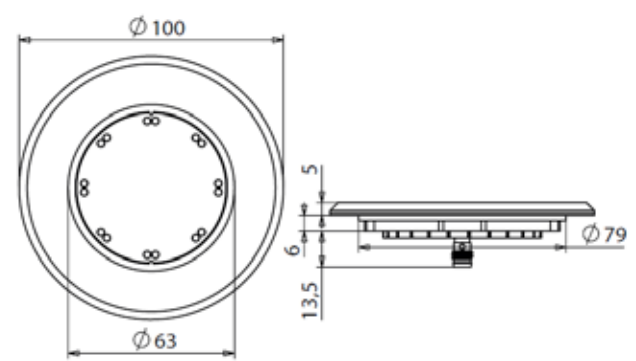
Switching function - *Dynamic*: The output signal is time-limited to 300ms, independent of the duration of actuation.

to ²⁾ / Version of coloured cover ring:

„G“ - glass version (Hygienic)



- Without lettering
- Without tactile Pictograms
- Without Braille



All dimensions in mm

to ³⁾ / LED control

LED control - *Semi-Automatic*: LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.

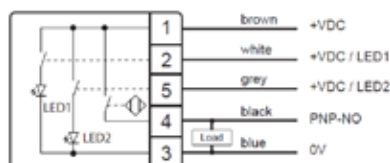
- *Manual*: Both LED1 and LED2 can be controlled separately as required..

- *Automatic*: LED1 (= e.g. green) lights up in operating state. When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up.

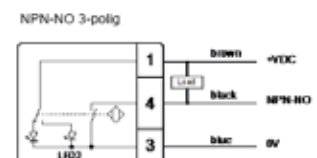
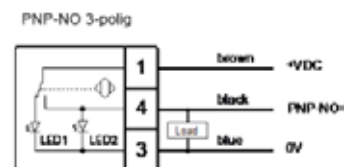
- this function is only available for connection diagram "W" -



Connection diagram „P“
PNP-NO // Semi-Automatic



Connection diagram „B“
PNP-NO // Manual



Connection diagram „W“
PNP-NO / NPN-NO changeable by reversing polarity I // Automatic

to ⁴⁾ / Types of connection:

<p>Connector M8 („CHT9-5_...“)</p> <p>4-pin 5-pin</p>	<p>Connector JST („CHT9-6_...“)</p> <p>4-pin 5-pin</p>
<p>Connector AMP („CHT9-4_...“)</p> <p>4-pin 4-pin</p> <p>(„CHT9-1_...“)</p>	<p>Single strands 200mm („CHT9-7_...“)</p> <p>Single strands 200mm with ferrules (Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p>3-pin 4-pin 5-pin</p>

Available accessories:

	<p>Mounting support for CHT9-G type SENSORswitches</p> <ul style="list-style-type: none"> - Available material <ul style="list-style-type: none"> o Aluminium natural anodized = AH9-1X9/CPM09-2 o Strainless steel V4A = AH9-1X8/CPM09-2 - The mounting of the mounting support is carried out by screw mounting; the CHT9-G SENSOR button is then glued on.
	<p>Connection cable for the SENSORswitches type CHT9-G</p> <ul style="list-style-type: none"> - Connection cable with M8 socket. Length = 5m * <ul style="list-style-type: none"> o with straight M8 socket; 4-pin / 5-pin = TKG-40-5 // TKG-50-5 o with angled M8 socket, 4-pin / 5-pin = TKW-40-5 /// TKW-50-5 - Connection cable with JST socket; length = 5m * <ul style="list-style-type: none"> o with JST socket; 4-pin / 5-pin = CHT-46-5 // CHT-56-6 <p><i>* other cable lengths available on request.</i></p>

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)



The capacitive SENSORswitches **CHT9-Y** series are designed for screw mounting on smooth surfaces or profiles.

The CHT9-Y SENSORswitches are primarily used in plant automation, but also in building technology. The SENSORswitches can be supplied with an acoustic or tactile feedback via signal tone or vibration in addition to the optical feedback.

Please find below the most important features listed:

- Ø 63 mm switch surface
- Robust die-cast aluminium housing
- For high design requirements
- 56,3mm height
- 100% water and oil-proof - IP69K
- Screw mounting
- Switches on touch - high operating comfort, no pressure necessary
- Customization through symbols
- Optional: Acoustic feedback (signal tone) / Tactile feedback (vibration)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT9-Y series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Reverse polarity protection:	Protection of all lines
	DC 12V (10 ... 15V - Option -)	Short-circuit protection:	Short-circuit and overload protection
Load current:	Max. 400 mA	Voltage drop:	max. 3 V at 400 mA
Output:	PNP-NO	Current consumption:	max. 30 mA at 24V DC
	PNP / NPN changeable by reversing polarity (Option)	Operation temperature:	-30 ... +80°C
Output signal:	approx. 300ms („Dynamic“) ¹	Degree of protection (IP):	Frontside IP69K
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required



Configuration help CHT9-Y

Type code 1 – with connection type „Connector M12“ ²:

CHT9	-	C1 Y	C2 8	C3 6	C4	O1	-	C5	/	-	C6	/	O2	/	CPM31
------	---	----------------	----------------	----------------	-----------	-----------	---	-----------	---	---	-----------	---	-----------	---	-------

Example: CHT9 - Y 8 6 P - H / TG - SR / CPM31

Type code 2 – with connection type „Connector M8 / Single strands 200mm“ ²:

CHT9	-	C1 Y	C2	C3 6	C4	O1	-	C5	/	-	C6	/	O2
------	---	----------------	-----------	----------------	-----------	-----------	---	-----------	---	---	-----------	---	-----------

C1 – Mounting / Design of the housing ²

Code	Description
Y ... CPM31	Screw mounting / die-cast aluminium housing, with M12 plug
Y (w/o CPM31)	Screw mounting / die-cast aluminium housing, with PG gland

C2 – Type of connection ⁴

Code	Description
8	Connector M12 (see type code 1)
5	Connector M8 (see type code 2)
7	Single strands 200mm with ferrules (see type c. 2)
-	-
-	-

C3 – Colour of the coloured cover ring *

Code	Description
6	Traffic black (RAL 9017)
-	-
-	-
-	-
-	-
-	-
-	-
-	-

* currently no other colours available except traffic black.

C4 – LED-control ³ / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO / DC 24V
B	Manual / 5-pin / PNP-NO / DC 24 V
W	Automatic / 3- pin / PNP/NPN-NO changeable by reversing polarity * / DC 24V
G	Semi-Automatic / 4-pin / PNP-NO / DC 12V
-	-

* currently only available with the connection type "7- single strands"!

