CAPTRON

触摸式感应开关

SENSORswitches

公司发展历程

DEVELOPMENT OF THE COMPANY

CAPTRON是传感器领域里高品质，高创造性的代表。公司的研发及生产重点是各类电容式传感器，产品主要应用于工业控制自动化，公共交通运输以及楼宇技术等领域。

除大量生产的标准产品外，CAPTRON公司同时还是为客户提供订制传感器的专业供应商。

CAPTRON公司于1983年由Reinhard Bellm先生在德国慕尼黑创立。创建初期，公司的主营业务集中在电容式液位传感器领域。1992年，光电传感器成为CAPTRON公司生产销售的产品之一。1994年，全新研发的触摸式感应开关SENSOR*switches*开始在工业控制自动化，公共交通运输及楼宇技术等领域投入使用，并从此成为CAPTRON公司最主要的产品之一。

30多年的专业积淀，使CAPTRON成为电容式液位传感器领域最知名的制造商和最具创造力的引领者。CAPTRON的所有产品均可根据客户的实际需求量身定制，并同时确保产品一贯的高品质和可靠性的要求。

CAPTRON stands for high-quality, innovative sensor technology products. The focus of development and production is on capacitive sensors for use primarily in automation and traffic engineering.

Beyond the standard programme, CAPTRON is a specialist for individual customer and application solutions.

CAPTRON Electronic GmbH was founded by Reinhard Bellm in Munich in 1983. Initially, the company focused on capacitive level measurement. Since 1992, optical sensors have been added to the product portfolio. In 1994, capacitive SENSORswitches for industry and traffic engineering were added - one of the main business fields of CAPTRON since then.

More than 30 years of experience make CAPTRON one of the most renowned manufacturers and innovative leaders in the field of capacitive level measurement. CAPTRON produces all probes according to the single order and customer-specific requirements whilst ensuring outstanding quality and reliability.

Quality Management ISO 9001:2008

MADE IN GERMANY

CAPTRON公司保留对内容的最终解释权

All information without guarantee • Subject to changes

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感应面积 16 cm² *Operating surface 16 cm²*

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感应表面直径 Ø 50 mm *Operating surface Ø 50 mm*

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CAPTRON Electronic GmbH
Johann-G.-Gutenberg-Str. 7
D - 82140 Olching
Tel.: +49 (0)8142 - 44 88 -0
Fax: +49 (0)8142 - 44 88 -100
info@captron.com
www.captron.com

凯本隆电子（苏州）有限公司
苏州工业园区星汉街5号B幢
1楼12/13单元
电话: +86 (0)512 - 6767 80 - 45
传真: +86 (0)512 - 6767 80 - 47
sales@captron.cn
www.captron.cn

触摸式感应开关的优势

ADVANTAGES OF SENSORSWITCHES

以下特性使得CAPTRON触碰式感应开关SENSOR*switches*成为独一无二的产品：

- 超强的密封防水性以及防撞击、防划伤（外壳的主要成分为PC聚碳酸酯）等特性使得它拥有很长的使用寿命。由于感应开关在整个使用过程中没有任何机械式运动，因此产品无需任何保养。

- 无触点的工作原理、防破坏的外部设计以及非常重要的一点：无限循环的开关使用寿命，使得产品凭借其出众的品质广泛应用于包括工业自动化、公共交通运输及楼宇技术在内的多个领域。

- 得益于其巧妙的设计，触摸式感应开关可以方便快速地安装在任意的墙面、门以及玻璃等表面上，从而最大限度地节约安装成本。

- 为了能向客户提供更多样化的服务，CAPTRON公司除了提供标准的传感器产品外，还可以根据客户的要求来研制满足客户特殊需求的产品。包括：特殊的表面标示符号，特定的颜色，各种型号的接插件或连接线，集成听觉反馈或者触觉反馈等。同时，CAPTRON公司也非常愿意能与客户进行紧密的合作，对产品进行更加特殊的设计甚至完成全新产品的研发。

Characteristics making the capacitive CAPTRON SENSORswitch a unique product:

- *Thanks to the water-tight encapsulated electronic system and the weatherproof housing material (poly-carbonate), the pushbuttons have a long service life.*
  Since there is no mechanical motion whatsoever, the SENSORswitch is maintenance-free.

- *The contact-free switching operation, the vandal-proof system, and, first and foremost, the unlimited switching cycles make our SENSORswitch a high-quality product for several applications in Industrial Automation, Traffic & Transport and Building Technology.*

- *Due to their special design the SENSORswitches can be mounted quickly and flexibly on either walls, doors or glass, resulting in only minimal installation costs.*

- *In addition to the standard programme and to provide users with flexibility, CAPTRON also develops and manufactures products to satisfy customised applications. For example, this includes special symbols, colour requirements, different types of plugs or cables, acoustic and tactile feedback, but also special designs or complete new developments in direct cooperation with the customer.*

触摸式感应开关是如何工作的?

HOW DOES THE SENSORSWITCH WORK?

触摸式感应开关基于电容式的工作原理，无需通过压力触发，只需要用手或者身体的其他部分触碰即可。开关有一个固定的感应距离，但是这个距离会受到触碰速度以及阻尼等因素的影响。

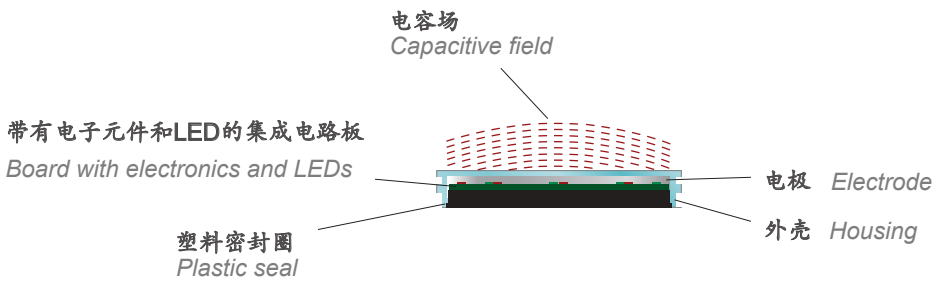
触碰时手指接近速度越快，则感应距离越大，相同速度下拥有更大接触面积的手掌比一根手指触碰时需要的感应距离也更大。

开关的灵敏度在出厂时均已根据公司多年来在工业控制自动化领域的经验，通过其电路程序进行了最佳设定，并在出厂前进行了严格的测试，出厂后则不能再对灵敏度进行调节和改变。

SENSORswitches are capacitive pushbuttons which are activated without pressure, using a hand or other parts of the body. The buttons have a determinate sensing distance, which may be altered, however, by varying the approach speed and/or damping factor.
A quickly approaching finger will achieve a higher sensing distance than a slowly approaching finger. A hand, with its larger damping surface, will achieve a greater sensing distance than a finger at the same speed.
Sensitivity of the buttons is specified by the electronic circuit and cannot be changed serially. All sensors are checked for consistent sensitivity values, which have been determined by long-standing experience.

电容式传感器可以测量传感器表面与周围环境之间的电容量。当有物体，例如手，在靠近触摸式感应开关时，电容量即会改变，同时触摸式感应开关就会发出一个输出信号。所谓“电容式”，顾名思义就是对电容量进行测量。触摸式感应开关的表面上方有一个电容场，一般情况下，这个电场都会输出持续稳定的测量信号。电容场会因为手的靠近致使测量值发生改变，当测量值改变到一定程度时，内部的集成电路就会检测到这种变化，从而触发一个开关动作。

A capacitive sensor measures the capacity between the sensor surface and the surroundings of the sensor. Approaching the SENSORswitch, for example with the hand, increases the capacity and generates an output signal.
A field will be generated over the sensor area of the SENSORswitch which provides continuous analogue measurement. If this field is changed by the hand and once this change is sufficiently large, the integrated software detects the change and triggers a switching process.



人体大部分是由水份组成，所以人体拥有一个相对较高的导电性能，从而基于电容量检测的传感器特别适合用作触摸式感应开关。

As human beings consist largely of water, the human body has a relatively high conductivity. This is why sensors based on the capacitive principle are extremely good SENSORswitches.

应用领域

SCOPE OF BUSINESS

工业自动化

自公司成立之初，我们的产品就在工业控制自动化及系统工程领域扮演着非常重要的角色。现如今的CAPTRON公司已然成为电容及光电传感器领域为客户提供可靠解决方案的专家。

Our products have played an important part in industrial automation and systems engineering since the company's foundation. Today, CAPTRON is the specialist for customised solutions in the areas of capacitive and optical sensors.

公共交通

CAPTRON公司早期就致力于电容传感技术在不同领域的应用，并取得了突出的成果。随后，公司开始专注于电容传感技术更广泛的应用研究，进而在1994年，成功研制出触摸式感应开关，并首次将此产品应用于公共交通领域。

CAPTRON has been specialised in the application and distribution of capacitive sensor technology from the very beginning. During its first successful years, the company focused on further developing the relevant technology, which, in 1994, was first applied in the form of a SENSORswitch in transport engineering.

楼宇科技

自1994年开始，全新研发的触摸式感应开关作为公共交通工具的门控开关在公共交通领域成功投入使用后，产品经过进一步的开发和改进，通过电容原理实现的触摸式感应开关也已广泛地应用于公共建筑及私人住宅中。

Capacitive SENSORswitches have been successfully used in transport engineering for the opening of doors since 1994. Thanks to further development and customisation, SENSORswitches can now also be used in public buildings and private houses.

输出功能, LED功能

FUNCTIONS OF THE OUTPUT, FUNCTIONS OF THE LEDS

DY 动态输出 *DYNAMIC*

具有动态输出功能的感应开关通过电容式感应，无需压力，只需要用手或者身体的其他部分触碰。无论触碰时间长短，输出信号只是一个有特定时长的类脉冲信号。

每个感应开关都有一个感应距离，这个感应距离会受到接近速度及阻尼等因素的影响。

手指接近速度越快，感应距离就会相应变得更大，而相同速度下手掌的感应距离也会比手指的感应距离更大。

The dynamic SENSORswitches are capacitive pushbuttons which are activated without pressure, using a hand or other parts of the body. The output signal is limited to a certain time.

The buttons have a determinate sensing distance, which may be altered, however, by varying the approach speed and/or damping factor.

A quickly approaching finger will achieve a higher sensing distance than a slowly approaching finger. A hand, with its larger damping surface, will achieve a greater sensing distance than a finger at the same speed.

ST 静态输出 *STATIC*

具有静态输出功能的感应开关通过电容式感应，无需压力，只需要用手或者身体的其他部分触碰。

它的输出信号会随着触碰时间延长而一直持续。每个感应开关都有一个感应距离，这个距离会受到阻尼等因素的影响。

相同速度下手掌的感应距离会比手指的感应距离更大。

The static SENSORswitches are capacitive pushbuttons which are activated without pressure, using a hand or other parts of the body.

The output signal is high as long as the sensor area is touched. The buttons have a determinate sensing distance, which is depending on the damping factor.
A hand, with its larger damping surface, will achieve a greater sensing distance than a finger at the same speed.

PNP **开关量输出**: PNP - **三极管**
Switching output: PNP - transistor

NPN **开关量输出**: NPN - **三极管**
Switching output: NPN - transistor

REL **开关量输出**: **继电器输出**
Switching output: potential-free relay output

触觉反馈: **震动**
Tactile feedback: vibration

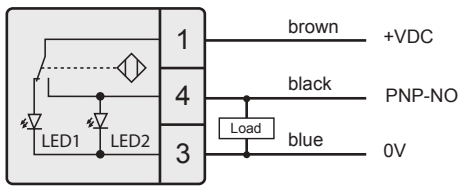
声觉反馈: **信号音**
Acoustic feedback: signal tone

TFF **自锁输出功能**
Toggle Flip Flop

全自动（示例电路图D）
AUTOMATIC (Example connection diagram D)

A

当触碰开关表面时，LED1灯灭，LED2灯亮。
The LED1 turns off and the LED2 lights up when the operating surface is touched.

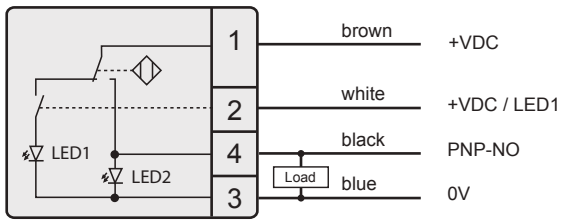


半自动（示例电路图P）
SEMI-AUTOMATIC (Example connection diagram P)

AM

LED1灯可被单独控制
The LED1 can be controlled separately.

当触碰开关表面时，LED1灯灭，LED2灯亮。
The LED1 turns off and the LED2 lights up when the operating surface is touched.

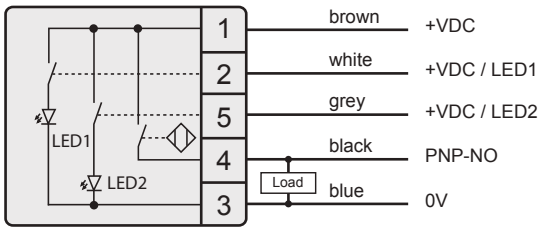


手动（示例电路图B）
MANUAL (Example connection diagram B)

M

LED1灯可被单独控制。
The LED1 can be controlled separately.

LED2灯可被单独控制。
The LED2 can be controlled separately.



CHT1

感应表面直径 Ø 20 mm
Operating surface Ø 20 mm

CHT1 螺栓安装

CHT1 SCREW MOUNTING

不同的应用领域需要不同类型的产品。现在由您来决定哪一款CHT1型触摸式感应开关符合您所特有的应用需求——您将拥有广泛的选择空间和无限的可能性。

正是由于可根据您的要求从产品的外观，安装方式，功能以及电气接口等方面来确定一款触摸式感应开关CHT1产品，您将不再需要改变原始设计来适应开关的应用，相反地可通过您的选择来决定一款能满足特定电路设计要求的产品。

Different applications require different types of switches. You now decide yourself which CHT1 SENSORswitch is the right one for your application – the possibilities are practically unlimited.

Since you can configure a CHT1 according to your requirements by selecting from a wide range of designs, functions and connections, the applications and circuits no longer have to be adapted to suit the switch – the switch is adapted to suit your applications and circuits.

产品实际尺寸
Original size

- **触摸即可激活开关**
  高使用舒适度，无需压力。

- **信号反馈**
  两种LED反馈信号可分开控制。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次（三极管开关输出）

- **可用于对卫生标准要求高的行业 （特定产品）**
  提供满足DIN EN 1672-1/2卫生标准的产品。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Touch Control***
  High ease of use, no mechanical pressure required.

