

**CARLO GAVAZZI**  
Automation Components



# *Push Buttons, Selector Switches & Pilot Lights*



Switch



## Push Buttons, Selector Switches and Pilot Lights

CARLO GAVAZZI has developed a new range of push buttons, selector switches and pilot lights which provide a vast array of solutions for your ever increasing application demands. Push buttons are mechanical switches that have their operating head pushed down to actuate an electrical contact to a closed or open position. They are typically used to start and/or stop electric circuits/devices such as lamps, motors, etc.

The main function of a pilot light is to quickly provide a visual indication when an event occurs or to indicate an on or off state. The source of the light is a highly efficient LED. Due to its ideal color rendering, the LED provides optimum visibility. Additionally, it is reliable and provides a cost-savings due to its long lifetime.



**Space  
Optimization**



**User  
Friendly**



**Long Term  
Reliability**



**Time  
Saving**

### **Easy to Choose and Install**

It is as easy as 1, 2, 3 - just choose the operator, the holder and the contact block. The only tool required is a screwdriver. The same screwdriver is then used to wire the contact block, and adjust the final position of the push button. The pilot light is secured from behind the panel via hand tightening of its plastic mounting nut.

### **Three Different Holders**

The metal holder was designed to provide maximum durability; the plastic holder in order to have all components in the same material and the plastic nut holder to find the quickest installation solution.

### **Different Operator's Design**

Each operator is offered in three different styles. Available in plastic, with a metal bezel or for flush mounting - to satisfy the aesthetic tastes and needs.

### **LED's High Efficiency and Reliability**

The illuminated function, for push buttons and pilot lights, is made by a high-brightness pure color LED. It is a guarantee of improved efficiency and reliability. In fact, the LED technology reaches over 100,000 hours of service life and the power consumption is lower than an incandescent bulb.

### **The Terminal Block**

The contact rating of 10A @ 250V (AC1) provides the ability for a high operating performance. The terminals have a captive screw system, so it is impossible to lose the screw while attempting to wire.

### **More Solutions**

Push buttons, selector switches, mushroom head emergency stop push buttons, key switches and pilot lights are available in up to six different colors (red, green, yellow, white, blue and black) and actions (maintained or spring return).

### **Approvals**

The push buttons, selector switches and pilot devices are approved according to the related European and North American safety standards.



# Push Buttons and Selector Switches

## Market Applications

### Panel Builder

Available in a wide variety of colors, styles, and sizes, the push buttons and pilot lights provide users with the flexibility to meet requirements of most applications. They are designed to fit most space and application requirements.

### Industrial Manufacturing Equipment

Command devices are of great importance on the man-machine interface in the area of industrial applications. They can be mounted in switchboards, control panels, operator's consoles, on conveyors, elevators, etc.

### Emergency Systems

Emergency stop devices are generally connected in the safety circuit of a machine or plant, and are of particular importance for their control system. In case of a fault or accident, the secure function and quick accessibility of an emergency stop device can be crucial for saving lives, limiting the degree of injury to personnel or the extent of damage to a machine.

## Product Features

### AC and DC Supply Voltage

All illuminated push buttons, short-handle selector switches and pilot lights have a wide range of supply voltages: 6, 12, 24, 48 or 110 VAC/DC; 220 VDC; 220 or 380 VAC.

### Six Colors

They are available with a various selection of colors: Red, Green, Yellow, White, Blue and Black.

### Actions

The switch function can be maintained or spring return. In a maintained the actuator stays in thrown position (on-off). In a spring return the switch must be held in position and it reverts to its normal position when the actuating force is removed.

