



KG Technologies, Inc.

# HFZ16V-100E

## HIGH VOLTAGE DC RELAY

- 100A, 900Vdc - 1 Form A Relay
- 2.2kVac dielectric strength between coil and contacts
- Different control coil voltages: 12, 24Vdc
- Outline Dimensions: (40.3x40.3x58.3) mm
- Dimensions with flanges: (46.3x40.3x58.3) mm
- Screw load terminals (Polarity independent)
- Mounting flanges for easy installation
- RoHS compliant materials and processes
- Epoxy sealed contacts for use in hazardous environments
- Compliant to UL: 60947-1 and 60947-4-1



### Contact Data

Rated Load	100A
Contact form	1 Form A
Contact material	Cu Alloy
Contact resistance*	$\leq 0.5\text{m}\Omega$ (@ 6Vdc/20A)
Max. switching voltage	900Vdc
Max. switching current	1000A @ 320Vdc (1 op)
Set time	$\leq 30\text{ms}$
Reset time	$\leq 10\text{ms}$
Bounce time	$\leq 5\text{ms}$
Electrical endurance	10,000 cycles †
Mechanical endurance	1,000,000 cycles
Coil power consumption	Approximately 6W ‡

### Characteristics

Insulation resistance	1000M $\Omega$ (at 1000 Vdc)
Dielectric strength:	
Coil to contact	2.2kVac for 1 min.
Across open contacts	2.2kVac for 1 min.
Dielectric creepage	
Ambient temperature	-40°C to +85°C
Ambient humidity	5% - 95% RH
Vibration	10 Hz to 500 Hz / 98ms <sup>2</sup>
Shock resistance:	
Functional	196 m/s <sup>2</sup>
Termination:	
Coil termination	Wired or Connector
Load termination	Screw Terminal
Unit weight	Approximately 225g

\* Typical value for Initial Contact Resistance: Using a sample quantity of at least 20 units, take the average value from 5 continuous measurements from each sample.

† Rating at 450Vdc / 100A @ 23°C

‡ Rating at: 12Vdc / 5.5W; 24Vdc / 6W

## Electrical Endurance<sup>§</sup>

Current	Duration
100A	Continuous
150A	15 min
200A	3 min
300A	30 s

<sup>§</sup> Test Conditions: 1V @ 40°C. Diameter cable used: 35mm<sup>2</sup>

## Coil Resistance

(Ω±10%) at 23°

Nominal Coil Voltage	Pick-up Voltage	Drop-out Voltage	Coil Resistance
12Vdc	≤9Vdc	≥1Vdc	26Ω
24Vdc	≤18Vdc	≥2Vdc	96Ω

