

# **CHT3**

## **Original Operating Instructions**

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**CHT3-1 / CHT3-2 / CHT3-A**  
**CHT3-V / CHT3-N / CHT3-S**

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These operating instructions are intended for technicians/installers and operators and should be kept for future reference. Read these operating instructions carefully and make sure that you have fully understood the contents before installing or working with the CHT3.

#### TIP

Metric and imperial measurements are used in drawings.  
Imperial measurements are marked with [ ].

## Safety

### General safety

All work on electrical systems or operating equipment may only be carried out by a specially qualified electrician according to the applicable electrotechnical regulations.

The safety of the system in which the SENSORswitch is integrated is the responsibility of the operator.

### Notes and symbols used

Warning notes in relation to personal injury / material damage are formulated according to the "SAFE" principle. This means they contain information on the type and source of the hazard, potential consequences as well as how to avoid and avert danger. The following hazard classifications apply in the safety notes:



**DANGER**

Danger designates a hazardous situation, which, if ignored, will lead to death or serious injury. The symbol next to the warning indicates the type and source of the danger.



## WARNING

Warning designates a hazardous situation, which, if ignored, may lead to death or serious injury. The symbol next to the warning indicates the type and source of the danger.



## CAUTION

Caution designates a hazardous situation, which, if ignored, may lead to injury. The symbol next to the warning indicates the type and source of the danger.

## NOTICE

Notice designates a situation, which may cause material damages and impair the product's function if attention is not paid.

## TIP

Tip provides additional useful information about the handling of the product.

Symbol	Meaning
▶	Avoiding and adverting danger in the warning note
▶	Instructions for action All instructions to be followed within a procedure are always listed in chronological order.
▪	List



## WARNING

### Improper work on electrical systems!

Electric shock can result in death or life-threatening injuries.

- ▶ Before working on electrical systems, disconnect them from their voltage supply and secure them against being switched on again.
- ▶ Work on electrical installations should be carried out only by qualified personnel in compliance with local and national electrical regulations and specifications.



## Personnel qualifications

A qualified electrician is a person with suitable technical training, expertise and experience as well as knowledge of relevant standards, who can evaluate the work assigned to them correspondingly and recognize potential risks.

## Intended use

The SENSORswitch is intended for use in accordance with the items listed here, the values from the “Technical specifications” chapter and the product description.

- Only connect the product to a limited energy source as per IEC 61010 or an NEC class 2 power supply unit.
- Source current < 4 A at maximum operating voltage.

## Reasonably foreseeable misuse

The switch is not suitable for:

- use as a foot switch.
- use in potentially explosive atmospheres.
- use with inductive loads without a free-wheeling diode.
- use as a safety component as per directive 2006/42/EC.

## Technical specifications

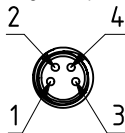
Operating voltage	— 24 V (16.8 to 32 V)
Load current	max. 400 mA
Output pulse dynamic static	approx. 300 ms Corresponds to operating time
Reverse polarity protection	Protection of all cables/lines
Short circuit protection	Protected against short circuit and overload
Voltage drop	max. 3 V at 400 mA
Power consumption at 24 V with signal tone with vibration with signal tone and vibration	max. 30 mA max. 70 mA max. 130 mA max. 200 mA
Operating temperature dynamic static	-30 °C (-22 °F) ... +80 °C (176 °F) 0 °C (32 °F) ... +55 °C (131 °F)
Degree of protection IP	Front IP69K
Type of actuation	Capacitive
Actuation force	No actuation force required
max. altitude	2000 m above sea level
Relative air humidity	max. 95%, non-condensing

## Connection options

### Plug

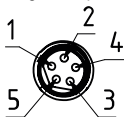
CHT3-\_5\_...

Plug M8, 4-pin

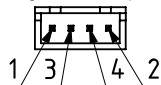


CHT3-\_5\_...

Plug M8, 5-pin



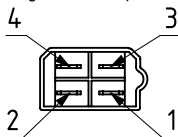
CHT3-6\_...  
Plug JST 2.54, 4-pin



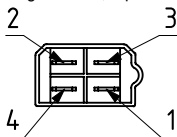
CHT3-6\_...  
Plug JST 2.54, 5-pin



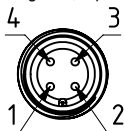
CHT3-1\_...  
Plug AMP 6.3, 4-pin



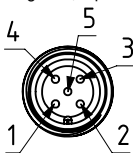
CHT3-4\_...  
Plug AMP 6.3, 4-pin



CHT3-8\_...  
Plug M12, 4-pin



CHT3-8\_...  
Plug M12, 5-pin



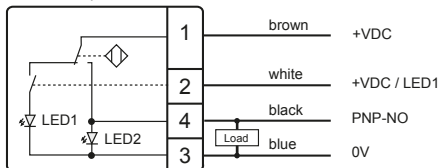
## Strands

### CHT3-7\_...

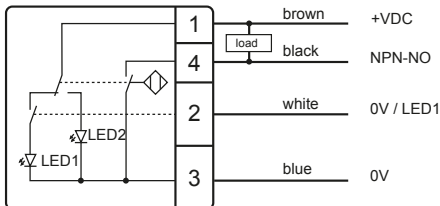
200 mm single strands with wire end ferrules  
Wire end ferrules with plastic collars DIN 46228  
Wire cross-section strands 0.25 mm<sup>2</sup>

