CHT1

CAPTRON

Original Operating Instructions

CHT1-1 / CHT1-5

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 CHT1.

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

Symbol	Meaning
▶	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 safety component in accordance with Machinery Directive 2006/42/EC.
- use outdoors.
- use in potentially explosive atmospheres.

Technical specifications

Operating voltage	⎓ 10…30 V
Load current	max. 400 mA
Output	PNP-NO
Output pulse optionally dynamic CHT12	Constant signal when actuated approx. 300 ms Toggle flip flop
Reverse polarity protection	Protection of all cables/lines
Short circuit protection	Protected against short circuit and overload
Voltage drop optionally dynamic	Max. 2 V at 400 mA Max. 2 V at 200 mA
Power consumption	Max. 20 mA at 24 V / Max. 20 mA at 24 V
Operating temperature	-30...+70°C

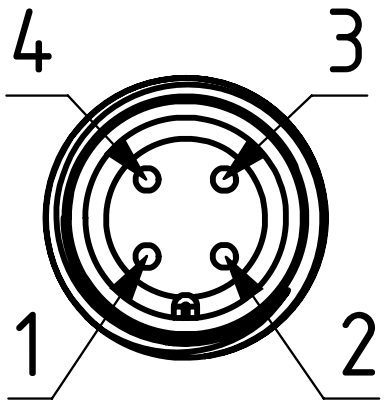
Degree of protection IP	Front IP69K
Type of actuation	Capacitive
Actuation force	No actuation force required
max. altitude	2000 m above sea level with "CSA listing"
Relative air humidity	Max. 95%, non-condensing

Connections

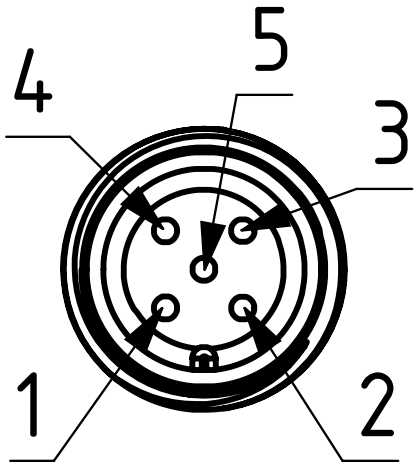
CHT1-_7_...

200 mm single strands with wire end ferrules
Wire end ferrules with plastic collars DIN 46228
Wire cross-section strands 0.15 mm^2

