



 **Standex**  
*Electronics*  
PARTNER | SOLVE | DELIVER®

## Reed Switches & Sensors

PRODUCT LINE BROCHURE



# Standex | Smart.

Partner, Solve, Deliver® “Solving your complex problems is why we exist.”



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## ABOUT STANDEX

Customer Focused Engineering Solutions. “Innovating for more than 50 years.”

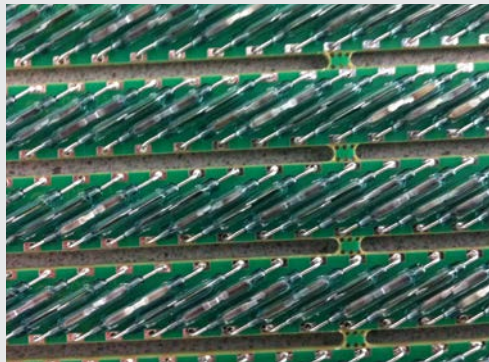
The Standex Electronics business, a division of Standex International Corporation (NYSE:SXI), has been providing solutions through high-performing products since the 1950’s. Through growth, acquisition, strategically partnering with customers, and applying the latest engineering designs to the needs of our ever-changing world, Standex Electronics technology has been providing quality results to the end-user. The approach is achieved by partnering with customers to design and deliver individual solutions and products that truly address customers’ needs.

Standex Electronics is headquartered in Cincinnati, Ohio, USA, Standex Electronics has nine manufacturing facilities in six countries, located in the United States, Germany, China, Mexico, the United Kingdom, and Japan.



# WHO WE ARE / WHERE WE PLAY

Powerfully transforming. “When failure is not an option, designers of critical electronic components rely on Standex and their decades of experience.”



Standex Electronics is a worldwide market leader in the design, development and manufacture of reed switch and sensor solutions. Our sensor solutions include Meder, Standex and KOFU (formerly 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. Our work, growth, and dedication to providing reliable high-quality products through our engineering and manufacturing expertise go beyond products we ship. We offer engineered product solutions for a broad spectrum of product applications in all major markets, including but not limited to:

- Aerospace & Military
- Alternative Energy
- Automotive & Transportation
- Fluid Flow
- Food Service
- General Industrial
- Heavy Duty Truck
- Household & Appliances
- HVAC/R
- Hydraulics
- Industrial & Power
- Lighting

- Medical
- Metering
- Off Highway
- Pool & Spa
- Recreational
- Security & Safety
- Space
- Test & Measurement
- Utilities & Smart Grid

Our values and what we believe align to the partner, solve, and deliver® approach. We produce parts but we are more than that. Connecting with your team as a strategic partner, listening to your challenges, and arriving at ways to solve your complex problems through our solutions are why we exist. We have custom capabilities that address your needs. Our team leverages our dynamic and diverse engineering expertise and other resources such as our global facilities for logistics and production.

50  
YEARS of  
INNOVATION

Standex Electronics has been innovating for over 50 years by developing new products, partnering with customers, and expanding our global capabilities. We have also grown our global reach and local touch through synergistic acquisitions.

1960 National Transistor  
1969 Paul Smith Company

1960



1971 Comtelco  
1973 Underwood Electric  
1974 Van Products

1970



1998 ATR Coil /  
Classic Coil Winding

1990



2001 ATC-Frost Magnetics  
2002 Cin-Tran  
2003 Magnetico / Trans America  
2004 Lepco  
2008 BG Laboratories

2000

NORTHLAKE ENGINEERING, INC.®

2012 Meder Electronic  
2014 Planar Quality Corp.  
2015 Northlake Engineering, Inc.®  
2017 OKI Sensor Device Corp.

2010



OkI Sensor Device Corporation

# OUR CAPABILITIES



**IATF  
16949**

**ISO9001  
CERTIFIED**

**REGISTERED  
AS9100**

## MANUFACTURING

Automated Optical Inspection (AOI)  
Auto AT Switch Sorting  
SMT Line with Pick & Place & Reflow  
Reed Switch Manufacturing & Sensor Packaging  
Wire Prep & Harness Assembly  
Thermoplastic & Thermoset Overmolding  
Wave & Selective Soldering  
Low Pressure (Hot Melt) & Injection Molding  
Potting – 2 Component  
Reflow Oven – Multiple Zone Convection  
Laser Welding  
Plasma Surface Treatment  
Stainless Steel, Metal & Plastic Fabrication  
Lean Manufacturing Principles  
Complete, In-House Machine Shop

## ENGINEERING

3-D Magnetic Sensor Mapping  
3-D CAD Modeling & 3-D Printing  
Electronic sensor engineering  
Circuit Design and PCB Layout  
Mechanical Design & Packaging  
Rapid Prototyping  
Magnetic Simulation Software  
Mechanical, Thermal & FEA Analysis  
Plastic Mold Flow Simulation  
APQP Project Management

## QUALITY & COMPLIANCE

AS9100, ISO9001 & IATF16949 Certifications  
ITAR Compliance  
Regulatory Agency Approvals  
PPAP & First Article Inspection

## SPC Data Collection

RoHS, REACH, UL, ATEX & IECEx

## TESTING & LAB CAPABILITIES

High Voltage/Partial Discharge Testing  
Specialized Lab Testing Equipment: Network  
Analyzers, Nanovoltmeters, Gauss / Teslameters,  
Fluxmeters, Picoammeters  
Reed Switch Parametric Testing  
Custom Sensor Test System Design & Build  
Full Load & Temperature Rise Testing  
2-D/3-D Microfocus X-ray Inspection  
Digital Microscopic Inspection  
Burn-In & Life Testing  
Thermal Shock & Temperature Cycling  
Humidity, Salt Fog, & Solderability  
Moisture Resistance & Seal Testing

## Complete, In-House Machine Shop

“Utilizing advanced techniques in milling, wire  
eroding, die sinking, and grinding since 1996”



# TOOL SHOP - MACHINERY, TOOLS & ASSEMBLY



## Tool Shop - Machinery & Equipment, Tools & Assembly Services

Standex Electronics' tool shop was established in 1996, as a result of the growing demand for high precision quality tooling for our Reed Products as well as a means of expanding our customer service offering. Our qualified tool shop is a reliable partner providing customer support in the areas of planning, designing and constructing molding tools, punching tools and smaller pressure die-casting tools. Whether single piece or mass production tooling, a team of highly motivated and qualified employees will work with you to design

and construct the tooling that is according to your specifications as agreed upon in the form of a written quotation. The most advanced techniques will be utilized in milling, wire eroding, die sinking and grinding, as well as a select grade of steel in connection with the ideal coating will be used to guarantee that the best quality and durability is achieved for the longest life of the tool. In general, sampling, optimizing and in-house maintenance are provided for all tooling as well as first sample and failure analysis reporting.

### Machinery & Equipment

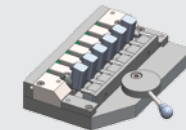
- Sink EDM Machine "Exeron" -  
Machining stroke max.620x420x400mm
- Sink EDM Machine "Ingersoll" -  
Machining stroke max.400x400x350mm
- CNC Highspeed Milling Machine "Hermle C 30 V" -  
Machining stroke max.500x450x400mm
- CNC Milling Machine "Bridgeport XR1000" -  
Machining stroke max.1000x500x500mm
- Wire EDM Machine "Mitsubishi FX 10k" -  
Machining stroke max.400x400x175mm
- Wire EDM Machine "Sodick ALC 400G" -  
Machining stroke max.400x300x250mm
- Wire EDM Machine "Sodick AQ 537L" -  
Machining stroke max.530x370x265mm
- Grinding Machine "Elb-Schliff" -  
Machining stroke max.800x400x475mm
- Grinding Machine "Ziersch ZT 24" -  
Machining stroke max.400x250x350mm
- Several different conventional lathe, milling and grinding machines
- Measuring machine "Zeiss Scan Max" -  
Machining stroke 450x450x400mm
- Optical measuring machine "Zeiss"
- Hardness measurement machinery

### Machine & Assembly Services

Stainless steel tube machining  
cutting, laser welding, marking



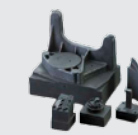
Fixture design and production



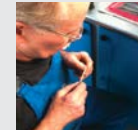
Development, design and construction



Manufacturing of electrodes  
in copper or graphite



Tooling repair and maintenance



CNC design, simulation, verification and integration



### Injection Mold Tools

Design parts with high quality surfaces



Optical components



### Specific Tools

Die-cast zinc tools

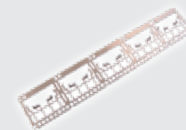


Transfer molding tools

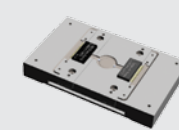


### Stamping Tools

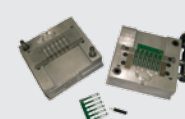
Progressive stamping tools  
for lead frames



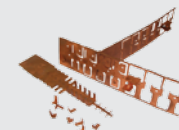
Various types for prototyping, molding and stamping



Low-pressure injection molding



Stamped parts for housing shields and contact pins



Technical molded parts

Gearwheels, spindles, frames and holders



Insert molded parts



Our Approach

PARTNER // TEAMWORK

Dig deep into the customer’s project and develop relationship through our thought leadership, expertise, team, and global footprint.

SOLVE // UNDERSTAND

Capabilities, lab, size, shape, power management, ranges, frequency, and more around how our capabilities can provide efficient, productive, designs & products.

DELIVER // QUALITY

Help customers win through our diverse products, dynamic capabilities, reliable high-quality magnetics solutions, and customer driven innovation and service.

Our Custom Solutions Process



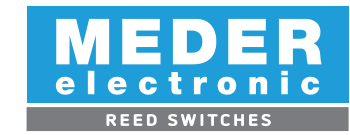
Complex problems deserve custom solutions - As your “application engineer experts”, we select the appropriate advanced sensing technology to meet the demands of our customers. Our versatile engineering expertise in magnetic sensing technologies and custom packaging allows us to be a one-stop-shop for your sensing requirements.”





## REED SWITCH TECHNOLOGY

Standex Electronics is the world's largest manufacturer of reed switches (>700M/yr) with >50% market share offering the most comprehensive listing of reed switches that cover the majority of low power switching requirements. Because reed switches are hermetically sealed (glass to metal seal) they are impervious to almost all environments. This opens up a vast number of applications where they are the only technology capable of meeting specific requirements where certain mechanical switches and semiconductor switches are environmentally limited.



"Standex offers the most comprehensive listing of reed switches that cover the majority of low power switching requirements"

### KOFU REED SWITCHES

- Largest global production volume >500M/yr
- Widest product range 7mm - 21mm
- Highest industry quality/long life
- Suitable for high-rel automotive & ATE
- Meet high voltage/breakdown requirements

### MEDER REED SWITCHES

- Mechanized manufacturing in Germany
- World's smallest 3.95mm
- Unique flat blade ideal for surface mounting
- High voltage vacuum version now available

### KENT REED SWITCHES

- Manufactured in the UK
- Clear glass 12.7mm - 20mm glass
- Highly automated, lowest industry cost
- Industrial grade- security, appliance, consumer

Reed relays and reed sensors both use the reed switch as the heart of their switching mechanism. New applications continue to arise at a significant pace for both products because of the reed switch's unique switching capability. What is driving these new applications is the ever broadening of new reed relay, reed sensor and fluid level designs by Standex Electronics. Our solutions include KOFU (formerly OKI Sensor Device Corp.), MEDER and KENT brand reed switches...



AEC-Q200



RoHS



The Reed Switch was first invented by Bell Labs in the late 1930s. However, it was not until the 1940s when it began to find application widely as a sensor and a Reed Relay. Here it was used in an assortment of stepping/switching applications, early electronic equipment and test equipment. In the late 1940s Western Electric began using Reed Relays in their central office telephone switching stations, where they are still used in some areas today. The Reed Switch greatly contributed to the development of telecommunications technology.

