

Reed Sensor Incorporated into a Hirschmann Connector



DESCRIPTION

MK9 sensors are magnetically operated Reed proximity switches potted into a standard Hirschmann connector casing according to "DIN 43650 / type AM3". In combination with the corresponding Hirschmann socket a coupling with firmly defined position is achieved. In order to fix the sensor, its potted surface is screwed to a flat surface in the direction of the operating magnet. The magnet is fixed to a moving part which is travelling towards the sensor.

APPLICATIONS

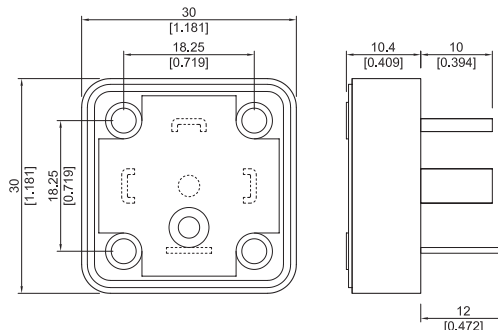
- **Air filter maintenance**
Monitoring of filter condition
- **Air conditioning and clean room systems**
Filter condition detection
- **Pneumatic and hydraulic cylinders**
Position detection
- **Machine industry**

FEATURES

- Form A, B and C available
- High power switches available
- Five operate sensitivities available

DIMENSIONS

All dimensions in mm [inches]



ORDER INFORMATION

Part Number Example

MK9 - 1A66 C

1A is the contact form

66 is the switch model

C is the magnetic sensitivity

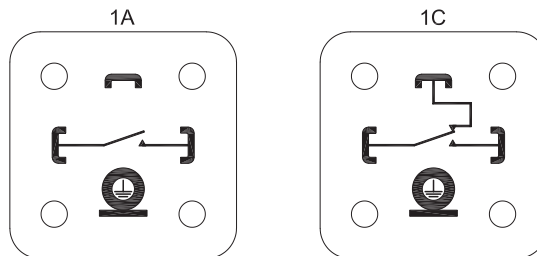
| Series | Contact-form | Switch-model | Magnetic Sensitivity |
|----------------|-----------------------|--------------|----------------------|
| MK9 - | 1A | XX | X |
| Options | 1 Form A | 66 | B, C, D, E |
| | | 84 | B, C, D, E |
| | 1 Form B 1 Form fC | 90 | C, D, E |

MAGNETIC SENSITIVITY

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

PIN OUT

View from top of component



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CONTACT DATA

| All Data at 20° C | Switch Model → Contact Form → | Switch 66 Form A | | | Switch 84 Form A | | | Units |
|---|---|---------------------|------|------|---------------------|------|------|-------|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Contact Ratings | Conditions | | | | | | | |
| Switching Power | Any DC combination of V & A not to exceed their individual max.'s | | | 10 | | | 10 | W |
| Switching Voltage | DC or peak AC | | | 200 | | | 400 | 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/ 0.5 V & 10 mA | | | 150 | | | 150 | mΩ |
| Dynamic Contact Resistance | Measured w/ 0.5 V & 50 mA , 1.5 ms after closure | | | 200 | | | 200 | mΩ |
| Insulation Resistance across Contacts | 100 volts applied | 10 ¹⁰ * | | | 10 ¹¹ | | | Ω |
| Breakdown Voltage across Contact | Voltage applied for 60 sec. min. | 225* | | | 700 | | | VDC |
| Operation Time incl. Bounce | Measured w/ 100 % overdrive | | | 0.5 | | | 2.0 | ms |
| Release Time | Measured w/ no coil suppression | | | 0.1 | | | 0.1 | ms |
| Capacitance | at 10 kHz cross contact | | 0.2 | | | 0.7 | | pF |
| Contact Operation ** | | | | | | | | |
| Must Operate Condition | Steady state field | 10 | | 30 | 15 | | 30 | |
| Must Release condition | Steady state field | 4 | | 27 | 6 | | 27 | |
| Environmental Data | | | | | | | | |
| Shock Resistance | 1/2 sinus wave duration 11 ms | | | 50 | | | 50 | g |
| Vibration Resistance | From 10 - 2000 Hz | | | 20 | | | 20 | g |
| Ambient Temperature | 10°C/ minute max. allowable | -20 | | 85 | -20 | | 85 | °C |
| Stock Temperature | 10°C/ minute max. allowable | -35 | | 85 | -35 | | 85 | °C |
| Soldering Temperature | 5 sec. | | | 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 → | Switch 90 Form C / B | | | |
|--|---|---------------------------------|-------------|-------------|--------------|
| Contact Ratings | Conditions | Min. | Typ. | Max. | Units |
| Switching Power | Any DC combination of V & A not to exceed their individual max.'s | | | 3 | W |
| Switching Voltage | DC or peak AC | | | 175 | V |
| Switching Current | DC or peak AC | | | 0.25 | A |
| Carry Current | DC or peak AC | | | 1.2 | A |
| Static Contact Resistance | w/ 0.5 V & 10 mA | | | 150 | mΩ |
| Dynamic Contact Resistance | Measured w/ 0.5 V & 50 mA , 1.5 ms after closure | | | 250 | mΩ |
| Insulation Resistance across Contacts | 100 volts applied | 10 ⁹ | | | Ω |
| Breakdown Voltage across Contact | Voltage applied for 60 sec. min. | 100 | | | VDC |
| Operation Time incl. Bounce | Measured w/ 100 % overdrive | | | 0.7 | ms |
| Release Time | Measured w/ no coil suppression | | | 1.5 | ms |
| Capacitance | at 10 kHz cross contact | | 0.2 | | pF |
| Contact Operation * | | | | | |
| Must Operate Condition | Steady state field | 15 | | 30 | AT |
| Must Release condition | Steady state field | 6 | | 27 | AT |
| Environmental Data | | | | | |
| Shock Resistance | 1/2 sinus wave duration 11 ms | | | 50 | g |
| Vibration Resistance | From 10 - 2000 Hz | | | 20 | g |
| Ambient Temperature | 10°C/ minute max. allowable | -20 | | 85 | °C |
| Stock Temperature | 10°C/ minute max. allowable | -35 | | 85 | °C |
| Soldering Temperature | 5 sec. | | | 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. | | | | | |