



Optical Sensors

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

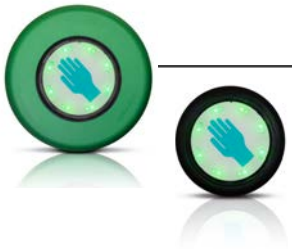
Starting at $299



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.

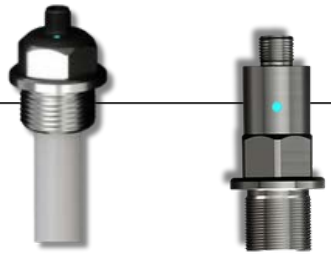
Starting at $139



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.

Contact Us 803-274-3679 www.captron.com/americas sales.americas@captron.com 9.5.25



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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.

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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

UNIVERSAL ROBOTS
UR+ Partner

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

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.

SHIPS TODAY
CAPTRON TODAY!
OR SHIPS FREE*

*See program terms & conditions for details.

OPTICAL SENSORS

TOOL CENTER POINT CALIBRATION



UNIVERSAL ROBOTS
UR+ Partner

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

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.

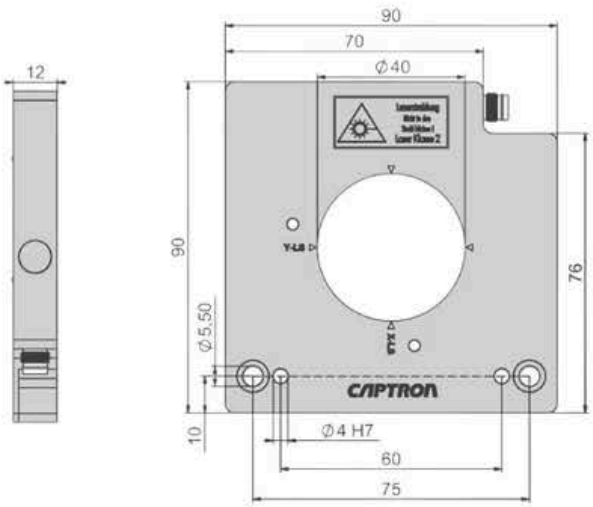
Need cables?

Jump to Accessories section

OPTICAL SENSOR - TOOL CENTER POINT 40mm Ring

ORL2-40T-2PS6





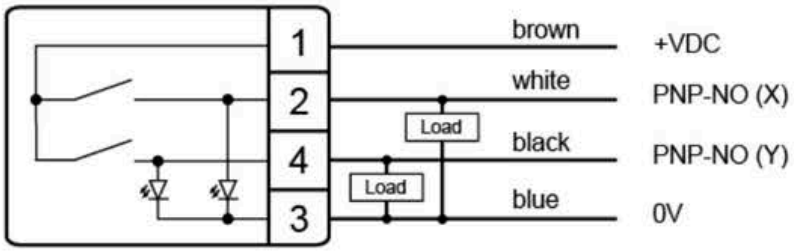
All dimensions in mm

M8 Connector

4-pin



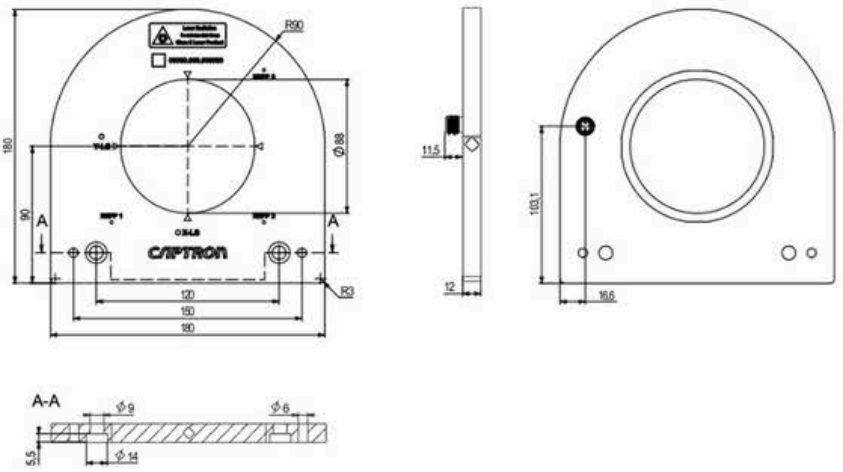
Connection diagram



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





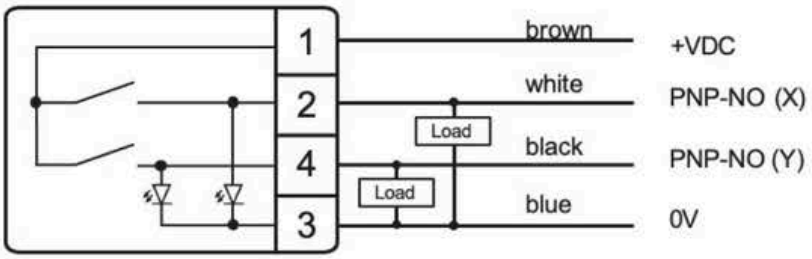
All dimensions in mm

M12 Connector

4-pin



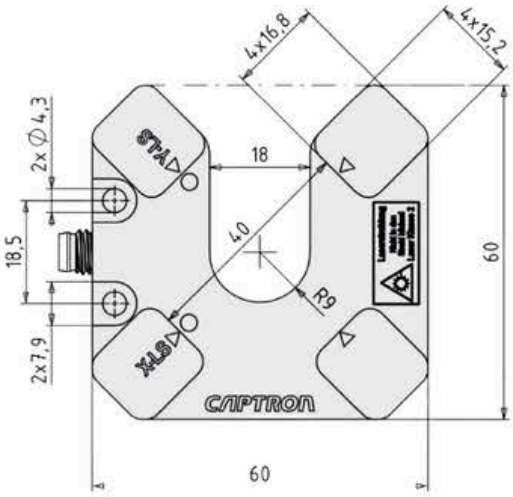
Connection diagram

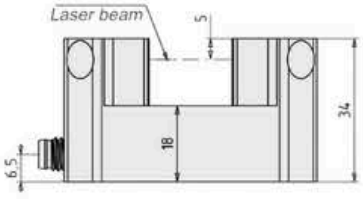


Technical data at 24V and 68°F (20°C)

