Robust Circuit Control for Demanding Applications

The series 229 pushbutton switch is a durable and dependable means of surface mount (SMT) circuit control, specifically intended for applications that operate under harsh circumstances and thus demand robust components, resistant to the wear and tear imposed by the elements and similar harsh operating environments. Also known as a 'key switch', the series 229 pushbutton switch is the first of its kind in the CTS product portfolio. It has been developed as a viable substitute to tactile switches in instances where extra robust circuit control is required, such as motorcycle/four-wheeler handlebars, heavy duty industrial controls and construction vehicles and equipment.

In any electrical technology that operates either in harsh environments such as assembly halls, or under open skies, the delicate driving electronics and controls are always at risk of having their performance hampered or even halted entirely by the strain imposed by humidity, vapors, dust or mechanical forces.

Applications such as two- and four-wheeler handlebars, factory hall industrial controls and construction vehicles and equipment will face plenty of such hardships during their operation and will run the risk of having their operating lifecycle cut short without proper sub-components, that offer increased elemental and mechanical resistance.

To enhance the performance of harsh environment applications and prolong their operational lifespan, CTS is introducing the series 229 pushbutton switch, also known as a 'key switch', featuring a mechanically robust design and an optional IP67 seal for extended operation. On top of that, this SMT device is highly customizable, ensuring a perfect application fit.

The series 229 pushbutton switch from CTS Corporation

Rugged, Robust and Reliable: The Series 229 Pushbutton Switch

The series 229 pushbutton switch has been developed as a more resilient alternative to tactile switches. Whereas tactile switches often utilize membranes with printed conductive traces on them to make or break a circuit when pressed, pushbutton switches or key switches, on the other hand, are completely mechanical in their design. They rely on springs and similar mechanical sub-components to initiate the circuit, and are therefore the more robust option, while still providing excellent tactile feedback.

The series 229 comes with a standard IP40 rating, but its robustness and resilience against the elements can further enhanced by an optional IP67 seal, which makes it impervious to dust and humidity. It will also operate seamlessly across a wide temperature range with an even high storage temperature range.

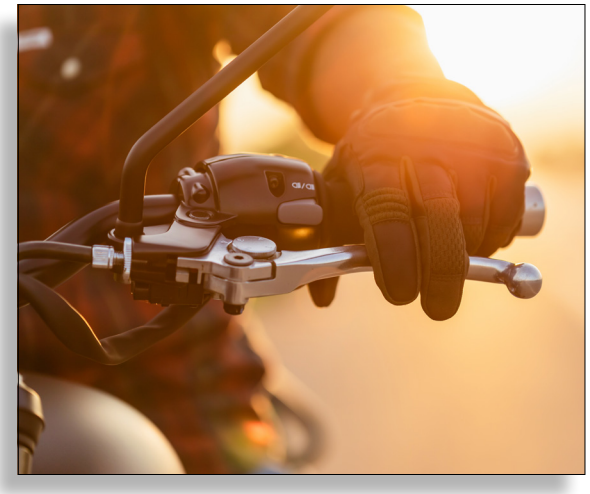
As a dedicated piece of surface mount technology (SMT), the series 229 pushbutton switch is compatible with lead-free soldering processes and can be soldered directly onto PCBs. It comes with three different options for actuation force for a customized tactile feedback, and can be configured as either SPST, DPST or SPST with LED illumination in four different colors. Its small size also allows for implementation in applications for which space constraints are a critical factor.

Series 229 Pushbutton Switch			
Parameter	**Version 229-03**	**Version 229-06**	**Version 229-10**
Actuation Force	3N	6N	10N
Operating Life	>1M Activations	>200k Activations	>200k Activations
Operating Temperature	-40 to 85°C	-40 to 85°C	-40 to 85°C
Switching Voltage	2-30 V_{DC}	2-30 V_{DC}	2-30 V_{DC}
Switching Current	10-100 mA_{DC}	10-100 mA_{DC}	10-100 mA_{DC}
Circuit	SPST, DPST, SPST /w LED	SPST, DPST, SPST /w LED	SPST, DPST, SPST /w LED
IP-Rating	IP40 (Unsealed) IP67 (Sealed)	IP40 (Unsealed) IP67 (Sealed)	IP40 (Unsealed) IP67 (Sealed)
Diameter (Ø)	11mm (IP40) 12mm (IP67)	11mm (IP40) 12mm (IP67)	11mm (IP40) 12mm (IP67)
Height	9.1mm	9.1mm	9.1mm

Ideal Applications for the Series 229 Pushbutton Switch

Transportation Handlebars

Two-wheelers, ATV four-wheelers, motorcycles and snowmobiles all rely on integrated handlebar switches to enable and perform a variety of essential functions when driving. Thanks to its small size, PCB compatibility, robust and resilient design and excellent tactile feedback, the series 229 pushbutton switch can be counted on to seamlessly execute such functions. It can perform the role of a starter switch to turn the engine on, or a kill switch which enables immediate engine shutdown in case of an emergency. Similarly, it can be used to control vehicle headlights, turning signals, passing lights, signal horns and more. With an IP67 rating, rain, snow or dusty roads will have little to no effect on its performance.



Industrial Controls

Across industrial manufacturing plants and facilities, there is no shortage of switch panels and and control units, offering manual circuit control of robotic arms, material handling equipment, conveyor belts and more. Even automated assembly lines require some degree of human-machine-interfacing. The series 229 pushbutton switch will come in handy here, providing durability and reliable performances over time and temperature. For smaller, low-current applications, such as industrial joystick and remote controllers, the compact size and low switching current capabilities of the series 229 will make it an ideal fit as well.

Construction Vehicle Machine Control

The handling and movement of heavy loads associated with construction demands the highest reliability standards of machinery sub-parts to minimize the risk of system failures and accidents. The series 229 pushbutton switch outperforms traditional tactile switches in this area with its robust internal structure and extended operating lifecycle, allowing for continued and dependable performances. As a high degree of contamination in shape of dust and other particles is to be expected at constructions sites and similar harsh environments, the optional IP67 seal will be put to good use here, rendering the series 229 pushbutton switch immune to the detrimental influence of dust and water.

About CTS Corporation

CTS is a leading designer and manufacturer of products that Sense, Connect, and Move. We manufacture sensors, actuators and electronic components in North America, Europe and Asia, and provide solutions to OEMs in the aerospace & defense, medical, industrial, communications, information technology and transportation industries.

The series 229 pushbutton switch has been developed as a highly reliable, yet cost-effective means of circuit control, ideal for those applications that require performances and durability beyond what standard tactile switches can offer. Inquire about the series 229 pushbutton switch at www.ctscorp.com.

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