Over the years several manufacturers have come and gone, some staying longer than they should have, tainting the marketplace with poor quality, and poor reliability. However, most of the manufacturers of Reed Switches today produce very high quality and very reliable switches. This has given rise to unprecedented growth.

Today Reed Switch technology is used in all market segments including: test and measurement equipment, medical electronics, telecom, automotive, security, appliances, general purpose, etc. Its growth rate is stronger than ever, where the world output cannot stay abreast with demand.

As a technology, the Reed Switch is unique. Being hermetically sealed, it can exist or be used in almost any environment. Very simple in its structure, it crosses many technologies in its manufacture. Critical to its quality and reliability is its glass to metal hermetic seal, where the glass and metal used must have exact linear thermal coefficients of expansion. Otherwise, cracking and poor seals will result. Whether sputtered or plated, the process of applying the contact material, usually Rhodium or Ruthenium, must be carried out precisely in ultra clean environments similar to semiconductor technology. Like semiconductors, any foreign particles present in the manufacture will give rise to losses, quality and reliability problems.

Over the years, the Reed Switch has shrunk in size from approximately 50 mm (2 inches) to 3.9 mm (0.153 inches) or less. These smaller sizes have opened up many more applications particularly in RF and fast time domain requirements.

#### ELECTRICAL & MECHANICAL BENEFITS

Ability to switch up to 10,000 Volts

Ability to switch currents up to 5 Amps

Ability to switch or carry as low as 10 nanoVolts without signal loss

Ability to switch or carry as low as 1 femtoAmp without signal loss

Ability to switch or carry up to 7 GHz with minimal signal loss

Isolation across the contacts up to  $10^{15}$  W

Contact resistance (on resistance) typical 50 milliOhms (mW)

In its off state it requires no power or circuitry

Ability to offer a latching feature

Operate time in the 100 ms to 300 ms range

Ability to operate at extreme temperature ranges from  $-55^{\circ}\text{C}$  to  $200^{\circ}\text{C}$

Ability to operate in all types of environments including air, water, vacuum, oil, fuels, and dust laden atmospheres

Ability to withstand shocks up to 200 G

Ability to withstand vibration environments of 50 Hz to 2000 Hz at up to 30 G

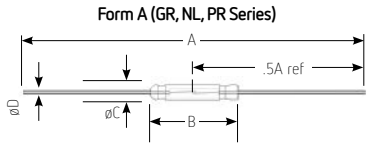
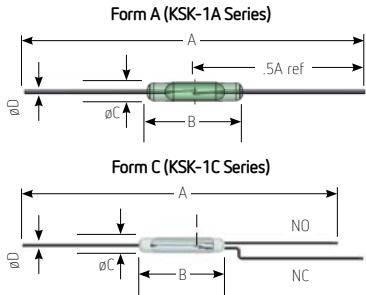
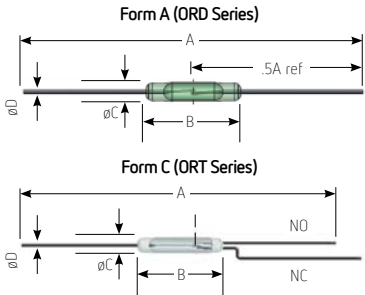
Long life with no wearing parts, load switching under 5 Volts at 10 mA, will operate well into the billions of operations

#### OUR PRODUCTS ARE RECOGNIZED\*

Tested in accordance with AEC-Q200

In compliance with UL, CSA, EN60950, VDE, BABT 223ZV5, ATEX & IECEx, RoHS, REACH (\*not applicable to all products)

REED SWITCH SELECTION GUIDE



Standex Reed Switches can be customized for your design needs. Some customization includes sorting specific magnetic sensitivity pull-in ranges and cutting and/or bending the Reed contact leads for either horizontal or vertical surface mount applications or other special mounting requirements. All GR/GP, KSK and ORD Reed Switch series with normally open, normally closed or SPDT switching functions can be customized. Various different pad layouts, length of soldering pin and magnetic sensitivity class are standard options when it comes to customizing a reed switch.

In addition to these standard options, we can also customize any switch to your own design including many value add services such as PCB assembly, epoxy sealing, conformal coating, wire termination and much more. Custom switches can also be supplied in tape and reel or other desired packaging. Standex has the expertise and specialized equipment to ensure the highest quality during the custom reed switch manufacturing process.

SOLUTIONS | Reed Switches

Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments.

|  |                                                                                     |  |                                                                                     | Super Ultraminiature <8mm                                                           |                                                                                     | Ultraminiature 9-14mm                                                               |                                                                                     |                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Reed Switch Series                                                                  | KSK-1A04*                                                                           | KSK-1A80*                                                                           | GP400*                                                                              | KSK-1A87                                                                            | KSK-1A35                                                                            | KSK-1A35/1*                                                                         | KSK-1A31                                                                            | KSK-1A46                                                                            |  |
| Description<br>* Most Used                                                          | World's Smallest Flat Lead                                                          | Long Life/Close Differential                                                        | Professional Grade                                                                  | Long Life                                                                           | Flat Lead                                                                           | Mini/ Flat Lead High Voltage                                                        | Miniature Mercury                                                                   | Close Differential                                                                  |  |
| Dimensions in mm (inches)                                                           |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| A - Overall Length                                                                  | 34.5 (1.358)                                                                        | 35.8 (1.410)                                                                        | 54 (2.125)                                                                          | 35.7 (1.405)                                                                        | 34.5 (1.358)                                                                        | 34.5 (1.358)                                                                        | 41.0 (1.614)                                                                        | 44.3 (1.744)                                                                        |  |
| B - Glass Length Max.                                                               | 3.95 (0.155)                                                                        | 7.0 (0.275)                                                                         | 10 (0.394)                                                                          | 10.0 (0.393)                                                                        | 10.5 (0.413)                                                                        | 10.5 (0.413)                                                                        | 11.0 (0.433)                                                                        | 12.0 (0.472)                                                                        |  |
| C - Glass Dia. Max.                                                                 | 1.5 (0.059)                                                                         | 1.8 (0.070)                                                                         | 1.9 (0.075)                                                                         | 2.0 (0.078)                                                                         | 2.1 (0.082)                                                                         | 2.1 (0.082)                                                                         | 2.5 (0.098)                                                                         | 2.0 (0.078)                                                                         |  |
| D - Lead Dia.                                                                       | 0.8 (0.031) x 0.15 (0.006) max                                                      | 0.3 (0.011)                                                                         | 0.43 (0.017)                                                                        | 0.4 (0.015)                                                                         | 1.2 (0.047) x 0.2 (0.008)                                                           | 1.2 (0.047) x 0.2 (0.008)                                                           | 0.5 (0.019)                                                                         | 0.5 (0.019)                                                                         |  |
| Specifications                                                                      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| Pull-In Range                                                                       | 5-30 AT                                                                             | 10-40 AT                                                                            | 7-30 AT                                                                             | 10-40 AT                                                                            | 10-40 AT                                                                            | 20-35 AT                                                                            | 10-40 AT                                                                            | 10-40 AT                                                                            |  |
| Rated Power Max.                                                                    | 3W                                                                                  | 10W                                                                                 | 10W                                                                                 | 10W                                                                                 | 20W                                                                                 | 10W                                                                                 | 50W                                                                                 | 10W                                                                                 |  |
| Switching Voltage                                                                   | 30VDC                                                                               | 170VDC                                                                              | 180VDC                                                                              | 200VDC                                                                              | 200VDC                                                                              | 1,000VDC                                                                            | 500VDC                                                                              | 200VDC                                                                              |  |
| Switching Current                                                                   | 0.3A DC                                                                             | 0.5A DC                                                                             | 0.5A DC/AC                                                                          | 0.4A DC                                                                             | 1A DC                                                                               | 0.7A DC                                                                             | 2.0A DC                                                                             | 0.5A DC                                                                             |  |
| Highlights                                                                          |  |  |  |  |  |  |  |  |  |
| UL Certificate NRNT2.E156887                                                        |  |  |  |  |  |  |  |  |  |

|   |                                                                                            | Ultraminiature 9-14mm                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Reed Switch Series                                                                                                                                                      | GR501*                                                                                     | KSK-1A66*                                                                                  | KSK-1E66                                                                              | KSK-1A66/3*                                                                           | KSK-1B90U*                                                                            | KSK-1C90U*                                                                            | KSK-1C90F                                                                             | GR560*                                                                                |
| Description<br>* Most Used                                                                                                                                              | High Stability                                                                             | High-Grade Automotive                                                                      | Latching High-Grade Auto                                                              | High Performance                                                                      | Normally Closed                                                                       | Changeover                                                                            | Changeover NC Dog Leg Bend                                                            | High Stability                                                                        |
| Dimensions in mm (inches)                                                                                                                                               |                                                                                            |                                                                                            |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| A - Overall Length                                                                                                                                                      | 54 (2.125)                                                                                 | 44.3 (1.744)                                                                               | 44.3 (1.744)                                                                          | 44.3 (1.744)                                                                          | 55.1 (2.169)                                                                          | 55.1 (2.169)                                                                          | 54.5 (2.145)                                                                          | 54 (2.125)                                                                            |
| B - Glass Length Max.                                                                                                                                                   | 12.7 (0.5)                                                                                 | 14.0 (0.551)                                                                               | 14.0 (0.551)                                                                          | 14.0 (0.551)                                                                          | 14.0 (0.551)                                                                          | 14.0 (0.551)                                                                          | 14.0 (0.551)                                                                          | 14.2 (0.559)                                                                          |
| C - Glass Dia. Max.                                                                                                                                                     | 2.3 (0.090)                                                                                | 2.2 (0.086)                                                                                | 2.2 (0.086)                                                                           | 2.2 (0.086)                                                                           | 2.54 (0.1)                                                                            | 2.54 (0.1)                                                                            | 2.54 (0.1)                                                                            | 2.3 (0.090)                                                                           |
| D - Lead Dia.                                                                                                                                                           | 0.45 (0.017)                                                                               | 0.5 (0.019)                                                                                | 0.5 (0.019)                                                                           | 0.5 (0.019)                                                                           | 0.5 (0.019)                                                                           | 0.5 (0.019)                                                                           | 0.5 (0.019)                                                                           | 0.6 (0.023)                                                                           |
| Specifications                                                                                                                                                          |  FORM A |  FORM E | FORM A                                                                                | FORM B                                                                                | FORM C                                                                                | FORM C                                                                                | FORM C                                                                                | FORM A                                                                                |
| Pull-In Range                                                                                                                                                           | 10-35 AT                                                                                   | 10-40 AT                                                                                   | 30-40 AT                                                                              | 10-40 AT                                                                              | 15-45 AT                                                                              | 15-45 AT                                                                              | 15-45 AT                                                                              | 10-50 AT                                                                              |
| Rated Power Max.                                                                                                                                                        | 10W                                                                                        | 10W                                                                                        | 10W                                                                                   | 10W                                                                                   | 10W                                                                                   | 10W                                                                                   | 10W                                                                                   | 10W                                                                                   |
| Switching Voltage                                                                                                                                                       | 200VDC                                                                                     | 180VDC                                                                                     | 100VDC                                                                                | 200VDC                                                                                | 175VDC                                                                                | 175VDC                                                                                | 175VDC                                                                                | 200VDC                                                                                |
| Switching Current                                                                                                                                                       | 0.5A DC/AC                                                                                 | 0.5A DC                                                                                    | 0.5A DC                                                                               | 0.5A DC                                                                               | 0.5A DC                                                                               | 0.5A DC                                                                               | 0.5A DC                                                                               | 1.0A DC/AC                                                                            |
| Highlights                                                                                                                                                              |        |        |   |   |   |   |   |   |
| UL Certificate NRNT2.E156887                                                                                                                                            |       |       |  |  |  |  |  |  |

SOLUTIONS | Reed Switches

Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments.