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





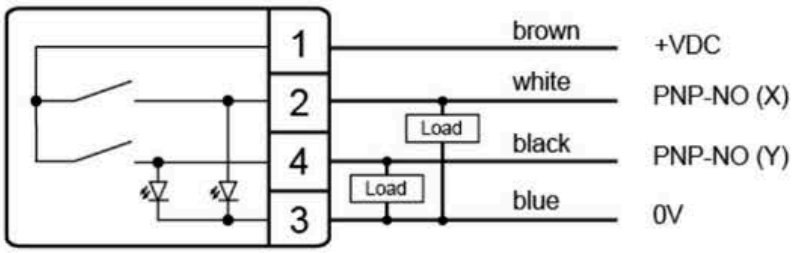


All dimensions in mm

M8 Connector 4-pin



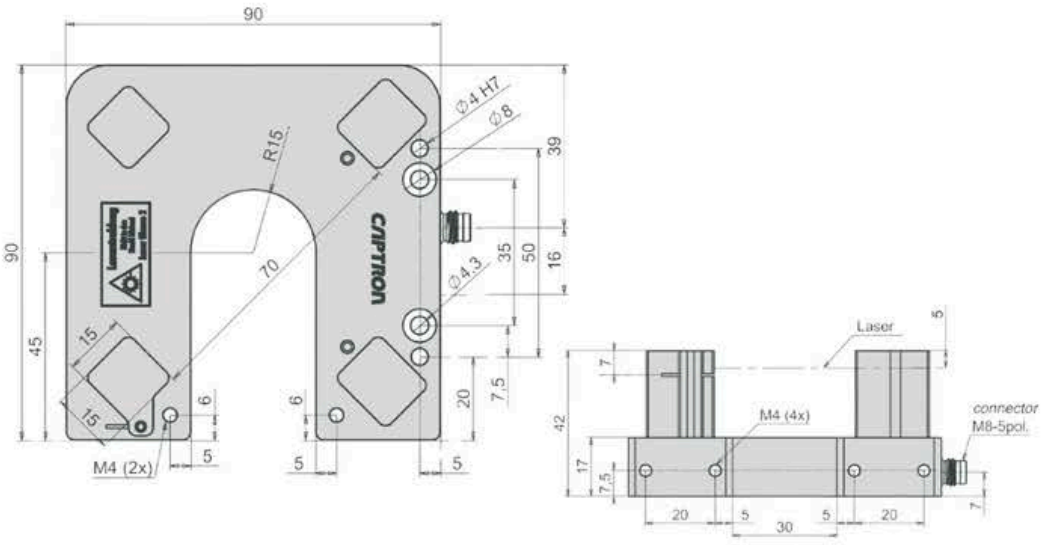
Connection diagram



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





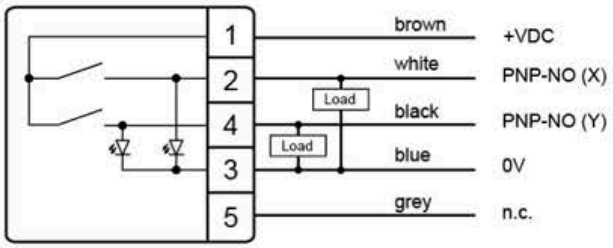
All dimensions in mm

M8 Connector

5-pin



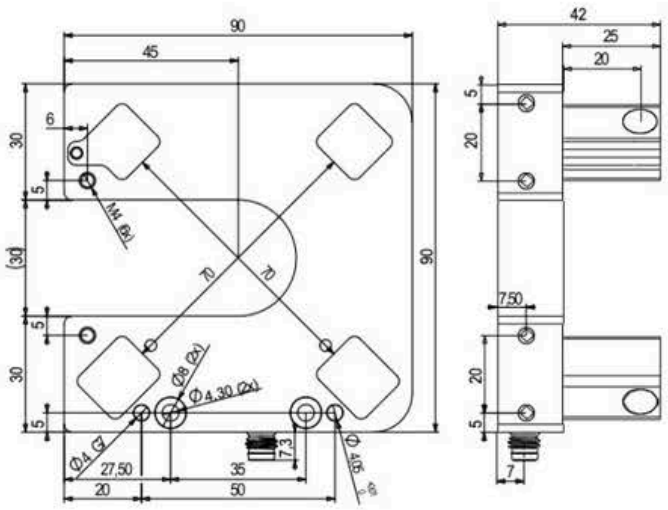
Connection diagram



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





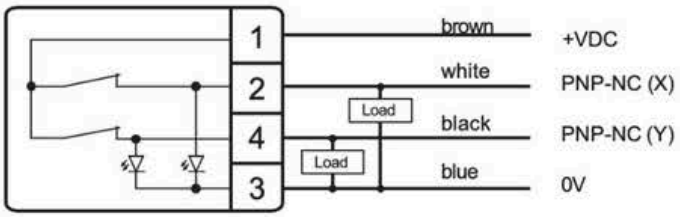
All dimensions in mm

M8 Connector

5-pin



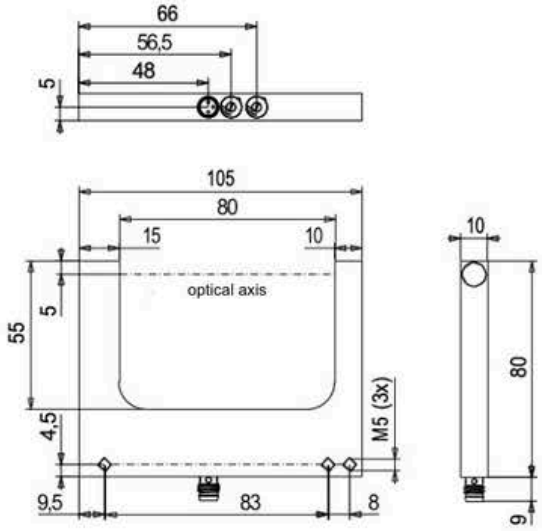
Connection diagram



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





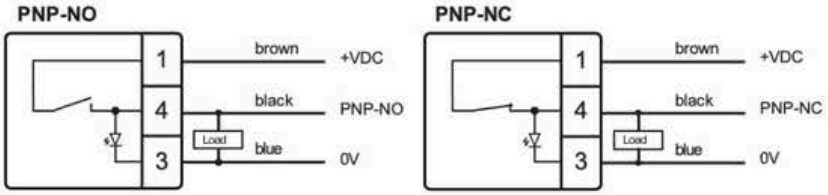
All dimensions in mm

M8 Connector

3-pin



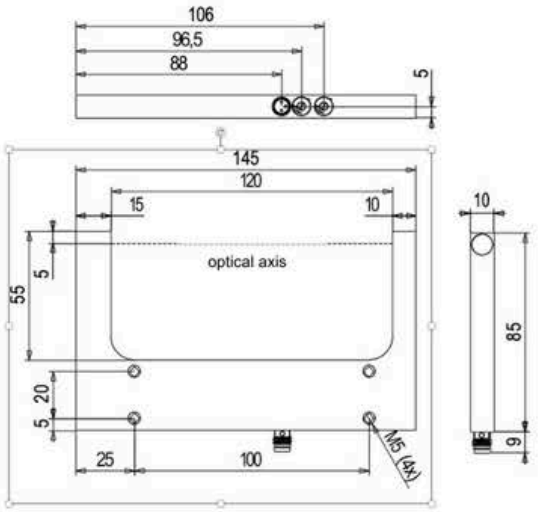
Connection diagram



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

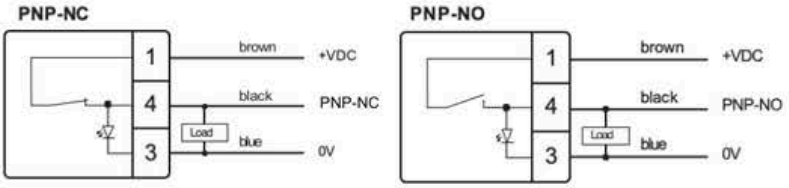
M8 Connector 3-pin



Possible settings



Connection diagram



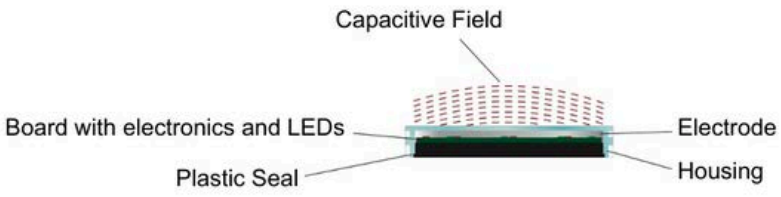
Technical data at 24V and 68°F (20°C)

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	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



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.

CANEO series10 and series4x

CAPACITIVE TOUCH BUTTONS



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



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.

CANEO series10



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

CANEO series10

Standard Touch Buttons (cont.)

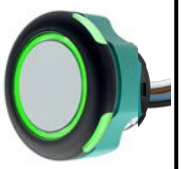


Product Image	Symbol Illumination	Part #	Pre-Programmed LED colors	Connector	Sensor Mode	Input Mode	List Price ($ USD)
	no	CS10K-MLDT-C13-0BEF	blue/ blue flash	M12 5-pin	Dynamic	Automatic	$ 69.99
	no	CS10K-MLDT-C13-0BF0	clean blue/ blue	M12 5-pin	Dynamic	Semi-Automatic	$ 69.99
	no	CS10K-MLDT-C16-0B7D	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

CANEO series10

Standard Touch Buttons (cont.)



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

CANEO series10

Standard Touch Buttons (cont.)



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.

CANEO series10



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

CANEO series10

Stainless Steel Touch Buttons (cont.)



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

CANEO series10

Stainless Steel Touch Buttons (cont.)



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.

CANEO series10



Hygienic Touch Buttons

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

CANEO series10

Hygienic Touch Buttons (cont.)



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

CANEO series10

Hygienic Touch Buttons (cont.)



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.

LED Indicators

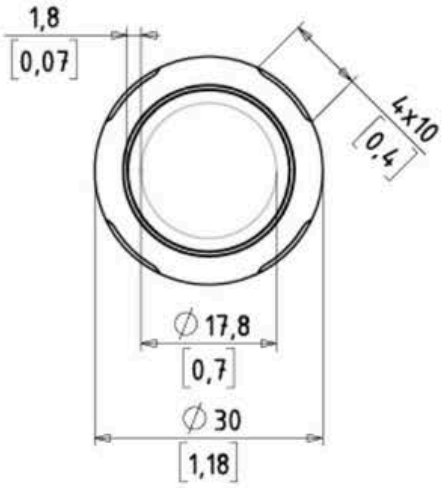


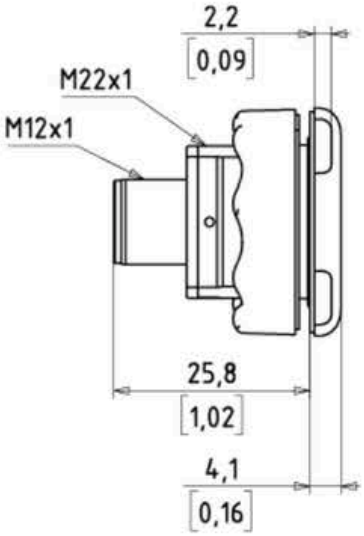
Each LED indicator is capable of displaying up to 7 colors or effects through IO-Link (or available upon request). If you require additional colors or specifications, in most instances, we will be able to configure and ship in 1-2 days.

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



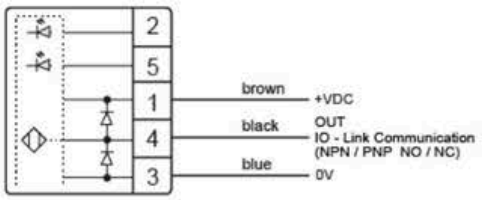
(example symbol)



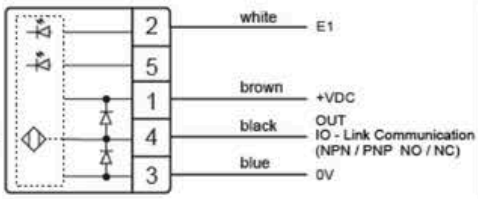


This drawing uses both Metric and Imperial. Imperial is marked with brackets [ ].