- ***Feedback***
  Optical signals through two LED rings.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Hygiene-conform design (depends on model)***
  Based on DIN EN 1672-1/2.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

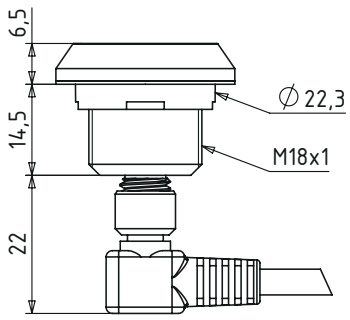
CHT1 螺栓安装

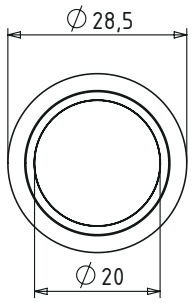
CHT1 SCREW MOUNTING

CHT1-1
CHT1-1

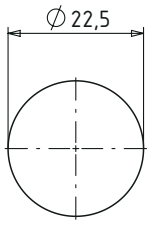
- **可根据客户的不同需求而定制**
  针对开关外壳、面板、机器等不同使用需求而定
- **多种连接件可供选择（详见第17页）**

- ***Can be customised to meet individual requirements***
  Ideal for switch housing, panels and machines
- ***Various connection variants (see page 17)***

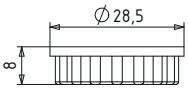




开孔图
Hole pattern



螺母
Knurled nut



NPN - 三极管
NPN - transistor

PNP - 三极管
PNP - transistor

继电器输出
Potential-free relay output

自锁输出功能
Toggle Flip Flop

静态输出
Static

全自动
Automatic

半自动
Semi-Automatic

手动
Manual

可选颜色
Available colours

表面氧化的铝制外环
Aluminum anodized

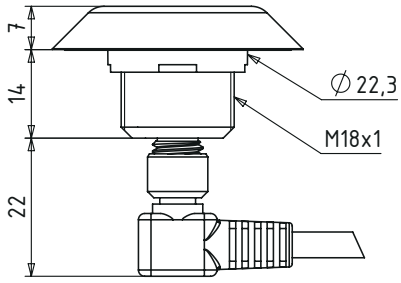
原色 *nature*　　黑色 *black*

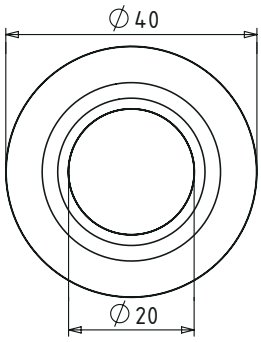
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT1-1#8（不锈钢外环）
CHT1-1#8 (Stainless steel)

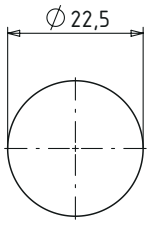
- **不锈钢材质的加固型外环**
  医药、医疗及食品等行业的理想选择
- **基于DIN EN 1672-1/2标准的高卫生要求设计**
  密封边缘，易于清洁

- ***Extremely robust housing ring made from stainless steel***
  Ideal for pharmaceutical, medical and food industries
- ***Hygiene conform housing design according to DIN EN 1672-1/2***
  Easy cleaning, as there are no dirt-collecting edges

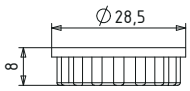




开孔图
Hole pattern



螺母
Knurled nut

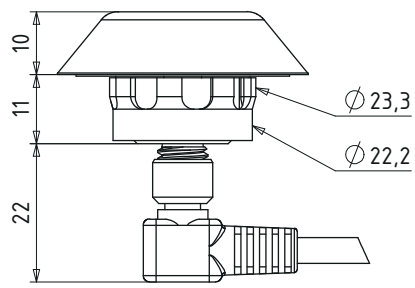


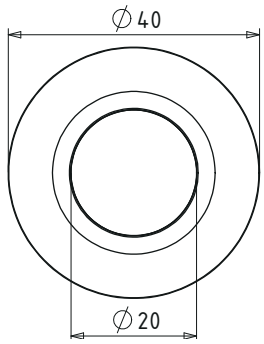
不锈钢
Stainless steel

CHT1-T（正面嵌入）
CHT1-T (Snap-in)

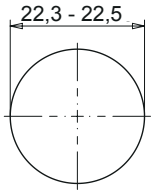
- **快速易安装**
  无需工具也能够轻松安装入孔
- **基于DIN EN 1672-1/2标准的高卫生要求设计**
  密封边缘，易于清洁
- **嵌入板厚度至少1.5毫米**

- ***Fast and easy snap-in mounting***
  Easily snaps into drill holes without use of tools
- ***Hygiene conform housing design according to DIN EN 1672-1/2***
  Easy cleaning, as there are no dirt-collecting edges
- ***Front plate thickness min. 1.5 mm***





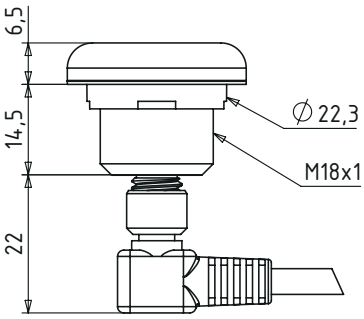
开孔图
Hole pattern

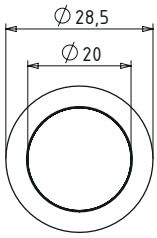


不锈钢
Stainless steel

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT1-1#8/CPM20
CHT1-1#8/CPM20

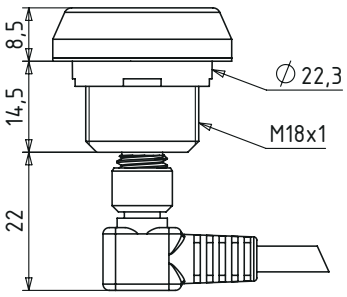


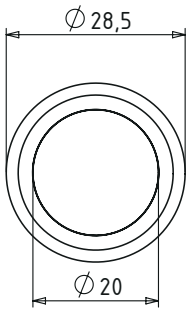


不锈钢
Stainless steel

- **不锈钢材质的加固型外环**
  医药、医疗及食品等行业的理想选择
- ***Extremely robust housing ring made from stainless steel***
  Ideal for pharmaceutical, medical and food industries

CHT1-5 （防误操作设计）
CHT1-5 (Protector)



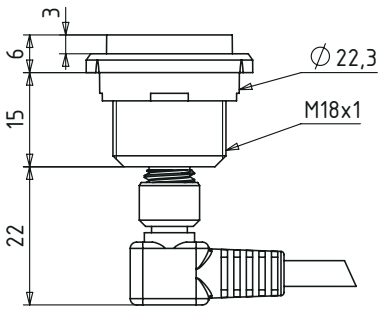


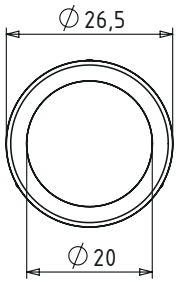
铝
原色氧化
Aluminum nature

铝
黑色氧化
Aluminum black

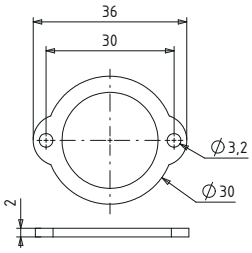
- **外环凸起设置**
  防止操作者无意识的误触碰
- ***Raised housing ring***
  Prevents unintentional activation

CHT1-1#X （无外环，齐平安装）
CHT1-1#X (Flush mounting)





CHT1-锁定环
CHT1-locking ring



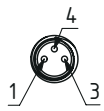
- **可选择与CHT1锁定环一起安装**
- ***Optional mounting with CHT1 locking ring***

（配件选择：此项不在标准配套中，需另外购买）
(Optional accessory, not included in the scope of supply)

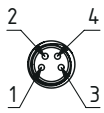
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

连接器
Connectors

连接器 M8, 3-针
Connector M8, 3-pole



连接器 M8, 4-针
Connector M8, 4-pole

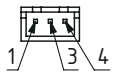


连接器 M8, 5-针
Connector M8, 5-pole

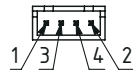
接线板, 5-针
Terminal block, 5-pole

连接器 M12, 8-针
Connector M12, 8-pole

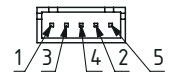
连接器 JST 2.54, 3-针
Connector JST 2.54, 3-pole



连接器 JST 2.54, 4-针
Connector JST 2.54, 4-pole



连接器 JST 2.54, 5-针
Connector JST 2.54, 5-pole



线芯，200 mm带接线端子
（塑料环箍 DIN 46228
电缆线截面0.25 mm²）

Strands, 200 mm with ferrules
(Ferrules with plastic collar to DIN 46228
Cable cross section strands 0,25 mm²)

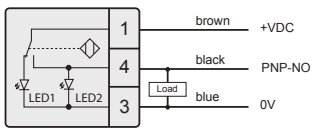
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

输出信号及电气连接图

DIAGRAM OF FUNCTIONS AND CONNECTION

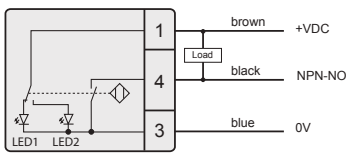
接线图 D (PNP)
Connection diagram D (PNP)

A



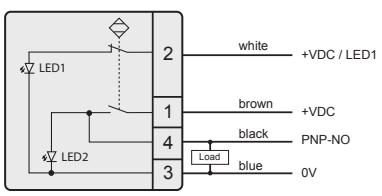
接线图 F (NPN)
Connection diagram F (NPN)

A



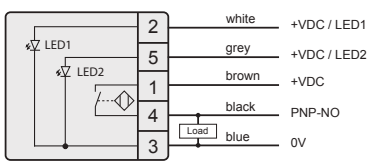
接线图 P (PNP)
Connection diagram P (PNP)

AM



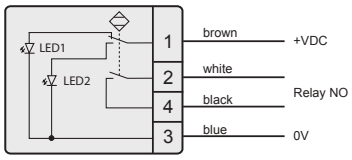
接线图 B (PNP)
Connection diagram B (PNP)

M



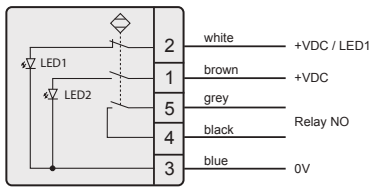
接线图 DRS (1x NO)
Connection diagram DRS

A



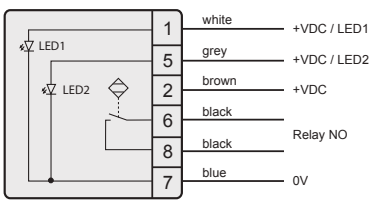
接线图 PRS (1x NO)
Connection diagram PRS

A M



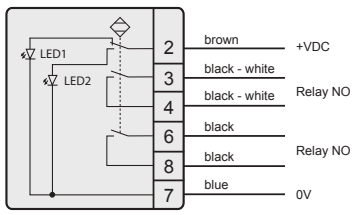
接线图 BRS (1x NO)
Connection diagram BRS

M



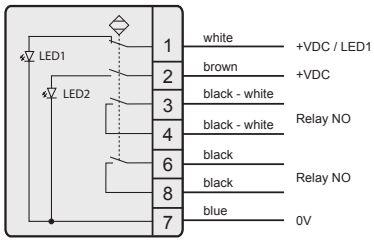
接线图 DRSS (2x NO)
Connection diagram DRSS

A



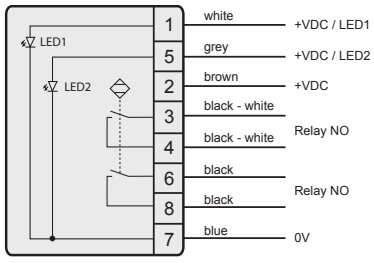
接线图 PRSS (2x NO)
Connection diagram PRSS

A M



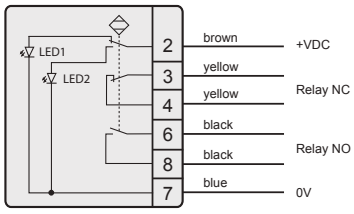
接线图 BRSS (2x NO)
Connection diagram BRSS

M



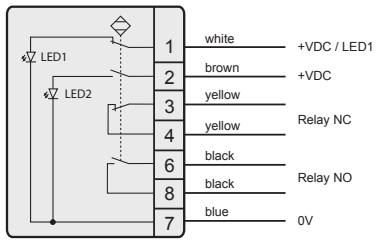
接线图 DRSO (1x NO) (1x NC)
Connection diagram DRSO

A



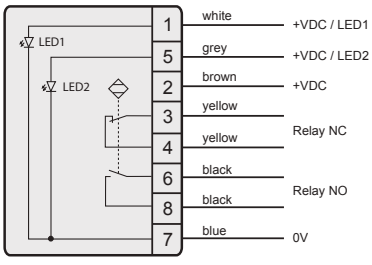
接线图 PRSO (1x NO) (1x NC)
Connection diagram PRSO

A M



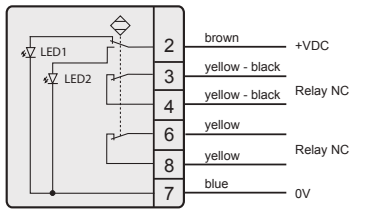
接线图 BRSO (1x NO) (1x NC)
Connection diagram BRSO

M



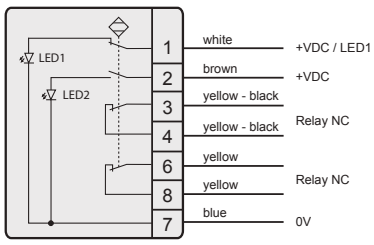
接线图 DROO (2x NC)
Connection diagram DROO

A



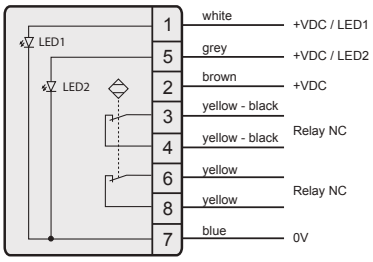
接线图 PROO (2x NC)
Connection diagram PROO

AM



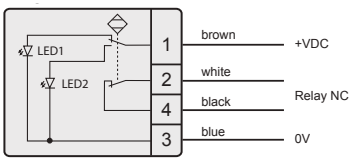
接线图 BROO (2x NC)
Connection diagram BROO

M



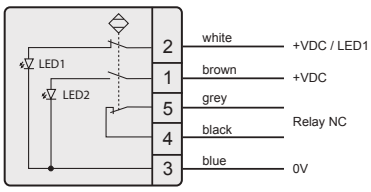
接线图 DRO (1x NC)
Connection diagram DRO

A



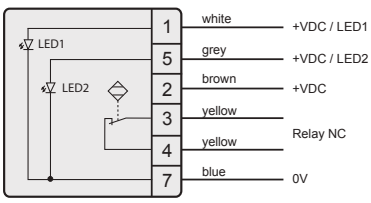
接线图 PRO (1x NC)
Connection diagram PRO

AM



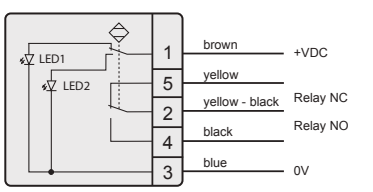
接线图 BRO (1x NC)
Connection diagram BRO

M



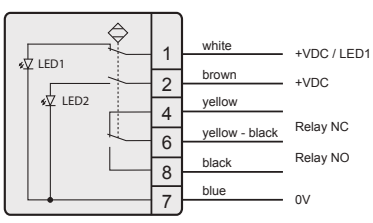
接线图 DRW (1x CO)
Connection diagram DRW

A



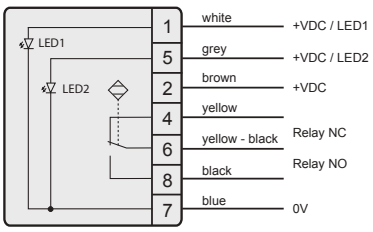
接线图 PRW (1x CO)
Connection diagram PRW

AM



接线图 BRW (1x CO)
Connection diagram BRW

M



技术参数

TECHNICAL DATA

三级管输出：技术参数（24V DC, 20℃） *Transistor output: Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	10...30 V DC
负载电流 *Load current*	Max. 200 mA
输出 *Output*	PNP-NO / NPN - NO
输出信号 *Output signal*	连续输出信号 *Continuous signal when actuated*
LED 1	绿色LED环 *Green LED ring*
LED 2	红色LED环 *Red LED ring*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为200 mA时最大为2 V *Max. 2 V at 200 mA*
电流消耗 *Current consumption*	电压为24 V时最大为20 mA *Max. 20 mA at 24 V*
工作温度 *Operating temperature*	-30...+70 °C
防护等级 *Degree of protection*	开关正面 IP69K *Front side IP69K*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	M8 / 线缆 + M12 / 接线板 / 线芯 *M8 / cable + M12 / terminal block / strands*

继电器输出：技术参数（24V DC, 20℃） *Relay output: Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (19. 2...28 V)
接触负载 *Contact load*	Max. 400 mA / DC 48 V
输出 *Output*	继电器 NO/NC *Relay NO / NC*
输出信号 *Output signal*	连续输出信号 *Continious signal when actuated*
LED 1	绿色LED环 *Green LED ring*
LED 2	红色LED环 *Red LED ring*
反向电极保护 *Reverse polarity protection*	+VDC , 0V
短接保护 *Short-circuit protection*	无 *No*
电流消耗 *Current consumption*	电压为24 V时最大为30 mA *Max. 30 mA at 24 V*
工作温度 *Operating temperature*	-30...+70 °C
防护等级 *Degree of protection*	开关正面 IP69K
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	M8 / 线缆 + M12 / 接线板 / 线芯 *M8 / cable + M12 / terminal block / strands*

CHT3

感应表面直径 Ø 50 mm
Operating surface Ø 50 mm

CHT3 螺栓安装

CHT3 SCREW MOUNTING

产品实际尺寸
Original size

CHT3系列的触摸式感应开关为螺栓式安装，轻便且易于操作，可广泛应用于工业控制自动化、公共交通运输及医疗卫生等领域。此系列开关能够通过加入声音信号模块来增加听觉反馈，具有高达上亿次开关循环的超长使用寿命。产品在外形设计上充分考虑了残障人士的需求：外环可以选择配有凸起的国际盲文或图案标示。CHT3系列产品已通过TSI-PRM认证。

The capacitive SENSORswitch CHT3 is designed for screw mounting and switch by touch. The field of application extends over the automation, transportation, emergency and information pillars. The SENSORswitch can be equipped in addition to the optical feedback with an acoustic signal. 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 ring. Special versions of CHT3 are certified to TSI-PRM.

