

Configuration help for SENSORswitch series CHT1 (Relay Output)

Content: [Short description / Technical data \(Page 1\)](#)
[Configuration help CHT1 with relay output \(Page 2 + 3\)](#)
[Additional information / Connection diagram \(Page 4 - 8\)](#)

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:

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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 ...)

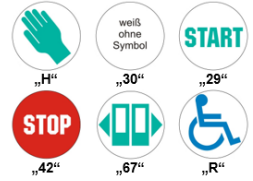
C6 – Relay output ⁵

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):

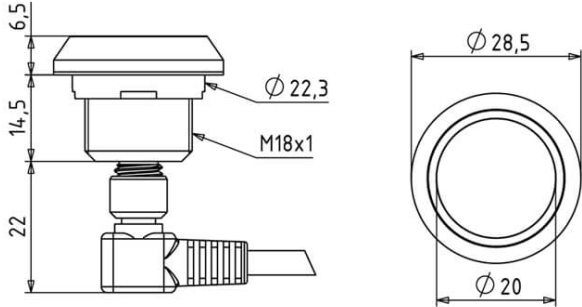
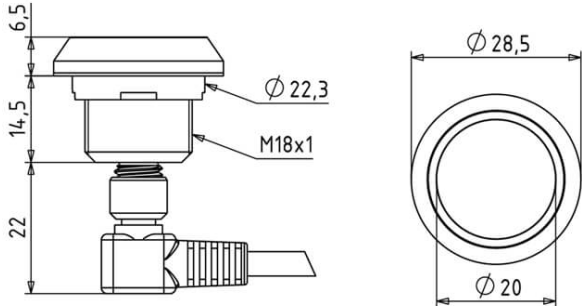
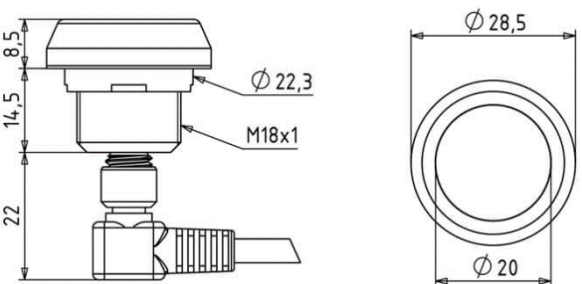
The CHT1 series SENSORswitches are equipped with LEDs in the following colours as standard

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

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

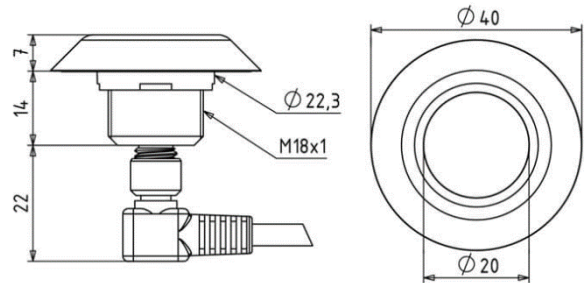
However, if a different LED colour configuration is required, the two LED colours must be listed in the article designation (> **Type Code 2**). The first specified LED colour (> C8) is illuminated in the operating state, the second specified LED colour (> C9) in the switching state (with LED control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

to 2) / Design of the housing ring:

„CHT1-1_9“ – Standard design Aluminium natural anodised Screw mounting with knurled nut 	 All dimensions in mm
„CHT1-1_G“ – Standard design Aluminium black anodised Screw mounting with knurled nut 	 All dimensions in mm
„CHT1-5_9“ – Protector design Aluminium natural anodised Screw mounting with knurled nut 	 All dimensions in mm

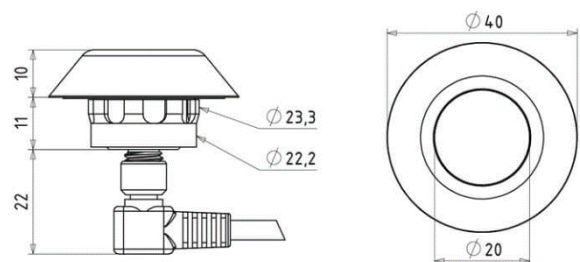
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„CHT1-1_8“ – stainless steel hygienic
Stainless steel ring in wide version
Screw mounting with knurled nut



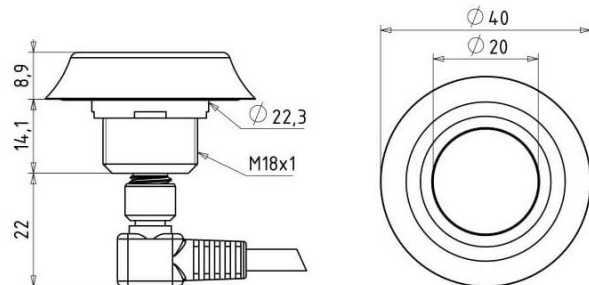
All dimensions in mm

„CHT1-T_8“ – stainless steel Snap-In design
Stainless steel ring in wide version
Snap-In mounting



