



Optical Sensors

CAPTRON's optical laser sensors are robust, durable and reliable. Choose from a wide range of available designs and sizes.

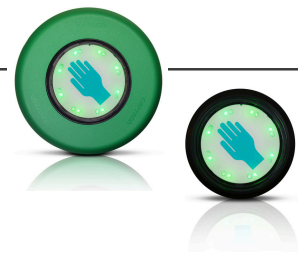
Starting at \$299



CANEO series Touch Buttons & LED Indicators

Flexibly integrates into networked environments, offering major benefits for all applications.

Starting at \$47.99



CHT3 series Touch Buttons

The CHT series from CAPTRON offers a wide range of easy-to-operate capacitive touch buttons that feature an extremely long service life.

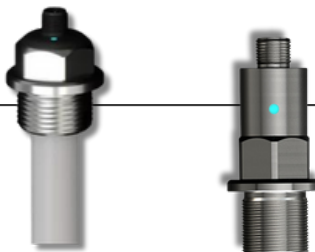
Starting at \$139



Two-Hand Control safeCAP

CAPTRON is the pioneer of the first capacitive two-hand control system, ensuring the highest safety standards are met.

Starting at \$218



Level Sensors

Accurately and reliably measure the fill levels of liquids, bulky goods, pastes, adhesives and chemically aggressive materials.

Starting at \$620



Accessories & more

Need an IO-Link configuration tool, cable, mount or adaptor? Don't forget to pick up these important peripherals.

Starting at \$10.99

*CAPTRON North America's hours of operations are Monday - Friday, 8am-5pm EST. Orders placed before 1pm EST will be shipped that same day. Orders placed after 1pm EST will ship next business day. If we fail to ship within 24 hours of receiving your order, we will ship your order for FREE. This offer applies ONLY to products listed specifically in this CAPTRON TODAY collection. See enclosed full Terms & Conditions.



CAPTRON North America LP
9499 Old Bailes Road, Suite 219
Fort Mill, SC 29707
Phone: 803-274-3679
sales.americas@captron.com
techsupport.americas@captron.com

The **CAPTRON TODAY** program is designed to eliminate long lead times and keep automation projects moving by guaranteeing that key products **ship the same day—or they ship free***.

For you, this means **instant availability**, reducing costly downtime and ensuring critical components arrive when needed. No delays—just fast, reliable fulfillment that keeps operations running smoothly.

Prioritizing responsiveness and reliability, **CAPTRON TODAY** reinforces our commitment to being the most technically supportive partner delivering value to our customers every day.

The products offered in the CAPTRON TODAY catalog are just a small selection of what CAPTRON North America has to offer. Looking for another configuration not seen here? Reach out to sales.americas@captron.com to discuss your needs. In most instances, we will be able to configure and ship within 1-2 days.

Need help with product selection? Reach out to our team at techsupport.americas@captron.com or call us, **803-274-3679**.

TERMS & CONDITIONS

*Payment is due at the time an order is placed. Orders placed before 1pm EST will be shipped that same day. Orders placed after 1pm EST will ship next business day. If we fail to ship within 24 hours of receiving your payment, we will ship your order for FREE. For CAPTRON Authorized Distribution Partners, distributor pricing and standard terms apply. CAPTRON TODAY prices are subject to change at any time. Bulk purchases are limited to quantities of 10 for CANEO series Touch Buttons, and 5 for all other products listed in this catalog. If larger quantities are required, please reach out directly to our Sales Team. CAPTRON North America's hours of operations are Monday - Friday, 8am-5pm EST. Same Day Shipping excludes standard bank holidays and non-business days; weather, natural disasters, or carrier delays; orders with missing and/or inaccurate shipping information; international orders; shipping outside the continental US. Standard shipping includes UPS Ground. Customer may request ExWorks for FedEx and other UPS shipping services. This offer applies ONLY to products listed specifically in this CAPTRON TODAY collection.

Table of Contents



| | |
|--------|--------------------------------|
| i | CAPTRON TODAY Program Overview |
| ii | CAPTRON TODAY Program Terms |
| iii-iv | Table of Contents |

1 OPTICAL SENSORS

| | |
|---|------------|
| Introduction to CAPTRON's Optical Sensor Technology | Page 1 |
| Tool Center Point Calibration Product Options | Page 2 |
| URCap Software | Page 3 |
| Fork Light Barrier Product Options | Page 4 |
| Data Sheets | Pages 5-11 |

2 TOUCH BUTTONS & LED INDICATORS

| | |
|---|-------------|
| What is Capacitive Technology and How Does it Work? | Page 12 |
| Introduction to the CANEO series10 and series4x | Page 13 |
| Button Sizing | Page 13 |
| Sensor Modes Explained | Page 14 |
| Input Modes Explained | Page 14 |
| Illumination Explained | Page 14 |
| Discrete vs IO-Link | Page 15 |
| CANEO series10 Standard Touch Button Product Options | Pages 16-19 |
| CANEO series10 Stainless Steel Touch Button Product Options | Pages 20-22 |
| CANEO series10 Hygienic Touch Button Product Options | Pages 23-25 |
| CANEO LED Indicator Product Options | Page 26 |
| Data Sheets | Pages 27-40 |
| CANEO series10 Configuration Parameters | Page 41 |



2 TOUCH BUTTONS & LED INDICATORS (CONTINUED)

| | |
|---|------------|
| CANEO series40 Puck Standard/Display Touch Button Product Options | Page 42 |
| CANEO series41 Standard/Display Touch Button Product Options | Page 43 |
| CANEO series41 Solid/Solid Display Touch Button Product Options | Page 44 |
| Data Sheets | Page 45-50 |
| CANEO series4x Configuration Parameters | Page 51 |
| CHT3 series Touch Button Product Options | Page 52 |
| Data Sheets | Page 53-54 |

3 TWO-HAND CONTROL

| | |
|-----------------------------|-------------|
| Introduction to safeCAP | Page 55 |
| SC30 series Product Options | Page 56 |
| SC4 series Product Options | Page 57 |
| Data Sheets | Pages 58-72 |

4 LEVEL SENSORS

| | |
|------------------------------|-------------|
| Introduction to ORCA | Page 73 |
| Introduction to CALIS | Page 74 |
| Level Sensor Product Options | Page 75 |
| Data Sheets | Pages 76-79 |

5 ACCESSORIES

| | |
|-------------|-------------|
| | Pages 80-82 |
| Data Sheets | Pages 83-87 |

OPTICAL SENSOR TECHNOLOGY

CAPTRON's Optical Sensors are robust, durable and reliable. They detect metallic and non-metallic objects from a size of 0.05 mm with extreme precision. In addition to laser light barriers with varying fork widths, CAPTRON also offers Tool Center Point (TCP) laser measurement devices for the exact measurement and calibration of robots.

The wide range of available designs and sizes are specially adapted to the requirements in automation, robotics and assembly. Our hardware solutions are robot-agnostic and in addition to highly technical recalibration can be used as a simple verification tool to ensure accuracy.

TOOL CENTER POINT OPTICAL LASER SENSORS

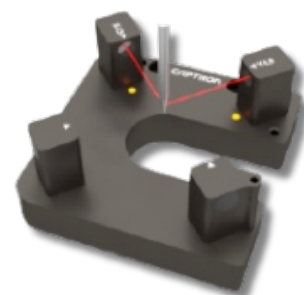


In machine and robot production, precision is essential to maintain consistent product quality. Regularly checking and calibrating the TCP is crucial—especially after maintenance, at the start of a shift, or even after each process cycle.

CAPTRON's TCP Optical Laser Sensors provide a robust, durable, and reliable solution for ensuring accuracy and efficiency.

In this video we demonstrate how to easily calibrate your UR robot with our innovative URCap software and our optical sensors. Follow the entire calibration process step by step and learn how our solution makes your robot applications more precise and efficient.

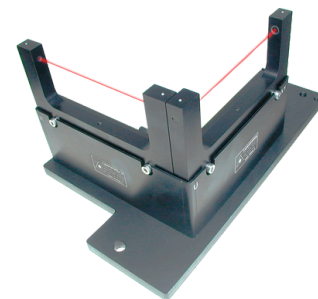
As a UR+ partner, we have taken the integration of our TCP measurement technology with UR robots to a new level. With our URCap, monitoring and adjusting the Tool Center Point is fully automatic. Our system is tested and certified by UR to provide you with seamless and precise results.



FORK LIGHT LASER SENSORS

As production volumes and speeds continue to rise, the expectation is that mechanical processes will minimize errors.

CAPTRON Fork Light Laser Sensors help meet this demand with a precise laser beam transmitted between two arms—one acting as the transmitter and the other as the receiver. These sensors can instantly detect errors, count, account for web tensioning control and more.



OPTICAL SENSORS

TOOL CENTER POINT CALIBRATION



UNIVERSAL ROBOTS
UR+ Partner

1

Optical Laser Sensors with Tool Center Point (TCP) measurement and calibration capability reliably detect both metallic and non-metallic objects for any industrial robots. In many applications, such as dispensing or welding, the tool is constantly changing due to wear or deformation. With CAPTRON TCPs, X, Y and Z axes are measured at staggered intervals. IP65.

| Product Image | Variation | Part # | Output | Connector | List Price (\$ USD) |
|---|-------------|-----------------|----------|-----------|---------------------|
|  | 40mm Ring | ORL2-40T-2PS6 | 2xPNP-NO | M8 4-pin | \$ 815.00 |
|  | 88mm Ring | ORL2-88C-2PS6 | 2xPNP-NO | M12 4-pin | \$ 1,150.00 |
|  | 40mm Castle | OGLW2-40T-2PS6 | 2xPNP-NO | M8 4-pin | \$ 879.00 |
|  | 70mm Castle | OGLW2-70T4-2PS6 | 2xPNP-NO | M8 5-pin | \$ 970.00 |
|  | 70mm Castle | OGLW2-70T4-2PO6 | 2xPNP-NC | M8 5-pin | \$ 970.00 |

Do you need a different configuration??

The products offered in the CAPTRON TODAY catalog are just a small selection. Need a smaller or larger Optical Sensor size? Reach out to sales.americas@captron.com to discuss your needs.



*See program terms & conditions for details.

sales.americas@captron.com

2

OPTICAL SENSORS

TOOL CENTER POINT CALIBRATION




UNIVERSAL ROBOTS
UR+ Partner

1

URCap SOFTWARE

URCap is a software plug-in for robots from Universal Robots (UR). After purchasing the software, you will receive a TCP Product Key. URCaps are installed and configured via the robot's Polyscope control panel. [Click here](#) for more information.

| | Description | Part # | List Price (\$ USD) |
|---|--|-----------------------|------------------------|
|  | Perpetual Software License Key for Universal Robots URCap | TCP Calibration URCap | \$ 549.00 |



Video: How To Set Up a TCP

Discover how easy it is to automatically calibrate a UR robot with our TCPs. Follow the entire calibration process step by step and learn how our solution makes your robot applications more precise and efficient.



Video: TCP Calibration & Recalibration

As a UR+ partner, we take our TCP measurement technology to the next level with UR robots. Our innovative URCap takes over the monitoring and correction of the TCP automatically.

For more video content, please visit www.youtube.com/@CAPTRONNA



*See program terms & conditions for details.



sales.americas@captron.com

OPTICAL SENSORS

FORK LIGHT BARRIERS



CAPTRON's Fork Light Barriers with laser technology are extremely precise in terms of accuracy - even with small parts of only 0.05 mm. Transmitter and receiver are located in a robust metal housing. A very high switching frequency of 10 kHz enables extremely precise and dependable detection of both metallic and non-metallic objects. The output contacts between the N/C and N/O contacts of the laser fork light barriers can be switched. The sensitivity can be adjusted using an adjustment screw.

| Product Image | Variation | Part # | Output | Connector | List Price (\$ USD) |
|---|-----------|--------------|---------------|-----------|---------------------|
|  | 80mm | OGL-80T-PU6 | PNP-NO/PNP-NC | M8 3-pin | \$ 299.00 |
|  | 120mm | OGL-120T-PU6 | PNP-NO/PNP-NC | M8 3-pin | \$ 365.00 |

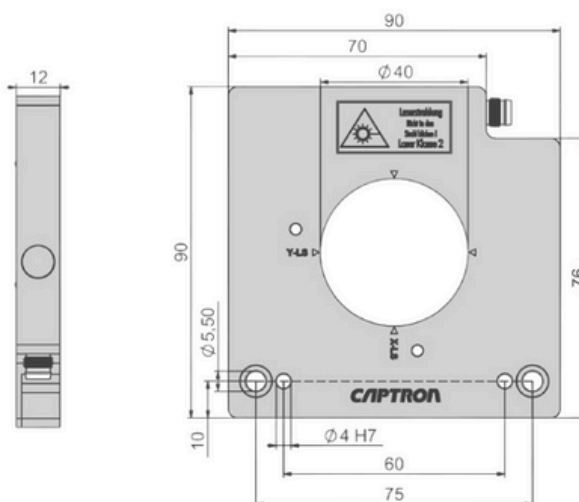
Additional Configurations Available

The products offered in the CAPTRON TODAY catalog are just a small selection. Need a smaller Fork Light Barrier, larger Fork Light Barrier, or need a positive air flow integration for laser protection? Reach out to sales.americas@captron.com to discuss your needs.

Need cables?

[Jump to Accessories section](#)

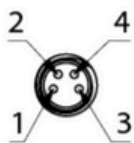




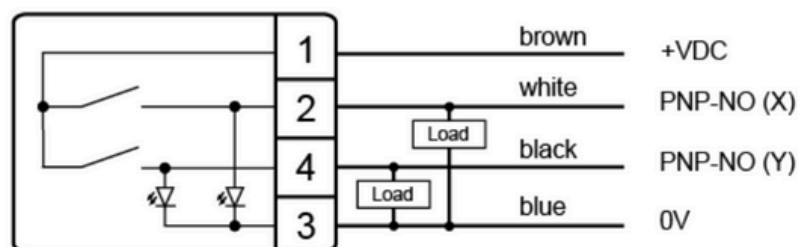
All dimensions in mm

M8 Connector

4-pin

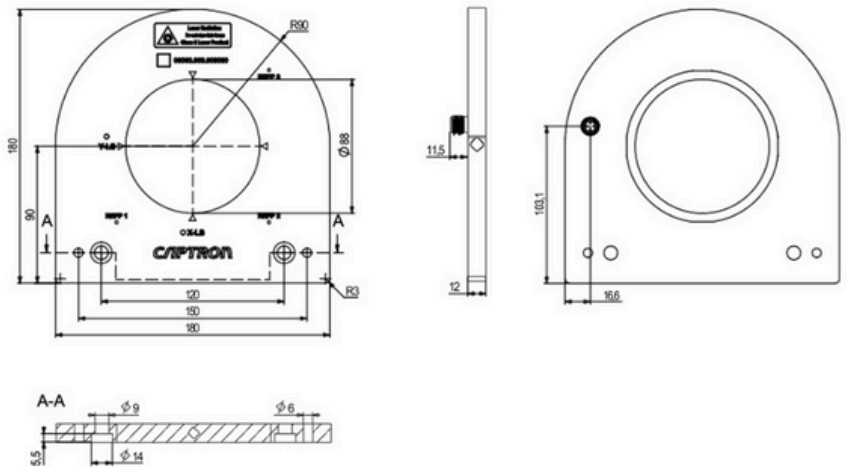


Connection diagram



Technical data at 24V and 68°F (20°C)

| | |
|-----------------------|--|
| Supply voltage | DC 12...30V |
| Laser light | Red light, 650nm, class 2 |
| Load current | Max. 50 mA |
| Output current | Max. 200 mA per output, short-circuit protection |
| Output | 2 x PNP-NO |
| Status display | 2 yellow LEDs |
| Switching frequency | Max. 1 kHz |
| Resolution | 0.2 mm |
| Voltage drop | Max. 2.5V per output |
| Reproducibility | 0.01 mm |
| Operating Temperature | +50°F to +122°F (+10°C to +50°C) |
| IP rating | IP65 |
| Housing material | Aluminum |
| Positional tolerance | 0.2 mm |

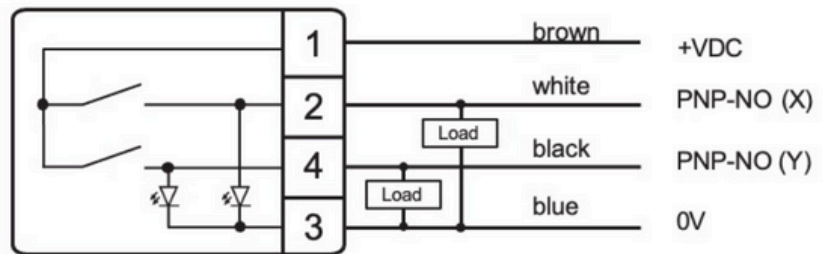


All dimensions in mm

M12 Connector 4-pin

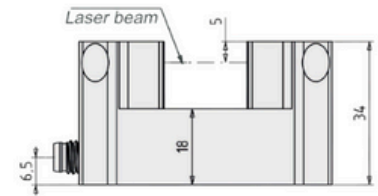
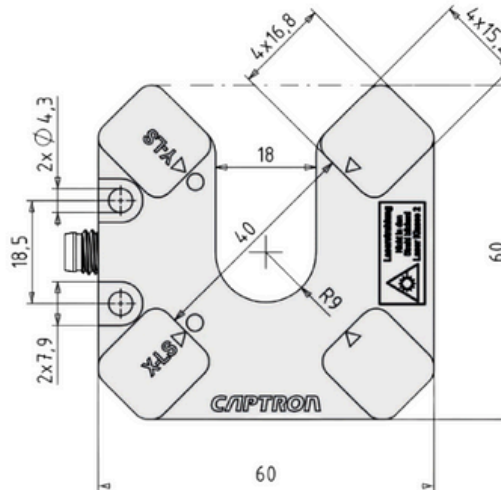


Connection diagram



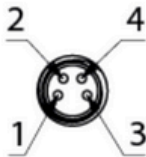
Technical data at 24V and 68°F (20°C)

| | |
|-----------------------|--|
| Supply voltage | DC 12...30V |
| Laser light | Red light, 650nm, class 2 |
| Load current | Max. 50 mA |
| Output current | Max. 200 mA per output, short-circuit protection |
| Output | 2 x PNP-NO |
| Status display | 2 yellow LEDs |
| Switching frequency | Max. 1 kHz |
| Resolution | 0.6 mm |
| Voltage drop | Max. 2.5V per output |
| Reproducibility | 0.01 mm |
| Operating Temperature | +50°F to +122°F (+10°C to +50°C) |
| IP rating | IP65 |
| Housing material | Aluminum |
| Positional tolerance | 0.2 mm |