O1 – Option 1 / Acoustic and tactile feedback

Code	Description
S	Acoustic feedback (signal tone) *
V	Tactile feedback (vibration) *
-	-

* only available with the LED functions "P - Semi-Automatic" and "B – Manual"!

C5 – Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)

For further symbols please see our Symbol list ([Link](#))*

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - Standard
TG-YW	Green (LED1) / Yellow (LED2)
-	-

O2 – Option 2 / Switching distance

Code	Description
-(w/o)	Standard switching distance
CP12	Increased switching distance
-	-

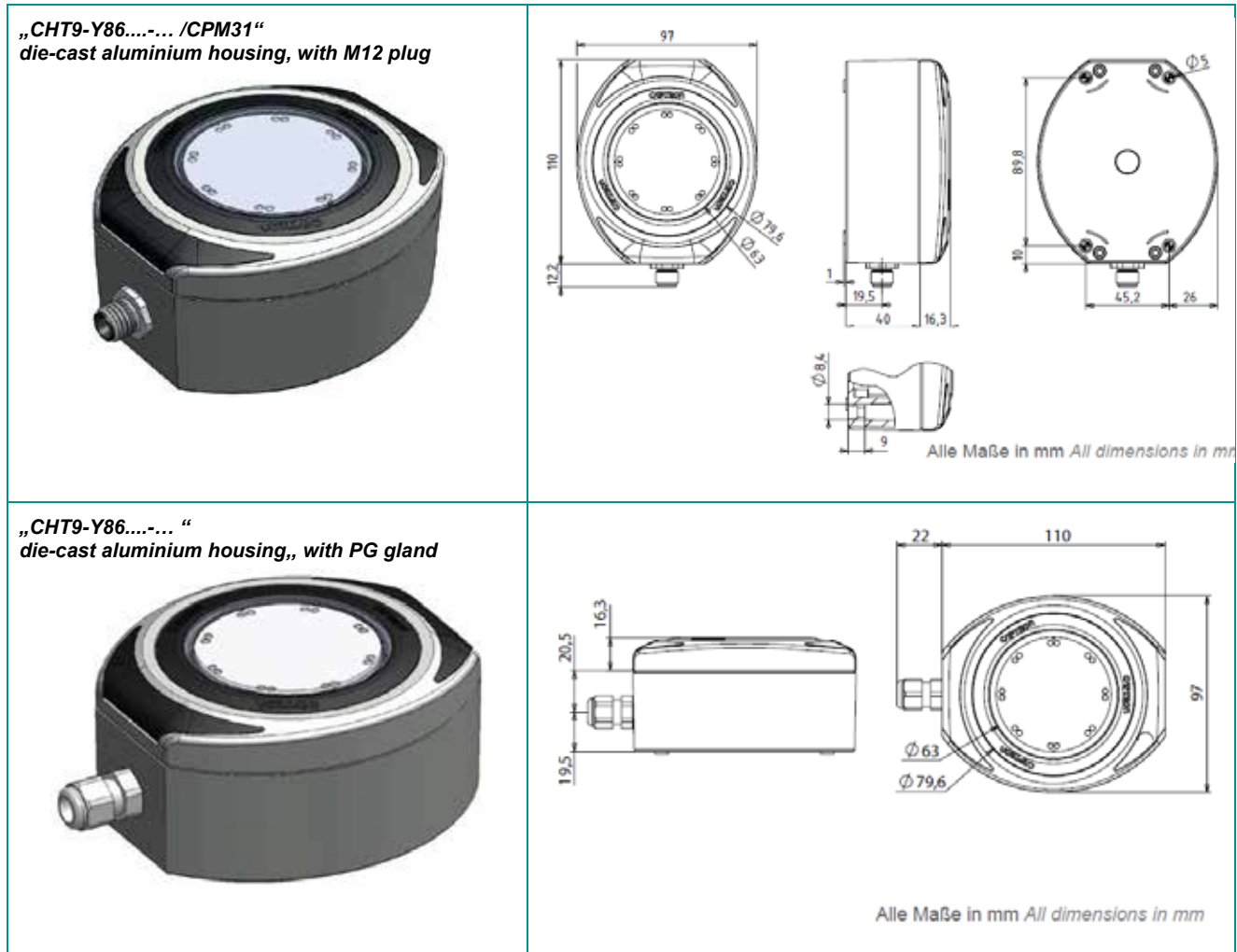
--- Please note the additional information and explanations on the following pages. Thank you! ---

Additional information & explanations on the previously described configuration items:

to ¹⁾ / Switching function:

Switching function - *Dynamic:* The output signal is time-limited to 300ms, independent of the duration of actuation.

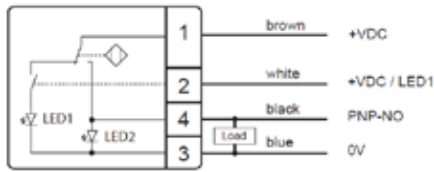
to ²⁾ / Design of the housing:



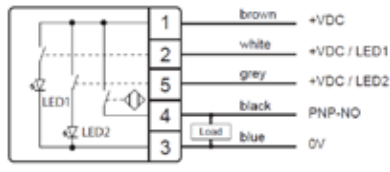
to ³⁾ / LED control & connection diagram:

- LED control**
- **Semi-Automatic:** LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.
 - **Manual:** Both LED1 and LED2 can be controlled separately as required.
 - **Automatic:** LED1 (= e.g. green) lights up in operating state. When the SENSORswitch is touched, LED1 goes out and LED2 (= e.g. red) lights up.
- **this function is only available for connection diagram "W" -**

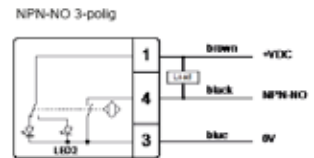
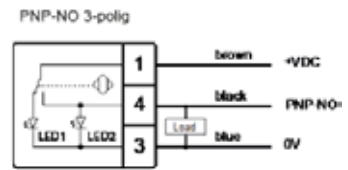
Connection diagram:



Connection diagram „P“ / „G“
PNP-NO // Semi-Automatic



Connection diagram „B“
PNP-NO // Manual



Connection diagram „W“
PNP-NO / NPN-NO changeable by
reversing polarity I // Automatic

to 4) / Types of connection:

<p>Connector M12 („CHT9-Y8_...“)</p> <p style="text-align: center;">4-pin 5-pin</p>	<p>Connector M8 („CHT9-Y5_...“)</p> <p style="text-align: center;">4-pin 5-pin</p>
<p>Single strands 200mm („CHT9-Y7_...“)</p> <p style="text-align: center;">Single strands 200mm with ferrules</p> <p style="text-align: center;">(Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)</p> <p style="text-align: center;">3-pin 4-pin 5-pin</p>	

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.



Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

CHT51 SENSORswitches are designed for gluing to insulated glass (double-glazed glass). They are constructed for two-sided operation and switch by light touch on the pane of glass. On that score they are suitable for applications from the inside and outside of a vehicle or building with double-glazed glass. For their installation and application is no hole required in the pane.

As door opening buttons CHT51 SENSORswitches are suitable for the high frequency continuous service used in the passenger transport and building technology.

The switches provide optical feedback via 16 bright LEDs. According to the requirements of TSI-PRM for people with limited mobility, the outer ring can be equipped with Braille and raised pictograms.

Please find below the most important features listed:

- Two-sided operation through double glass
- Ø 63mm switch surface
- 14mm height inside / 3,2mm height outside
- Profile angle 90° (Option: 84° / 80° / 60°)
- Customization through symbols and colours of the cover ring
- TSI-PRM compliant – Pictograms and braille available
- Optical feedback through LEDs

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT51 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Legend:

- (A) = Coloured position ring (outside)
- (B) = Glass panes (double glazing; pane thickness up to max. 4mm each; distance between panes max. 8mm)
- (C) = Mounting flange BF95-2
- (D) = sensor element
- (E) = Coloured cover ring AR5-2X_ (inside)



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
	DC 12V (10 ... 15V - Option -) DC 110V (77 ... 137,5V - Option -)	Voltage drop:	max. 3 V at 400 mA (24V)
Load current:	max. 200 mA (at 24V / 12V)	Current consumption:	max. 3V at 200 mA (12 V) max. 3V at 10 mA (110 V)
	max. 15 mA (at 110V)		max. 30 / 35 mA (24 V – 4-pin/5-pin)
Output:	PNP-NO	Operation temperature:	max. 20 mA (12V) max. 15 mA (110V)
Output signal:	100-300 ms (depending on the duration of operation)	Degree of protection (IP):	-30 °C ... +70° C
LED 1:	8 green LEDs	Type of operation:	Frontside IP69K
LED 2:	8 red LEDs	Operation force:	Capacitive
Reverse polarity protection:	Protection of all lines		No operation force required



Configuration help CHT51-2

Type code 1 – Position ring and cover ring = same colour ¹:

CHT51	-	C1	C2	C3	C5	-	C6	/	-	C7	/	O1	/	O2
		2	6											

Example: CHT51 - 2 6 1 P - H / TG - SR / T6

Type code 2 – Position ring and cover ring = deviating colours ¹:

CHT51	-	C1	C2	C3	C4	C5	-	C6	/	-	C7	/	O1	/	O2
		2	6												

C1 – Mounting

Code	Description
2	Adhesive mounting on double glass pane

C2 - Type of connection ⁴

Code	Description
6	Connector JST (4-pin / standard)
M	Connector JST (5- pin / only together with C5 -> B)

C3 – Colour of the cover ring and the position ring (T1) Colour of the cover ring (Type code 2)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C4 - Colour of the position ring (Type Code 2 only)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C5 - LED-control ² / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / DC 24V
B	Manual / 5-pin / DC 24V
G	Semi-Automatic / 4-pin / DC 12V
U	Semi-Automatic / 4-pin / DC 110V

C6 - Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)



For further symbols please see our Symbol list ([Link](#))*

* all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C7 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - Standard	
-	-	
-	-	

O1 - Version of the cover ring and position ring ³

Code	Description
-(w/o)	Standard version
T6	TSI-PRM compliant
-	-

O2 - Profile angle of the cover ring

Code	Description
-(w/o)	90° - Standard -
84°	84° angle version
80°	80° angle version
60°	60° angle version

Please note the additional information and explanations on the following pages.
Thank you!

Additional information & explanations on the previously described configuration items:

to ¹⁾ / Explanation of the type codes 1 / 2:

The CHT51-2 series SENSORswitches have a coloured position ring, which is attached to the outside of the glass pane by adhesive mounting, and a coloured cover ring, which is clipped onto the mounting flange on the inside.

These rings can either have the same colour (-> **type code 1**) or different colours (-> **type code 2**; e.g. coloured cover ring = traffic black, coloured position ring = traffic green)

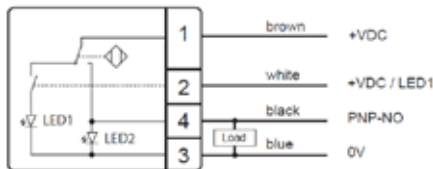
to ²⁾ / LED control:

LED control - **Semi-Automatic:**

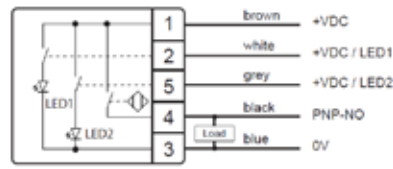
Die LED1 (green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (red / switching state) lights up

- **Manual:**

Both LED1 and LED2 can be controlled separately as required. This function is currently only available when the **DC 24V version** is selected!



Connection diagram „P“ / „G“ / „U“
PNP-NO // Semi-Automatic

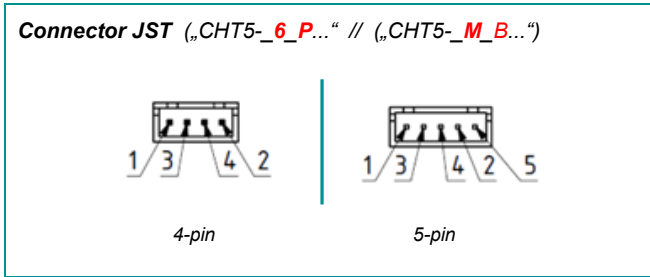


Connection diagram „B“
PNP-NO // Manual

to ³⁾ / version of the coloured position ring and the coloured cover ring:

<p>Standard version</p>	<p>Position ring (outside)</p> <p>Cover ring (inside)</p> <p style="text-align: right;">All dimensions in mm</p>
<p>TSI-PRM compliant rings (T6)</p>	<p>Position ring (outside)</p> <p>Cover ring (inside)</p> <p style="text-align: right;">All dimensions in mm</p>

to ⁴⁾ / Types of connection:



You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional Information / Connection diagram \(Page 3 & 4\)](#)



The SENSORswitch CHT61 is designed for adhesive mounting on **double glass** and switch by touch. The SENSORswitch CHT61 can be switched one sided through double glass. For installation / application it is not required to have a hole in the glass.