### Flush Push Buttons



### Extended Push Buttons



### Short-Handle Selector Switches



### Long-Handle Selector Switches



### Mushroom Push Buttons



### Red Emergency Stop Push Buttons

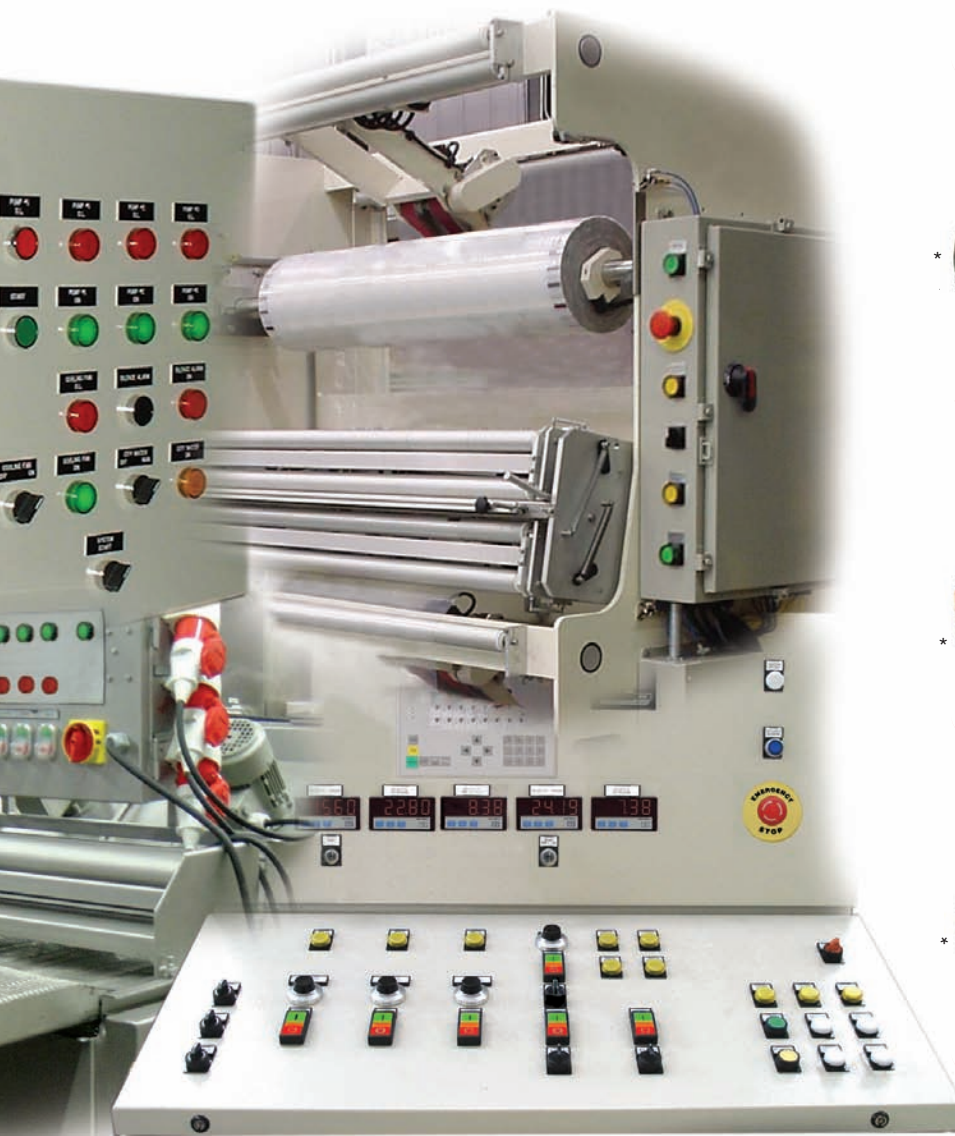


### I/O Push Buttons and Key Switches



# Pilot Lights

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**Pilot Light with Concentric Rings**



**High Lens Pilot Light**



**Low Lens Pilot Light**



**Teeth Lens Pilot Light**

**Holders**

**Flashing Buzzer**



**Flashing Pilot Light**

**Lamp Element and Contact Block**

**Buzzer**



**Two Color Pilot Light**

\* = Compact size

# Part Number Nomenclature

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## Actions

0 = Spring Return	32* = Three pos. L <sup>↖</sup> C <sup>↗</sup> R
1 = Maintained	33* = Three pos. L <sup>↖</sup> C <sup>↗</sup> R
21 = Two pos. L R	34* = Three pos. L C <sup>↗</sup> R
22* = Two pos. L <sup>↖</sup> C	
23* = Two pos. C <sup>↗</sup> R	* : not for illuminated
31 = Three pos. L C R	↖ : spring return