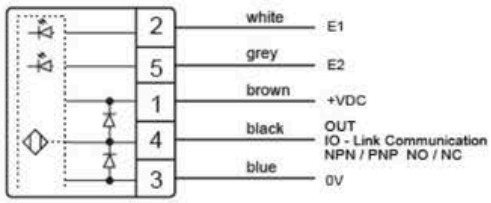
Connection diagram



Automatic (3-pin)



Semi Automatic (4-pin)



Automatic (5-pin)

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

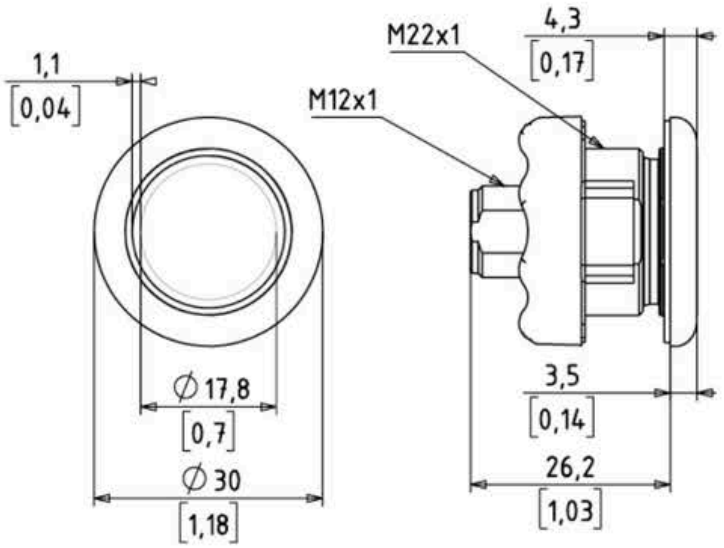
Operating voltage	⎓ DC 24V (8.4 ... 32V)
Load current	Max. 200 mA
Reverse polarity protection	Protection of all lines
Short circuit protection	Short circuit and overload proof
Voltage drop	Max. 5V at 200 mA Load current
Current consumption at 24V	Max. 40 mA
Operating temperature	-22°F to +149°F (-30°C 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

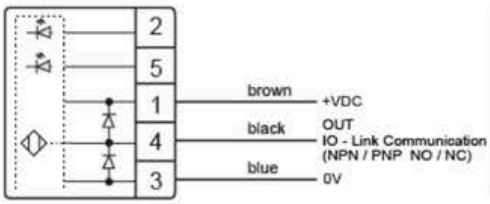


(example symbol)

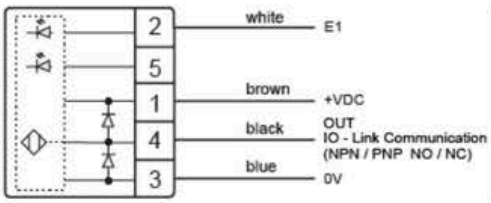


This drawing uses both Metric and Imperial. Imperial is marked with brackets [ ].

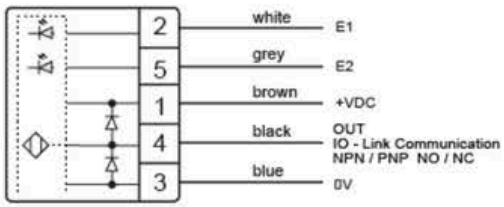
Connection diagram



Automatic (3-pin)



Semi Automatic (4-pin)



Manual (5-pin)

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
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

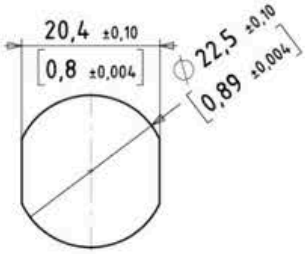
series10

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

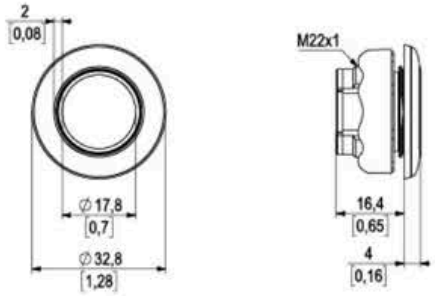


Example symbol

Drilling pattern

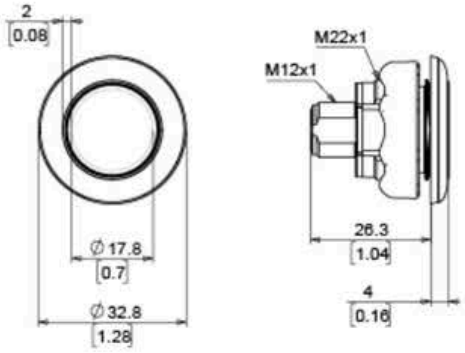


The SENSORswitch is secured against rotation by the illustrated hole.
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [ ].



Strand variant

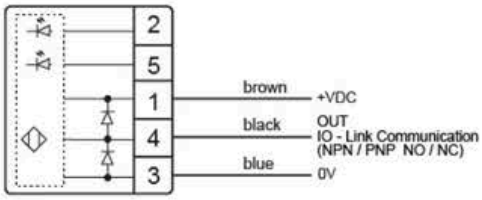
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [ ].



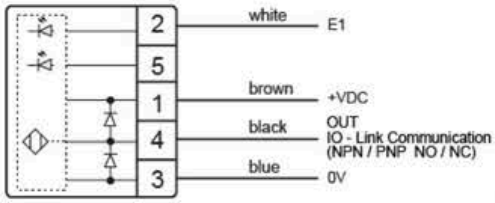
M12 variant

Connection diagram

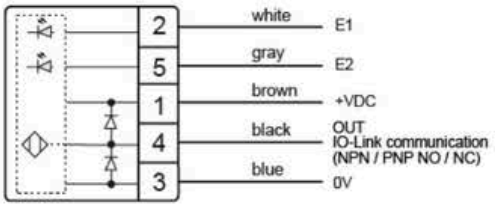
3-pin



4-pin

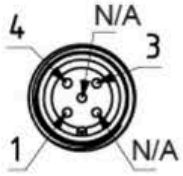


5-pin



Connectors

Plug M12, 3-pin



Plug M12, 4-pin



Plug M12, 5-pin



IO-Link

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

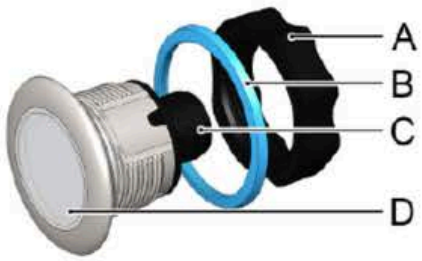
Connection

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:

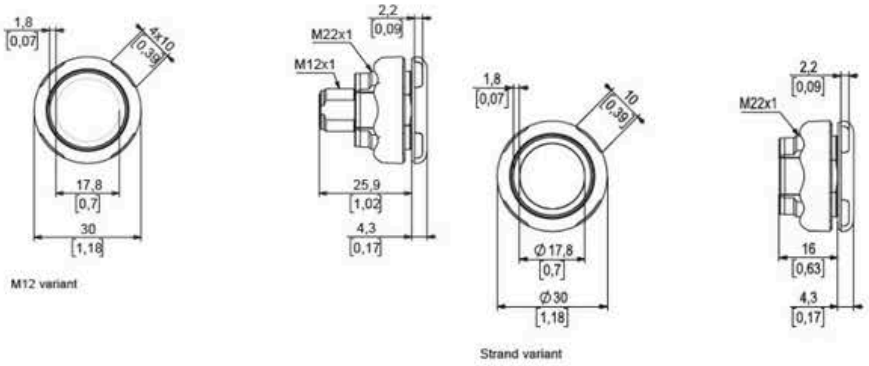
- Mount the SENSOR button on a slanted surface of at least 3°
- Clean the mounting surface and seal before mounting
- The SENSOR button must be readily accessible for cleaning and be spaced at least 6 mm away from other components
- Tighten the knurled nut with maximum of 1.5 Nm

Cleaning:

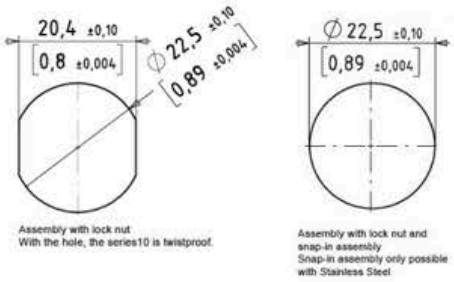
- Clean the button when installed
- Chemicals, temperatures, and water pressure must not damage or destroy the materials
- Do not use abrasive cleaning agents



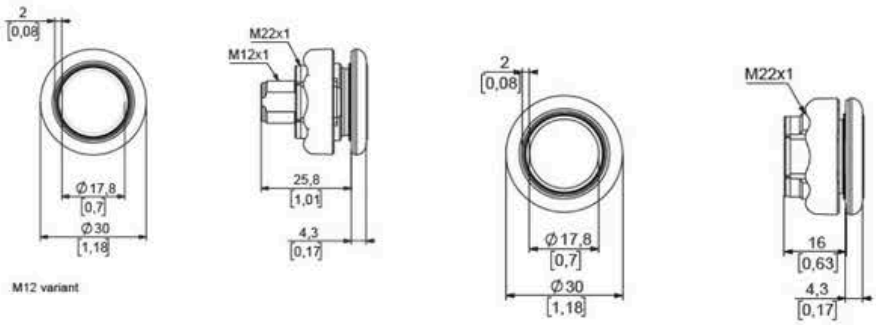
Dimensional drawing series10 Standard



Drilling pattern



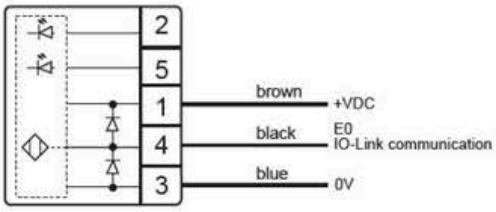
Dimensional drawing series10 Stainless Steel



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

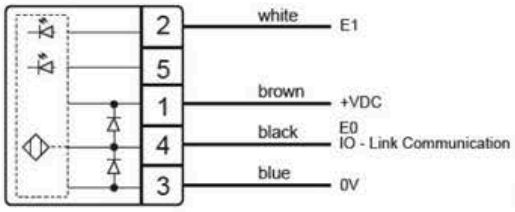
Connection diagram

3-pin



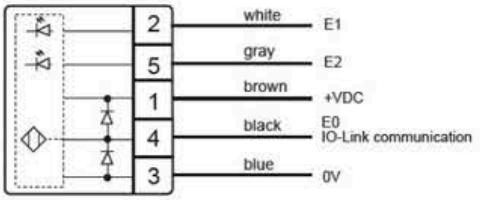
The product description will indicate the configuration.

4-pin



The product description will indicate the configuration.

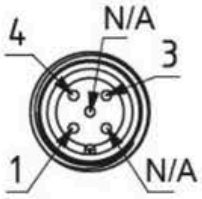
5-pin



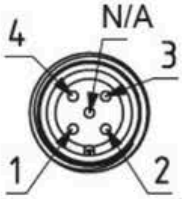
The product description will indicate the configuration.