The field of application extends over traffic engineering and building technology up to information services. The SENSORswitch is equipped with an optical feedback. Several million cycles and an extremely long life completes the SENSORswitch.

For people with limited mobility, the SENSORswitch is available with Braille or raised symbols at the outer and the cover ring.

Please find below the most important features listed:

- Single-sided operation through double glass
- Ø 63mm switch surface
- 14mm height inside / 3,2mm height outside
- Profile angle 90° (Option: 84° / 80° / 60°)
- Customization through symbols and colours of the cover ring
- TSI-PRM compliant – Pictograms and braille available
- Optical feedback through LEDs

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT61 series for the required specifications and applications.

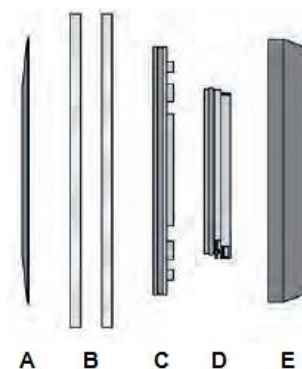
Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Legend:

- (A) = Coloured position ring (outside)
- (B) = Glass panes (double glazing; pane thickness up to max. 4mm each; distance between panes max. 8mm)
- (C) = Mounting flange BF95-2
- (D) = sensor element
- (E) = Coloured cover ring AR5-2X_ (inside)



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V) DC 12V (10 ... 15V - Option -)	Voltage drop:	max. 3 V at 400 mA (24V) max. 3V at 200 mA (12 V)
Load current:	max. 200 mA	Current consumption:	max. 30 / 35 mA (24 V) max. 20 mA (12V)
Output:	PNP-NO		
Output signal:	100-300 ms (depending on the duration of operation)	Operation temperature:	-30 °C ... +80° C
LED 1:	8 green LEDs	Degree of protection (IP):	Frontside IP69K
LED 2:	8 red LEDs	Type of operation:	Capacitive
Reverse polarity protection:	Protection of all lines	Operation force:	No operation force required
Short-circuit protection:	Short-circuit and overload protection		



Configuration help CHT61-2

Type code 1 – Position ring and cover ring = same colour ¹:

CHT61	-	C1 2	C2 6	C3	C5	-	C6	/	-	C7 SR	/	O1	/	O2
-------	---	----------------	----------------	-----------	-----------	---	-----------	---	---	-----------------	---	-----------	---	-----------

Example: CHT61 - 2 6 5 P - H / TG - SR / T6

Type code 2 – Position ring and cover ring = deviating colours ¹:

CHT61	-	C1 2	C2 6	C3	C4	C5	-	C6	/	-	C7	/	O1	/	O2
-------	---	----------------	----------------	-----------	-----------	-----------	---	-----------	---	---	-----------	---	-----------	---	-----------

C1 – Mounting

Code	Description
2	Adhesive mounting on double glass pane

C2 – Type of connection ⁴

Code	Description
6	Connector JST (4-pin / standard)

C3 – Colour of the cover ring and the position ring (T1) Colour of the cover ring (Type code 2)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C4 – Colour of the position ring (Type Code 2 only)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C5 – LED-control ² / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / DC 24V
G	Semi-Automatic / 4-pin / DC 12V
-	-
-	-

C6 – Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)



For further symbols please see our Symbol list ([Link](#))^{*}

^{*} all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C7 – LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i>
-	-
-	-

O1 – Version of the cover ring and position ring ³

Code	Description
- (w/o)	Standard version
T6	TSI-PRM compliant
-	-

O2 – Profile angle of the cover ring

Code	Description
- (w/o)	90° - <i>Standard</i> -
84°	84° angle version
80°	80° angle version
60°	60° angle version

Please note the additional information and explanations on the following pages.
Thank you!

Additional information & explanations on the previously described configuration items:

to ¹⁾ / Explanation of the type codes 1 / 2:

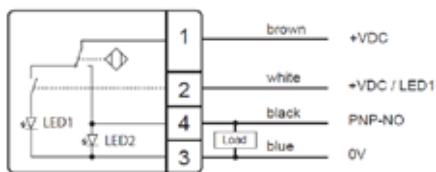
The CHT51-2 series SENSORswitches have a coloured position ring, which is attached to the outside of the glass pane by adhesive mounting, and a coloured cover ring, which is clipped onto the mounting flange on the inside.

These rings can either have the same colour (-> **type code 1**) or different colours (-> **type code 2**; e.g. coloured cover ring = traffic black, coloured position ring = traffic green)

to ²⁾ / LED control:

LED control - **Semi-Automatic:**

Die LED1 (green / operating state) can be controlled separately.
When the SENSORswitch is actuated, LED1 goes out and LED2 (red / switching state) lights up

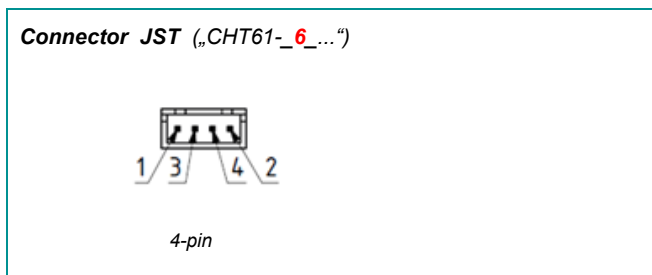


Connection diagram „P“
PNP-NO // Semi-Automatic

to ³⁾ / version of the coloured position ring and the coloured cover ring:

<p>Standard version</p>	<p>Position ring (outside)</p>	<p>Cover ring (inside)</p>	<p>All dimensions in mm</p>
<p>TSI-PRM compliant ring (T6)</p>	<p>Position ring (outside)</p>	<p>Cover ring (inside)</p>	<p>All dimensions in mm</p>

to ⁴⁾ / Types of connection:



You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 2 & 3\)](#)

The CHT7 SENSORswitch series are designed for adhesive mounting on glass or other smooth surfaces such as aluminium, metal, etc. The capacitive SENSORswitches switch when the sensing surface is touched.

Actuation is only possible on one side from the inside of the vehicle or building.

The CHT7 SENSORswitches are suitable as door opening buttons for highly frequented continuous use in buses, trains and in building technology. Equipped with Braille and raised pictograms on the colour ring (optional), 16 bright LEDs and vibration (optional), the SENSORswitches are particularly user-friendly for persons with limited mobility and children.

The special metal housing design ensures a high-quality appearance.