- **触摸即可激活开关**
  高使用舒适度，无需压力。

- **多信号反馈**
  可通过16个LED灯及蜂鸣器进行视觉和听觉的信号反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色外环或感应区域设有盲文和凸起的箭头。

- **符合TSI-PRM认证**
  依据2008/164/EG条例。

- ***Touch Control***
  High ease of use, no mechanical pressure required.

- ***Feedback***
  Visual and acoustic signals through 16 LEDs and beeper.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on coloured cover ring or sensor area.

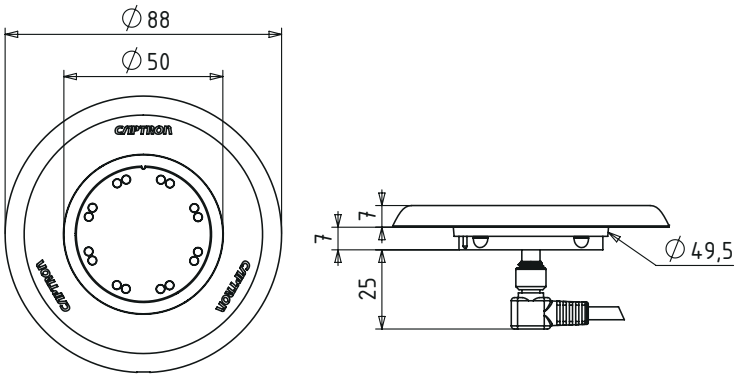
- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

CHT3 螺栓安装

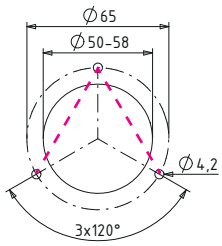
CHT3 SCREW MOUNTING

CHT3-1 / CHT3-2（标准产品）
CHT3-1 / CHT3-2 (Standard)

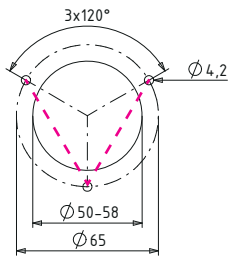
- **外围直径：Ø 88 mm**
- **总体高度：7 mm**
- ***Total diameter: Ø 88 mm***
- ***Overall hight: 7 mm***



开孔图
Hole pattern



A - 安装
A - Mounting

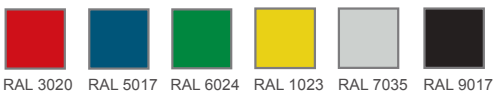


V - 安装
V - Mounting

外环图案
Possible tactile pictograms

盲文标示（取决于图形样式）
Braille characters (depend on pictogram)

可选颜色
Available colours



RAL 3020 RAL 5017 RAL 6024 RAL 1023 RAL 7035 RAL 9017

DY 动态输出 *Dynamic*

PNP PNP - 三极管 *PNP - transistor*

ST 静态输出 *Static*

M 手动 *Manual*

信号音 *Signal tone*

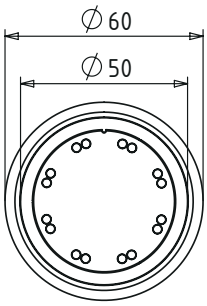
AM 半自动 *Semi-Automatic*

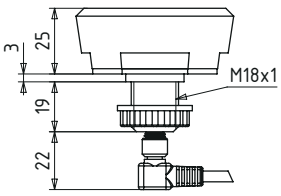
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT3-4
CHT3-4

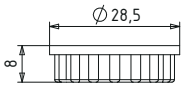
- 安装直径： Ø 22.5 mm
- 适用于机械自动化工程及楼宇建筑领域

- *For mounting: Ø 22.5 mm*
- *Ideal for use in mechanical engineering and plant building*





螺母
Knurled nut

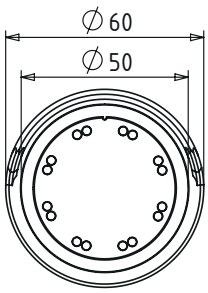


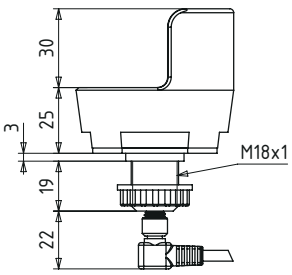
注意: 无法与连接器AMP及JST匹配
Note: not available with connector AMP and JST

CHT3-5 （防误操作设计）
CHT3-5 (Protector)

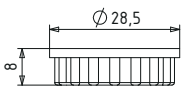
- 集成保护外罩，防止误操作
- 安装直径： Ø 22.5 mm
- 适用于机械自动化工程及楼宇建筑领域

- *With protective collar*
- *For mounting: Ø 22.5 mm*
- *Ideal for use in mechanical engineering and plant building*





螺母
Knurled nut



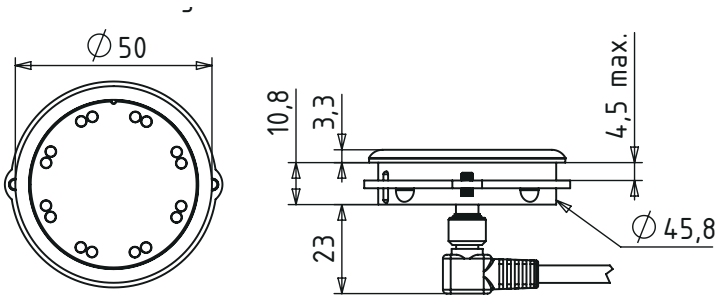
注意: 无法与连接器AMP及JST匹配
Note: not available with connector AMP and JST

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

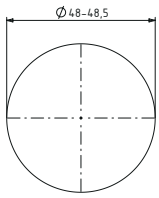
CHT3-F（板面安装）
CHT3-F (Front plate mounting)

- **板面安装高度仅3.3 mm**
- **通过锁定环轻松安装**

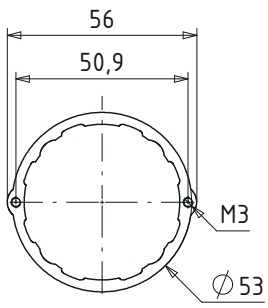
- ***Flat panel installation - height just 3.3 mm***
- ***Easy mounting with locking ring***



开孔图
Hole pattern

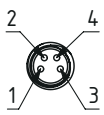


锁定环
Locking ring



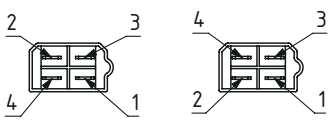
连接器
Connectors

连接器 M8, 4-针
Connector M8, 4-pole



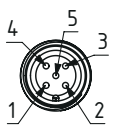
连接器 M8, 5-针
Connector M8, 5-pole

连接器 AMP 6.3, 4-针
Connector AMP 6.3 , 4-pole

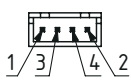


连接器 M12, 4-针
Connector M12, 4-pole

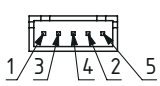
连接器 M12, 5-针
Connector M12, 5 -pole



连接器 JST 2.54, 4-针
Connector JST 2.54, 4-pole



连接器 JST 2.54, 5-针
Connector JST 2.54, 5-pole



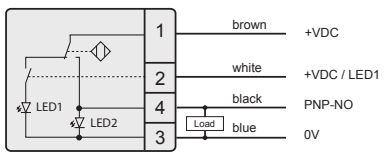
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

功能与技术参数

FUNCTIONS AND TECHNICAL DATA

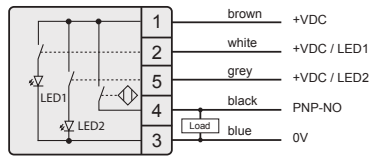
接线图 P (PNP)
Connection diagram P (PNP)

AM



接线图 B (PNP)
Connection diagram B (PNP)

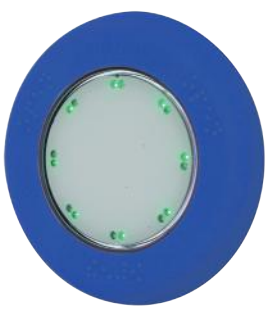
M



技术参数（24 V DC, 20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (16.8...32 V)
负载电流 *Load current*	Max. 400 mA
输出 *Output*	PNP-NO
输出信号 *Output signal*	约 300 ms *Approx. 300 ms*
LED 1	8 个绿色的LED *8 green LEDs*
LED 2	8 个红色的LED *8 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3 V at 400 mA*
电流消耗 *Current consumption*	电压为24 V时最大为30 mA *Max. 30 mA at 24 V*
工作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	工作区域 IP69K *Frontside IP69K*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	M8 / 线缆 + M8 / M12 / JST / 线芯 / 线缆 + AMP 6.3 *M8 / cable + M8 / M12 / JST / strands / cable + AMP 6.3*

CHT4

感应表面直径 **Ø 63 mm**
Operating surface Ø 63 mm



CHT4 螺栓安装

CHT4 SCREW MOUNTING

产品实际尺寸
Original size

CHT4系列的触摸式感应开关为螺栓式安装，轻便且易于操作，可广泛应用于工业控制自动化、公共交通运输及医疗卫生等多个领域。此系列开关能够通过加入声音信号模块来增加听觉反馈，具有高达上亿次开关循环的超长使用寿命。产品在外形设计上充分考虑了残障人士的需求：外环可以选择配有凸起的国际盲文或图案标示，开关的有效感应面积达25cm²，符合DIN 75077的标准。

The capacitive SENSORswitch CHT4 is designed for screw mounting and switch by touch. The field of application extends over the automation, transportation, emergency and information pillars. The SENSORswitch can be equipped in addition to the optical feedback with an acoustic signal and/or a tactile feedback via vibration. 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 ring. It also has a disabled tactile surface of 25 cm² DIN according to DIN 75077.

- **触摸即可激活开关**
  高使用舒适度，无需压力。

- **多信号反馈**
  可通过16个LED灯、振动及蜂鸣器进行视觉、触觉和听觉的信号反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。
  有效感应面积 25 cm ² 。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Touch Control***
  High ease of use, no mechanical pressure required.

- ***Feedback***
  Visual, tactile and acoustic signals through 16 LEDs, vibration and beeper.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on coloured cover ring, 25 cm² operating surface.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

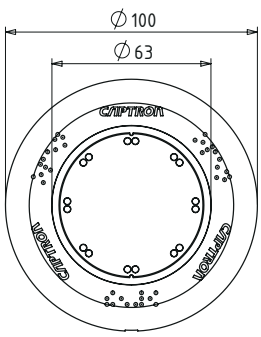
CHT4 螺栓安装

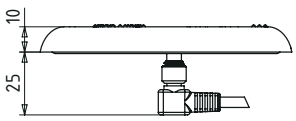
CHT4 SCREW MOUNTING

CHT4-2 （标准产品）
CHT4-2 (Standard)

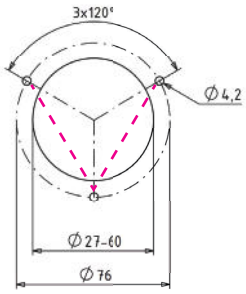
- **外围直径：Ø100 mm**
- **操作面直径：Ø 63 mm**

- ***Total diameter: Ø 100 mm***
- ***Big operating surface: Ø 63 mm***





开孔图
Hole pattern



V - 安装
V - Mounting

外环图案
Possible tactile pictograms

盲文标示（取决于图形样式）
Braille characters (depend on pictogram)

可选颜色
Available colours

RAL 9016 RAL 5015 RAL 5017 RAL 3020 RAL 6024 RAL 1023 RAL 7042 RAL 9017

DY 动态输出 *Dynamic*

A 全自动 *Automatic*

AM 半自动 *Semi-Automatic*

M 手动 *Manual*

信号音 *Signal tone*

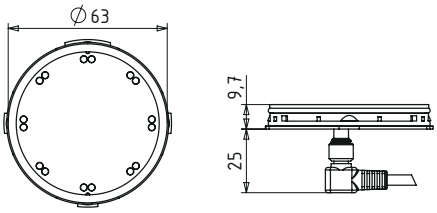
PNP - 三极管 *PNP - transistor*

振动 *Vibration*

NPN - 三极管 *NPN - transistor*

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT4-0
CHT4-0



- 可安装在加固的金属外环上（铝，原色氧化）
- ***Suitable for mounting in robust metal housing (aluminum anodized)***

需要配件AH4-1X9/CPM07
（110mm×110mm）
Required accessory AH4-1X9/CPM07
(110 mm x 110 mm)

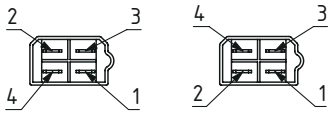
铝
原色氧化
Aluminum nature

连接器
Connectors

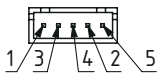
连接器M8, 4-针
Connector M8, 4-pole

连接器 M8, 5-针
Connector M8, 5-pole

连接器 AMP 6.3, 4-针
Connector AMP 6.3 , 4-pole



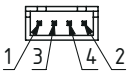
连接器 JST 2.54, 5-针
Connector JST 2.54, 5-pole



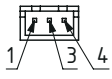
线芯，200 mm套管
（塑料环箍 DIN 46228
电缆线截面0.25 mm²）

Strands, 200 mm with ferrules
(Ferrules with plastic collar to DIN 46228
Cable cross section strands 0,25 mm²)

连接器 JST 2.54, 4-针
Connector JST 2.54, 4-pole



连接器 JST 2.54, 3-针
Connector JST 2.54, 3-pole



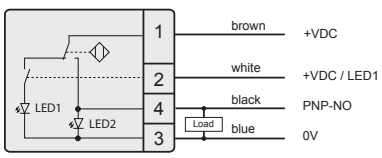
以上尺寸单位均为毫米，非等比例绘制。*All dimensions in mm, not to scale*

功能和技术参数

FUNCTIONS AND TECHNICAL DATA

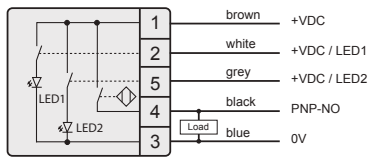
接线图 P (PNP)
Connection diagram P (PNP)

A M



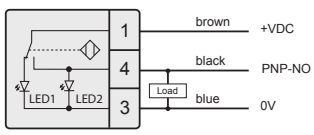
接线图 B (PNP)
Connection diagram B (PNP)

