

**MEDER**  
electronic

*Products for  
Tomorrow...*



# SHORTFORM CATALOG

**Reed Relays** · **Reed Sensors** · **Reed Switches**

[www.meder.com](http://www.meder.com)

## How to Use This Selection Guide

The information provided within this Short Form Catalog gives a general overview of MEDER electronic's Standard Reed Products and their specifications. The products included here, however, represent only a small portion of our complete product line.

MEDER also offers customer specific products produced to meet special requirements, including wire and cable terminations. Once you've found a product that suits your needs, please contact one of our authorized sales representatives for complete information. To request a complete MEDER product Data Book catalog, visit our website [www.meder.com](http://www.meder.com) for the most up-to-date product information and for further product specifications.

MEDER has engineers in strategic locations internationally to assist you with any application of our Reed Technology. If a standard product doesn't fully meet your requirements, please consult our applications department to explore how a MEDER product can be adapted to your specific use. Thank you for your interest in MEDER electronic's products. Please let us know how we can assist you with your specific product requirements.

## How to Order

Ordering products from MEDER electronic is easy and convenient! To place an order by telephone, call any of our authorized sales representatives or distributors found in the "Contact us" list on our website at [www.meder.com](http://www.meder.com). E-Mail orders are also welcomed via our website using the order form found on the "Contact us" page.

## Company Profile

MEDER electronic AG, the parent company, was founded by Bernhard Meder in 1981 in Singen, Germany. A financially strong company, all expansion and new product development has taken place through internal funding. MEDER's core competency depends on our strong engineering, our technology and Reed Switch driven product base, our customer-specific product development, our strong marketing and our modern, mechanized, high quality, reliable manufacturing facilities. MEDER has factories and sales offices worldwide. The MEDER group consistently grows financially and technologically with products driven by all major market segments including Industrial, Telecommunications, Test-and-Measurement, Security, Automotive and Medical.

## Vision Statement

MEDER electronic is a privately owned, profitable, innovative leader in the worldwide Reed Technology Market. The company produces a wide range of Reed Relays, Reed Sensors and Reed Switches for many applications. Years of experience in developing products utilizing Reed Technology, together with the technical knowledge and expertise of its employees, ensure the delivery of reliable, quality products with outstanding customer service. MEDER offers a complete line of standard products and is quick to develop specific solutions catering to customer needs and their new applications.

## Quality and Reliability

MEDER electronic is committed to delivering perfect products every time in order to meet the short and long term goals of our customers' applications. MEDER does this through the implementation of a Total Quality Management (TQM) program at all of its facilities. The TQM approach involves a conscientious team that will assure that all products comply with our customers' requirements. A Statistical Process Control (SPC) program has been added to our manufacturing where data collection and specification monitoring are critical. Many of our products are also UL, CSA, ATEX, VDE or EN60950 certified. All MEDER electronic factories are DIN EN ISO 9001:2008 and some TS16949:2009 and DIN EN ISO 14001:2005 certified.

## Notes

MEDER electronic may make improvements and / or changes in our products, our technical specifications or our product promotions described in this publication at any time without notice.

## Tolerances

The tolerances on overall package dimensions are +/- 0.25 mm [+/- 0.010 inch]. Pin to pin dimensions are +/-0.1mm [+/- 0.005 inch] unless otherwise specified.

## Mini-Glossary

Form A = normally open contact (N. O.)

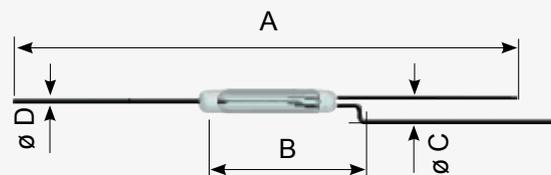
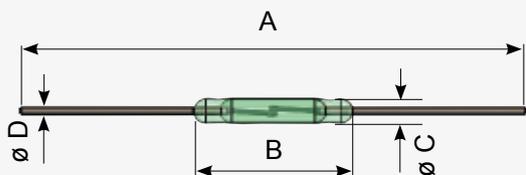
Form B = normally closed contact (N.C.)

Form C = change over contact (S.P.D.T.)

Form E = latching / bistable

AT = Ampere Turns; Parameter that describes magnetic sensitivity.

For a complete glossary, visit our website: [www.meder.com](http://www.meder.com)



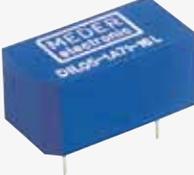
SWITCH	KSK-1A04	KSK-1A35-...	KSK-1A35/1	KSK-1A41-...	KSK-1A46-...
<b>Dimensions in mm (inch)</b>	A - 30 (1.181) B - 3.95 (0.156) C - 1.5 (0.059) D - 0.6 (0.024)	A - 34.5 (1.358) B - 10.5 (0.413) C - 2.1 (0.083) D - 1.2 (0.047) flat	A - 34.5 (1.358) B - 10.5 (0.413) C - 2.1 (0.083) D - 1.2 (0.047) flat	A - 56.7 (2.232) B - 14 (0.551) C - 2.2 (0.087) D - 0.5 (0.02)	A - 44.1 (1.736) B - 12 (0.472) C - 2 (0.079) D - 0.5 (0.02)
<b>Specifications</b>		*	*		*
Contact Form	1A	1A	1A	1A	1A
Rated Power (W)	1	20	10	16	10
Switching Voltage (VDC)	6	200	350	200	200
Switching Current (A)	0.3	1.0	1.25	0.5	0.5

SWITCH	KSK-1A52-...	KSK-1A53-...	KSK-1A54-...	KSK-1A55-...	KSK-1A66-...
<b>Dimensions in mm (inch)</b>	A - 55.2 (2.173) B - 21 (0.827) C - 2.75 (0.108) D - 0.6 (0.024)	A - 55 (2.165) B - 20.5 (0.807) C - 2.8 (0.110) D - 0.6 (0.024)	A - 81.6 (3.213) B - 53.4 (2.102) C - 5.4 (0.213) D - 1.3 (0.051)	A - 43.9 (1.728) B - 16.5 (0.65) C - 2.8 (0.11) D - 0.6 (0.024)	A - 44.1 (1.736) B - 14 (0.551) C - 2.2 (0.087) D - 0.5 (0.02)
<b>Specifications</b>					*
Contact Form	1A	1A	1A	1A	1A
Rated Power (W)	50	10	25	50	10
Switching Voltage (VDC)	350	220	500	200	200
Switching Current (A)	0.7	1.0	1.5	0.5	0.5

SWITCH	KSK-1A69-...	KSK-1A76/2	KSK-1A80-...	KSK-1A83-...	KSK-1A85-...
<b>Dimensions in mm (inch)</b>	A - 81.6 (3.213) B - 53.4 (2.102) C - 5.4 (0.213) D - 2.49 (0.098) flat	A - 83.4 (3.283) B - 50.8 (1.988) C - 5.2 (0.205) D - 2.5 (0.098)	A - 35.6 (1.402) B - 7 (0.276) C - 1.8 (0.071) D - 0.3 (0.012)	A - 81.6 (3.213) B - 53.4 (2.102) C - 5.4 (0.213) D - 2.49 (0.098) flat	A - 55.5 (2.185) B - 21 (0.827) C - 2.75 (0.108) D - 0.6 (0.024)
<b>Specifications</b>			*		
Contact Form	1A	1A	1A	1A	1A
Rated Power (W)	50	120	10	50	100
Switching Voltage (VDC)	10 k	300	170	7500	1000
Switching Current (A)	3.0	3.0	0.25	3.0	1.0