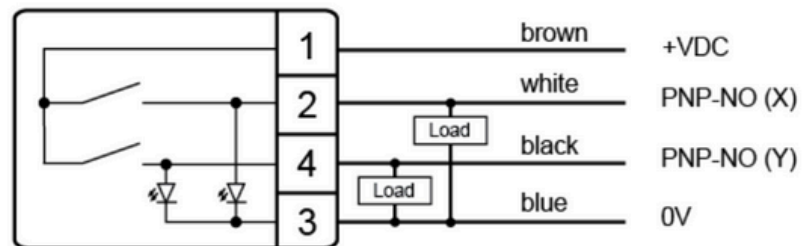


All dimensions in mm

M8 Connector 4-pin

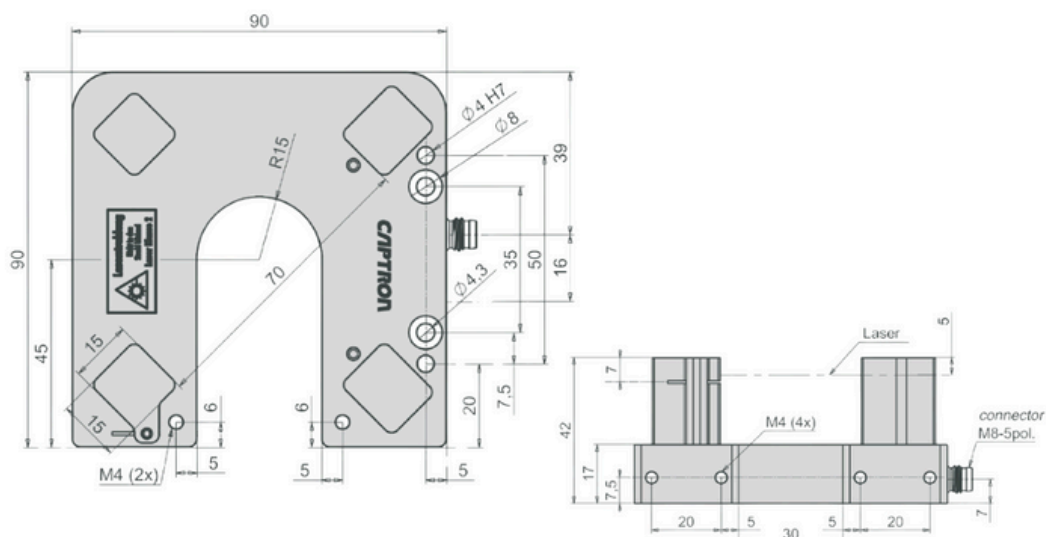


Connection diagram



Technical data at 24V and 68°F (20°C)

| | |
|-----------------------|--|
| Supply voltage | DC 12...30V |
| Laser light | Red light, 650 nm, class 2 |
| Load current | Max. 50 mA |
| Output current | Max. 200 mA per output, short-circuit protection |
| Output | 2 x PNP-NO |
| Status display | Yellow LED |
| Switching frequency | Max. 1 kHz |
| Resolution | 0.2 mm |
| Voltage drop | Max. 2.5V per output at 200mA |
| Reproducibility | 0.01 mm |
| Operating temperature | +14°F to +122°F (-10°C to +50°C) |
| IP rating | IP65 |
| Housing material | Aluminum, black anodized |
| Positional tolerance | 0.2 mm |

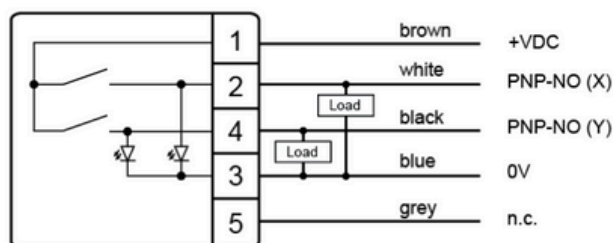


All dimensions in mm

M8 Connector
5-pin

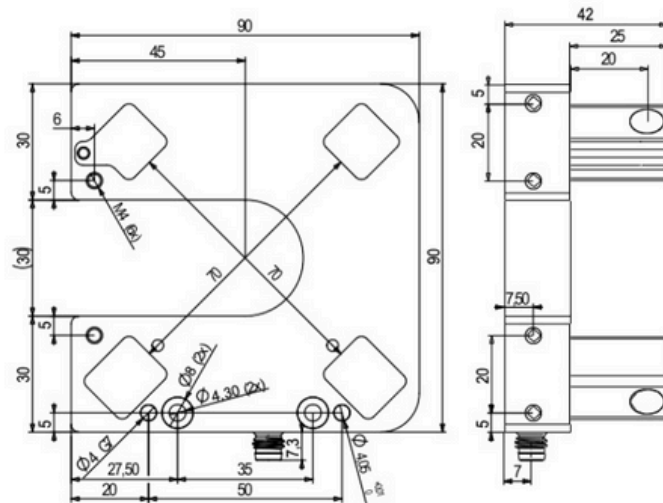


Connection diagram



Technical data at 24V and 68°F (20°C)

| | |
|-----------------------|--|
| Supply voltage | DC 12...30V |
| Laser light | Red light, 650 nm, class 2 |
| Load current | Max. 50 mA |
| Output current | Max. 200 mA per output, short-circuit protection |
| Output | 2 x PNP-NO |
| Status display | 2 yellow LEDs |
| Switching frequency | Max. 1 kHz |
| Resolution | 0.2 mm |
| Voltage drop | Max. 2.5V per output |
| Reproducibility | 0.01 mm |
| Operating temperature | +50°F to +122°F (+10°C to +50°C) |
| IP rating | IP65 |
| Housing material | Aluminum, black anodized |
| Positional tolerance | 0.2 mm |



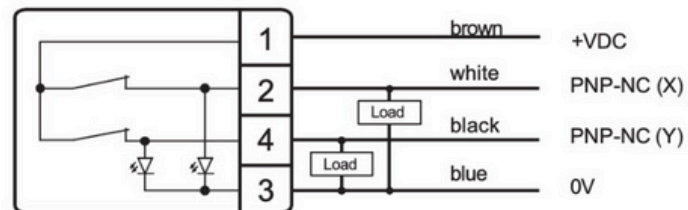
All dimensions in mm

M8 Connector

5-pin

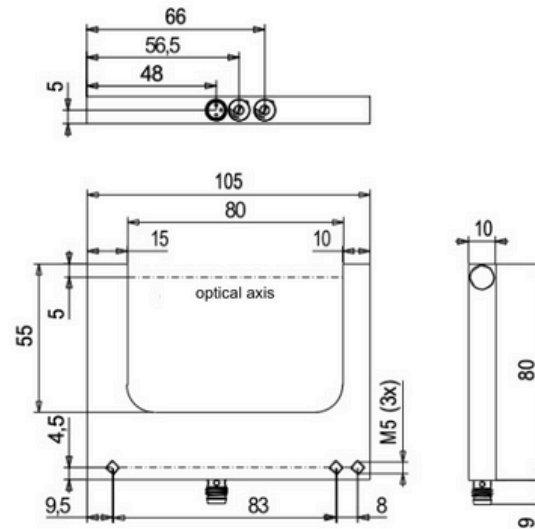


Connection diagram



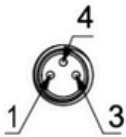
Technical data at 24V and 68°F (20°C)

| | |
|-----------------------|--|
| Supply voltage | DC 12...30V |
| Laser light | Red light, 650 nm, class 2 |
| Load current | Max. 50 mA |
| Output current | Max. 200 mA per output, short-circuit protection |
| Output | 2 x PNP-NC |
| Status display | 2 yellow LEDs |
| Switching frequency | Max. 1 kHz |
| Resolution | 0.2 mm |
| Voltage drop | Max. 2.5V per output |
| Reproducibility | 0.01 mm |
| Operating temperature | +50°F to +122°F (+10°C to +50°C) |
| IP rating | IP65 |
| Housing material | Aluminum, black anodized |
| Positional tolerance | 0.2 mm |

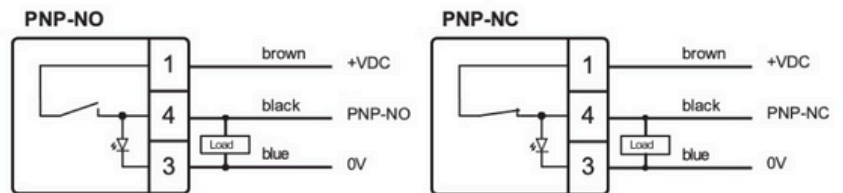


All dimensions in mm

M8 Connector 3-pin

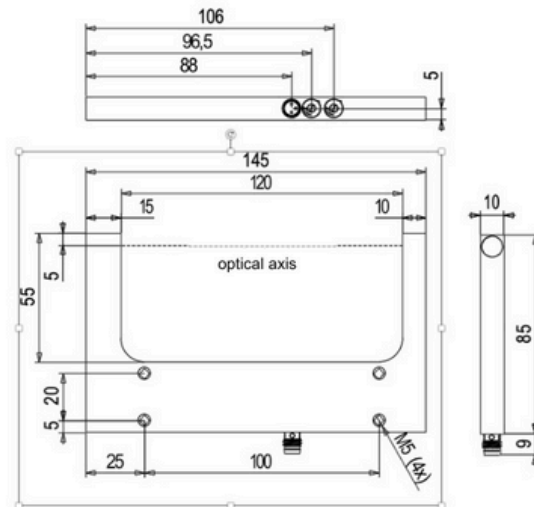
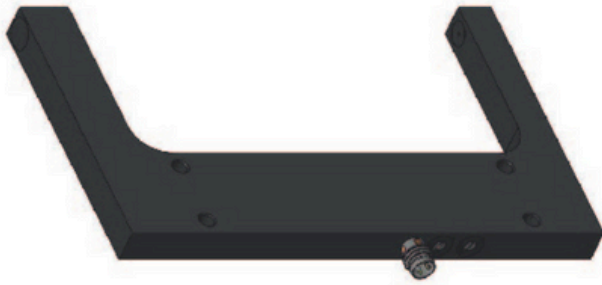


Connection diagram



Technical data at 24V and 68°F (20°C)

| | |
|--------------------------|---------------------------------------|
| Supply voltage | DC 10...30V |
| Laser light | Red light, 650 nm, class 2 |
| Load current | Max. 400 mA, short circuit-protection |
| Output | PNP-NO / PNP-NC |
| Output status indication | Yellow LED |
| Voltage drop | Max 2.5 V at 200mA |
| Current consumption | Max 60mA |
| Operating Temperature | +14°F to +140°F (-10°C to +60°C) |
| IP rating | IP65 |
| Switching frequency | Max 10kHz |
| Resolution | 0.05 mm |
| Reproducibility | 0.01 mm |
| Switching hysteresis | Max 0.02 mm |
| Housing material | Aluminum |



All dimensions in mm

M8 Connector 3-pin



Connection diagram

Possible settings

Light/dark switching



Dark-ON (NO)

Light-ON (NC)

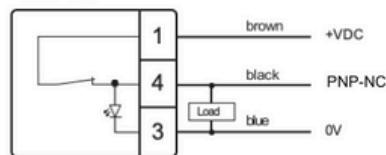
Sensitivity



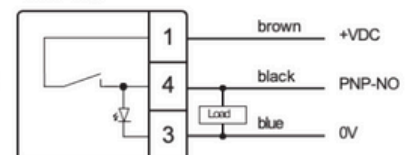
Min

Max

PNP-NC



PNP-NO



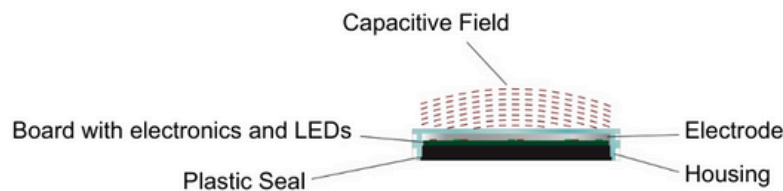
Technical data at 24V and 68°F (20°C)

| | |
|--------------------------|---------------------------------------|
| Supply voltage | DC 10...30V |
| Laser light | Red light, 650 nm, class 2 |
| Load current | Max. 400 mA, short circuit-protection |
| Output | PNP-NO / PNP-NC |
| Output status indication | Yellow LED |
| Voltage drop | Max 2.5 V at 200mA |
| Current consumption | Max 60mA |
| Operating Temperature | +14°F to +140°F (-10°C to +60°C) |
| IP rating | IP65 |
| Switching frequency | 10kHz |
| Resolution | 0.05 mm |
| Reproducibility | 0.01 mm |
| Switching hysteresis | Max 0.02 mm |
| Housing material | Aluminum |

CAPACITIVE TECHNOLOGY

Since CAPTRON was founded in 1983, we have been specializing in capacitive technology. The first capacitive switches with touch sensor technology from CAPTRON were used in 1994 for public transportation. Today, CAPTRON offers a wide range of capacitive touch buttons for various industries and applications where unconditional reliability, durability, comfort and design are required.

HOW IT WORKS



A capacitive sensor detects changes in electrical capacitance between its surface and the surrounding environment. When a hand—or any conductive object—approaches the button, it increases the capacitance and triggers an output signal.

The touch button generates an electric field across its sensing area, which constantly monitors for changes. When a hand disrupts this field significantly, the built-in software recognizes the shift and activates a switching response.

Since the human body is mostly water and highly conductive, it interacts very effectively with capacitive sensors—making it ideal for use with touch button technology.

Is it a button or is it a switch?

We use both terms interchangeably and recognize that our customers may prefer one over the other.

DESIGN EVOLUTION

Compared to mechanical switches, capacitive buttons have **no moving or wearing parts**, thus are **extremely reliable and exceptionally durable**. Because of these features, CAPTRON's touch buttons became widely installed throughout traffic and mass transit applications beginning in Germany and then across the world.

Since they are highly sensitive to touch, capacitive touch buttons are also easy to operate for children and people with limited mobility. Intelligent technology prevents unintentional switching due to rain, frost or dirt. They are also vandal-proof. Rated for over 100 million cycles. **Install once. Replace never.**

As customer needs evolved, so did CAPTRON buttons. In 2010, the aesthetically pleasing CANEO series10 SENSORSwitches earned the distinction of iF Design of the Year.



CANEO series10 and series4x

CAPACITIVE TOUCH BUTTONS



IO-Link



HMI WITH TOUCH BUTTON FUNCTION

Meet the new standard in HMI: Our Capacitive Touch Buttons combine sleek, modern design with full configurability via IO-Link. Configure anything you need — switch sensitivity, actuation type, minimum actuation time, and even select from 16 million color options to match your application. **Prefer a discrete setup? No problem — it works just as well without IO-Link.**

ROBUST, INTUITIVE, EFFICIENT

In many industrial environments, devices are exposed to extreme conditions. The display with touch button function has a robust design and is resistant to shocks, vibrations, oils and temperature fluctuations. This robustness ensures reliable performance even under difficult conditions.

The intuitive user interface ensures simple operation and enables you and other users to interact quickly and efficiently with machines and processes.

An outstanding feature of the display is its ability to show users process steps or errors exactly where they occur. This makes it easier to be more efficient and/or diagnose and respond to problems immediately. These application-related displays ensure that users are not only informed but can also take targeted action, maximizing uptime and further increasing efficiency.

VERSATILE SIZING

series10
Finger Touch



series4x
Hand Touch



**All of our CANEO buttons are IO-link capable, rated IP69K. Certain models are rated hygienic by the EHEDG and FDA. See data sheets for details.



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10 and series4x

CAPACITIVE TOUCH BUTTONS



IO-Link



**



**



Sensor Modes Explained

Dynamic: The discrete signal is limited to x milliseconds when the sensor area is activated. Default mode is 300 milliseconds and can be configured via IO-Link.

Momentary/Static: The discrete signal is continuously on as long as the sensor area is activated.

Maintain/Toggle/Flip Flop: The discrete signal turns on when the sensor area is touched and stays on until the sensor area is touched again.

Input Modes Explained

All CANEO buttons are either M12, 5-pin or stranded. Depending on the input mode set, certain wires are used or left unused.

Automatic: (3-pin) LED is a set color when it's idle and can be an alternately configured color when it's touched.

Semi-Automatic: (4-pin) Idle LED is controlled by an output signal. Ideal when you would like to display a flashing signal to prompt the user to touch the button. An alternatively configured color is activated when touched.

Manual: (5-pin) Both LED colors are configured and controlled by an output signal.

Illumination Explained

The entire CANEO series features **LED lighting**. Depending on the selected symbol, the "Symbol Illumination" column in the CAPTRON TODAY Catalog will display either "Yes" or "No." The visual examples below illustrate the difference between illuminated and non-illuminated symbol options.



Symbol Illuminated: No



Symbol Illuminated: Yes

**All of our CANEO buttons are IO-link capable, rated IP69K. Certain models are rated hygienic by the EHEDG and FDA. See data sheets for details.



CANEO series10 and series4x

CAPACITIVE TOUCH BUTTONS



IO-Link



**



**



Use Discretely or with IO-Link

In industrial automation, you can use sensors either discretely (directly wired to a controller) or with IO-Link, a point-to-point communication protocol. IO-Link offers advantages like remote configuration, process data, device diagnostics, and device replacement, making it a more versatile option than traditional discrete connections.



Interested in a cost-effective IO-Link configuration solution? iqLink® is intended for direct connection with a PC using Mini-USB. iqLink allows you to easily configure any CANEO product to the desired settings. Jump to Accessories section.

Additional Configurations Available

The CANEO series products offered in the CAPTRON TODAY Catalog are just a small selection. Need another configuration not seen here? Reach out to sales.americas@captron.com to discuss your needs. In most instances, we will be able to configure and ship products within 2 days.

Visit [IODD Finder](#) for more preset configuration options. See Configuration Parameters on pages 41 and 51.

[Technical Reference Manual CANEO series10](#) [Firmware V10.x](#)

[Technical Reference Manual CANEO series4x](#) [Firmware V5.x](#)

Install Once. Replace Never.

It's not just a marketing slogan. We stand behind our buttons with a full replacement guarantee.

**All of our CANEO buttons are IO-link capable, rated IP69K. Certain models are rated hygienic by the EHEDG and FDA. See data sheets for details.



*See program terms & conditions for details.

sales.americas@captron.com

15

CANEO series10



2

Standard Touch Buttons

Choose from variations below. All output PNP-NO. Soft grip ring made of TPU. Four lateral spotlights. IO-Link capable. LED color values can be configured via IO-Link. Complete your project by purchasing corresponding cables on page 80.

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10K-MLDT-C10-0B77 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C10-0B42 | green/ red | M12 5-pin | Maintain | Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C11-0543 | red/ green | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C11-00AC | blue/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C12-0B79 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C12-0B9D | green/ red | M12 5-pin | Maintain | Automatic | \$ 69.99 |
| | no | CS10K-MMDU-C12-0B7C | green/ red | Stranded | Maintain | Automatic | \$ 69.99 |



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10

Standard Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10K-MLDT-C13-0BEF | blue/ blue flash | M12 5-pin | Dynamic | Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C13-0BF0 | clean blue/ blue | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C16-0B7D | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C16-0B45 | green/ red | M12 5-pin | Momentary | Automatic | \$ 69.99 |
| | no | CS10K-MMDU-C16-0B7E | green/ red | Stranded | Momentary | Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C17-0B9E | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C17-0B9F | green/ red | M12 5-pin | Maintain | Automatic | \$ 69.99 |



*See program terms & conditions for details.

sales.americas@captron.com

17

CANEO series10

Standard Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10K-MLDT-C20-0BA0 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C20-00C1 | blue/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MLDT-C20-0B82 | green/ red | M12 5-pin | Momentary | Manual | \$ 69.99 |
| | no | CS10K-MLDT-C20-07C9 | red/ green | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | no | CS10K-MMDU-C20-0B84 | green/ red | Stranded | Maintain | Automatic | \$ 69.99 |
| | yes | CS10K-MLDT-B10-0B85 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
| | yes | CS10K-MLDT-B10-0BA1 | green/ red | M12 5-pin | Maintain | Automatic | \$ 69.99 |



*See program terms & conditions for details.

sales.americas@captron.com

18

CANEO series10

Standard Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---|---------------------|---------------------|---------------------------|-----------|-------------|----------------|---------------------|
|  | yes | CS10K-MLDT-B11-0B86 | red/ green | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
|  | yes | CS10K-MLDT-B11-0BA2 | red/ green | M12 5-pin | Maintain | Automatic | \$ 69.99 |
|  | yes | CS10K-MLDT-B13-0BF1 | blue/ blue flash | M12 5-pin | Dynamic | Automatic | \$ 69.99 |
|  | yes | CS10K-MLDT-B13-0BF2 | clean blue/ blue flash | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
|  | yes | CS10K-MLDT-B14-0B87 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 69.99 |
|  | yes | CS10K-MLDT-B14-0BA3 | green/ red | M12 5-pin | Maintain | Automatic | \$ 69.99 |

Do you need a different configuration??