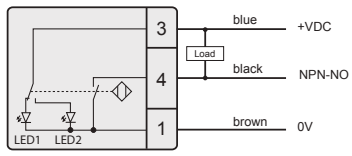
M



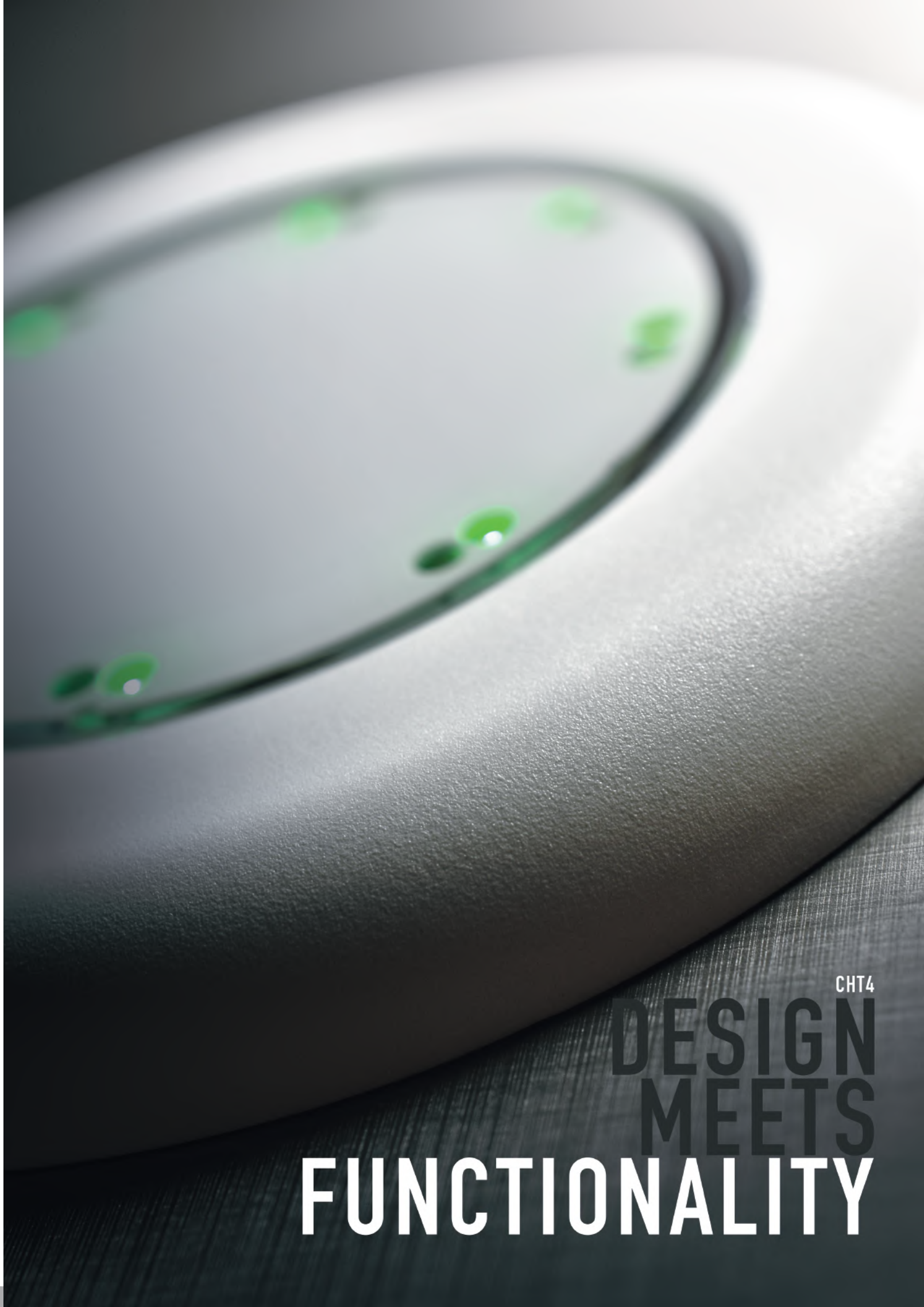
接线图 W (PNP/NPN)
Connection diagram W (PNP/NPN)

A



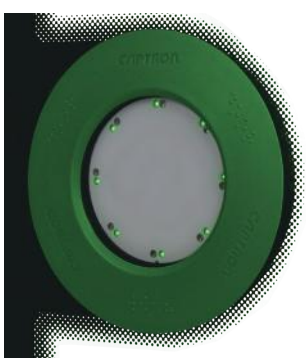


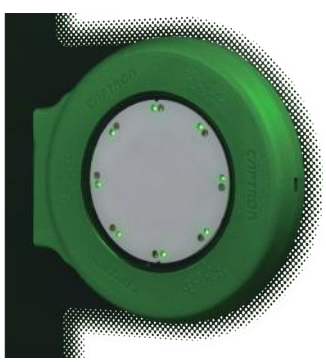
技术参数（24 V DC, 20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (16.8...32 V) 可选（*Option*）: DC 12 V (10.8...14 V)
负载电流 *Load current*	Max. 200 mA
输出 *Output*	PNP-NO / NPN-NO
输出信号 *Output signal*	约 300 ms *Approx 300 ms*
LED 1	8 个绿色的 LED *8 green LEDs*
LED 2	8 个红色的 LEDs *8 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为200 mA时最大为3 V *Max. 3 V at 200 mA*
电流消耗 *Current consumption*	电压为24 V时最大为30 mA *Max. 30 mA at 24 V*
工作温度*Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	正面 IP69K *Front IP69K*
操作方式*Type of operation*	电容式 *Capacitive*
操作所需压力*Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	M8 / JST /线芯 /线缆 + AMP 6.3 *M8 / JST / strands / cable + AMP 6.3*


CHT4
DESIGN
MEETS
FUNCTIONALITY

CHT5 | CHT51 | CHT6 | CHT61 | CHT7 | CHT9

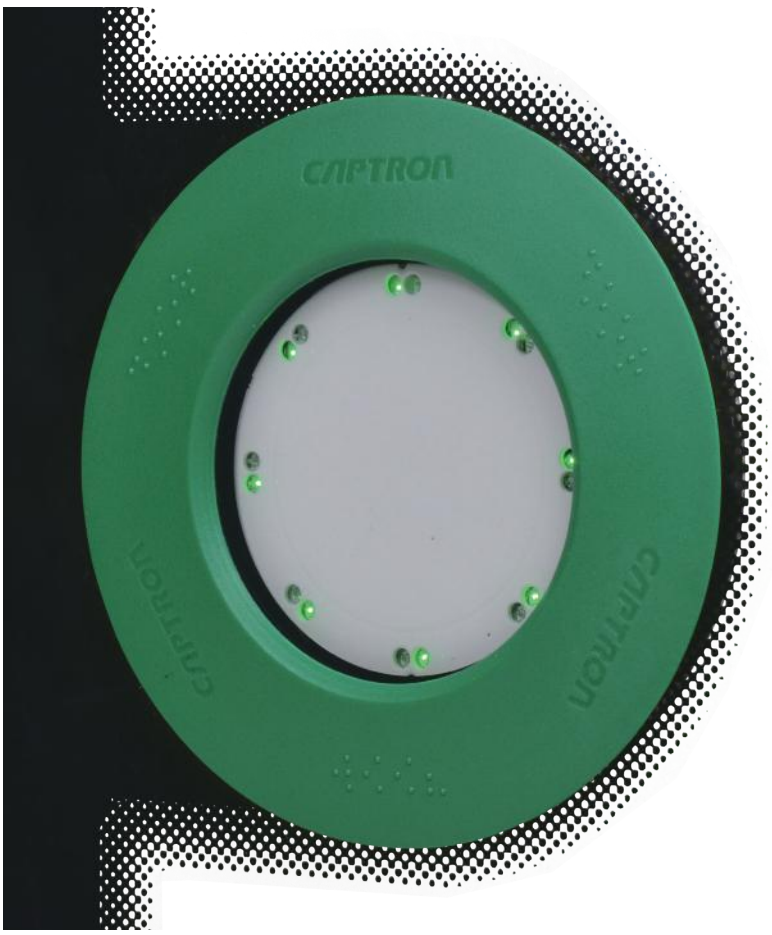
感应表面直径 **Ø 63 mm**
Operating surface Ø 63 mm





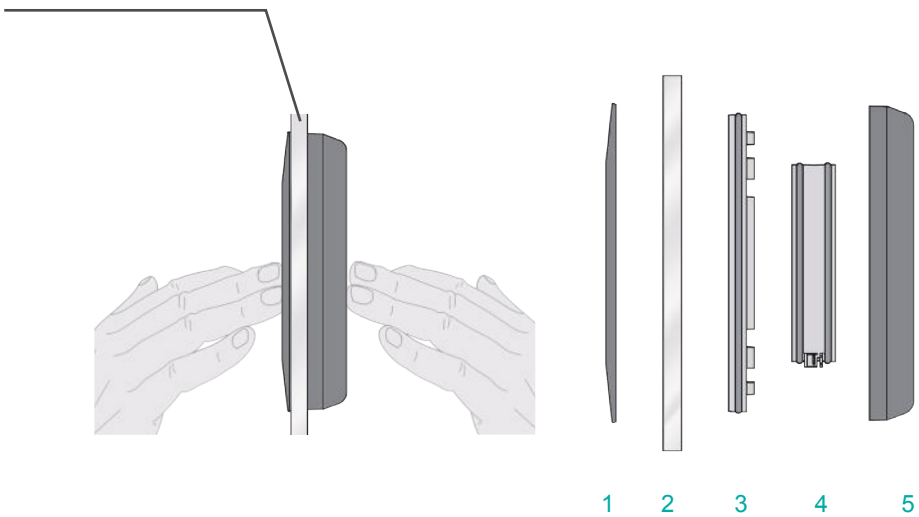
CHT5 玻璃表面粘贴安装，可双面控制

CHT5 ADHESIVE MOUNTING BEHIND GLASS, TWO-SIDED OPERATION



产品实际尺寸
Original size

面板厚度最大为6 mm
Pane thickness max. 6 mm



1 彩色固定环
Coloured position ring
2 玻璃面板（最大厚度6mm）
Glass pane (up to 6 mm)
丙烯酸玻璃（最大厚度4mm）
Acrylic pane (up to 4 mm)
3 安装法兰
Mounting flange
4 传感器
Sensor
5 彩色外环
Coloured cover ring

- **粘贴安装**
  安装无需任何螺栓。

- **可通过直接接触或透过一层玻璃来进行操作**
  无需在玻璃上钻孔。

- **可双面控制**
  正反面均可进行操作。

- **信号反馈**
  通过16个LED灯进行视觉反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。
  有效感应面积 25 cm ² 。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Adhesive mounting***
  No screws required.

- ***Switching through single glass and direct touch***
  No need to drill holes in the panes.

- ***Two-sided control***
  Can be used on the inside and outside.

- ***Feedback***
  Visual feedback through 16 LEDs.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

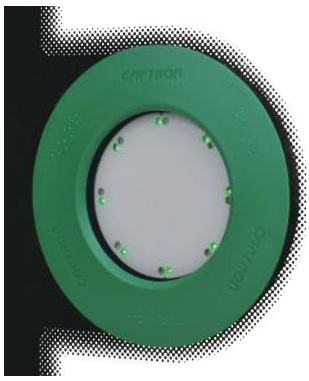
- ***Accessibility***
  Braille and raised chevrons on coloured cover ring, 25 cm² operating surface.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

CHT5 玻璃表面粘贴安装，可双面控制

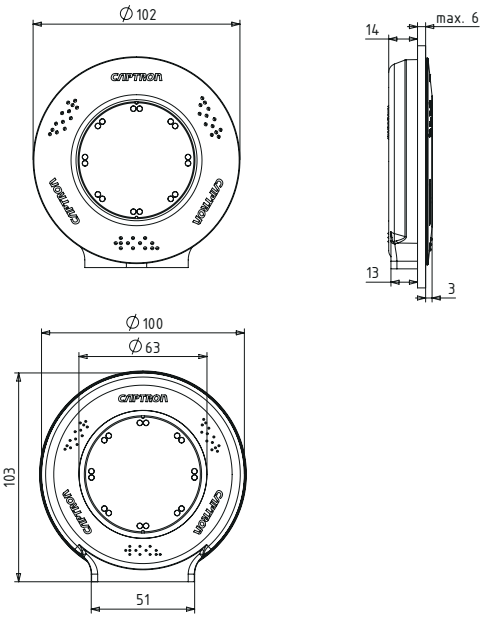
CHT5 ADHESIVE MOUNTING BEHIND GLASS, TWO-SIDED OPERATION

CHT5-1（标准产品）
CHT5-1 (Standard)



外侧
Outside

内侧
Inside

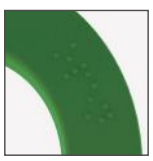


外环图案
Possible tactile pictograms

可选颜色
Available colours

RAL 5015 RAL 6024 RAL 3020 RAL 1023 RAL 7042 RAL 9017

盲文标识（取决于图形样式）
Braille characters (depend on pictogram)



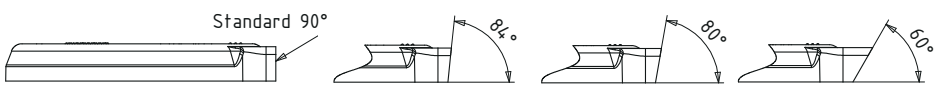
DY 动态输出 *Dynamic*

M 手动

PNP PNP - 三极管 *PNP - transistor*

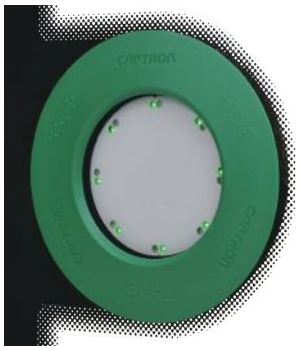
AM 半自动

可选角度
Available angles



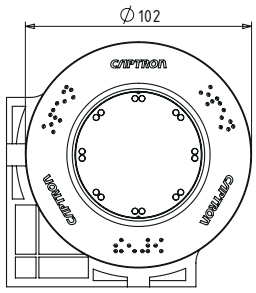
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

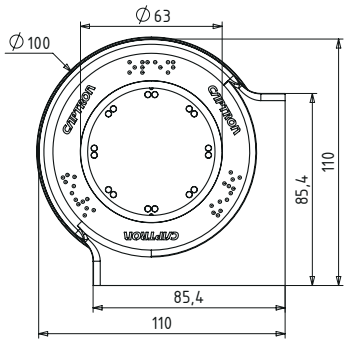
CHT5-6 （边角安装）
CHT5-6 (Corner mounting)



外侧
Outside

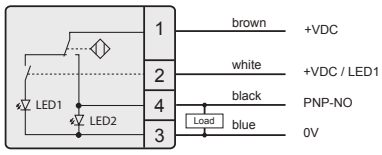
内侧
Inside





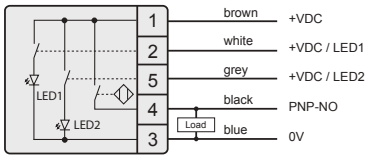
接线图 P (PNP)
Connection diagram P (PNP)

AM

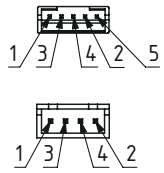


接线图 B (PNP)
Connection diagram B (PNP)

M



连接器JST
Connector JST



技术参数 *Technical data*

	24 V, 20 °C	110 V, 20 °C
工作电压 *Supply voltage*	16.8...32 V	77...144 V
负载电流 *Load current*	Max. 400 mA	Max. 15 mA
输出 *Output*	PNP-NO	
输出信号 *Output signal*	~1 s（取决于脉冲信号持续时间）*(depending on the actuation duration)*	
LED 1	16个绿色LED灯 *16 green LEDs*	
LED 2	16个红色LED灯 *16 red LEDs*	
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*	
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*	
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3V at 400 mA*	电流为10 mA时最大为3 V *Max. 3 V at 10 mA*
电流消耗 *Current consumption*	电压为24 V时最大为30 mA *Max. 30 mA at 24 V*	电压为110 V时最大为15 mA *Max. 15 mA at 110 V*
工作温度 *Operating temperature*	-30...+80 °C	-25...+70 °C
防护等级 *Degree of protection*	正面和侧面 IP69K, 连接器 IP20 *Front- and backside IP69K, connector IP20*	
操作方式 *Type of operation*	电容式 *Capacitive*	
操作所需压力 *Operation force*	无需任何压力 *No operation force required*	

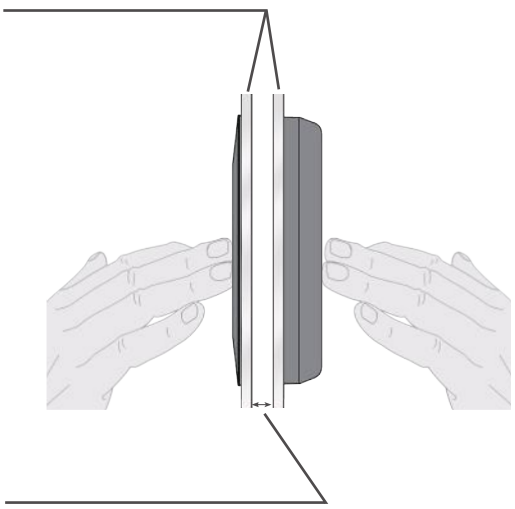
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT51 双层玻璃表面粘贴安装，可双面控制

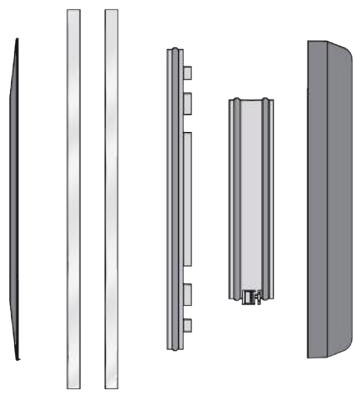
CHT51 ADHESIVE MOUNTING BEHIND DOUBLE GLASS, TWO-SIDED OPERATION

产品实际尺寸
Original size

面板厚度最大为4 mm
Pane thickness max. 4 mm



面板间隙最大为8 mm
Pane gap max. 8 mm



1 彩色固定环
Coloured position ring
2 玻璃面板（最大厚度4mm）
Glass pane (up to 4 mm)
3 安装法兰
Mounting flange
4 传感器
Sensor
5 彩色外环
Coloured cover ring

- **粘贴安装**
  安装无需任何螺栓。

- **可通过直接接触或透过一层玻璃来进行操作**
  无需在玻璃上钻孔。

- **可双面控制**
  正反面均可进行操作。

- **信号反馈**
  通过16个LED灯进行视觉反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。
  有效感应面积 25 cm²。

- **符合TSI-PRM认证 （特定产品）**
  依据2008/164/EG条例。

- ***Adhesive mounting***
  No screws required.

