

To FARNELL

# Specification Sheet

1. Scope : This specification is applied to thermostat model 23EN
2. Structure
  - 2.1 Type : Single pole single throw manual reset type thermostat with bimetallic disc.
  - 2.2 Type of action : Contacts open on temperature rise. Not automatic reset.  
(To be called "A" operation at NGT)
  - 2.3 Insulation distance : To satisfy the DIN EN standard.
  - 2.4 Splash proof : Equivalent to IP50
3. Initial characteristics
  - 3.1 Electrical Rating : Resistive load AC125V/15A, AC250V/10A  
DIN EN 60730-1, -2-9 VDE Licence No. 40012267  
Resistive load AC250V/16A 3,000 Cycles 150°C
  - 3.2 Operating temperature : (\*\*°C±\*\*K) Open  
Testing device = Hot air circulation system of NGT manufacture.  
Temperature changing rate = 1°C/1min. Measured by LED loaded 20mA or less.  
Maximum ambient temperature = 150°C
  - 3.3 Resistance between terminals : Initial value shall be 30 m ohms or less measured by Micro Current Ohm Meter.
  - 3.4 Insulation resistance : 1,000 M ohms or more measured by DC500V Megger between live part and dead metal part.
  - 3.5 Dielectric strength : Shall stand AC2,000V for 2 seconds without a breakdown between live part and dead metal part. (leakage current : 5 mA)
4. Test
  - 4.1 Heat test : 24 hours at (150°C±3K).
  - 4.2 Cold test : 24 hours at (-30°C±2K).
  - 4.3 Thermal cycle test : When subjected to 10 cycles, 30 minutes at (-30°C±2K)~ 30 minutes at (150°C±3K).
  - 4.4 Humidity test : At relative humidity of (93±2)%, (40°C±3K)×24 hours, thereafter 10 minutes at the room temperature.  
The insulation resistance shall be 10M ohms or more.
  - 4.5 Vibration test : When subjected to the vertical vibration for 60 minutes under no load, 50 Hz total amplitude of 2 mm gravity acceleration of 98 m/s².
  - 4.6 Drop shock test : Fixed to a steel plate of 10 sq cm × 1 cm thick and when subjected to the drop from 1 meter high to a wooden floor.
  - 4.7 Endurance test : When subjected to 3,000 cycles, thermal operation at approved voltage and current.
  - 4.8 Terminal strength : When subjected to 78.4 N. tension to the direction of terminal and 39.2 N. static load to the vertical direction of terminal for 1 minute, the insulator shall show no abnormalities.

The sample shall satisfy the clauses 3.3~3.5 and the change of the operating temperature shall be within ±3K compared with the initial ones after finishing the tests of 4.1~4.6 & 4.8.

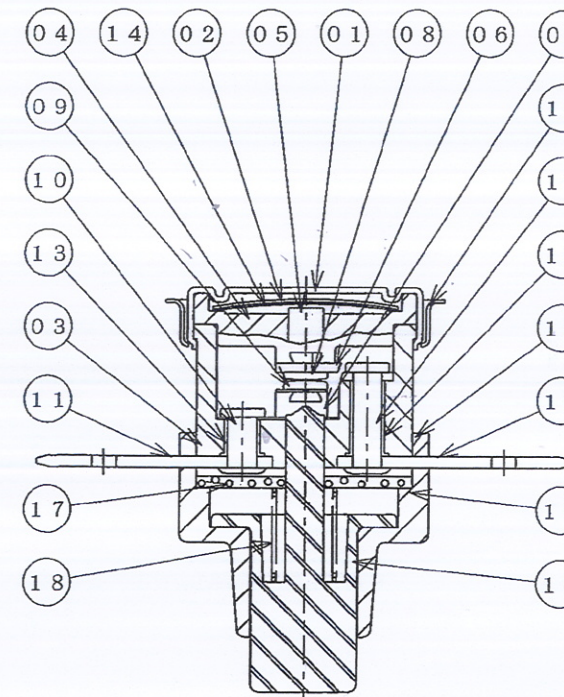
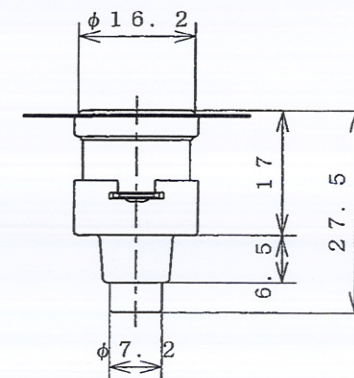
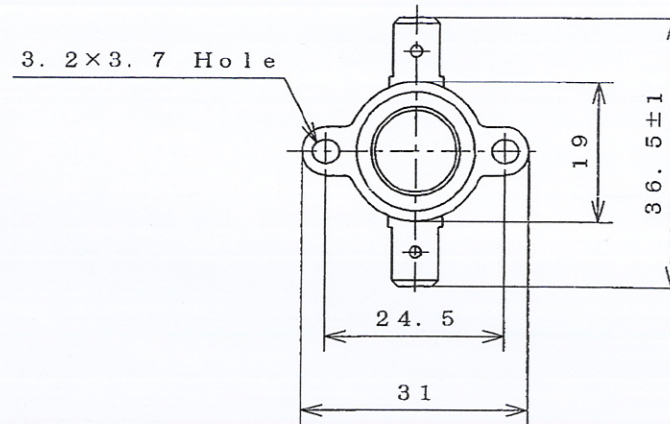
The sample shall satisfy the clauses 3.4~3.5 and resistance between terminals shall be 100 m ohms or less, and the change of the operating temperatures shall be within ±5\* compared with the initial ones after finishing the test of 4.7.

