

Application Instructions of Thermal Links “SEFUSE®”

The following application instructions of SEFUSE® SFH series EM1 type are for the safety operation performance of thermal links and the product which use it. Please read and attention for following points.

1. Ratings

Code	Functioning Temperature Tf (°C) ^{*1}	Holding Temperature Th (°C) ^{*2}	Maximum Temperature Limit Tm (°C) ^{*3}	Electrical Ratings
SFH92EM1	97	82	250	250Vac 16A (Res.)
SFH106EM1	110	99		
SFH117EM1	121	110		
SFH92EM1-1	97	82	260	
SFH106EM1-1	110	99		
SFH117EM1-1	121	110		

*1 Rated Functioning Temperature : The temperature at which a thermal links changes its state of conductivity to open circuit with detection current as the only load.

*2 Holding Temperature : Th is the maximum temperature measured on thermal links when it continues to conduct a rated current without changing its state of conductivity for 168 hours.

*3 Maximum Temperature Limit : Maximum temperature limit is the maximum temperature for which conductivity does not occur again during the following test. First, the samples are maintained at Tm for a period of 10 minutes. Then, the withstand voltage test is conducted for 2 minutes with twice the rated voltage. During the test, thermal links must remain in the functioned state, i.e. open. Hence, no current is allowed to pass through.

2. Application Instructions

2-1. Caution to keep mechanical strength

a) Tension of Terminal

The tension to the lead of SF type shall not exceed 49N to achieve the long term performance.

b) Connection of Terminal

The strong stress shall not be applied to the case and potting resin at the connection process of terminal or case.

The strong stress to the case and potting resin may break.

2-2. Connection of Terminal to Other

In order to avoid the heat by contact resistance with current, the connection method of terminal shall be considered using of the appropriate parts such as receptacle connector. If a loose connection of terminal occurs, the contact resistance of it increase, then the temperature after loaded at their rises, it may be a cause of the open of SEFUSE® earlier than expectation.

Also, the heat of connected terminals may affect the equipment itself. Although the contact resistance on connection portion of leads may be small at initial stage, it may come to large during the operation due to heat cycle or vibration. Therefore the work of connection shall be carried out carefully.

2-3. Location of SEFUSE®

SEFUSE® shall be located carefully at proper position to keep the performance of SEFUSE®. SEFUSE® may operate at lower temperature than expectation under some high environmental temperature condition. The location of SEFUSE® shall be decided often checking the temperature of SEFUSE® at normal operation. Also, it is recommended to measure the temperature of SEFUSE® considering the heat-up by normal current and overshoot current before the decision of location of SEFUSE®. The temperature at the location of SEFUSE® shall be 20°C lower than the actual operating temperature and not be over than 140°C.

2-4. Protection Against Wetness

SEFUSE® is covered by potting resin, but not suitable to operate in liquid (water, organic solvent etc.) and in the environment of harmful gas (sulfurous anhydride, nitrogen oxide gas etc.).

3. Examination for damage

SEFUSE® may be damaged by the mechanical load and or heating (soldering etc.) at the assembly process to equipment. Therefore, we are recommended to inspect about the following inspections.

(1) Appearance check for outside of SEFUSE®

(2) Conductivity check

(3) X-ray check for inside of SEFUSE®

(4) Operation check by sampling

4. For reasons of safety

Thermal links is a non-repairable item. In case of replacement, choice the same manufacturer's equivalent thermal links (from the same catalogue reference), and mounted in exactly the same way. It is recommended to warn on the user's manual for general consumers who are not aware of the usage cautions for the thermal links. About, not to mount, remove or replace the thermal links.