|   | Reed Switches                                                                                                                                                       |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                    | Ultraminiature                                                                                                                                                      | Miniature 16-21mm                                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
| Reed Switch Series                                                                                                                                                 | PR560                                                                                                                                                               | KSK-1A55                                                                                                                                                            | KSK-1A82                                                                                                                                                            | GR100                                                                                                                                                               | NL126                                                                                                                                                                  | PR126                                                                                                                                                                   | KSK-1A53                                                                                                                                                                | KSK-1A52                                                                                                                                                                |
| Description                                                                                                                                                        | AC Line                                                                                                                                                             | Lamp Load                                                                                                                                                           | High Current                                                                                                                                                        | Medium Power                                                                                                                                                        | Lamp                                                                                                                                                                   | Line                                                                                                                                                                    | High                                                                                                                                                                    | High Breakdown                                                                                                                                                          |
| * Most Used                                                                                                                                                        | Voltage                                                                                                                                                             |                                                                                                                                                                     |                                                                                                                                                                     | Professional Grade                                                                                                                                                  | Load                                                                                                                                                                   | Voltage                                                                                                                                                                 | Frequency                                                                                                                                                               | Voltage                                                                                                                                                                 |
| Dimensions in mm (inches)                                                                                                                                          |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
| A - Overall Length                                                                                                                                                 | 54 (2.125)                                                                                                                                                          | 44.1 (1.736)                                                                                                                                                        | 44.1 (1.736)                                                                                                                                                        | 54 (2.125)                                                                                                                                                          | 54 (2.125)                                                                                                                                                             | 54 (2.125)                                                                                                                                                              | 55 (2.165)                                                                                                                                                              | 55.4 (2.181)                                                                                                                                                            |
| B - Glass Length Max.                                                                                                                                              | 14.2 (0.559)                                                                                                                                                        | 16.5 (0.649)                                                                                                                                                        | 16.5 (0.649)                                                                                                                                                        | 20.3 (0.799)                                                                                                                                                        | 20.3 (0.799)                                                                                                                                                           | 20.3 (0.799)                                                                                                                                                            | 20.5 (0.807)                                                                                                                                                            | 21.0 (0.826)                                                                                                                                                            |
| C - Glass Dia. Max.                                                                                                                                                | 2.3 (0.090)                                                                                                                                                         | 2.8 (0.110)                                                                                                                                                         | 2.8 (0.110)                                                                                                                                                         | 2.5 (0.098)                                                                                                                                                         | 2.5 (0.098)                                                                                                                                                            | 2.5 (0.098)                                                                                                                                                             | 2.8 (0.110)                                                                                                                                                             | 2.75 (0.108)                                                                                                                                                            |
| D - Lead Dia.                                                                                                                                                      | 0.6 (0.023)                                                                                                                                                         | 0.6 (0.023)                                                                                                                                                         | 0.6 (0.023)                                                                                                                                                         | 0.6 (0.023)                                                                                                                                                         | 0.7 (0.027)                                                                                                                                                            | 0.7 (0.027)                                                                                                                                                             | 0.6 (0.023)                                                                                                                                                             | 0.6 (0.023)                                                                                                                                                             |
| Specifications                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
|                                                                                                                                                                    | FORM A                                                                                                                                                              |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
| Pull-In Range                                                                                                                                                      | 20-40 AT                                                                                                                                                            | 15-60 AT                                                                                                                                                            | 30-40 AT                                                                                                                                                            | 10-40 AT                                                                                                                                                            | 20-50 AT                                                                                                                                                               | 20-50 AT                                                                                                                                                                | -                                                                                                                                                                       | 15-70 AT                                                                                                                                                                |
| Rated Power Max.                                                                                                                                                   | 10W                                                                                                                                                                 | 50W                                                                                                                                                                 | 120W                                                                                                                                                                | 10W                                                                                                                                                                 | 50W                                                                                                                                                                    | 70W                                                                                                                                                                     | 10W                                                                                                                                                                     | 50W                                                                                                                                                                     |
| Switching Voltage                                                                                                                                                  | 100VDC/250VAC                                                                                                                                                       | 100VDC                                                                                                                                                              | 150VDC                                                                                                                                                              | 100VDC/150VAC                                                                                                                                                       | 200VDC/150VAC                                                                                                                                                          | 300VAC/200VDC                                                                                                                                                           | 200VDC                                                                                                                                                                  | 350VDC                                                                                                                                                                  |
| Switching Current                                                                                                                                                  | 1.0A DC/AC                                                                                                                                                          | 0.5A DC                                                                                                                                                             | 2.0A DC                                                                                                                                                             | 1.0A DC                                                                                                                                                             | 1.5A DC/AC                                                                                                                                                             | 1.5A DC/AC                                                                                                                                                              | 1.0A DC                                                                                                                                                                 | 0.5A DC                                                                                                                                                                 |
| Highlights                                                                                                                                                         |   |   |   |   |   |   |   |   |
| UL Certificate NRNT2.E156887                                                                                                                                       |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                      |                                                                                      |                                                                                      |                                                                                      |

|   | Reed Switches                                                                                                                                                         |                                                                                                                                                                                                                                                          |                                                                                                                                                                       |                                                                                                                                                                       |                                                                                                                                                                          |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                    | Miniature 16-21mm                                                                                                                                                     |                                                                                                                                                                                                                                                          |                                                                                                                                                                       |                                                                                                                                                                       |                                                                                                                                                                          |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
| Reed Switch Series                                                                                                                                                 | KSK-1A85                                                                                                                                                              | KSK-1B85                                                                                                                                                                                                                                                 | KSK-1E85                                                                                                                                                              | KSK-1C10                                                                                                                                                              | KSK-1A33                                                                                                                                                                 | KSK-1A83                                                                                                                                                                  | KSK-1A69                                                                                                                                                                  | KSK-1A54                                                                                                                                                                  |
| Description                                                                                                                                                        | Vacuum                                                                                                                                                                | Normally Closed                                                                                                                                                                                                                                          | Latching                                                                                                                                                              | High Current                                                                                                                                                          | High Current                                                                                                                                                             | High Current                                                                                                                                                              | High Current                                                                                                                                                              | High                                                                                                                                                                      |
| * Most Used                                                                                                                                                        | High Power                                                                                                                                                            | Latching                                                                                                                                                                                                                                                 |                                                                                                                                                                       | Changeover                                                                                                                                                            |                                                                                                                                                                          | Flat Lead                                                                                                                                                                 | Flat Lead                                                                                                                                                                 | Frequency                                                                                                                                                                 |
| Dimensions in mm (inches)                                                                                                                                          |                                                                                                                                                                       |                                                                                                                                                                                                                                                          |                                                                                                                                                                       |                                                                                                                                                                       |                                                                                                                                                                          |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
| A - Overall Length                                                                                                                                                 | 55.5 (2.185)                                                                                                                                                          | 55.5 (2.185)                                                                                                                                                                                                                                             | 55.5 (2.185)                                                                                                                                                          | 86.1 (3.390)                                                                                                                                                          | 79.0 (3.110)                                                                                                                                                             | 81.6 (3.212)                                                                                                                                                              | 81.6 (3.212)                                                                                                                                                              | 81.6 (3.212)                                                                                                                                                              |
| B - Glass Length Max.                                                                                                                                              | 21.0 (0.826)                                                                                                                                                          | 21.0 (0.826)                                                                                                                                                                                                                                             | 21.0 (0.826)                                                                                                                                                          | 34.3 (1.350)                                                                                                                                                          | 52.0 (2.047)                                                                                                                                                             | 53.4 (2.102)                                                                                                                                                              | 53.4 (2.102)                                                                                                                                                              | 53.4 (2.102)                                                                                                                                                              |
| C - Glass Dia. Max.                                                                                                                                                | 2.75 (0.108)                                                                                                                                                          | 2.75 (0.108)                                                                                                                                                                                                                                             | 2.75 (0.108)                                                                                                                                                          | 5.16 (0.203)                                                                                                                                                          | 5.4 (0.212)                                                                                                                                                              | 5.4 (0.212)                                                                                                                                                               | 5.4 (0.212)                                                                                                                                                               | 5.4 (0.212)                                                                                                                                                               |
| D - Lead Dia.                                                                                                                                                      | 0.6 (0.023)                                                                                                                                                           | 0.6 (0.023)                                                                                                                                                                                                                                              | 0.6 (0.023)                                                                                                                                                           | 1.01 (0.040)                                                                                                                                                          | 0.5 (0.019)                                                                                                                                                              | 2.49 (0.098) x<br>0.54 (0.213)                                                                                                                                            | 2.49 (0.098) x<br>0.54 (0.213)                                                                                                                                            | 1.3 (0.051)                                                                                                                                                               |
| Specifications                                                                                                                                                     |                                                                                                                                                                       |                                                                                                                                                                                                                                                          |                                                                                                                                                                       |                                                                                                                                                                       |                                                                                                                                                                          |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
|                                                                                                                                                                    | FORM A                                                                                                                                                                | FORM B                                                                                                                                                                                                                                                   | FORM E                                                                                                                                                                | FORM C                                                                                                                                                                | FORM A                                                                                                                                                                   |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
| Pull-In Range                                                                                                                                                      | 15-55 AT                                                                                                                                                              | 15-55 AT                                                                                                                                                                                                                                                 | 30-55 AT                                                                                                                                                              | 60-80 AT                                                                                                                                                              | 80-100 AT                                                                                                                                                                | 100-150 AT                                                                                                                                                                | 95-170 AT                                                                                                                                                                 | -                                                                                                                                                                         |
| Rated Power Max.                                                                                                                                                   | 100W                                                                                                                                                                  | 100W                                                                                                                                                                                                                                                     | 100W                                                                                                                                                                  | 100W                                                                                                                                                                  | 50W                                                                                                                                                                      | 50W                                                                                                                                                                       | 50W                                                                                                                                                                       | 25W                                                                                                                                                                       |
| Switching Voltage                                                                                                                                                  | 1,000VDC                                                                                                                                                              | 350VDC                                                                                                                                                                                                                                                   | 350VDC                                                                                                                                                                | 500VDC                                                                                                                                                                | 10,000VDC                                                                                                                                                                | 7,500VDC                                                                                                                                                                  | 10,000VDC                                                                                                                                                                 | 500VDC                                                                                                                                                                    |
| Switching Current                                                                                                                                                  | 1.0A DC                                                                                                                                                               | 1.0A DC                                                                                                                                                                                                                                                  | 1.0A DC                                                                                                                                                               | 3.0A DC                                                                                                                                                               | 3.0A DC                                                                                                                                                                  | 3.0A DC                                                                                                                                                                   | 1.5A DC                                                                                                                                                                   | 1.0A DC                                                                                                                                                                   |
| Highlights                                                                                                                                                         |   |    |   |   |   |   |   |   |
| UL Certificate NRNT2.E156887                                                                                                                                       |                                                                                    |                                                                                                                                                                       |                                                                                    |                                                                                    |                                                                                      |                                                                                      |                                                                                      |                                                                                      |

SOLUTIONS | Reed Switches

Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments.

