

# PHOTOSWITCH® 42CS Stainless Steel

High Pressure, High Temperature Washdown and  
Cleaning Chemicals Resistant

## Features and Benefits

- Innovative ferromagnetic teach for easy sensor programming
- Smooth barrel design – free of threads and seams – minimizes the accumulation of undesired particles and allows for fast and thorough cleanup. Ideal for food and beverage industry.
- Extended temperature operating range
- Robust 18 mm stainless steel 316L enclosure with laser etched markings
- Background suppression models for improved detection of shiny objects
- Two teach modes: standard and precision
- Teach lockout feature prevents unauthorized users from changing the settings
- Input to disable light source emitter
- Available in 18 mm threaded barrel models
- IP69K rated, ECOLAB and Johnson Diversey certified

## ECOLAB Certified

ECOLAB is a worldwide leader in the development of cleaning and sanitizing products. With their expertise in the food and beverage industries ECOLAB is well positioned to evaluate the performance of sensors when subjected to typically acidic and alkaline cleaning and disinfecting chemicals.



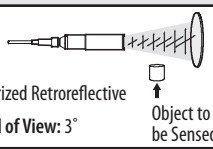
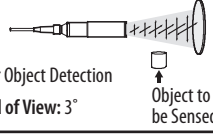
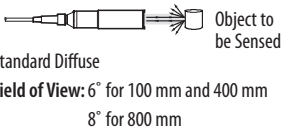
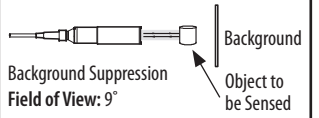
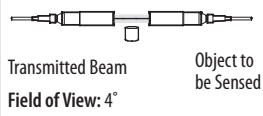
Typical applications for the food and beverage industry demand superior protection against water ingress and materials that can withstand highly corrosive chemicals used in the cleaning process. High pressure washdown with hot or cold water jets is a required standard to ensure the cleanliness of the process and avoid potential product contamination.

The Allen-Bradley® 42CS family of sensors from Rockwell Automation® is specifically engineered to address the high pressure and harsh chemical cleaning conditions. These IP69K rated sensors offer a wide range of sensing modes in a smooth or threaded 316L stainless steel housing with hardened PMMA lenses. Smooth barrel models are designed to minimize the accumulation of undesired particles on the sensor and allow for an easy cleanup. These sensors also incorporate an innovative ferromagnetic teach that enables the user to easily optimize the sensitivity by placing a ferromagnetic metal object in the teach notch.

LISTEN.  
THINK.  
SOLVE.®

# General Ordering Information

## 42CS Food and Beverage Sensors

|                                                                                                                                                                                                 | Emitter LED          | Sensing Distance  | Spot Size @ Distance | Sensitivity Adjustment | Catalog Number* ❶                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------|----------------------|------------------------|----------------------------------------|
|  <p>Polarized Retroreflective<br/>Field of View: 3°<br/>Object to be Sensed</p>                                | Visible Red (660 nm) | 4 m (13.1 ft)     | 100 mm @ 3 m         | No Adjustment          | 42CSS-P2MPB1-D4                        |
|  <p>Clear Object Detection<br/>Field of View: 3°<br/>Object to be Sensed</p>                                   |                      | 1 m (3.2 ft)      | 120 mm @ 1 m         | Ferromagnetic Teach    | 42CSS-C2MPA1-D4                        |
|  <p>Standard Diffuse<br/>Field of View: 6° for 100 mm and 400 mm<br/>8° for 800 mm<br/>Object to be Sensed</p> | Visible Red (660 nm) | 100 mm (3.9 in)   | 10 mm @ 100 mm       | Ferromagnetic Teach    | 42CSS-D2MPA1-D4                        |
|                                                                                                                                                                                                 | Infrared (880 nm)    | 400 mm (15.75 in) | 50 mm @ 400 mm       | Ferromagnetic Teach    | 42CSS-D1MPA2-D4                        |
|                                                                                                                                                                                                 |                      | 800 mm (31.5 in)  | 120 mm @ 1 m         | Ferromagnetic Teach    | 42CSS-D1MPA3-D4                        |
|  <p>Background Suppression<br/>Field of View: 9°<br/>Background<br/>Object to be Sensed</p>                    | Visible Red (660 nm) | 100 mm (3.9 in)   | 12 mm @ 120 mm       | Ferromagnetic Teach    | 42CSS-B2MPA1-D4                        |
|  <p>Transmitted Beam<br/>Field of View: 4°<br/>Object to be Sensed</p>                                        | Infrared (880 nm)    | 20 m (65.6 ft)    | 600 mm @ 20 m        | No Adjustment          | 42CSS-E1EZB1-D4 ❷<br>42CSS-R9MPB1-D4 ❸ |

\*Note: All sensor models are rated for 10...30V DC and can drive loads requiring up to 100 mA. Models shown in the selection table are PNP output versions. Replace the ninth digit (P) with N for NPN (e.g. 42CSS-P2MNB1-D4).

❶ The prefix 42CSS denotes smooth enclosure. For threaded models replace the 42CSS with 42CST (e.g. 42CST-P2MPB1-D4).

❷ Transmitted Beam Emitter.

❸ Transmitted Beam Receiver.

## Accessories

| Description                                                        | Catalog Number |
|--------------------------------------------------------------------|----------------|
| DC Micro (M12) QD Cordset with Stainless Steel Coupling Nut, 4 Pin | 889DS-F4AC- ❶  |
| DC Micro (M12) QD Patchcord, 4 Pin                                 | 889D-F4ACDM- ❷ |
| Stainless Steel Mounting Bracket for Smooth Barrel                 | 60-BCS-18B     |
| Straight Mounting Bracket for Threaded Models                      | 60-2656        |
| Right Angle Mounting Bracket for Threaded Models                   | 60-2657        |
| Stainless Steel Right Angle Mounting Bracket for Threaded Models   | 871A-BRS18     |
| Reflector, 76 mm (3 in) Diameter with Center Mount Hole            | 92-39          |
| Reflector, 32 mm (1.5 in) Diameter                                 | 92-47          |
| Reflector, 76 mm (3 in) Diameter for Clear Object Sensors          | 92-90          |

❶ Replace symbol with 2 (2 m), 5 (5 m), or 10 (10 m) for standard cable lengths.

❷ Replace symbol with 0M3 (1 ft), 1 (1 m), 2 (2 m), 5 (5 m), or 10 (10 m) for standard cable lengths.

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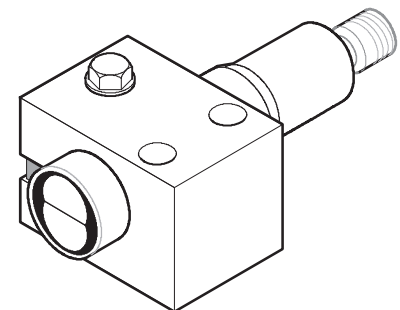
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60-BCS-18B Mounting Bracket