Common requests include colors, switching modes, NO/NC, PNP/NPN, etc. See Configurable Parameters section on page 41 for all options. In many instances we can ship alternate configurations in 1-2 days.



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10



2

Stainless Steel Touch Buttons

Choose from variations below. All output PNP-NO. Housing made of robust stainless steel. 100% wash-down. IO-Link capable. LED color values can be configured via IO-Link. Complete your project by purchasing corresponding cables on page 80.

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10S-MTDT-C10-0B7A | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C11-0B7B | red/ green | M12 5-pin | Maintain | Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C12-0B8E | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C12-0B8F | green/ red | M12 5-pin | Maintain | Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C13-0BF3 | blue/ blue flash | M12 5-pin | Dynamic | Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C13-0BF4 | clean blue/ blue | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C16-0B90 | green/ red | M12 5-pin | Momentary | Semi-Automatic | \$ 84.99 |



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10

Stainless Steel Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10S-MTDT-C17-0B91 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C20-0B92 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C20-0B93 | green/ red | M12 5-pin | Momentary | Semi-Automatic | \$ 84.99 |
| | no | CS10S-MTDT-C20-0B94 | green/ red | M12 5-pin | Momentary | Manual | \$ 84.99 |
| | no | CS10S-MNDU-C20-0B95 | green/ red | Stranded | Dynamic | Automatic | \$ 84.99 |
| | yes | CS10S-MTDT-B10-0B96 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | yes | CS10S-MTDT-B11-0B97 | red/ green | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10

Stainless Steel Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | yes | CS10S-MTDT-B13-0BF5 | blue/ blue flash | M12 5-pin | Dynamic | Automatic | \$ 84.99 |
| | yes | CS10S-MTDT-B13-0BF6 | clean blue/ blue | M12 5-pin | Dynamic | Semi-Automatic | \$ 84.99 |
| | yes | CS10S-MTDT-B14-0B98 | green/ red | M12 5-pin | Momentary | Semi-Automatic | \$ 84.99 |

Do you need a different configuration??

Common requests include colors, switching modes, NO/NC, PNP/NPN, etc. See Configurable Parameters section on page 41 for all options. In many instances we can ship alternate configurations in 1-2 days.



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10

Hygienic Touch Buttons



2

Choose from variations below. All output PNP-NO. **FDA approved**, EHEDG certified. IO-Link capable. LED color values can be configured via IO-Link. Complete your project by purchasing corresponding cables on page 80.

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|-----------|-------------|----------------|---------------------|
| | no | CS10H-MSDT-C10-0B99 | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C11-054C | red/green | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C11-0B4A | red/green | M12 5-pin | Momentary | Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C12-02F9 | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C12-0575 | green/red | M12 5-pin | Momentary | Automatic | \$ 92.99 |
| | no | CS10H-MODU-C12-0B9A | green/red | Stranded | Momentary | Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C13-0BF7 | blue/blue flash | M12 5-pin | Dynamic | Automatic | \$ 92.99 |



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10

Hygienic Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10H-MSDT-C13-0BF8 | clean blue/ blue | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C16-0469 | green/ red | M12 5-pin | Momentary | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C16-0BA4 | red/ green | M12 5-pin | Momentary | Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C17-0306 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C17-0B4C | green/ red | M12 5-pin | Momentary | Automatic | \$ 92.99 |
| | no | CS10H-MSDT-C20-030B | green/ red | M12 5-pin | Momentary | Semi-Automatic | \$ 92.99 |
| | no | CS10H-MODU-C20-0B9B | green/ red | Stranded | Momentary | Semi-Automatic | \$ 92.99 |



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series10

Hygienic Touch Buttons (cont.)



2

| Product Image | Symbol Illumination | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|---------------------|---------------------|---------------------------|--------------|-------------|----------------|---------------------|
| | no | CS10H-MODU-C20-08DF | green/ red | Stranded | Dynamic | Automatic | \$ 92.99 |
| | yes | CS10H-MSDT-B10-0314 | green/ red | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | yes | CS10H-MSDT-B11-0316 | red/ green | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | yes | CS10H-MSDT-B13-0BF9 | blue/ blue flash | M12 5-pin | Dynamic | Automatic | \$ 92.99 |
| | yes | CS10H-MSDT-B13-0BFA | clean blue/ blue | M12 5-pin | Dynamic | Semi-Automatic | \$ 92.99 |
| | yes | CS10H-MSDT-B14-0475 | green/ red | M12 5-pin | Momentary | Semi-Automatic | \$ 92.99 |
| | yes | CS10H-MODU-B14-0B9C | green/ red | Stranded | Momentary | Automatic | \$ 92.99 |

The products offered in the CAPTRON TODAY catalog are just a small selection. Need a different configuration? Reach out to sales.americas@captron.com to discuss your needs.



*See program terms & conditions for details.


sales.americas@captron.com

25

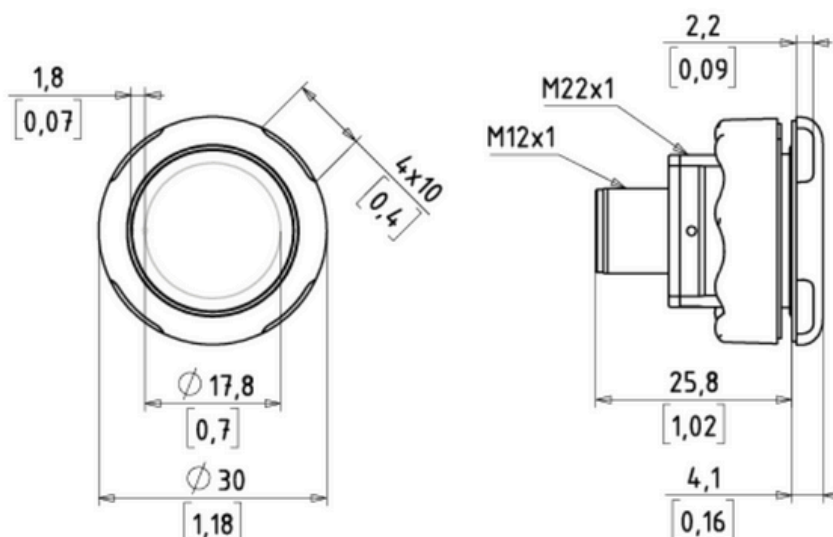
LED Indicators



Each LED indicator is capable of displaying up to 7 colors or effects through IO-Link (or available upon request). If you require additional colors or specifications, in most instances, we will be able to configure and ship in 1-2 days.

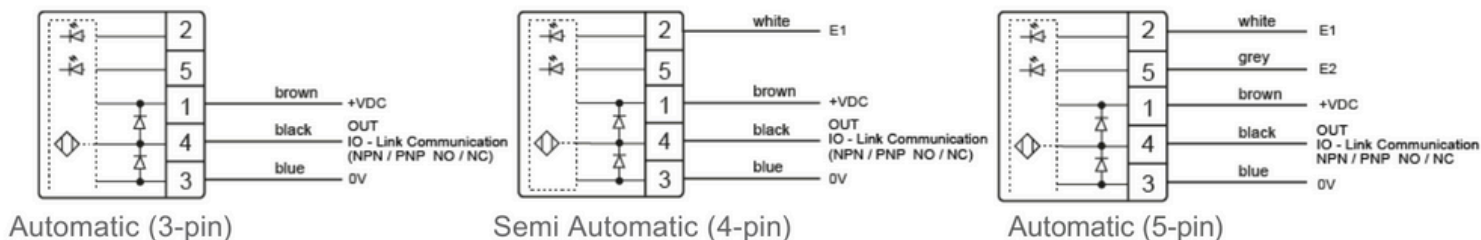
| Product Image | Variation | Part # | Pre-Programmed LED Colors | Connector | List Price (\$ USD) |
|---|---------------------------------------|-----------------|---------------------------|---------------|---------------------|
|  | CANEO series10 Standard Signal | CM10K-MLDT-0B88 | green/red | M12 5-pin | \$ 47.99 |
|  | CANEO series10 Standard Signal | CM10K-MMDU-0B89 | green/red | 200mm strands | \$ 47.99 |
|  | CANEO series10 Stainless Steel Signal | CM10S-MTDT-0B8A | green/red | M12 5-pin | \$ 63.99 |
|  | CANEO series10 Hygienic Signal | CM10H-MSDT-0B8B | green/red | M12 5-pin | \$ 68.99 |



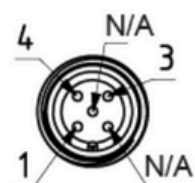


This drawing uses both Metric and Imperial. Imperial is marked with brackets [].

Connection diagram



Connectors



Connector M12 (3-pin)



Connector M12 (4-pin)



Connector M12 (5-pin)



Control

| | |
|-----------------------------------|---|
| Switching function | Momentary (Static), Dynamic, Maintain (Flip Flop or Toggle) |
| Touch sensitivity | Low, Medium, High |
| Water sensitivity | On, Off |
| Minimum actuation time | 0 - 65535 ms |
| Minimum actuation time Toggle off | 0 - 65535 ms |

LED

| | |
|--|--|
| LED Color not activated | Predefined colors or freely selectable with RGB code |
| LED Color activated | Predefined colors or freely selectable with RGB code |
| LED lighting behavior when not activated | Static, flashing, pulsing |
| LED lighting behavior when activated | Static, flashing, pulsing |

Connection

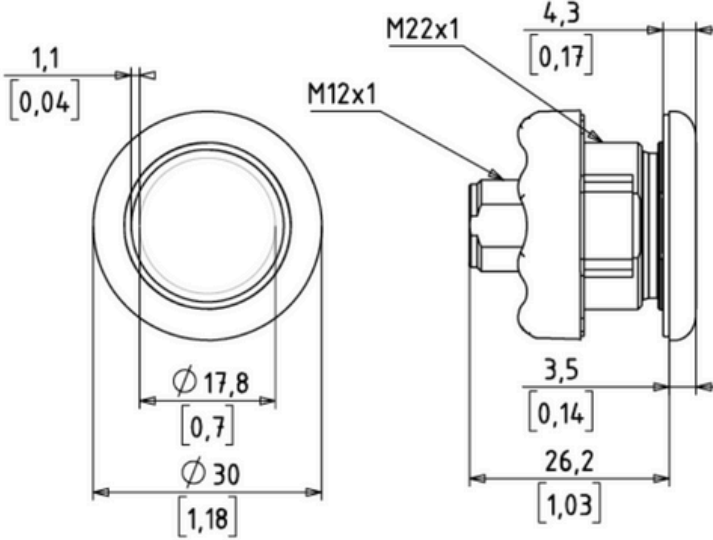
| | |
|---------------------------|---|
| Control Input 1 / Input 2 | Automatic: Input 1 / Input 2 are controlled automatically Semi-Automatic: Input 2 is controlled automatically Input 1 can be controlled separately Manually: Input 1 / Input 2 can be controlled separately |
| Input 1 / Input 2 Mode | Active Low, Active High, Active Low / High, Analog |
| Switching output | PNP / NPN |
| Switching function | Normally open / Normally closed |
| Output signal length | 10 - 65535 ms |

series10

| | |
|-----------------------------|--|
| Operating voltage | ≡ DC 24V (8.4 ... 32V) |
| Load current | Max. 200 mA |
| Reverse polarity protection | Protection of all lines |
| Short circuit protection | Short circuit and overload proof |
| Voltage drop | Max. 5V at 200 mA Load current |
| Current consumption at 24V | Max. 40 mA |
| Operating temperature | -22°F to +149°F (-30°C to +65°C) |
| IP rating | Front side IP69K maximum unevenness of the mounting surface < 0.1 mm |
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |

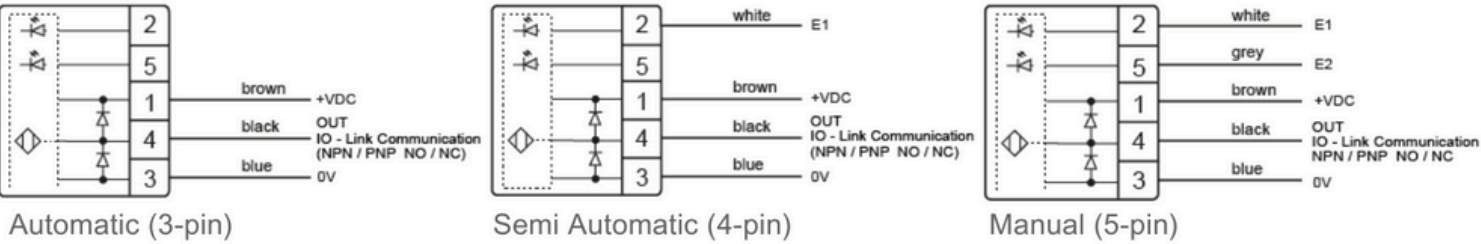


| series10 | |
|---------------------|---|
| Measuring principle | Capacitive |
| Type of operation | Contact |
| Actuation force | No actuation force required |
| Maximum altitude | 2000 m above sea level at "CSA Listing" |
| Relative humidity | Maximum 95%, non-condensing |

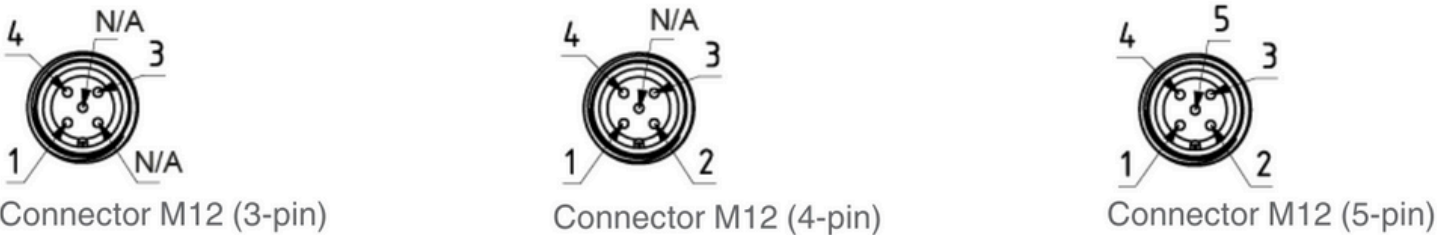


This drawing uses both Metric and Imperial. Imperial is marked with brackets [].

Connection diagram



Connectors





Control

| | |
|-----------------------------------|---|
| Switching function | Momentary (Static), Dynamic, Maintain (Flip Flop or Toggle) |
| Touch sensitivity | Low, Medium, High |
| Water sensitivity | On, Off |
| Minimum actuation time | 0 - 65535 ms |
| Minimum actuation time Toggle off | 0 - 65535 ms |

LED

| | |
|--|--|
| LED Color not activated | Predefined colors or freely selectable with RGB code |
| LED Color activated | Predefined colors or freely selectable with RGB code |
| LED lighting behavior when not activated | Static, flashing, pulsing |
| LED lighting behavior when activated | Static, flashing, pulsing |

Connection

| | |
|---------------------------|---|
| Control Input 1 / Input 2 | Automatic: Input 1 / Input 2 are controlled automatically Semi-Automatic: Input 2 is controlled automatically Input 1 can be controlled separately Manually: Input 1 / Input 2 can be controlled separately |
| Input 1 / Input 2 Mode | Active Low, Active High, Active Low / High, Analog |
| Switching output | PNP / NPN |
| Switching function | Normally open / Normally closed |
| Output signal length | 10 - 65535 ms |

series10

| | |
|-----------------------------|--|
| Operating voltage | ≡ DC 24V (8.4 ... 32V) |
| Load current | Max. 200 mA |
| Exit | Adjustable PNP / NPN; NO / NC |
| Length output pulse | Adjustable |
| Reverse polarity protection | Protection of all lines |
| Short circuit protection | Short circuit and overload proof |
| Voltage drop | Max. 5V at 200 mA Load current |
| Current consumption at 24V | Max. 40 mA |
| Operating temperature | -22°F to +149°F (-30°C to +65°C) |
| IP rating | Front side IP69K maximum unevenness of the mounting surface < 0.1 mm |

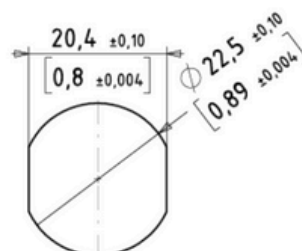


| series10 | |
|-------------------------|---|
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Measuring principle | Capacitive |
| Type of operation | Contact |
| Actuation force | No actuation force required |
| Maximum altitude | 2000 m above Normal Null at “CSA Listing” |
| Relative humidity | Maximum 95%, non-condensing |

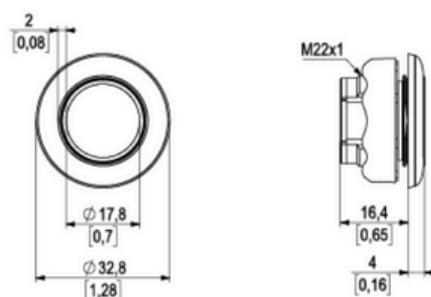


Example symbol

Drilling pattern

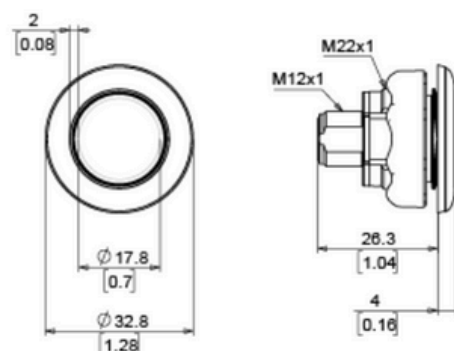


The SENSORswitch is secured against rotation by the illustrated hole.
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [].



Strand variant

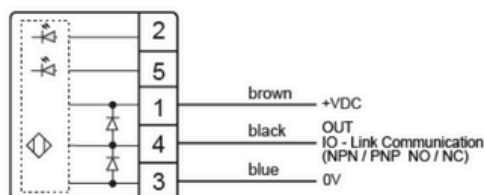
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [].