Connectors

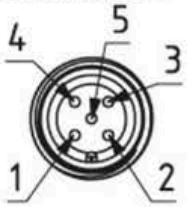
Plug M12, 3-pin



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]

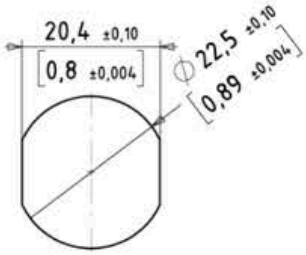
CE cULus IO-Link

series10 standard/stainless steel

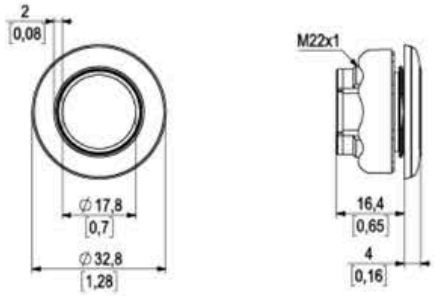
Operating voltage	⎓ DC 24V (8.4 to 32V)
Reverse polarity protection	Protection of all cables/lines
Short circuit protection	Protected against short circuit and overload
Power consumption at 24V	Max. 40 mA
Operating temperature	-22°F to +149°F (-30°C to +65°C)
IP rating	Front side IP69K maximum unevenness 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

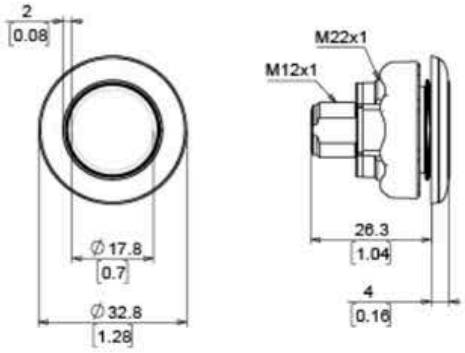


The SENSORswitch is secured against rotation by the illustrated hole.
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [ ].



Strand variant

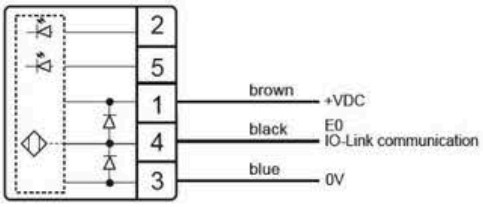
Metric and imperial measurements are used in drawings. Imperial measurements are marked with [ ].



M12 variant

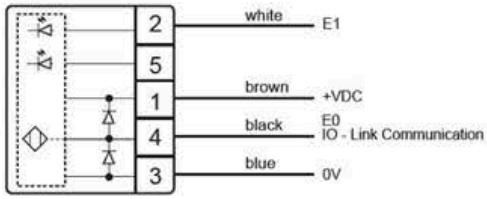
Connection diagram

3-pin



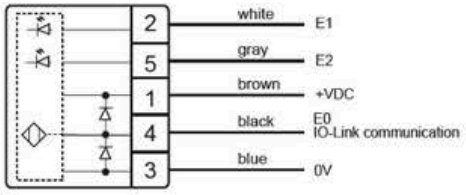
The product description will indicate the configuration.

4-pin



The product description will indicate the configuration.

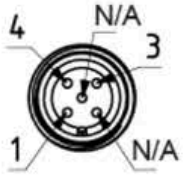
5-pin



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) Momentary/Static: pulse as long as the surface is touched Maintain/Toggle/Flip Flop: switching between on and off	Pulse can be set individually
		Momentary/Static		
		Maintain/Toggle/Flip Flop		
	Touch sensitivity	High	Can be adjusted in 3 different sensitivites	
		Middle		
		Low		
	Water resistance	Basic	Can be adjusted in 3 different sensitivites	
		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 = LED ligths up by high voltage supply Active Low/High = LED ligths up by high/low voltage supply	
		Active High		
		Active Low/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

CANEO series40

Puck Standard/Display Touch Buttons



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.

CANEO series41



Standard/Display Touch Buttons

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.

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.

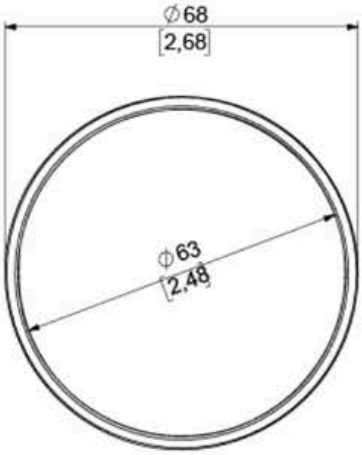
Product Image	Variation	Part #	Pre-Programmed LED Colors	Connector	Sensor Mode	Input Mode	List Price ($ USD)
	Standard	CS41A-ARBK-P10-02BB	green/ red	M12 5-pin	Dynamic	Automatic	$ 189.00
	Standard	CS41A-ARBK-P11-02C0	green/ red	M12 5-pin	Dynamic	Automatic	$ 189.00
	7-segment display*	CD41A-ARBK-P20-0256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

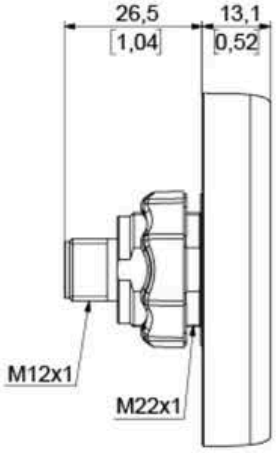
* The 7-segment displays above are examples of possible characters that can be configured via IO-Link or through discrete scenes.

Do you need a different configuration??

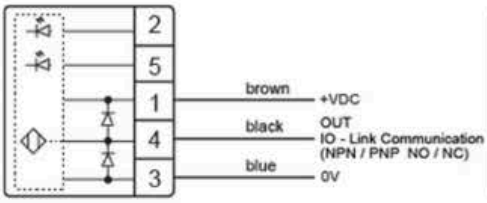
Common requests include colors, switching modes, NO/NC, PNP/NPN, etc. See Configurable Parameters section on page 51 for all options. In many instances we can ship alternate configurations in 1–2 days.

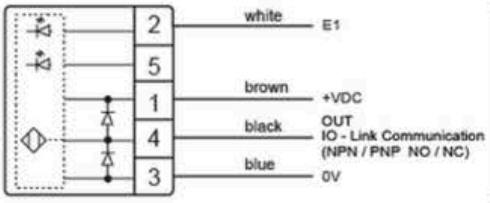


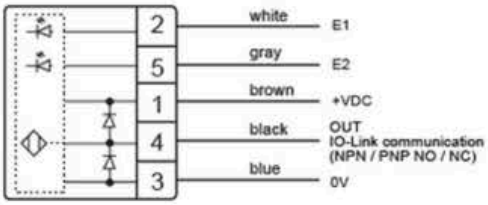




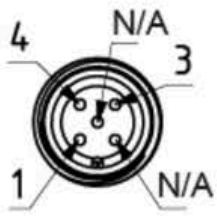
Connection diagram







Connectors





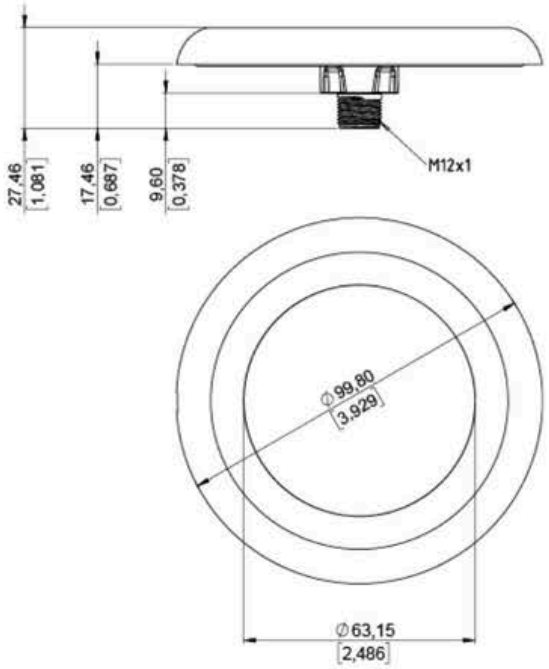


IO-Link

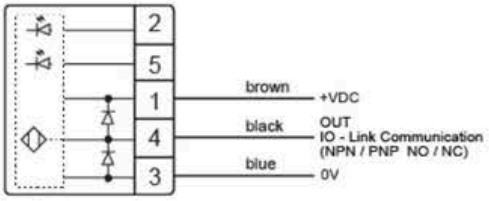
series4x	
Operating Voltage	⎓DC 12 - 24V (8.4 ... 31.2V)
Load current	Max. 200 mA
Output	Adjustable PNP / NPN; NO / NC
Length of output pulse	Adjustable
Reverse polarity protection	Protection of all cables/lines
Short circuit protection	Protected against short circuit and overload
Voltage drop	Max. 2.5V 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