## Ordering Information

**HFZ16 ■ - 100 /900 - ■ - SH S ■ 5 ■ E -1 X**

Type

Application V : Vehicle  
Nil : New Energy Power Control

Series Code 100 : 100A

Load Voltage 900 : 900Vdc

Coil Voltage 12 : 12Vdc  
24 : 24Vdc

Contact Type SH : 1 Form A

Contact Material S : Silver Plated

Coil Termination L : Wire leads  
B : Wire leads with connector

Load Terminal 5 : Screw Terminal

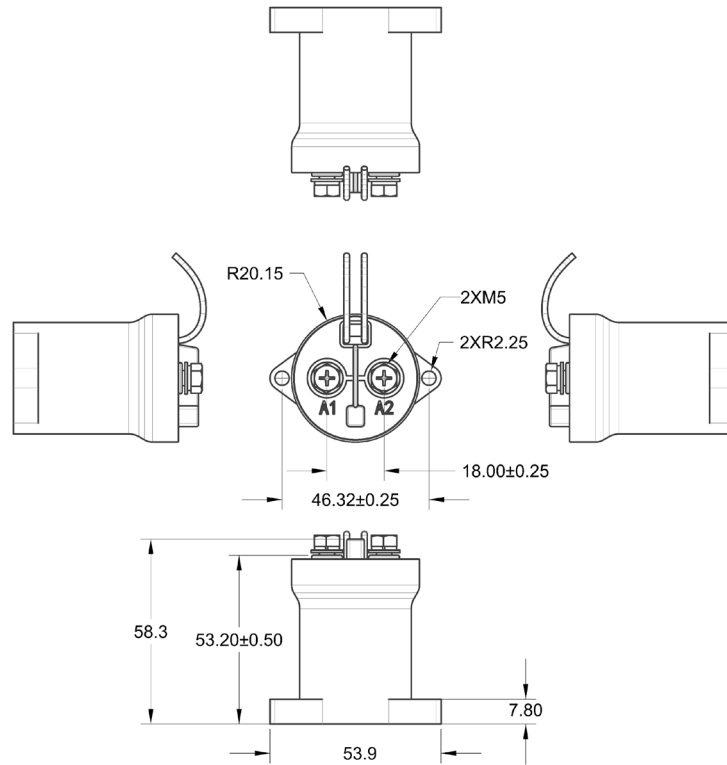
Installation type Nil : Vertical  
Y : Horizontal

Shell Structure E : Simplified Structure

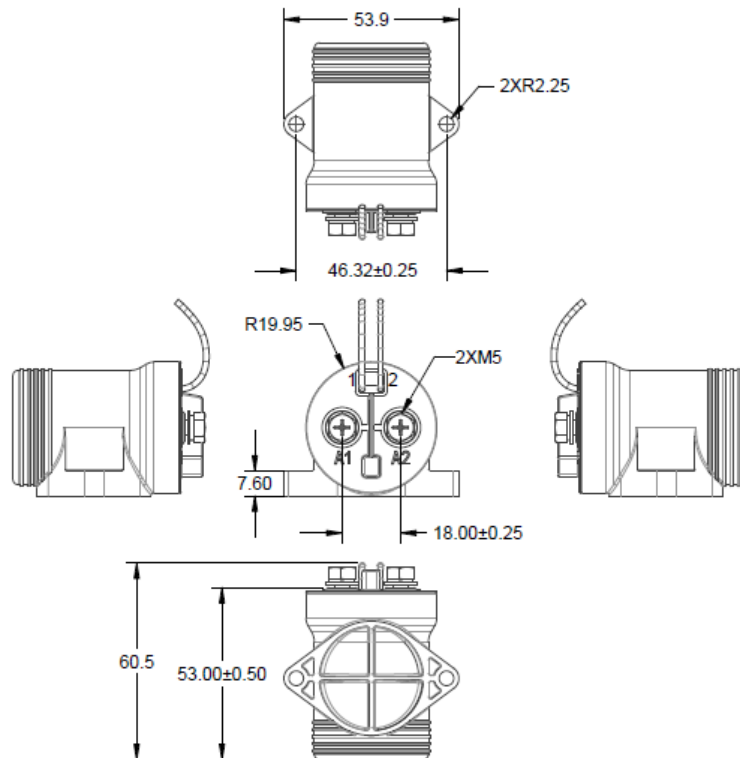
Coil Characteristics 1 : Single Coil

Special Code X : Customer Customization

VERTICAL INSTALLATION MODEL (HFZ16 ■ - 100 /900 - ■ – SH S ■ 5 E -1 X)