|  | Reed Switches                                                                                                                                                           |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | Super Ultraminiature <8mm                                                                                                                                               |                                                                                                                                                                         |                                                                                                                                                                         | Ultraminiature 9-14mm                                                                                                                                                   |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
| Reed Switch Series                                                                  | ORD213*                                                                                                                                                                 | ORD311*                                                                                                                                                                 | ORD211*                                                                                                                                                                 | ORD219*                                                                                                                                                                 | ORD312*                                                                                                                                                                 | ORD221                                                                                                                                                                  | ORD228VL*                                                                                                                                                               | ORD324*                                                                                                                                                                 |
| Description                                                                         | Close                                                                                                                                                                   | Long Life                                                                                                                                                               | Long Life                                                                                                                                                               | Close                                                                                                                                                                   | Long Life                                                                                                                                                               | Offset                                                                                                                                                                  | High Automotive                                                                                                                                                         | High                                                                                                                                                                    |
| * Most Used                                                                         | Differential                                                                                                                                                            | Close Differential                                                                                                                                                      |                                                                                                                                                                         | Differential                                                                                                                                                            | Close Differential                                                                                                                                                      |                                                                                                                                                                         | Grade                                                                                                                                                                   | Performance                                                                                                                                                             |
| Dimensions in mm (inches)                                                           |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
| A - Overall Length                                                                  | 35.8 (1.410)                                                                                                                                                            | 35.8 (1.410)                                                                                                                                                            | 35.7 (1.405)                                                                                                                                                            | 44.3 (1.744)                                                                                                                                                            | 44.3 (1.744)                                                                                                                                                            | 44.2 (1.740)                                                                                                                                                            | 44.3 (1.744)                                                                                                                                                            | 44.3 (1.744)                                                                                                                                                            |
| B - Glass Length Max.                                                               | 7.0 (0.275)                                                                                                                                                             | 7.0 (0.275)                                                                                                                                                             | 10.0 (0.393)                                                                                                                                                            | 12.0 (0.472)                                                                                                                                                            | 12.0 (0.472)                                                                                                                                                            | 13.0 (0.512)                                                                                                                                                            | 14.0 (0.551)                                                                                                                                                            | 14.0 (0.551)                                                                                                                                                            |
| C - Glass Dia. Max.                                                                 | 1.8 (0.070)                                                                                                                                                             | 1.8 (0.070)                                                                                                                                                             | 2.0 (0.078)                                                                                                                                                             | 2.0 (0.078)                                                                                                                                                             | 2.0 (0.078)                                                                                                                                                             | 2.0 (0.078)                                                                                                                                                             | 2.2 (0.086)                                                                                                                                                             | 2.2 (0.086)                                                                                                                                                             |
| D - Lead Dia.                                                                       | 0.3 (0.011)                                                                                                                                                             | 0.3 (0.011)                                                                                                                                                             | 0.4 (0.015)                                                                                                                                                             | 0.5 (0.019)                                                                                                                                                             | 0.5 (0.019)                                                                                                                                                             | 0.35 (0.014)x<br>0.06 (0.002)                                                                                                                                           | 0.5 (0.019)                                                                                                                                                             | 0.5 (0.019)                                                                                                                                                             |
| Specifications                                                                      |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
|                                                                                     | FORM A                                                                                                                                                                  |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                                                                                                         |
| Pull-In Range                                                                       | 10-40 AT                                                                                                                                                                | 10-40 AT                                                                                                                                                                | 10-40 AT                                                                                                                                                                | 10-40 AT                                                                                                                                                                | 10-40 AT                                                                                                                                                                | 10-30 AT                                                                                                                                                                | 10-40 AT                                                                                                                                                                | 10-40 AT                                                                                                                                                                |
| Rated Power Max.                                                                    | 1W                                                                                                                                                                      | 10W                                                                                                                                                                     | 1W                                                                                                                                                                      | 10W                                                                                                                                                                     | 30W                                                                                                                                                                     | 10W                                                                                                                                                                     | 10W                                                                                                                                                                     | 10W                                                                                                                                                                     |
| Switching Voltage                                                                   | 24VAC/DC                                                                                                                                                                | 100VAC / DC                                                                                                                                                             | 24VAC/DC                                                                                                                                                                | 100VAC / DC                                                                                                                                                             | 200VDC / 100VAC                                                                                                                                                         | 100VAC / DC                                                                                                                                                             | 100VAC / DC                                                                                                                                                             | 200VDC / 150VAC                                                                                                                                                         |
| Switching Current                                                                   | 0.1A DC                                                                                                                                                                 | 1.0A DC                                                                                                                                                                 | 0.1A DC                                                                                                                                                                 | 0.5A DC                                                                                                                                                                 | 0.5A DC                                                                                                                                                                 | 0.3A DC                                                                                                                                                                 | 0.5A DC                                                                                                                                                                 | 0.5A DC                                                                                                                                                                 |
| Highlights                                                                          |   |   |   |   |   |   |   |   |
| UL Certificate NRNT2.E70063                                                         |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |

|  | Reed Switches                                                                                                                                                             |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | Ultraminiature 9-14mm                                                                                                                                                     |                                                                                                                                                                           |                                                                                                                                                                           | Miniature 16-21mm                                                                                                                                                         |                                                                                                                                                                           |                                                                                                                                                                           |
| Reed Switch Series                                                                  | ORT551                                                                                                                                                                    | ORT551-1                                                                                                                                                                  | ORD2211                                                                                                                                                                   | ORD872                                                                                                                                                                    | ORD229                                                                                                                                                                    | ORD2210V                                                                                                                                                                  |
| Description                                                                         | Changeover                                                                                                                                                                | Changeover                                                                                                                                                                | Lamp Load                                                                                                                                                                 | High Current                                                                                                                                                              | High Breakdown                                                                                                                                                            | Vacuum                                                                                                                                                                    |
| * Most Used                                                                         |                                                                                                                                                                           | NC Dog Leg Bend                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           | Voltage                                                                                                                                                                   | High Power                                                                                                                                                                |
| Dimensions in mm (inches)                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
| A - Overall Length                                                                  | 56.1 (2.208)                                                                                                                                                              | 54.5 (2.145)                                                                                                                                                              | 44.1 (1.736)                                                                                                                                                              | 44.1 (1.736)                                                                                                                                                              | 55.4 (2.181)                                                                                                                                                              | 55.5 (2.185)                                                                                                                                                              |
| B - Glass Length Max.                                                               | 14.0 (0.551)                                                                                                                                                              | 14.0 (0.551)                                                                                                                                                              | 16.5 (0.649)                                                                                                                                                              | 16.5 (0.649)                                                                                                                                                              | 21.0 (0.826)                                                                                                                                                              | 21.0 (0.826)                                                                                                                                                              |
| C - Glass Dia. Max.                                                                 | 2.54 (0.1)                                                                                                                                                                | 2.54 (0.1)                                                                                                                                                                | 2.8 (0.110)                                                                                                                                                               | 2.8 (0.110)                                                                                                                                                               | 2.75 (0.108)                                                                                                                                                              | 2.75 (0.108)                                                                                                                                                              |
| D - Lead Dia.                                                                       | 0.5 (0.019)                                                                                                                                                               | 0.5 (0.019)                                                                                                                                                               | 0.6 (0.023)                                                                                                                                                               | 0.6 (0.023)                                                                                                                                                               | 0.6 (0.023)                                                                                                                                                               | 0.6 (0.023)                                                                                                                                                               |
| Specifications                                                                      |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
|                                                                                     | FORM C                                                                                                                                                                    |                                                                                                                                                                           | FORM A                                                                                                                                                                    |                                                                                                                                                                           |                                                                                                                                                                           |                                                                                                                                                                           |
| Pull-In Range                                                                       | 10-30 AT                                                                                                                                                                  | 10-30 AT                                                                                                                                                                  | 20-40 AT                                                                                                                                                                  | 30-35 AT                                                                                                                                                                  | 20-60 AT                                                                                                                                                                  | 20-60 AT                                                                                                                                                                  |
| Rated Power Max.                                                                    | 3W                                                                                                                                                                        | 3W                                                                                                                                                                        | 50W                                                                                                                                                                       | 120W                                                                                                                                                                      | 50W                                                                                                                                                                       | 100W                                                                                                                                                                      |
| Switching Voltage                                                                   | 30VAC / DC                                                                                                                                                                | 30VDC                                                                                                                                                                     | 100VAC / DC                                                                                                                                                               | 150VDC                                                                                                                                                                    | 350VDC                                                                                                                                                                    | 350VDC / 300VAC                                                                                                                                                           |
| Switching Current                                                                   | 0.2A DC                                                                                                                                                                   | 0.2A DC                                                                                                                                                                   | 0.5A DC inrush 3A                                                                                                                                                         | 2.0A DC                                                                                                                                                                   | 0.7A DC                                                                                                                                                                   | 1.0A DC                                                                                                                                                                   |
| Highlights                                                                          |   |   |   |   |   |   |
| UL Certificate NRNT2.E70063                                                         |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |

ORD/ORT switches are measured with Standex Electronics Japan (KOFU) standard coils. Pull-In value is measured with tolerances of +/- 2AT

## CUSTOM SENSORS

“Complex problems deserve custom solutions”

Standex Electronics incorporates our magnetic reed switches into a wide variety of custom proximity sensors and switches. The reed sensors come in hundreds of different sizes and shapes to meet a multitude of different application requirements. Customers have the opportunity to work with our engineers to design or select the best packaging concept that will line up with their application.

Our unique and patented production process allows us to produce not only very small reed switches, but when we incorporate these into proximity sensors the result is a small sensor with big performance impact.

These ultra-miniature components allow big improvements in the performance of diverse products within medical devices, security systems, safes, and industrial control applications.



REED SENSORS

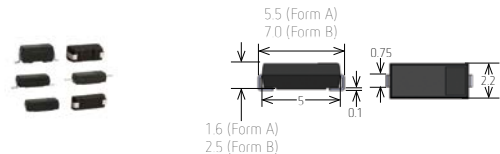
MK24 - B - Q - OE  
1 2 3

Surface Mount (SMD)

Rated Power Max. 3W/30VDC/0.3A | Operating Range 5-30 AT | Contact Form A, B

- 1 Sensitivity Range AT: A=5-10, B=10-15, C=15-20, D=20-25, +5AT spans
- 2 Lead Design: 1 (Axial), 2 (Gull-Wing), 3 (J-Lead)
- 3 Option: Contact Form B (Normally Closed)

Highlights



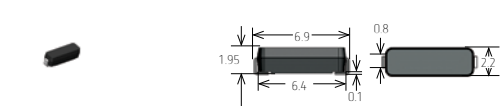
MK31 - B - 3  
1 2

Surface Mount (SMD)

Rated Power Max. 3W/30VDC/0.3A | Operating Range 5-30 AT | Contact Form A

- 1 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- 2 Lead Design: 3 (J-Lead)

Highlights



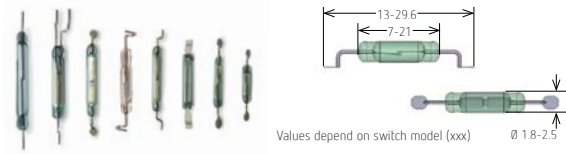
MK23 - 000 - Q - Q  
1 2 3

Surface Mount (SMD)

Rated Power Max. 100W/1000VDC/1A | Operating Range 10-60 AT | Contact Form A, C

- 1 Switch Model: 35, 46, 52, 66, 80, 85, 87, 90 (Form C), 501
- 2 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- 3 Lead Design: 1 (Axial), 2 (Gull-Wing), 5 (Helix)

Highlights



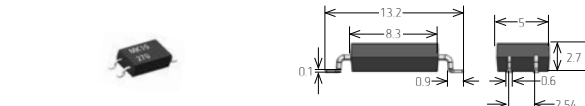
MK10 - B - 270  
1 2

Surface Mount (SMD)

Rated Power Max. 10W/170VDC/0.25A | Operating Range 10-40 AT | Contact Form A

- 1 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- 2 Resistance Q: 270 (others available)

Highlights



SOLUTIONS | Reed Sensors

Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments. All product images are scaled 1:1 unless otherwise noted.