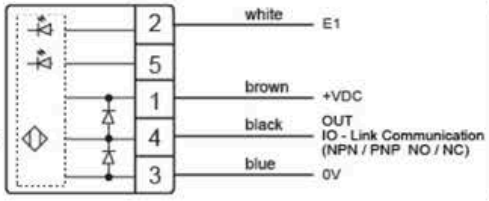
IO-Link

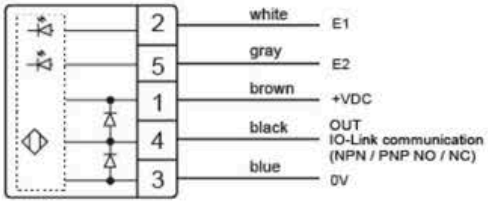




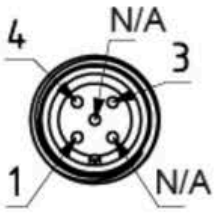
Connection diagram







Connectors



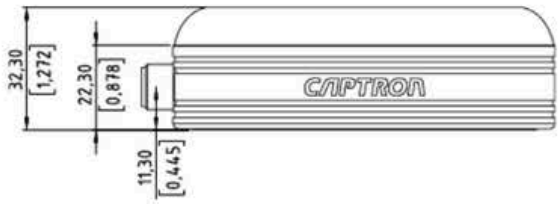


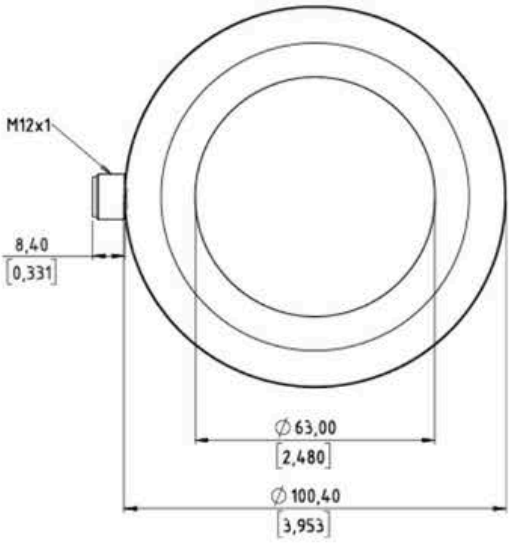


series41	
Operating voltage	⎓ DC 24V (19.2 ... 28.8V)
Load current	Max. 200 mA
Reverse polarity protection	Protection of all cables/lines
Short circuit protection	Protected against short circuit and overload
Voltage drop	Max. 2.5V at 200 mA Load current
Power consumption at 24V	Max. 90 mA
Operating temperature	-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

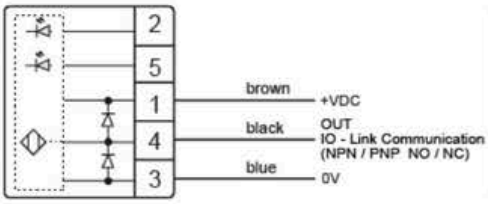
IO-Link

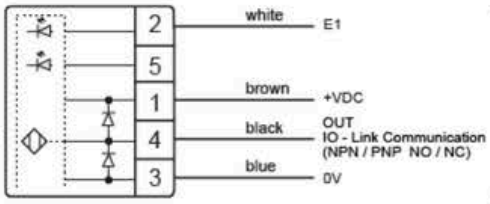


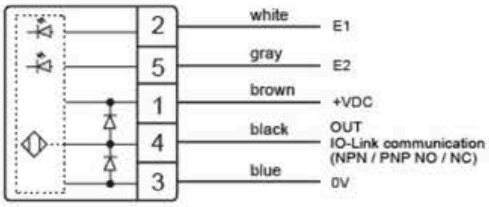




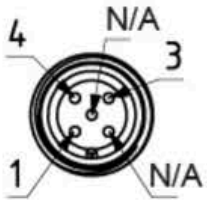
Connection diagram







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

	Configurable Parameters	Options	Explanation	Notes
CANEO series4x	SENSOR mode	Dynamic	Dynamic: pulse of x sec (Default 300ms) Momentary/Static: pulse as long as the surface is touched Maintain/Toggle/Flip Flop: switching between on and off	Pulse can be set individually
		Momentary/Static		
		Maintain/Toggle/Flip Flop		
	Touch sensitivity	High	Can be adjusted in 3 different sensitivites	
		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 ligths 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



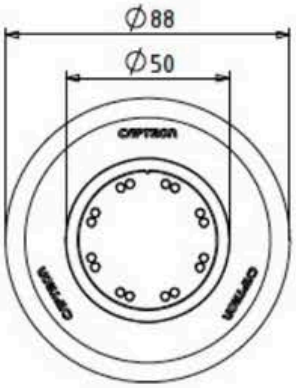
Capacitive Touch Buttons

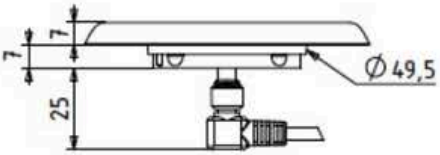
The CHT3 series is built to withstand the toughest environments, but is also extremely easy to operate due to capacitive technology. Rated for more than 100MM+ actuations. Features 16 LEDs. IP69K.

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

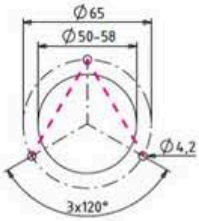


CHT3-1 / CHT3-2

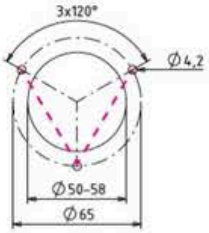




Drilling pattern



A - Mounting

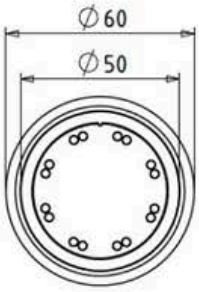


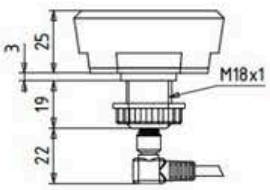
V - Mounting

All dimensions in mm

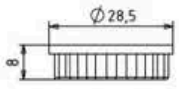


CHT3-4





Knurled nut



Note: not available with connector AMP and JST

Connection diagram

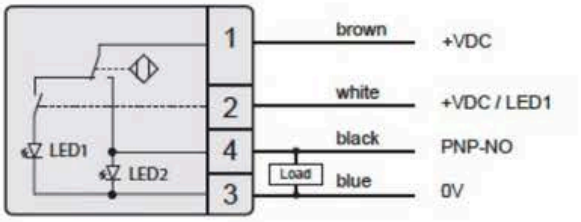


Diagram P (PNP) Semi-Automatic

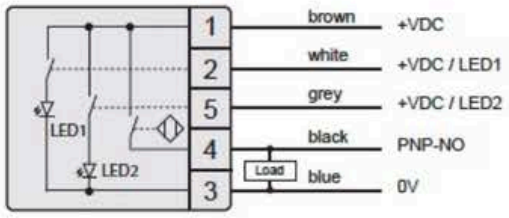


Diagram B (PNP) Manual

Connectors

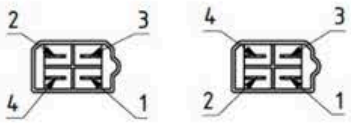
Connector M8, 4-pole



Connector M8, 5-pole



Connector AMP 6,3 , 4-pole



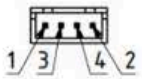
Connector M12, 4-pole



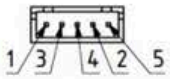
Connector M12, 5 -pole



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

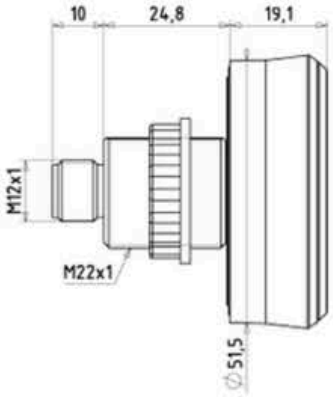
For recommendations on building your two-hand safety system with the SC4 product series, please see page 55.

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

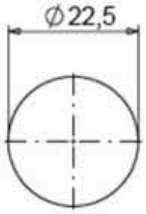






CE

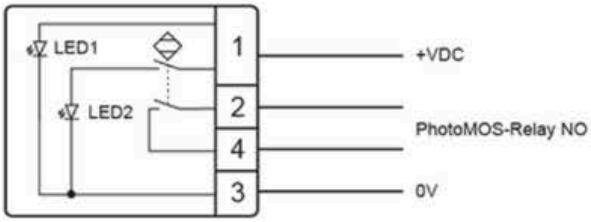
Drilling pattern



Plug M12, 4-pin



Connection diagram

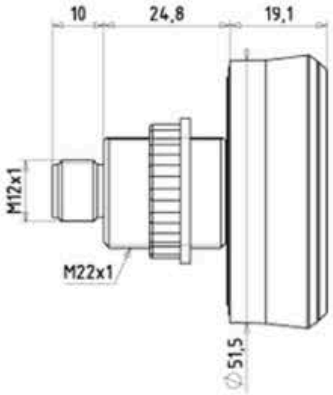


Technical specifications SC30 single channel

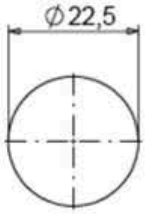
Operating voltage	⎓ 24 V (19.2 to 28.8V)
Contact load	100 mA (70 mA at 167°F (75°C))
Output	PhotoMOS-Relay NO
Output pulse	Constant signal when actuated
LED 1	GreenLED
LED 2	YellowLED
Reverse polarity protection	Yes
Short circuit protection	Yes
Power consumption	Max. 20 mA at 24V -13°F to
Operating temperature	+167°F (-25°C to +75°C)
IP rating	Frontside IP68, Connecter 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







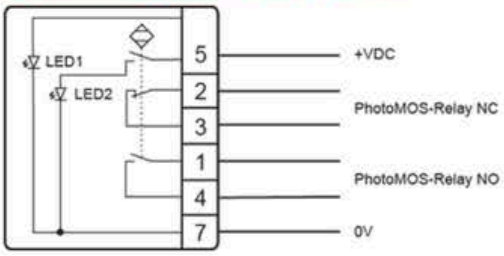
Drilling pattern



Plug M12, 8-pin



Connection diagram

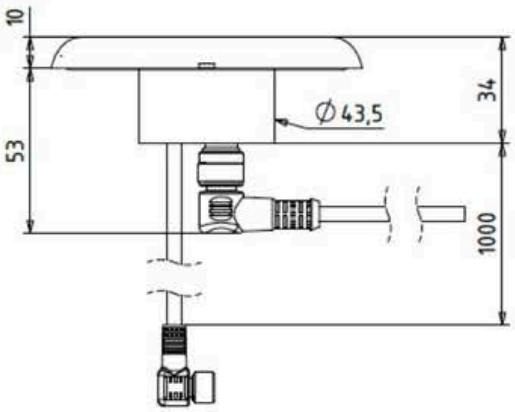


Technical specifications SC30 dual channel

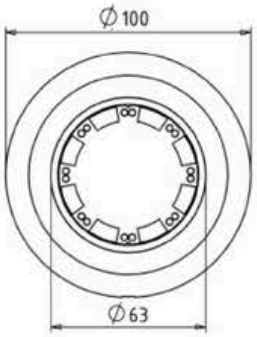
Operating voltage	⎓ 24 V (19.2 to 28.8V) 100 mA
Contact load	(70 mA at 167°F (75°C))
Output	PhotoMOS-Relay NC, NO
Output pulse	Constant signal when actuated
LED 1	GreenLED
LED 2	YellowLED
Reverse polarity protection	Yes
Short circuit protection	No
Power consumption	Max. 20 mA at 24V
Operating temperature	-13°F to +167°F (-25°C to +75°C)
IP rating	Frontside IP68, Connecter 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



