



TYPE APPROVAL CERTIFICATE

This is to certify that the mechanical 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 that reads "W Thomas".

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 mechanical 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.

Mechanical endurance reliability data

The following reliability data has been established by test.

GKM-XXX ^[2]	
Mean Cycles To Failure ^[1]	> 10 ⁶ cycles with Single Sided Confidence Limit of 95% ^[3]
B _{10d} ^[4]	2 x 10 ⁶ cycles

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

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

^[3] Tests were time-truncated at the number of cycles per switch shown in the test plan below.

^[4] The mean cycles until 10% of test samples fail dangerously has been established by test under no load conditions.

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 figures therefore cannot be used to guarantee the lifetime of a particular device.

Mechanical 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:	20
No. of test cycles per switch:	2,000,000
Rate of test cycles:	120 cycles per minute
Monitoring Loads:	None
Acceptance Criteria:	<ol style="list-style-type: none">1. No failure of the NC contacts to open;2. Dielectric Voltage Withstand: 2,000VAC checked after every 500,000 cycles, up to a total of 2,000,000 cycles.

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 R56A18220A.
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.