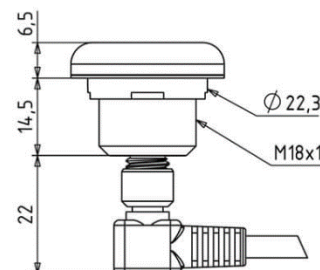
All dimensions in mm

„CHT1-6_8“ – stainless steel raised design
Stainless steel ring in wide version
Screw mounting with knurled nut



All dimensions in mm

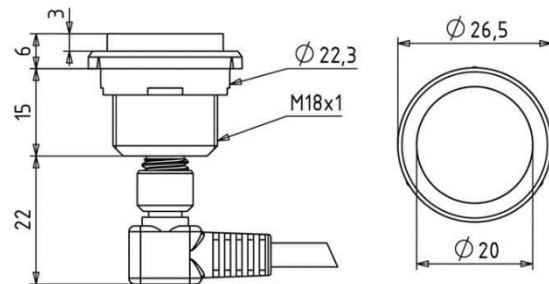
„CHT1-1_8.../CPM20“ – stainless steel design
Stainless steel ring in slim design
Screw mounting with knurled nut



All dimensions in mm

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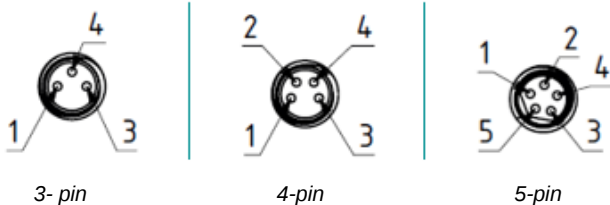
„CHT1-1_X“ – Flush mounting
Without housing ring for front plate mounting
Assembly with optional locking ring



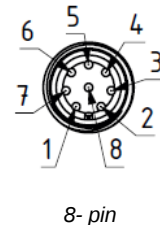
All dimensions in mm

to 3) / Types of connection:

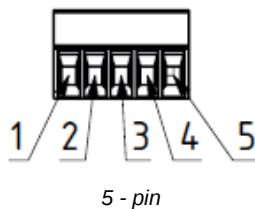
Connector M8 („CHT1-**5**_...“)



Cable + Connector M12 („CHT1-**9**_...“)



Terminal block („CHT1-**K**_...“)



Single strands 200mm („CHT1-**7**_...“)

Single strands 200mm with ferrules
(Wire end ferrules with plastic collar DIN 46228; wire cross-section strands 0.25 mm²)

3-pin 4-pin 5-pin 6-pin 7-pin 8-pin

to 4) / LED control & connection diagram:

LED control - **Automatic (D):**

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

- **Semi-Automatic (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.

- **Manual (B):**

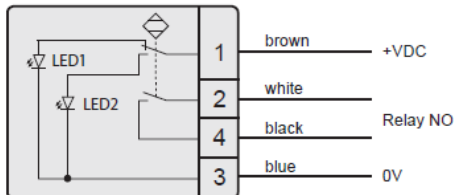
Both LED1 and LED2 can be controlled separately as required.

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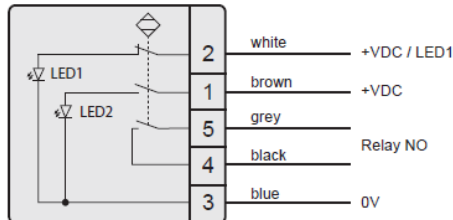
to 5) / Connection diagram

Connection diagram – **RELAY OUTPUT:**

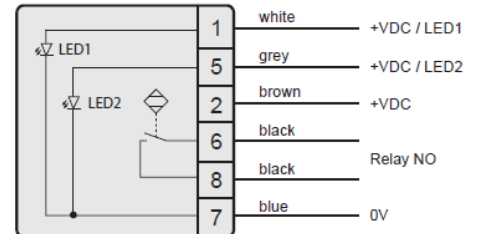
Relay 1x NO (Normally open)



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

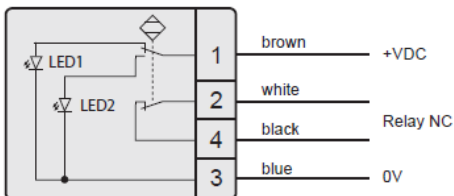


Connection diagram „PRS“
Semi-Automatic / Relay 1x NO (5-pin)

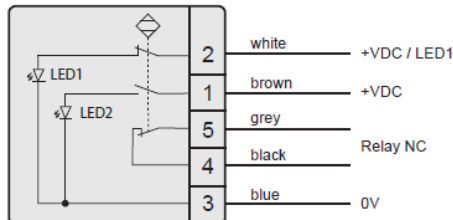


Connection diagram „BRS“
Manual / Relay 1x NO (6-pin)