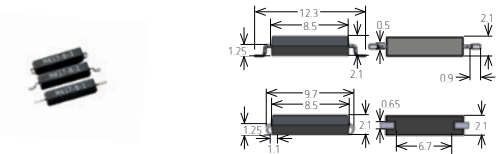
MK17 - B - Q  
1 2

Surface Mount (SMD)

Rated Power Max. 10W/170VDC/0.25A | Operating Range 10-40 AT | Contact Form A

- 1 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- 2 Lead Design: 1 (Axial), 2 (Gull-Wing), 3 (J-Lead)

Highlights



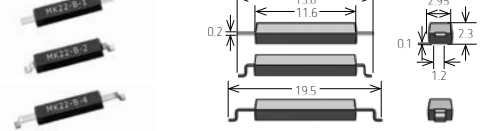
MK22 - B - Q  
1 2

Surface Mount (SMD)

Rated Power Max. 20W/200VDC/1.0A | Operating Range 10-30 AT | Contact Form A

- 1 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- 2 Lead Design: 1 (Axial), 2 (Short Gull-Wing), 4 (Long Gull-Wing)

Highlights



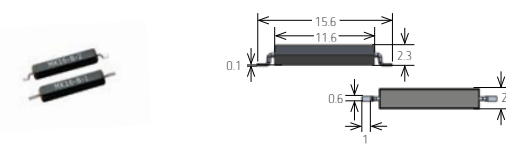
MK16 - B - Q  
1 2

Surface Mount (SMD)

Rated Power Max. 10W/200VDC/0.5A | Operating Range 10-60 AT | Contact Form A

- 1 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- 2 Lead Design: 1 (Axial), 2 (Gull-Wing)

Highlights



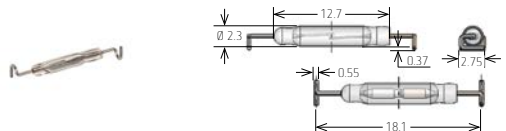
MK23 - 501 - B - Q "Helix"  
1 2

Surface Mount (SMD)

Rated Power Max. 10VA/200VDC/0.5A | Operating Range 7-30 AT | Contact Form A

- 1 Sensitivity Range AT: B=10-15, C=15-20, D=20-25, E=25-30
- 2 Lead Design: 5 (Helix)

Highlights



## MK15 - $\frac{B}{1} - \frac{Q}{2}$

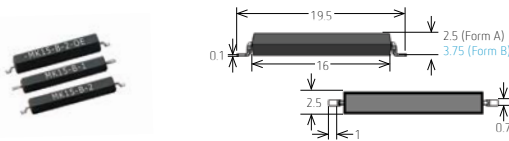
Surface Mount (SMD)

Rated Power Max. 10W/200VDC/0.5A | Operating Range 10-60 AT | Contact Form A, B

- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- Lead Design: 1 (Axial), 2 (Gull-Wing)

Highlights

- On/Off control switch, position detection
- Telecomm, white goods, industrial, security
- Supplied in tape and reel according to IEC 286 / part 3
- Axial or Gull-Wing lead, high power switch, UL



## MK01 - $\frac{X}{1}$

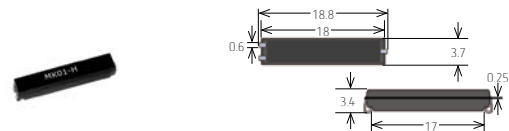
Surface Mount (SMD)

Rated Power Max. 10VA/200VDC/0.5A | Operating Range 10-60 AT | Contact Form A, B, C

- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, E=25-30 (Form A,B)  
H=15-20, I=20-25, K=25-30 (Form C)

Highlights

- On/Off control switch, position detection
- Telecomm, white goods, industrial, security
- Supplied in tape and reel according to IEC 286 / part 3
- J-Lead, high power switch, UL



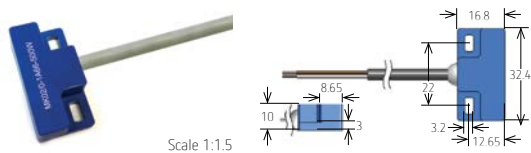
## MK02 / $\frac{Q}{1} - \frac{1}{2} \times \frac{00}{3} - \frac{0000}{4} \frac{X}{5}$ Termination

Metal Detection

Rated Power Max. 10W/200VDC/0.5A | Operating Range 4.5-15 MM

- Operation Series: 0, 1, 2, 3, 4
- Contact Quantity: 1
- Contact Form: A, B, C
- Switch Model: 66, 90
- Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000
  - Integrated magnet (Only MK02 / 4 requires ext. magnet),
  - Front or above operation

Highlights



## MK28 - $\frac{1}{1} \times \frac{X}{2} - \frac{000}{3} \frac{X}{4}$ Termination

Metal Detection

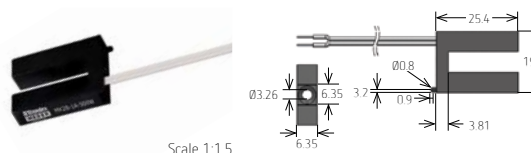
Rated Power Max. 10W/175VDC/0.5A | Operating Range Exact

- Contact Quantity: 1
- Contact Form: A, B, C
- Switch Model: 90
- Cable Length (mm): 500

Highlights



- Vane operated screw mount proximity/motion sensor (integrated magnet)
- Automotive, industrial automation equipment, robotics, harsh environments



## SOLUTIONS | Reed Sensors

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## MK04 - $\frac{1}{1} \times \frac{00}{2} \frac{Q}{3} - \frac{0000}{4} \frac{W}{5}$ Termination

Screw Flange

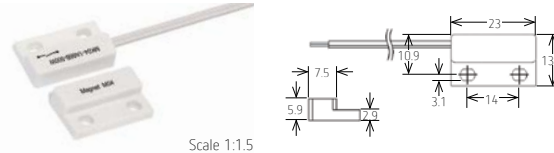
Rated Power Max. 10W/400VDC/0.5A | Operating Range 10-60 AT

- Contact Quantity: 1
  - Contact Form: A, B, C
  - Switch Model: 66, 90
  - Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
  - Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000
- \*Magnet sold separate

Highlights



Position, level, and end limit sensing



## MK05 - $\frac{1}{1} \times \frac{00}{2} \frac{Q}{3} - \frac{0000}{4} \frac{W}{5}$ Termination

Screw Flange

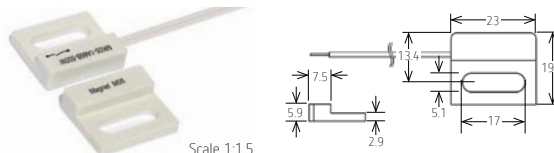
Rated Power Max. 10W/400VDC/0.5A | Operating Range 10-60 AT

- Contact Quantity: 1
  - Contact Form: A, B, C
  - Switch Model: 66, 90
  - Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
  - Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000
- \*Magnet sold separate

Highlights



Position, level, and end limit sensing



## MK12 - $\frac{1}{1} \times \frac{00}{2} \frac{Q}{3} - \frac{0000}{4} \frac{W}{5}$ Termination

Screw Flange

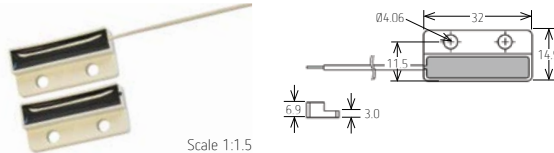
Rated Power Max. 10W/400VDC/0.5A | Operating Range 10-60 AT

- Contact Quantity: 1
  - Contact Form: A, B, C
  - Switch Model: 66, 90
  - Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
  - Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000
- \*Magnet sold separate

Highlights



Position, level, and end limit sensing



## MK13 - $\frac{1}{1} \times \frac{00}{2} \frac{Q}{3} - \frac{0000}{4} \frac{W}{5}$ Termination

Screw Flange

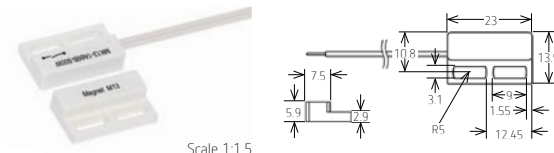
Rated Power Max. 10W/400VDC/0.5A | Operating Range 10-60 AT

- Contact Quantity: 1
  - Contact Form: A, B, C
  - Switch Model: 66, 90
  - Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
  - Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000
- \*Magnet sold separate

Highlights



Position, level, and end limit sensing



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MK26 - 1 X 00 0 - 0000 W  
1 2 3 4 5 Termination

Screw Flange

Rated Power Max. 100W/1000VDC/1.0A | Operating Range 10-60 AT

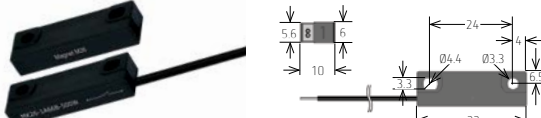
- Contact Quantity: 1
- Contact Form: A, B, C
- Switch Model: 66, 90
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000
- Termination: W

\*Magnet sold separate

Highlights



Position, level,  
and end limit  
sensing



Scale 1:1.5

MK27 - 1 A 00 0 - 000 W  
1 2 3 4 5 Termination

Screw Flange

Rated Power Max. 100W/1000VDC/1.0A | Operating Range 10-60 AT

- Contact Quantity: 1
- Contact Form: A
- Switch Model: 66, 85
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- Cable Length (mm): 500

\*Magnet included

Highlights



Position, level,  
and end limit  
sensing up to  
40mm



External  
Magnet Included

Scale 1:2

MK21 /X- 1 X 00 0 - 0000 W  
1 2 3 4 5 6 Termination

Screw Flange

Rated Power Max. 100W/1000VDC/1.0A | Operating Range 10-60 AT

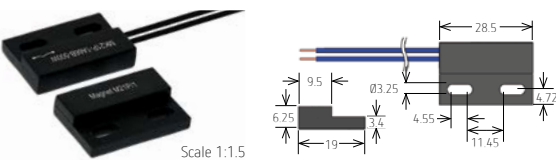
- Case Version: P=Potted, M=Molded (M = High Temp +150°C)
- Contact Quantity: 1
- Contact Form: A, B, C
- Switch Model: 66, 90
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- Cable Length (mm): 500, 1000, 1500, 2000, 3000, 5000

\*Magnet sold separate

Highlights



Position, level,  
and end limit  
sensing



Scale 1:1.5

MK20 /2- X - 000 W  
1 2 Termination

Cylindrical

Rated Power Max. 3W/30VDC/0.25A | Operating Range 10-30 AT

- Contact Quantity: 1
- Contact Form: A
- Switch Model: 04
- Sensitivity Range AT: B=10-15, D=20-25
- Cable Length (mm): 100, 200, 300, 500

\*Magnet sold separate

Highlights



2.7mm  
Position, level,  
and end limit  
sensing



SOLUTIONS | Reed Sensors

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MK20 /1- X - 000 W  
1 2 Termination

Cylindrical

Rated Power Max. 10W/30VDC/0.25A | Operating Range 10-60 AT

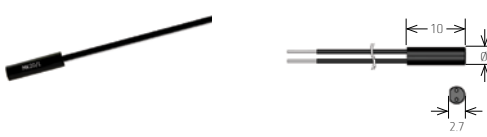
- Contact Quantity: 1
- Contact Form: A
- Switch Model: 80
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, E=25-30
- Cable Length (mm): 100, 200, 300, 500

\*Magnet sold separate

Highlights



3.0mm  
Position, level,  
and end limit  
sensing



MK18 - X - 0000 W  
1 2 Termination

Cylindrical

Rated Power Max. 10W/200VDC/0.5A | Operating Range 10-60 AT

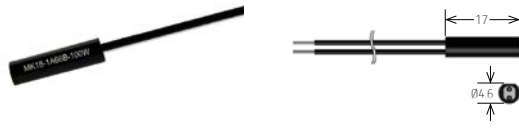
- Contact Quantity: 1
- Contact Form: A
- Switch Model: 87
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, E=25-30
- Cable Length (mm): 100, 200, 300, 500, 1000, 1500

\*Magnet sold separate

Highlights



5.0mm  
Position, level,  
and end limit  
sensing



MK14 - 1 X 00 0 - 0000 W  
1 2 3 4 5 Termination

Cylindrical

Rated Power Max. 10W/400VDC/0.5A | Operating Range 10-60 AT

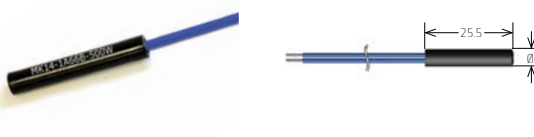
- Contact Quantity: 1
- Contact Form: A, B, C
- Switch Model: 66, 90
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- Cable Length (mm): 200, 300, 500, 1000, 1500

\*Magnet sold separate

Highlights



4.0mm  
Position, level,  
and end limit  
sensing



MK03 - 1 X 00 0 - 0000 W  
1 2 3 4 5 Termination

Cylindrical

Rated Power Max. 10W/400VDC/0.5A | Operating Range 10-60 AT

- Contact Quantity: 1
- Contact Form: A, B, C
- Switch Model: 66, 90
- Sensitivity Range AT: B=10-15, C=15-20, D=20-25, ...+5AT increments
- Cable Length (mm): 200, 300, 500, 1000, 1500, 2000, 3000, 5000

\*Magnet sold separate

Highlights



5.75mm  
Position, level,  
and end limit  
sensing



**SOLUTIONS** | Reed Sensors

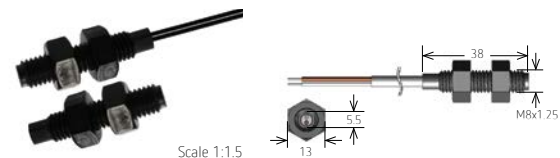


Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments. All product images are scaled 1:1 unless otherwise noted.