Please find below the most important features listed:

- Ø 63 mm switch surface
- Adhesive mounting
- Profile angle 90°
- Customization through symbols
- 12 mm height inside
- 100% water and oil proof - IP69K

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT74 series for the required specifications and applications.

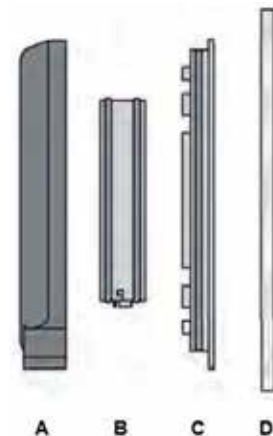
Please contact us:

Phone: +49 (0)8142 / 44 88 – 160

E-Mail: sales@captron.com

Legend:

- (A) = Cover ring
- (B) = sensor element
- (C) = Mounting flange
- (D) = Glass pane, acrylic or metal plate



Technical data at 24 V and 20 °C:

Supply voltage:	DC 24 V DC (16,8 ... 32V)	Voltage drop:	max. 3 V at 400 mA
Load current:	max. 400 mA	Current consumption:	max. 20 mA at 24V DC
Output:	PNP-NO	Operation temperature:	-30 ... +80°C
Output signal:	approx. 300ms (Option „Dynamic“ ¹)	Degree of protection IP):	Frontside & backside IP69K connector IP20
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required
Reverse polarity protection:	Protection of all lines	Type of connection:	connector JST
Short-circuit protection:	Short-circuit and overload protection		



Configuration help CHT74-2

Type code:

CHT74 - C1 2 C2 6 C3 L C4 P - C5 / TG - C6 SR

Example: CHT74 - 2 6 L P - 30 / TG - SR

C1 - Mounting

Code	Description
2	adhesive mounting on glass pane or smooth surface

C2 - Type of connection ⁴

Code	Description
6	Stecker JST

C3 - Material of cover ring ³

Code	Description
L	Aluminium – titanium silver coated

C4 - LED control ² / Numbers of pins / Output

Code	Description
P	Semi-Automatic / 4-pin / PNP-NO / DC 24 V

C5 - Symbol on switch surface

Code	Description
30	White surface
272	„<>“ (black on white)



C6 - LED colours (LED1 – LED2)

Code	Description
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i>
-	-
-	-

Additional information & explanations on the previously described configuration items:

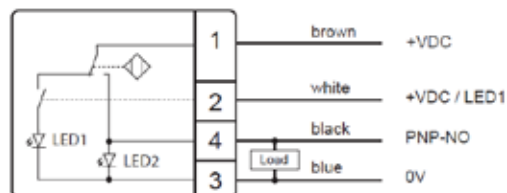
to ¹ / switching function

Switching function - *Dynamic*: The output signal is time-limited to 300ms, independent of the duration of actuation.

to ² / LED control:

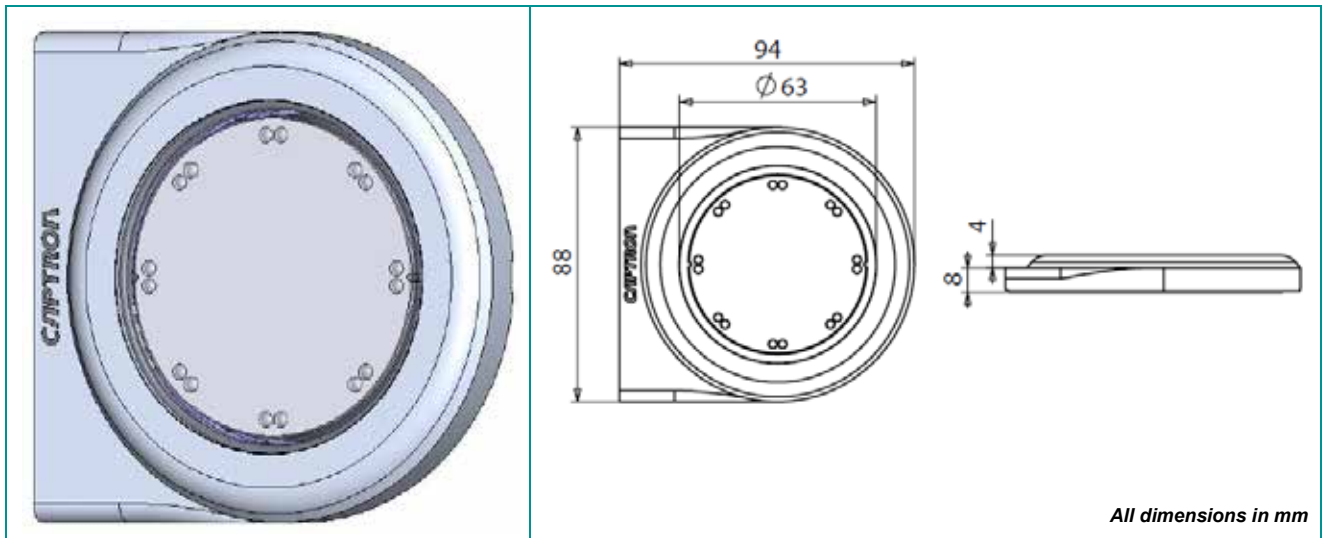
LED control - *Semi-Automatic*:

The LED1 (green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (red / switching state) lights up.



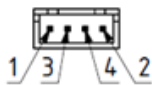
Connection diagram „P“
PNP-NO // Semi-Automatic

to ³⁾ / Product dimensions:



to ⁴⁾ / Types of connection:

Connector JST („CHT74-6_...“)



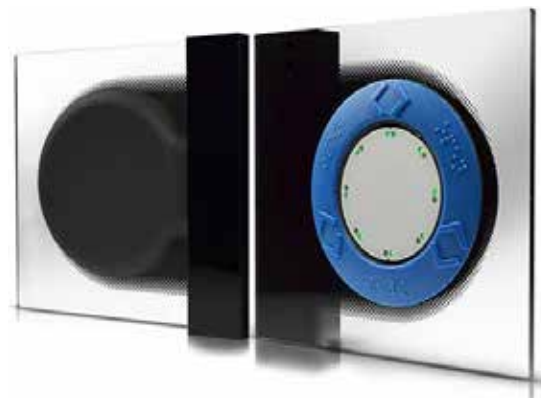
4-pin

You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.



Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 & 4\)](#)

The capacitive SENSORswitches of the CHT93-1 series are designed for adhesive mounting on glass or other smooth surfaces such as aluminium, metal etc. and switch on contact. Except for the sensor element, no further mounting holes are required.

the field of application extends over traffic engineering and building technology up to information services. The SENSORswitch is equipped with an optical feedback. Several million cycles and an extremely long life completes the SENSORswitch.