SWITCH	KSK-1A87-...	KSK-1C90U-...	KSK-1C90F-...	
<b>Dimensions in mm (inch)</b>	A - 35.5 (1.398) B - 10 (0.394) C - 2 (0.079) D - 0.4 (0.016)	A - 56.1 (2.209) B - 14 (0.551) C - 2.54 (0.1) D - 0.5 (0.02)	A - 54.5 (2.146) B - 14 (0.551) C - 2.54 (0.1) D - 0.5 (0.02)	
<b>Specifications</b>	*	**	***	
Contact Form	1A	1C	1C	* Most used
Rated Power (W)	10	10	10	** Straight leads
Switching Voltage (VDC)	200	175	175	*** NC dog leg bend
Switching Current (A)	0.5	1.0	1.0	

## REED RELAYS

Mounting Form	Standard / General-purpose Relays			
				
<b>Series</b>	<b>BE</b>	<b>CRR</b>	<b>DIL</b>	<b>DIP</b>
<b>Description</b>	All Purpose Reed Relay	SPST Miniature Reed Relay	Sealed DIL Reed Relay with up to 4.25 kVDC Break-down Voltage Option	Molded DIP Reed Relay
<b>Dimensions in mm (inch)</b>	L - 33 (1.299) W - 10 - 15.3 (0.394-0.602) H - 10 (0.394)	L - 8.6 (0.339) W - 4.4 (0.173) H - 3.4 (0.134) (1A) H - 3.9 (1.54) (1B, w. BGA)	L - 20.1 (0.791) W - 10.2 (0.402) H - 10.2 (0.402)	L - 19.3 (0.76) W - 6.4 (0.252) H - 5.1 (0.201) (1A) H - 7.5 (2.95) (1B, 1C, 2A)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Up to 5 Form A</li> <li>1 - 2 Form B</li> <li>1 - 2 Form C</li> <li>1 - 2 Form E</li> <li>- Metal or plastic case</li> <li>- Several pin out options</li> <li>- High insulation version available</li> <li>- Latching version available</li> </ul>	<ul style="list-style-type: none"> <li>- Ceramic / thermoset molded package</li> <li>- Surface mount design</li> <li>- Internal magnetic shield</li> <li>- Insulation resistance typical <math>10^{14}</math> ohms</li> <li>- 3 Volt coil option available</li> <li>- With and without BGA</li> </ul>	<ul style="list-style-type: none"> <li>- Compatible with DIL socket</li> <li>- Coil resistance up to 11 kOhm</li> <li>- 4.25 kVDC breakdown voltage available</li> <li>- Magnetic shield available</li> <li>- Diode Option available</li> <li>- Line sensing relay with &lt;15mA operating current</li> </ul>	<ul style="list-style-type: none"> <li>- Standard pin configurations</li> <li>- Versions with diode available</li> <li>- IC-pin compatible</li> <li>- TTL drive possible</li> <li>- 4.25 kVDC breakdown voltage</li> </ul>
<b>Approval</b>		UL	UL	UL
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Telecommunication</li> <li>- Medical equipment</li> <li>- Test and measurement</li> <li>- General applications</li> <li>- Industrial</li> </ul>	<ul style="list-style-type: none"> <li>- Test and measurement</li> <li>- Medical equipment</li> <li>- Telecommunications</li> <li>- ATE systems</li> </ul>	<ul style="list-style-type: none"> <li>- Ideal for many battery driven systems</li> <li>- Telecommunications</li> <li>- Industrial</li> <li>- Test and measurement</li> </ul>	<ul style="list-style-type: none"> <li>- Test &amp; Measurement</li> <li>- Telecommunications</li> <li>- Security</li> </ul>
<b>Specifications</b>				
Coil Voltage (VDC)	5, 12, 24	3, 5	5, 12, 24	5, 12, 15, 24
Coil Resistance (Ohm)	500 - 8000	70 - 150	500 - 10000	500 - 2000
Contact Form	1 or 2 (A,B,C,E) 3A, 4A, 5A	1A, 1B	1A, 1B, 1C, 2A, 2C, 3A, 4A	1A, 1B, 1C, 2A
Rated Power max. (W)	100	10	15	15
Switching Voltage max. (VDC)	1000	170	500	500
Switching Current max. (A)	1.0	0.5	1.0	1.0
Carry Current max. (A)	2.5	0.5	1.25	1.25
Breakdown Voltage max. (VDC)	4000	210	1500	1500

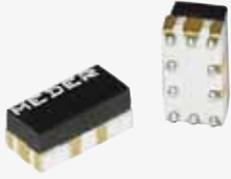
Mounting Form	Standard / General-purpose Relays			Low Thermal Voltage
				
<b>Series</b>	<b>MS</b>	<b>SIL</b>	<b>UMS</b>	<b>BTS / BT</b>
<b>Description</b>	MICRO SIL Reed Relay	Single-In-Line Reed Relay	Ultra Mini SIL Reed Relays	Low Thermal Voltage Reed Relay
<b>Dimensions in mm (inch)</b>	L - 15.2 (0.598) W - 3.9 (0.154) H - 6.8 (0.268)	L - 19.8 (0.780) W - 5.08 (0.2) H - 7.8 (0.307)	L - 6.85 (0.27) W - 3.6 (0.142) H - 9.5 (0.374)	L - 30.48 (1.2) - 34.5 (1.358) W - 12.7 (0.5) - 16.5 (0.65) H - 10 (0.394) - 16.5 (0.65)
<b>Features</b>	<ul style="list-style-type: none"> <li>- New rugged molded design</li> <li>- Requires less than half of the mounting area of a standard SIL-Relay</li> <li>- Available with diode</li> <li>- Internal magnetic shield standard</li> <li>- High coil resistance option</li> <li>- 2A (N.O.) available</li> </ul>	<ul style="list-style-type: none"> <li>- High resistance coils of up to 2000 Ohm at 12V</li> <li>- Magnetic shield available</li> <li>- Breakdown voltage up to 4.25 kVDC</li> <li>- 6 pin with coax screen available</li> <li>- Diode Option available</li> <li>- Coaxial screen with 2 - 50 Ohm impedance</li> <li>- HF up to 1 GHz</li> </ul>	<ul style="list-style-type: none"> <li>- With internal diode</li> <li>- Rugged molded design</li> <li>- AECQ 200 certificate</li> <li>- Internal magnetic shield standard</li> </ul>	<ul style="list-style-type: none"> <li>- 2 Form A switches</li> <li>- Low offset voltages &lt;1µV</li> </ul>
<b>Approval</b>	UL	UL	UL	
<b>Applications</b>	<ul style="list-style-type: none"> <li>- ATE systems</li> <li>- Measurement equipment</li> <li>- Computer peripherals</li> <li>- Alarm systems</li> </ul>	<ul style="list-style-type: none"> <li>- ATE systems</li> <li>- Measurement equipment</li> <li>- Telecommunications</li> <li>- Security</li> <li>- Alarm systems</li> </ul>	<ul style="list-style-type: none"> <li>- ATE systems</li> <li>- PCB Tester</li> <li>- Telecommunication</li> <li>- Test, measurement, &amp; control technology</li> </ul>	<ul style="list-style-type: none"> <li>- Test, measurement, &amp; control technology</li> <li>- High precision measuring devices</li> <li>- Recorder input</li> <li>- Digital volt meter</li> <li>- Data Acquisition</li> </ul>
<b>Specifications</b>				
Coil Voltage (VDC)	5, 12	3, 5, 12, 15, 24	5	5, 12, 24
Coil Resistance (Ohm)	280 - 700	80 - 2000	400	350 - 5000
Contact Form	1A, 1B, 2A	1A, 1B, 1C	1A	2A
Rated Power max. (W)	10	50	10	100
Switching Voltage max. (VDC)	200	500	170	1000
Switching Current max. (A)	0.5	2	0.5	1
Carry Current max. (A)	1.0	2	1	2.5
Breakdown Voltage max. (VDC)	225	1500	210	1500

