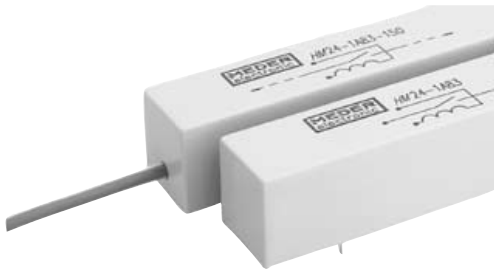


## High Voltage Reed Relays for PCB Mounting



### DESCRIPTION

High voltage Reed Relays for PCB mounting suitable for switching up to 10 kVDC with breakdown voltages up to 15 kVDC. This series is available with high voltage cables. Standard relays available in 1 Form A and 1 Form B switching configurations.

### APPLICATIONS

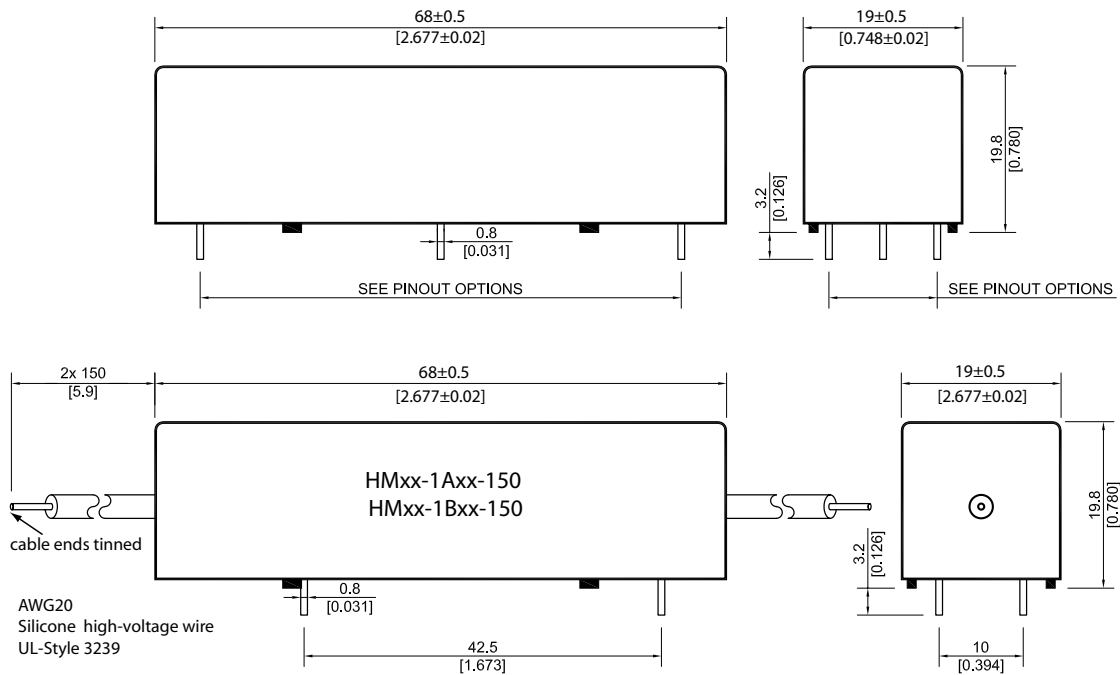
- High voltage test sets
- Cable testers
- Medical equipment (RF surgery)

### FEATURES

- Power switching up to 50 W available
- Special pin outs available
- 1 Form A and 1 Form B are standard
- Various cable lengths available
- 32 mm spacing between contact and coil available

### DIMENSIONS

All dimensions in mm [inch]