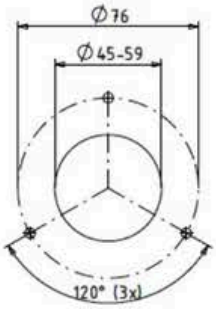
SCA4



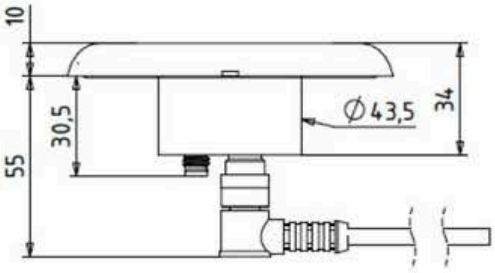
SCA4



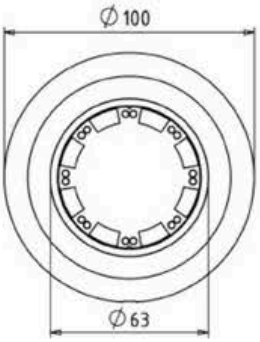
Drilling pattern



SCB4

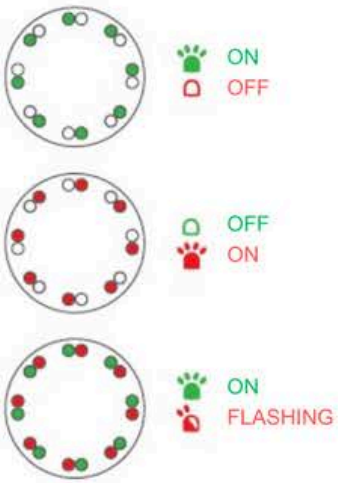


SCB4



All dimensions in mm

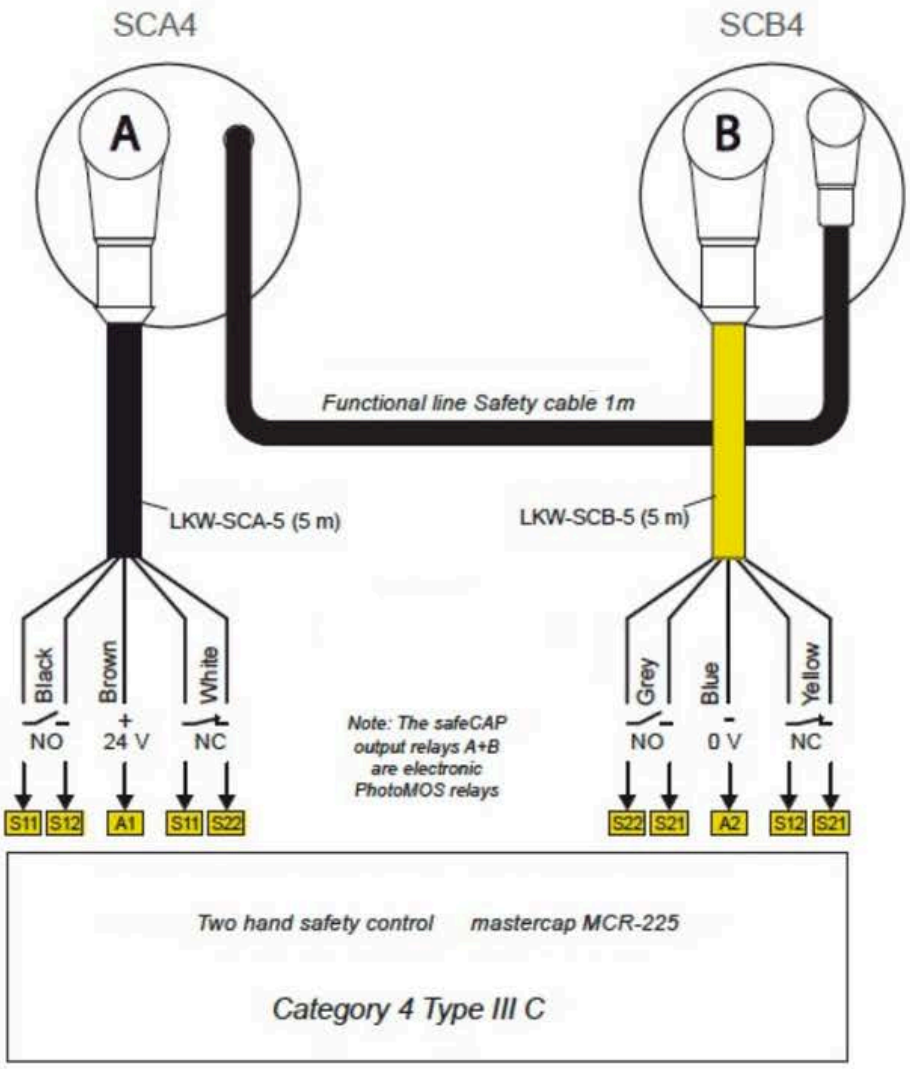
Control display



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: • the keying speed is too low (operating error) • the surface of the switch is contaminated or damp • obstructions are present on the surface of the switch

Connection diagram



Technical specifications

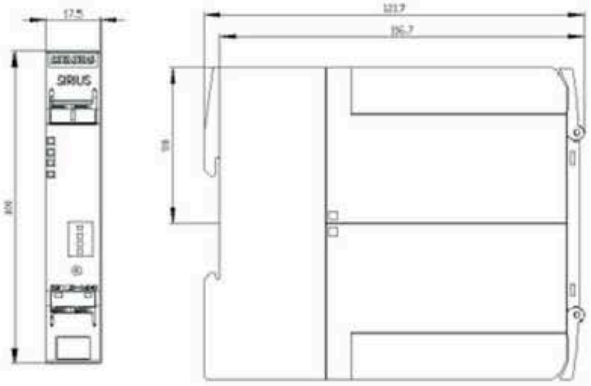
Rated operating voltage	24 V DC
Power consumption	ca. 1.5 W
Switching frequency	1Hz
Temperature range	+32°F to 131°F (0°C to +55° C)
IP rating	IP69K, Connector IP67
IK rating	IK08
Switch-off-delay	Max. 12 ms



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

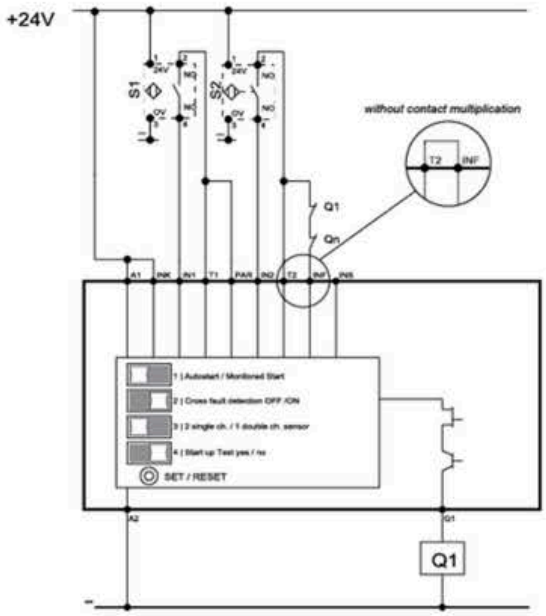
SIRIUS safety switching devices 3SK1 meet the highest requirements according to IEC 61508/IEC62061 (SIL 3) as well as EN ISO 13849-1 (PL e).

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 • 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 instantanous 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 • 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 • at DC maximum	85ms
Switch-on time with automatic start after power failure • typical • maximum	 6 500ms 6 500ms
Switch-on with monitored start • maximum	85ms
Backside delay time after opening of the safety circuits typical	40ms
Backslide delay time in the event of power failure • typical • maximum	 0ms 0ms
Recovery time after opening of the safety circuits typical	30ms
Recovery time after power failure typical	6.5s
Pulse duration • 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 • at DC ◦ Rated Value	 24V
Operating range factor control supply voltage rated value of the magnet coil • 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 • 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 • 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 • Safety switch • Monitoring of floating sensors • Monitoring of non-floating sensors • Magnetically operated switch monitoring • Safety-related circuits	 Yes Yes Yes Yes Yes



