



Application Alley

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Photovoltaic Systems - Reed Relays

Photovoltaic Systems Use Reed Relays to Monitor Isolation Control



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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-Meder 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	Lenght	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.standexmeder.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-Meder Electronics

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

Our magnetic offerings include planar, Rogowski, current, and low- and high-frequency transformers and inductors. Our reed switch-based solutions include Meder, Standex and OKI 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 spectrum of product applications in the automotive, medical, test and measurement, military and aerospace, as well as appliance and general industrial markets.

Standex-Meder Electronics has a commitment to absolute customer satisfaction and customer-driven innovation, with a global organization that offers sales support, engineering capabilities, and technical resources worldwide.

Headquartered in Cincinnati, Ohio, USA, Standex-Meder Electronics has eight manufacturing facilities in six countries, located in the United States, Germany, China, Mexico, the United Kingdom, and Canada.

For more information on Standex-Meder Electronics, please visit us on the web at www.standexmeder.com.

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