In accordance with the requirements of TSI-PRM for persons with reduced mobility, the colour ring can be equipped with Braille and raised pictograms. In addition, the SENSORswitches can be supplied with an acoustic (signal tone) and/or tactile feedback (vibration) in addition to the optical feedback.

Please find below the most important features listed:

- Ideal for mounting on dark tinted glass
- Ø 100mm total diameter
- Adhesive mounting
- 69 – 72mm mounting hole required
- 3mm height
- Customization through symbols and colours of the cover ring
- TSI-PRM compliant – Pictograms and braille available
- Optical feedback through LEDs
- Optional: Acoustic feedback (signal tone) / tactile feedback (vibration)
- Profile angle 90° (Option: 84° / 80° / 60°)

CAPTRON can provide individual advice to enable you to choose the perfect product from the CHT93 series for the required specifications and applications.

Please contact us:

Phone: +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com

Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V (16,8 ... 32V) DC 12V (10 ... 15V - Option -)	Voltage drop:	max. 3 V at 400 mA (24V) max. 3V at 200 mA (12 V)
Load current:	max. 400 mA	Current consumption:	max. 30 / 35 mA (24 V) max. 20 mA (12V)
Output:	PNP-NO	Operation temperature:	-30 °C ... +80° C
Output signal:	approx. 100-300ms („Dynamic“) ¹	Degree of protection (IP):	Frontside IP69K
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required
Reverse polarity protection:	Protection of all lines		
Short-circuit protection	Short-circuit and overload protection		

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 Geschäftsführer: Reinhard Bellm, Petra Bellm, Philip Bellm • München HRB 70962 • USt.-ID Nr.: DE 129 310 850

Q U A L I T Y M A D E I N B A V A R I A



Configuration help CHT93-1

Type code 1 – Position ring and cover ring = same colour²:

CHT93	-	C1	C2	C3	C5	-	C6	/	-	C7	/	O1	/	O2
		1	6											

Example: CHT93 - 1 6 5 P - H / TG - SR / T6

Type code 2 – Position ring and cover ring = deviating colours²:

CHT93	-	C1	C2	C3	C4	C5	-	C6	/	-	C7	/	O1	/	O2
		1	6												

C1 – Mounting

Code	Description
1	Adhesive mounting on glass pane

C2 – Type of connection⁵

Code	Description
6	Connector JST (4-pin / standard)

C3 – Colour of the cover ring and the position ring (T1) Colour of the cover ring (Type code 2)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C4 – Colour of the position ring (Type Code 2 only)

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
2	Sky blue (RAL 5015)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
K	Traffic grey A (RAL 7042)	

C5 – LED-control³ / Numbers of pins / Supply voltage

Code	Description
P	Semi-Automatic / 4-pin / DC 24V
B	Manual / 5-pin / DC 24V
-	-
-	-

C6 – Symbol on switch surface

Code	Description
30	White surface
H	Hand (green on white)



For further symbols please see our Symbol list ([Link](#))^{*}

^{*} all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C7 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i>	
BU-SR	Blue (LED1) / Red (LED2)	
-	-	

O1 – Version of the coloured position ring⁴

Code	Description
- (w/o)	Standard version
T6	TSI-PRM compliant
-	-

O2 – Profile angle of the cover ring

Code	Description
- (w/o)	90° - <i>Standard</i> -
84°	84° angle version
80°	80° angle version
60°	60° angle version

 Please note the additional information and explanations on the following pages.
 Thank you!

Additional information & explanations on the previously described configuration items:

to 1) / Switching function:

Switching function - *Dynamic:* The output signal is time-limited to 300ms, independent of the duration of actuation.

to 2) / Explanation of the type codes 1 / 2:

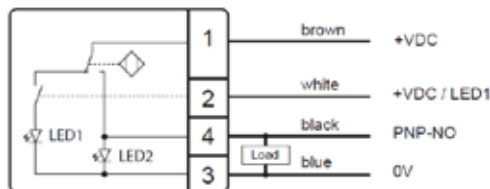
The CHT93-1 series SENSORswitches have a coloured position ring, which is attached to the outside of the glass pane by adhesive mounting, and a coloured cover ring, which is clipped onto the mounting flange on the inside.

These rings can either have the same colour (-> **type code 1**) or different colours (-> **type code 2**; e.g. coloured cover ring = traffic black, coloured position ring = traffic green)

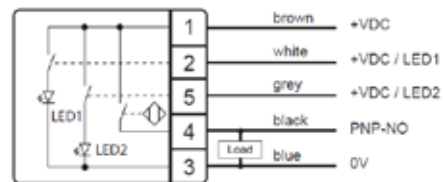
Zu 3) / LED control / Connection diagram:

LED control - *Semi-Automatic:* LED1 (e.g. green / operating state) can be controlled separately. When the SENSORswitch is actuated, LED1 goes out and LED2 (e.g. red / switching state) lights up.

- *Manual:* Both LED1 and LED2 can be controlled separately as required. This function is currently only available when the DC 24V version is selected!



Connection diagram „P“
PNP-NO // Semi-Automatic



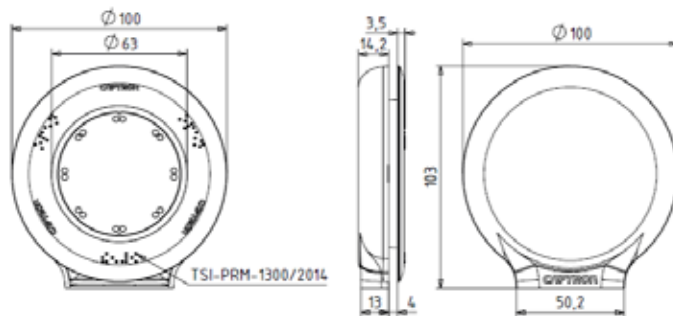
Connection diagram „B“
PNP-NO // Manual

to 4) / version of the coloured position ring and the coloured cover ring:

