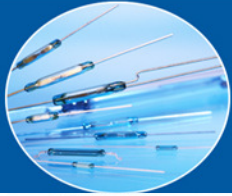


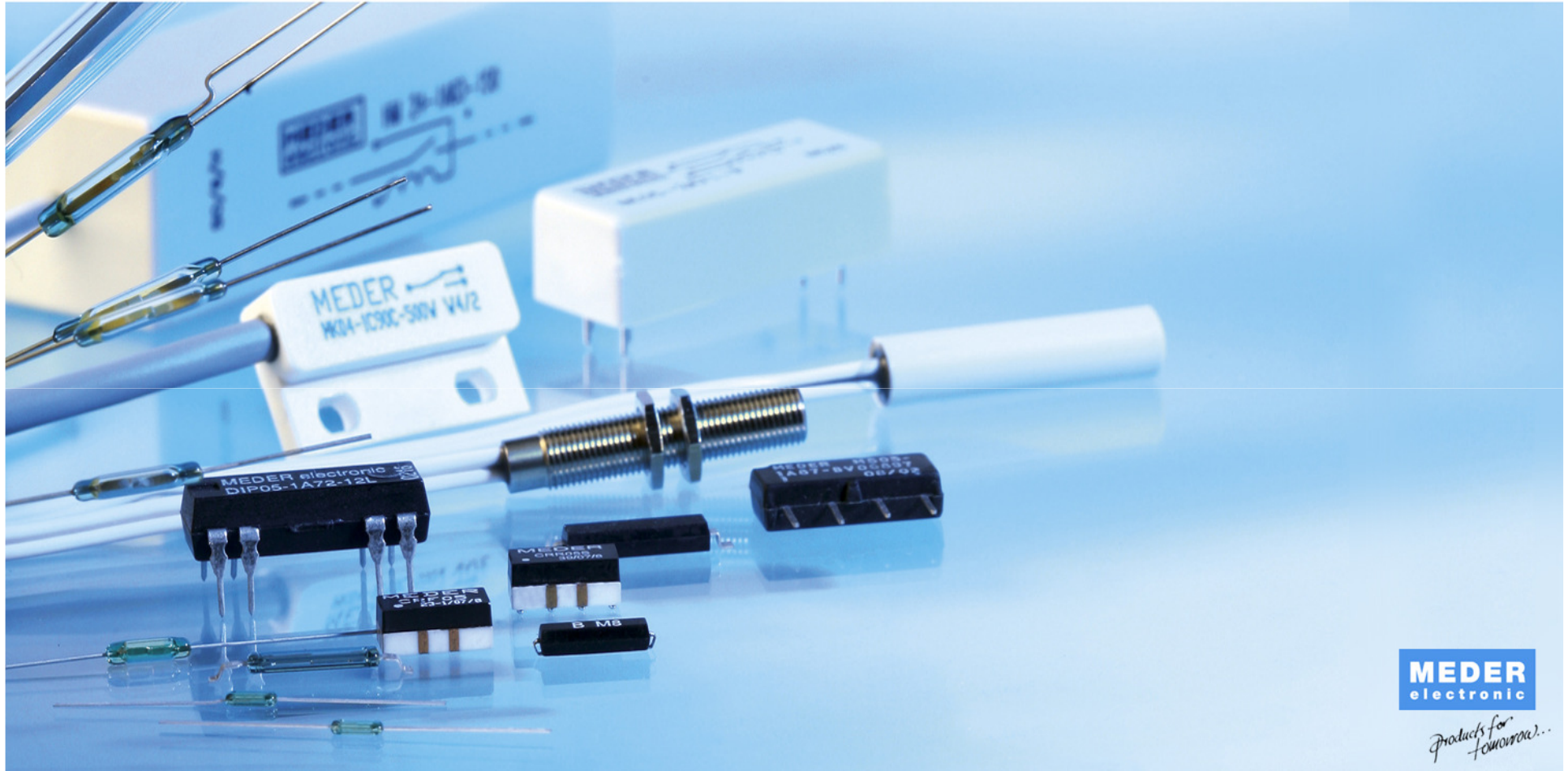
REED SWITCHES

REED SENSORS

REED RELAYS



MEDER electronic group



MEDER
electronic

*Products for
Tomorrow...*

Reed Switch Basics part II

Copy right: John Beigel,
MEDER electronic group
<http://www.meder.com>

04/02/2010

REED SWITCHES

REED SENSORS

REED RELAYS

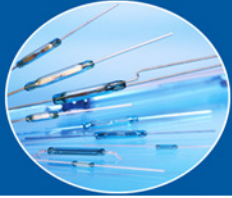


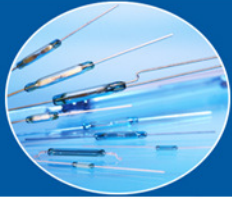
Table of contents

- Reed Switch Operating Characteristics
 - Pull-in / Drop-out
 - Hysteresis
- Parameters of a Reed Switch