- ***Switching through double glass and direct touch***
  No need to drill holes in the panes.

- ***Two-sided control***
  Can be used on the inside and outside.

- ***Feedback***
  Visual feedback through 16 LEDs.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on coloured cover ring, 25 cm² operating surface.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

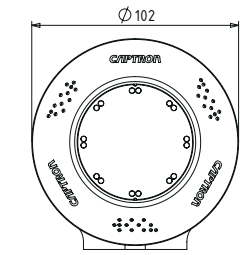
CHT51 双层玻璃表面粘贴安装，可双面控制

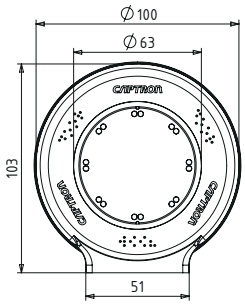
CHT51 ADHESIVE MOUNTING BEHIND DOUBLE GLASS, BILATERAL OPERATION

CHT51-1（标准产品）
CHT51-1 (Standard)

外侧
Outside

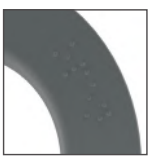
内侧
Inside





外环图案
Possible tactile pictograms

盲文标识（取决于图形样式）
Braille characters (depend on pictogram)



可选颜色
Available colours

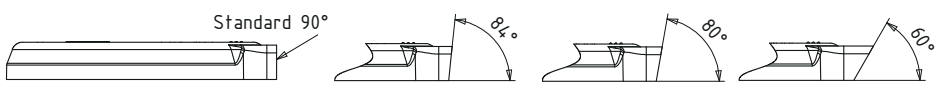
RAL 5015 RAL 6024 RAL 3020 RAL 1023 RAL 7042 RAL 9017

DY 动态输出 *Dynamic*

PNP PNP - 三极管 *PNP - transistor*

AM 半自动

可选角度
Available angles

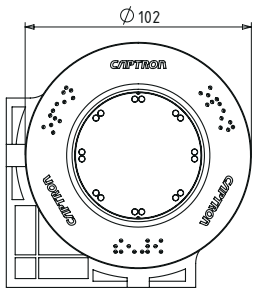


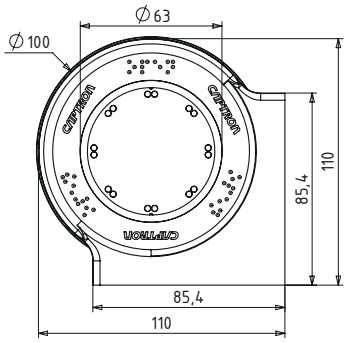
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT51-6 （边角安装）
CHT51-6 (Corner mounting)

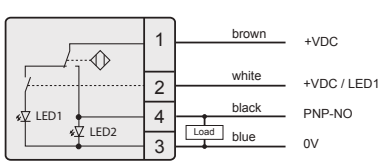
外侧
Outside

内侧
Inside

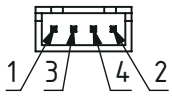




接线图 P (PNP)
Connection diagram P (PNP)



连接器 JST
Connector JST



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技术参数（24 V，20 °C）*Technical data at 24 V and 20 °C*

工作电压 *Supply voltage*	DC 24 V (16,8...32 V)
负载电流 *Load current*	Max. 400 mA
输出 *Output*	PNP-NO
输出信号 *Output signal*	~1 s（取决于脉冲信号持续时间）*(depending on the actuation duration)*
LED 1	16个绿色LED灯 *16 green LEDs*
LED 2	16个红色LED灯 *16 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3V at 400 mA*
电流消耗 *Current consumption*	电压24 V时最大为30 mA *Max. 30 mA at 24 V*
工作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	正面和侧面 IP69K, 连接器 IP20 *Front- and backside IP69K, connector IP20*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	连接器JST *Connector JST*

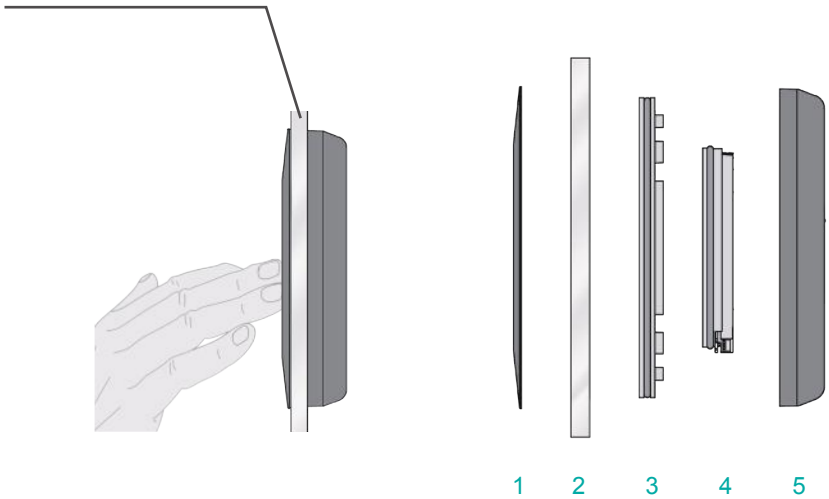
以上尺寸单位均为毫米，非等比例绘制。*All dimensions in mm, not to scale*

CHT6 玻璃表面粘贴安装，单面控制

CHT6 ADHESIVE MOUNTING BEHIND GLASS, SINGLE SIDED OPERATION

产品实际尺寸
Original size

面板厚度最大为6 mm
Pane thickness max. 6 mm



1 彩色固定环
Coloured position ring
2 面板（最大厚度6mm）
Glass pane (up to 6 mm)
丙烯酸玻璃（最大厚度4mm）
Acrylic pane (up to 4 mm)
3 安装法兰
Mounting flange
4 传感器
Sensor
5 彩色外环
Coloured cover ring

- **粘贴安装**
  安装无需任何螺栓。

- **可透过双层玻璃来进行操作**
  无需在玻璃上钻孔。

- **可双面控制**
  正反面均可进行操作。

- **信号反馈**
  通过16个LED灯进行视觉反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。
  有效感应面积 25 cm ² 。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Adhesive mounting***
  No screws required.

- ***Switching through single glass***
  No need to drill holes in the panes.

- ***One-sided control***
  Can be used on the outside only.

- ***Feedback***
  Visual feedback through 16 LEDs.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

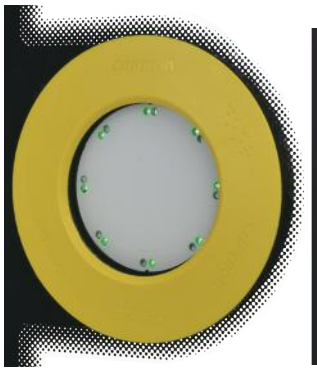
- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on coloured cover ring, 25 cm² operating surface.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

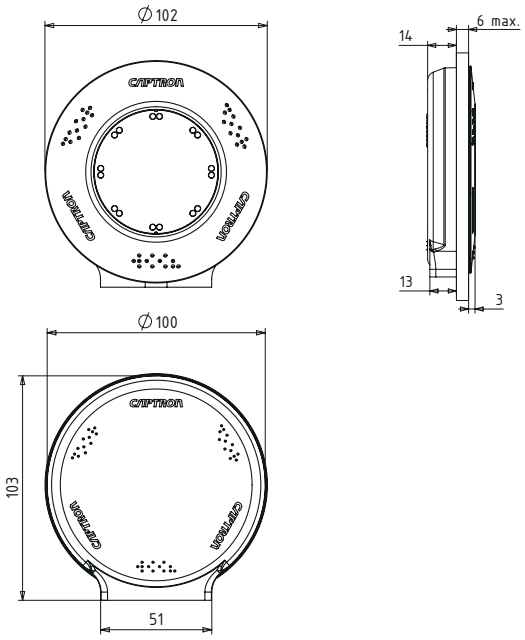
CHT6 玻璃表面粘贴安装，单面控制

CHT6 ADHESIVE MOUNTING BEHIND GLASS, SINGLE SIDED OPERATION

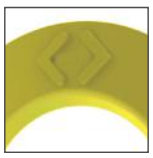


外侧
Outside

内侧
Inside



外环图案
Possible tactile pictograms



盲文标识（取决于图形样式）
Braille characters (depend on pictogram)

可选颜色
Available colours

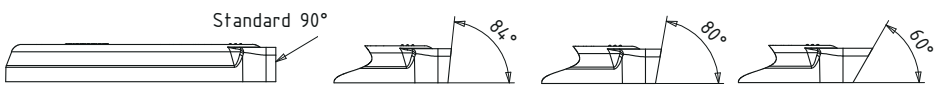
RAL 5015 RAL 6024 RAL 3020 RAL 1023 RAL 7042 RAL 9017

DY 动态输出 *Dynamic*

PNP PNP - 三极管 *PNP - transistor*

AM 半自动

可选角度
Available angles

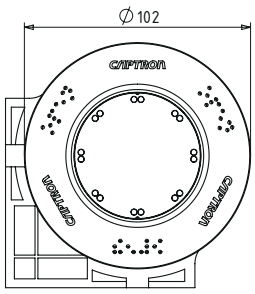


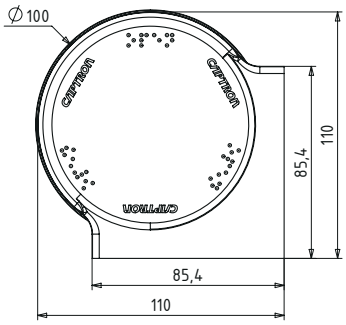
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT6-6 （边角安装）
CHT6-6 (Corner mounting)

外侧
Outside

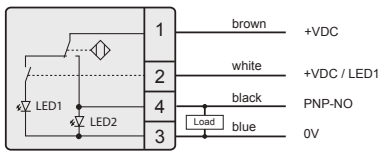
内侧
Inside



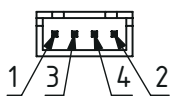


接线图 P (PNP)
Connection diagram P (PNP)

AM



连接器 JST
Connector JST



技术参数（24 V，20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (16,8...32 V) 可选：DC 12 V (10,8...14 V)
负载电流 *Load current*	Max. 400 mA
输出 *Output*	PNP-NO
输出信号 *Output signal*	~1 s （取决于脉冲信号持续时间） *(depending on the actuation duration)*
LED 1	8个绿色LED灯 *8 green LEDs*
LED 2	8个红色LED灯 *8 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3 V at 400 mA*
电流消耗 *Current consumption*	电压24 V时最大为20 mA *Max. 20 mA at 24 V*
工作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	正面和侧面 IP69K, 连接器 IP20 *Front- and backside IP69K, connector IP20*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	连接器 JST *Connector JST*

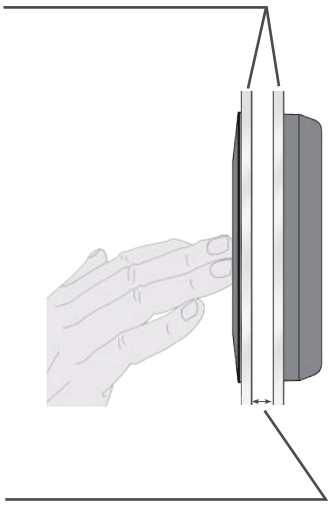
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT61 双层玻璃表面粘贴安装，单面控制

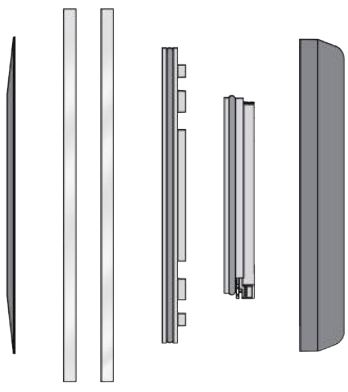
CHT61 ADHESIVE MOUNTING BEHIND DOUBLE GLASS, SINGLE SIDED OPERATION

产品实际尺寸
Original size

面板厚度最大为4 mm
Pane thickness max. 4 mm



面板间隙最大为8 mm
Pane gap max. 8 mm



1 彩色固定环
Coloured position ring
2 面板（最大厚度4mm）
Glass pane (up to 4 mm)
3 安装法兰
Mounting flange
4 传感器
Sensor
5 彩色外环
Coloured cover ring

- **粘贴安装**
  安装无需任何螺栓。

- **可透过双层玻璃来进行操作**
  无需在玻璃上钻孔。

- **单面控制**
  仅能从外侧进行操作。

- **信号反馈**
  通过16个LED灯进行视觉反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。
  有效感应面积 25 cm ² 。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Adhesive mounting***
  No screws required.

- ***Switching through double glass***
  No need to drill holes in the panes.

- ***One-sided control***
  Can be used on the outside only.

- ***Feedback***
  Visual feedback through 16 LEDs.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on coloured cover ring, 25 cm² operating surface.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

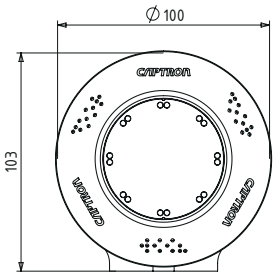
CHT61 双层玻璃表面粘贴安装，单面控制

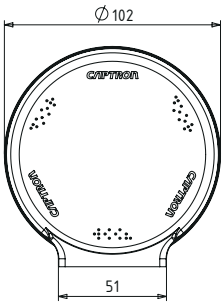
CHT61 ADHESIVE MOUNTING BEHIND DOUBLE GLASS, SINGLE SIDED OPERATION

CHT61-1 （标准产品）
CHT61-1 (Standard)

外侧
Outside

内侧
Inside





外环图案
Possible tactile pictograms

盲文标识（取决于图形样式）
Braille characters (depend on pictogram)

可选颜色
Available colours

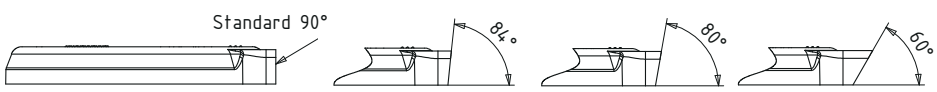
RAL 5015 RAL 6024 RAL 3020 RAL 1023 RAL 7042 RAL 9017

DY 动态输出 *Dynamic*

PNP PNP - 三极管 *PNP - transistor*

AM 半自动

可选角度
Available angles

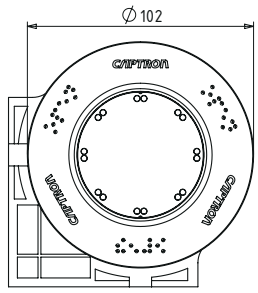


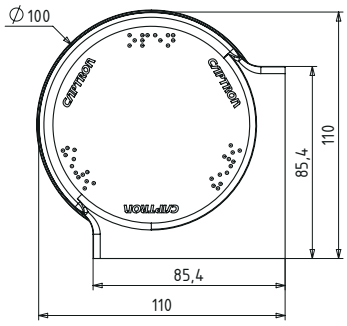
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT61-6 （边角安装）
CHT61-6 (Corner mounting)

外侧
Outside

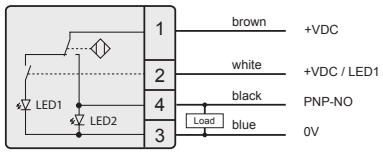
内侧
Inside



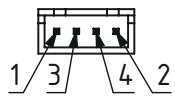


接线图 P (PNP)
Connection diagram P (PNP)

AM



连接器 JST
Connector JST



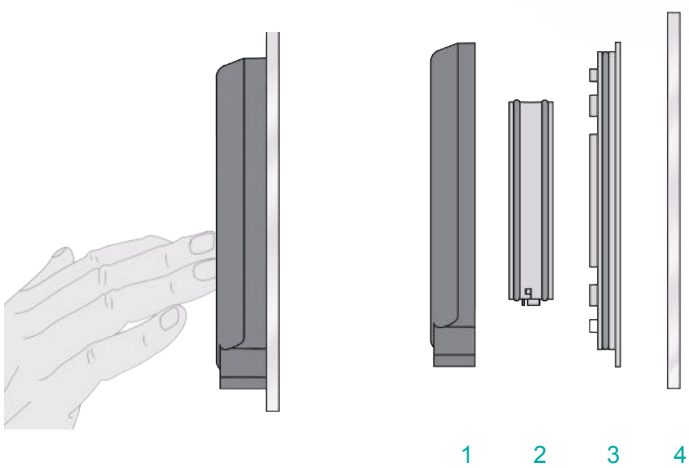
技术参数（24 V，20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (16,8...32 V)
负载电流 *Load current*	Max. 400 mA
输出 *Output*	PNP-NO
输出信号 *Output signal*	~1 s（取决于脉冲信号持续时间）*(depending on the actuation duration)*
LED 1	8个绿色LED灯 *8 green LEDs*
LED 2	8个红色LED灯 *8 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3 V at 400 mA*
电流消耗 *Current consumption*	电压24 V时最大为20 mA *Max. 20 mA at 24 V*
工作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	正面和侧面 IP69K, 连接器 IP20 *Front- and backside IP69K, connector IP20*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	连接器 JST *Connector JST*

以上尺寸单位均为毫米，非等比例绘制。*All dimensions in mm, not to scale*

CHT7 玻璃表面粘贴安装，单面控制

CHT7 ADHESIVE MOUNTING ON GLASS, SINGLE SIDED OPERATION

产品实际尺寸
Original size



1 彩色外环
Coloured cover ring
2 传感器
Sensor
3 安装法兰
Mounting flange
4 玻璃、亚克力、金属板
Glass-, acrylic- or metalplate

- **粘贴安装**
  安装无需任何螺栓。

- **触摸即可激活开关**
  高使用舒适度，无需压力

- **单面控制**
  仅能从外侧进行操作。

- **信号反馈**
  通过16个LED灯和振动进行视觉和触觉的信号反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用特殊材质一体浇筑而成。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。
  有效感应面积 25 cm ² 。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Adhesive mounting***
  No screws required.