## Connection plan

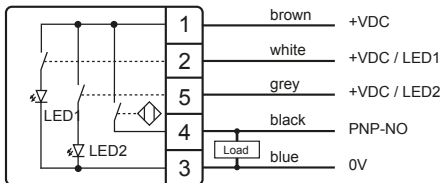
### PNP-NO, 4-pin



### NPN-NO 4-pin

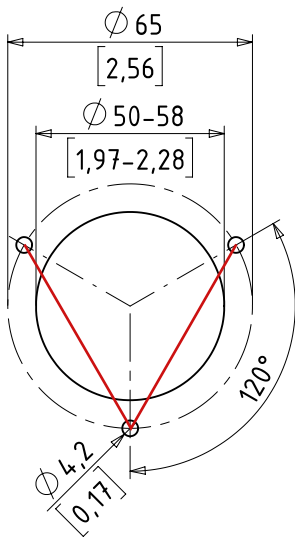


### PNP-NO 5-pin





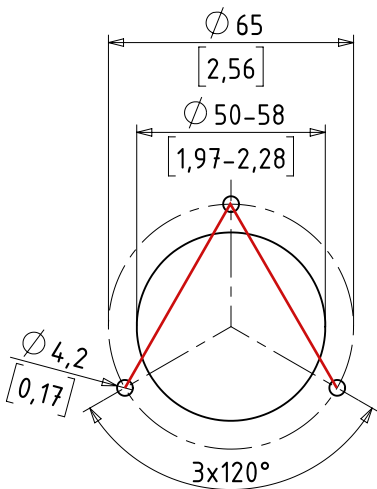
## Drilling pattern



V-assembly

CHT3-2

CHT3-V



A-assembly

CHT3-1

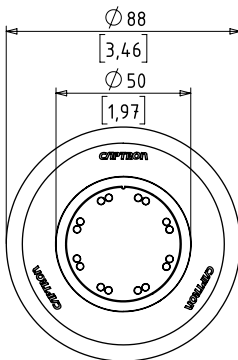
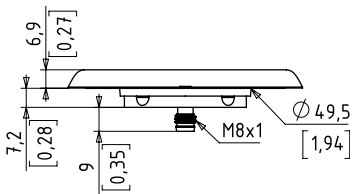
CHT3-S

CHT3-N

CHT3-A

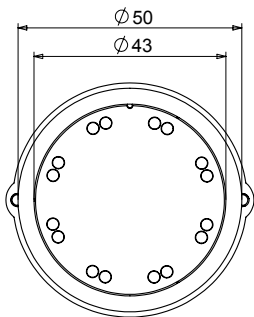
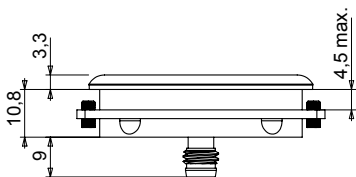
## Dimensional drawing

Exemplary presentation, plug M8, 4-pin

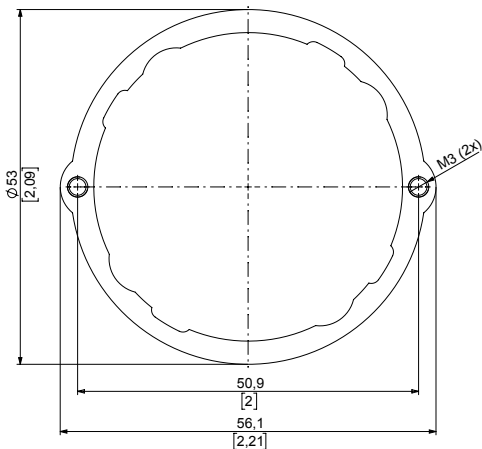


## Dimensional drawing with clamp ring

Exemplary presentation, plug M8, 4-pin



## Clamp ring dimensional drawing



## General description

The supplied SENSORswitch can have options that differ from those shown in this manual. This does not affect the function. The SENSORswitch is equipped with different color LEDs to indicate operating conditions. The LEDs are actuated differently depending on the pin configuration.

## Assembly

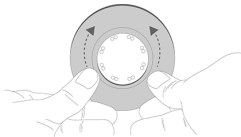
Requirements: Mounting surface is level and clean.

- ▶ Disconnect the system from its voltage supply and secure it against being switched on again.
- ▶ Set the desired position of the SENSORswitch and provide a center hole of minimum  $\varnothing$  50 mm to maximum  $\varnothing$  58 mm.

