

# KEP Magnetic Switches

## Features

- CE Approved
- Non Contact Switching
- N.O., N.C. & SPDT Industrial Reed Switches

- Momentary & Bistable Versions Available
- No Switching Power Needed  
(Drives KAL Series without external power)
- Long Life (Estimated 3 Billion Operations)

## Switch Operations:

### N.O. (third letter "S") (Closing Switch)

If a permanent magnet (a north pole [red] or a south pole [blue]) is placed near the actuating zone of the magnetic switch, the contact tongues inside the glass sealed gas protected area spring quickly to close position. When field is removed switch opens again.

### N.C. (third letter "O") (Opening Switch)

A contact tongue of a switch is magnetized by an internal magnet with the south pole field. If a south pole (blue) actuating magnet is placed near the magnetic switch, both contact tongues are magnetized with the same polarity. Like poles repel each other and the magnetic switch contact opens. When field is removed switch closes again.

### SPDT (third letter "U") (Change over Switch)

A change over contact has one moveable (COMM.) and two static contact tongues (N.C. and N.O.) When there is no magnetic field, contact tongue rests on the N.C. contact by means of its elastic force. When an actuating magnet is placed near it (north pole [red] or south pole [blue]) the moveable contact tongue switches. The NC contact opens and the NO contact springs to close position. When field is removed, moveable contact returns to rest position.

### Bistable (fourth letter "M")

By means of an internal polarizing magnet, a contact tongue is magnetized with a south pole field in such a way that when north pole magnet (red) is placed in its proximity the magnetic switch contact changes state. The switch remains in this state until a south pole magnet (blue) is placed in its proximity.

**Operating Temperature:** 14° to 176°F (-10° to 80°C)

### Cable

Length: 39.4" (1 M)

Color:

Jacket: Gray or Beige 0.22" (5.6mm) diameter

Inside: 19 ga.

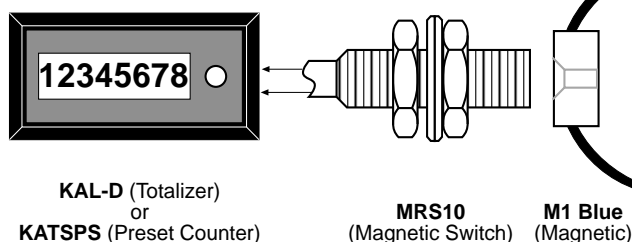
N.O.: Brown & Blue

N.C.: Black & Blue

SPDT: Brn (comm), Blue (N.C.), Blk (N.O.)

**NOTE:** Some cables may have extra green/yellow wire connected to metal case.

## Electronic Counting With No Outside Power:



## Actuating Magnets:

<b>M0</b> Weight: 5g 	<b>M1</b> Weight: 10g 
<b>M2</b> Weight: 13g 	<b>M3</b> Weight: 58g 

## Switch & Magnet Spacing:

Mag. Switch	Magnets			
	M0	M1	M2	M3
KRS9	≈3mm	≈6mm	≈10mm	≈27mm
KRU9	≈5mm	≈9mm	≈14mm	≈30mm
KWU9	≈4mm	≈7mm	≈11mm	≈26mm
GMS9	≈3mm	≈6mm	≈10mm	≈22mm
GMU9	≈3mm	≈5mm	≈8mm	≈19mm
MRS10	≈4mm	≈7mm	≈11mm	≈28mm
MRS12	≈4mm	≈7mm	≈11mm	≈27mm
MRU12	≈3mm	≈6mm	≈10mm	≈28mm
DRS	≈5mm	≈7mm	≈11mm	≈27mm
DRU	≈3mm	≈5mm	≈9mm	≈17mm
DRSM	≈14mm	≈20mm	≈28mm	≈58mm
DRUM	≈8mm	≈15mm	≈20mm	≈45mm
FLS-AL	≈5mm	≈7mm	≈11mm	≈27mm
FLU-AL	≈3mm	≈5mm	≈9mm	≈17mm
FLSM-AL	≈14mm	≈20mm	≈28mm	≈55mm
FLUM-AL	≈8mm	≈15mm	≈20mm	≈45mm
FWU-AL	≈5mm	≈8mm	≈13mm	≈30mm
FGMS-AL	≈3mm	≈5mm	≈9mm	≈21mm

**NOTE:** To convert from mm to inches use the following:  
mm ÷ 25.4 = inches

**Type: KRS9  
KRU9  
KWU9**

**Technical Data:**

Switching Action: Monostable

Contact Material: KRS9 & KRU9: rhodium  
KWU9 - tungsten

Protection: NEMA 4X / IP65

Make/Break Capacity: KRS9 & KWU9: 60 VA max.  
KRU9: 40 VA max.