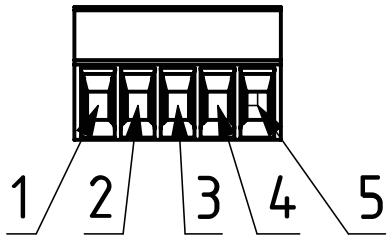
CHT1-_9_...
Plug M12, 4-pin



CHT1-_9_...
Plug M12, 5-pin



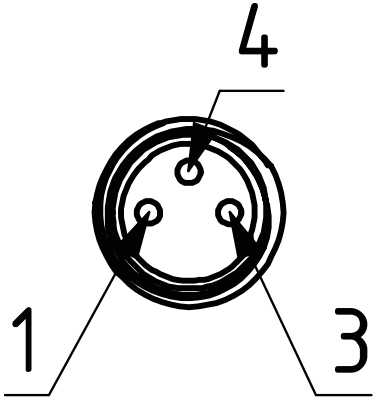
CHT1-_K_...
Terminal strip, 5-pin

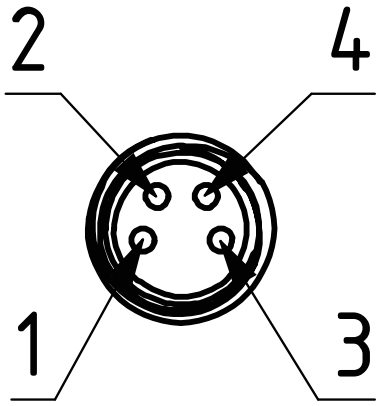


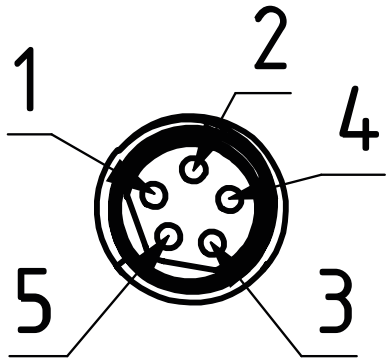
CHT1-_5_...
Plug M8, 3-pin

CHT1-_5_...
Plug M8, 4-pin

CHT1-_5_...
Plug M8, 5-pin

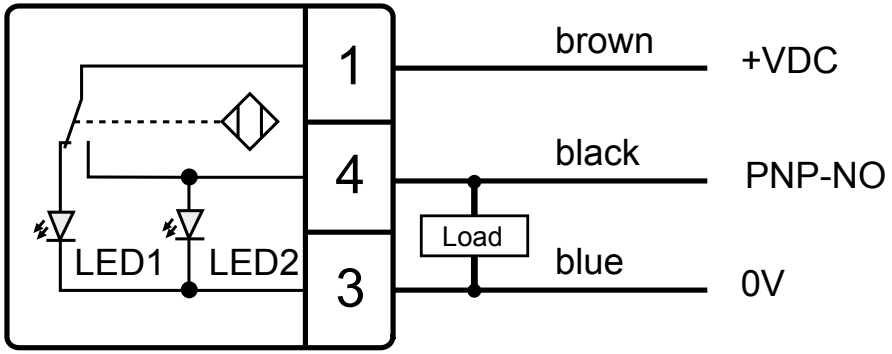




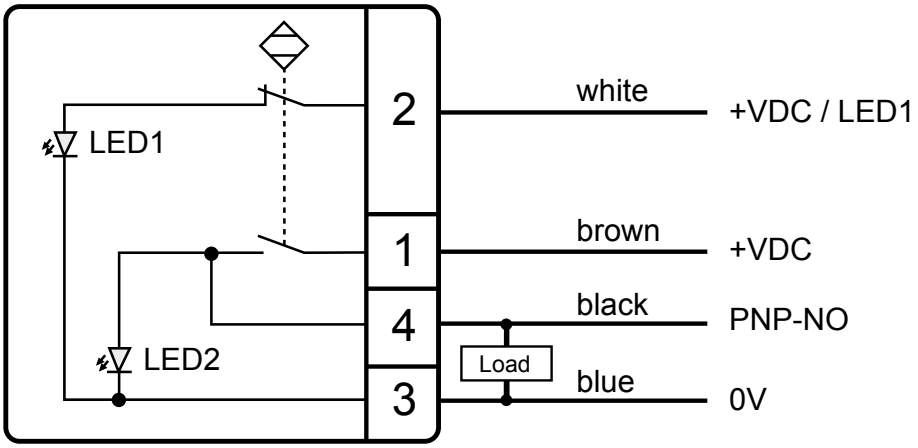


Connection plan

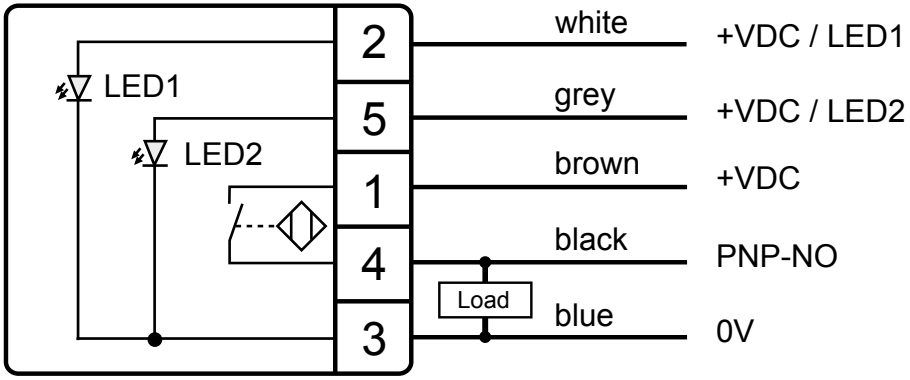
PNP-NO, 3-pin



PNP-NO, 4-pin



PNP-NO, 5-pin

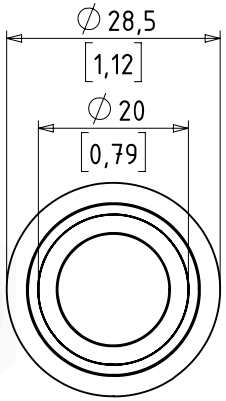


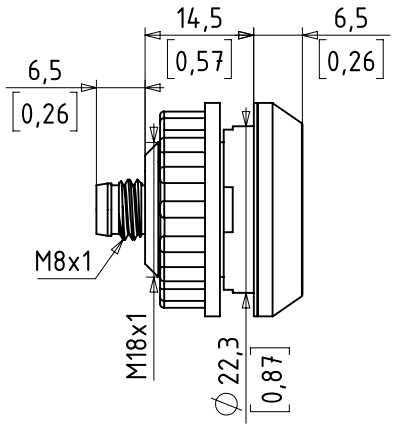
Dimensional drawing

Example representation plug, M8 4-pin

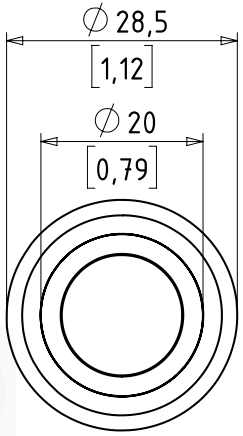
All dimensions in mm

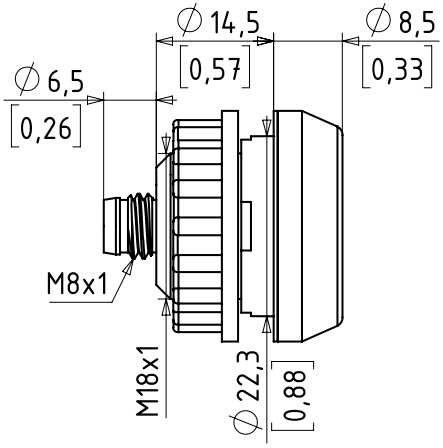
CHT1-1_9



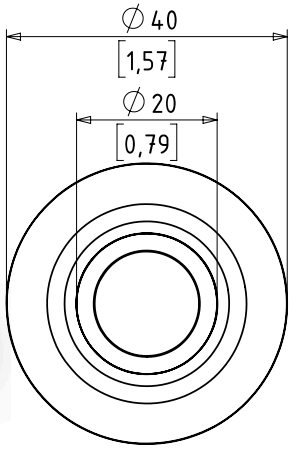