### TIP

The product description will indicate whether an A- or V-assembly is involved.

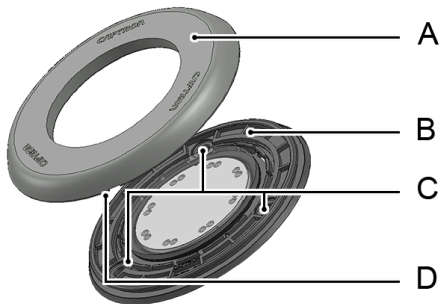
- ▶ Position the SENSORswitch (B) in the A- or V-assembly, align centered and vertically and mark holes (C).
- ▶ Select the diameter of the holes according to the recommended screw type and start drilling.
- ▶ Connect the SENSORswitch (B) electrically according to the connection plan.
- ▶ Install the SENSORswitch (B) with the recommended screws. The screw head must not deform the mounting flange (B).
- ▶ Place cover ring (A) with groove (D) downward and press close to the button surface. The cover ring must be flush with the entire button surface.



### NOTICE

**Mineral grease and oils can attack the plastic of the button!**

- ▶ Do not use grease or oils to apply the cover ring (A).

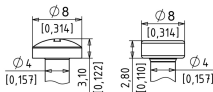


## Recommended screw types

- DIN EN ISO 1207 M4
- DIN EN ISO 7045 M4
- DIN EN ISO 1481 Ø3.9 mm
- DIN EN ISO 7049 Ø3.9 mm

## Maximum dimensions of the screws

The drawing shows the maximum dimensions of the screws.



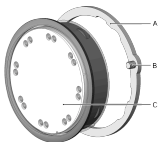
## Assembly with clamp ring

Requirements:

Mounting surface is level and clean.

Sheet thickness of the front panel is  $\leq 4.5$  mm

- ▶ Disconnect the system from its voltage supply and secure it against being switched on again.
- ▶ Set the desired position of the SENSORswitch and provide a center hole of  $\varnothing 48.0^{+0.5}$  mm.
- ▶ Remove the clamp ring (A) from the SENSORswitch (C).
- ▶ Insert the SENSORswitch (A) into the hole.
- ▶ Slide the clamp ring (A) onto it from the rear.
- ▶ Rotate the clamp ring (A) by approx.  $10^\circ$ .
- ▶ Aligning the SENSORswitch (C)
- ▶ Tighten the two screws (B) on the clamp ring (C).
- ▶ Connect the SENSORswitch (C) electrically according to the connection diagram.



## Maintenance

### Maintenance operations

Carry out the following maintenance operations at the specified intervals.

Maintenance operation	as needed	annually
Clean the button surface	X	
Check cables for intactness and firm fit		X
Check screw connections for tightness		X



## NOTICE

### **Solvents contained in cleaning agents can attack the plastic of the button!**

- ▶ Clean the surface of the button with a neutral cleaning agent or a damp microfiber cloth.

## Clean CHT3

Switch off the SENSORswitch for cleaning to prevent unintentional actuation.

## NOTICE

### **Solvents contained in cleaning agents can attack the plastic of the button!**

- ▶ Clean the surface of the button with a neutral cleaning agent or a damp microfiber cloth.

## Disassembly

- ▶ Disconnect the system from its voltage supply and secure it against being switched on again.
- ▶ Insert the flat head screwdriver into the groove on the cover ring (A) and remove the cover ring with the screwdriver via lever action.
- ▶ Loosen the screw connections and disconnect the electrical connection.

## Disposal

Different types of electrical and electronic components must be recycled according to their type. All applicable statutory, state and local laws and regulations must be complied with.

## Options



Braille characters



Relief

### Color variations



RAL 1023



RAL 7035



RAL 9017



RAL 3020



RAL 5017



RAL 6024

Scan QR code for more information  
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## Manual updates

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CAPTRON Electronic GmbH

Johann-G.-Gutenberg-Straße 7

82140 Olching – Germany

Tel.: +49 (0) 8142 44 88 – 160

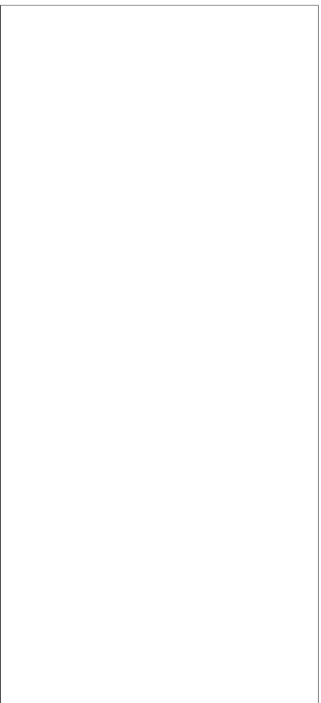
[sales@captron.com](mailto:sales@captron.com)

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CHT3 1.4

## **Product description / Product description**

A large, empty rectangular box with a thin black border, intended for entering a product description. The box is oriented vertically on the page.