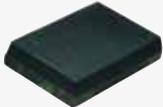
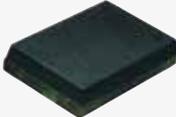
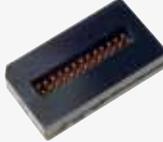
## REED RELAYS

Mounting Form	High Voltage			
				
<b>Series</b>	<b>H</b>	<b>HE</b>	<b>HM</b>	<b>KT</b>
<b>Description</b>	High Voltage Reed Relay	High Voltage Reed Relay for PCB Mounting	High Voltage Reed Relay for PCB Mounting	Molded High Voltage Reed Relays
<b>Dimensions in mm (inch)</b>	L - 29.1 (1.146) W - 18 (0.709) H - 30 (1.181)	L - 65 (2.559) W - 14.5 (0.571) H - 15.8 (0.622)	L - 68 (2.677) W - 19.0 (0.748) H - 19.8 (0.78)	L - 30 (1.181) W - 11 (0.433) H - 9 (0.393)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Form A &amp; Form B options</li> <li>- Switching up to 10 kVDC</li> <li>- <math>10^{13}</math> Ohm between coil and contact</li> <li>- Breakdown voltage up to 15 kVDC</li> <li>- Montage with screw M4</li> </ul>	<ul style="list-style-type: none"> <li>- Available with external contact cables</li> <li>- 1 Form A, 1 Form B, 2A</li> <li>- Special pin outs available</li> <li>- High leakage distance &gt;26 mm</li> </ul>	<ul style="list-style-type: none"> <li>- Available with external contact cables</li> <li>- 1 Form A, 1 Form B, 2A</li> <li>- Special pin outs available</li> <li>- High leakage distance &gt;32 mm</li> <li>- Bistable / Latching version available</li> </ul>	<ul style="list-style-type: none"> <li>- SMD or THT available</li> <li>- Internal diode</li> <li>- Rugged molded design</li> <li>- High isolation resistance</li> <li>- AECQ 200 certificate</li> </ul>
<b>Approval</b>				UL
<b>Applications</b>	<ul style="list-style-type: none"> <li>- All High Voltage Applications</li> <li>- RF surgery</li> <li>- Cable test systems</li> <li>- Heart defibrillator</li> </ul>	<ul style="list-style-type: none"> <li>- High voltage test sets</li> <li>- Cable testers</li> <li>- RF surgery</li> <li>- Heart defibrillator</li> </ul>	<ul style="list-style-type: none"> <li>- High voltage test sets</li> <li>- Cable testers</li> <li>- RF surgery</li> <li>- Heart defibrillator</li> </ul>	<ul style="list-style-type: none"> <li>- High voltage systems</li> <li>- Solar applications</li> <li>- Isolation control</li> <li>- E-cars etc.</li> </ul>
<b>Specifications</b>				
Coil Voltage (VDC)	12, 24	5, 12, 24	5, 12, 24	5, 12, 24
Coil Resistance (Ohm)	40 - 700	50 - 1500	10 - 1650	100 - 2700
Contact Form	1A, 1B	1A, 1B, 2A	1A, 1B, 1E	1A
Rated Power max. (W)	50	250	100	100
Switching Voltage max. (VDC)	10000	10000	10000	1000
Switching Current max. (A)	3.0	3.0	3.0	1
Carry Current max. (A)	5.0	5.0	5.0	2.5
Breakdown Voltage max. (VDC)	15000	10000	15000	5000

Mounting Form	High Voltage		High Insulation
			
<b>Series</b>	<b>LI</b>	<b>SIL HV</b>	<b>HI</b>
<b>Description</b>	High Voltage Reed Relay for PCB Mounting	High Voltage in Single-in-Line Design	High Insulation Reed Relay
<b>Dimensions in mm (inch)</b>	L - 30 (1.181) W - 10 (0.394) H - 10.4 (0.409)	L - 24 (0.945) - 29 (1.142) W - 6.4 (0.252) H - 8.9 (0.35)	L - 28 (1.102) W - 7.5 (0.295) H - 7.9 (0.311)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Smallest possible housing</li> <li>- Space saving package</li> <li>- High coil resistance available</li> <li>- Breakdown voltage up to 5 kVDC</li> <li>- Insulation resistance &gt; 10<sup>13</sup> Ohm</li> <li>- Insulation voltage coil to contact up to 7 kVDC</li> <li>- AECQ 200 certificate</li> </ul>	<ul style="list-style-type: none"> <li>- Small size</li> <li>- Insulation voltage coil to contact up to 4 kVDC</li> <li>- Insulation resistance &gt; 5 x 10<sup>12</sup> Ohm</li> </ul>	<ul style="list-style-type: none"> <li>- High insulation</li> <li>- Up to 10<sup>13</sup> Ohm contact-to-contact</li> <li>- Up to 10<sup>14</sup> Ohm coil-to-contact</li> <li>- Very high leakage distances</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>- High voltage test systems</li> <li>- Cable and in-circuit test equipment</li> <li>- Battery operated high voltage test equipment</li> <li>- Green technology</li> </ul>	<ul style="list-style-type: none"> <li>- High voltage test systems</li> <li>- Cable and in-circuit test equipment</li> <li>- Battery operated high voltage test equipment</li> </ul>	<ul style="list-style-type: none"> <li>- Measurement equipment</li> <li>- Test systems</li> <li>- Control systems</li> <li>- Medical equipment</li> </ul>
<b>Specifications</b>			
Coil Voltage (VDC)	5, 12, 24	5, 12	5, 12
Coil Resistance (Ohm)	200 - 3600	150 - 220	140 - 900
Contact Form	1A	1A	1A
Rated Power max. (W)	100	100	100
Switching Voltage max. (VDC)	1000	1000	1000
Switching Current max. (A)	1.0	1.0	1.0
Carry Current max. (A)	2.5	2.5	2.5
Breakdown Voltage max. (VDC)	5000	2000 - 4000	3000