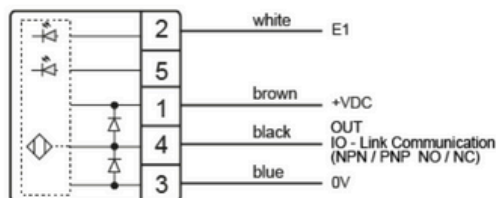
M12 variant

Connection diagram

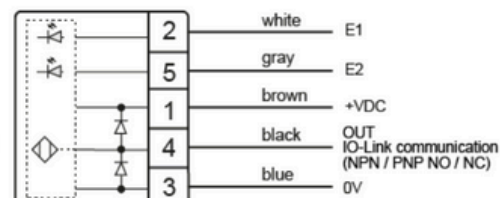
3-pin



4-pin

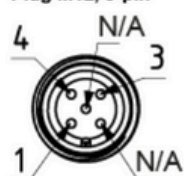


5-pin



Connectors

Plug M12, 3-pin



Plug M12, 4-pin



Plug M12, 5-pin





Control

| | |
|-----------------------------------|---|
| Switching function | Momentary (Static), Dynamic, Maintain (Flip Flop or Toggle) |
| Touch sensitivity | Low, Medium, High |
| Water sensitivity | On, Off |
| Minimum actuation time | 0 - 65535 ms |
| Minimum actuation time Toggle off | 0 - 65535 ms |

LED

| | |
|--|--|
| LED Color not activated | Predefined colors or freely selectable with RGB code |
| LED Color activated | Predefined colors or freely selectable with RGB code |
| LED lighting behavior when not activated | Static, flashing, pulsing |
| LED lighting behavior when activated | Static, flashing, pulsing |

Connection

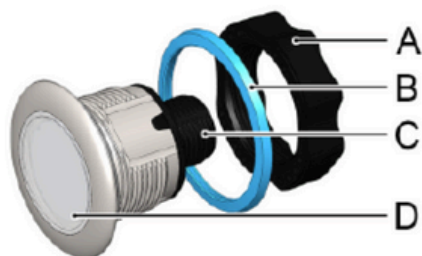
| | |
|---------------------------|---|
| Control Input 1 / Input 2 | Automatic: Input 1 / Input 2 are controlled automatically Semi-Automatic: Input 2 is controlled automatically Input 1 can be controlled separately Manually: Input 1 / Input 2 can be controlled separately |
| Input 1 / Input 2 Mode | Active Low, Active High, Active Low / High, Analog |
| Switching output | PNP / NPN |
| Switching function | Normally open / Normally closed |
| Output signal length | 10 - 65535 ms |

series10

| | |
|-----------------------------|--|
| Operating voltage | --- DC 24V (8.4 to 32V) |
| Load current | Max. 200 mA |
| Reverse polarity protection | Protection of all cables/lines |
| Short circuit protection | Protected against short circuit and overload |
| Voltage drop | Max. 5V at 200 mA Load current |
| Power consumption at 24V | Max. 40 mA |
| Operating temperature | -22°F to +149°F (-30°C to +65°C) |
| IP rating | Front side IP69K maximum unevenness in mounting surface < 0.1 mm |



| series10 | |
|-----------------------------------|--|
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Control voltage Input 1 / Input 2 | on 80%U _V + off 0 to 20%U _V + |
| Measuring principle | Capacitive |
| Type of actuation | Touch |
| Actuation force | No actuation force required |
| Max. altitude | 2000 m above sea level with “CSA” listing |
| Relative air humidity | Max. 95%, non-condensing |



| | |
|---|----------------|
| A | Knurled nut |
| B | Seal |
| C | M12 connection |
| D | SENSOR button |

The CANEO series10 hygienic button is resistant to short term contact (cleaning) against:

- Mineral acids, even in high concentrations
- A variety of organic acids (e.g. carbonic acid, lactic acid, oleic acid, and citric acid)
- Oxidizing and reducing agents
- Neutral and acidic salt solutions
- Saturated aliphatic and cycloaliphatic hydrocarbons
- Alcohols, with the exception of methyl alcohol

Assembly:

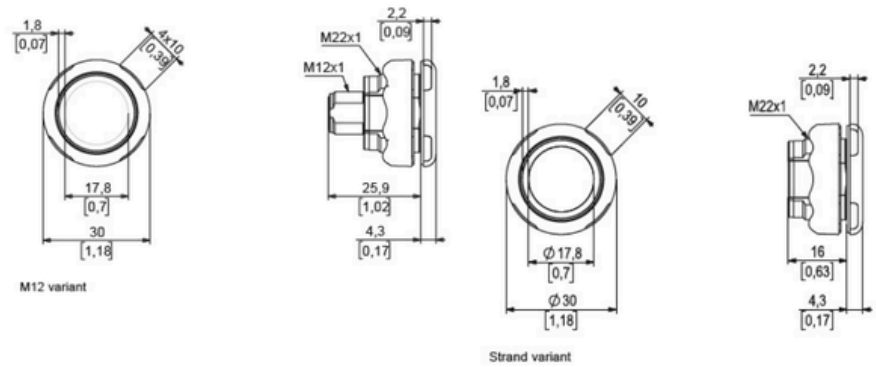
- Mount the SENSOR button on a slanted surface of at least 3°
- Clean the mounting surface and seal before mounting
- The SENSOR button must be readily accessible for cleaning and be spaced at least 6 mm away from other components
- Tighten the knurled nut with maximum of 1.5 Nm

Cleaning:

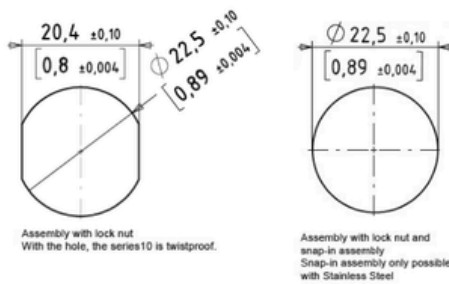
- Clean the button when installed
- Chemicals, temperatures, and water pressure must not damage or destroy the materials
- Do not use abrasive cleaning agents



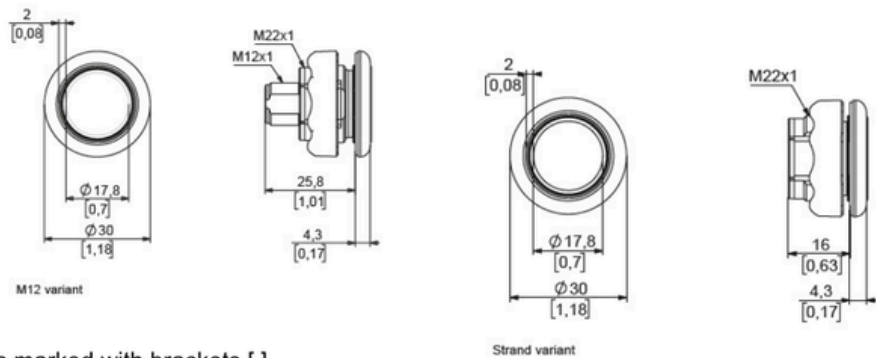
Dimensional drawing series10 Standard



Drilling pattern



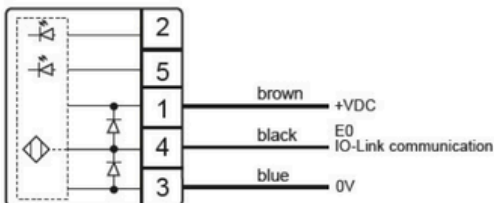
Dimensional drawing series10 Stainless Steel



Metric and imperial measurements are used. Imperial is marked with brackets [].

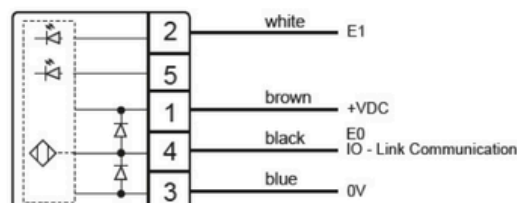
Connection diagram

3-pin



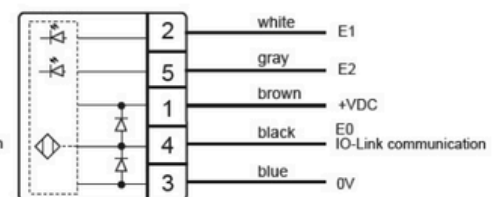
The product description will indicate the configuration.

4-pin



The product description will indicate the configuration.

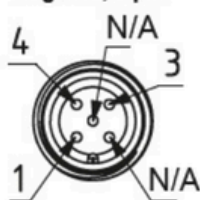
5-pin



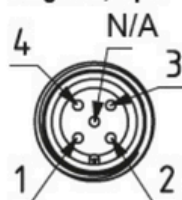
The product description will indicate the configuration.

Connectors

Plug M12, 3-pin



Plug M12, 4-pin



Plug M12, 5-pin



5-pin strand

200 mm [7.87 inch] single strands
with wire end ferrules
Wire cross-section strands
0.34 mm² [AWG22]

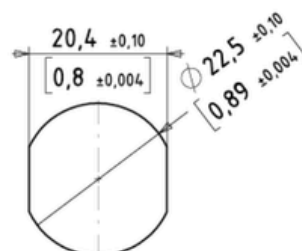


series10 standard/stainless steel

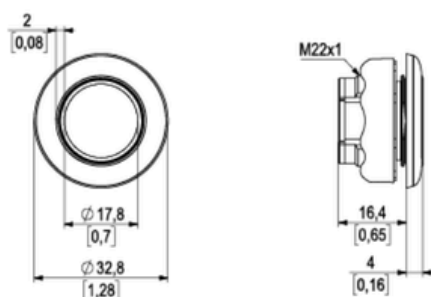
| | |
|-----------------------------------|--|
| Operating voltage | DC 24V (8.4 to 32V) |
| Reverse polarity protection | Protection of all cables/lines |
| Short circuit protection | Protected against short circuit and overload |
| Power consumption at 24V | Max. 40 mA |
| Operating temperature | -22°F to +149°F (-30°C to +65°C) |
| IP rating | Front side IP69K maximum unevenness in mounting surface < 0.1 mm |
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Control voltage Input 1 / Input 2 | on 80%U _V + off 0 to 20%U _V + |
| Max. altitude | 2000 m above sea level with "CSA" listing |
| Relative air humidity | Max. 95%, non-condensing |



Drilling pattern

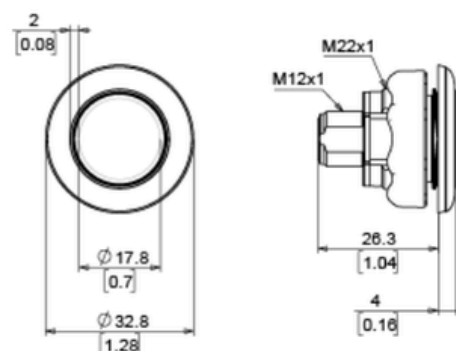


The SENSORswitch is secured against rotation by the illustrated hole.
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [].



Strand variant

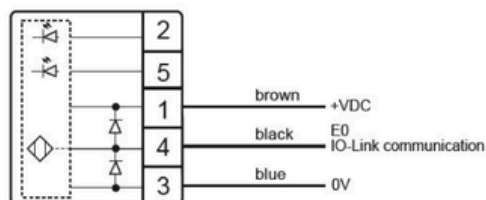
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [].



M12 variant

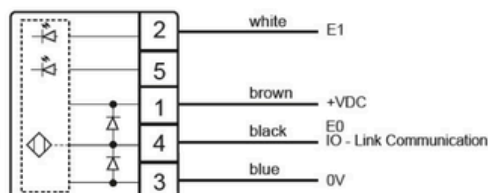
Connection diagram

3-pin



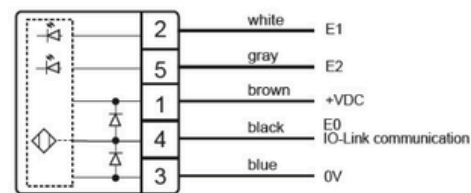
The product description will indicate the configuration.

4-pin



The product description will indicate the configuration.

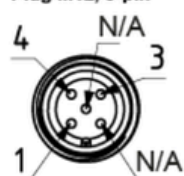
5-pin



The product description will indicate the configuration.

Connectors

Plug M12, 3-pin



Plug M12, 4-pin



Plug M12, 5-pin



**series10 hygienic**

| | |
|-----------------------------------|--|
| Operating voltage | DC 24V (8.4 to 32V) |
| Reverse polarity protection | Protection of all cables/lines |
| Short circuit protection | Protected against short circuit and overload |
| Power consumption at 24V | Max. 40 mA |
| Operating temperature | -22°F to +149°F (-30°C to +65°C) |
| IP rating | Front side IP69K maximum unevenness in mounting surface < 0.1 mm |
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Control voltage Input 1 / Input 2 | on 80%U _{V+} off 0 to 20%U _{V+} |
| Max. altitude | 2000 m above sea level with "CSA" listing |
| Relative air humidity | Max. 95%, non-condensing |

CANEO series10

Configurable Parameters

| | Configurable Parameters | Options | Explanation | Notes |
|----------------|-------------------------------------|--------------------------------------|---|--|
| CANEO series10 | SENSOR mode | Dynamic | Dynamic: pulse of x sec (Default 300ms) | Pulse can be set individually |
| | | Momentary/Static | Momentary/Static: pulse as long as the surface is touched | |
| | | Maintain/Toggle/Flip Flop | Maintain/Toggle/Flip Flop: switching between on and off | |
| | Touch sensitivity | High | Can be adjusted in 3 different sensitivities | |
| | | Middle | | |
| | | Low | | |
| | Water resistance | Basic | Can be adjusted in 3 different sensitivities | |
| | | Enhanced | | |
| | | Ultimate | | |
| | Minimum actuation time | 0 - 65535 ms | Surface has to be touched x ms until it switches | |
| | Minimum actuation time (toggle off) | 0 - 65535 ms | Surface has to be touched x ms until it switches | Only applies when using Maintain/Toggle/ Flip Flop |
| | LED color idle (state 0) | Red | RGB (255, 0, 0) | More colors can be defined with RGB code |
| | | Green | RGB (0, 255, 0) | |
| | | Blue | RGB (0, 0, 255) | |
| | | Yellow | RGB (255, 255, 0) | |
| | | Magenta | RGB (255, 0, 130) | |
| | | Cyan | RGB (0, 255, 255) | |
| | | Orange | RGB (255, 120, 0) | |
| | | Violet | RGB (130, 0, 255) | |
| | | CANEO (CAPTRON Brand Color) | RGB (0, 255, 120) | |
| | | Clean Blue | RGB (10, 220, 250) | |
| | | No color | RGB (0,0,0) | |
| | LED color touch (state 1) | Red | RGB (255, 0, 0) | More colors can be defined with RGB code |
| | | Green | RGB (0, 255, 0) | |
| | | Blue | RGB (0, 0, 255) | |
| | | Yellow* (different RGB values vs 4x) | RGB (255, 255, 0) | |
| | | Magenta | RGB (255, 0, 130) | |
| | | Cyan | RGB (0, 255, 255) | |
| | | Orange | RGB (255, 120, 0) | |
| | | Violet | RGB (130, 0, 255) | |
| | | CANEO (CAPTRON Brand Color) | RGB (0, 255, 120) | |
| | | Clean Blue | RGB (10, 220, 250) | |
| | | No color | RGB (0,0,0) | |
| | LED mode touch/Idle | Static Ring | | 8 additional scene options available |
| | | Flash Ring | | |
| | LED adaptive brightness | On | LED brightness adjusts automatically to the brightness of the environment | |
| | | Off | | |
| | Brightness level of LED | 0 - 32 | 1 = lowest brightness 32 = highest brightness | |
| | Input mode | Automatic | | |
| | | Semi-Automatic (Input 1) | | |
| | | Manual (Input 1, Input 2) | | |
| | Input 1/ Input 2 mode | Active Low | Active Low = LED lights up by low voltage supply | |
| | | Active High | Active High = LED lights up by high voltage supply | |
| | | Active Low/High | Active Low/High = LED lights up by high/low voltage supply | |
| | Transistor | PNP | | |
| | | NPN | | |
| | Output | Normally open | | |
| | | Normally close | | |
| | Output minimum impulse time | 0 - 65535 ms | Pulse length of the output signal | Only in combination with Dynamic |



CANEO series40

Puck Standard/Display Touch Buttons



2

Choose from standard symbols below or opt for the 7-segment display. All Puck's are manufactured with a robust black housing for 22.5mm mounting with knurled nut. IO-Link capable. For RGB values of LED colors refer to our configuration table on page 51.

| Product Image | Variation | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|--------------------|---------------------|---------------------------|-----------|-------------|----------------|---------------------|
| | Standard | CS40K-MSBN-P10-06D7 | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 149.00 |
| | Standard | CS40K-MSBN-P11-07A7 | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 149.00 |
| | Standard | CS40K-MSBN-P12-07A9 | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 149.00 |
| | Standard | CS40K-MSBN-P13-06D5 | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 149.00 |
| | 7-segment display* | CD40K-MSBN-P20-07AE | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 169.00 |
| | 7-segment display* | CD40K-MSBN-P20-050F | caneo/red | M12 5-pin | Momentary | Automatic | \$ 169.00 |

* The 7-segment displays above are examples of possible characters that can be configured via IO-Link or through discrete scenes.



*See program terms & conditions for details.

sales.americas@captron.com

CANEO series41

Standard/Display Touch Buttons



2

100mm total diameter with 63mm actuation surface. All are PNP-NO, IO-Link capable, fully wash-down capable. Choose from standard symbols or 7-segment display. See page 80 for cables.

| Product Image | Variation | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---------------|--------------------|---------------------|---------------------------|-----------|-------------|----------------|---------------------|
| | Standard | CS41K-CRBK-P10-01E7 | green/red | M12 5-pin | Dynamic | Automatic | \$ 149.00 |
| | Standard | CS41K-DMBL-P10-03FB | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 149.00 |
| | Standard | CS41K-DMBL-P10-040B | green/red | M12 5-pin | Dynamic | Manual | \$ 149.00 |
| | Standard | CS41K-CRBK-P11-029F | green/red | M12 5-pin | Dynamic | Semi-Automatic | \$ 149.00 |
| | Standard | CS41K-CRBK-P12-02A5 | green/red | M12 5-pin | Dynamic | Automatic | \$ 149.00 |
| | Standard | CS41K-CRBK-P13-02AB | green/red | M12 5-pin | Dynamic | Automatic | \$ 149.00 |
| | 7-segment display* | CD41K-CRBK-P20-0254 | green/red | M12 5-pin | Dynamic | Automatic | \$ 179.00 |

* The 7-segment displays above are examples of possible characters that can be configured via IO-Link or through discrete scenes.



*See program terms & conditions for details.




sales.americas@captron.com

CANEO series41

Solid/Solid Display Touch Buttons



The CANEO series41 Solid features an aluminum housing that enables easy installation. It is also capable of withstanding use in high frequency environments. All are PNP-NO, IO-Link capable and fully wash-down capable. Choose from standard symbols or 7-segment display. See page 80 for cables.