## Voltages

06 = 6VAC/DC	110 = 110VAC/DC
12 = 12VAC/DC	220D = 220VDC
24 = 24VAC/DC	220A = 220VAC
48 = 48VAC/DC	380A = 380VAC










## Key Extraction Position

KL = on the left position  
 KC = on the center position  
 KR = on the right position



## Colors

R = Red  
 G = Green  
 Y = Yellow  
 W = Clear/White  
 B = Blue  
 K = Black

<b>PB 22S F</b>  	Standard Flush Push Buttons	<b>PB 30F KM4 1R</b>	Flush Key-reset Emergency Stop Ø40mm Push Buttons
<b>PB 22S IF</b>  	Standard Flush Illuminated <sup>1</sup> Push Buttons	<b>PB 22S SRS</b>  	Standard Short-handle Selector Switches
<b>PB 22B F</b>  	Bezel Flush Push Buttons	<b>PB 22S ISRS</b>  	Standard Illuminated <sup>1</sup> Short-handle Selector Switches
<b>PB 22B IF</b>  	Bezel Flush Illuminated <sup>1</sup> Push Buttons	<b>PB 22B SRS</b>  	Bezel Short-handle Selector Switches
<b>PB 30F F</b>  	Flush Push Buttons	<b>PB 22B ISRS</b>  	Bezel Illuminated <sup>1</sup> Short-handle Selector Switches
<b>PB 30F IF</b>  	Flush Illuminated <sup>1</sup> Push Buttons	<b>PB 30F SRS</b>  	Flush Short-handle Selector Switches
<b>PB 22S E</b>  	Standard Extended Push Buttons	<b>PB 22S LRS</b>  	Standard Long-handle Selector Switches
<b>PB 22S IE</b>  	Standard Illuminated <sup>1</sup> Extended Push Buttons	<b>PB 22B LRS</b>  	Bezel Long-handle Selector Switches
<b>PB 22B E</b>  	Bezel Extended Push Buttons	<b>PB 30F LRS</b>  	Flush Long-handle Selector Switches
<b>PB 22B IE</b>  	Bezel Illuminated <sup>1</sup> Extended Push Buttons	<b>PB 22S KRS</b>  	Standard Key Selector Switches
<b>PB 30F E</b>  	Flush Extended Push Buttons	<b>PB 30F KRS</b>  	Flush Triangle-Key Selector Switches
<b>PB 30F IE</b>  	Flush Illuminated <sup>1</sup> Extended Push Buttons	<b>PB 22S IO ORG</b>	Standard I/O Rectangular Push Buttons
<b>PB 22S M4</b>  	Standard Mushroom Ø40mm Push Buttons	<b>PB 22S IOL ORG</b>	Standard Illuminated <sup>1</sup> Rectangular I/O Push Buttons
<b>PB 22S IM4</b>  	Standard Illuminated <sup>1</sup> Mushroom Ø40mm Push Buttons	<b>PB MB M</b>	Metal Holder
<b>PB 22B M4</b>  	Bezel Mushroom Ø40mm Push Buttons	<b>PB MB P</b>	Plastic Holder
<b>PB 22B IM4</b>  	Bezel Illuminated <sup>1</sup> Mushroom Ø40mm Push Buttons	<b>PB MB N</b>	Nut Holder
<b>PB 30F M4</b>  	Flush Mushroom Ø40mm Push Buttons	<b>PA LAMP</b>  	Lamp Element with LED
<b>PB 30F IM4</b>  	Flush Illuminated <sup>1</sup> Mushroom Ø40mm Push Buttons	<b>PA2</b> <sup>2</sup>	Contact Block Snap 010/1 100/1 020/1 200/1 110/1
<b>PB 22S M6</b>  	Standard Mushroom Ø60mm Push Buttons	<b>PA2</b>	Contact Block Slow 010/2 100/2 020/2 200/2 110/2
<b>PB 22S IM6</b>  	Standard Illuminated <sup>1</sup> Mushroom Ø60mm Push Buttons	<b>PL 22 SHL</b>  	Pilot Light High Lens standard size
<b>PB 22B M6</b>  	Bezel Mushroom Ø60mm Push Buttons	<b>PL 22 CHL</b>  	Pilot Light High Lens compact size
<b>PB 22B IM6</b>  	Bezel Illuminated <sup>1</sup> Mushroom Ø60mm Push Buttons	<b>PL 22 SRL</b>  	Pilot Light Concentric Lens standard size
<b>PB 30F M6</b>  	Flush Mushroom Ø60mm Push Buttons	<b>PL 22 CRL</b>  	Pilot Light Concentric Lens compact size
<b>PB 30F IM6</b>  	Flush Illuminated <sup>1</sup> Mushroom Ø60mm Push Buttons	<b>PL 22 SLL</b>  	Pilot Light Low Lens standard size
<b>PB 22S EM4 1R</b>	Standard Red Emergency Stop Ø40mm Push Buttons	<b>PL 22 CLL</b>  	Pilot Light Low Lens compact size
<b>PB 22B EM4 1R</b>	Bezel Red Emergency Stop Ø40mm Push Buttons	<b>PL 22 STL</b>  	Pilot Light Teeth Lens standard size
<b>PB 30F EM4 1R</b>	Flush Red Emergency Stop Ø40mm Push Buttons	<b>PL 22 CTL</b>  	Pilot Light Teeth Lens compact size
<b>PB 22S EM6 1R</b>	Standard Red Emergency Stop Ø60mm Push Buttons	<b>PL 22 SFL</b>  	Flashing Pilot Light
<b>PB 22B EM6 1R</b>	Bezel Red Emergency Stop Ø60mm Push Buttons	<b>PL 22 STC</b>  	Pilot Light Two Colours
<b>PB 30F EM6 1R</b>	Flush Red Emergency Stop Ø60mm Push Buttons	<b>PL 22 SFBZ</b> <b>R</b> 	Pilot Light Flashing Buzzer
<b>PB 22S KM4 1R</b>	Standard Key-reset Emergency Stop Ø40mm Push Buttons	<b>PL 22 SBZ</b> <b>K</b> 	Pilot Light Buzzer
<b>PB 22B KM4 1R</b>	Bezel Key-reset Emergency Stop Ø40mm Push Buttons		

