

HR-A1D Thermal Protector

Introduction

The HR-A1D general purpose and enhanced heat protector series, which are widely applied to the protection of electric motors of industrial and household appliance and other electric equipment. The series can effectively and reliably guard against the damage caused by overflow and overheat. The shell of enhanced variety is applicable to the internally installed plastic sealed motors and is capable of tolerating the 3.5Mpa technical pressure for plastic molding.

The performance complies with the standards of IEC34-11, GB13232 and GB/T13002 etc.

Structure and Theory of Protection

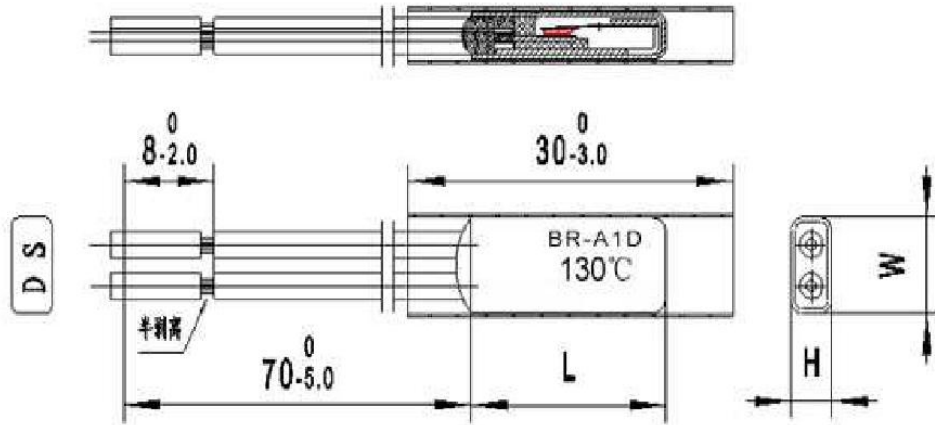
HR-A1D type heat protector is composed by heat conductive metal shell, double metal component with welded silver alloy contact, current conductive frame, insulated fixing seat, static contact pad and heat resistant wires etc. The fully enclosed structure can prevent the protector from dust or impurity pollution, the infiltration of lacquer and the damage caused by external force. The product is supplied with a heat conductive and temperature resistant insulated bushing for its shell is made of conductive metal. When the current goes through the double metal component with impedance, if the current increases or the environment temperature rises and the temperature reaches the preset value, the double metal component will work and release the contact to shut off the circuit; and by contrast, if the device cools down to the safe temperature, the contact point will close automatically to restore the normal work state.

Applications

HR series protectors are double sensitive to current and temperature and are widely applicable to the overheat protection of single or three phase electric motors caused by overload and blocked running. Moreover, the protectors are also applicable to the overheat protection and temperature control of normal electric equipment such as chocking coil, spiral vacuum tube and transformer etc.



Installation and External Dimensions



Type	L	W	H	Lead Wire
HR-A1D Normal	15.0±0.4	6.5±0.2	3.1±0.1	AWG20 #, 22 # silicon wires and AWG22 # electronic irradiated wire, subject to special process.
HR-A1D Enforced Type	15.5±0.4	7.1±0.2	3.7±0.1	

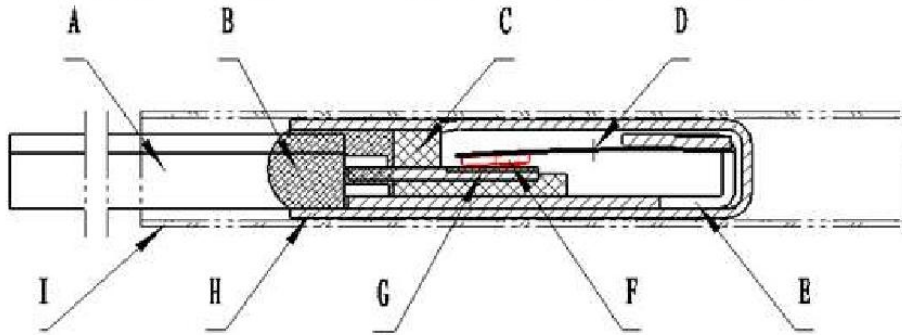
Reference Sheet of ON/OFF Temperature Ranges and Rating Temperature Specs

Type	Open Temp.	Reset Temp.
50°C	50±5.0°C	35±8.0°C
55°C	55±5.0°C	35±10.0°C
60°C	60±5.0°C	40±10.0°C
65°C	65±5.0°C	45±12.0°C
70°C	70±5.0°C	45±15.0°C
75°C	75±5.0°C	50±15.0°C
80°C	80±5.0°C	55±15.0°C
85°C	85±5.0°C	55±15.0°C
90°C	90±5.0°C	60±15.0°C
95°C	95±5.0°C	65±15.0°C

Type	Open Temp.	Reset Temp.
100°C	100±5.0°C	65±15.0°C
105°C	105±5.0°C	70±15.0°C
110°C	110±5.0°C	75±15.0°C
115°C	115±5.0°C	75±15.0°C
120°C	120±5.0°C	80±15.0°C
125°C	125±5.0°C	85±15.0°C
130°C	130±5.0°C	85±15.0°C
135°C	135±5.0°C	90±15.0°C
140°C	140±5.0°C	95±15.0°C
145°C	145±5.0°C	95±15.0°C
150°C	150±5.0°C	100±15.0°C

Structural Drawing

A. 导线 B. 环氧树脂 C. 固定座 D. 双金属元件
E. 支架 F. 触点 G. 静触片 H. 外壳 I. 绝缘套管

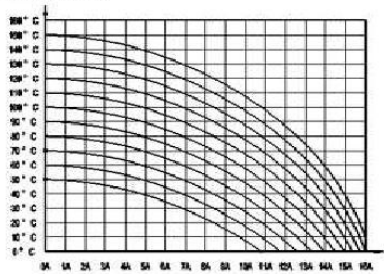


HR-A 系列

A-°C Graph

A-°C 曲线图

额定值和电流与周围温度曲线
(仅用于参考认证试验)



Max. Capacity of Contact

series protectors can tolerate the ON/OFF protection for 5000 times under the conditions below:

Voltage	24V-DC	125V-AC	250V-AC
Current	12A	12A	8A

Certificates

UL	E214731
VDE	132813
CCC	2002TMP0433CQC
ISO9001-2000	4/26/2005-1576
CSA	216981