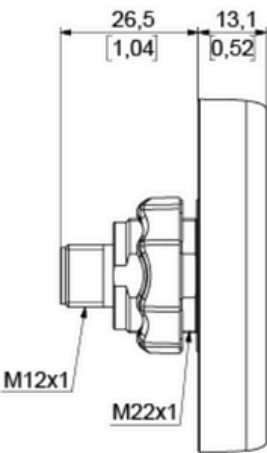
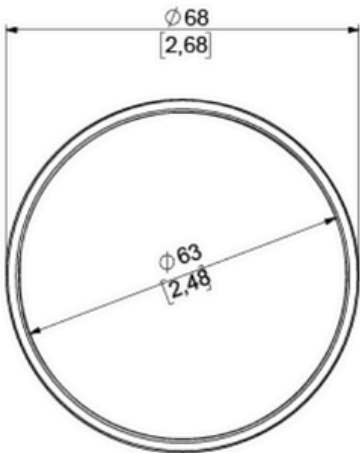
| Product Image | Variation | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---|--------------------|---------------------|---------------------------|-----------|-------------|------------|---------------------|
|  | Standard | CS41A-ARBK-P10-02BB | green/red | M12 5-pin | Dynamic | Automatic | \$ 189.00 |
|  | Standard | CS41A-ARBK-P11-02C0 | green/red | M12 5-pin | Dynamic | Automatic | \$ 189.00 |
|  | 7-segment display* | CD41A-ARBK-P20-0256 | green/red | M12 5-pin | Dynamic | Automatic | \$ 219.00 |

* The 7-segment displays above are examples of possible characters that can be configured via IO-Link or through discrete scenes.

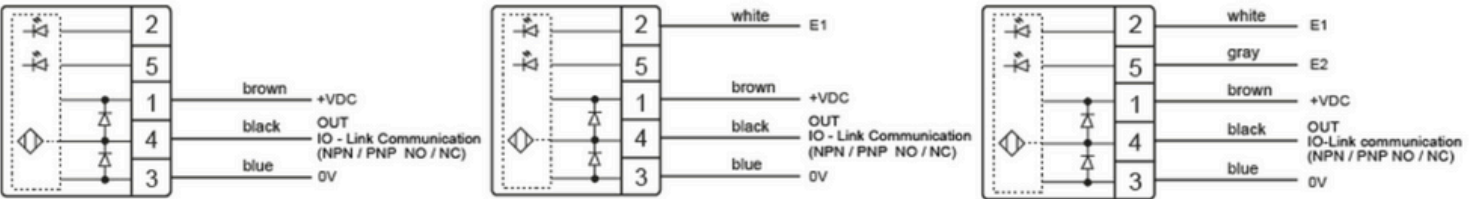
Do you need a different configuration??

Common requests include colors, switching modes, NO/NC, PNP/NPN, etc. See Configurable Parameters section on page 51 for all options. In many instances we can ship alternate configurations in 1-2 days.

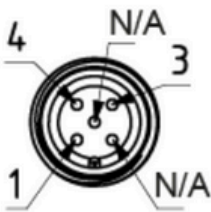




Connection diagram

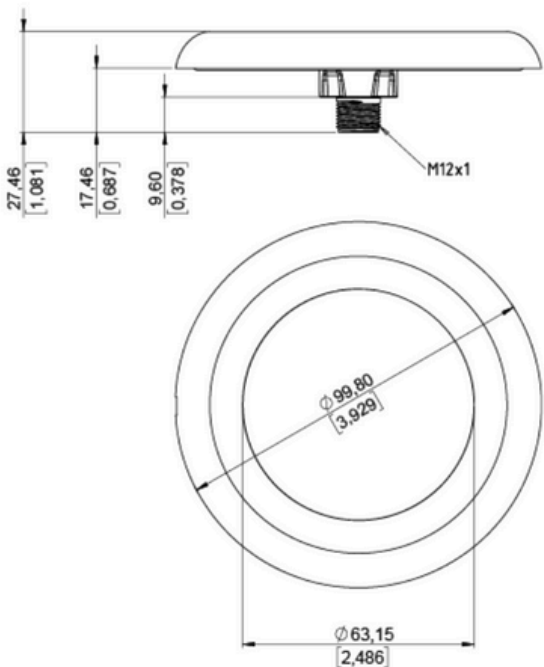


Connectors

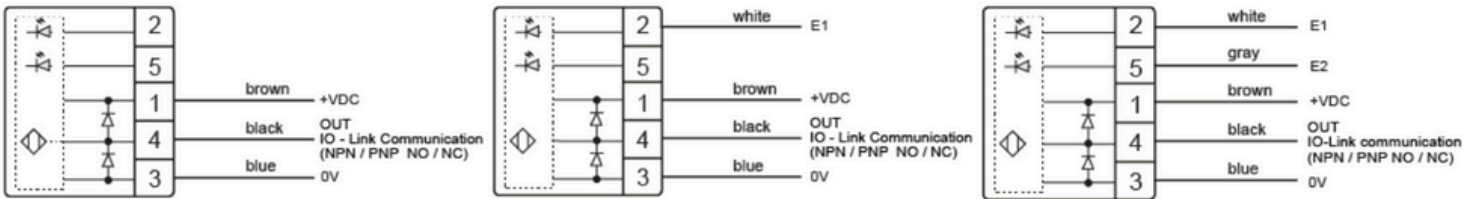




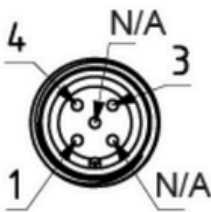
| series4x | |
|-----------------------------|---|
| Operating Voltage | ±DC 12 - 24V (8.4 ... 31.2V) |
| Load current | Max. 200 mA |
| Output | Adjustable PNP / NPN; NO / NC |
| Length of output pulse | Adjustable |
| Reverse polarity protection | Protection of all cables/lines |
| Short circuit protection | Protected against short circuit and overload |
| Voltage drop | Max. 2.5V at 200 mA Load current |
| Power consumption at 24V | Max. 90 mA |
| Operating temperature | -13°F to +122°F (-25°C to +50°C) |
| IP rating | Front side IP69K maximum unevenness in mounting surface <0.2 mm |
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Measuring principle | Capacitive |
| Type of actuation | Touch |
| Actuation force | No actuation force required |
| Max. altitude | 3000 m above sea level |
| Relative air humidity | Max. 95%, non-condensing |



Connection diagram

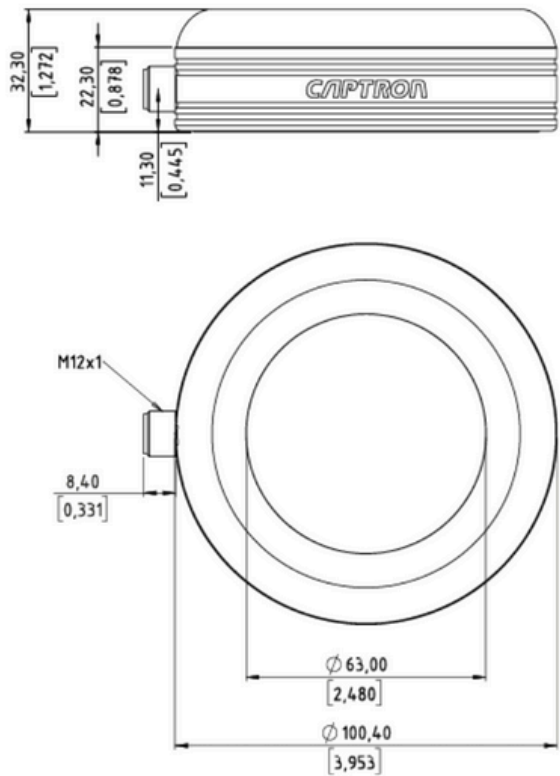


Connectors

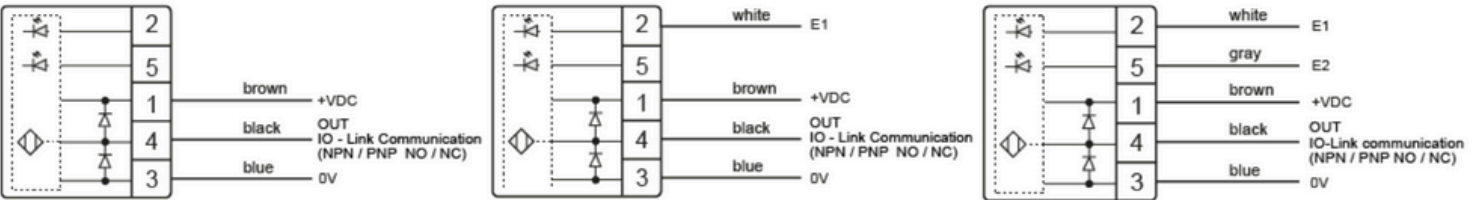




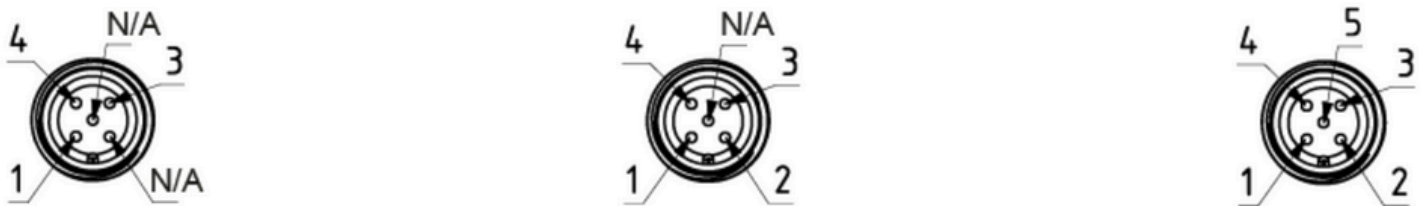
| series41 | |
|-----------------------------|--|
| Operating voltage | DC 24V (19.2 ... 28.8V) |
| Load current | Max. 200 mA |
| Reverse polarity protection | Protection of all cables/lines |
| Short circuit protection | Protected against short circuit and overload |
| Voltage drop | Max. 2.5V at 200 mA Load current |
| Power consumption at 24V | Max. 90 mA |
| Operating temperature | -13°F to +122°F (-25°C to +50°C) |
| IP rating | Front side IP69K maximum unevenness in mounting surface < 0.2 mm |
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Measuring principle | Capacitive |
| Type of actuation | Touch |
| Actuation force | No actuation force required |
| Max. altitude | 3000 m above sea level |
| Relative air humidity | Max. 95%, non-condensing |



Connection diagram



Connectors





| series41 | |
|-----------------------------|--|
| Operating voltage | DC 24V (19.2 ... 28.8V) |
| Load current | Max. 200 mA |
| Reverse polarity protection | Protection of all cables/lines |
| Short circuit protection | Protected against short circuit and overload |
| Voltage drop | Max. 2.5V at 200 mA Load current |
| Power consumption at 24V | Max. 90 mA |
| Operating temperature | -13°F to +122°F (-25°C to +50°C) |
| IP rating | Front side IP69K maximum unevenness in mounting surface < 0.2 mm |
| IK rating | IK08 |
| Communication interface | IO-Link specification V1.1 |
| Measuring principle | Capacitive |
| Type of actuation | Touch |
| Actuation force | No actuation force required |
| Max. altitude | 3000 m above sea level |
| Relative air humidity | Max. 95%, non-condensing |

CANEO series4x

Configurable Parameters

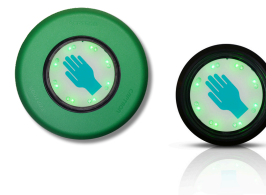
2

| | Configurable Parameters | Options | Explanation | Notes |
|----------------|-------------------------------------|-----------------------------|--|---|
| CANEO series4x | SENSOR mode | Dynamic | Dynamic: pulse of x sec (Default 300ms) | Pulse can be set individually |
| | | Momentary/Static | Momentary/Static: pulse as long as the surface is touched | |
| | | Maintain/Toggle/Flip Flop | Maintain/Toggle/Flip Flop: switching between on and off | |
| | Touch sensitivity | High | Can be adjusted in 3 different sensitivities | |
| | | Middle | | |
| | | Low | | |
| | Minimum actuation time | 0 - 65535 ms | Surface has to be touched x ms until it switches | |
| | Minimum actuation time (toggle off) | 0 - 65535 ms | Surface has to be touched x ms until it switches | Only applies when using Maintain/Toggle/Flip Flop |
| | LED color idle (state 0) | Red | RGB (255, 0, 0) | More colors can be defined with RGB code |
| | | Green | RGB (0, 255, 0) | |
| | | Blue | RGB (0, 0, 255) | |
| | | Yellow | RGB (190, 255, 0) | |
| | | Magenta | RGB (255, 0, 130) | |
| | | Cyan | RGB (0, 255, 255) | |
| | | Orange | RGB (255, 120, 0) | |
| | | Violet | RGB (130, 0, 255) | |
| | | CANEO (CAPTRON Brand Color) | RGB (0, 255, 120) | |
| | | Clean Blue | RGB (10, 220, 250) | |
| | | No Color | RGB (0,0,0) | |
| | LED color touch (state 1) | Red | RGB (255, 0, 0) | More colors can be defined with RGB code |
| | | Green | RGB (0, 255, 0) | |
| | | Blue | RGB (0, 0, 255) | |
| | | Yellow | RGB (190, 255, 0) | |
| | | Magenta | RGB (255, 0, 130) | |
| | | Cyan | RGB (0, 255, 255) | |
| | | Orange | RGB (255, 120, 0) | |
| | | Violet | RGB (130, 0, 255) | |
| | | CANEO (CAPTRON Brand Color) | RGB (0, 255, 120) | |
| | | Clean Blue | RGB (10, 220, 250) | |
| | | No Color | RGB (0,0,0) | |
| | LED mode touch/Idle | Static Ring | | 8 additional scene options available |
| | | Flash Ring | | |
| | Input mode | Automatic | | |
| | | Semi-Automatic (Input 1) | | |
| | | Manual (Input 1, Input 2) | | |
| | Input 1/ Input 2 mode | Active Low | Active Low = LED lights up by low voltage supply Active High = LED lights up by high voltage supply Active Low/High = LED lights up by high/low voltage supply | |
| | | Active High | | |
| | Transistor | PNP | | |
| | | NPN | | |
| | Output | Normally open | | |
| | | Normally close | | |
| | Output minimum impulse time | 0 - 65535 ms | Pulse length of the output signal | Only in combination with Dynamic |










CHT3 series

Capacitive Touch Buttons



2

The CHT3 series is built to withstand the toughest environments, but is also extremely easy to operate due to capacitive technology. Rated for more than 100MM+ actuations. Features 16 LEDs. IP69K.

| Product Image | Part # | Pre-Programmed LED Colors | Connector | Sensor Mode | Input Mode | List Price (\$ USD) |
|---|----------------------|---------------------------|-----------|-------------|----------------|---------------------|
|  | CHT3-151P-H/TG-SR | green/red | M8 4-pin | Dynamic | Semi-Automatic | \$ 139.00 |
|  | CHT3-151B-H/TG-SR | green/red | M8 5-pin | Dynamic | Manual | \$ 171.00 |
|  | CHT3-151P-H/TG-SR/ST | green/red | M8 4-pin | Momentary | Semi-Automatic | \$ 167.00 |
|  | CHT3-151B-H/TG-SR/ST | green/red | M8 5-pin | Momentary | Manual | \$ 199.00 |
|  | CHT3-456P-H/TG-SR | green/red | M8 4-pin | Dynamic | Semi-Automatic | \$ 139.50 |
|  | CHT3-456B-H/TG-SR | green/red | M8 5-pin | Dynamic | Manual | \$ 159.00 |
|  | CHT3-456P-H/TG-SR/ST | green/red | M8 4-pin | Momentary | Semi-Automatic | \$ 162.00 |



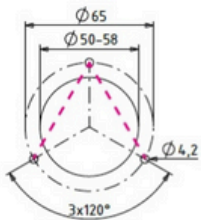
*See program terms & conditions for details.

sales.americas@captron.com

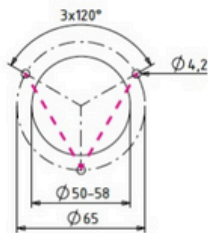


CHT3-1 / CHT3-2

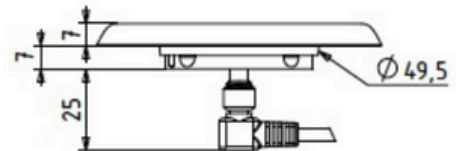
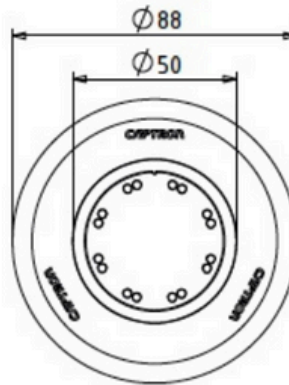
Drilling pattern



A - Mounting



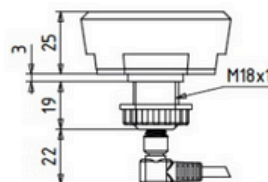
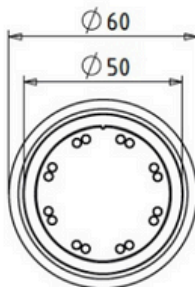
V - Mounting



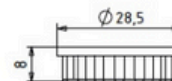
All dimensions in mm



CHT3-4



Knurled nut



Note: not available with connector AMP and JST

Connection diagram

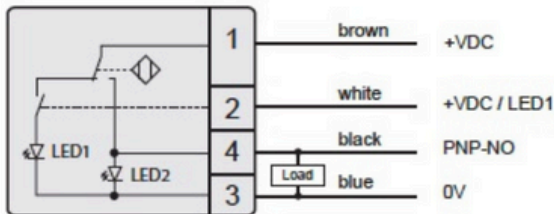


Diagram P (PNP) Semi-Automatic

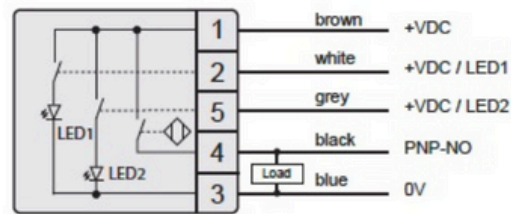


Diagram B (PNP) Manual

Connectors

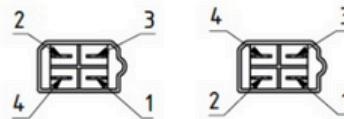
Connector M8, 4-pole



Connector M8, 5-pole



Connector AMP 6,3 , 4-pole



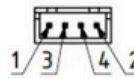
Connector M12, 4-pole



Connector M12, 5 -pole



Connector JST 2.54, 4-pole



Connector JST 2.54, 5-pole



Technical Data at 24 V and 68°F (20°C)

| | |
|-----------------------------|---|
| Operating voltage | DC 24V (16.8 to 32V) |
| Load current | Max. 400 mA |
| Output | PNP-NO |
| Output signal | Dynamic (approx. 300 ms) Optional: Continuous signal when actuated |
| LED 1 | 8 green LEDs |
| LED 2 | 8 red LEDs |
| Reverse polarity protection | Protection of all lines |
| Short-circuit protection | Short-circuit and overload protection |
| Voltage drop | Max. 3 V at 400 mA |
| Current consumption | Max. 30 mA at 24 V |
| Operating temperature | +22°F to +176°F (-30°C to +80°C) |
| IP rating | IP69K (frontside) |
| Type of operation | Capacitive |

safeCAP Two-Hand Control

SAFE OPERATION OF MACHINES AND SYSTEMS



The capacitive safeCAP two-hand control allows heavy machinery and systems in automated production plants, such as presses and punches, to be controlled safely and without causing any chronic injury risk to an operator.

To start the machine the user simultaneously touches two capacitive buttons which are connected to a safety relay. Incorrect or inattentive control using just one hand or with another part of the body is detected by the system and the machine will not start.

