MEDER electronic

MK14 Series

Cylindrical
Reed Sensors

DESCRIPTION

MK14 sensors are magnetically operated Reed proximity switches in a 4.0 mm diameter miniature module, fitted with interconnect cable. The sensor should be mounted on a fixed surface with the actuating magnet on the moving surface. Introduction or removal of the magnetic field determines the closing and opening of the Reed Switch.
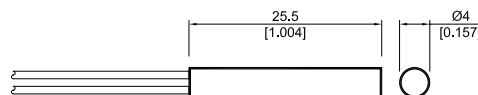
APPLICATIONS

- **Position and limit switch**
  Pneumatic or hydraulic actuator position
- **End motion detection for linear drive**
  Indication and end travel limit switch
- **Limit and motion detection for machine industry**

FEATURES

- High power switches available
- Other cables, connectors and colors available
- Various case sizes available
- Five operate sensitivities available
- A choice of cable terminations and lengths are available

DIMENSIONS

All dimensions in mm [inches]

25.5
[1.004]

Ø4
[0.157]

ORDER INFORMATION

SERIES	CONTACT FORM	SWITCH MODEL	MAGNETIC SENSITIVITY	CABLE LENGTH (mm)	TERMINATION
MK14 -	XX	XX	X -	XXX	X
OPTIONS	1 Form A	71	B, C, D, E	200 *	W, X, Y
		81	A		
		84			
	1 Form B 1 Form C	90	C, D, E		

* Other cable lengths available.

Part Number Example
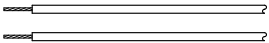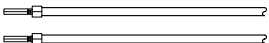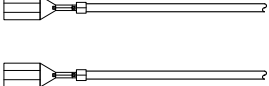
MK14 - 1A71 C - 200   W

1A is the contact form
71 is the switch model
C is the magnetic sensitivity
200 is the cable length (mm)
W is the termination

MAGNETIC SENSITIVITY

SENSITIVITY CLASS	PULL IN AT RANGE
A	5 - 10
B	10 - 15
C	15 - 20
D	20 - 25
E	25 - 30

TERMINATION

For wire and termination details please consult factory.
Form C version requires 3 conductors.

W		The cable cut length includes: 5mm of wire stripped and tinned
X		The cable cut length includes: individual crimped terminals
Y		The cable cut length includes: individual spade terminals

CONTACT DATA

All data at 20 °C	Switch Model --> Contact Form -->	Contact 71 Form A			Contact 81 Form A			
Contact Ratings	Conditions	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Contact Rating	Any DC combination of V & A not to exceed their individual max.'s			10			5	W
Switching Voltage	DC or peak AC			200			90	V
Switching Current	DC or peak AC			0.5			0.5	A
Carry Current	DC or peak AC			1.25			1.0	A
Static Contact Resistance	w/ 0.5V & 10mA			150			200	mΩ
Dynamic Contact Resistance	Measured w/ 0.5V & 50mA 1.5 ms after closure			200			200	mΩ
Insulation Resistance across Contacts	100 Volts applied	10^{10} *			10^{9}			Ω
Breakdown Voltage across Contacts	Voltage applied for 60 sec. min.	225 *			100			VDC
Operate Time, incl. Bounce	Measured w/ 100% overdrive			0.5			0.5	ms
Release Time	Measured w/ no coil suppression			0.1			0.1	ms
Capacitance	@ 10kHz across contact		0.2			0.2		pF
Contact Operation **								
Must Operate Condition	Steady state field	10		30	5		10	AT
Must Release Condition	Steady state field	4		27	2		9	AT
Environmental Data								
Shock Resistance	1/2 sine wave duration 11ms			50			30	g
Vibration Resistance	From 10 - 2000 Hz			20			10	g
Ambient Temperature	10 °C/ minute max. allowable	-20		85	-20		85	°C
Storage Temperature	10 °C/ minute max. allowable	-35		85	-35		85	°C
Soldering Temperature	5 sec. dwell			260			260	°C

Please note: The indicated electrical data are maximum values and can vary downwards when using a more sensitive switch.
* Insulation resistance of 10^{12} and breakdown voltage of 480 VDC is available.
** These ranges refer to the uncut / unmodified Reed Switches described in our Reed Switch section. Consult factory if more detail is required.

CONTACT DATA

All data at 20 °C	Switch Model --> Contact Form -->	Contact 84 Form A			Contact 90 Form B / C			
Contact Ratings	Conditions	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Contact Rating	Any DC combination of V & A not to exceed their individual max.'s			10			3	W
Switching Voltage	DC or peak AC			400			175	V
Switching Current	DC or peak AC			0.5			0.25	A
Carry Current	DC or peak AC			1.0			1.2	A
Static Contact Resistance	w/ 0.5V & 10mA			150			150	mΩ
Dynamic Contact Resistance	Measured w/ 0.5V & 50mA 1.5 ms after closure			200			250	mΩ
Insulation Resistance across Contacts	100 Volts applied	10^{11}			10^9			Ω
Breakdown Voltage across Contacts	Voltage applied for 60 sec. min.	700			200			VDC
Operate Time, incl. Bounce	Measured w/ 100% overdrive			2.0			0.7	ms
Reset Time	Measured w/ no coil suppression			0.1			1.5	ms
Capacitance	@ 10kHz across contact		0.7			1.0		pF
Contact Operation **								
Must Operate Condition	Steady state field	15		30	10		35	AT
Must Reset Condition	Steady state field	6		27	4		30	AT
Environmental Data								
Shock Resistance	1/2 sine wave duration 11ms			50			50	g
Vibration Resistance	From 10 - 2000 Hz			20			20	g
Ambient Temperature	10 °C/ minute max. allowable	-20		85	-20		85	°C
Storage Temperature	10 °C/ minute max. allowable	-35		85	-35		85	°C
Soldering Temperature	5 sec. dwell			260			260	°C

Please note: The indicated electrical data are maximum values and can vary downwards when using a more sensitive switch.
** These ranges refer to the uncut / unmodified Reed Switches described in our Reed Switch section. Consult factory if more detail is required.