



## TYPE APPROVAL CERTIFICATE

This is to certify that the electrical endurance of the

***GKM-Series Global Miniature Safety Key Operated Switch***

manufactured by

***Honeywell International Inc***

315 East Stephenson Street,  
Freeport, Illinois,  
IL61032,  
USA.

has been assessed by Sira Certification Service.

The reliability data herein is certified subject to the  
stated conditions and scope in this certificate.

Certification Manager:

A handwritten signature in blue ink, appearing to read "W Thomas", is positioned above the printed name.

W Thomas

Date of Original Certification: 28 July 2010

Date of re-issue: 03 July 2015

This certificate may only be reproduced in its entirety without any change.

### Product description and scope of certification

The GKM-Series Global Miniature Safety Switch is a key operated switch intended for small doors and apertures in industrial machinery. The switch is fitted with two pairs of switching contacts (available in several configurations), has a glass filled polyester housing sealed to IP67 and is provided with either an integral cable or with direct terminations.

The scope of certification is for the electrical endurance against the tests specified below.

### Safety function(s)

The safety function of the certified device is to open the normally closed (NC) contacts on removal of the key.

### Identification of certified equipment

This certificate applies to all devices defined in the manufacturer's assembly drawing number ASSY-GK-206 issue 17, dated 03-Nov-2010.

### Electrical endurance reliability data

The following reliability data has been established by test.

GKM-XXX <sup>[2]</sup>	
Mean Cycles To Failure <sup>[1]</sup>	32,000 cycles <sup>[3]</sup>

<sup>[1]</sup> 'Failure' is defined as a failure to meet either the acceptance criteria in the test plan (below).

<sup>[2]</sup> For 'XXX', refer to manufacturer's drawings stated above for details of product variants.

<sup>[3]</sup> Tests were run until all samples had failed with Mean Cycles To Failure determined by Weibull distribution analysis.

Notes: the data in the table above indicates a statistical probability of failure based on endurance testing a number of samples under specified conditions (see below). The figure therefore cannot be used to guarantee the lifetime of a particular device.

### Electrical endurance test plan

The devices were installed in accordance with the manufacturer's user instructions and tested in accordance with the following test plan.

No. of test samples:	8
No. of test cycles per switch:	90,000 cycles (maximum)
Rate of test cycles, conditions and monitoring loads:	In accordance with IEC 60947-5-1, 8.3.3.5.2
Acceptance Criteria:	<ol style="list-style-type: none"> <li>1. No contact weld, checked at every cycle;</li> <li>2. No zero-current detection, checked at every cycle;</li> <li>3. Dielectric Voltage Withstand: 2,000VAC checked after 6,050 cycles, 20,000 cycles, 50,000 cycles, then every 10,000 cycles until failure.</li> </ol>

### Conditions of Certification

The manufacturer of the certified equipment shall observe the following conditions of certification:

1. This Type Approval Certificate is valid only for products which are identical with the products assessed in Sira report number R56A18220A and conform to the assembly drawings referred to in this certificate. The manufacturer is responsible for ensuring that on-going production provides identical products.

### General Notes

1. This certificate is based upon an assessment of the certified equipment described in Sira Test & Certification confidential assessment report number R56A19356A.
2. This Certificate and the Sira Certification Mark are subject to the 'Regulations Applicable to the Holders of Sira Certificates'.
3. This document remains the property of Sira and shall be returned when requested by the company.