## REED RELAYS

Mounting Form	High Frequency			
				
<b>Series</b>	<b>CRF</b>	<b>HF</b>	<b>LP</b>	<b>SIL HF</b>
<b>Description</b>	7 GHz High Frequency Miniature Reed Relay	High Frequency and High Power Reed Relay	Miniature Reed Relay for High Frequency Switching	High Frequency Single-In-Line Reed Relay
<b>Dimensions in mm (inch)</b>	L - 8.6 (0.339) W - 4.4 (0.173) H - 3.4 (0.134) (1A) H - 3.9 (0.154) (1B)	L - 53.7 (2.114) W - 19 (0.748) H - 20 (0.787)	L - 20.4 (0.803) W - 5.8 (0.228) H - 5.08 (0.2)	L - 19.8 (0.78) W - 5.08 (0.2) H - 7.8 (0.307)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Ceramic / thermoset molded package</li> <li>- Surface mount design</li> <li>- Internal magnetic shield</li> <li>- Insulation resistance typical 10<sup>14</sup> ohms</li> <li>- 3 Volt coil option available</li> <li>- With and without BGA</li> </ul>	<ul style="list-style-type: none"> <li>- Patented complete shielding of the relay coil</li> <li>- External electrostatic and magnetic shields</li> <li>- Special copper-plate switches</li> <li>- Suitable for carrying a high current, up to 5A at 30 MHz</li> </ul>	<ul style="list-style-type: none"> <li>- Available with 1 Form A or 1 Form C</li> <li>- Available with a coaxial shield</li> <li>- Capable of switching signals up to UHF-range</li> <li>- High reliability</li> <li>- Small housing</li> </ul>	<ul style="list-style-type: none"> <li>- Insulation voltage up to 4.25 kVDC</li> <li>- Coax screen for Z=50 Ohm Impedance</li> <li>- Switching frequency up to 1.5 GHz</li> </ul>
<b>Approval</b>	UL			UL
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Test and measurement</li> <li>- Medical equipment</li> <li>- Telecommunications</li> <li>- High frequency</li> <li>- ATE systems</li> </ul>	<ul style="list-style-type: none"> <li>- Radio frequency technology</li> <li>- Antenna tuning units</li> <li>- Transmitters</li> </ul>	<ul style="list-style-type: none"> <li>- RF communications</li> <li>- Video switching</li> <li>- ATE systems</li> </ul>	<ul style="list-style-type: none"> <li>- ATE systems</li> <li>- High voltage cable tester</li> <li>- Telecommunications</li> <li>- Alarm systems</li> <li>- Measure and control system</li> </ul>
<b>Specifications</b>				
Coil Voltage (VDC)	3, 5	12, 24	5, 12	5, 12
Coil Resistance (Ohm)	70 - 150	250 - 1000	230 - 950	500 - 1000
Contact Form	1A /1B	1A, 1B	1A, 1C	1A
Rated Power max. (W)	10	25	10	15
Switching Voltage max. (VDC)	170	500	200	200
Switching Current max. (A)	0.5	1.5 RF	0.5	1.0
Carry Current max. (A)	0.5	5.0	1.0	1.25
Breakdown Voltage max. (VDC)	210	9000	225	250

Mounting Form	Relay Module				
					
<b>Series</b>	<b>RM05-4-BV10500</b>	<b>RM05-4A</b>	<b>RM05-6A</b>	<b>RM05-4-BV10641</b>	<b>RM05-8A</b>
<b>Description</b>	low-profile , 4 inputs, 4 outputs	low-profile , 4 inputs, 2 or 4 outputs	low-profile 4 inputs, 1 output	plug-in 4 pole RF with connector 1.27mm (0.05) pitch male	with one serial digital 8 bit input channel
<b>Dimensions in mm (inch)</b>	L - 13 (0.512) W - 12 (0.472) H - 3.5 (0.138)	L - 16 (0.63) W - 11.2 (0.441) H - 4 (0.157)	L - 16 (0.63) W - 20 (0.787) H - 3.9 (0.154)	L - 22.5 (0.886) W - 12.7 (0.5) H - 4.5 (0.177)	L - 38.5 (1.5) W - 7.6 (0.299) H - 15.3 (0.602)
<b>Features</b>	<ul style="list-style-type: none"> <li>- FR-4/thermoset molded package</li> <li>- Leadless SMT design eliminates skewing and coplanarity issues</li> <li>- Minimum path length for RF</li> <li>- &lt;40ps rise times for switching fast pulses</li> <li>- Standard with BGA</li> <li>- Low profile</li> <li>- Internal magnetic shielding</li> <li>- Gold plated traces for high conductivity signal path</li> <li>- Insulation resistance typically 10<sup>14</sup> ohms</li> </ul>			<ul style="list-style-type: none"> <li>- Socket mounting on 1.27mm (0.05) pitch female for easy replacement</li> <li>- Minimum path length for RF</li> <li>- Flat package</li> </ul>	<ul style="list-style-type: none"> <li>- Reed Relay Module with integrated 8 bit shift register, 74 HC 595 or 74 HCT595</li> <li>- Saves PCB space</li> <li>- Saves wiring costs</li> <li>- Saves assembly costs</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Test and Measurement</li> <li>- Telecommunications</li> <li>- High frequency applications</li> </ul>			<ul style="list-style-type: none"> <li>- Test and Measurement</li> <li>- Mixed Signal applications</li> <li>- RF applications</li> </ul>	<ul style="list-style-type: none"> <li>- Test and Measurement</li> <li>- Telecommunications</li> </ul>
<b>Specifications</b>					
Coil Voltage (VDC)	5	5	5	5	5
Coil Resistance (Ohm)	185	185	185	185	500
Contact Form	4 A	2A+2B, 4 A, 2B	6 A	4 A	8 A (2C, Matrix)
Rated Power max. (W)	10	10	10	10	10
Switching Voltage max. (VDC)	170	170	170	100	125
Switching Current max. (A)	0.5	0.5	0.5	0.5	1.0
Carry Current max. (A)	0.5	0.5	0.5	0.5	1.5
Breakdown Voltage max. (VDC)	210	210	210	210	200