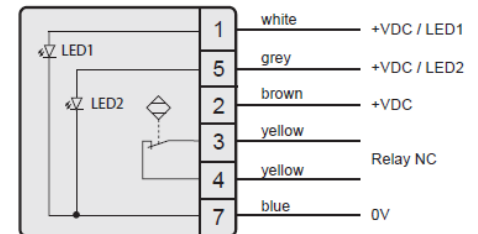
Relay 1x NC (Normally Closed)



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

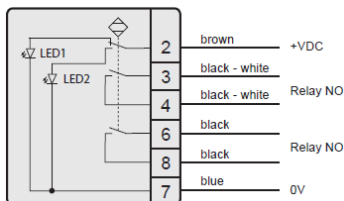


Connection diagram „PRO“
Semi-Automatic / Relay 1x NC (5-pin)

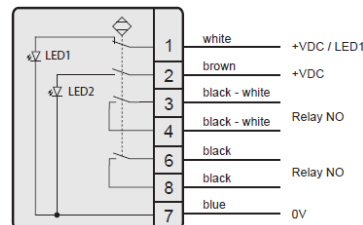


Connection diagram „BRO“
Manual / Relay 1x NC (6-pin)

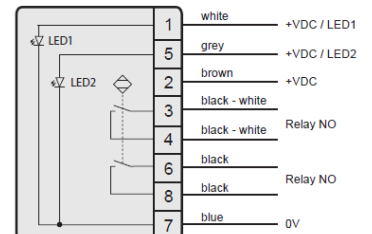
Relay 2x NO (Normally Open)



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

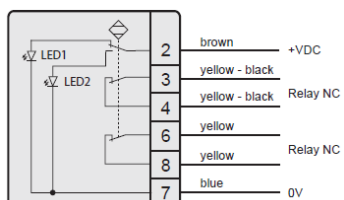


Connection diagram „PRSS“
Semi-Automatic / Relay 2x NO (7-pin)

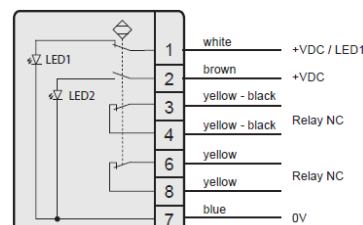


Connection diagram „BRSS“
Manual / Relay 2x NO (8-pin)

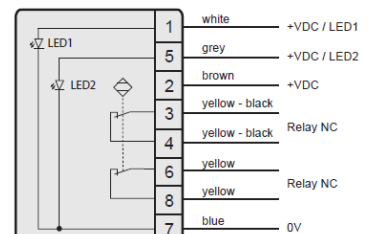
Relay 2x NC (Normally Closed)



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



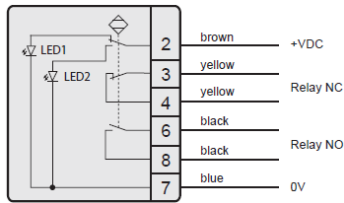
Connection diagram „PROO“
Semi-Automatic / Relay 2x NC (7-pin)



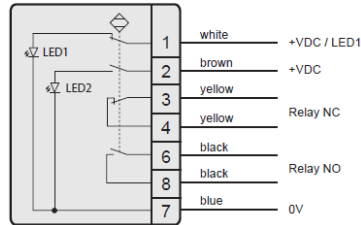
Connection diagram „BROO“
Manual / Relay 2x NC (8-pin)

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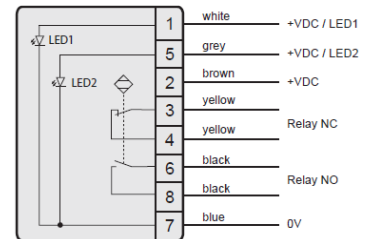
Relay 1x NO & 1x NC (Normally Open / Normally Closed)



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

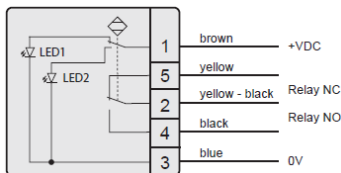


Connection diagram „PRSO“
Semi-Automatic / Relay 1x NO + 1x NC (7- pin)

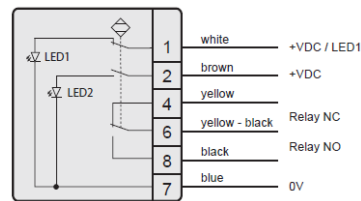


Connection diagram „BRSO“
Manual / Relay 1x NO + 1x NC (8- pin)

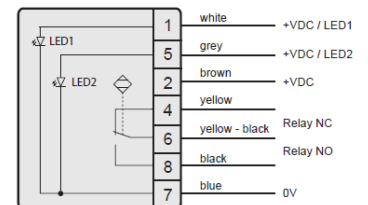
Relay 1x CO (Changeover)



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.