

## High Voltage Reed Relays for PCB Mounting



### DESCRIPTION

High voltage Reed Relays for PCB mounting suitable for switching up to 10 kVDC and breakdown voltage up to 15 kVDC. This series is available with high voltage cables. Standard relays available in Form A and 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
- Various case sizes and cable lengths available
- Air- and creeping distances  $\geq 26$  mm

### ORDER INFORMATION

#### Part Number Example

HE12 - 1A83 - 02

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

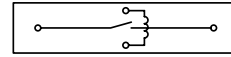
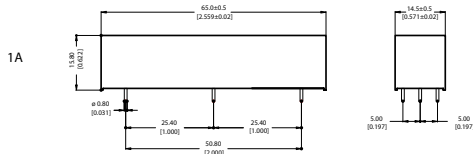
Series	Nominal Voltage	Contact Form	Switch Model	Pin Out
<b>HE</b>	XX -	XX	XX	
<b>Options</b>	12, 24	1 A	69	02, 03
	05, 12, 24	1 A	83	02, 03, 150
	12, 24	1 B		150
	12, 24	2 A	69, 83	
	12	1A	16	
	24	1A, 2A	16	

### DIMENSIONS

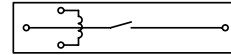
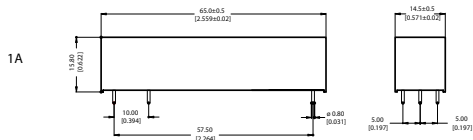
All dimensions in mm [inch]

### PIN OUT

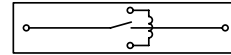
View from top of component



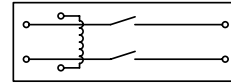
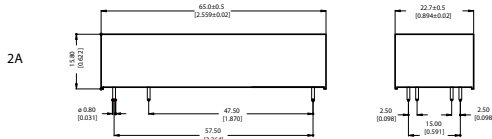
HExx - 1A83 - 02  
HExx - 1A69 - 02



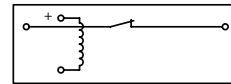
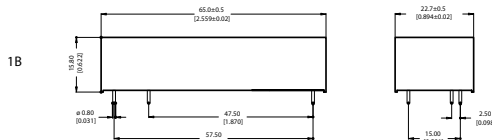
HExx - 1A83  
HExx - 1A69



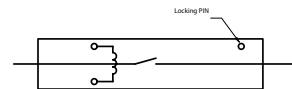
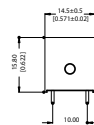
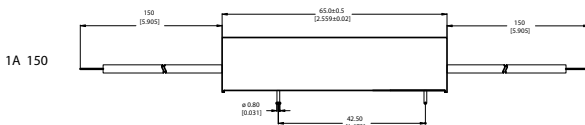
HExx - 1A83 - 03  
HExx - 1A69 - 03



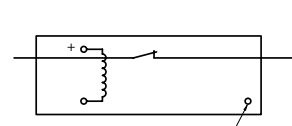
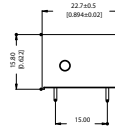
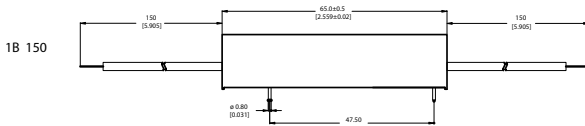
HExx - 2A



HExx - 1B



HExx - 1A83 - 150  
HExx - 1A69 - 150



HExx - 1B83 - 150  
HExx - 1B69 - 150

## High Voltage Reed Relays for PCB Mounting

### RELAY DATA

All Data at 20° C	Switch Model → Contact Form →	Switch 69 Form A / B			Switch 83 Form A / B			Switch 16 Form A			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Switching Power	Any DC combination of V & A not to exceed their individual max. s			50			50			250	W
Switching Voltage	DC or peak AC			10			7.5			250 DC/AC	kV
Switching Current	DC or peak AC			3.0			3.0			1.5	A
Carry Current	DC or peak AC			5.0			5.0			1.5	A
Static Contact Resistance	w/ 0.5 V & 10mA			150			150			80	mΩ
Insulation Resistance 100 volts applied	Across Contacts Contacts - Coil	10 <sup>10</sup> 10 <sup>12</sup>			10 <sup>10</sup> 10 <sup>12</sup>			10 <sup>10</sup> 10 <sup>12</sup>			Ω
Breakdown Voltage across Contact	Voltage applied for 60 sec. min.	15 10			10 10					0.8 6	kVDC
Operate Time incl. Bounce	Measured w/ nominal voltage			3.0			3.0			4	ms
Release Time	Measured w/ no coil suppression			1.5			1.5			0.2	ms
Capacitance	at 10 kHz cross contact		0.8 8			0.8 5.0		0.8 5.0			pF
<b>Life Expectancies</b>											
Switching 5 V - 10 mA	DC only & <10 pF stray cap.					50		50			10 <sup>6</sup> Cycles
For other load requirements, see the life test section on P. 120.											
<b>Environmental Data</b>											
Shock Resistance	1/2 sinus wave duration 11 ms			30			30			30	g
Vibration Resistance	From 10 - 2000 Hz			10			10			10	g
Ambient Temperature	10°C/ minute max. allowable	-20		70	-20		70	-20		70	°C
Stock Temperature	10°C/ minute max. allowable	-35		105	-35		105	-35		105	°C
Soldering Temperature	5 sec.			260			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	69 83	5	7.5	45	50	55	3.8	0.5	500
		12	16	225	250	275	9	1	575
		24	30	900	1000	1100	18	2	575
1B *	83	5	7.5	90	100	110	3.8	0.5	250
		12	16	360	400	440	9	1	360
		24	30	1350	1500	1650	18	2	385
2A	16	12	16	432	480	528	9	2	300
		24	30	1080	1200	1320	18	3.5	480

The pull-in / drop-out voltage and coil resistance will change at rate of 0.4% per °C.  
\* Re-closure of Form B may occur if the max. coil voltage is exceeded. Coil polarity on Form B must be observed.