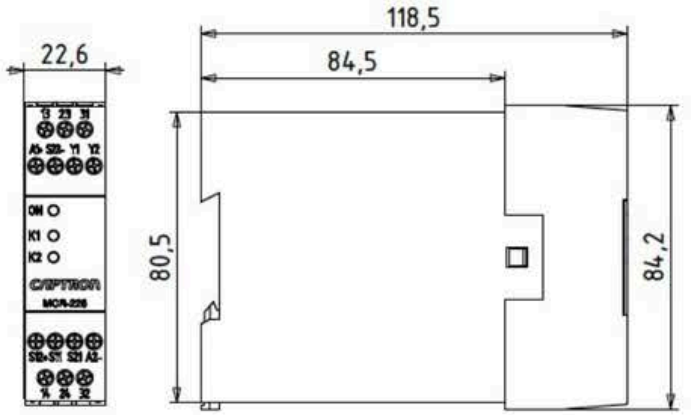
Note

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

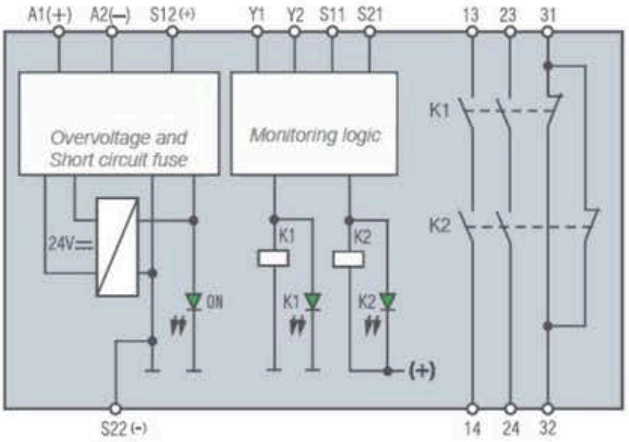
LED ON on, when operating voltage applied
LED K1 on, when relay K1 active
LED K2 on, when relay K2 active

Drawing

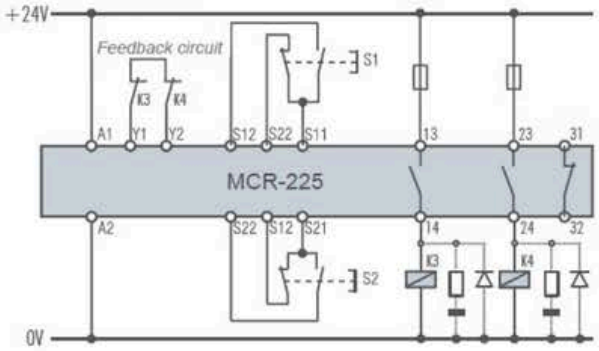


All dimensions in mm

Block Diagram



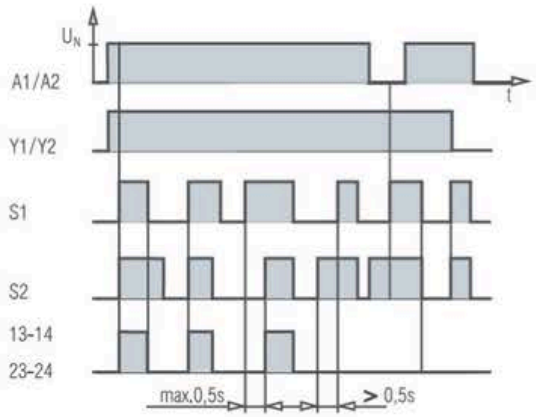
Connection diagram with contact multiplication



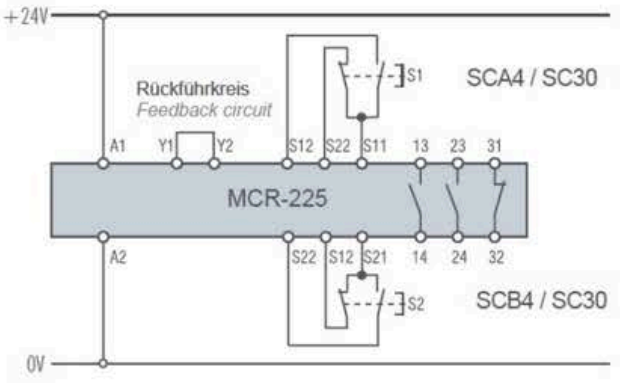


Two-hand control with contact reinforcement via external positively driven connectors. When switching inductive loads spark absorbers are recommended.

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

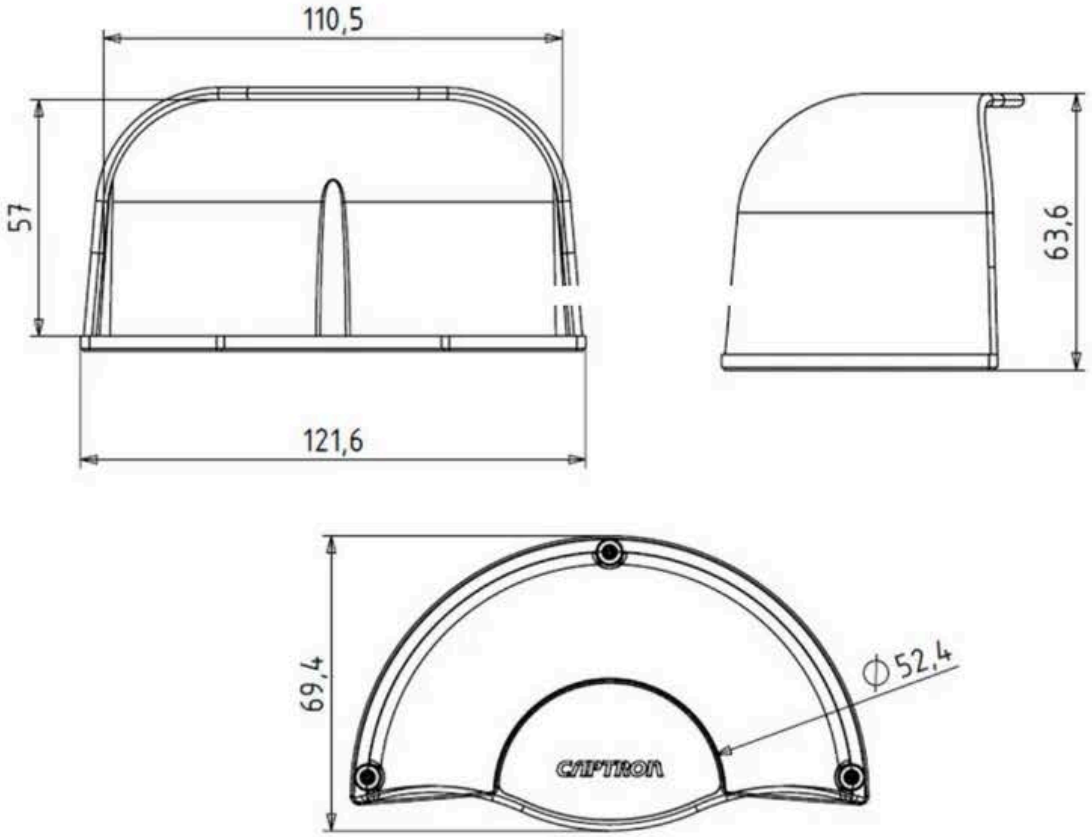
Verification of the power frequency withstand voltage

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



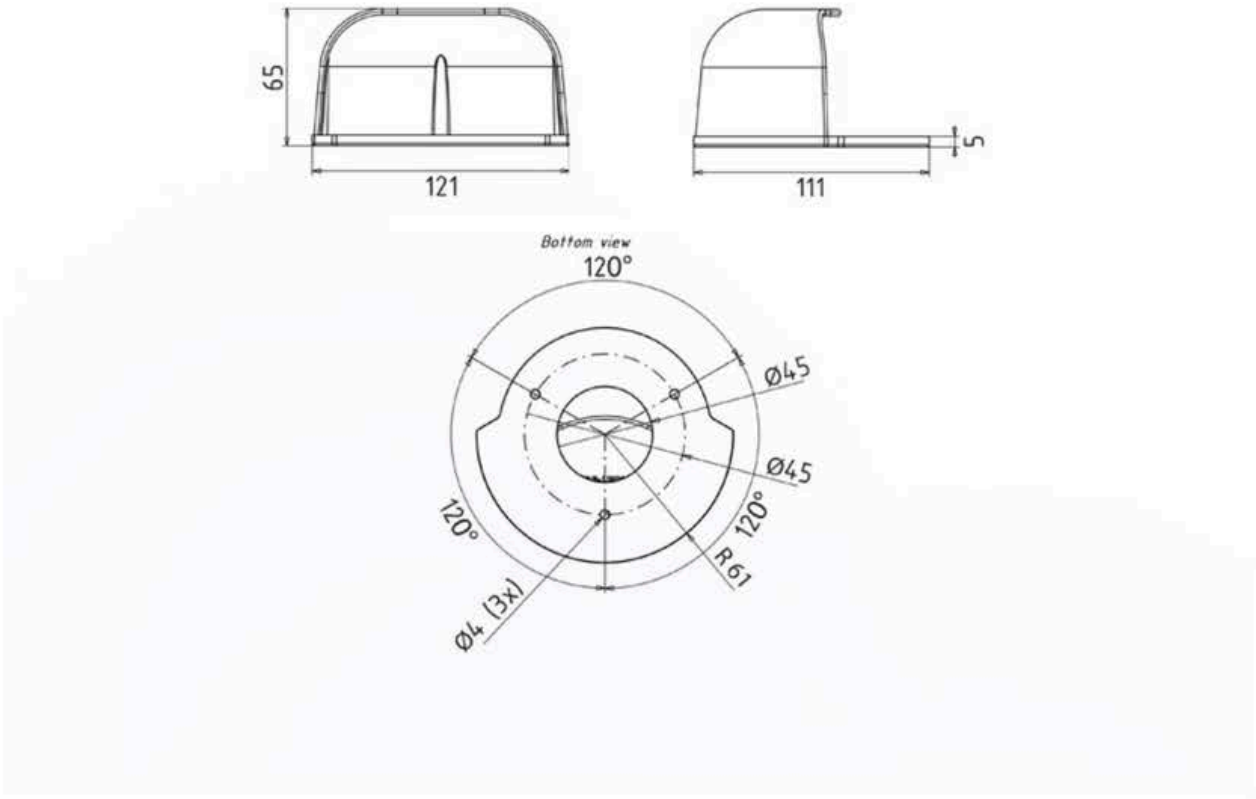


All dimensions are millimeters unless otherwise noted.

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 adapated to your specific requirements
- ✓ Durable, reliable and robust design

IO-Link



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.

