

# SCHMERSAL Tech Briefs: IP69K Rated Safety Devices



AZM300

RSS36 ST

CSS 30S

BNS40S

SLC420...69

Pushbuttons  
& Joysticks

## Applications

- Food processing machinery
- Pharmaceutical machinery
- Medical applications
- Outdoor equipment
- Material handling systems
- Packaging machinery
- Chemical processing equipment
- Robot cells
- Folding or brake presses
- Filter presses
- Punching machines
- Printing machines
- Injection molding
- Palletizers
- Packaging equipment

## Overview

After the IP (Ingress Protection) Rating system was established by the IEC 60529 standard, it was determined that the highest rating of IP68 was still not sufficient for enclosures that were regularly exposed to high pressure or high temperature environments such as those seen in wash down applications. Therefore, a special IP rating of IP69K was created; originating from the German standard DIN 40050-9 which evaluated road vehicles that are exposed to regular and intensive cleaning. The requirements and testing to meet the IP69K rating in regards to water-proofing will actually exceed those seen with the NEMA 4X rating.

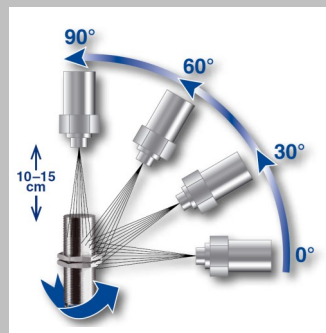


Subsequently it was found that this rating also served well to meet the cleaning requirements in hygienic applications in food processing, pharmaceutical, and medical industries, as well as marine and other outdoor areas. In addition to high pressure and high temperature, certain application will also require the use of cleaning agents to achieve specific hygienic conditions. In this aspect, many of the Schmersal IP69K devices will also carry the ECOLAB approval, allowing them to be used with industry approved cleaning agents.

The IP69K Schmersal offering includes safety and automation controls that feature hostile-resistant enclosures with special seals that can tolerate and stand up to most caustic cleaning solutions without degradation, thereby maintaining reliability and prolonging product life. Hygienic design features on products such as our innovative N series pushbuttons also include smooth surface contours to limit possible places for food and other particles to aggregate that might promote bacterial growth.

## IP69K Test Measures

The IP69K test is designed to insure that the device is able to withstand high-pressure and steam cleaning: The test device sits on a turntable that rotates once every 12 seconds (5 rpm) while a nozzle mounted 10–15 cm away sprays the device with water heated to 80°C (176°F) and pressurized to 80–100 bar with a flow rate of 14–16 Liters per min. The test is run with the nozzle at angles of 0° (horizontal), 30°, 60° and 90° (vertical) for 30 seconds each.



## Various Models

Schmersal offers wide variety of products designed to meet IP69K standards:

### AZM300

A solenoid locking switch with RFID sensor. Adjustable latching force ECOLAB Rated

### RSS36 ST

A RFID based electronic safety sensor. Available in a magnetic latching version. ECOLAB Rated

### CSS30S

This M30 diameter stainless steel sensor uses our patented Pulse Echo technology for non-contact sensing. ECOLAB Rated

### BNS40S

A compact coded magnet sensor in a stainless steel housing. Optional version with rear mounting. ECOLAB Rated

### SLC420...69

A version of our Type 4 safety light curtains are available sealed transparent shell. They feature a round hosing profile, 14 and 30 mm resolutions and many protection field heights.

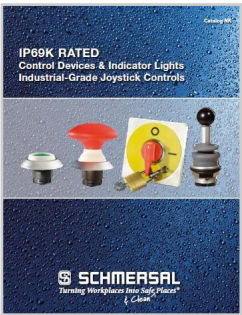
### N Series Pushbuttons

A wide variety of pushbuttons, indicator lights, selector switches and other control devices with specially design seals and smooth contours.

### K Series Joysticks

Robust 2, 3 and 4 direction joysticks with special sealing bellows. Available in many combinations of momentary and maintained actuations.

## Available Literature



IP69K Controls Catalog (NK)  
94 pages



GK-1 Safety Products Catalog  
120 pages

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