<sup>1</sup> = To choose also the lamp element in order to get the lighting function

<sup>2</sup> = for example: PA2 110/1 is a contact block with 1NO + 1NC snap action.

# The Complete Product Package



**Sense**

Inductive Proximity Sensors  
 Tripleshield™ Capacitive Sensors  
 Photoelectric Sensors  
 Inductive Loop Detectors  
 Ultrasonic Sensors  
 Radar Sensors  
 Level Sensors  
 Limit Switches  
 Magnetic Switches



**Switch**

Solid State Relays  
 Contactors and Overloads  
 Manual Motor Starters  
 Motor Controllers  
 Variable Frequency Drives  
 Electromechanical Relays  
 Pilot Devices  
 Cam Switches  
 Rotary Disconnects



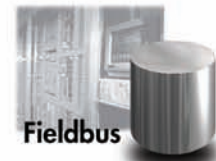
**Control**

Energy Management  
 Digital Panel Meters  
 PID Controllers  
 Switching Power Supplies  
 Time Delay Relays  
 Current Monitoring Relays  
 Voltage Monitoring Relays  
 Three Phase Monitoring Relays  
 Current Transformers  
 Enclosures



**Safety**

Control Modules  
 Interlock Switches  
 Magnetic Sensors  
 Light Curtains  
 Stack Lights  
 Mat Systems



**Fieldbus**

Dupline Field & Installation Bus  
 Building Automation Systems  
 Elevator Systems

## A Global Force in Industrial Automation

CARLO GAVAZZI has a multitude of sales offices spanning North America (*not to mention our hundreds of distributors*). Therefore, we can be viewed as “*your local automation resource*” - assisting you every step of the way in finding the proper solution for your various application requirements. Naturally, our job is greatly simplified as we have such a vast range of solutions to offer you via our comprehensive *product package*.

Our worldwide sales offices make us an ideal business partner, *especially for manufacturers of exported machinery*, as our products are available locally and they are CE marked.

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Push Button, Selector Switch and Pilot Light Brochure 8/07

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