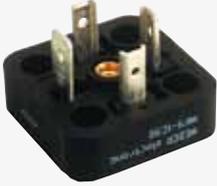
## OPTO-COUPLER

Mounting Form	Opto-Coupler			
				
Series	522-03-i	525- / 535	567-70-1-i	575
Description	The potted Opto-Couplers are perfectly suitable for the galvanic separation of intrinsically safe and non- intrinsically safe circuits.			For direct triggering of AC voltage
Dimensions in mm (inch)	L - 16.5 (0.65) W - 6.6 (0.6) H - 9 (0.354)	L - 19 (0.748) W - 10 (0.394) H - 8 (0.315)	L - 19 (0.748) W - 10 (0.394) H - 10 (0.394)	L - 19 (0.748) W - 10 (0.394) H - 8 (0.315)
Features	<ul style="list-style-type: none"> <li>- Small dimensions</li> <li>- Up to 50 kHz Cut-off frequency</li> <li>- LED/Phototransistor output</li> <li>- Plastic casing potted with Polyurethane resin</li> <li>- 375V peak voltage</li> </ul>	<ul style="list-style-type: none"> <li>- Small dimensions</li> <li>- Plastic casing, potted with Polyurethane resin</li> <li>- 375 V peak voltage</li> <li>- LED/Phototransistor output</li> <li>- Up to 50 kHz cut-off-frequency</li> </ul>	<ul style="list-style-type: none"> <li>- Fast switching &lt;10µs</li> <li>- Small dimensions</li> <li>- Plastic casing, potted with Polyurethane resin</li> <li>- 375 V peak voltage</li> <li>- Up to 500 kHz cut-off-frequency</li> <li>- LED/Smith-Trigger output</li> </ul>	<ul style="list-style-type: none"> <li>- Small dimensions</li> <li>- Plastic casing, potted with Polyurethane resin</li> <li>- Supply voltage control</li> <li>- Input voltage 220VAC (option 110VAC, 380VAC available)</li> </ul>
Approval	ATEX: PTB 01, 2043U	ATEX: PTB 01, 2049U	ATEX: PTB 01, 2042U	
Applications	<ul style="list-style-type: none"> <li>- Test &amp; measurement</li> <li>- Control engineering in the mining industry, chemical industry and refineries</li> </ul>			<ul style="list-style-type: none"> <li>- Supply voltage control</li> </ul>
	<p><b>EXPLOSIVE ATMOSPHERES PART APPROVAL</b></p> <p>Often times electronic equipment is required to carry out certain functions in potentially explosive atmospheres. To prevent potential igniting via a spark or arc in these environments, all components must be selected very carefully. Components meeting these requirement are generally referred to as intrinsically safe. These components must be tested such that they will not become an ignition point when subjected to short circuits or adjacent component failures. They must also switch to a defined state when subjected to overload conditions.</p> <p>Our 522-03-i, 525-03-i, 535-04-i, and 567-70-1-1 Opto-coupler series are all ideal for this environment. Please consult your nearest MEDER Sales office or visit our website <a href="http://www.meder.com">www.meder.com</a> for more details.</p>			

Mounting Form	For SMD Mounting			
				
<b>Series</b>	<b>MK01</b>	<b>MK15; MK16</b>	<b>MK17</b>	<b>MK22</b>
<b>Description</b>	Surface Mount Reed Sensor	Surface Mount Reed Sensor	Surface Mount Reed Sensor	Surface Mount Reed Sensor
<b>Dimensions in mm (inch)</b>	L - 18.8 (0.74) W - 3.7 (0.146) H - 3.25 (0.128)	MK15    MK16 L - 19.5 (0.77) 11.5(0.453) W - 2.5 (0.098) 2.3 (0.091) H - 2.5 (0.098) 2.3 (0.091)	L - 8.5 (0.335) W - 2.1 (0.83) H - 2.1 (0.83)	L - 11.6 (0.457) W - 2.7 (0.106) H - 2.3 (0.091)
<b>Features</b>	<ul style="list-style-type: none"> <li>- SMD mount design</li> <li>- Provided in standard 32 mm tape according to IEC 286 / part 3</li> <li>- Low profile package with a height of 3.25 mm</li> </ul>	<ul style="list-style-type: none"> <li>- Series offers two lead designs:</li> <li>1: Axial (Flat, straight leads for PCB slot mounting);</li> <li>2: Gull-wing (Flat, bent SMD leads)</li> <li>- Supplied tape &amp; reel according to IEC 286/part 3</li> <li>- Small dimensions</li> <li>- Low cost version</li> </ul>	<ul style="list-style-type: none"> <li>- Series offers three lead designs:</li> <li>1: Axial (Flat, straight leads for PCB slot mounting)</li> <li>2: Gull-wing (Flat, bent SMD leads)</li> <li>3: J-lead (SMD leads)</li> <li>- Small dimensions</li> </ul>	<ul style="list-style-type: none"> <li>- Series offers two lead designs:</li> <li>1: Axial (Flat, straight leads for PCB slot mounting)</li> <li>2: Gull-wing (Flat, bent SMD leads)</li> </ul>
<b>Approval</b>	UL	UL	UL	UL
<b>Packaging</b>	Tape & Reel	Tape & Reel possible	Tape & Reel possible	Tape & Reel
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Telecommunications (hook switch in mobile phones)</li> <li>- Electronic PCB's</li> <li>- Position detection</li> </ul>	<ul style="list-style-type: none"> <li>- Electronic PCB's</li> <li>- Telecommunications</li> <li>- Switching element in microphones</li> <li>- Automotive applications</li> </ul>	<ul style="list-style-type: none"> <li>- Electronic PCB's</li> <li>- Telecommunications</li> <li>- Switching element in microphones</li> <li>- Automotive applications</li> </ul>	<ul style="list-style-type: none"> <li>- Telecommunication applications</li> <li>- Hook switch in mobile and hard wired phones</li> <li>- Switching element in microphones</li> </ul>
<b>Specifications</b>				
Contact Forms	1A, 1B, 1C	1A; 1B (MK15)	1A	1A
Rated Power max. (W)	10	10	10	20
Switching Voltage max. (VDC)	200	200	100	200
Switching Current max. (A)	0.5	0.5	0.5	1.0
Carry Current max. (A)	1.25	1.0	0.5	1.25
Avail. Operation Range (AT)	10 to 60	10 to 60	10 to 40	10 to 30

Note: Suitable magnets can be found on Page 19.

## REED SENSORS

Mounting Form	For SMD Mounting			Pluggable
				
<b>Series</b>	<b>MK23</b>	<b>MK24</b>	<b>MMS</b>	<b>MK09</b>
<b>Description</b>	Open Glass SMD Reed Sensor	Miniature SMD Reed Sensor	Micro-Miniature SMD Reed Sensor	Reed Sensor in Hirschmann Connector, Fastening Screw M3
<b>Dimensions in mm (inch)</b>	L - 7 (0.276) - 21 (0.827) Ø - 1.8 (0.071) - 2.75 (0.108) H - 1.9 (0.075) - 2.5 (0.098)	L - 5 (0.197) W - 2.2 (0.087) H - 1.5 (0.59)	L - 2.8 (0.11) W - 2.05 (0.081) H - 1.35 (0.053)	L - 30 (1.181) W - 30 (1.181) H - 10.4 (0.409)
<b>Features</b>	<ul style="list-style-type: none"> <li>- For low cost applications</li> <li>- Suitable for automatic Pick&amp;Place</li> <li>- Glass length from 7 mm to 21 mm</li> <li>- 4 different lead designs; flat/straight, flat/bent (Gull-Wing), flat/bent (J-Lead), and round/bent (inverse Gull)</li> <li>- Many various pad layouts.</li> </ul>	<ul style="list-style-type: none"> <li>- Three operate sensitivities available</li> <li>- Excellent for low power operations</li> <li>- No external power required for sensor operation</li> <li>- 3 different lead designs; flat/straight, flat/bent (Gull-Wing), flat/bent (J-Lead),</li> </ul>	<ul style="list-style-type: none"> <li>- Electrostatic sensitive</li> <li>- SMT reed sensors (SPST) in miniature size</li> <li>- Two lead designs: 1) flat, straight, 2) flat, bent (Gull-wing)</li> <li>- Designed for switching low power devices (max. 3 VDC)</li> <li>- 10<sup>9</sup> Ohm insulation resistance across the contacts</li> <li>- High shock resistance</li> </ul>	<ul style="list-style-type: none"> <li>- Magnetically operated Reed proximity switches</li> <li>- The molded surface is screwed on a plane surface in the direction of the operating magnet</li> </ul>
<b>Approval</b>	UL			UL
<b>Packaging</b>	Tape & Reel	Tape & Reel	Tray	
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Automotive</li> <li>- Computer</li> <li>- Household appliances</li> <li>- Security</li> <li>- Medical equipment</li> <li>- Telecommunications</li> <li>- Test &amp; Measurement</li> </ul>	<ul style="list-style-type: none"> <li>- Electronic PCB's</li> <li>- Telecommunication</li> <li>- Hook switch in mobile and hard wired phones</li> <li>- Switching element in microphones</li> <li>- Smoke detecting</li> </ul>	<ul style="list-style-type: none"> <li>- Medical pacemakers and insulin pumps</li> <li>- Telecommunications</li> <li>- PDA, Cell Phones</li> <li>- CMOS gates and other low power signals switching</li> </ul>	<ul style="list-style-type: none"> <li>- Air filter maintenance</li> <li>- Air conditioning &amp; clean room systems</li> <li>- Pneumatic &amp; hydraulic cylinders</li> <li>- Machine industry</li> </ul>
<b>Specifications</b>				
Contact Forms	1A, 1C	1A, 1B	1A	1A, 1B, 1C
Rated Power max. (W)	100	3	0.3 mW	100
Switching Voltage max. (VDC)	1000	30	3	1000
Switching Current max. (A)	1.0	0.3	100 µA	1.0
Carry Current max. (A)	2.5	0.5	100 µA	2.5
Avail. Operation Range (AT)	10 to 60	5 to 20	1.8 to 4.0 mT	10 to 60