„1“ – Standard version

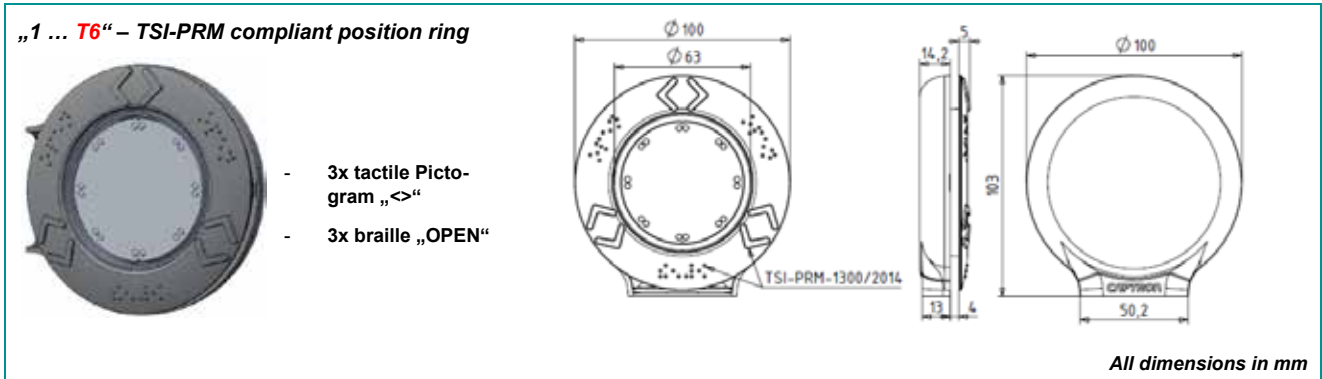


- 3x lettering „CAPTRON“
- 3x braille „OPEN“

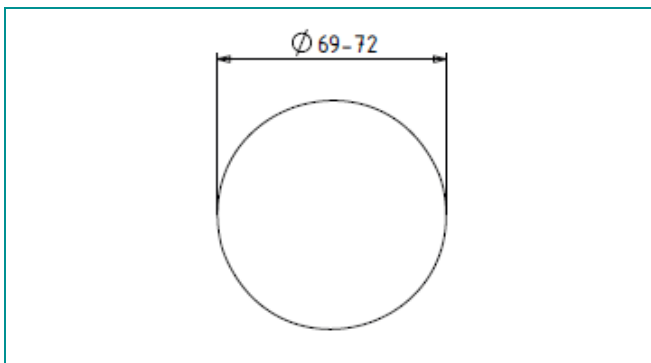


All dimensions in mm

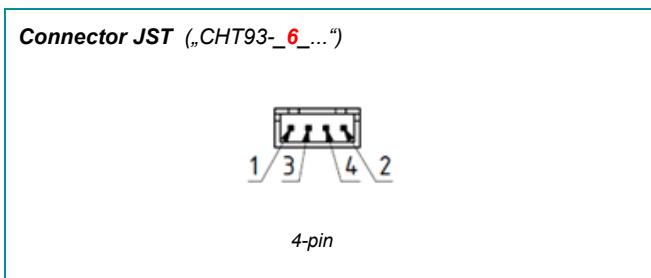
--- PLEASE TURN OVER ---



Hole pattern:



to ⁵⁾ / Types of connection:



You need support with the configuration?

Our internal sales team will be happy to advise you on this (Tel.: +49 (0)8142 / 44 88 – 160; sales@captron.com)

You need data sheets and/or 3D data?

Please also contact our internal sales department. Thank you.

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help \(Page 2\)](#)
[Additional information / Connection diagram \(Page 3 - 5\)](#)

CAPTRON is the first manufacturer worldwide to develop and produce capacitive stop request SENSORswitches with touch function for the public and private transportation. When touching the switch surface, the passenger receives visual feedback by 12 LEDs and optionally also acoustically by signal tone.

The HWT2 stop request SENSORswitches are specially designed for daily continuous use in public transport company and convince through extreme longevity, reliability and robustness. Mechanical wear or regular maintenance are therefore not applicable.

The HWT2 series is suitable both for rod mounting with different diameters (Ø 30 mm, 34/35mm) and for wall mounting. The simple and quick mounting is done by clipping the SENSORswitches into the previously screwed mounting brackets on the rod or wall. Thus, no screws are visible on the housing and vandalism is prevented.

Please find below the most important features listed:

- 16 cm² switch surface
- Option 1: rod mounting (Ø 30mm, 34/35mm)
- Option 2: wall mounting
- Switches to touch, no pressure necessary
- Feedback - optical and acoustic signals by 12 LEDs and beeper (optional)
- Extremely long service life - several 100 million switching cycles
- Individualization through symbols
- Barrier-free - Braille and raised pictograms on the housing or switch surface (optional / TSI-PRM compliant)

CAPTRON can provide individual advice to enable you to choose the perfect product from the HWT2 series for the required specifications and applications.

Please contact us:

Tel. +49 (0)8142 / 44 88 – 160
 E-Mail: sales@captron.com



Technical data at 24 V and 20 °C:			
Supply voltage:	DC 24V DC (10 ... 32V)	Short-circuit protection:	Short-circuit and overload protection
Load current:	max. 200 mA	Voltage drop:	max. 2 V at 200 mA
Output:	PNP-NO	Current consumption:	max. 15 mA at 24V DC
Minimum period of operation:	approx. 180ms	Operation temperature:	-30 ... +80°C
Output signal:	approx. 400ms (Dynamic ¹)	Degree of protection (IP):	Housing IP40
LED 1:	8 green LEDs	Type of operation:	Capacitive
LED 2:	8 red LEDs	Operation force:	No operation force required
Reverse polarity protection:	Protection of all lines		



Configuration help HWT2

Type code – with switching function Dynamic ¹:

HWT2	-	C1	C2	C3	C4	O1	-	C5	/	TG	-	C6	/	O2	/	O3
<i>Example: HWT2 - C 6 5 D S - V15 / TG - SR / T5 / T23</i>																

C1 – Mounting of the stop request button HWT2 ²

Code	Description
E	Rod mounting, for Ø 30mm
C	Rod mounting, for Ø 34 / 35mm
W	Wall mounting
-	-

C2 – Type of connection ⁵

Code	Description
6	Connector JST
-	-
-	-
-	-

C3 – Colour of the housing

Code	Description	
0	Traffic red (RAL 3020)	
1	Traffic green (RAL 6024)	
5	Traffic yellow (RAL 1023)	
6	Traffic black (RAL 9017)	
E	Traffic grey B (RAL 7043)	
H	Traffic blue (RAL 5017)	
-	-	

C4 – LED-control ³ / Numbers of pins / Supply voltage

Code	Description
D	Automatic / 3-pin / DC 24V
B	Manual / 3- + 2--pin / DC 24V
-	-
-	-
-	-
-	-

O1 – Option 1 / Acoustic feedback

Code	Description	
S	Acoustic feedback (Signal tone)	
-	-	
-	-	

C5 – Symbol on switch surface

Code	Description	
V15	„STOP“ (white on red)	
V20	„WHEELCHAIR“ (white on blue)	

For further symbols please see our Symbol list ([Link](#)) ^{*}

^{*} all symbols marked as „Standard“ are already available from 1 pieces / order up without any surcharge.

