

Controlling Transportation Equipment

An Application Note

Background

Many large transportation machines, including cranes, concrete pumps, material handling equipment, and boom trucks often utilize a controller for operation as its truss or telescopic boom is maneuvered remotely by an operator. In addition, there are transportation devices and equipment with limited cab control-panel space. It's important for these controls to be compact and lightweight to fit in the limited space. These vehicles, machines, and equipment are most often utilized in dirty, dusty, and wet environments found in transportation and industrial industries. Therefore, their components must be able to not only function desirably, but also excel in harsh, wet environments.

Solution

For applications with small panel constraints, including concrete pumping, cranes, material handling, and boom trucks, Honeywell's MICRO SWITCH MT Series miniature toggle switches meet the need for a cost-effective toggle switch that performs in severe environments.

The miniature MT toggle switch is designed to fit in small spaces while also providing the robustness of Honeywell's larger toggles. These switches are suitable for applications in many demanding outdoor environments, where the panels are subjected to such things as vibration from equipment, temperature extremes, dust, splashing water, and/or hose directed water.

Quality construction features include a seal between the toggle lever and bushing and between the cover and case. The panel stand-off with O-ring feature available on some listings eliminates the need for behind-the-panel hardware, provides a uniform panel height, and creates a panel-to-cover seal.

Honeywell's MICRO SWITCH MT Series miniature toggle switch can be engineered into remote controls and constrained panels for transportation equipment due to its compact size and ability to tolerate many rugged environments. With its small size and seal rating, MT Series toggle switches are a logical choice to be used in these large pieces of equipment.

Their spring-loaded mechanism provides enhanced tactile feedback for the toggle switch lever which is very useful in the event the operator is wearing heavy industrial gloves.



With a significantly high seal level (IP68/IP67) and electrical life cycle, the MT Series is designed with an aim to enable increased uptime in field installations. It contributes in keeping machines working longer with less downtime.

The switch's small size allows for smaller control box/panel size which reduces overall weight and operator fatigue.

Features and Benefits

- Miniature behind-panel size (case) enables overall control box or panel use
- IEC 60529-2001, IP67, IP68 (except terminal parts) sealing for harsh-duty applications
- Up to 60,000 electrical life for longer period use
- Available with eight circuitry options
- 2- or 3- position maintained and momentary action to meet circuit and actuator requirements
- UL recognized, CE certified for global use

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is customer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, Honeywell assumes no responsibility for its use.

WARNING **IMPROPER INSTALLATION**

- Consult with local safety agencies and their requirements when designing a machine control link, interface and all control elements that affect safety.
- Strictly adhere to all installation instructions.

Failure to comply with these instructions could result in death or serious injury.

For more information

To learn more about Honeywell's sensing and switching products, call 1.800.537.6945, visit sensing.honeywell.com, or e-mail inquiries to info.sc@honeywell.com

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