REED SWITCHES

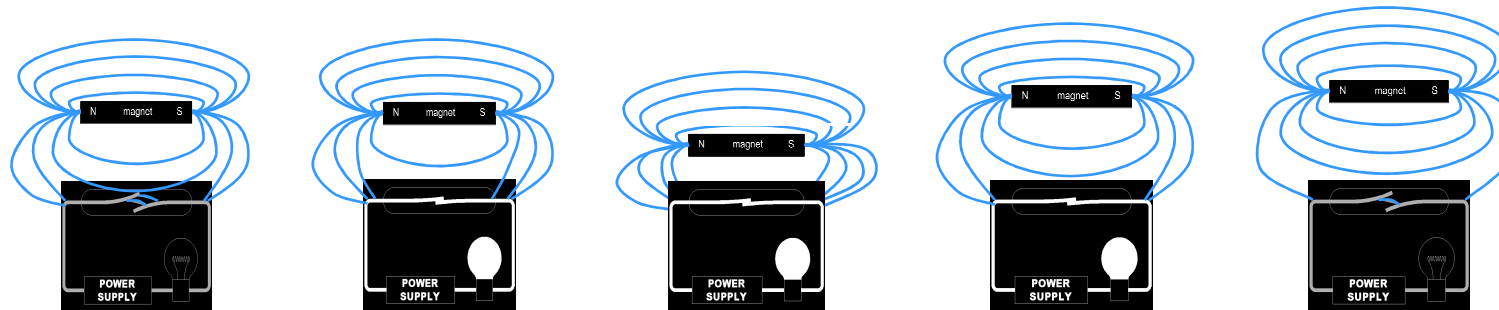
REED SENSORS

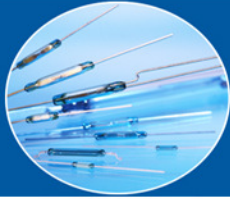
REED RELAYS



Pull-in / Drop-out

- Pull In (PI) – is the point where the reed switch contacts close
- Drop out (DO) is the point where the reed switch contacts open





Hysteresis

- Hysteresis can be a very important parameter in reed sensors, particularly when sensing liquid levels
- If the liquid being measured is in any type of moving vehicle or a vibrating environment, the hysteresis can play an important role in a successful application
- Once the sensing takes place the hysteresis will keep it in that state even after a considerable movement of the liquid level.

Pull-In / Drop-Out x 100% = % Hysteresis

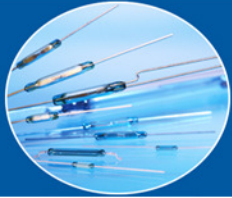


Example: $12 \text{ mm} / 20 \text{ mm} = 0.6 \times 100 \% = 60 \% \text{ Hysteresis}$
 meaning the switch will activate at 60 % of it's release point

REED SWITCHES

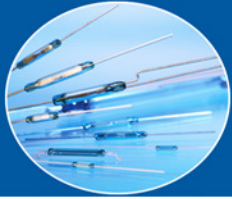
REED SENSORS

REED RELAYS



Parameters

Contact Parameters	
Rated Power (Watts)	up to 100
Switching Voltage (Volts DC/AC)	0 to 10,000
Breakdown Voltage (Volts DC)	200 to 15,000
Switching Current (Amps)	0 to 3.0
Carry Current (Amps)	0 to 15.0
Contact Resistance (milliOhms)	< 100
Isolation Resistance (Ohms)	up to 10E15
Operating Time (milliseconds)	< 1.0
Release Time (microseconds)	< 50
Capacitance (picoFarad)	0.2 typical



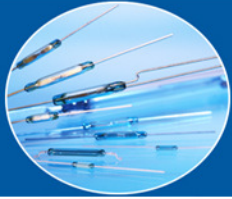
Parameters

- Pull In (PI)
- Drop out (DO)
- Hysteresis
- Switching voltage
- Breakdown voltage
- Common mode voltage
- Switching current
- Carry current
- Insulation resistance
- Capacitance
- Life time

REED SWITCHES

REED SENSORS

REED RELAYS



Reed Switch Basics

- **End of part II**

Content of part III:

Dynamic Contact Resistance

The Reed Switch as Reed Relay

The Reed Switch as Reed Sensor