

## Reed Sensors with Mounting Holes for Screw Fastening

### DESCRIPTION

MK21 sensors are magnetically operated Reed proximity switches designed for screw mounting. 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. Leads are teflon coated. Designed for extreme environment. Resistant to water, fuels, oils, inks and most acids.



### FEATURES

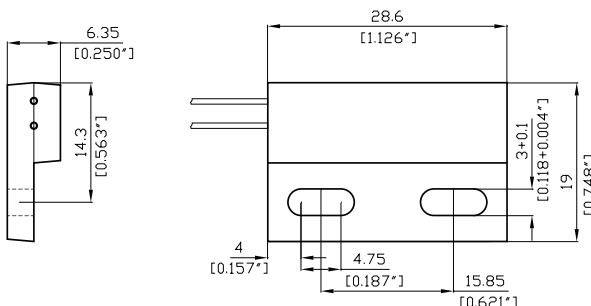
- High power switches available
- Designed for high temperature up to 160 °C (molded version)
- Four operate sensitivities available
- A choice of cable terminations and lengths are available
- Molded and potted versions available

### APPLICATIONS

- **Position and limit switch**  
Pneumatic or hydraulic actuator position
- **End motion detection for linear drive**  
Indication and end travel limit switch
- **Machine industry**  
End motion detection and door/flap control

### DIMENSIONS

All dimensions in mm [inches]



### ORDER INFORMATION

| Series                                               | Contact-form             | Switch Model | Magnetic Sensitivity | Cable Length (mm) | Termination |
|------------------------------------------------------|--------------------------|--------------|----------------------|-------------------|-------------|
| MK21X -                                              | XX                       | XX           | X -                  | XXX               | W           |
| Options                                              | 1 Form A                 | 66           | B, C, D, E           | 500*              |             |
|                                                      |                          | 84           | C, D, E              |                   |             |
|                                                      | 1 Form B**<br>1 Form C** | 90           | C, D, E              |                   |             |
| * Other cable lengths available<br>** Potted version |                          |              |                      |                   |             |

#### Part Number Example

MK21M - 1A66 C - 500 W  
 MK21P - 1A66 C - 500 W

M = molded  
 P = potted

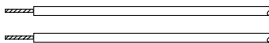
**66** is the switch model  
**C** is the magnetic sensitivity  
**500** is the cable length (mm)

### MAGNETIC SENSITIVITY

| Sensitivity Class | Pull IN At Range |
|-------------------|------------------|
| B                 | 10 - 15          |
| C                 | 15 - 25          |
| D                 | 20 - 25          |
| E                 | 25 - 30          |

### TERMINATION

For wire and termination details, as well as other magnetic sensitivity classes please contact factory.

|          |                                                                                     |                                                                     |
|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>W</b> |  | The cable cut length includes:<br>5 mm of wire stripped and tinned. |
|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|

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## CONTACT DATA

| All Data at 20° C                                                                                                                                                                                                                                                                                                                                                         | Switch Model --><br>Contact Form -->                              | Switch 66<br>Form A |      |       | Switch 84<br>Form A |      |      | Switch 90<br>Form B/C, potted |      |      |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------|------|-------|---------------------|------|------|-------------------------------|------|------|-------|
| Contact Ratings                                                                                                                                                                                                                                                                                                                                                           | Conditions                                                        | Min.                | Typ. | Max.  | Min.                | Typ. | Max. | Min.                          | Typ. | Max. | Units |
| Switching Power                                                                                                                                                                                                                                                                                                                                                           | Any DC combination of V & A not to exceed their individual max.'s |                     |      | 10    |                     |      | 10   |                               |      | 3    | W     |
| Switching Voltage                                                                                                                                                                                                                                                                                                                                                         | DC or peak AC                                                     |                     |      | 200   |                     |      | 400  |                               |      | 175  | V     |
| Switching Current                                                                                                                                                                                                                                                                                                                                                         | DC or peak AC                                                     |                     |      | 0.5   |                     |      | 0.5  |                               |      | 0.25 | A     |
| Carry Current                                                                                                                                                                                                                                                                                                                                                             | DC or peak AC                                                     |                     |      | 1.25  |                     |      | 1.0  |                               |      | 1.2  | A     |
| Static Contact Resistance                                                                                                                                                                                                                                                                                                                                                 | w/ 0.5 V & 10 mA                                                  |                     |      | 150   |                     |      | 150  |                               |      | 150  | mΩ    |
| Dynamic Contact Resistance                                                                                                                                                                                                                                                                                                                                                | Measured w/ 0.5 V & 50 mA , 1.5 ms after closure                  |                     |      | 200   |                     |      | 200  |                               |      | 250  | mΩ    |
| Insulation Resistance across Contact                                                                                                                                                                                                                                                                                                                                      | 100 volts applied                                                 | 10 <sup>10</sup> *  |      |       | 10 <sup>11</sup>    |      |      | 10 <sup>9</sup>               |      |      | Ω     |
| Breakdown Voltage across Contact                                                                                                                                                                                                                                                                                                                                          | Voltage applied for 60 sec. min.                                  | 225*                |      |       | 700                 |      |      | 200                           |      |      | VDC   |
| Operation Time incl. Bounce                                                                                                                                                                                                                                                                                                                                               | Measured w/ 100 % overdrive                                       |                     |      | 0.5   |                     |      | 2.0  |                               |      | 0.7  | ms    |
| Release Time                                                                                                                                                                                                                                                                                                                                                              | Measured w/ no coil suppression                                   |                     |      | 0.1   |                     |      | 0.1  |                               |      | 1.5  | ms    |
| Capacitance                                                                                                                                                                                                                                                                                                                                                               | at 10 kHz cross contact                                           |                     | 0.2  |       |                     | 0.7  |      |                               |      |      | pF    |
| <b>Environmental Data</b>                                                                                                                                                                                                                                                                                                                                                 |                                                                   |                     |      |       |                     |      |      |                               |      |      |       |
| Shock Resistance                                                                                                                                                                                                                                                                                                                                                          | 1/2 sinus wave duration 11 ms                                     |                     |      | 50    |                     |      | 50   |                               |      | 50   | g     |
| Vibration Resistance                                                                                                                                                                                                                                                                                                                                                      | From 10 - 2000 Hz                                                 |                     |      | 20    |                     |      | 20   |                               |      | 20   | g     |
| Ambient Temperature                                                                                                                                                                                                                                                                                                                                                       | M 10°C/ minute max. allowable                                     | -30                 |      | 150** | -30                 |      | 150  | -20                           |      |      | °C    |
| Ambient Temperature                                                                                                                                                                                                                                                                                                                                                       | P 10°C/ minute max. allowable                                     | -20                 |      | 85    | -20                 |      | 85   | -35                           |      | 85   | °C    |
| Stock Temperature                                                                                                                                                                                                                                                                                                                                                         | 10°C/ minute max. allowable                                       | -40                 |      | 160   | -40                 |      | 160  |                               |      | 85   | °C    |
| Soldering Temperature                                                                                                                                                                                                                                                                                                                                                     | 5 sec.                                                            |                     |      | 260   |                     |      | 260  |                               |      | 260  | °C    |
| Please note: The indicated electrical data are maximum values and can vary downwards when using a more sensitive switch.<br>* Insulation resistance of 10 <sup>12</sup> and breakdown voltage of 480 VDC is available.<br>** These ranges refer to the uncut / unmodified Reed Switches described in our Reed Switch section. Consult factory if more detail is required. |                                                                   |                     |      |       |                     |      |      |                               |      |      |       |