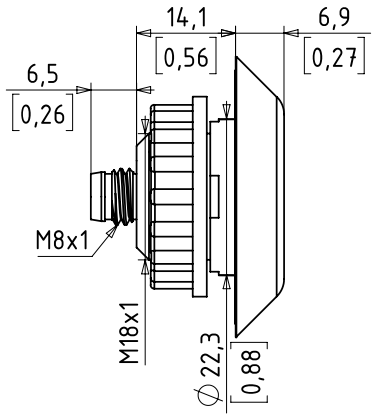
CHT1-5_9



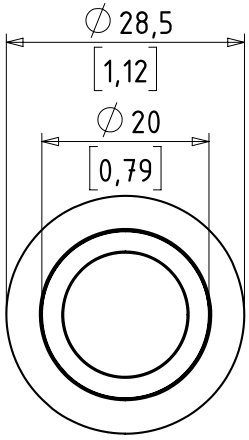


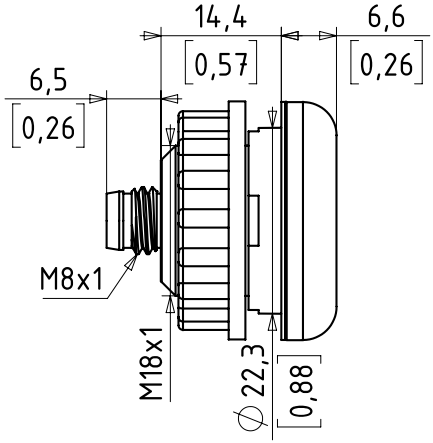
CHT1-1_8



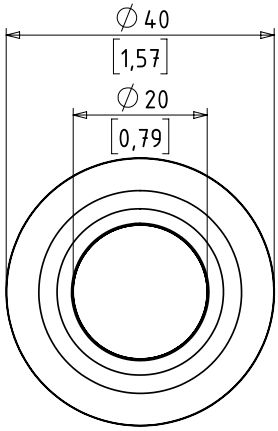


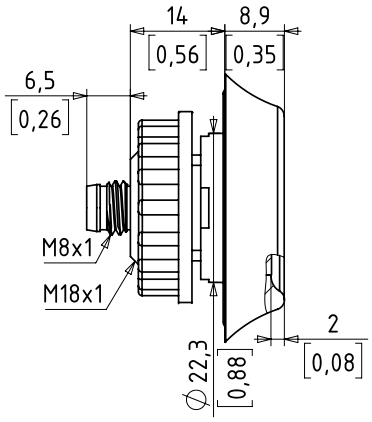
CHT1-1_8/CPM20



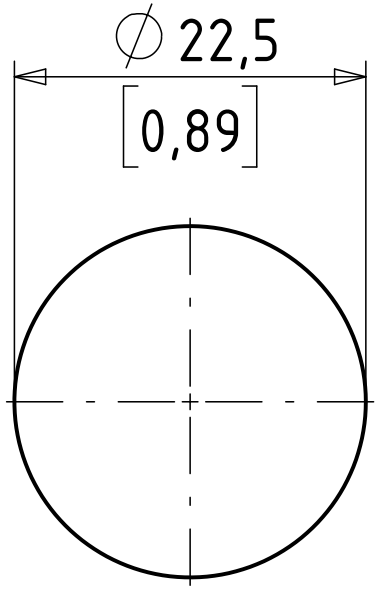


CHT1-6_8





Drilling pattern

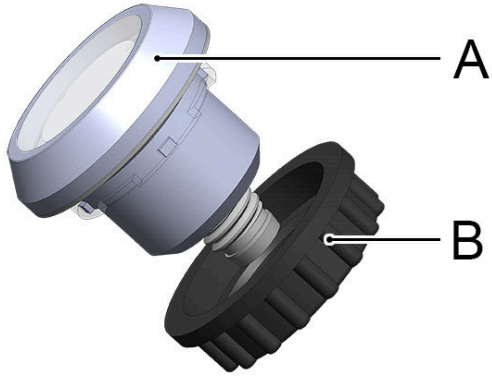


General description

The supplied switch can have options that differ from those shown in this manual. This does not affect the function. The CHT1 is equipped with two different colored LEDs. 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 drill the hole according to the drilling pattern.
- ► Unscrew the lock nuts (B) from the SENSORswitch (A).
- ► Insert the SENSORswitch into the prepared hole and screw the lock nuts (B) back on.

► Position the SENSORSwitch (A) and tighten the lock nuts with max. 1 Nm.

► Connect the SENSORswitch (A) electrically according to the connection plan.

Maintenance

Carry out the following maintenance operations at the specified intervals.

Operation	as needed	annually
Clean the switch surface	X	
Check cable for integrity		X
Check screw connection 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.

Disassembly

► Disconnect the system from its voltage supply and secure it against being switched on again.

► Disconnect the electrical connection and remove the lock nuts.

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.

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 .

Imprint

The operating instructions have been authored and published by

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CHT1 ohne Relais 1.4

Product description