



TYPE APPROVAL CERTIFICATE

This is to certify that the mechanical endurance of the

GKL/R-Series Dual Entry Solenoid Safety Interlock 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 GKL/R -Series (part numbers are identified as GKL***** or GKR*****) Dual entry solenoid safety interlock switch is a heavy-duty key switch/ solenoid lock used in large heavy duty door applications – machine momentum in industrial machinery. The product consists of 2 switch blocks. 1 switch block is operated by key and other switch block is operated by a solenoid. The switch block is fitted with up to four pairs of switching contacts (available in several configurations). It has an enclosure made of AG40A zinc die cast alloy and cover made of cold rolled steel, sealed to IP68. The switch is provided with field wiring terminals. The customer has to use a conduit plug rated for IP68 and above to ensure the integrity of sealing.

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 actuation of the plunger by the key and/or on de-energization or energization of the solenoid.

Identification of certified equipment

This certificate applies to all devices defined in the manufacturer’s assembly drawing numbers GK series chart 4, type E, Rev 57, 02-Apr-2015; GK series chart 4, type I, Rev 55, 13-Apr-2015.

Mechanical endurance reliability data

The following reliability data has been established by test.

GKL***** or GKR***** [2]	
Mean Cycles To Failure [1]	2,587,000 cycles [3]
B _{10d} [4]	500,000 cycles

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

[2] For ***** refer to manufacturer’s drawings stated above for details of product variants.

[3] Results of Weibull analysis on test results from 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:	60 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: 1,500VAC 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.