



Application Alley

Photovoltaic Systems - Reed Relays

*Photovoltaic Systems Use Reed Relays to Monitor
Isolation Control*

Introduction

A photovoltaic system has to have excellent isolation. Without proper isolation, currents will flow off into the ground, which will not only cause a loss of power, but may also be very dangerous. Isolation resistance is made up of different components:

- PV Module
- DC Cable
- Inverter

Inverters without internal transformers are not electrically isolated from the power net.

According to DIN VDE 0126-1-1, however, the isolation must not drop below a certain minimum.

Because of the missing galvanic isolation, it is not possible to measure the isolation resistance while the system is in operation. Therefore the isolation resistance is measured before the inverter is connected to the power net (current sensitive fault protection).

Modern inverters have an integrated isolation control which monitors all components for potential failures. This control system poses high requirements for the Relay.

Reed Relays designed by Standex Electronics meet those requirements perfectly. Despite its small size, the Relay has an isolation resistance of up to >10G Ohm. Another advantage is the low power consumption. Reed Relays only need energy during the switching process which has a positive influence on the overall efficiency of the inverter. Because of the high number of switching cycles (>10⁹), the Reed Relay is suitable for long life applications.

Reed Relay Products

Operating Characteristics / Dimensions					
	LI	BE	KT	Units	
Coil resistance	5,12,24	5,12,24	5,12,24	VDC	
Breakdown voltage max.	4,000	4,000	8,000	VDC	
Switching voltage max.	1,000	1,000	1,000	VDC	
Isolation resistance max.	>10G	>10G	>10G	Ω	
Switching current max.	1.0	1.0	1.0	A	
Carry current max.	5.0	2.5	1.0	A	
Power max.	100	100	100	Watts	
Contact form	A-NO	A-NO	A-NO		
Dimensions	Length	30.0	33.0	30.0	mm
	Width	10.0	10.0	12.5	mm
	Height	10.4	10.0	13.1	mm



Find out more about our ability to propel your business with our products by visiting www.standexelectronics.com or by giving us a hello@standexelectronics.com today! One of our brilliant engineers or solution selling sales leaders will listen to you immediately.

About Standex Electronics

Standex Electronics is a worldwide market leader in the design, engineering, and manufacture of standard and custom electro-magnetic components, including magnetics products and reed switch-based solutions.

Our magnetics offerings include planar, current sense, and conventional low- and high-frequency transformers and inductors. Reed switch-based solutions include Meder, Kent, and KOFU brand reed switches, as well as a complete portfolio of reed relays, and a comprehensive array of fluid level, proximity, motion, water flow, HVAC condensate, hydraulic pressure differential, capacitive, conductive and inductive sensors.

We offer engineered product solutions for a broad range of product applications in the transportation, automotive, medical, test and measurement, military and aerospace, aviation, HVAC, appliance, security and safety, and general power and industrial markets.

Standex Electronics has a commitment to absolute customer satisfaction through a partner, solve, and deliver approach. With a global organization that offers sales support, engineering capabilities, and technical resources worldwide – we implement customer driven innovation that puts the customer first.

For more information on Standex Electronics, visit us on the web at standexelectronics.com.

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