SC30 PRODUCT SERIES

As you are building your two-hand safety system with the SC30 product series, purchase **either**:



OR



- Qty=2 Single-Channel Buttons
 - Safety relay (Optional)
 - Protectors (Optional)
 - Connection Cables (Recommended)
- Qty=2 Dual-Channel Buttons
 - Safety relay (Optional)
 - Protectors (Optional)
 - Connection Cables (Recommended)

SC4 PRODUCT SERIES



As you are building your two-hand safety system with the SC4 product series, purchase **one of each**:

- Qty=1 A Button **AND**,
- Qty=1 B Button
- Safety relay (Optional)
- Protectors (Optional)
- Connection Cables (Recommended)










safeCAP Two-Hand Control



SC30 PRODUCT SERIES

For recommendations on building your two-hand safety system with the SC30 product series, please see page 55.

| Product Image | Description | Part # | LED Colors | Connector | Output | Short Circuit Protection | List Price (\$ USD) |
|---|-------------------------------------|------------------|---------------|-----------|-----------------------|--------------------------|---------------------|
|  | Single channel 2-hand safety switch | SC30-886ZRS-465 | green/ yellow | M12 4-pin | PhotoMOS relay NO | yes | \$ 218.00 |
|  | Dual channel 2-hand safety switch | SC30-886ZRSO-465 | green/ yellow | M12 8-pin | PhotoMOS relay NC, NO | no | \$ 280.00 |

| Product Image | Part | Part # | Features | List Price (\$ USD) |
|---|--|-------------------|--|---------------------|
|  | Safety relay | SC3R-3SK1 | Compatible with SC30 Single Channel | \$ 239.00 |
|  | Safety relay | MCR-225 | Compatible with SC30 Dual Channel | \$ 319.00 |
|  | Protector (1 pc) | SCP-6 | Compatible with SC30 switches, for profile mounting | \$79.99 |
|  | Connection Cable compatible with SC30 Single Channel | LKW-40-2-A1-34/UL | Male Stranded - Female 90° Stranded - M12 4-pin, 2 meters UL | \$19.99 |
|  | Connection Cable compatible with SC30 Dual Channel | LKW-80-2 | Male Stranded - Female 90° Stranded - M12 8-pin, 2 meters | \$29.99 |









safeCAP Two-Hand Control

SC4 PRODUCT SERIES

For recommendations on building your two-hand safety system with the SC4 product series, please see page 55.



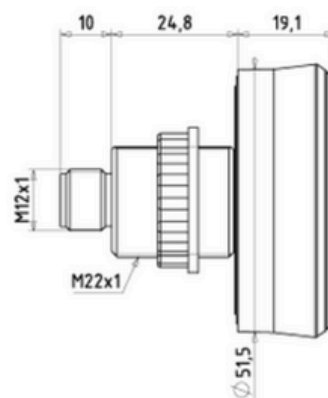
| Product Image | Description | Part # | LED Colors | Connector | Output | List Price (\$ USD) |
|---|-----------------|---------------|---------------|--------------|-----------------------------|---------------------|
|  | Safety switch A | SCA4-185Z-465 | green/ red | M12 5-pin | PhotoMOS relay NO, NC | \$ 379.00 |
|  | Safety switch B | SCB4-185Z-465 | green/ red | M12 5-pin | PhotoMOS relay NO, NC | \$ 379.00 |

| Product Image | Part | Part # | Features | List Price (\$ USD) |
|---|----------------------------------|-----------|--|---------------------|
|  | Safety relay | MCR-225 | Compatible with SC4 | \$ 319.00 |
|  | Protector (1pc) | SCP-4 | Compatible with SC4 switches, for table mounting | \$79.99 |
|  | SC4 (A only) Connection Cable | LKW-SCA-5 | Male Stranded - Female 90° Stranded - M12 5-pin, 5 meter | \$20.99 |
|  | SC4 (B only) Connection Cable | LKW-SCB-5 | Male Stranded - Female 90° Stranded - M12 5-pin, 5 meter | \$20.99 |



*See program terms & conditions for details.

sales.americas@captron.com



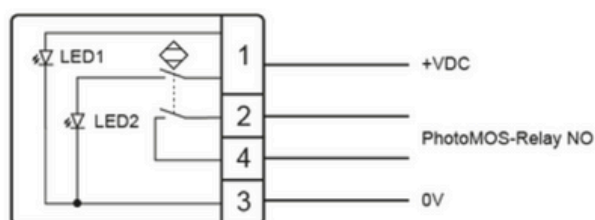
Drilling pattern



Plug M12, 4-pin

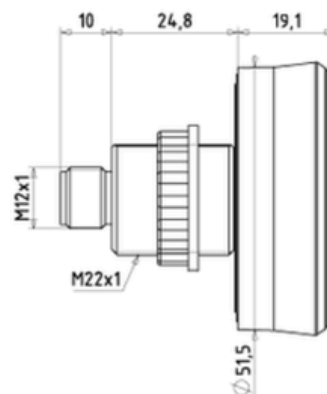


Connection diagram



Technical specifications SC30 single channel

| | |
|-----------------------------|--------------------------------|
| Operating voltage | 24 V (19.2 to 28.8V) |
| Contact load | 100 mA (70 mA at 167°F (75°C)) |
| Output | PhotoMOS-Relay NO |
| Output pulse | Constant signal when actuated |
| LED 1 | GreenLED |
| LED 2 | YellowLED |
| Reverse polarity protection | Yes |
| Short circuit protection | Yes |
| Power consumption | Max. 20 mA at 24V -13°F to |
| Operating temperature | +167°F (-25°C to +75°C) |
| IP rating | Frontside IP68, Connector IP67 |
| Type of actuation | Capacitive |
| Actuation force | No actuation force required |
| Rated insulation voltage | 32V |
| Switch-off-delay | Max. 50 ms |
| Switch-on-delay | Max. 30 ms |
| MTTF _d | 100 years |



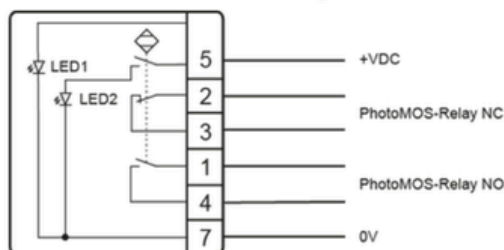
Drilling pattern



Plug M12, 8-pin



Connection diagram

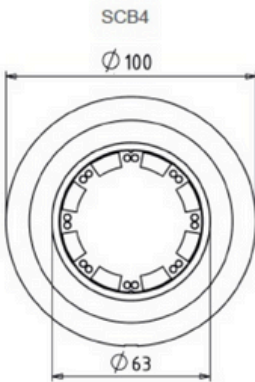
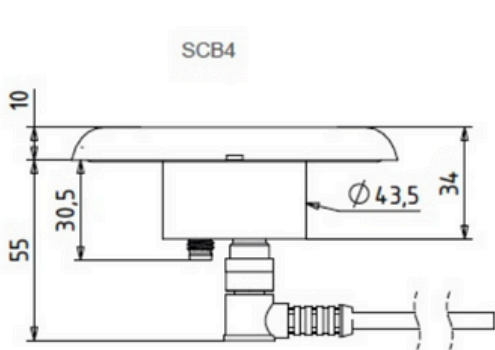
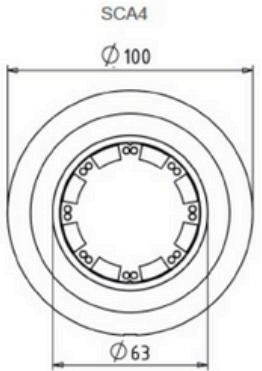
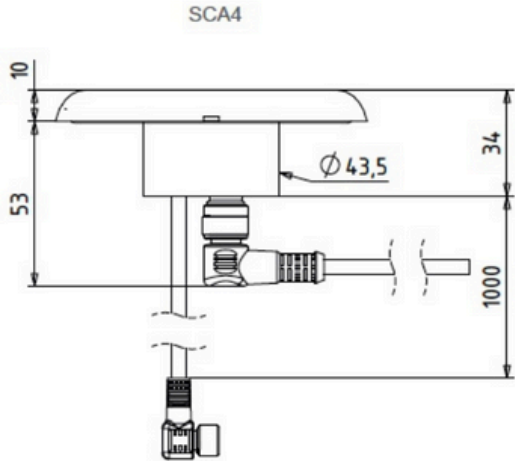
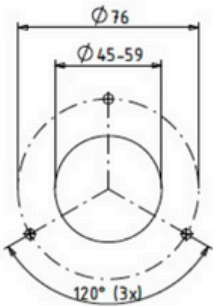


Technical specifications SC30 dual channel

| | |
|-----------------------------|----------------------------------|
| Operating voltage | = 24 V (19.2 to 28.8V) 100 mA |
| Contact load | (70 mA at 167°F (75°C)) |
| Output | PhotoMOS-Relay NC, NO |
| Output pulse | Constant signal when actuated |
| LED 1 | GreenLED |
| LED 2 | YellowLED |
| Reverse polarity protection | Yes |
| Short circuit protection | No |
| Power consumption | Max. 20 mA at 24V |
| Operating temperature | -13°F to +167°F (-25°C to +75°C) |
| IP rating | Frontside IP68, Connector IP67 |
| Type of actuation | Capacitive |
| Actuation force | No actuation force required |
| Rated insulation voltage | 32V |
| Switch-off-delay | Max. 50 ms |
| Switch-on-delay | Max. 25 ms |
| MTTF _d | 100 years |

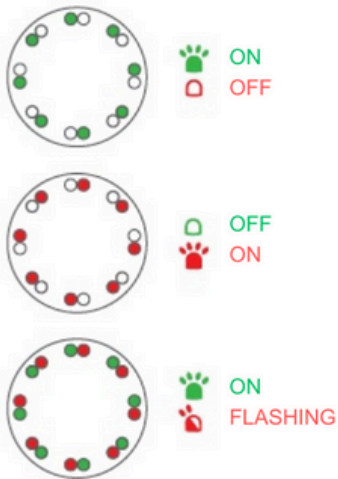


Drilling pattern



All dimensions in mm

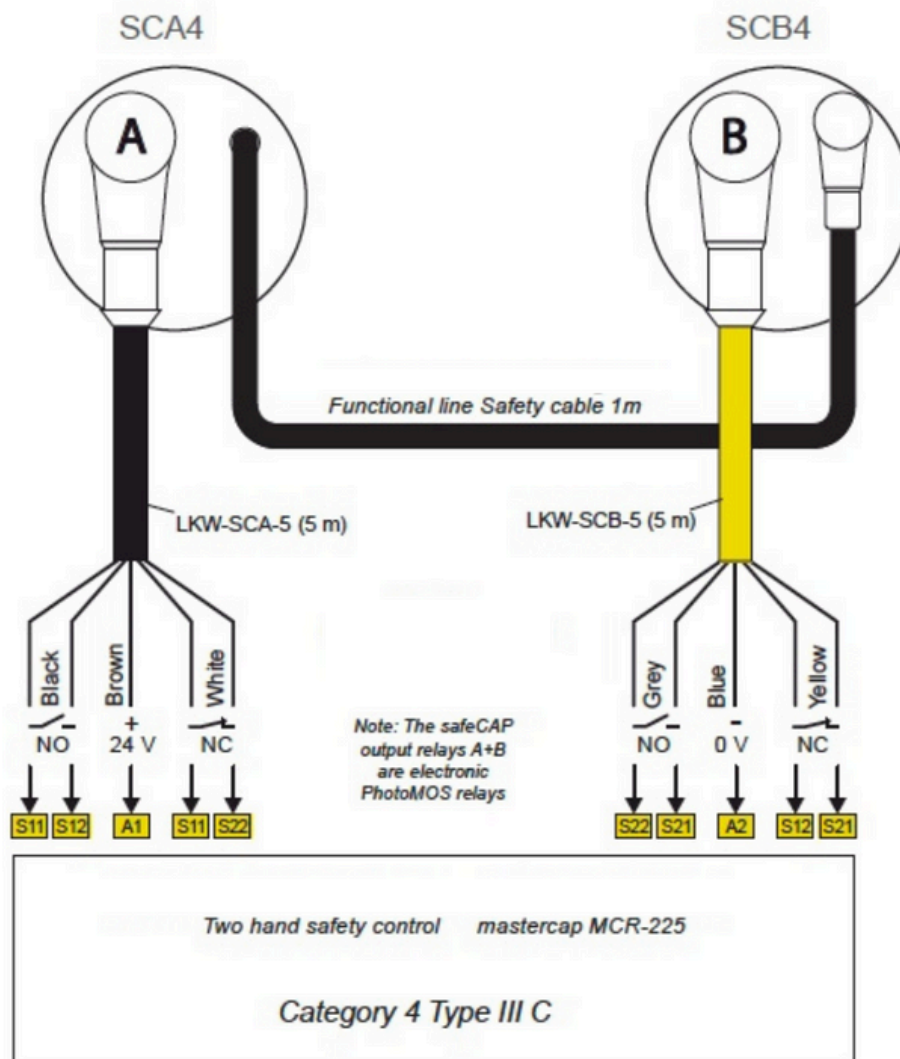
Control display



safeCAP SC4 series

| | |
|------------|---|
| Operation | 8 green LEDs light up when voltage is present and there is no contact |
| Triggering | 8 red LEDs light up, 8 green LEDs extinguish when the switch surface is touched |
| Error | 8 green LEDs light up, 8 red LEDs flash. safeCAP cannot be operated if: <ul style="list-style-type: none">the keying speed is too low (operating error)the surface of the switch is contaminated or dampobstructions are present on the surface of the switch |

Connection diagram



Technical specifications

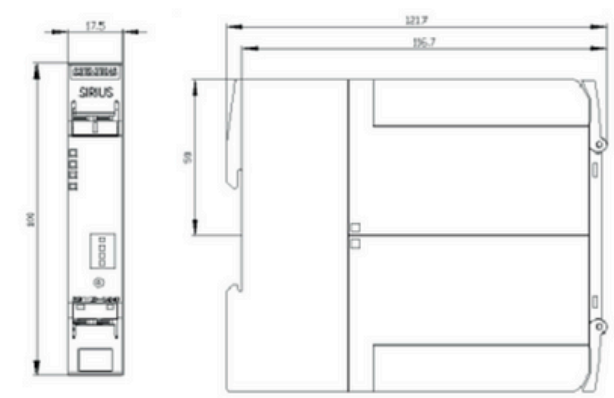
| | |
|-------------------------|--------------------------------|
| Rated operating voltage | 24 V DC |
| Power consumption | ca. 1.5 W |
| Switching frequency | 1Hz |
| Temperature range | +32°F to 131°F (0°C to +55° C) |
| IP rating | IP69K, Connector IP67 |
| IK rating | IK08 |
| Switch-off-delay | Max. 12 ms |



The Advanced 3SK1 can be technically and economically ideally realized in a variety of safety applications in conjunction with the SC30.

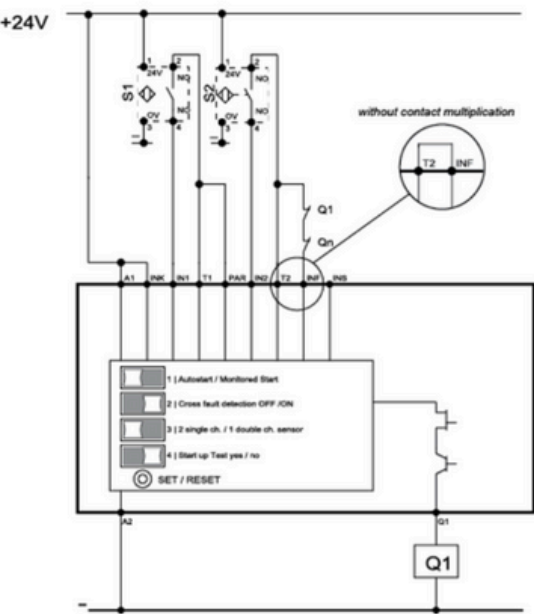
SIRIUS safety switching devices 3SK1 meet the highest requirements according to IEC 61508/IEC62061 (SIL 3) as well as EN ISO 13849-1 (PL e).

Drawing



Alle Maße in mm All dimensions in mm

Block Diagram



| Technical Data | |
|--|--|
| Product brand name | SIRIUS |
| Product designation | Safety Relays |
| Design of the product | For autonomous safety applications |
| IP rating | IP20 |
| Protection against electrical shock | Finger-safe |
| Insulation voltage Rated value | 50V |
| Ambient temperature <ul style="list-style-type: none"> during storage during operation | -40 ... +176°F (-40 ... +80°C) -13 ... +140°F (-25 ... +60°C) |
| Air pressure acc. to SN 31205 | 90 ... 106kPa |
| Relative humidity during operation | 10 ... 95% |
| Maximal Installation altitude at height above sea level maximum | 2,000m |
| Vibration resistance acc. to IEC 60068-2-6 | 5 ... 500Hz: 0.75 mm |
| Shock resistance | 10g/11ms |
| Surge voltage resistance Rated value | 800V |
| EMC emitted interference | IEC 60947-5-1, Class A |
| Overvoltage category | Installation category III |

Technical data

| | |
|---|---------------------------------|
| Degree of pollution | 3 |
| Number of sensor inputs 1-channel or 2-channel | 1 |
| Design of the cascading | Yes |
| Type of the safety-related wiring of the inputs | Single-channel and dual-channel |
| Product property cross-circuit-proof | Yes |
| Safety Integrity Level (SIL) • acc. to IEC 61508 | SIL3 |
| Performance level (PL) • acc. to EN ISO 13849-1 | e |
| Category acc. to EN ISO 13849-1 | 4 |
| PFHD with high demand rate acc. to EN 62061 | 0.0000000013 1/h |
| Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508 | 0.000007 1/y |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |
| Hardware fault tolerance acc. to IEC 61508 | 1 |
| Safety device type acc. to IEC 61508-2 | Type B |
| Number of outputs as contact-affected switching element • as NC contact ◦ for signaling function instantaneous contact ◦ for signaling function delayed switching ◦ safety-related instantaneous contact ◦ safety-related delayed switching • as NO contact ◦ for signaling function instantaneous contact ◦ for signaling function delayed switching | 0 0 1 0 |
| Number of outputs as contact-less semiconductor switching element • Safety-related ◦ delayed switching ◦ instantaneous contact • for signaling function instantaneous contact | Yes Yes Yes |
| Stop category acc. to DIN EN 60204-1 | 0 |
| Design of input • cascading input/functional switching • feedback input • Start input | |
| Type of electrical connection Plug-in socket | No |

Technical data

| | |
|--|--------------------|
| Operating frequency maximum | 2,000 1/h |
| Switching capacity current <ul style="list-style-type: none"> of semiconductor outputs at DC-13 at 24V | 0.5A |
| Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required | Not required |
| Cable length with Cu 1.5 mm 2 and 150 nF/km per sensor circuit maximum | 4,000m |
| Switch-on time with automatic start <ul style="list-style-type: none"> at DC maximum | 85ms |
| Switch-on time with automatic start after power failure <ul style="list-style-type: none"> typical maximum | 6 500ms 6 500ms |
| Switch-on with monitored start <ul style="list-style-type: none"> maximum | 85ms |
| Backside delay time after opening of the safety circuits typical | 40ms |
| Backslide delay time in the event of power failure <ul style="list-style-type: none"> typical maximum | 0ms 0ms |
| Recovery time after opening of the safety circuits typical | 30ms |
| Recovery time after power failure typical | 6.5s |
| Pulse duration <ul style="list-style-type: none"> Of the sensor input minimum Of the ON pushbutton input minimum | 60ms 0.15s |