C6 – LED colours (LED1 – LED2)

Code	Description	
TG-SR	Green (LED1) / Red (LED2) - <i>Standard</i>	

O2 – Option 2 / raised pictogram on housing ⁴

Code	Description
T5	Relief "X" on the housing

O3 – Option 3 / Pictogram / Braille on switch surface ⁴

Code	Description
T22	Relief "<>" on switch surface [*]
T23	Braille characters "STOP" on switch surface [*]

^{*} Option T22 and T23 cannot be combined!


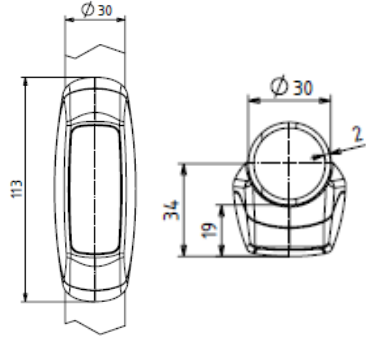
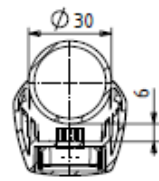

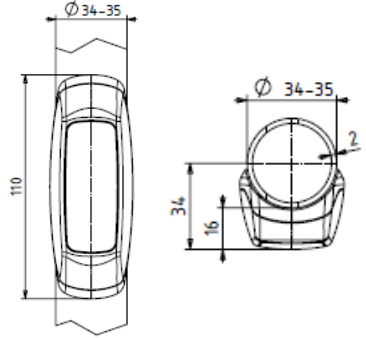
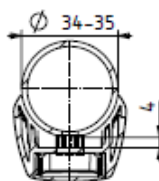

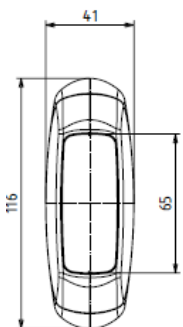
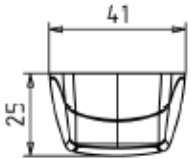
Please note the additional information and explanations on the following pages.
Thank you!

Additional information & explanations on the previously described configuration items:

to ¹⁾ / Switching function:

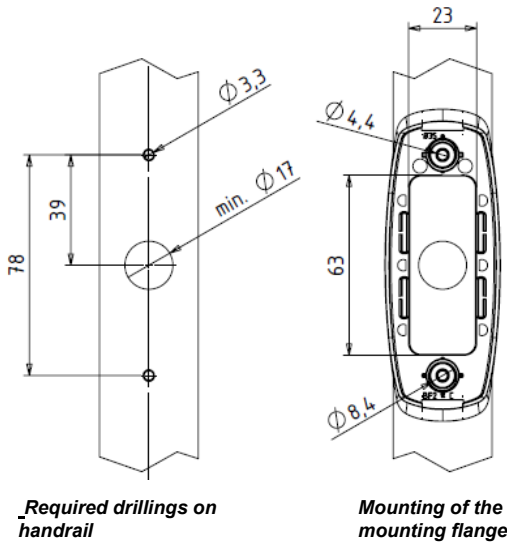
Switching function - *Dynamic:* The output signal is time-limited to 300ms, independent of the duration of actuation.

to ²⁾ / Type of mounting of the stop request SENSORswitch HWT2:

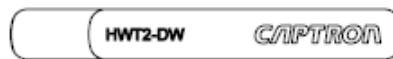
<p>„E“ - Rod mounting for hand rails with Ø 30mm</p>  <p><i>Example picture</i></p>	<p>Product dimensions:</p> 	<p>Rod distance:</p>  <p><i>All dimensions in mm</i></p>
<p>„C“ - Rod mounting for hand rails with Ø 34mm/35mm</p>  <p><i>Example picture</i></p>	<p>Product dimensions:</p> 	<p>Rod distance:</p>  <p><i>All dimensions in mm</i></p>
<p>„W“ - Wall mounting</p>  <p><i>Example picture</i></p>	<p>Product dimensions:</p> 	<p>Rod distance:</p>  <p><i>All dimensions in mm</i></p>

--- Please turn over ---

Assembly and disassembly (for example rod assembly with Ø 34mm / 35mm):



HWT2-DW



Removal of the HWT2 cup
Special tool „HWT2-DW“

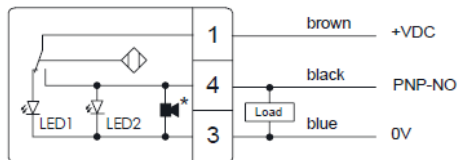
Required drillings on handrail

Mounting of the mounting flange

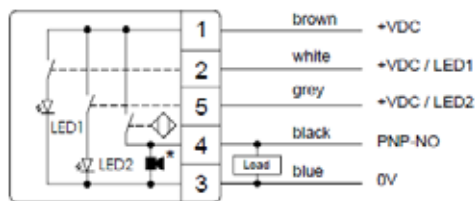
to 3) / LED control & Connection diagrams:

- LED control - Automatic:** LED1 (= green) lights up in operating state.
When the SENSORswitch is touched, LED1 goes out and LED2 (= red) lights up.
- Manual:** Both LED1 and LED2 can be controlled separately as required.

Connection diagrams:






Connection diagram „D“
PNP-NO // Automatic



Connection diagram „B“
PNP-NO // Manual

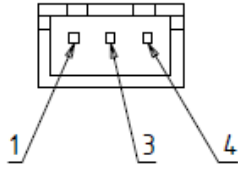
* optionally with beeper

to 4) / Option 1 & 2 – available tactile pictograms & Braille on housing and switch surface:

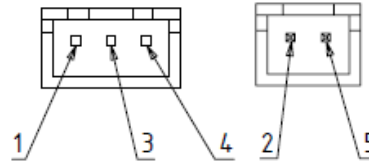
Option „T5“	Option „T22“	Option „T23“
 <p>2x tactile pictogram „X“ on housing</p>	 <p>1x tactile pictogram „<>“ on switch surface <i>(cannot be combined with option T23!)</i></p>	 <p>1x braille „STOP“ on switch surface <i>(cannot be combined with option T22!)</i></p>

to ⁵⁾ / Types of connection:

Connector JST - 3-pin / Automatic („HWT2-6_D...“)



Connector JST - 3- + 2-pin / Manual („HWT2-6_B...“)



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