Note: Suitable magnets can be found on Page 19.

Mounting Form	For PCB Mounting		Cylindrical	
				
<b>Series</b>	<b>MK02 (PCB Version)</b>	<b>MK06</b>	<b>MK03</b>	<b>MK08</b>
<b>Description</b>	Ferromagnetic Metal Detection Sensor for PCB mounting	Through-hole Reed Sensors for PCB Mounting	Cylindrical Reed Sensors	Cylindrical Reed Sensors
<b>Dimensions in mm (inch)</b>	L - 24 (0.945) W - 8.5 (0.335) H - 7.7 (0.303)	L - 12.06 - 22.32 (0.475 - 0.879) W - 3.3 (0.13) H - 3.3 - 4.2 (0.13 - 0.165)	L - 25.5 (1.004) Ø - 5.75 (0.226)	L - 95.5 (3.76) Ø - 21.5 (0.846)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Sensor is activated by the presence of a ferromagnetic metal such as iron</li> <li>- Front operation</li> <li>- Also available as normal reed sensor with magnetic activation</li> </ul>	<ul style="list-style-type: none"> <li>- Form A, B, C and E (latching)</li> <li>- Switches for direct PCB mounting</li> <li>- Pull-in / drop-out is divided into several ranges</li> <li>- 2.54mm PCB pin spacing, available with different distances</li> </ul>	<ul style="list-style-type: none"> <li>- Different types of switches, cables, cable length and connections available</li> <li>- Ideal for ring type magnet on end-on actuation</li> <li>- Good ratio of price/performance</li> <li>- Different case colors available</li> </ul>	<ul style="list-style-type: none"> <li>- Oil-resistant cable</li> <li>- Operating temperature from - 40°C to +130°C</li> <li>- Six magnetic sensitivity ranges</li> <li>- Different cable lengths and plugs available</li> <li>- RoHS compliant</li> </ul>
<b>Approval</b>	UL available	UL available	UL available	ATEX: KEMA 00, 1112
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Limit sensing</li> <li>- Position control</li> <li>- Control functions in plant &amp; utilities</li> <li>- Security applications</li> <li>- Fire protection doors</li> </ul>	<ul style="list-style-type: none"> <li>- Telephone hook switch</li> <li>- Door switch in appliances</li> <li>- Limit switch for low-power signals</li> <li>- Elevator position indicators</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- Door &amp; window contact for security systems</li> <li>- Level sensor</li> </ul>	<ul style="list-style-type: none"> <li>- For petro-chemical utilities</li> <li>- Flow-meter or tach sensor</li> <li>- Applicable in open air till -40°C</li> <li>- Suitable for all danger zones</li> </ul>
<b>Specifications</b>				
Contact Forms	1A	1A, 1B, 1C, 1E	1A, 1B, 1C	1A, 1B
Rated Power max. (W)	10	10	10	60
Switching Voltage max. (VDC)	200	170 - 200	400	400
Switching Current max. (A)	1.25	0.25 - 0.5	0.5	1.0
Carry Current max. (A)	100 bis 300	1.25	1.25	2.5
Avail. Operation Range (AT)	4.5 to 15 (mm)	10 to 60	10 to 60	10 to 60

Note: Suitable magnets can be found on Page 19.

## REED SENSORS

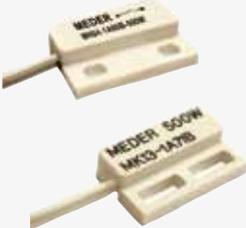
Mounting Form	Cylindrical			
				
<b>Series</b>	<b>MK14</b>	<b>MK18</b>	<b>MK20</b>	<b>MK20/1</b>
<b>Description</b>	Cylindrical Reed Sensor	Cylindrical Reed Sensors	Cylindrical Reed Sensor	Cylindrical Reed Sensor
<b>Dimensions in mm (inch)</b>	L - 25.5 (1.0) Ø - 4 (0.16)	L - 17 (0.669) Ø - 5 (0.197)	L - 7.5 (0.295) Ø - 2.7 (0.106)	L - 10 (0.393) Ø - 3 (0.118)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Miniature module with 4mm diameter, fitted with interconnect cable</li> <li>- Different types of switches, connections, &amp; cable lengths available</li> </ul>	<ul style="list-style-type: none"> <li>- Small size</li> <li>- Other cables, connectors, and colors avail.</li> <li>- Flat surface indicates maximum sensitivity</li> </ul>	<ul style="list-style-type: none"> <li>- Smallest size</li> <li>- Other cables, connectors, and colors available</li> <li>- Flat surface indicates maximum sensitivity</li> </ul>	<ul style="list-style-type: none"> <li>- Small size</li> <li>- Other cables, connectors, and colors available</li> <li>- Flat surface indicates maximum sensitivity</li> </ul>
<b>Approval</b>	UL available	UL available	UL available	UL available
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> </ul>
<b>Specifications</b>				
Contact Forms	1A, 1B, 1C	1A	1A	1A
Rated Power max. (W)	10	10	3	10
Switching Voltage max. (VDC)	400	200	30	30
Switching Current max. (A)	0.5	0.5	0.25	0.25
Carry Current max. (A)	1.0	1.0	0.5	0.5
Avail. Operation Range (AT)	10 to 60	10 to 60	10 to 30	10 to 60

Note: Suitable magnets can be found on Page 19.