**ORDER INFORMATION**

**Part Number Example**

HM12 - 1A83 - 02

**12** is the nominal voltage  
**1A** is the contact form  
**83** is the switch model  
**02** is the pinout

| Series         | Nominal Voltage | Contact Form | Switch Model | Pin Out                    |
|----------------|-----------------|--------------|--------------|----------------------------|
| <b>HM</b>      | <b>XX -</b>     | <b>XX</b>    | <b>XX</b>    | <b>XXx</b>                 |
| <b>Options</b> | 05, 12, 24      | 1A           | 69, 83       | 02, 03, 04,<br>06, 08, 150 |
|                |                 | 1B           | 69, 83       | 06, 150                    |

**PIN OUT**

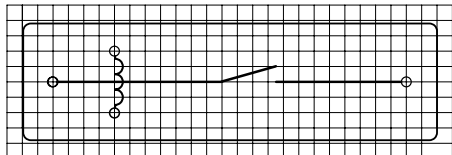
View from top of component

2.5mm [0.098"] pitch grid

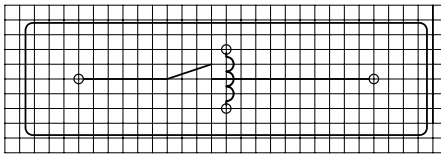
2.54mm [0.100"] pitch grid

2.5mm [0.098"] pitch grid

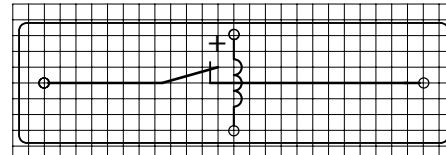
HMxx-1Axx



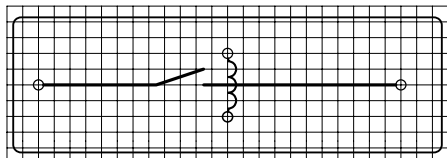
HMxx-1Axx-02



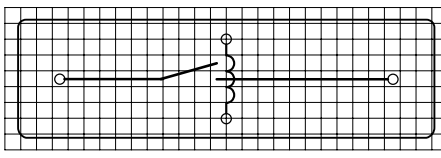
HMxx-1Bxx-06



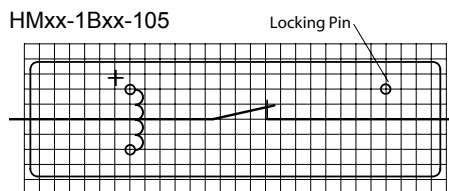
HMxx-1Axx-03



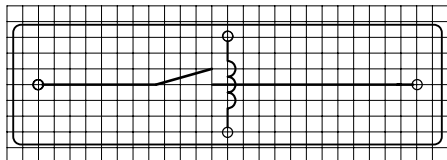
HMxx-1Axx-04



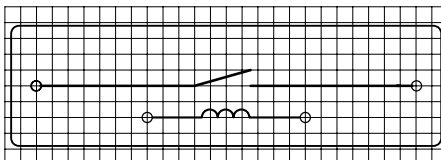
HMxx-1Bxx-105



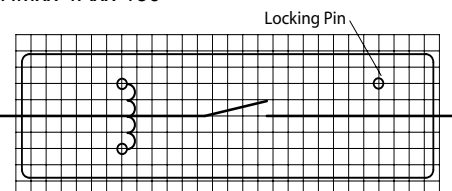
HMxx-1Axx-06



HMxx-1Axx-08



HMxx-1Axx-150



## High Voltage Reed Relays for PCB Mounting

### RELAY DATA

| All Data at 20° C   | Switch Model →<br>Contact Form →                                  | Switch 69<br>Form A/B                |            |      | Switch 83<br>Form A/B                |            |      | Unit                      |
|---|---|--------------------------------------|------------|------|--------------------------------------|------------|------|---------------------------|
|   | Conditions  | Min.                                 | Typ.       | Max. | Min.                                 | Typ.       | Max. |                           |
| Switching Power   | Any DC combination of V & A not to exceed their individual max.'s |                                      |            | 50   |                                      |            | 50   | W                         |
| Switching Voltage   | DC or peak AC   |                                      |            | 10   |                                      |            | 7.5  | kV                        |
| Switching Current   | DC or peak AC   |                                      |            | 3.0  |                                      |            | 3.0  | A                         |
| Carry Current   | DC or peak AC   |                                      |            | 5.0  |                                      |            | 5.0  | A                         |
| Static Contact Resistance   | w/ 0.5 V & 10mA   |                                      |            | 150  |                                      |            | 150  | mΩ                        |
| Insulation Resistance<br>(100 Volts applied)                            | Across contacts<br>Contact to coil                                | 10 <sup>13</sup><br>10 <sup>13</sup> |            |      | 10 <sup>13</sup><br>10 <sup>13</sup> |            |      | Ω                         |
| Breakdown Voltage   | Voltage applied for 60 sec. min.                                  | 15<br>15                             |            |      | 10<br>15                             |            |      | kVDC                      |
| Operate Time incl. Bounce   | Measured w/ 100 % overdrive                                       |                                      |            | 3.0  |                                      |            | 3.0  | ms                        |
| Release Time  | Measured w/ no coil suppression                                   |                                      |            | 1.5  |                                      |            | 1.5  | ms                        |
| Capacitance   | Across contacts<br>Contact to coil                                |                                      | 0.8<br>5.0 |      |                                      | 0.8<br>5.0 |      | pF                        |