## Threaded Barrel

Rated Power Max. 100W/1000VDC/1.0A | Operating Range 10-60 AT

- ## Highlights

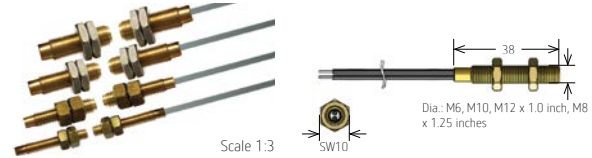


Position, level,  
and end limit  
detection and  
sensing  
adjustment

## Threaded Barrel

Rated Power Max. 100W/1000VDC/1.0A | Operating Range 10-60 AT

- ## Highlights

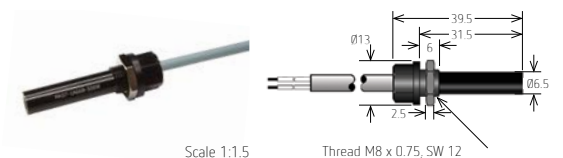
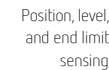


Position, level,  
and end limit  
detection and  
sensing  
adjustment

## Threaded Barrel

## Highlights

- ## Highlights



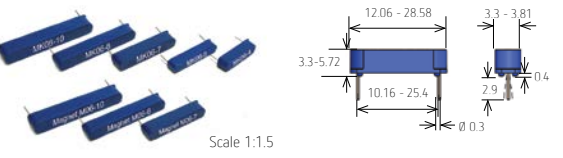
Scale 1:1.9

Thread M8 x 0.75, SW 12

## Other Packaging

## Highlights

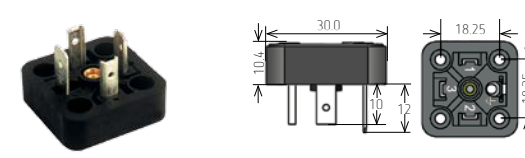
- ## Highlights



Scale 1:1.5

## Highlights

- ## Highlights



## Other Packaging

## Highlights

- ## Highlights



Scale 1:1.5

Button plates, emergency stop buttons, etc. can be provided with laser inscriptions as required. The information is burnt into the surface and thus, unlike with print-inscribed elements, is very durable.

|                            | <div><div></div><div>LOWHIGH</div></div> |         |        |         |
|----------------------------|------------------------------------------|---------|--------|---------|
| costs                      | Ferrite                                  | AlNiCo  | NdFeB  | SmCo    |
| energy (WxH max.)          | Ferrite                                  | AlNiCo  | SmCo   | NdFeB   |
| working temperature        | NdFeB                                    | Ferrite | SmCo   | AlNiCo  |
| corrosion - resistant      | NdFeB                                    | SmCo    | AlNiCo | Ferrite |
| opposing field - resistant | AlNiCo                                   | Ferrite | NdFeB  | SmCo    |
| mechanical strength        | Ferrite                                  | SmCo    | NdFeB  | AlNiCo  |
| temperature coefficient    | AlNiCo                                   | SmCo    | NdFeB  | Ferrite |

A Reed Switch requires either a permanent magnet or magnetic field in order to activate the switch, thus it is commonly called a magnetic reed switch. Magnets have reversible and irreversible demagnetization specifications. Engineers should consider shock, vibration, strong external magnetic fields as well as high

temperatures in their designs. All these factors influence the magnetic force and the long term stability in different ways. Preferably the magnet is mounted on the moving part of the application. Professional tuning of the magnet and reed switch pairing can improve the functionality of the whole sensor-magnet system. We offer permanent magnets in various standard housings for quick mounting or as is.

- We offer the following types of permanent magnets:
- AlNiCo (Aluminum Nickel, Cobalt, Iron and Titanium)
  - SmCo (Samarium–Cobalt) & NdFeB (Neodymium) - rare earth
  - Hf - hard ferrite

These are some of our most widely used models, others available as required.

Dimensions in mm

AlNiCo

- AlNiCo Ø2.5 x 12.7
- AlNiCo Ø3.0 x 12.0
- AlNiCo Ø4.0 x 19.0
- AlNiCo Ø5.0 x 4.0
- AlNiCo Ø5.0 x 20.0
- AlNiCo Ø5.5 x 22.0
- AlNiCo Ø7.5 x 27.0
- AlNiCo 3.2 x 3.2 x 19.0



Rare Earth

- SmCo5 Ø1.9 x 3
- SmCo5 Ø3 x 4
- NdFeB N35 Ø4 x 19
- NdFeB N35H Ø4 x 19
- NdFeB N45 Ø4 x 19
- NdFeB 250/175H Ø6 x 10
- NdFeB 250/175H 10 x 5 x 1.9



Hard Ferrite

- Hf 28/26 2.6 x 2.6 x 4.0
- Hf 28/26 3.5 x 1.8 x 1.8
- Hf 28/26 6.7 x 6.7 x 2.7



SOLUTIONS | Magnets

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M02

Dimensions in mm (inches)

- L - 32.4 (1.275)
- W - 16.7 (0.657)
- H - 10 (0.393)



M04

- L - 23 (0.905)
- W - 13.9 (0.547)
- H - 5.9 (0.232)



M13

- L - 23 (0.905)
- W - 13.9 (0.547)
- H - 5.9 (0.232)



M05

- L - 23.2 (0.913)
- W - 19.6 (0.771)
- H - 5.9 (0.232)



M21/P(1,2)

- L - 28.6 (1.125)
- W - 19 (0.748)
- H - 6.35 (0.25)



Magnets in Housings

M27

Dimensions in mm (inches)

- L - 50.0 (1.969)
- W - 20.0 (0.787)
- H - 10.0 (0.394)



M11(B)

- L - 38 (1.496)
- Ø - M6-M12



M11(S)

- L - 25 (0.984)
- Ø - M5 x 0.5 / M8 x 0.5



M11(P)

- L - 38 (1.496)
- Ø - M8 x 1.25



M03

- L - 25 (0.984)
- Ø - M5 x 0.5

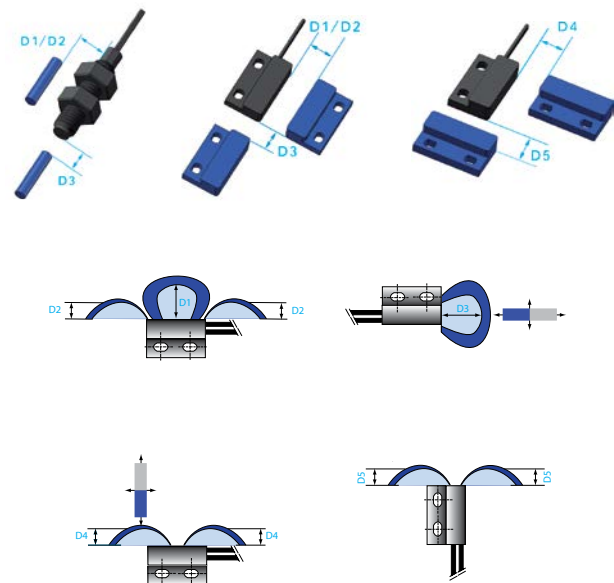


Magnets in Housings

# SENSOR ACTIVATION DISTANCES

| Reed Sensor                                              | Magnetic Sensitivity | Position and Movement               |     |     |     |     | Position and Movement                                    |     |      |      |      |
|----------------------------------------------------------|----------------------|-------------------------------------|-----|-----|-----|-----|----------------------------------------------------------|-----|------|------|------|
|                                                          |                      | Max. Pull-in Distance in mm         |     |     |     |     | Min. Drop-out Distance in mm                             |     |      |      |      |
|                                                          | mT                   | D1                                  | D2  | D3  | D4  | D5  | D1                                                       | D2  | D3   | D4   | D5   |
| MK03-1A66B-500W                                          | > 1.70               | 15.0                                | 6.5 | 9.3 | 8.5 | 8.5 | 17.5                                                     | 8.0 | 11.4 | 10.1 | 10.1 |
| MK03-1A66C-500W                                          | > 2.30               | 13.0                                | 4.4 | 7.4 | 7.2 | 7.2 | 16.5                                                     | 6.5 | 9.9  | 9.5  | 9.5  |
| MK03-1A66D-500W                                          | > 2.70               | 11.0                                | 4.0 | 5.7 | 6.5 | 6.5 | 14.5                                                     | 5.5 | 8.5  | 9.0  | 9.0  |
| MK03-1A66E-500W                                          | > 3.10               | 10.0                                | 3.5 | 4.5 | 5.7 | 5.7 | 13.5                                                     | 5.0 | 8.0  | 8.5  | 8.5  |
| MK04-1A66B-500W                                          | > 1.70               | 15.0                                | 6.5 | 9.3 | 8.5 | 8.5 | 17.5                                                     | 8.0 | 11.4 | 10.1 | 10.1 |
| MK04-1A66C-500W                                          | > 2.30               | 13.0                                | 4.4 | 7.4 | 7.2 | 7.2 | 16.5                                                     | 6.5 | 9.9  | 9.5  | 9.5  |
| MK04-1A66D-500W                                          | > 2.70               | 11.0                                | 4.0 | 5.7 | 6.5 | 6.5 | 14.5                                                     | 5.5 | 8.5  | 9.0  | 9.0  |
| MK04-1A66E-500W                                          | > 3.10               | 10.0                                | 3.5 | 4.5 | 5.7 | 5.7 | 13.5                                                     | 5.0 | 8.0  | 8.5  | 8.5  |
| MK05-1A66B-500W                                          | > 1.70               | 15.0                                | 6.5 | 9.3 | 8.5 | 8.5 | 17.5                                                     | 8.0 | 11.4 | 10.1 | 10.1 |
| MK05-1A66C-500W                                          | > 2.30               | 13.0                                | 4.4 | 7.4 | 7.2 | 7.2 | 16.5                                                     | 6.5 | 9.9  | 9.5  | 9.5  |
| MK05-1A66D-500W                                          | > 2.70               | 11.0                                | 4.0 | 5.7 | 6.5 | 6.5 | 14.5                                                     | 5.5 | 8.5  | 9.0  | 9.0  |
| MK05-1A66E-500W                                          | > 3.10               | 10.0                                | 3.5 | 4.5 | 5.7 | 5.7 | 13.5                                                     | 5.0 | 8.0  | 8.5  | 8.5  |
| MK11/M8-1A66B-500W                                       | > 1.70               | 15.0                                | 6.5 | 9.3 | 8.5 | 8.5 | 17.5                                                     | 8.0 | 11.4 | 10.1 | 10.1 |
| MK11/M8-1A66C-500W                                       | > 2.30               | 13.0                                | 4.4 | 7.4 | 7.2 | 7.2 | 16.5                                                     | 6.5 | 9.9  | 9.5  | 9.5  |
| MK11/M8-1A66D-500W                                       | > 2.70               | 11.0                                | 4.0 | 5.7 | 6.5 | 6.5 | 14.5                                                     | 5.5 | 8.5  | 9.0  | 9.0  |
| MK11/M8-1A66E-500W                                       | > 3.10               | 10.0                                | 3.5 | 4.5 | 5.7 | 5.7 | 13.5                                                     | 5.0 | 8.0  | 8.5  | 8.5  |
| MK13-1A66B-500W                                          | > 1.70               | 15.0                                | 6.5 | 9.3 | 8.5 | 8.5 | 17.5                                                     | 8.0 | 11.4 | 10.1 | 10.1 |
| MK13-1A66C-500W                                          | > 2.30               | 13.0                                | 4.4 | 7.4 | 7.2 | 7.2 | 16.5                                                     | 6.5 | 9.9  | 9.5  | 9.5  |
| MK13-1A66D-500W                                          | > 2.70               | 11.0                                | 4.0 | 5.7 | 6.5 | 6.5 | 14.5                                                     | 5.5 | 8.5  | 9.0  | 9.0  |
| MK13-1A66E-500W                                          | > 3.10               | 10.0                                | 3.5 | 4.5 | 5.7 | 5.7 | 13.5                                                     | 5.0 | 8.0  | 8.5  | 8.5  |
| All distance data above are valid for the magnets below: |                      | 4003004003 / Perm. magnet Ø4 x 19mm |     |     |     |     | 2500000005 / M05<br>2500000002 / M02<br>2500000004 / M04 |     |      |      |      |