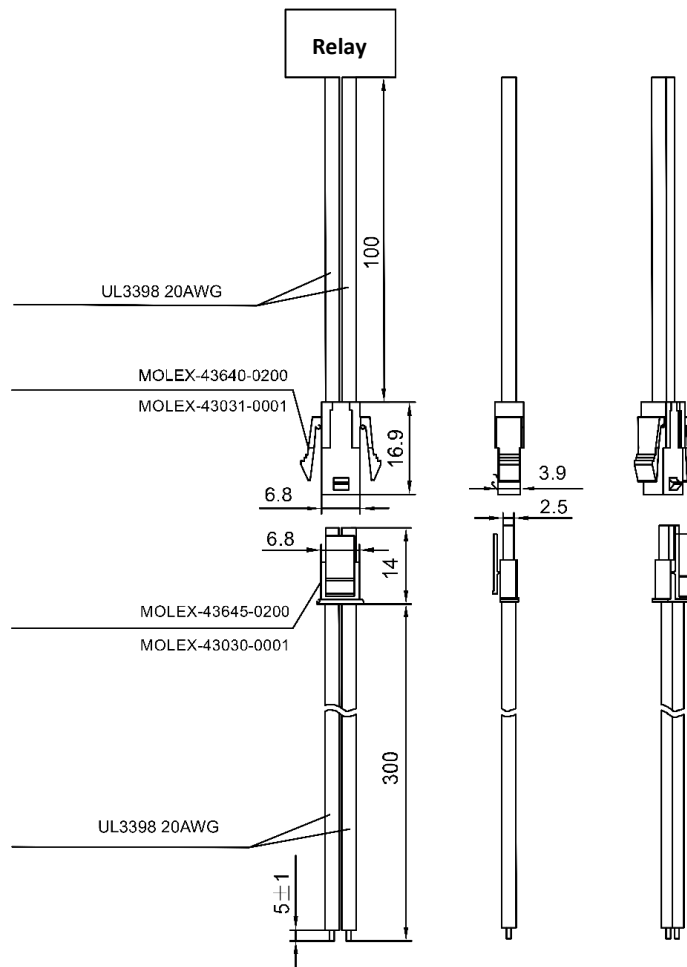
HORIZONTAL INSTALLATION MODEL (HFZ16 ■ - 100 /900 - ■ – SH S ■ 5 Y E -1 X)



\*\* Load terminal torque: 3.5 – 4.5Nm; Mounting Flange torque: 2 – 3.5Nm

†† Coil Wire specifications: Style: UL3398; Diameter: 20AWG; Length: 300mm

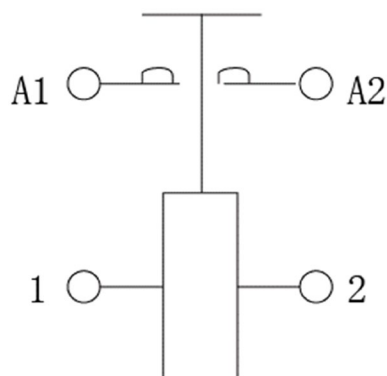
# Connector Manufacturer : Molex, Part number : 4364 Series<sup>##</sup>



<sup>##</sup> Connectors are optional parts

## Wiring Diagrams

### Single Coil



1. A1 & A2 are load terminals <sup>§§</sup> <sup>\*\*\*</sup>
2. 1 & 2 are coil terminals <sup>†††</sup>

<sup>§§</sup> Relays ship with bolts for load terminals

<sup>\*\*\*</sup> Load terminals are polarity independent

<sup>†††</sup> Coil wires are black and polarity independent

## Application Notes

---

1. To maintain the relay in its closed state, the coil voltage should reach the stated pick-up voltage.
2. For definitions of terms used in this data sheet, see [glossary](http://www.kgtechnologies.net/glossary) at [www.kgtechnologies.net](http://www.kgtechnologies.net).



6028 State Farm Drive, Rohnert Park, CA 94928  
Tel: +1.888.513.1874 Fax: +1.707.665.5966  
Email: [techinfo@kgtechnologies.net](mailto:techinfo@kgtechnologies.net)  
[www.kgtechnologies.net](http://www.kgtechnologies.net)



Scan here for  
more information

**Disclaimer:** This data sheet is for reference only. All specifications are subject to change without prior notice. KG Technologies, Inc. cannot predict every possible application for our relays. While we do our best to make our relays as versatile as possible, we highly recommend contacting our engineering team if you have any questions. KG Technologies, Inc. is not responsible for malfunctioning relays when operated outside the specified parameters given in this data sheet.