



Sensors

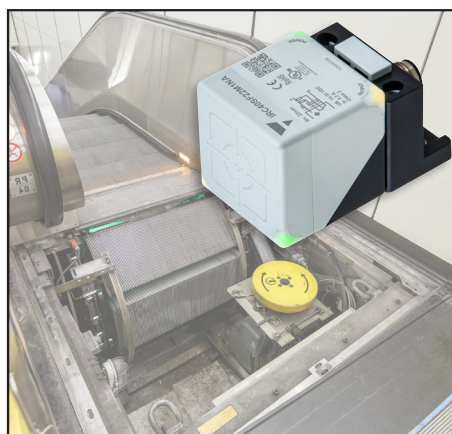


Switches



Controls

Application notes



Application Note : March 2022

Market involved : Lifts and escalators

Product : IRC40 inductive sensors

Customer : Escalator manufacturers

Subject : Missing step detection in escalators

CUSTOMER ISSUE :

A step may break loose from the step chain and swing by gravity away due to the extensive usage and the ageing of the components of an escalator. When this happens, the missing or out of place step, creates a significant gap in the procession of steps and a person using the conveyor could be injured.

An inductive sensor is generally used to detect the missing step and send a signal to stop the conveyor drive.

The harsh environmental conditions, such as temperature variations, shocks and vibrations, could change the alignment of the sensor with the target to be detected. This change could then cause a modification to the sensing distance and the mechanical tolerances, resulting in false actuations, stopping of the escalator and requiring service people intervention. The customer has to spend a lot of time to locate the sensor and to fix the issue by replacing the component with consequent reduction of uptime and efficiency.

OUR SOLUTION :

The IRC40 inductive sensors grant the highest uptime level and safest operation, thanks to the extended temperature range from -25°C to +80°C, and resistance to frequent washing cycles thanks to IP68 and IP69K protection degrees.

The increased sensing distance, up to 40mm for the non-flush mounting version, allows the possibility to position the sensor further away from the moving parts, reducing the risk of damage and so increasing the uptime of the escalator.

Finally, the rotatable sensing face in 5 different positions, allows a reduction in installation time by adapting the sensor to any application needs.

IRC40 can indeed be easily installed and replaced in a snap thanks to the push-unlock system of the mounting bracket (included) without the need of any tools.

BENEFITS :

- Increased installation flexibility thanks to the rotatable head
- Easy and quick installation thanks to the push-unlock system of the mounting bracket without the need of any tools
- Further mechanical protection of the sensor thanks to the longer sensing distance and flush installation option
- Reliable detection between -25°C to +80°C, thanks to the advanced microprocessor-based electronics
- 4 LEDs, 2 on each side allow a clear visibility of the sensor's status and power from any direction