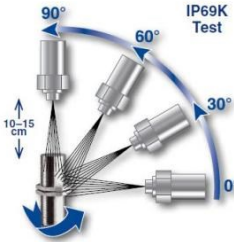


# SCHMERSAL Tech Briefs: IP69K "N" Series Pushbuttons



## Features



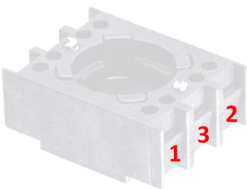
Devices bearing the IP69K rating can be used in applications in which they are exposed to high pressure (1450psi) and high temperature (175°F) wash down



Different sealing bellow color options for various applications: White, Black, Blue



Custom lettering and IEC 60417 symbols can be factory embossed on button heads



Numbered flange positions and contact blocks to help eliminate duplicate contact labeling in schematics



Optional mountable PS116 limit switch to provide an IP67 contact rating behind the button panel

## Overview

The IP69K rating originates 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 waterproofing 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 the N series devices are also clean room approved according to ISO 14644-1 and suitable up to GMP Class C.

The features of the N series hygienic design includes special seals which prevent the ingress of water, dirt and bacteria in the gaps between the fixed and moving device parts.

The smooth design of the bezel eliminates sharp edges and corners allowing easy cleaning and less room for dirt and bacteria to accumulate. Though the NDT and NDL button heads are recessed, the sealing bellows provide zero dead leg once installed at a 90° angle.

Color options for the sealing bellow include white for hygiene and clean-room applications to easily recognize foreign material as with the color blue which is also easily detectable by vision systems. The black sealing bellows are ideal for outdoor applications for increased UV protection.

Mounting of the N series is performed by a typical 22mm mounting hole even though the button heads are a robust yet small profile of 27mm to 50mm. Various symbols and lettering can also be hot embossed on to the pushbuttons and indicator lights.

## Product Extension

In addition to pushbuttons and indicator lights, the N series also offers Step Switches, Potentiometer Holders, Main Disconnects, Knobbed Selector Switches as maintained, spring returned or combined as well as Emergency Stop pushbuttons to ISO 13850.



## Applications

- Food processing machinery
- Pharmaceutical machinery
- Medical applications
- Outdoor equipment
- Chemical processing equipment
- Painting systems
- Semiconductor manufacturing

## Available Literature



Command and Signaling Devices

## Ordering Details

### Pushbuttons

ND①②③

- ① Type
- |      |                                  |
|------|----------------------------------|
| T    | Non-illuminating                 |
| L    | Illuminated                      |
| P50  | Large mushroom: non-illuminating |
| TP30 | Small mushroom: non-illuminating |
| LP30 | Small mushroom: illuminated      |

### ② Sealing Bellows

- |       |                        |
|-------|------------------------|
| blank | White                  |
| GR/   | Black                  |
| BL/   | Blue (only for NDLP30) |

### ③ Button Color

- |    |                                     |
|----|-------------------------------------|
| SW | Black (not for illuminated buttons) |
| GB | Yellow RT Red                       |
| GN | Green WS White                      |
| BL | Blue                                |
| GR | Gray (only for NDT)                 |

### Indicator Lights

NM①②

#### ① Type

- |    |                           |
|----|---------------------------|
| L  | Flat                      |
| EF | Flat with integrated LED  |
| LH | Domed                     |
| E  | Domed with integrated LED |

#### ② Button Color

- |    |        |    |       |
|----|--------|----|-------|
| GB | Yellow | RT | Red   |
| GN | Green  | WS | White |
| BL | Blue   |    |       |

## Accessories

### Light Element for Illuminated Heads

- |                     |                           |
|---------------------|---------------------------|
| ELDE.N <sup>1</sup> | Integrated LED for NDL(P) |
| ELE <sup>2</sup>    | LED voltage block         |
| EL <sup>3</sup>     | Ba9s bulb voltage block   |

### Contact Blocks

EF<sup>4</sup>

### Stainless Steel Enclosure

NBG 1, 3 or 5 hole enclosure

### Adaptor

NUE 30mm mounting adaptor

<sup>1</sup> Must specify color and voltage

<sup>2</sup> Must specify voltage. LED bulb not needed for NME(F)

<sup>3</sup> incandescent bulb not needed for NME(F)

<sup>4</sup> Must specify contact configuration and mounting location

## Contact

### Schmersal USA

15 Skyline Drive  
Hawthorne, NY 10532  
Tel: 914-347-4775  
Fax: 914-347-1567  
E-mail: salesusa@schmersal.com

### Schmersal Canada

29 Centennial Road, Unit 1  
Orangeville ON L9W 1R1  
Tel: 519-307-7540  
Fax: 519-307-7543  
E-Mail: salescanada@schmersal.com