Control circuit, control

| | |
|---|-------------|
| Type of voltage of the control supply voltage | DC |
| Control supply voltage <ul style="list-style-type: none"> at DC <ul style="list-style-type: none"> Rated Value | 24V |
| Operating range factor control supply voltage rated value of the magnet coil <ul style="list-style-type: none"> at DC | 0.8 ... 1.2 |
| Active power loss typical | 2W |

Installation, mounting, dimensions

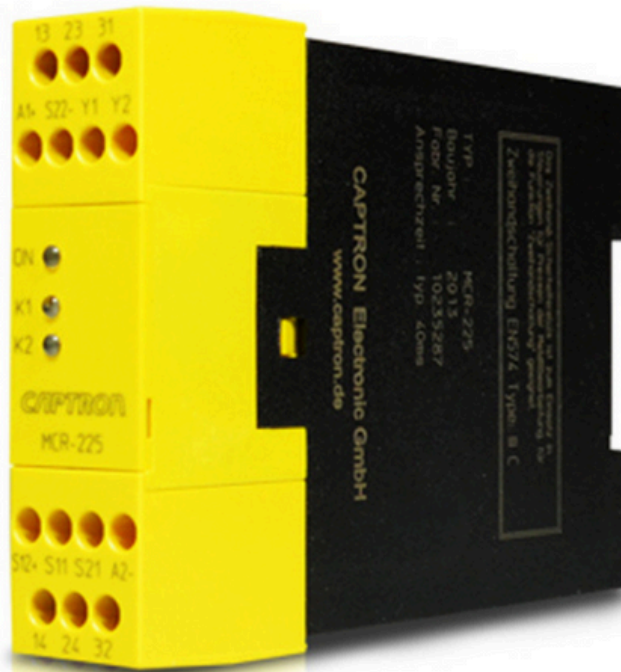
| | |
|---|----------------------------|
| Mounting position | Any |
| Required spacing for grounded parts at the side | 5mm |
| Required spacing with side-by-side mounting at the side | 0mm |
| Mounting type | Screw and snap-on mounting |
| Width | 17.5mm |
| Height | 100mm |
| Depth | 121.6mm |

Connections, terminals

| | |
|---|--|
| Type of electrical connection | Screw-type terminals |
| Type of connectable conductor cross-section <ul style="list-style-type: none"> • Solid • Finely stranded with core end processing | 1x (0.5...2.5mm ²), 2x (1.0...1.5mm ²) 1x (0.5...2.5mm ²), 2x (0.5...1.0mm ²) |
| Type of connectable conductor cross-section for AWG conductors <ul style="list-style-type: none"> • Solid • Stranded | 1x (20...14), 2x (18...16) 1x (20...16), 2x (20...16) |

Product function

| | |
|---|---------------------------------|
| Suitability for operation Device connector 3ZY12 | Yes |
| Suitability for interaction press control | Yes |
| Suitability for use <ul style="list-style-type: none"> • Safety switch • Monitoring of floating sensors • Monitoring of non-floating sensors • Magnetically operated switch monitoring • Safety-related circuits | Yes Yes Yes Yes Yes |



Note

If both SC4 are touched while switching on the operating voltage (e.g. after voltage failure) the output contacts do not energize. The terminal S22 also serves as reference point for checking the control voltage.

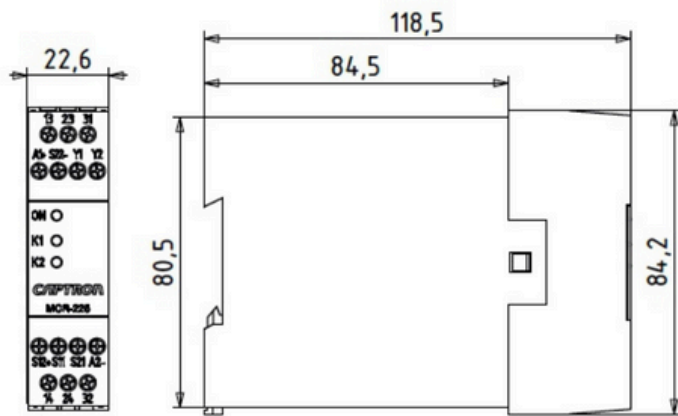
Indication

LED ON on, when operating voltage applied

LED K1 on, when relay K1 active

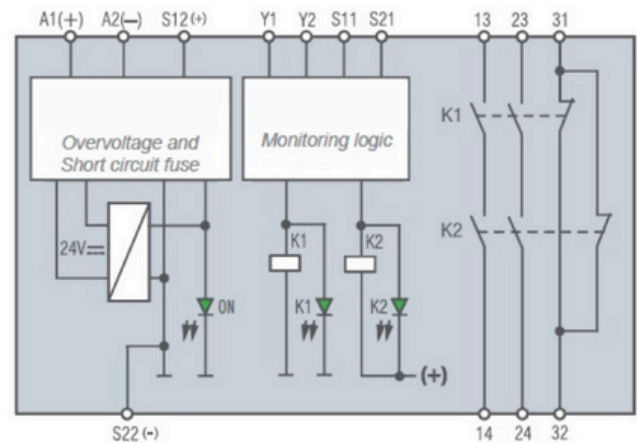
LED K2 on, when relay K2 active

Drawing

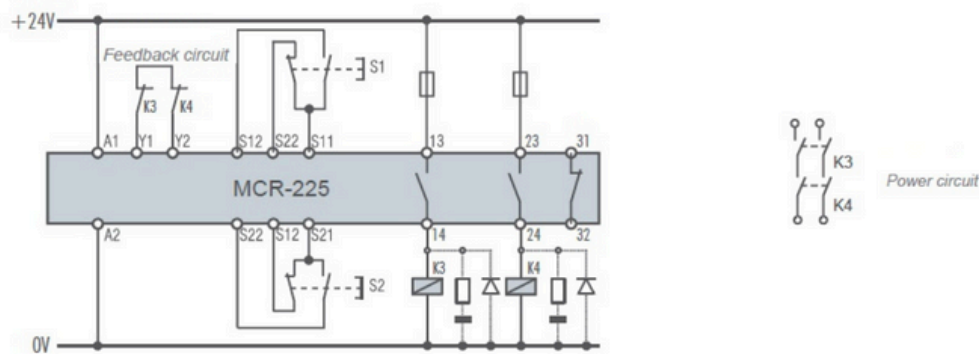


All dimensions in mm

Block Diagram

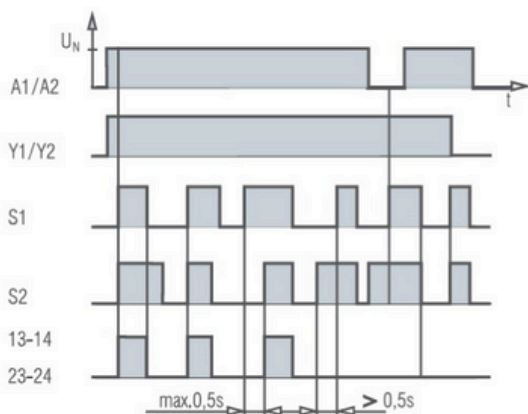


Connection diagram with contact multiplication

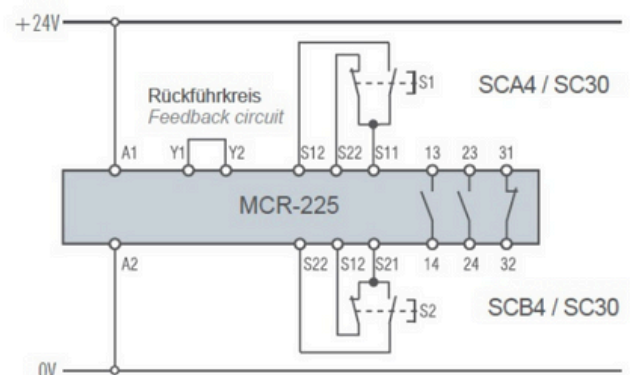


Two-hand control with contact reinforcement via external positively driven connectors. When switching inductive loads spark absorbers are recommended.

Functional diagram



Connection diagram





Technical data

| | |
|---------------------------------|--|
| Rated operating voltage | 24 V DC |
| Power consumption | Approx 2,3 W |
| Number of safety current paths | 2 NO, 1 NC |
| Contact fuse | 6 AgL, C8 A (automatic circuit breaker) |
| Switching capacity as per AC 15 | 3 A / 230 V for NO 2 A / 230 V for NC |
| Temperature range | +32°F to 131°F (0 to +55°C) |
| IP rating | Housing IP40, clamping area IP20 |
| Weight | 200 g |
| Type | III C |



EMC tests

| | | |
|---|--------------------------------|--|
| Conducted disturbance levels | EN 55011 | 0.15...30 MHz |
| Radiated disturbance levels (electrical field) | EN 55011 | 30...1000 MHz |
| Electrostatic discharge (ESD) | EN 61000-4-2 EN 61000-4-2 | Contact 6 kV Air 8 kV |
| High-frequency electromagnetic fields | EN 61000-4-3 | 80...2700 MHz up to 20 V/m |
| Rapid transient electrical disturbance levels (burst) | EN 61000-4-4 EN 61000-4-4 | Network 3 kV Coupling clamp 2 kV |
| Voltage impulses (surges) | EN 61000-4-5 EN 61000-4-5 | Symmetrical 1 kV Unsymmetrical 2 kV |
| Conducted disturbance levels | EN-61000-4-6 | 0.15...80 MHz / 10 V |
| Magnetic field with energy frequencies | EN-61000-4-8 | 50 Hz / 60 Hz / 30 A/m |
| Conducted, asymmetric disturbance levels | EN-61000-4-16 | 1.5...150 kHz up to 10 V |
| Voltage drops | EN 61000-4-11 EN 61000-4-29 | 60% / 10 ms |
| Short interruptions | EN 61000-4-11 EN 61000-4-29 | 20 ms |

Verification of impulse withstand voltage

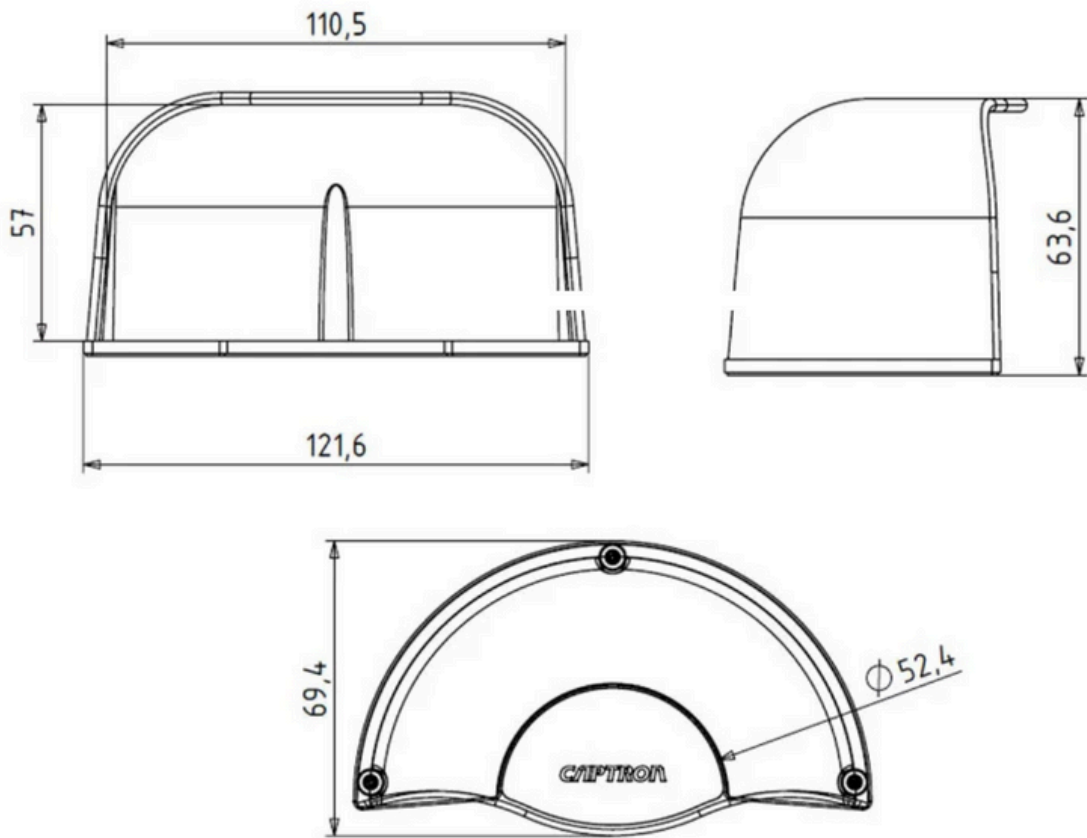
| | |
|--|--------|
| All operating voltage circuit connections that are connected to each other against the conductive, encased housing | 1.7 kV |
| All safety-related contact current path connections that are connected to each against the conductive, encased housing | 7.2 kV |
| All control current circuit connections that are connected to each other against the conductive, encased housing | 0.9 kV |
| Operating voltage circuit against the safety-related contact current paths | 4.8 kV |
| Control current circuit against the safety-related contact current paths | 4.8 kV |
| Between the safety-related contact current paths | 4.8 kV |

Verification of the power frequency withstand voltage

| | |
|--|---------|
| All operating voltage circuit connections that are connected to each other against the conductive, encased housing | 1.5 kV |
| All safety-related contact current path connections that are connected to each against the conductive, encased housing | 2.25 kV |
| All control current circuit connections that are connected to each other against the conductive, encased housing | 1.5 kV |
| Operating voltage circuit against the safety-related contact current paths | 1.5 kV |
| Control current circuit against the safety-related contact current paths | 1.5 kV |
| Between the safety-related contact current paths | 1.5 kV |

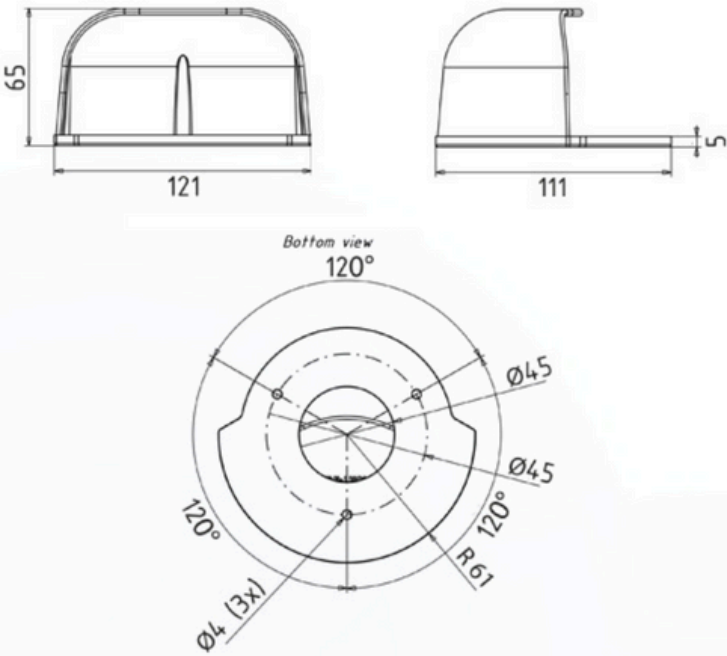
Mechanical Tests

| | |
|---|--|
| Vibration test | 10...55 Hz |
| Shock test | 30 g |
| Impact test | GS-ET-20 |
| Glow wire test DIN EN 60695-2-11 | 1562 °F (850°C) |
| Air and creepage paths DIN EN 60947-5-1 | Overvoltage category III / degree of contamination 2 |



All dimensions are millimeters unless otherwise noted.

| | |
|-------------------------|---------------------------|
| for safeCAP series SC30 | |
| Material | Transparent polycarbonate |



All dimensions are millimeters unless otherwise noted.

| | |
|------------------------|---------------------------|
| for safeCAP series SC4 | |
| Material | Transparent polycarbonate |

Level Sensors

CAPACITIVE LEVEL SENSOR: ORCA

PRECISE LEVEL MEASUREMENT



COMPACT PROBE HEAD

The ORCA level probe from CAPTRON delivers high-precision detection of thin to highly viscous materials, including adhesives, (synthetic) resins, and oils. Its low-profile probe head and customizable process connections make it easy to install and secure, even in tight or hard-to-reach spaces.

- ✓ Easy and fast installation even in the tightest of spaces
- ✓ Digital connectivity: ORCA is IO-Link capable
- ✓ Probe lengths and process connections such as flange or thread can be individually adapted to your specific requirements
- ✓ Durable, reliable and robust design



CAPACITIVE TECHNOLOGY

The ORCA level probe operates according to the capacitive measuring principle: the probe rod and the tank wall form the two electrodes, the medium forms the dielectric. When the level changes, the capacitance changes. An empty vessel has a low capacitance, a filled vessel a high capacitance.

Medium properties as well as min/max values can be set via any IO-Link master or our iq-Link Configurator (see page 80.)



Level Sensors

TIME OF FLIGHT SENSOR: CALIS

NON-CONTACT, CONTINUOUS LEVEL MEASUREMENT



DEVELOPED FOR HARSH CONDITIONS

Developed for sand level measurement in rail vehicles (heavy and light rail) and proven in long-term tests. Use as a flexible limit switch or for continuous level measurement.

Configurable for flexible use in harsh environments outside of rail applications.

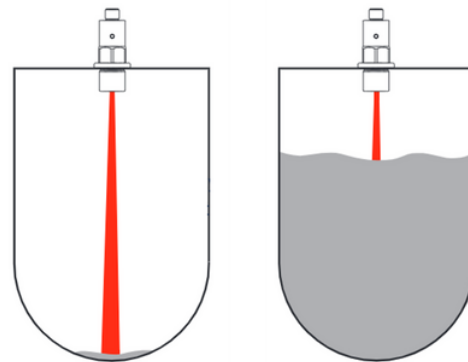


- ✓ Easy installation even in narrow spaces
- ✓ Lifespan of more than 30 years
- ✓ Space-saving and weather-resistant level measurement not only for sand
- ✓ The IO-Link interface enables flexible configuration of the sensor on the control side



TIME-OF-FLIGHT TECHNOLOGY

Our time-of-flight sensor emits repeated light pulses and then the sensor detects the light pulse remitted back from the surface of the medium.





Level Sensors

ORCA


Capacitive technology level sensors for high-precision measurements of thin to viscous adhesives as well as (synthetic) resins and oils. Needs little space due to low-profile probe head and slim design. Very easy installation and initial setup, can be tightened with a nut and ratchet. IO-Link capable. Request custom probe lengths up to 1.2 meters.