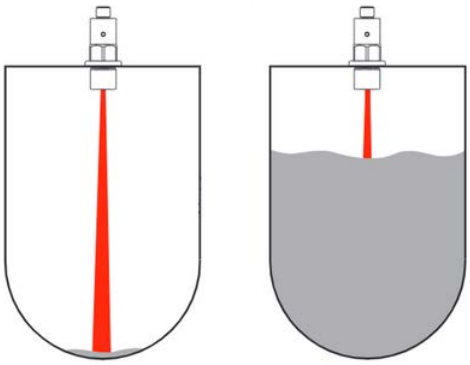
IO-Link

- ✓ 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

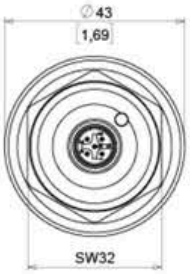
CALIS

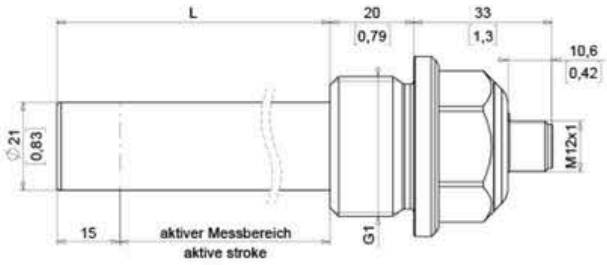
Built for non-contact, continuous level measurement in harsh environmental conditions. Distance measurement with optical Time-of-Flight (ToF) measuring method. All connections are completely sealed and the product is fully sealed so that no moisture can seep in. IO-Link capable.

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

IO-Link







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)

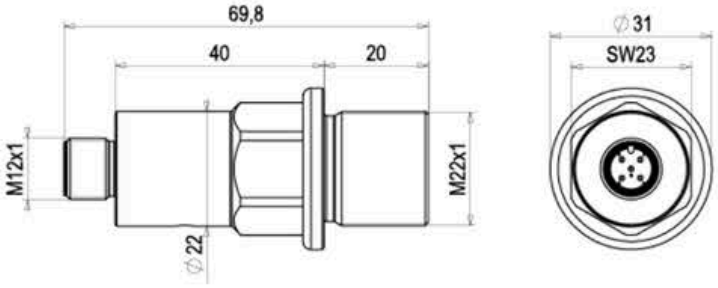
Connection	Plug M12
Operating voltage	⎓ DC 24V (19.2 ... 28.8V)
Power consumption	typically 29 mA
Load current	typically 50 mA max. 200 mA
Operating temperature	32°F to 158°F (0°C to +70°C)
Analog output	4...20 mA / 0...10V
Switching output	NPN/PNP/Push-Pull, NO/NC switchable
Switching point position	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

IO-Link

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	⎓ 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

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

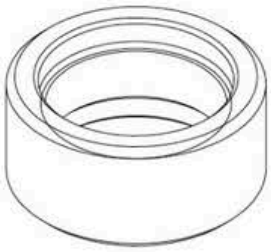
Accessories (cont.)

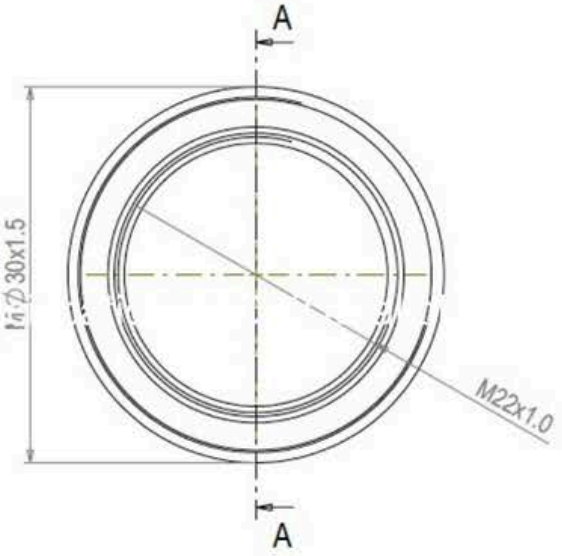
Product Image	Part	Part #	Features	List Price ($ USD)
	Connection Cable	LKB-50-5-M90F0/UL	Male 90° – female straight M12 – M12 5-pin, 5 meters UL	$ 47.90
	Connection Cable	LKB-50-2-M0F90/UL	Male straight – female 90° M12 – M12 5-pin, 2 meters UL	$ 37.50
	Connection Cable	LKB-50-5-M0F90/UL	Male straight – 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

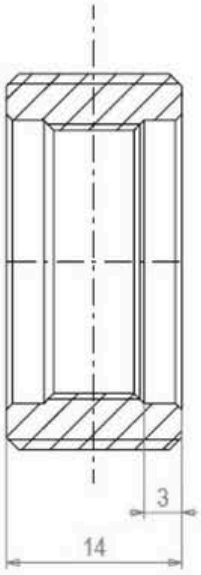
Accessories (cont.)

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







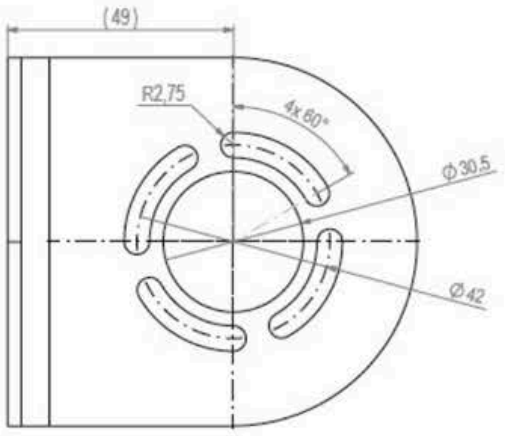


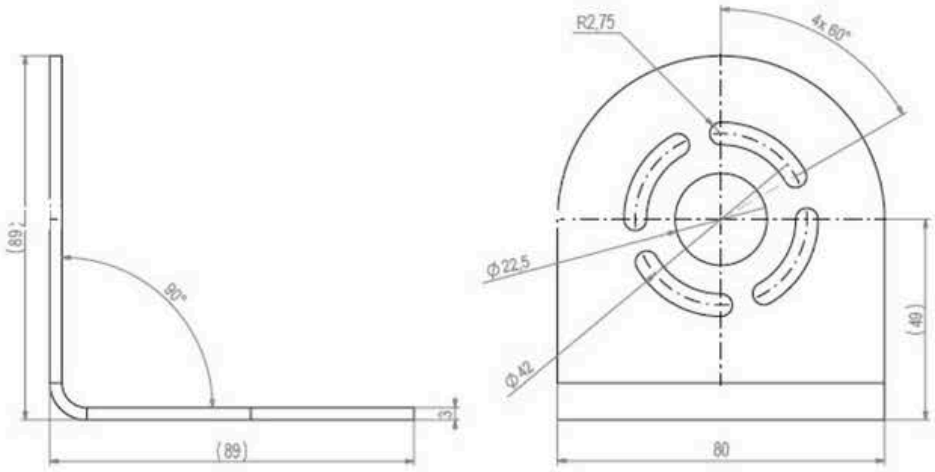
A-A (2 : 1)

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

Diameter	18 mm
Material	black plastic





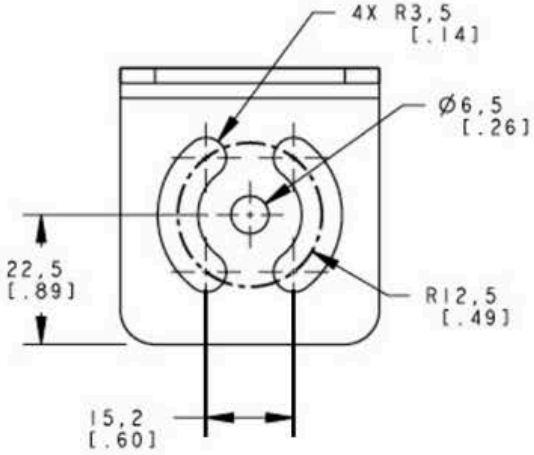


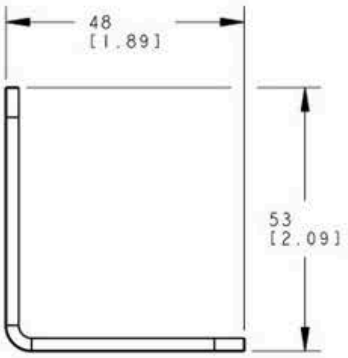
Suitable for mounting on standard profiles (e.g., ITEM, BOSCH) using a T-slot nut with an M5 thread.

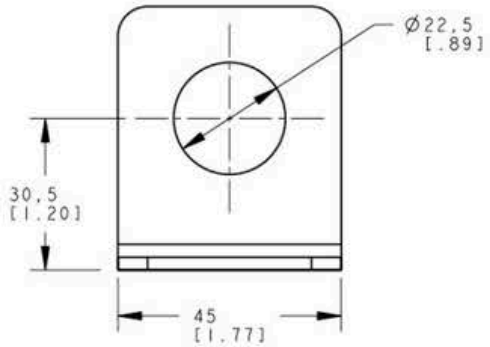
All dimensions are millimeters unless otherwise noted.

For touch buttons with 22.5 mm and 30 mm diameter	
Angle	90°
Material	natural anodized aluminum









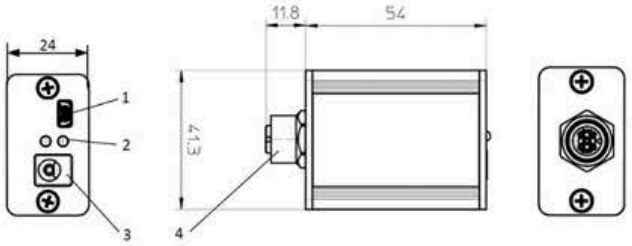
All dimensions are millimeters [inches] unless otherwise noted.

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



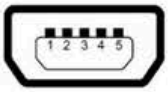
All dimensions in mm

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 ±10%
Output voltage with external power supply, V	24 V DC ± 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 ± 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 Diagnose	Operation condition: 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 Error indication: 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.



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