- ***Touch Control***
  High ease of use, no mechanical pressure required.

- ***One-sided control***
  Can be used on the inside only.

- ***Feedback***
  Visual and tactile signals through 16 LEDs and vibration.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

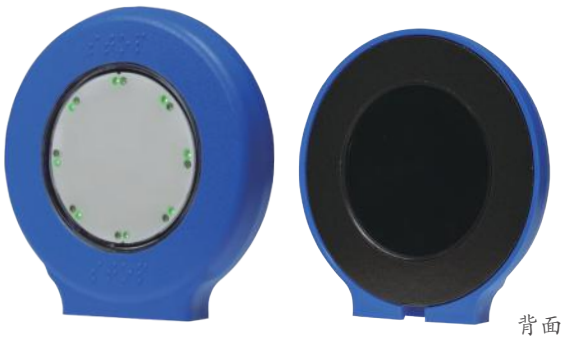
- ***Accessibility***
  Braille and raised chevrons on coloured cover ring, 25 cm² operating surface.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

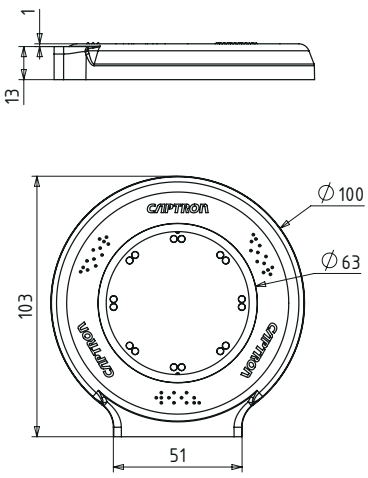
CHT7 玻璃表面粘贴安装，单面控制

CHT7 ADHESIVE MOUNTING ON GLASS, SINGLE SIDED OPERATION

CHT7-1（标准产品）
CHT7-1 (Standard)



背面视图
Backside view



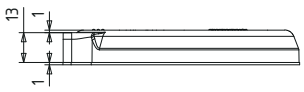
- **花纹玻璃及墙体表面安装的理想选择**
  Ideal for IMPRINTED glass surfaces or wall mounting

CHT7-1/PL（可选）

背面视图
Backside view

- **透明玻璃表面安装的理想选择**
- **胶膜粘贴表面全覆盖**

- ***Ideal for transparent glass surfaces***
- ***Sight cover with adhesive film covering the entire surface***



整面覆盖
With sight cover

盲文标识
Braille

DY 动态输出 *Dynamic*

AM 半自动

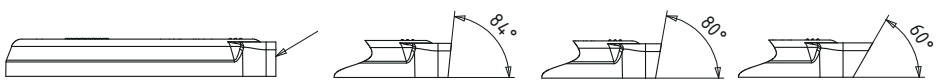
PNP PNP - 三极管 *PNP - transistor*

振动 *Vibration*

可选颜色
Available colours

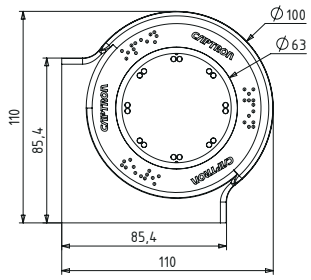
RAL 5015 RAL 6024 RAL 3020 RAL 1023 RAL 7042 RAL 9017

可选角度
Available angles



以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

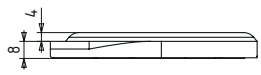
CHT7-6 （边角安装）
CHT7-6 (Corner mounting)

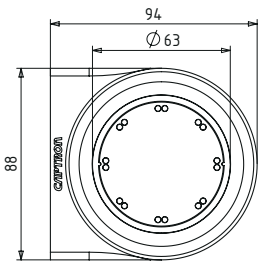


CHT7-2#L （金属材质）
CHT7-2#L (Metal version)

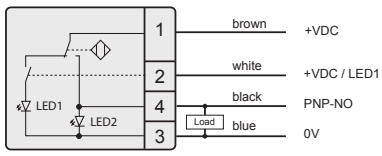
颜色
Colour

泰坦银（铝涂层）
Titan silver (painted aluminum)

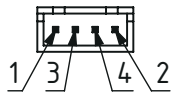




接线图 P (PNP)
Connection diagram P (PNP)



连接器 JST
Connector JST



技术参数（24 V，20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (16,8...32 V)
负载电流 *Load current*	Max. 400 mA
输出 *Output*	PNP-NO
输出信号 *Output signal*	约300 ms *Approx. 300 ms*
LED 1	8个绿色LED灯 *8 green LEDs*
LED 2	8个红色LED灯 *8 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3 V at 400 mA*
电流消耗 *Current consumption*	电压24 V时最大为20 mA *Max. 20 mA at 24 V*
工作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	正面和侧面 IP69K, 连接器 IP20 *Front- and backside IP69K, connector IP20*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	连接器 JST *Connector JST*

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT9 粘贴安装

CHT9 ADHESIVE MOUNTING

实际产品尺寸
Original size

CHT9系列触摸式感应开关具有非常灵活的安装和应用范围，您可根据实际需求，选择将产品安装在玻璃或金属的表面上。同时，CHT9还可用作交通运输和楼宇建筑领域的开门按钮，其全玻璃材质系列产品可满足食品及医疗行业的卫生标准。除了传感器元器件本身之外，无需再有另外的安装孔，您可通过高性能的粘贴胶膜实现简便而牢固的安装。突出表面仅3mm的高度使CHT9成为触摸式感应开关各个系列产品中最薄的一款。

The SENSORswitches in the CHT9 series are capacitive switches with an exceptionally flexible range of mounting and application options on glass or metal surfaces. The switches can be used for opening doors in transportation and building technology, and come in a hygienic version made entirely of glass for use in the medical and foodstuffs sectors.
Besides to the hole for the sensor element no further mounting holes are required, thus a simple and easy mounting is achieved by means of high-performance adhesive film. With only 3 mm structure CHT9 is one of the flattest SENSORswitch in the series.

- **粘贴安装**
  安装无需任何螺栓。

- **触摸即可激活开关**
  高使用舒适度，无需压力

- **多信号反馈**
  可通过16个LED灯、振动及蜂鸣器进行视觉、触觉和听觉的信号反馈。

- **防敲击撞击**
  防敲击标准IK08，防止火焰和敲击破坏。

- **100 % 防水防油设计 - IP69K**
  整个产品采用先进技术和高端材料一体成型。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **可用于对卫生标准要求高的行业（特定产品）**
  提供满足DIN EN 1672-1 和DIN EN1672-2卫生标准的产品。

- **符合TSI-PRM认证 （特定产品）**
  依据2008/164/EG条例。

- ***Adhesive mounting***
  No screws required.

- ***Touch Control***
  High ease of use, no mechanical pressure required.

- ***Feedback***
  Visual, tactile and acoustic signals through 16 LEDs, vibration and beeper.

- ***Shock-resistant***
  The sensor cannot be destroyed by lighter flames or severe blows.

- ***100 % water & oil-proof - IP69K***
  Sensor completely sealed in cast resin.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Hygiene-conform design (depends on model)***
  Based on DIN EN 1672-1/2.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

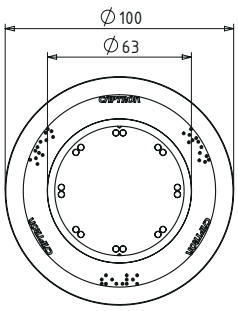
CHT9 粘贴安装

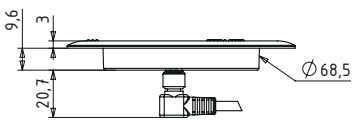
CHT9 ADHESIVE MOUNTING

CHT9-1（墙面安装）
CHT9-1 (Wall mounting)

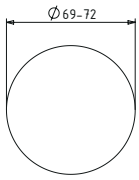
- **金属板材安装的理想选择**
- **极扁平的设计(厚度仅3 mm)**

- ***Ideal for mounting on sheet metal***
- ***Extremely flat shape (3 mm)***

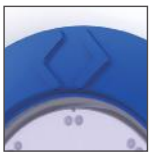




开孔图
Hole pattern



外环图案
Possible tactile pictograms



盲文标示（取决于图形样式）
Braille characters (depend on pictogram)

DY 动态输出 *Dynamic*

AM 半自动 *Semi-Automatic*

PNP PNP - 三极管 *PNP - transistor*

NPN NPN - 三极管 *NPN - transistor*

振动 *Vibration*

信号音 *Signal tone*

可选颜色
Available colours

RAL 5015 RAL 3020 RAL 6024

RAL 1023 RAL 7042 RAL 9017

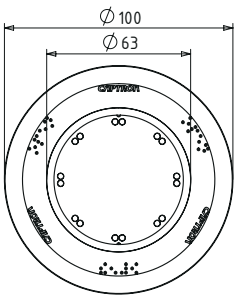
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT9-P（玻璃安装）
CHT9-P (Glas mounting)

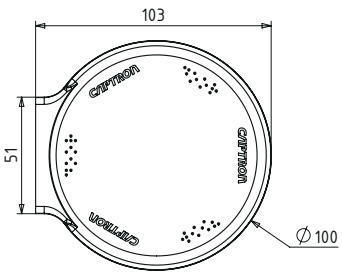
- 深色玻璃表面安装的理想选择
- 电缆隐蔽在后盖中
- 极扁平的设计(厚度仅3 mm)

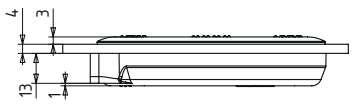
- *Ideal for dark tinted glass*
- Cable outlet on the side with cap
- *Extremely flat shape (3 mm)*

外侧
Outside

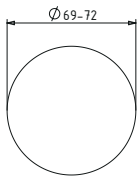


内侧
Inside





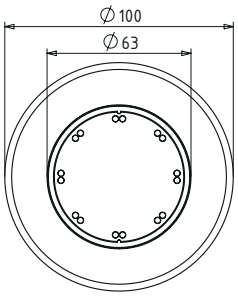
开孔图
Hole pattern

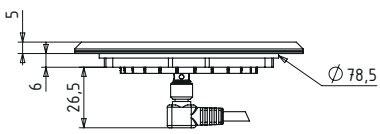


CHT9-G （符合卫生标准）
CHT9-G (Hygiene-conform)

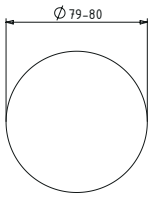
- 正面部分采用全钢化玻璃制成
- 符合卫生标准的清洁过程
- 是医药、医疗及食品工业的理想选择

- *Entire front made of toughened glass*
- *Hygienic cleaning*
- *Ideal for pharmaceutical, medical and food industries*





开孔图
Hole pattern

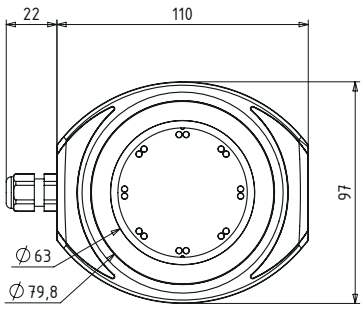


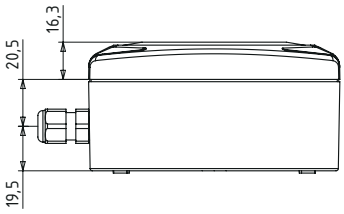
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT9-Y（铝制外壳）
CHT9-Y (Aluminum housing)

- **坚固的压铸铝壳**
- **符合最高设计防护标准**
- **连接器M12同样适用**

- ***Robust die-cast aluminum housing***
- ***Meets the highest design requirements***
- ***Also available with connector M12***



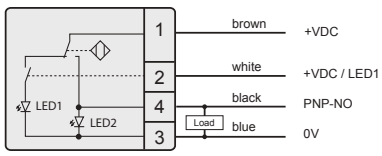


颜色
Colour

灰色粉末涂层
Grey powder coated

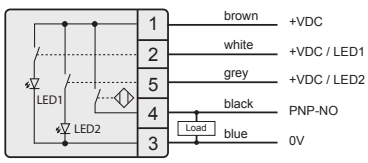
接线图 P (PNP)
Connection diagram P (PNP)

A M



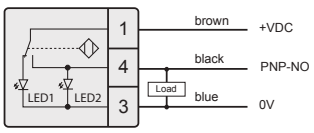
接线图 B (PNP)
Connection diagram B (PNP)

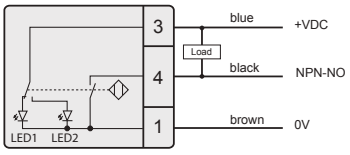
M



接线图 W (PNP/NPN)
Connection diagram W (PNP/NPN)

A





以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

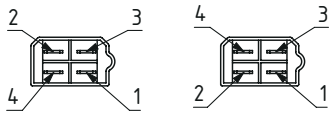
技术参数（24 V，20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (16,8...32 V) / DC 12 V (10,8...14 V)
负载电流 *Load current*	Max. 200 mA
输出 *Output*	PNP-NO / NPN-NO
输出信号 *Output signal*	约 300 ms *Approx. 300 ms*
LED 1	8个绿色LED灯 *8 green LEDs*
LED 2	8个红色LED灯 *8 red LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为200 mA时最大为3 V *Max. 3 V at 200 mA*
电流消耗 *Current consumption*	电压为24 V时最大为30 mA *Max. 30 mA at 24 V*
工作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	正面 IP69K *Front IP69K*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	M8 / JST / 线芯 / 线缆 + AMP 6,3 *M8 / JST / strands / cable + AMP 6,3*

连接器
Connectors

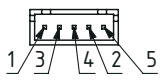
连接器 M8, 4针
Connector M8, 4-pole

连接器 M8, 5针
Connector M8, 5-pole

连接器 AMP 6.3, 4针
Connector AMP 6.3 , 4-pole



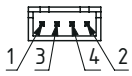
连接器 JST 2.54, 5针
Connector JST 2.54, 5-pole



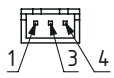
线芯，200 mm套管
（塑料环箍 DIN 46228
电缆线截面0.25 mm²）

Strands, 200 mm with ferrules
(Ferrules with plastic collar to DIN 46228
Cable cross section strands 0.25 mm²)

连接器 JST 2.54, 4针
Connector JST 2.54, 4-pole



连接器 JST 2.54, 3针
Connector JST 2.54, 3-pole



HWT2

感应面积 **16 cm²**
Operating surface 16 cm²

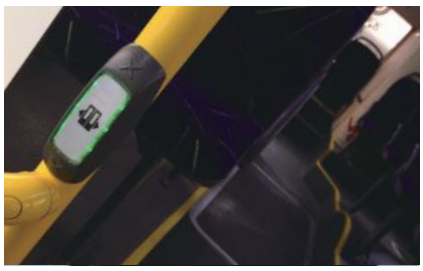
HWT2 扶手杆或墙面安装的下车请求开关

HWT2 STOP REQUEST BUTTON FOR ROD AND WALL MOUNTING

实际产品尺寸
Original size

HWT2是世界范围内首个，同时也是目前唯一的电容式下车请求开关。这种开关可同时适用于安装在不同直径的扶手杆（Ø 30, 34, 35 m）和墙面上。创新的安装系统，使其安装没有可视的螺栓。

The HWT2 from CAPTRON is the first and, so far, only capacitive stop-request button worldwide. This capacitive button is suitable both for mounting on rods of different diameters (30, 34, 35 mm) and mounting on walls. The innovative mounting system enables installation without visible screws.



