



| MA10

THERMAL CUT-OUT

Introduction

For 30 years Sensata Technologies' MA10 temperature cutout has provided reliable protection in a variety of small domestic and personal care appliances. The MA10 has set the world standard in the field of open type temperature cutouts.

Sensata Technologies has been a leading global supplier of pressure sensors & switches for over 90 years.



Design and Operating Principles

The Klixon® bimetal disc with welded-on contact is the heart of the MA10. It is welded on the upper terminal which is riveted to the plastic base. The lower terminal carries the stationary contact and is also riveted to the phenolic base.

The operating principle of the MA10 is both simple and effective. Its open structure allows optimum thermal response. When a fault condition occurs, the increased ambient temperature causes the Klixon® bimetal disc to snap open the contacts. As the device cools down to a safe temperature again, the contacts will automatically reset. The MA10 is available with a wide range of calibrated pre-set operating temperatures (with varying tolerances). Since the current flows through the bimetal disc, changing the bimetal resistivity makes it possible to vary the product's current sensitivity. A high, middle and low current-sensitive bimetal disc is available at no additional charge.

Applications

The MA10 is a temperature-sensitive safety cut-out for applications like:

- Electric room heaters
- Hair dryers
- Hand dryers
- Hair curlers

Due to its compact design, the MA10 can be mounted easily and with its wide range of operating temperatures and tolerances it provides cost-effective and reliable protection.



DESIGN SPECIFICATIONS

| | |
|---|------------------------|
| Standard Operating Temperature Range | From 60°C - 150°C |
| Tolerance on Open Temperature | ± 5K/±7.5K/± 10K/± 15K |
| Max. Ambient Temperature | 150°C |

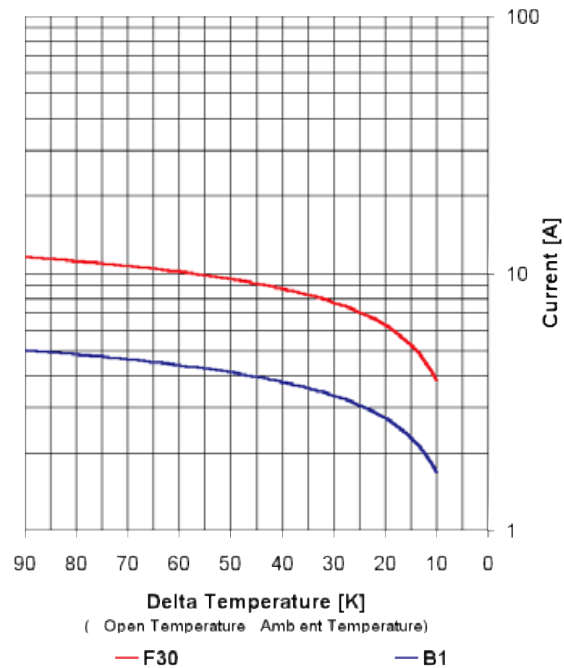
Declarations

| Declarations to EN60730-2-9 | |
|---|---|
| Purpose of the Control | Thermal Cut-Out |
| Construction | Incorporated, non-electronic |
| Degree of Protection | IP00 |
| Terminals for Ext. Conductors | For internal conductors only |
| Temperature Limits of the Switchhead | 150°C |
| PTI of Insulation Materials | PTI 250 |
| Method of Mounting | By various means in conjunction with (holes in) terminals, such that adequate creepage and clearance distances are maintained between live parts and accessible metal parts |
| Operating Time | For continuous operation |
| Type of Action | Type 2C |
| Reset Characteristic | Automatic |
| Extent of Sensing Element | Whole control |
| Control Pollution Degree | Degree 2 |

Curves

Ultimate Trip Current vs. Ambient Temperature (non-circulating air)

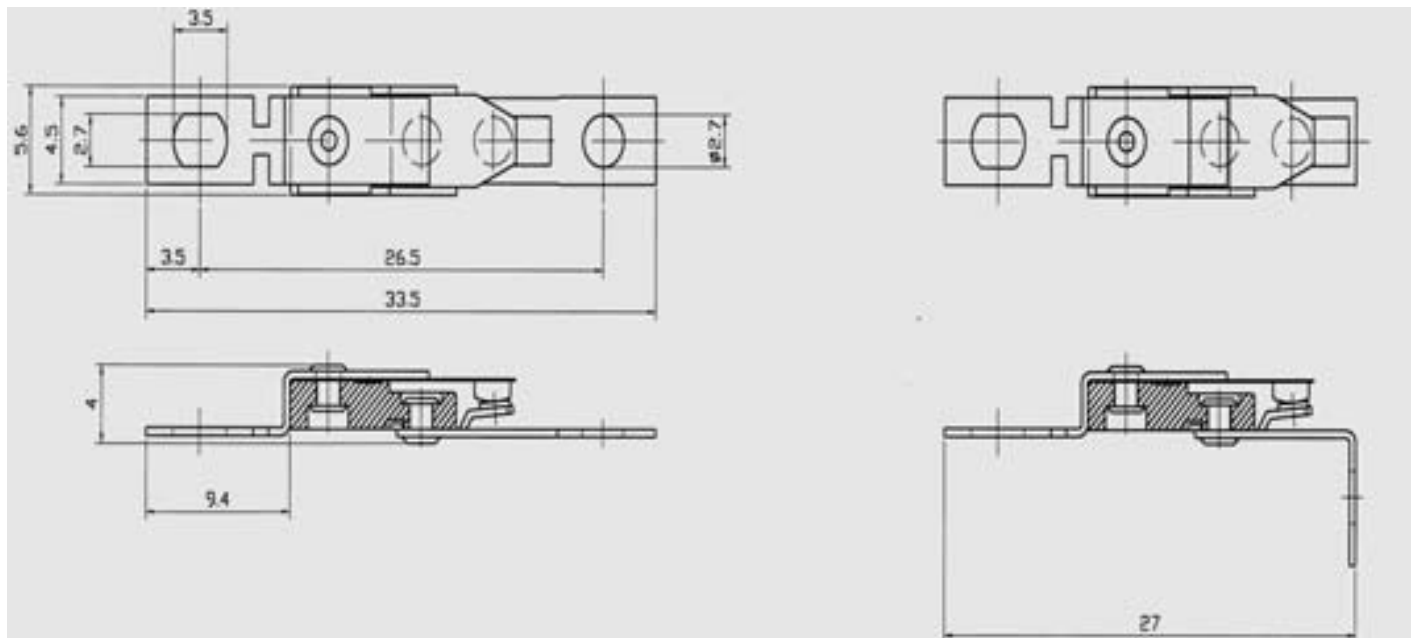
Approx. to be used for selecting samples for verification tests