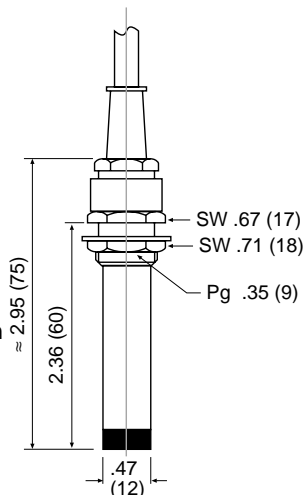
Switching Voltage: 250V max.

Switching Current: KRS9: 2A max.  
KRU9 & KWU9: 1A max.

Switching Frequency: KRS9 & KRU9: 300 Hz  
KWU9: 100 Hz

Switching Hysteresis: KRS9 & KRU9:  $\approx$  5mm  
KWU9:  $\approx$  2-3mm

Housing: Glass fiber reinforced nylon



**Type: GMS9  
GMU9**

**Technical Data:**

Switching Action: Monostable

Contact Material: rhodium

Protection: NEMA 4X / IP65

Make/Break Capacity: GMS9: 100 VA max.  
GMU9: 40 VA max.

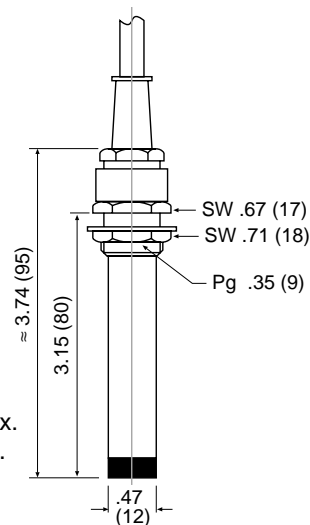
Switching Voltage: 250V max.

Switching Current: GMS9: 2A max.  
GMU9: 1A max.

Switching Frequency: 300 Hz

Switching Hysteresis: GMS9:  $\approx$  3-4mm  
GMU9:  $\approx$  5mm

Housing: Glass fiber reinforced nylon



**Type: MRS10**

**Technical Data:**

Switching Action: Monostable

Contact Material: rhodium

Protection: NEMA 12 / IP54

Make/Break Capacity: 10 VA max.

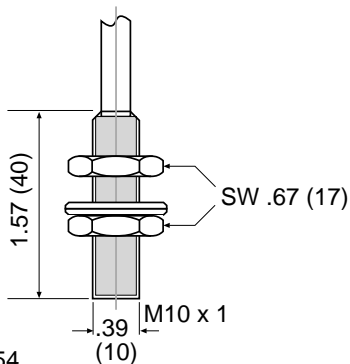
Switching Voltage: 250V max.

Switching Current: 0.5A max.

Switching Frequency: 1000 Hz

Switching Hysteresis:  $\approx$  5mm

Housing: Brass



**Type: MRS12  
MRU12**

**Technical Data:**

Switching Action: Monostable

Contact Material: rhodium

Protection: NEMA 12 / IP54

Make/Break Capacity: MRS12: 60 VA max.  
MRU12: 40 VA max.

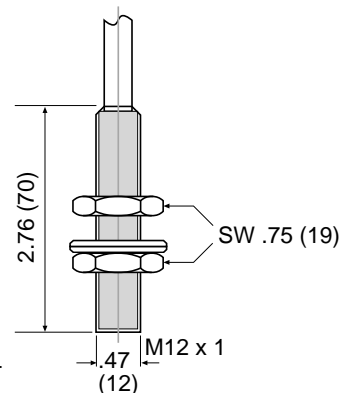
Switching Voltage: 250V max.

Switching Current: MRS12: 2A max.  
MRU12: 1A max.