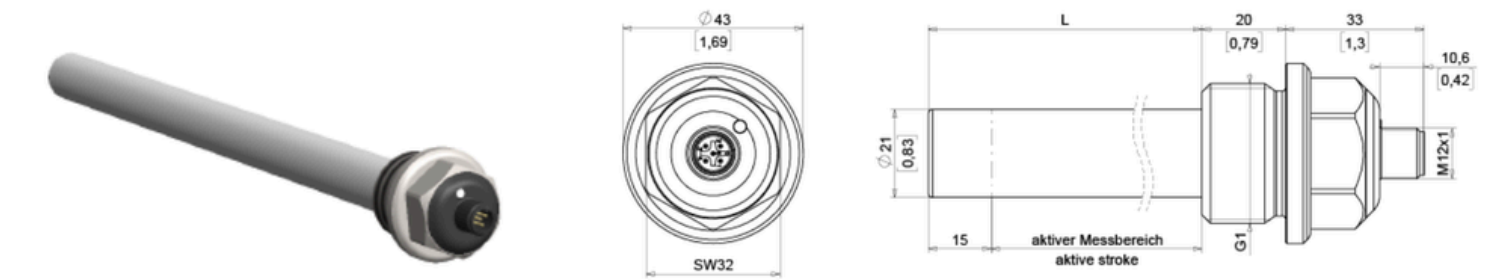
| Product Image | Variation | Part # | Connection | List Price (\$ USD) |
|--|--------------|---------------------|------------|---------------------|
|  | 300mm length | CLP-G5A2K3-300-084F | M12 5-pin | \$620.00 |
|  | 700mm length | CLP-G5A2N2-700-08D8 | M12 5-pin | \$797.00 |

CALIS


Built for non-contact, continuous level measurement in harsh environmental conditions. Distance measurement with optical Time-of-Flight (ToF) measuring method. All connections are completely sealed and the product is fully sealed so that no moisture can seep in. IO-Link capable.

| Product Image | Part # | Connection | List Price (\$ USD) |
|---|-------------------|------------|---------------------|
|  | CAS-MQDU-S01-08F8 | M12 5-pin | \$779.00 |





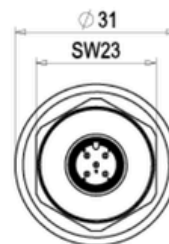
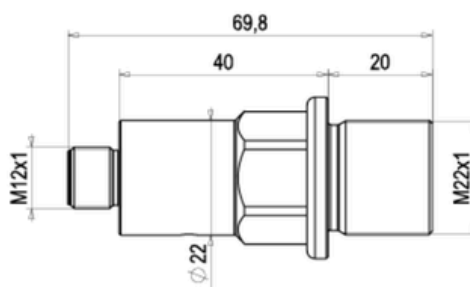
Plug M12, 5-pin

|  | Pin | Signal | Description |
|---|-----|--|--|
| | 1 | U _v | +24V DC supply voltage |
| | 2 | Switching output or analog output | PNP / NPN; NO / NC 4...20 mA / 0...10V |
| | 3 | GND | 0V |
| | 4 | Switching output IO-Link communication | PNP / NPN; NO / NC |
| | 5 | Switching output | PNP / NPN; NO / NC |

| Technical specifications at 24V and 68°F (20°C) | |
|---|-------------------------------------|
| Connection | Plug M12 |
| Operating voltage | ≐ DC 24V (19.2 ... 28.8V) |
| Power consumption | typically 29 mA |
| Load current | typically 50 mA max. 200 mA |
| Operating temperature | 32°F to 158°F (0°C to +70°C) |
| Analog output | 4...20 mA / 0...10V |
| Switching output | NPN/PNP/Push-Pull, NO/NC switchable |
| Switching point position | adjustable |
| Measurement accuracy | ± 2% of upper range limit |
| Repeat accuracy | ± 1% of upper range limit |
| Response time | <1s |
| IP rating | IP67 |
| Compressive strength | 10 bar |
| Communication interface | IO-Link specification V1.1 |



| Technical specifications at 24V and 68°F (20°C) | |
|---|--|
| Measuring principle | Capacitive |
| Process connection | V4A |
| Probe rod | PTFE |
| DK medium | >1.8 (dielectric constant ϵ_r) |



Plug M12, 5-pin



| Pin | Signal | Description |
|-----|---------------------|-------------------------------------|
| 1 | U_V | Operating Voltage |
| 2 | Analog level signal | 4...20 mA analog output |
| 3 | GND | 0V |
| 4 | Do not connect | May damage the sensor if connected. |
| 5 | n.c. | - |

Technical specifications

| | |
|----------------------------------|--|
| Operating voltage | $\overline{\text{DC}}$ DC 24V (16.8 ... 30.0V) for max. 0.1 s 14.4 V, for max. 1.0 s 33.6 V |
| Process connection | V4A |
| Operating temperature | -40°F to 131°F (-40°C to +55°C) |
| Storage temperature | -40°F to 158°F (-40°C to +70°C) |
| IP rating | IP65 |
| Communication interface | analog Output 4...20 mA |
| Measurement principle | ToF |
| Laser class (IEC 60825-1:2015-7) | 940 nm class 1 |
| Measuring range | max. 1200mm (4mA) ¹⁾ min. 40mm (20mA) |
| Measuring accuracy | typical <5% of max value of measuring range at 20 °C |
| Initialization time | <1 s |
| Reaction time | 2.2 s |



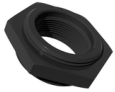






| Technical specifications | |
|--------------------------|-----------------------------|
| Operating current (IB) | typical 30.5 mA at 24 V |
| Maximum output load | 250 Ω |
| Inrush current | typical 8.55 A at 24 V |
| Melting integral | typical 123.97 A²µs at 24 V |
| MTBF | >175.000h |

1) 40mm - 1200mm, maximal range valid for objects with a remission rate >= 17% (corresponding to dark grey as Munsel N4.74).

Accessories

5

Our accessories ensure efficient, safe and long-lasting use of CAPTRON products.

| Product Image | Part | Part # | Features | List Price (\$ USD) |
|---|----------------------|-------------------|---|---------------------|
|  | Mounting Adapter | CA-V-3414-00 | 22.5mm mounting thread for 30mm mounting holes | \$ 11.99 |
|  | Mounting Bracket | CMB-U9-3220-01 | Universal bracket for 22.5 or 30mm | \$ 32.99 |
|  | Mounting Bracket | CMB-UP-2225-01 | Universal bracket for 22.5 or 30mm | \$ 14.99 |
|  | IO-Link Configurator | IQ-LINK-Master | Specified for use with all CAPTRON IO-Link capable products | \$ 899.99 |
|  | Connection Cable | LKB-50-2-M0F0/UL | Male straight – female straight M12 – M12 5-pin, 2 meters | \$ 35.50 |
|  | Connection Cable | LKB-50-5-M0F0/UL | Male straight – female straight M12 – M12 5-pin, 5 meters | \$ 45.90 |
|  | Connection Cable | LKB-50-2-M90F0/UL | Male 90° – female straight M12 – M12 5-pin, , 2 meters | \$ 37.50 |











*See program terms & conditions for details.

sales.americas@captron.com

80





Accessories (cont.)

| Product Image | Part | Part # | Features | List Price (\$ USD) |
|---|------------------|-------------------|--|---------------------|
|  | Connection Cable | LKB-50-5-M90F0/UL | Male 90° – female straight M12 – M12 5-pin, 5 meters UL | \$ 47.90 |
|  | Connection Cable | LKB-50-2-M0F90/UL | Male straight – female 90° M12 – M12 5-pin, 2 meters UL | \$ 37.50 |
|  | Connection Cable | LKB-50-5-M0F90/UL | Male straight – female 90° M12 – M12 5-pin, 5 meters UL | \$ 47.90 |
|  | Connection Cable | LKW-40-5 | Male Stranded - Female 90° Stranded - M12 4-pin, 5 meters | \$ 24.99 |
|  | Connection Cable | LKW-50-2 | Male Stranded - Female 90° Stranded - M12 5-pin, 2 meters | \$ 19.99 |
|  | Connection Cable | LKW-50-5 | Male Stranded - Female 90° Stranded - M12 5-pin, 5 meters | \$ 24.99 |
|  | Connection Cable | TKW-50-2 | Male Stranded - Female 90° Stranded - M8 5-pin, 2 meters | \$ 16.99 |
|  | Connection Cable | TKW-50-5 | Male Stranded - Female 90° Stranded - M8 5-pin, 5 meters | \$ 19.99 |



Accessories (cont.)

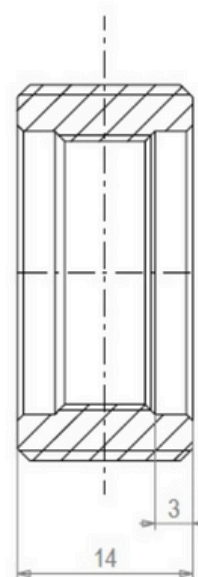
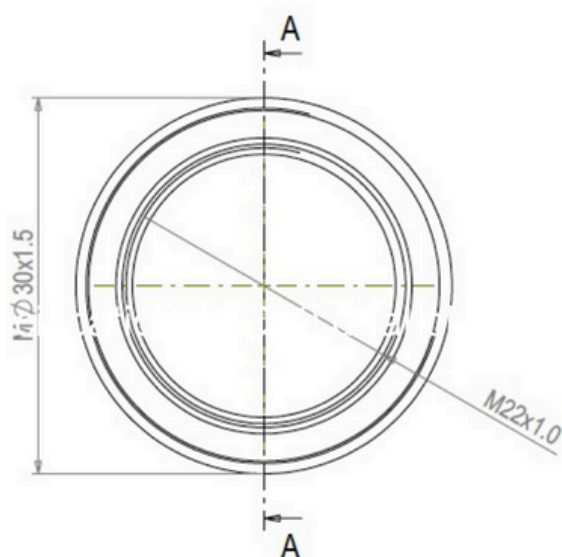
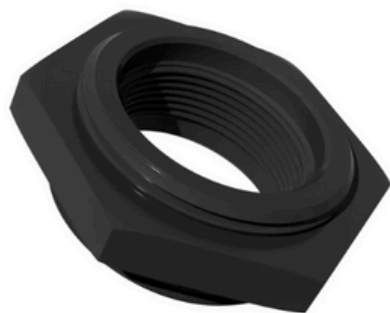
5

| Product Image | Part | Part # | Features | List Price (\$ USD) |
|---|------------------|-------------------|--|---------------------|
|  | Connection Cable | TKW-30-2-A1-34/UL | Male Stranded - Female 90° Stranded - M8 3-pin, 2 meters UL certified | \$ 10.99 |
|  | Connection Cable | TKW-30-5 | Male Stranded - Female 90° Stranded - M8 3-pin, 5 meters | \$ 16.99 |
|  | Connection Cable | TKW-40-2-A1-34/UL | Male Stranded - Female 90° Stranded - M8 4-pin, 2 meters UL certified | \$ 15.49 |
|  | Connection Cable | TKW-40-5 | Male Stranded - Female 90° Stranded - M8 4-pin, 5 meters | \$ 16.99 |



*See program terms & conditions for details.

sales.americas@captron.com



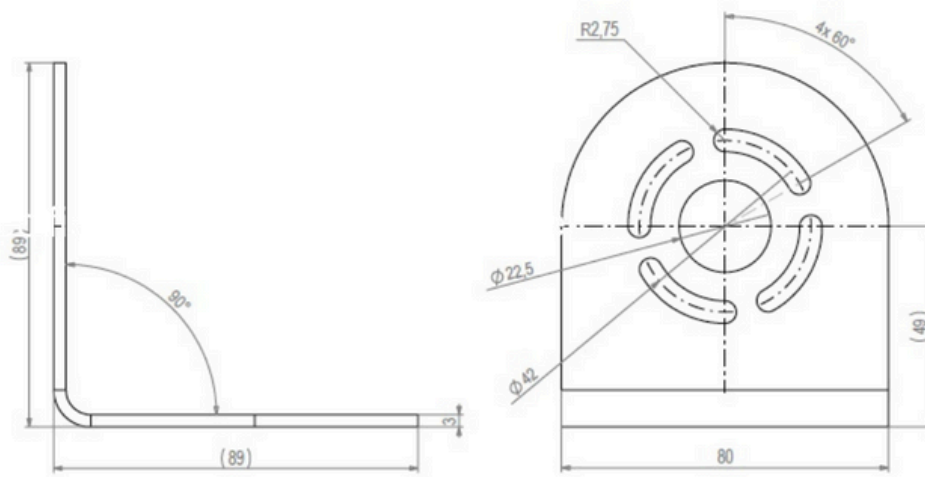
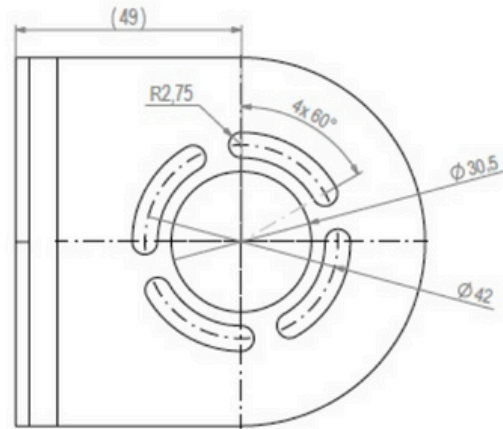
For buttons with 22.5 mm mounting thread
Adapts M22x1 to M30x1.5

Diameter

18 mm

Material

black plastic



Suitable for mounting on standard profiles (e.g., ITEM, BOSCH) using a T-slot nut with an M5 thread.

All dimensions are millimeters unless otherwise noted.

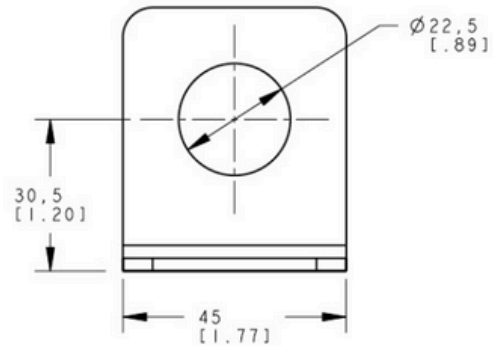
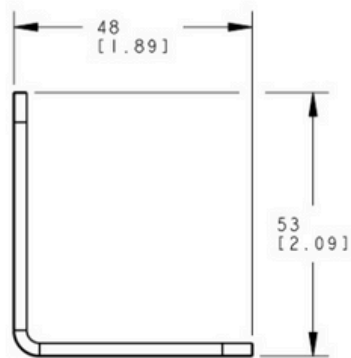
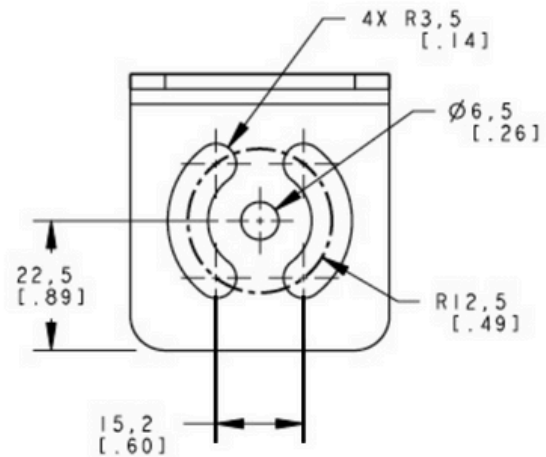
For touch buttons with 22.5 mm and 30 mm diameter

Angle

90°

Material

natural anodized aluminum



All dimensions are millimeters [inches] unless otherwise noted.

For touch buttons with 22.5 mm and 30 mm diameter

Angle

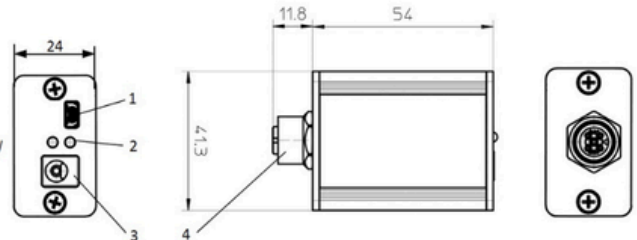
90°

Material

natural anodized aluminum



- 1: mini USB
- 2: LED operating condition/
error message
- 3: 24 V DC Ø5,5/2,1mm
- 4: M12x1 Type A female



All dimensions in mm

Connection diagram

- 1: +24 V
- 2: not occupied
- 3: GND
- 4: IO-LINK: CH1 (C/Q)
- 5: not occupied



- 1: +5 V
- 2: D-
- 3: D+
- 4: not occupied
- 5: GND

Supported protocols: IO-Link, COM 1 (4.8 kBit/s), COM 2 (38.4 kBit/s), COM 3 (230 kBit/s)

| | |
|--|---|
| Output voltage in USB mode, V | 24 V DC $\pm 10\%$ |
| Output voltage with external power supply, V | 24 V DC $\pm 6V$ (max. input voltage) |
| Output current in USB mode, mA | 80 mA |
| Output current with external power supply, A | Max. input current < 2.5 A |
| Input voltage on USB mode, V | 5 V DC |
| Input voltage with external power supply, V | 24 V DC $\pm 6V$ (according to DIN EN60950) |
| Input current in USB mode, mA | Max. 600 mA |
| Input current with external power supply, A | Max. 2.5 A |
| Short-circuit protection | Yes |
| IO-Link Master transmission type | COM 1 / COM 2 / COM 3 |
| IO-Link revision | V1.0 and V1.1 |
| Number of ports | 1 |
| Port Class | M12x1 / Type A / Female |
| Ambient Temperature | +32°F to +131°F (0 to +55°C) |



| Supported protocols: IO-Link, COM 1 (4.8 kBit/s), COM 2 (38.4 kBit/s), COM 3 (230 kBit/s) | |
|---|--|
| IP rating | IP20 |
| EMV Guideline 2014/30/EU | DIN EN 61000-6-2:2005 DIN EN 61000-6-4:2007+A1:2011 DIN EN 61131-9:2015 DIN EN 50581:2012 |
| RoHs Guideline 2011/65/EU RoHs Guideline 2015/863/EU | fulfilled |
| Weight, kg | 0.066 kg (net) / 0.106 kg (gross) |
| Material | Aluminum anodized |
| Display | <u>Operation condition:</u> LED green light permanently on = iqLink ready, no IO-Link Communication LED green light, active IO-Link communication flashes at 900 msec and 100 sec off = iqLink ready |
| Diagnose | <u>Error indication:</u> LED red light permanently on (LED green light out) = please contact CAPTRON |



QUALITY MADE IN BAVARIA

Since 1983, we have been shaping the future of man-machine and machine-machine interaction with capacitive and optical sensors. From our locations in Europe, USA and China as well as sales partners around the globe, we develop, manufacture and supply industries with sensor systems and software solutions.



Sales Support sales.americas@captron.com
Technical Support techsupport.americas@captron.com

LEGAL NOTICE

The information contained in this document regarding sensors, SENSORswitches, devices, applications, and software is for informational purposes only and may be updated at any time. It is your responsibility to ensure that your applications conform to your specifications.

CAPTRON does not make any representations or warranties, expressly or implied, with respect to the information, including but not limited to its content, condition, quality, and suitability for a particular purpose. CAPTRON rejects any liability arising from this information and its use.

The use of CAPTRON sensors, SENSORswitches, devices, applications, and software in life support and/or safety applications is solely at the risk of the end consumer who purchased the product. The end consumer further agrees to defend, indemnify, and hold CAPTRON harmless from any damages, claims, actions, or expenses arising from such use.

Unless stated otherwise, no licenses to CAPTRON's intellectual property rights are transferred, implied or otherwise.

TRADEMARK

The CAPTRON, CANEO, and oneGRID names and logos are registered trademarks of CAPTRON in various countries and are the property of CAPTRON Electronic GmbH. All other trademarks mentioned herein are the property of their respective owners.
© 2025, CAPTRON Electronic GmbH, all rights reserved.