Mounting Form	Threaded Cylindrical			
				
<b>Series</b>	<b>MK07</b>	<b>MK11 Stainless Steel</b>	<b>MK11 Plastics</b>	<b>MK11 Brass</b>
<b>Description</b>	Cylindrical Reed Sensors with M8 thread	Reed Sensors with Screw Thread Enclosure	Reed Sensors with Screw Thread Enclosure	Reed Sensors with Screw Thread Enclosure
<b>Dimensions in mm (inch)</b>	L - 39.6 (1.559) Ø - 6.6 (0.26)	L - 25 (0.984) Ø - M5 x 0.5	L - 38 (1.496) Ø - M8 x 1.25	L - 38 (1.496) Ø - M6 - M12
<b>Features</b>	<ul style="list-style-type: none"> <li>- Should be screwed directly into a fixed surface</li> <li>- Series offers a selection of two-part magnetically operated reed proximity switches</li> </ul>	<ul style="list-style-type: none"> <li>- Threaded stainless steel housing with M5 thread for precise positioning</li> <li>- Different types of switches, connections, &amp; cable lengths available</li> </ul>	<ul style="list-style-type: none"> <li>- Threaded plastic housing with M8 thread for precise positioning</li> <li>- Different types of switches, connections, &amp; cable lengths available</li> </ul>	<ul style="list-style-type: none"> <li>- Threaded brass housing for precise positioning</li> <li>- High power switches available</li> <li>- Several thread types available</li> <li>- Different types of switches, connections, &amp; cable lengths available</li> <li>- Five operate sensitivities available</li> </ul>
<b>Approval</b>	UL available	UL available	UL available	UL on request
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- Level sensor</li> <li>- Position sensor</li> <li>- Elevator control</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> <li>- Gate / door control</li> <li>- Elevator control</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> <li>- Gate / door control</li> <li>- Elevator control</li> </ul>	<ul style="list-style-type: none"> <li>- Piston end travel and position detection</li> <li>- End motion detection for linear drives</li> <li>- Machinery industry</li> </ul>
<b>Specifications</b>				
Contact Forms	1A, 1B, 1C	1A, 1B, 1C	1A, 1B, 1C, 1E	1A, 1B, 1C, 1E
Rated Power max. (W)	10	10	100	100
Switching Voltage max. (VDC)	200	200	1000	1000
Switching Current max. (A)	0.5	0.5	1.0	1.0
Carry Current max. (A)	1.5	1.25	2.5	2.5
Avail. Operation Range (AT)	10 to 60	10 to 60	10 to 60	10 to 60

Note: Suitable magnets can be found on Page 19.

## REED SENSORS

Mounting Form	For Screw Fastening			
				
<b>Series</b>	<b>MK02</b>	<b>MK04 MK13</b>	<b>MK05</b>	<b>MK12</b>
<b>Description</b>	Ferromagnetic Metal Detection Sensors for fastening screw M3	Reed Sensors for Fastening Screw M3	Reed Sensors with Slot, Fastening Screw M5	Reed Sensors for Fastening Screw M4
<b>Dimensions in mm (inch)</b>	L - 32.4 - 46 (1.276 - 1.811) W - 16.7 - 18.35 (0.6574 - 0.722) H - 10 - 13 (0.394 - 0.512)	L - 23 (0.906) W - 13.9 (0.547) H - 5.9 (0.232)	L - 23.2 (0.913) W - 19.6 (0.772) H - 5.9 (0.232)	L - 32 (1.26) W - 14.9 (0.587) H - 6.9 (0.272)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Sensor is activated by the presence of a ferromagnetic metal such as iron</li> <li>- Front or above operation</li> <li>- UL: MK02U/xxU</li> </ul>	<ul style="list-style-type: none"> <li>- Good ratio of price/performance</li> <li>- Designed for screw mounting</li> <li>- Choice of switch, termination &amp; cable length offered</li> <li>- Different case colors available</li> <li>- UL: MK04/13U</li> </ul>	<ul style="list-style-type: none"> <li>- Designed for screw mounting</li> <li>- Choice of switch, termination &amp; cable length offered</li> <li>- Contact Form A, B and C available</li> <li>- UL: MK05U</li> </ul>	<ul style="list-style-type: none"> <li>- Different types of switches, connections, &amp; cable lengths available</li> <li>- High power switching available</li> <li>- Contact Form A, B, C and E available</li> <li>- UL: MK12U</li> </ul>
<b>Approval</b>	UL available	UL available	UL available	UL available
<b>Applications</b>	<ul style="list-style-type: none"> <li>- For limit sensing</li> <li>- Position control</li> <li>- Control functions in plant &amp; utilities</li> <li>- Security applications</li> <li>- Fire protection doors</li> <li>- Open / closed recognition</li> </ul>	<ul style="list-style-type: none"> <li>- Door &amp; window control</li> <li>- Position &amp; end switch</li> <li>- Level sensor (use with magnetic floats for water level detection)</li> </ul>	<ul style="list-style-type: none"> <li>- Door &amp; window control</li> <li>- Position &amp; end switch</li> <li>- Level sensor (use with magnetic floats for water level detection)</li> </ul>	<ul style="list-style-type: none"> <li>- Position &amp; limit switch</li> <li>- End position sensing</li> <li>- Machinery safety &amp; control</li> </ul>
<b>Specifications</b>				
Contact Forms	1A, 1B, 1C	1A, 1B, 1C	1A, 1B, 1C	1A, 1B, 1C, 1E
Rated Power max. (W)	10	10	10	100
Switching Voltage max. (VDC)	200	400	400	1000
Switching Current max. (A)	0.5	0.5	0.5	1.0
Carry Current max. (A)	1.25	1.25	1.25	1.25
Avail. Operation Range (AT)	4.5 to 15 (mm)	10 to 60	10 to 60	10 to 60

Note: Suitable magnets can be found on Page 19.

Mounting Form	For Screw Fastening			For Front Panel
				
<b>Series</b>	<b>MK21</b>	<b>MK26</b>	<b>MK27</b>	<b>MK25</b>
<b>Description</b>	Reed Sensors for High Temperature, Fastening Screw M3	Reed Sensors Fastening Screw M3	Magnetically actuated Reed Sensor for harsh environment	Push-button based on Reed Relay
<b>Dimensions in mm (inch)</b>	L - 28.6 (1.126) W - 19 (0.748) H - 6.35 (0.25)	L - 32 (1.26) W - 10 (0.394) H - 6 (0.236)	L - 50 (1.969) W - 20 (0.787) H - 10 (0.394)	Ø - 40 (1.575)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Designed for high temperatures up to 160° C (molded version)</li> <li>- For use in extreme environments</li> <li>- Teflon wire leads</li> <li>- IP67</li> </ul>	<ul style="list-style-type: none"> <li>- Low-cost, high performance</li> <li>- Power switch available</li> <li>- Individual conductors or multi-conductor cable with round outer jacket available</li> <li>- Different casing colors</li> <li>- Diverse cables, plugs and cable lengths available</li> </ul>	<ul style="list-style-type: none"> <li>- Power switch available</li> <li>- High voltage versions upon request</li> <li>- Cable connection in robust metal sheath</li> <li>- Sensor is delivered with magnet as a set</li> <li>- Large sensing distance up to 40 mm</li> </ul>	<ul style="list-style-type: none"> <li>- Contactless switching</li> <li>- Switching zone is hermetically sealed</li> <li>- Operating temperature of -40 to +60°C</li> <li>- Button plates in different colors available (The protection caps with different colors must be ordered separately.)</li> </ul>
<b>Approval</b>	UL available			ATEX: KEMA 05, 1206 X
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Door &amp; window control</li> <li>- Position &amp; end switch</li> <li>- Level sensor (use with magnetic floats for water level detection)</li> </ul>	<ul style="list-style-type: none"> <li>- Position and limit switch</li> <li>- Door &amp; window control</li> <li>- Level sensors in connection with magnetic floats</li> </ul>	<ul style="list-style-type: none"> <li>- Position and limit switch</li> <li>- Door and window contact</li> <li>- Machinery</li> <li>- Agricultural engineering</li> <li>- Utility vehicle technique</li> </ul>	<ul style="list-style-type: none"> <li>- Industrial appliance</li> <li>- Machinery mode switch</li> <li>- Tank systems</li> <li>- Applications in petrochemical installations or in hazardous environments</li> </ul>
<b>Specifications</b>				
Contact Forms	1A, 1B, 1C	1A, 1B, 1C	1A, 1B, 1C, 1E	1A, 1B, 1C
Rated Power max. (W)	10	100	100	10
Switching Voltage max. (VDC)	400	1000	1000	400
Switching Current max. (A)	0.5	1.0	1.0	0.5
Carry Current max. (A)	1.25	1.25	1.25	1.0
Avail. Operation Range (AT)	10 to 60	10 to 60	10 to 60	-

Note: Suitable magnets can be found on Page 19.