Resulting from position and movement of the actuator magnet.



# HALL EFFECT SENSORS

Standex Electronics' Hall Effect Sensor series offer solid state reliability, low power consumption, and consistent activation points over a wide temperature range in a rugged and environmentally isolated package. Micro-Power versions operate on 2.5-3.5V battery voltage with only 5µA average supply current vs. the industry average of 5mA.

Custom options include: output- switch, latch, etc., high temperature resistance, package design and much more.

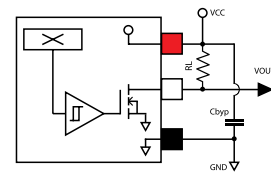
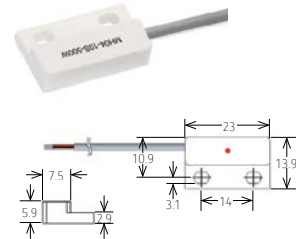
## MH04-00 X - 000 W

Screw Flange

Standard Power 3-24VDC/4mA (V<sub>CC</sub>=12V) | Micro Power 2.5-3.5V/10µA (V<sub>CC</sub>=3.5V)

- 1 Power Version: 11 = Standard Power, 10 = Micro Power
- 2 Function: Switch, \*Latch (\*Standard Power only)
- 3 Cable Length (mm): 300, 500, other lengths as needed

Highlights



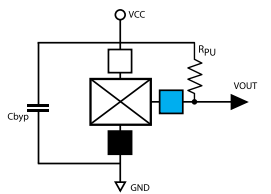
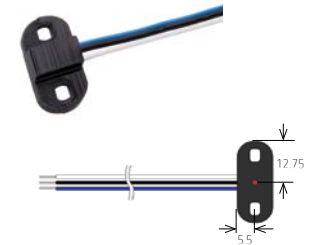
## MH32-00 X - 000 W

Screw Flange

Standard Power 2.7-24VDC/25mA (V<sub>CC</sub>=12V) | Micro Power 2.5-3.5V/10µA (V<sub>CC</sub>=3.5V)

- 1 Power Version: 11 = Standard Power, 10 = Micro Power
- 2 Function: Bipolar Switch, \*Bipolar Latch (\*Standard Power only)
- 3 Cable Length (mm): 300, 500, other lengths as needed

Highlights



FLUID SENSORS & FLOATS

Standex Electronics supplies fluid level sensors that use a wide range of technologies - from magnetic Reed Switch technology to conductive technology. Standex Electronics designs fluid level sensors that are appropriate for each individual application. From basic sensors which are driven by external electronics to turnkey sensor systems with switched outputs, Standex Electronics delivers solutions to the most demanding fluid level sensing applications.

LS01 - 1 X 00 - PX - 0000 W

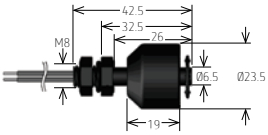
Single Level

| Rated Power Max. 100/400VDC/1.0A   Vertical Mount |                    |                 |   |               |            |
|---------------------------------------------------|--------------------|-----------------|---|---------------|------------|
| 1                                                 | Contact Quantity:  | 1               | 3 | Switch Model: | 66, 85, 90 |
| 2                                                 | Contact Form:      | A, B, C         | 4 | Material:     | PA, PP     |
| 5                                                 | Cable Length (mm): | 500, 1000, 5000 |   |               |            |

- Compact Single Level Vertical Mount Level Sensor
- High power switch option, other cables and connectors
- Shaft: PA or PP, Float: PA, PP, NBR



Scale 1:2



Level control, detection and monitoring

LS02 - 1 X 00 - PX - 0000 W

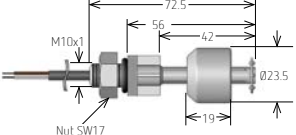
Single Level

| Rated Power Max. 100/400VDC/1.0A   Vertical Mount |                    |                 |   |               |            |
|---------------------------------------------------|--------------------|-----------------|---|---------------|------------|
| 1                                                 | Contact Quantity:  | 1               | 3 | Switch Model: | 66, 85, 90 |
| 2                                                 | Contact Form:      | A, B, C         | 4 | Material:     | PA, PP     |
| 5                                                 | Cable Length (mm): | 500, 1000, 5000 |   |               |            |

- IP68-only up to screw in thread
- Compact Single Level Vertical Mount Level Sensor
- High power switch option, other cables and connectors
- Shaft: PA or PP, Float: PA, PP, NBR



Scale 1:2



Level control, detection and monitoring

LS02 - 1 X 00 - S - 0000 W

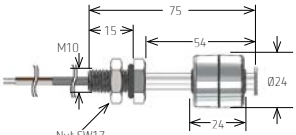
Single Level

| Rated Power Max. 100/400VDC/1.0A   Vertical Mount |                    |                 |   |               |             |
|---------------------------------------------------|--------------------|-----------------|---|---------------|-------------|
| 1                                                 | Contact Quantity:  | 1               | 3 | Switch Model: | 66, 85, 90  |
| 2                                                 | Contact Form:      | A, B, C         | 4 | Material:     | S=Stainless |
| 5                                                 | Cable Length (mm): | 500, 1000, 5000 |   |               |             |

- IP68-only up to screw in thread, High temp up to 120°C
- Compact Single Level Vertical Mount Level Sensor
- High power switch option, other cables and connectors
- Shaft/Float: S=Stainless Steel



Scale 1:2



Level control, detection and monitoring

SOLUTIONS | Fluid Sensors & Floats

Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments. All product images are scaled 1:1 unless otherwise noted.



LS03 - 1 X 00 - PX - 0000 W

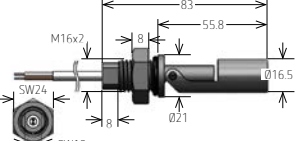
Single Level

| Rated Power Max. 100/400VDC/1.0A   Horizontal Mount |                    |                 |   |               |            |
|-----------------------------------------------------|--------------------|-----------------|---|---------------|------------|
| 1                                                   | Contact Quantity:  | 1               | 3 | Switch Model: | 66, 85, 90 |
| 2                                                   | Contact Form:      | A, B, C         | 4 | Material:     | PA, PP     |
| 5                                                   | Cable Length (mm): | 500, 1000, 5000 |   |               |            |

- IP68-only up to screw in thread
- Compact Single Level Horizontal Mount Level Sensor
- High power switch option, other cables and connectors
- Shaft/Float: PA, PP



Scale 1:2



Level control, detection and monitoring

Standard Version

GZ Version

DK Version

DL Version



Tank Wall



Tank Wall



Tank Wall



Tank Wall

KSS - BV00000

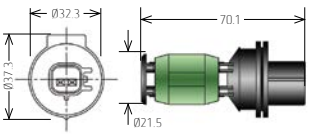
Single Level

| Rated Power Max. 100/400VDC/1.0A   Horizontal Mount |                   |      |  |  |
|-----------------------------------------------------|-------------------|------|--|--|
| 1                                                   | Contact Quantity: | 1    |  |  |
| 2                                                   | Contact Form:     | A, B |  |  |
| 3                                                   | Shaft/Float:      | PP   |  |  |

- Compact Single Level Horizontal Mount Level Sensor
- Mounted from the outside
- Ideal in blow or injection molded bottles
- Mates with Yazaki 7283-6434-40 and Packard 12162193 connector



Scale 1:2



Level control, detection and monitoring

## SOLUTIONS | Fluid Sensors & Floats



Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments. All product images are scaled 1:1 unless otherwise noted.

LS04 - 1 X 00 - 0 - 0000 W  
1 2 3 4 5 Termination

Rated Power Max. 100/400VDC/1.0A | Horizontal Mount

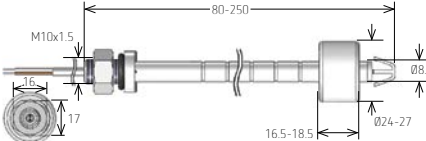
|   |                    |                 |   |                    |                            |
|---|--------------------|-----------------|---|--------------------|----------------------------|
| 1 | Contact Quantity:  | 1               | 3 | Switch Model:      | 66, 85, 90                 |
| 2 | Contact Form:      | A, B, C         | 4 | Shaft Length (mm): | 0, 2, 4, 5                 |
| 5 | Cable Length (mm): | 500, 1000, 5000 |   |                    | 0=255, 2=130, 4=178, 5=190 |

- Up to 6 floats, 1W-100W rated power, other cables, connectors
- Reservoir, tank, bottle or other container mounting configurations

## Highlights



Single, multi  
and continuous  
level control,  
detection and  
monitoring



LS05 - 1 X 00 - 0 - 0000 W  
1 2 3 4 5 Termination

Rated Power Max. 100/400VDC/1.0A | Vertical Mount

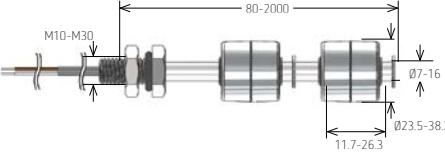
|   |                    |                                                |   |                    |            |
|---|--------------------|------------------------------------------------|---|--------------------|------------|
| 1 | Contact Quantity:  | 1                                              | 3 | Switch Model:      | 66, 85, 90 |
| 2 | Contact Form:      | A, B, C                                        | 4 | Shaft Length (mm): | 1, 2, 5, 7 |
| 5 | Cable Length (mm): | 500, 1000, 5000      1=55, 2=114, 5=152, 7=220 |   |                    |            |

- Multiple floats with a minimum 1.5" spacing
- 1W-100W rated power, other cables, connectors
- Shaft: SS, Floats: PA, PP, NBR, or SS
- High temp up to 200°C (SS) and pressure up to 12 bar

## Highlights



Single, multi  
and continuous  
level control,  
detection and  
monitoring



## SOLUTIONS | Fluid Sensors & Floats



Note: All dimensions are in mm and tolerances according to ISO 2768-m. Please refer to the product datasheets on our website for full dimensions, specifications, tolerances, etc. Not all part number combinations are possible, consult the factory for more info. We reserve the right to make any changes according to technological progress or further developments. All product images are scaled 1:1 unless otherwise noted.

