

CHT3

Original Operating Instructions



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

Table of Contents

Safety.....	3
General safety.....	3
Notes and symbols used.....	3
Personnel qualifications.....	5
Intended use.....	5
Reasonably foreseeable misuse.....	5
Technical specifications.....	6
Connection options.....	6
Connection plan.....	8
Drilling pattern.....	9
Dimensional drawing.....	10
General description.....	11
Assembly.....	12
Recommended screw types.....	13
Maximum dimensions of the screws.....	13
Maintenance.....	13
Maintenance operations.....	13
Clean CHT3.....	14
Disassembly.....	14
Disposal.....	15
Options.....	15
Manual updates.....	15
Imprint.....	16
Product description / Product description.....	17

This manual has been written 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

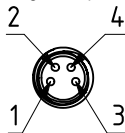
Operating voltage	— 24 V (16.8 to 32 V)
Load current	max. 400 mA
Output pulse dynamic static	approx. 300 ms Corresponds to operating time
Reverse polarity protection	Protection of all cables/lines
Short circuit protection	Protected against short circuit and overload
Voltage drop	max. 3 V at 400 mA
Power 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

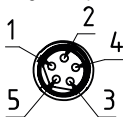
CHT3-_5_...

Plug M8, 4-pin

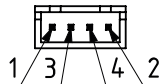


CHT3-_5_...

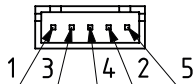
Plug M8, 5-pin



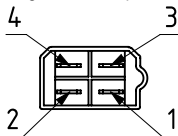
CHT3-_6_...
Plug JST 2.54, 4-pin



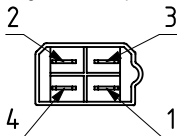
CHT3-_6_...
Plug JST 2.54, 5-pin



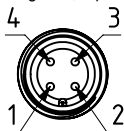
CHT3-_1_...
Plug AMP 6.3, 4-pin



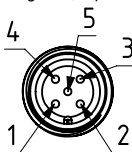
CHT3-_4_...
Plug AMP 6.3, 4-pin



CHT3-_8_...
Plug M12, 4-pin



CHT3-_8_...
Plug M12, 5-pin



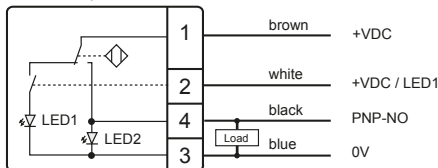
Strands

CHT3-_7_...

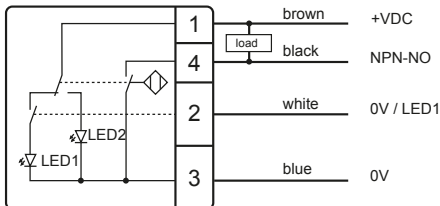
200 mm single strands with wire end ferrules
Wire end ferrules with plastic collars DIN 46228
Wire cross-section strands 0.25 mm²

Connection plan

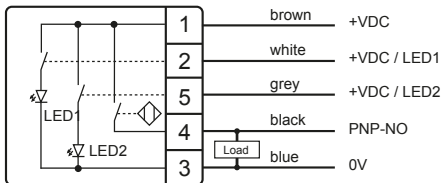
PNP-NO, 4-pin



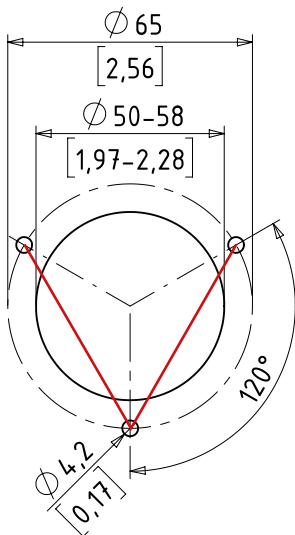
NPN-NO 4-pin



PNP-NO 5-pin



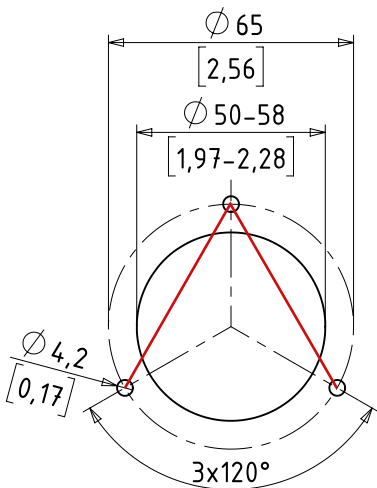
Drilling pattern



V-assembly

CHT3-2

CHT3-V



A-assembly

CHT3-1

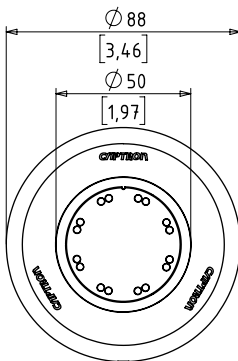
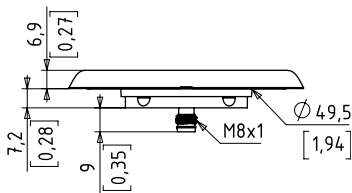
CHT3-S

CHT3-N

CHT3-A

Dimensional drawing

Exemplary presentation, plug M8, 4-pin



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

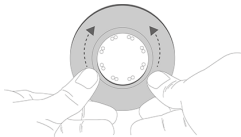
Requirements: Mounting surface is level and clean.

- ▶ 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.

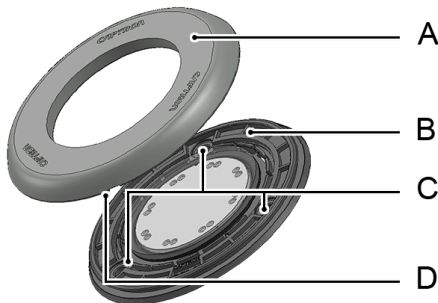
- ▶ Position the SENSORswitch (B) in the A- or V-assembly, align centered and vertically and mark holes (C).
- ▶ Select the diameter of the holes according to the recommended screw type and start drilling.
- ▶ Connect the SENSORswitch (B) electrically according to the connection plan.
- ▶ Install the 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).

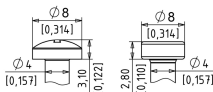


Recommended screw types

- 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.



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 (D) 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

RAL6024

Scan QR code for more information
or visit our website cht3.captron.de.



Manual updates

CAPTRON reserves the right to make changes to the contents of this manual as needed. The most current version can be found on our website. www.captron.com.

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CHT3 1.2

Product description / Product description