DIMENSIONS

All dimensions are in millimeters [inches].

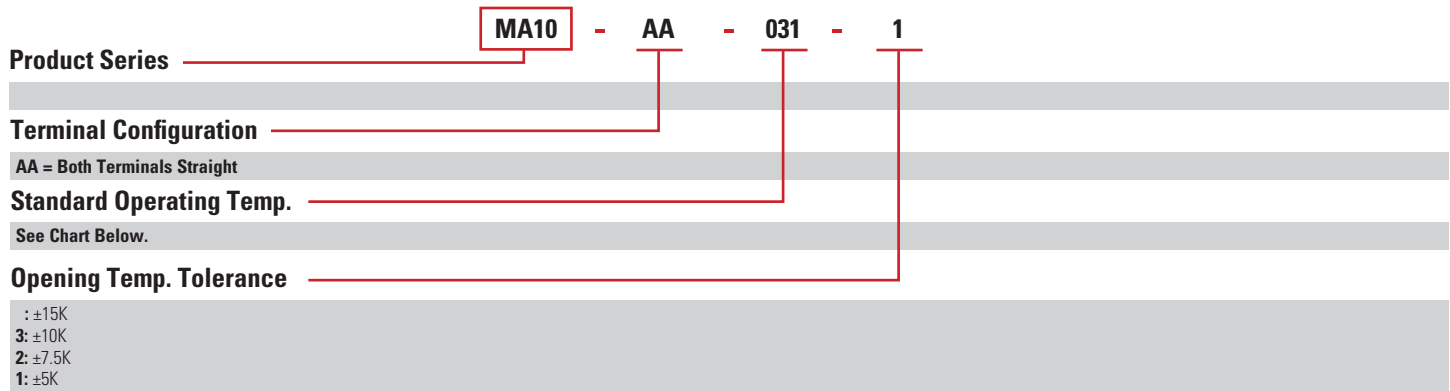




ORDERING OPTIONS

Example : MA10AA-031-1

MA10, Both Terminals Straight, Standard Opening Temp of 95°C with a low resistivity bimetal disc (F30), Opening Temp. Tolerance ±5K



Standard Operating Temperature

| Operating Temp (°C) | Low Resistivity Bimetal Disc (F30) | Medium Resistivity Bimetal Disc (B1) | High Resistivity Bimetal Disc (P850) |
|---------------------|------------------------------------|--------------------------------------|--------------------------------------|
| 60 | 056 | 060 | 058 |
| 65 | 096 | 100 | 098 |
| 70 | 071 | 075 | 073 |
| 75 | 051 | 055 | 053 |
| 80 | 091 | 095 | 093 |
| 85 | 061 | 065 | 063 |
| 90 | 021 | 025 | 023 |
| 95 | 031 | 035 | 033 |
| 100 | 026 | 030 | 028 |
| 105 | 016 | 020 | 018 |
| 110 | 036 | 040 | 038 |
| 115 | 041 | 045 | 043 |
| 120 | 001 | 005 | 003 |
| 125 | 081 | 085 | 083 |
| 130 | 011 | 015 | 013 |
| 135 | 006 | 010 | 008 |
| 140 | 066 | 070 | 068 |
| 145 | 076 | 080 | 078 |
| 150 | 046 | 050 | 048 |
| 110 | | 039 | |
| 125 | | 040 | |
| 140 | | 041 | |
| 160 | | 042 | |
| 180 | | 043 | |
| 210 | | 044 | |
| 240 | | 045 | |

AGENCY APPROVALS AND CERTIFICATIONS



| Agency | File/Report Number | Standard | Rating A-res (A-ind. @ PF=0.6)V / cycles) |
|-----------|--------------------|--------------------------------|---|
| ENEC | 2014531.12 | EN60730-2-9 Thermal Cut-Out | 12(0) 250 / 10.000 |
| UL / C-UL | E54813 | UL873 | 9(0.5) 250 / 10.000 18(0.75) 125 / 6.000 |

WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury

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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

CONTACT US

Americas

+1 (508) 236 2551
sensors@sensata.com

Europe, Middle East & Africa

+31 (74) 357 8156
info-sse@list.sensata.com

Asia Pacific

sales.isasia@list.sensata.com
China +86 (21) 2306 1500
Japan +81 (45) 277 7117
Korea +82 (31) 601 2004
India +91 (80) 67920890
Rest of Asia +886 (2) 27602006
ext 2808