| <b>Life Expectancies</b>  |   |                                      |            |      |                                      |            |      |                           |
| Switching 5 V - 10 mA   | DC only & <10 pF stray cap.                                       |                                      | 50         |      |                                      | 50         |      | 10 <sup>6</sup><br>Cycles |
| For other load requirements please see our life test section on P. 120. |   |                                      |            |      |                                      |            |      |                           |
| <b>Environmental Data</b>   |   |                                      |            |      |                                      |            |      |                           |
| 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                                  |            | 70   | -20                                  |            | 70   | °C                        |
| Stock Temperature   | 10°C/ minute max. allowable                                       | -35                                  |            | 105  | -35                                  |            | 105  | °C                        |
| Soldering Temperature   | 5 sec. dwell  |                                      |            | 260  |                                      |            | 260  | °C                        |

COIL DATA

| Contact Form      | Switch Model | Coil Voltage |      | Coil Resistance |      |      | Pull-in Voltage | Drop-out Voltage | Nominal Coil Power |
|-------------------|--------------|--------------|------|-----------------|------|------|-----------------|------------------|--------------------|
| All Data at 20 °C |              | VDC          |      | Ω               |      |      | VDC             | VDC              | mW                 |
|                   |              | Nom.         | Max. | Min.            | Typ. | Max. | Max.            | Min.             | Typ.               |
| 1A                | 83           | 5            | 7.5  | 41              | 45   | 50   | 3.8             | 0.5              | 555                |
|                   |              | 12           | 16   | 225             | 250  | 275  | 9.0             | 1.0              | 575                |
|                   |              | 24           | 30   | 900             | 1000 | 1100 | 18              | 2.0              | 575                |
|                   | 69           | 5            | 7.5  | 27              | 30   | 33   | 3.8             | 0.5              | 833                |
|                   |              | 12           | 16   | 135             | 150  | 165  | 9.0             | 1.0              | 960                |
|                   |              | 24           | 30   | 540             | 600  | 660  | 18              | 2.0              | 960                |
| 1B                | 83           | 5            | 7.5  | 40.5            | 45   | 49.5 | 3.8             | 0.5              | 555                |
|                   |              | 12           | 16   | 225             | 250  | 275  | 9               | 1.0              | 575                |
|                   |              | 24           | 30   | 900             | 1000 | 1100 | 18              | 2.0              | 575                |
|                   | 69           | 5            | 7.5  | 40.5            | 45   | 49.5 | 3.8             | 0.5              | 555                |
|                   |              | 12           | 16   | 225             | 250  | 275  | 9               | 1.0              | 575                |
|                   |              | 24           | 30   | 900             | 1000 | 1100 | 18              | 2.0              | 575                |

\* The pull-in / drop-out voltage and coil resistance will change at rate of 0.4% per °C.