- **触摸即可激活开关**
  高使用舒适度，无需压力

- **多信号反馈**
  可通过12个LED灯及蜂鸣器进行视觉和听觉的信号反馈。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Touch Control***
  High ease of use, no mechanical pressure required.

- ***Feedback***
  Visual and acoustic feedback through 12 LEDs and beeper.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on the housing or sensor area.

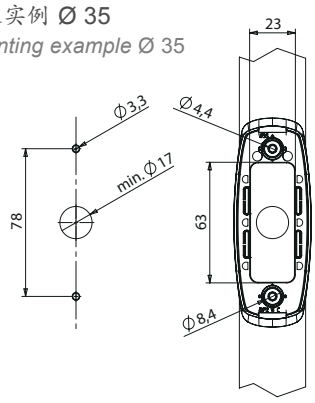
- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.

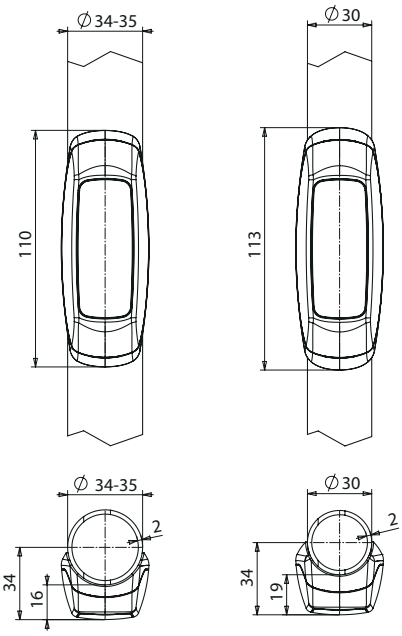
HWT2 扶手杆或墙面安装的下车请求开关

HWT2 STOP REQUEST BUTTON FOR ROD AND WALL MOUNTING

HWT2 （扶手杆安装）
HWT2 (Rod mounting)

安装实例 Ø 35
Mounting example Ø 35





可印制的触觉图标和盲文字符
Possible tactile pictograms and braille characters

表面凸纹“X”　表面凸纹 “<>”　盲文 “STOP”

表面凸纹“X” 可与“<>”或盲文 “STOP”的标识进行组合
The relief "X" can be combined with relief "<>" or braille "STOP".

产品拆卸
Dismounting

（HWT2-DW 产品拆卸专用工具）
(Special tool HWT2-DW necessary)

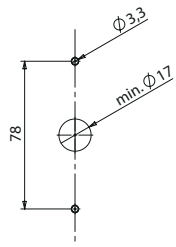
PNP　PNP - 三极管 *PNP - transistor*
A　自动
信号音 *Signal tone*
DY　动态输出 *Dynamic*
M　手动

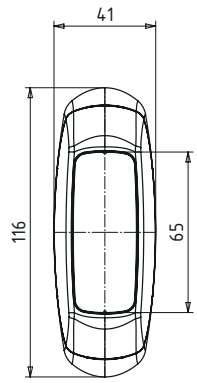
可选颜色
Available colours

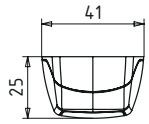
RAL 5017　RAL 3020　RAL 6024　RAL 1023　RAL 7043　RAL 9017

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

HWT2-W （墙面安装）
HWT2-W (Wall mounting)

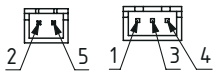






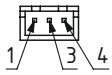
连接器 (2+3针)
Connector (2+3-pole)

连接器 JST 2.54, 2+3针
Connector JST 2.54, 2+3-pole



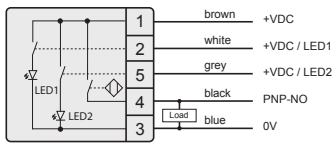
连接器 (3针)
Connector (3-pole)

连接器 JST 2.54, 3针
Connector JST 2.54, 3-pole



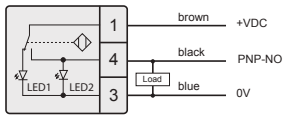
接线图 B (PNP)
Connection diagram B (PNP)

M



接线图 D (PNP)
Connection diagram D (PNP)

A



技术参数（24 V，20 °C） *Technical data at 24 V and 20 °C*

工作电压 *Supply voltage*	DC 24 V (10...32 V)
负载电流 *Load current*	200 mA
输出 *Output*	PNP-NO
最小作业时间 *Minimum operation time*	约180 ms *Approx. 180 ms*
输出信号 *Output signal*	约400 ms *Approx. 400 ms*
LED 1	6个绿色LED灯 *6 green LEDs*
LED 2	6个红色LED灯 *6 rote LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为200 mA时最大输出为2 V *Max. 2 V at 200 mA*
电流消耗 *Current consumption*	电压为24 V时最大为15 mA *Max. 15 mA at 24 V*
操作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	外壳 IP40 *Housing IP40*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	连接器 JST *Connector JST*
声音反馈 *Acoustic feedback*	信号音（仅 M 版本） *Signal tone (only M version)*

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

HWT3

感应表面直径 **Ø 50 mm**
Operating surface Ø 50 mm

HWT3 带屏幕显示的下车请求开关，扶手杆安装

HWT3 STOP REQUEST BUTTON WITH GRAFIC DISPLAY, FOR ROD MOUNTING

产品实际尺寸
Original size

- **触摸即可激活开关**
  高使用舒适度，无需压力。

- **液晶图像显示屏幕**
  可显示动态图像/序列：
  LCD屏幕分辨率64*72像素。

- **多信号反馈**
  可通过16个LED灯及蜂鸣器进行视觉和听觉的信号反馈。

- **超长使用寿命**
  开关循环可达几亿次(三极管开关输出)。

- **易于操作（可适用于残疾人）**
  彩色环或感应区设有盲文和凸起的箭头。

- **符合TSI-PRM认证（特定产品）**
  依据2008/164/EG条例。

- ***Touch Control***
  High ease of use, no mechanical pressure required.

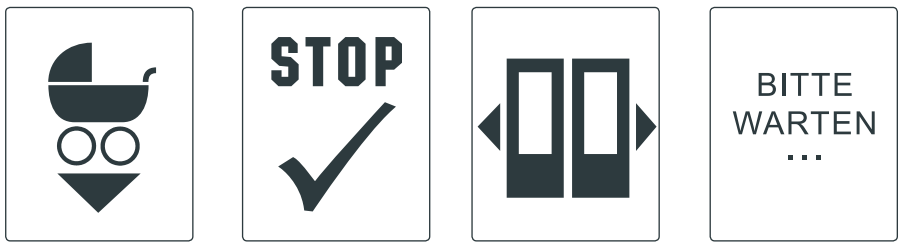
- ***Graphic Display***
  Can show up to four moving images / sequences:
  LCD module with 64x72 pixel.

- ***Feedback***
  Visual and acoustic signals through graphic display,
  16 LEDs and beeper.

- ***Durable service life***
  More than 100 million operation cycles (transistor output).

- ***Accessibility***
  Braille and raised chevrons on sensor area.

- ***TSI-PRM certified (depends on model)***
  By directive 2008/164/EG.



LCD-功能

HWT3拥有一个液晶图像显示屏幕，舒适的使用界面使操作更加简单明了。这个按钮可让使用者表达其停车意愿的同时，还能通过液晶图像显示屏获取即时的行车信息。无论这个按钮是作为表达停车意愿，开门按钮使用还是来控制上下车踏板，无论是用在公共汽车还是火车上，它都能为使用者提供无穷的信息。

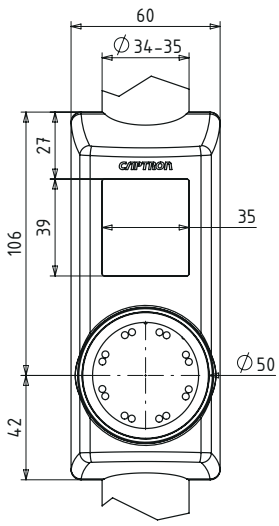
LCD-Function

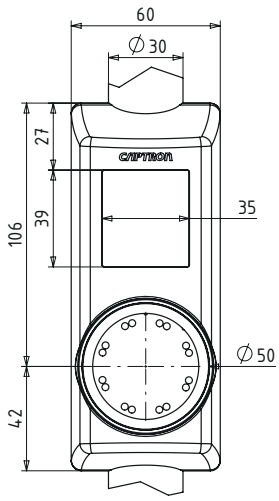
The HWT3 has a graphic display which makes it user friendly and easier to operate. The stop request button allows the appropriate information to be displayed to the user depending on the current status of the route. The passenger receives visual feedback. Whether a request to stop, to open the door, to engage the ramp, etc., in the bus or train, the display possibilities are unlimited.

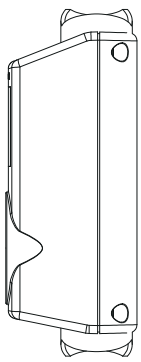
HWT3 带屏幕显示的下车请求开关，扶手杆安装

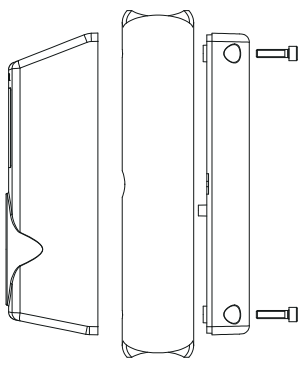
HWT3 STOP REQUEST BUTTON WITH GRAFIC DISPLAY, FOR ROD MOUNTING

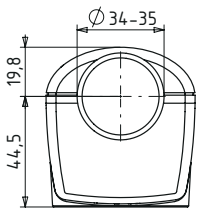
HWT3（标准产品）
HWT3 (Standard)

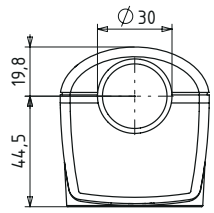


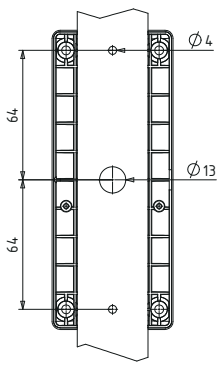












PNP - 三极管
PNP - transistor

信号音
Signal tone

动态输出
Dynamic

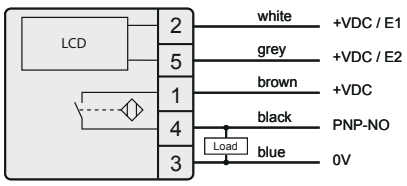
可选颜色
Available colours

RAL 5017 RAL 3020 RAL 6024 RAL 1023 RAL 7042 RAL 9017

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

LCD 功能 *LCD function*	
序列 A *Sequence A*	VDC
序列 B *Sequence B*	VDC + E1
序列 C *Sequence C*	VDC + E2
序列 D *Sequence D*	VDC + E1 + E2

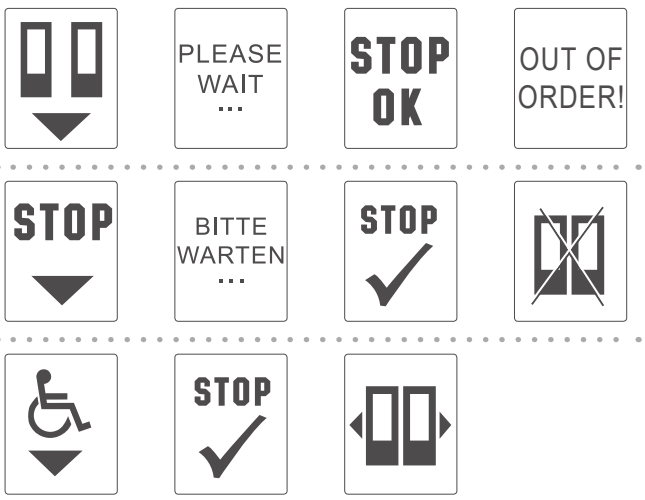
接线图
Connection diagram



连接器 JST
Connector JST

技术参数（24 V，20 °C） *Technical data at 24 V and 20 °C*	
工作电压 *Supply voltage*	DC 24 V (DC 16,8...32 V)
负载电流 *Load current*	Max. 400 mA
输出 *Output*	PNP-NO
输出信号 *Output signal*	约300 ms *Approx. 300 ms*
LED 1	8个绿色LED灯 *8 green LEDs*
LED 2	8个红色LED灯 *8 rote LEDs*
反向电极保护 *Reverse polarity protection*	所有导线均有错接保护 *Protection of all lines*
短接保护 *Short-circuit protection*	具有短路及过载保护功能 *Short-circuit and overload protection*
电压降 *Voltage drop*	电流为400 mA时最大为3 V *Max. 3 V at 400 mA*
电流消耗 *Current consumption*	电压为24 V时最大为60 mA *Max. 60 mA at 24 V*
操作温度 *Operating temperature*	-30...+80 °C
防护等级 *Degree of protection*	外壳 IP20 *Housing IP20*
操作方式 *Type of operation*	电容式 *Capacitive*
操作所需压力 *Operation force*	无需任何压力 *No operation force required*
电气接口 *Connection*	连接器 JST *Connector JST*

可显示内容范例
Example sequences

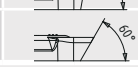


可选功能及配件
OPTIONS AND ACCESSORY

产品选型表
Overview of options and functions

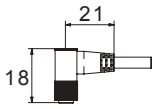
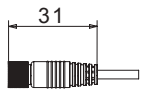
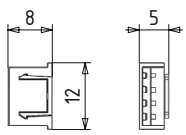
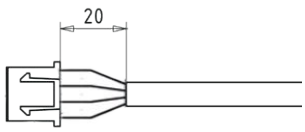
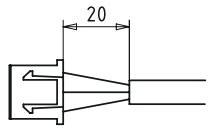
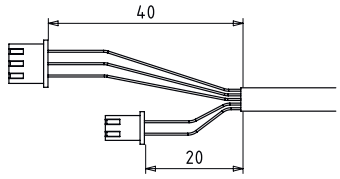
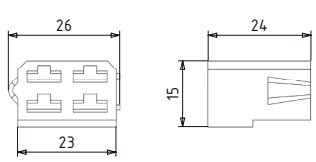
			CHT1	CHT3	CHT4	CHT5	CHT51	CHT6	CHT61	CHT7	CHT9	HWT2	HWT3
安装 *Mounting*	螺钉安装 *Screw mounting*	22,5 mm 开孔 *22,5 mm hole pattern*	●	●									
		30 mm 开孔 *30 mm hole pattern*	●										
		螺栓 65 mm *Bolt circle 65 mm*		●									
		螺栓 76 mm *Bolt circle 76 mm*			●								
	螺杆长 (Ø 30, 34, 35 mm) *Rod mounting (Ø 30, 34, 35 mm)*											●	●
	墙面安装 *Wall mounting*											●	
	粘贴式安装 *Adhesive mounting*					●	●	●	●	●	●		
LED 功能 *LED function*	全自动		●		●							●	
	半自动		●	●	●	●	●	●	●	●	●		●
	手动		●	●	●							●	
开关输出 *Switch*	静态 *Static*		●	●									
	动态 *Dynamic*			●	●	●	●	●	●	●	●	●	●
	触发		●										
连接件 *Connection*	AMP			●	●						●		
	JST		●	●	●	●	●	●	●	●	●	●	●
	M8		●	●	●						●		
	导线 + M8接头 *Cable + M8*		●	●									
	导线 + M12接头 *Cable + M12*		●	●									
	线芯 *Strands*		●	●	●						●		
	接线盒 *Terminal block*		●										