| Series      | Material | Outside Dia.<br>mm (inches) | Inside Dia.<br>mm (inches) | Height<br>mm (inches) | Use with<br>sensor               | Additional<br>Information                                                                   | Floats |
|-------------|----------|-----------------------------|----------------------------|-----------------------|----------------------------------|---------------------------------------------------------------------------------------------|--------|
| MS01-NBR    | NBR      | 24.5 (0.964)                | 8 (0.314)                  | 19.0 (0.748)          | LS01, LS02, LS02-S<br>LS04, LS05 | Excellent resistance to petroleum derived liquids                                           |        |
| MS02-NBR    | NBR      | 25.0 (0.984)                | 9.15 (0.360)               | 16.5 (0.649)          |                                  |                                                                                             |        |
| MS18-NBR    | NBR      | 28.5 (1.122)                | 9 (0.354)                  | 16.5 (0.649)          |                                  | High buoyancy and excellent resistance to petroleum derived liquids                         |        |
| MS01-PA     | PA       | 23.5 (0.925)                | 8.5 (0.334)                | 19.0 (0.748)          | LS01, LS02-S<br>LS05             | High strength to weight ratio, shock and abrasion resistant                                 |        |
| MS02-PA     | PA       | 25.0 (0.984)                | 9.15 (0.360)               | 16.55 (0.651)         |                                  |                                                                                             |        |
| MS07-PA     | PA       | 36.0 (1.417)                | 16.15 (0.635)              | 19.0 (0.748)          |                                  |                                                                                             |        |
| MS01-PP     | PP       | 23.5 (0.925)                | 8.4 (0.330)                | 19.0 (0.748)          | LS01, LS02 LS02-S<br>LS04, LS05  | Highly resistant to chemical solvents, bases and acids                                      |        |
| MS02-PP     | PP       | 25.2 (0.992)                | 9.15 (0.360)               | 16.55 (0.651)         |                                  |                                                                                             |        |
| MS02 / R-PP | PP       | 25.0 (0.984)                | 9.15 (0.360)               | 16.55 (0.651)         |                                  | Highly resistant to chemical solvents, bases and acids Magnet direction radial              |        |
| MS03-PP     | PP       | 27.0 (1.062)                | 11 (0.433)                 | 11.7 (0.460)          |                                  |                                                                                             |        |
| MS04-PP     | PP       | 18.5 (0.728)                | 10.2 (0.401)               | 20.0 (0.787)          |                                  | Highly resistant to chemical solvents, bases and acids                                      |        |
| MS08-PP     | PP       | 20.0 (0.787)                | 9.15 (0.360)               | 16.0 (0.630)          | All Reed Sensors                 | Highly resistant to chemical solvents, bases and acids; also for food and beverage industry |        |
| MS06-PP     | PP       | 30.0 (1.181)                | N/A                        | 8.0 (0.314)           |                                  |                                                                                             |        |
| B12469      | PP       | 32.6 (1.283)                | N/A                        | 22.9 (0.901)          |                                  |                                                                                             | R12468 |
| B12482      | PP       | 42.0 (1.653)                | 11.4 (0.448)               | 25.0 (0.984)          | R12481                           | Float located in bottle assembly, specific gravity per application                          |        |
| B12450      | PP       | L - 17.5 (0.688)            | W - 13.4 (0.527)           | 24.9 (0.980)          | R11744 / R12180                  | Float located in bottle assembly, operates with fluid specific gravity at 0.79 min          |        |
| MS09-S      | V2A      | 24.0 (0.944)                | 9.5 (0.374)                | 24.0 (0.944)          | LS02-S                           | Resistant to high temperatures and ideal for food and beverage industry                     |        |
| MS10-S      | V2A      | 38.3 (1.507)                | 9.5 (0.374)                | 26.3 (1.035)          | LS05 🔥                           |                                                                                             |        |

PA (Polyamide) | PP (Polypropylene) | NBR (Nitrile Butadiene Rubber) | V2A (Stainless Steel)



## CUSTOM FLUID LEVEL & FLOW SENSORS

"Complex problems deserve custom solutions"

The fluid level reed sensors sense level changes in liquid in an assortment of liquid mediums. The sensors generally have an attached float with an embedded magnet that moves up and down on an encased stem where the reed switches are housed. The reed switches will change their closure state when the float comes within their magnetic influence. The closure initiates a sequence of events alerting the change of the liquid level.

We offer an extensive selection of different reed sensor packages, switch configurations, stem lengths, float density sensitivities allowing for diverse applications. Our engineers are ready to match custom designs to stringent requirements.

Our reed sensors are used in the automotive industry to measure fuel, oil, brake fluid, radiator, windshield washer level, and other fluids. They are also found in recreational vehicles, such as jet skis, sensing oil and fuel levels. Wherever a liquid exists or can accumulate, Standex Electronics offers a sensing solution.



That's **Standex** | Smart.

standxelectronics.com

**HVAC/R Series Flood Prevention Switches -Reed Technology**

Truly Reliable, Plug-N-Play and Hassle Free

Standex Electronics provides the HVAC industry with high performing Flood Prevention Switches (FPS's) that are easy to install and service. Our expertise and capabilities allow for reliable innovations that prevent overflowing that causes damage to floors, walls, ceilings and the like. For example, if water levels in the auxiliary or main drain pipe

rose due to a clogged air conditioning condensate, the switch shuts off the system.

**Pressure Differential Sensors - Reed Technology**

Differential pressure sensors are utilized in the hydraulics industry to alert equipment operators that their hydraulic fluid filter has reached the end of its life. Standex Electronics designs and

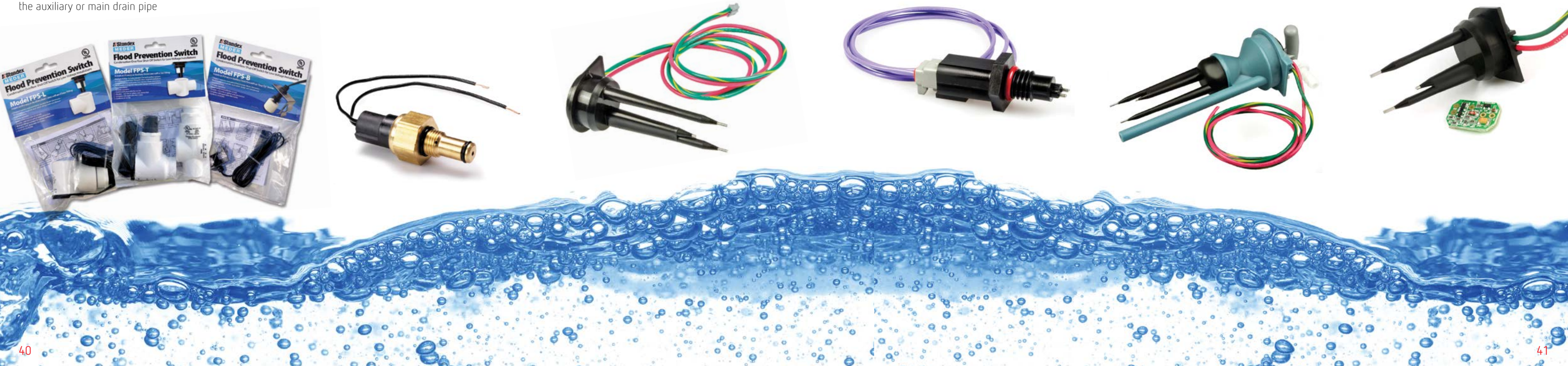
manufactures many configurations of these "filter bypass" sensors with options for custom connection methods, varying trip and reset pressures, NO/NC/SPDT switch configurations, mounting and sealing to the filter head. The hermetically sealed reed switch contacts are more reliable in these applications than other technologies such as open mechanical contacts, visual pop-up indicators, or

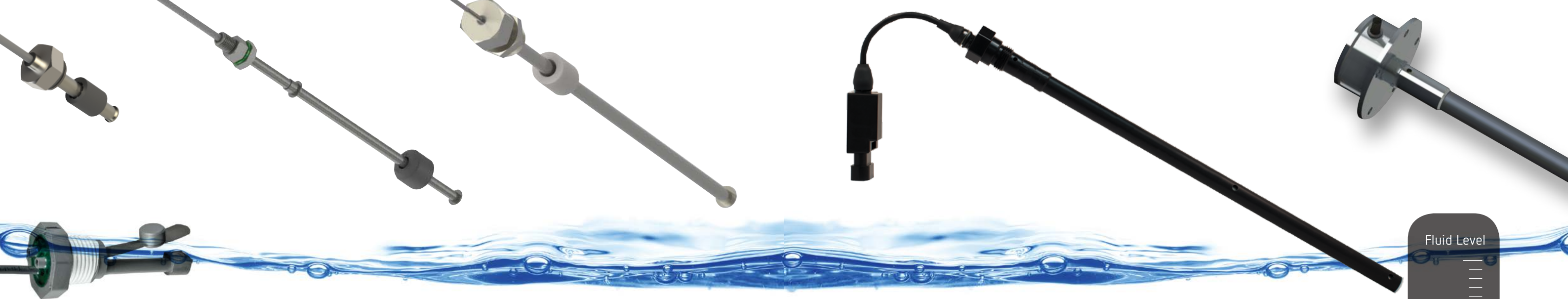
snap action switch assemblies. The contact quality, switching life and non-intrusive sensing arrangement of reed switches increases indicator reliability. We partner with the customer to design and validate the custom indicators to specific OEM requirements, often creating a proprietary product line for each customer.

**Fluid Level Sensors - Conductive Technology**

Standex Electronics manufactures state-of-the-art conductive liquid sensors that detect changes in levels without the use of a float. These sensors are used generally in water based conductive fluids when the application cannot use a float based system. Our conductive fluid level sensors have a patented false full protection and current level shift

to indicate fluid level. They guard against electrolysis and conduction paths along the sensor packaging with high quality performance. Applications include the measurement of syrups and juices in the food industry, measurement of liquid soaps in washing applications, liquid waste products, storm drains, bilge pumps, sump water, and many other functions.





### Flow Sensors - Reed Technology

Standex Electronics designs and manufactures custom reed switch and magnet based flow switches for specific customer applications. The designs often include harsh environments, significant durability requirements, and precise flow rate switching. Designs can be intrusive or non-intrusive with multiple custom packaging options for terminating and wiring and add-ons for temperature sensing, salinity, and multiple trip points.

Utilizing our vast experience in reed switch application engineering, mechanical packaging, and related manufacturing process, Standex Electronics provides quality flow switching products for markets such as home appliances and pool/spa.

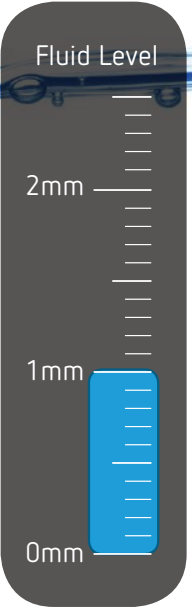
### Advanced Fluid Level Sensors - Hall Effect & Capacitive Technology

Standex Electronics Solid State Hall Effect Level Sensors (HLS) and Capacitive Level Sensors (CLS) are

custom designed solutions for continuous fluid level monitoring. These smart sensors have an integrated onboard microcontroller with calibrated and programmable output for various tank geometries. Our patent pending & revolutionary designs can be configured in either engineering plastic or stainless-steel housings with PP, PA, NBR, and stainless floats as well as multiple mounting options.

### FEATURES

- Can meet IP67 requirements
- Full scale accuracy up to  $\pm 0.5\%$  (CLS)
- Full scale accuracy up to  $\pm 2\%$  (HLS)
- High resolution better than 1mm (HLS)
- Solid-state reliability in harsh environments
- Custom length continuous liquid level sensing
- For fuel, oil, water, ethanol blends, diesel, urea, etc.
- Onboard electronics analog output 0-5V or 4-20mA
- Wide operating temperature  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$





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