## Ferromagnetic Metal <br> Detection Sensors

Series
MK02/0, MK02/1, MK02/2, MK02/3

## DESCRIPTION

These reed proximity switches operate when in the presence of magnetically conductive material. Instead of an actuating magnet, only a simple piece of iron is required to operate the sensor from the front or from above. The standard cable is UL listed and is round twin core $2 \times 0.35 \mathrm{~mm}^{2}$ (AWG22).


## APPLICATIONS

- Industrial applications
- End travel sensing limit switch in pneumatic cylinders
- Position control
- Control functions in plant and utility vehicles
- Security applications
- Door and window control
- Opening recognition contact
- Fire protection doors


## DIMENSIONS

All dimensions in mm [inch]

- Form A and B are available
- Other cables, connectors and colors available
- Activation from the front or from above
- Sabotage loop available


## FEATURES

## OPERATION EXAMPLE

For best operation it is recommended that you DO NOT mount these sensors on any ferromagnetic material OR use any ferromagnetic screws.


* Dimension (mm): $3 \times 12 \times 32$

The standard cable is a 4-wire round - core $4 \times 0.14 \mathrm{~mm}^{2}$ (cable sheath and wires are white) forming a sabotage loop. See example of this loop to the right.

(Sabotage loop for MK02/2, MK02/3.)

ORDER INFORMATION

| Series | Contact Form | Switch Model | Cable Length (mm) | Termination | Sabotage Loop | Operation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MKX/X - | XX | XX - | XXX | X |  |  |
| 02/0 | $\begin{aligned} & 1 \mathrm{~A} \\ & 1 \mathrm{~B} \end{aligned}$ | $\begin{aligned} & 66 \\ & 90 \end{aligned}$ | 500* | W | No | Front |
| 02/1 | $\begin{aligned} & 1 \mathrm{~A} \\ & 1 \mathrm{~B} \end{aligned}$ | $\begin{aligned} & 66 \\ & 90 \end{aligned}$ |  |  | No | Above |
| 02/2 | $\begin{aligned} & 1 \mathrm{~A} \\ & 1 \mathrm{~B} \end{aligned}$ | $\begin{aligned} & 66 \\ & 90 \end{aligned}$ |  |  | Yes | Front |
| 02/3 | $\begin{aligned} & 1 \mathrm{~A} \\ & 1 \mathrm{~B} \end{aligned}$ | $\begin{aligned} & 66 \\ & 90 \end{aligned}$ |  |  | Yes | Above |
| 02/5 | 1 A | 41 |  |  | No | Front |
| 02/6 | 1 A | 41 |  |  | Yes | Front |
| * other cable lengths available. |  |  |  |  |  |  |

## Part Number Example

MK02/0 - 1A66-500 W

MK02/0 is the front operation series
1A is the contact form
66 is the switch model
500 is the cable length ( mm )
$\mathbf{W}$ is the termination

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## CONTACT DATA

| All Data at $\mathbf{2 0}^{\circ} \mathrm{C}$ | Switch Model $\rightarrow$ Contact Form $\rightarrow$ | Switch 41 Form A |  |  | Switch 66 Form A |  |  | Switch 90 Form B |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |  |  | 16 |  |  | 10 |  |  | 3 | W |
| Switching Voltage | DC or peak AC |  |  | 40 |  |  | 200 |  |  | 175 | V |
| Switching Current | DC or peak AC |  |  | 0.4 |  |  | 0.5 |  |  | 0.25 | A |
| Carry Current | DC or peak AC |  |  | 0.7 |  |  | 1.25 |  |  | 1.2 | A |
| Static Contact Resistance | w/ 0.5 V \& 10 mA |  |  | 100 |  |  | 150 |  |  | 150 | $\mathrm{m} \Omega$ |
| Dynamic Contact Resistance | Measured w/ 0.5 V \& 50 mA , 1.5 ms after closure |  |  | 150 |  |  | 200 |  |  | 250 | $\mathrm{m} \Omega$ |
| Insulation Resistance across Contacts | 100 volts applied | $10^{9}$ |  |  | $10^{10 *}$ |  |  | $10^{9}$ |  |  | $\Omega$ |
| Breakdown Voltage across Contact | Voltage applied for $60 \mathrm{sec} . \mathrm{min}$. | 150 |  |  | 225* |  |  |  |  |  | VDC |
| Operate Time incl. Bounce | Measured w/ 100 \% overdrive |  |  | 0.7 |  |  | 0.5 |  |  | 0.7 | ms |
| Release Time | Measured w/ no coil suppression |  |  | 0.05 |  |  | 0.1 |  |  | 1.5 | ms |
| Capacitance | at 10 kHz cross contact |  | 0.3 |  |  | 0.2 |  |  | 1.0 |  | pF |
| Environmental Data |  |  |  |  |  |  |  |  |  |  |  |
| Shock Resistance | $1 / 2$ sinus wave duration 11 ms |  |  | 50 |  |  | 30 |  |  | 50 | g |
| Vibration Resistance | From $10-2000$ Hz |  |  | 20 |  |  | 10 |  |  | 20 | g |
| Ambient Temperature | $10^{\circ} \mathrm{C} /$ minute max. allowable | -20 |  | 85 | -20 |  | 85 | -20 |  | 85 | ${ }^{\circ} \mathrm{C}$ |
| Stock Temperature | $10^{\circ} \mathrm{C} /$ minute max. allowable | -35 |  | 85 | -35 |  | 85 | -35 |  | 85 | ${ }^{\circ} \mathrm{C}$ |
| Soldering Temperature | 5 sec. |  |  | 260 |  |  | 260 |  |  | 260 | ${ }^{\circ} \mathrm{C}$ |

[^0]
[^0]:    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.