## LEVEL SENSORS

Mounting Form	Level Sensors				
					
<b>Series</b>	<b>LS01</b>	<b>LS02 / LS02-S</b>	<b>LS03</b>	<b>LS04</b>	<b>LS05</b>
<b>Description</b>	Level Sensor with Magnetic Float	Level Sensor with Magnetic Float	Level Sensor with Magnetic Float	Level Sensor for multi-floats	Level Sensor for multi-floats (stainless steel)
<b>Dimensions in mm (inch)</b>	L - 42.5 (1.673)	L - 75 (2.953)	L - 80 (3.15)	L - 100 -280 (3.937 - 11.023)	L - 100 -1000 (3.937 - 39.37)
<b>Features</b>	<ul style="list-style-type: none"> <li>- Packages available in Polypropylene and Polyamide.</li> <li>- High power switches are available</li> <li>- Form A and B available</li> <li>- Other cables, connectors, and colors available</li> </ul>	<ul style="list-style-type: none"> <li>- Stainless version available</li> <li>- High power switches are available</li> <li>- Form A and B available</li> <li>- IP68 (only up to screw-in thread)</li> </ul>	<ul style="list-style-type: none"> <li>- Packages available in Polypropylene and Polyamide.</li> <li>- High power switches are available</li> <li>- Form A and B available</li> <li>- Other cables, connectors, and colors available</li> </ul>	<ul style="list-style-type: none"> <li>- Level sensor for vertical mounting.</li> <li>- Length of shaft 100 mm to 250 mm possible</li> <li>- Up to 5 singles floats on one shaft.</li> <li>- Standard is a PVC cable</li> </ul>	<ul style="list-style-type: none"> <li>- Level sensor for vertical mounting.</li> <li>- Tubes in different diameters available</li> <li>- Length of shaft 100 mm to 1000 mm</li> <li>- Variable switching points</li> <li>- Standard is a PVC cable</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>- Liquid container monitoring in household appliances, automotive applications, test and measurement, and control technology</li> <li>- Materials: PA, (for oil and petrol) PP (for water and acids)</li> </ul>			<ul style="list-style-type: none"> <li>- Liquid level monitoring in tanks</li> <li>- Minimum and maximum level detecting</li> <li>- Multistage level controlling</li> </ul>	
<b>Specifications</b>					
Contact Form	1A, 1B, 1C	1A, 1B, 1C	1A, 1B, 1C	1A, 1B, 1C, 1E	1A, 1B, 1C, 1E
Rated Power max. (W)	10	100	100	100	100
Switching Voltage max. (VDC)	400	400	400	400	400
Switching Current max. (A)	0.5	1.0	1.0	1.0	1.0
Carry Current max. (A)	1.0	1.25	1.25	1.25	1.25

## MAGNETIC FLOATS

Material	NBR (Nitrile Butadiene Rubber)		PA (Polyamide)	
				
<b>Series</b>	MS01-NBR	MS02-NBR	MS01-PA	MS02-PA
<b>Outer ø - Inside ø - H in mm (inch)</b>	24.5 - 8.0 - 19.0 (0.964 - 0.315 - 0.748)	25.0 - 9.15 - 16.5 (0.984 - 0.36 - 0.65)	23.5 - 8.5 - 19.0 (0.925 - 0.335 - 0.748)	25.0 - 9.15 - 16.55 (0.984 - 0.36 - 0.652)
<b>Features &amp; Applications</b>	excellent resistance to petroleum-derived liquids		high strength-to-weight, shock and abrasion resistant	

Material	PA (Polyamide)	PP (Polypropylene)		
				
<b>Series</b>	MS07-PA	MS01-PP	MS02-PP	MS03-PP
<b>Outer ø - Inside ø - H in mm (inch)</b>	36.0 - 16.15 - 19.0 (1.417 - 0.636 - 0.748)	23.5 - 8.4 - 19.0 (0.925 - 0.331 - 0.748)	25.2 - 9.15 - 16.55 (0.992 - 0.36 - 0.652)	27.0 - 11.0 - 11.7 (1.063 - 0.433 - 0.461)
<b>Features &amp; Applications</b>	high strength-to-weight, shock and abrasion resistant	highly resistant to chemical solvents, bases and acids; also for food and beverage industrial (MS06-PP)		

Material	PP (Polypropylene)		V2A (Edelstahl)	
				
<b>Series</b>	MS04-PP	MS06-PP	MS09-S	MS10-S
<b>Outer ø - Inside ø - H in mm (inch)</b>	18.5 - 10.2 - 20.0 (0.728 - 0.402 - 0.787)	30.0 - 8.0 - 8.0 (1.181 - 0.315 - 0.315)	24.0 - 9.5 - 24.0 (0.945 - 0.374 - 0.945)	38.3 - 9.5 - 26.3 (1.508 - 0.374 - 1.035)
<b>Features &amp; Applications</b>	highly resistant to chemical solvents, bases and acids; also for food and beverage industrial (MS06-PP)		resistant to high temperatures ideal for the Food & Beverage industry	

## Magnets in Casings

Type	M02	M04, M13	M05	M06
				
<b>Dimensions in mm (inch)</b>	L - 32.4 (1.276) W - 16.7 (0.657) H - 10 (0.394)	L - 23 (0.906) W - 13.9 (0.547) H - 5.9 (0.232)	L - 23 (0.906) W - 19.4 (0.763) H - 5.9 (0.232)	L - 12.06 - 22.32 (0.475 - 0.879) W - 3.3 (0.13) H - 4.2 (0.165)
<b>Magnetic Moment x10<sup>-5</sup> Vs x cm</b>	2.22	2.22	2.22	0.53

Type	M11 (Stainless)	M11 (Plastics)	M11 (Brass)	M12	M21
					
<b>Dimensions in mm (inch)</b>	L - 25 (0.984) Ø - M5x0.5	L - 38 (1.496) Ø - M8	L - 38 (1.496) Ø - M12, M10, M8, M6	L - 32 (1.26) W - 14.9 (0.587) H - 6.9 (0.272)	L - 28.6 (1.126) W - 6.35 (0.25) H - 19 (0.748)
<b>Magnetic Moment x10<sup>-5</sup> Vs x cm</b>	1.8	2.22	2.22	3.8	2.22

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