产品选型表 *Overview of options and functions*

			CHT1	CHT3	CHT4	CHT5	CHT51	CHT6	CHT61	CHT7	CHT9	HWT2	HWT3
塑料外环颜色 *Colours plastics*	RAL 5015				●	●	●	●	●	●	●		
	RAL 5017			●	●							●	●
	RAL 6024			●	●	●	●	●	●	●	●	●	●
	RAL 3020			●	●	●	●	●	●	●	●	●	●
	RAL 1023			●	●	●	●	●	●	●	●	●	●
	RAL 9016				●								
	RAL 7035			●									
	RAL 7042				●	●	●	●	●	●	●		●
	RAL 7043				●							●	
	RAL 9017			●	●	●	●	●	●	●	●	●	●
金属外环颜色 *Colours metals*	不锈钢 *Stainless steel*		●										
	原色氧化铝 *Aluminum nature*		●										
	黑色氧化铝 *Aluminum black*		●										
	泰坦银 *Titan silver*									●			
LED1 / LED2	绿色 *Green*		●	●	●	●	●	●	●	●	●	●	●
	*蓝色 **Blue*		●	●	●			●	●	●	●	●	●
	红色 *Red*		●	●	●	●	●	●	●	●	●	●	●
	黄色 *Yellow*		●	●	●						●		
	*白色 **White*		●										
安装结构 *Frame*	6°					●	●	●	●	●	●		
	10°					●	●	●	●	●	●		
	30°					●	●	●	●	●	●		
反馈 *Feedback*	声音 *Signal tone*			●	●						●	●	●
	震动 *Vibration*				●					●	●		
输出 *Output*	PNP		●	●	●	●	●	●	●	●	●	●	●
	NPN		●		●						●		
	继电器 *Relay*		●										

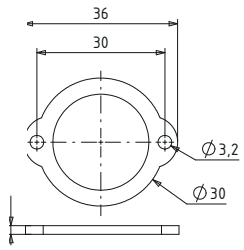
*并非所有的LED颜色都能与其结合 **Not all LED colours can be combined with each other*

连接器
Connectors

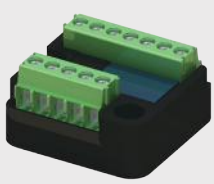
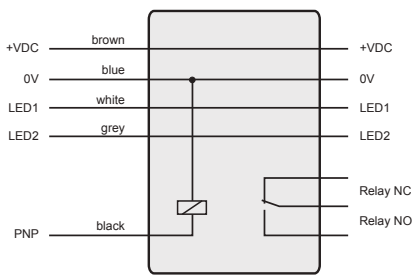
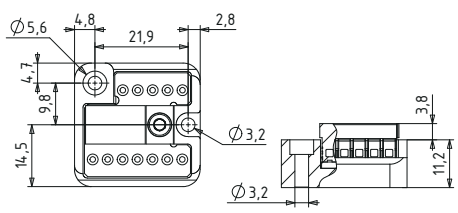
		产品型号 *Part-No.*	产品描述 *Description*		产品图例 *Drawing*
M8		TKW-40-2	2 m	4线，弯头 *4-wire, angled*	
		TKW-40-5	5 m		
		TKW-50-2	2 m	5线，弯头 *5-wire, angled*	
		TKW-50-5	5 m		
		TKG-40-2	2 m	4线，直头 *4-wire, straight*	
		TKG-40-5	5 m		
		TKG-50-2	2 m	5线，直头 *5-wire, straight*	
		TKG-50-5	5 m		
JST		CHT-46	压合端子+外壳 包装：10个一套 *Crimp contacts + housing Packaging unit: 10 pcs.*		
		CHT-46-1	1 m	4针，防变形 *4-pole, inflection resistant*	
		CHT-46-2	2 m		
		CHT-46-3	3 m		
		CHT-46-5	5 m		
		CHT-36-3	3 m	3针，防变形 *3-pole, inflection resistant*	
		CHT-36-5	5 m		
		HWT-326-3	3 m	3+2针，防变形 *3+2-pole, inflection resistant*	
		HWT-326-5	5 m		
AMP		CHT-41	压合端子+外壳 包装：10个一套 *Crimp contacts + housing Packaging unit: 10 pcs.*		

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

配件 *Accessory*

		产品型号 *Part-No.*	产品描述 *Description*	产品图例 *Drawing*
CHT1		CHT1-锁定环	CHT1-1#X型开关 可选安装配件 *Optional mounting accessory for CHT1-1#X*	

继电器组件 *Relay module*

		接线图 *Connection*	产品图例 *Drawing*
CRM1-RW			

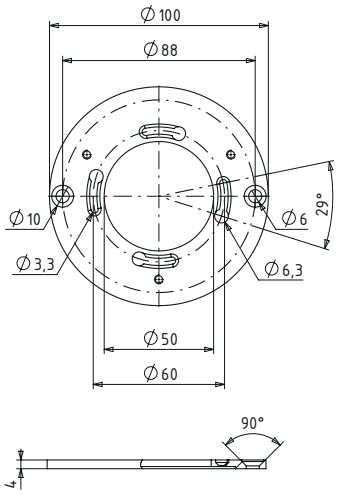
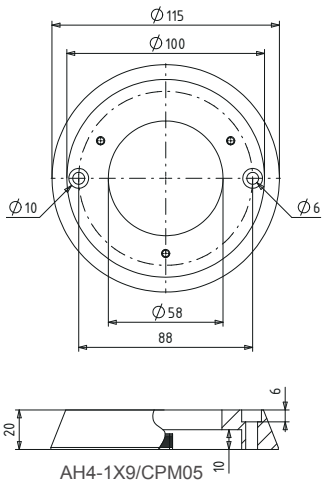
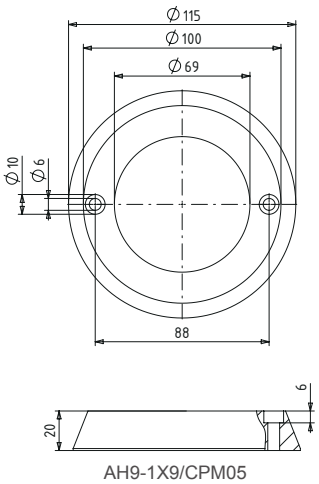
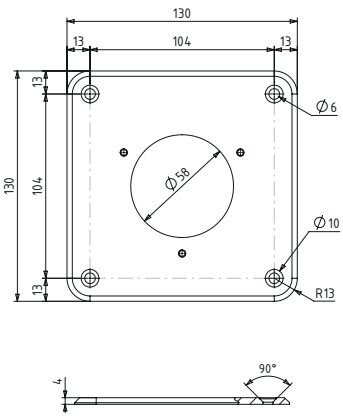
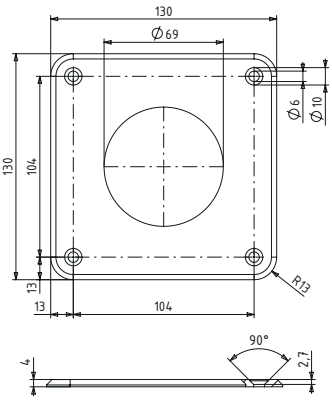
技术参数 *Technical data*

20 °C环境中的工作电压范围 *Operating voltage range at 20 °C*	DC 24 V (18...36 V)
开关电压 *Switching voltage*	Max. 30 V / 1 A
组件横截面 *Conductor cross section*	Max. 1.5 mm²

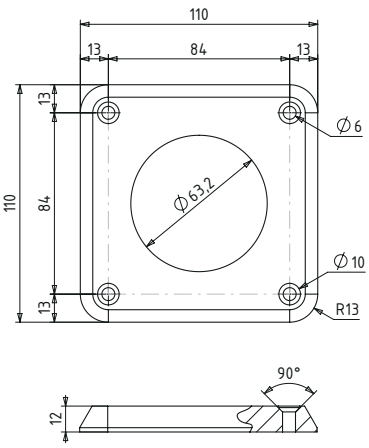
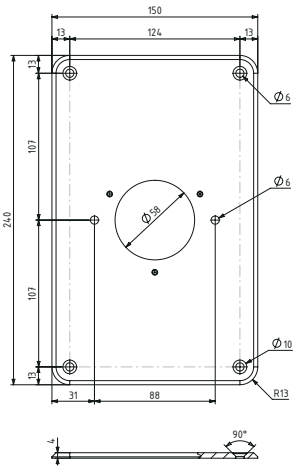
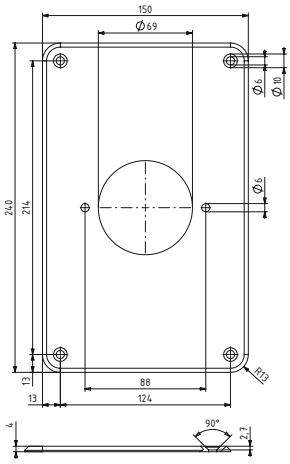
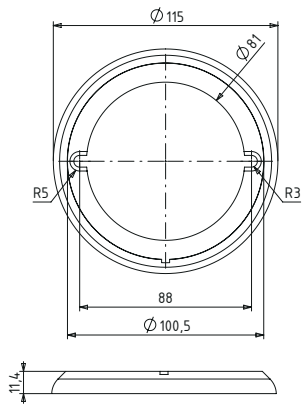
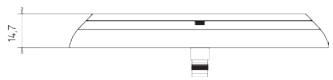
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

CHT4及CHT9的安装配件

MOUNTING SUPPORT FOR CHT4 AND CHT9

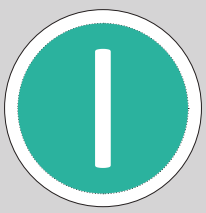
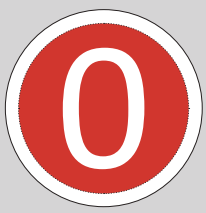
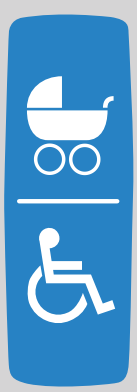
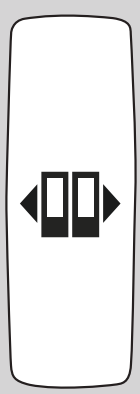
		产品型号 *Part-No.*	产品描述 *Description*	产品图例 *Drawing*
CPM04-02		CHT4: AH4-1X9/CPM04-02	表面氧化的铝制外环 其他可选材质：不锈钢 *Aluminium-anodized* *Option: Stainless steel*	
		 搭配 CHT4 *with CHT4*		
CPM05		CHT4: AH4-1X9/CPM05 CHT9: AH9-1X9/CPM05 表面氧化的铝制外环 其他可选材质：不锈钢 *Aluminium-anodized* *Option: Stainless steel*	 AH4-1X9/CPM05	 AH9-1X9/CPM05
		 搭配 CHT4 *with CHT4*		
		 搭配 CHT9 *with CHT9*		
CPM06		CHT4: AH4-1X9/CPM06 CHT9: AH9-1X9/CPM06 表面氧化的铝制外环 其他可选材质：不锈钢 *Aluminium-anodized* *Option: Stainless steel*	 AH4-1X9/CPM06	 AH9-1X9/CPM06
		 搭配 CHT4 *with CHT4*		
		  搭配 CHT9 *with CHT9*		

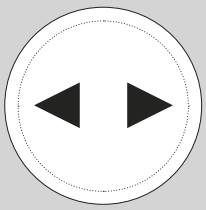
以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

		产品型号 *Part-No.*	产品描述 *Description*	产品图例 *Drawing*
CPM07		CHT4: AH4-1X9/CPM07	表面氧化的铝制外环 其他可选材质：不锈钢 *Aluminium-anodized* *Option: Stainless steel*	
		 搭配 CHT4 *with CHT4*		
CPM08		CHT4: AH4-1X9/CPM08 CHT9: AH9-1X9/CPM08 表面氧化的铝制外环 其他可选材质：不锈钢 *Aluminium-anodized* *Option: Stainless steel*		
		 搭配 CHT4 *with CHT4*		
		 搭配 CHT9 *with CHT9*	 AH4-1X9/CPM08	 AH9-1X9/CPM08
CPM09		CHT9: AH9-1X9/CPM09	表面氧化的铝制外环 其他可选材质：不锈钢 *Aluminium-anodized* *Option: Stainless steel*	
		 搭配 CHT9 *with CHT9*		

以上尺寸单位均为毫米，非等比例绘制。 *All dimensions in mm, not to scale*

常用的表面图标示例（图标可根据客户要求定制）
Examples for possible symbols (Other symbols available on request)

H	10	 205	 204	28
85	86	42	29	64
36	32	22	23	140
100	219	222	40	31
V15	V23	V20	 V26	 V30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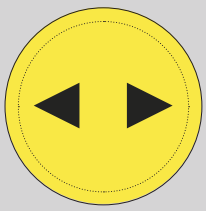
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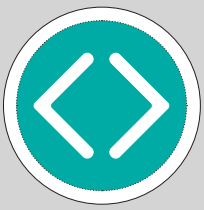
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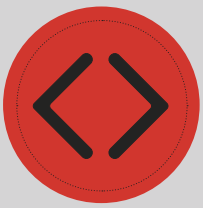
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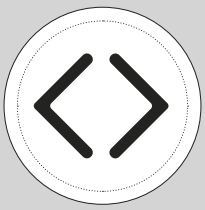
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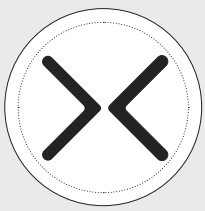
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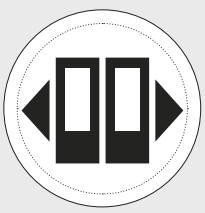
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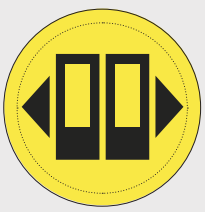
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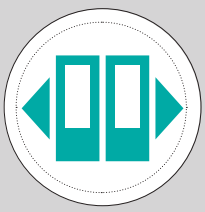
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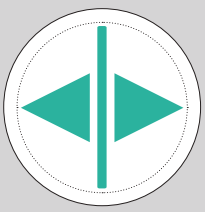
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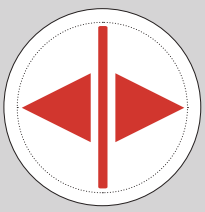
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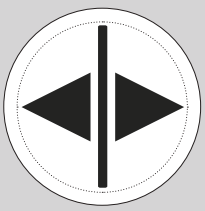
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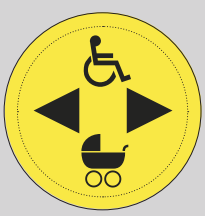
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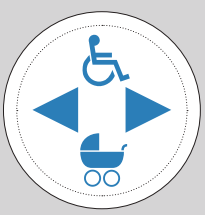
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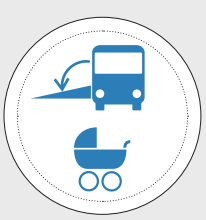
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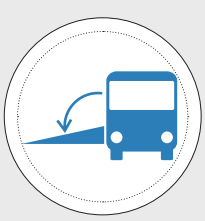
74

K

48

Version 1.4.2

HQ / Sales Germany
CAPTRON Electronic GmbH

Johann-G.-Gutenberg-Str. 7
D - 82140 Olching
Fon: +49 (0)8142 - 44 88 - 0
Fax: +49 (0)8142 - 44 88 - 100
info@captron.com

www.captron.com

亚洲销售中心
凯本隆电子（苏州）有限公司

苏州工业园区星汉街5号B幢
1楼12/13单元
电话: +86 (0)512 - 6767 80 - 45
传真: +86 (0)512 - 6767 80 - 47
sales@captron.cn

www.captron.cn

Sales Asia
CAPTRON Electronic Co., Ltd.

Xing Han Street 5, Block B, 1st Floor Unit 112 / 3
CN - 215021 Suzhou Industrial Park
Fon: +86 (0)512 - 6767 80 - 45
Fax: +86 (0)512 - 6767 80 - 47
info@captron.cn

www.captron.cn

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