Switching Frequency: 300 Hz

Switching Hysteresis:  $\approx$  5mm

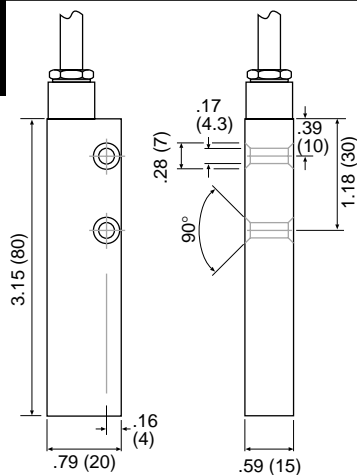
Housing: Brass



**Type: DRS, DRU, DRSM,  
DRUM, FGMS-AL**

**Technical Data:**

Switching Action:	DRS, DRU & FGMS-AL: monostable DRSM & DRUM: bistable
Contact Material:	rhodium
Switching Frequency:	300 Hz
Switching Hysteresis:	DRS & DRU: $\approx 5$ mm FGMS-AL: $\approx 3$ -4mm
Protection:	DRS, DRU, DRSM & DRUM: NEMA 12 / IP54 FGMS-AL: NEMA 4X / IP65
Make/Break Capacity:	DRS: 60 VA max. DRU & DRUM: 40 VA max. DRSM & FGMS-AL: 100 VA max.
Switching Voltage:	250V max.
Switching Current:	DRS, DRSM, & FGMS-AL: 2A max. DRU & DRUM: 1A max.
Housing:	DRS, DRU, DRSM & DRUM: Glass fiber reinforced nylon FGMS-AL: Aluminum



**How To Order:**

**Actuating Magnets:**

MO (specify RED or BLUE)  
M1 (specify RED or BLUE)  
M2 (specify RED or BLUE)  
M3 (specify RED or BLUE)

**NOTE:** RED Magnets are North; BLUE Magnets are South

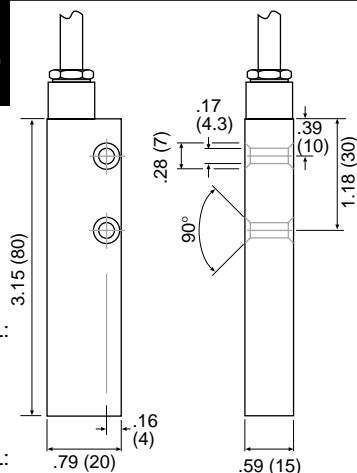
**Magnetic Switches:**

KRS9  
KRU9  
KWU9  
GMS9  
GMU9  
MRS10  
MRS12  
MRU12  
DRS  
DRU  
DRSM  
DRUM  
FLS - AL  
FLU - AL  
FLSM - AL  
FLUM-AL  
FWU-AL  
FGMS-AL

**Type: FLS-AL, FLU-AL  
FWU-AL, FLSM-AL,  
FLUM-AL**

**Technical Data:**

Switching Action:	FLS-AL, FLU-AL & FWU-AL: monostable FLSM-AL, FLUM-AL: bistable
Contact Material:	FLS-AL, FLU-AL, FLSM-AL & FLUM-AL: rhodium FWU-AL: tungsten
Switching Frequency:	FLS-AL, FLU-AL, FLSM-AL & FLUM-AL: 300 Hz FWU-AL: 100 Hz
Switching Hysteresis:	FLS-AL & FLU-AL: $\approx 5$ mm FWU-AL: $\approx 2$ -3mm
Protection:	NEMA 4X / IP65
Make/Break Capacity:	FLU-AL & FLUM-AL: 40 VA max. FLS-AL, FWU-AL: 60 VA max. FLSM: 100 VA max.
Switching Voltage:	250V max.
Switching Current:	FLS-AL & FLSM-AL: 2A max. FLU-AL, FLUM-AL & FWU-AL: 1A max.
Housing:	Aluminum



**Other Switches Available (special order):**

GMSM16  
GMUM 16  
GMS18  
GMUM 18  
MRO12  
TRS18  
TROM 18  
TRSM 18  
KRS16-EX  
SRU  
MRS9  
MRS107  
KRS9-1  
DRU1-53G344  
EVU-L100-SV-1  
FSMS  
GA12  
GMU18  
MRS10 W/12FT CABLE  
FLU  
FLS