5. Marking : Stamping on Cap

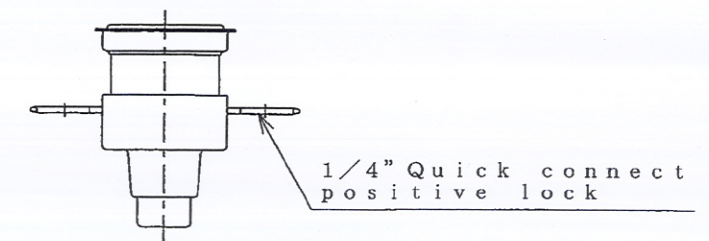
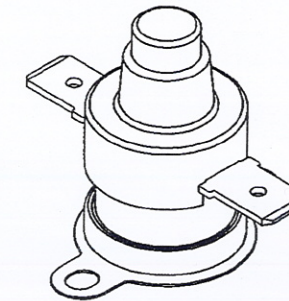
example    Type of action → A \*\*\* ← Open temperature  
                  Type → 2 3 EN \*\*\*\*\* ← Style No.  
                  Lot No. → 7 A 0 9  
                  Factory → □ ◻ ← VDE mark

☆ None : Yamagata  
☆ W : Wuxi

\* The data contained in this specification is based on our standard tests.  
The user must determine the suitability of the product for the application and assumes all risk and liability associated therewith.



## REFERENCE DRAWING



|     |                |                     |
|-----|----------------|---------------------|
| 19  | Bond           | Epoxy               |
| 18  | Spring         | Stainless steel     |
| 17  | Insulator      | Phenol              |
| 16  | Button         | Phenol              |
| 15  | Cover          | Phenol              |
| 14  | Metal disc     | Copper alloy        |
| 13  | Sleeve         | Copper              |
| 12  | Bracket        | Stainless steel     |
| 11  | Terminal       | Copper alloy        |
| 10  | Rivet          | Copper              |
| 09  | Contact        | Silver-Nickel alloy |
| 08  | Contact        | Silver-Nickel alloy |
| 07  | Movable arm    | Copper alloy        |
| 06  | Stationary arm | Copper alloy        |
| 05  | Pin            | Ceramic             |
| 04  | Retainer       | Phenol              |
| 03  | Case           | Phenol              |
| 02  | Bimetal        |                     |
| 01  | Cap            | Aluminum            |
| No. | Name           | Material            |

|            |               |             |
|------------|---------------|-------------|
| P          | Customer      |             |
|            | Represent     |             |
| 1          | Return        |             |
| 1          | Selling       |             |
| 1          | Manufacturing |             |
| 1          | Engineering   | Revision    |
| Distribute | Publication:  | 2 July 2009 |

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|            |            |                 |               |
|------------|------------|-----------------|---------------|
| Check      | Drawing    | Indication      | Alias in NGT  |
| 2 July '09 | 2 July '09 |                 | 23EN-T234R    |
|            |            | Tolerance       | Project       |
|            |            | ±0.5            | 3rd           |
|            |            | Scale           | 1:1           |
|            |            | Name            | Specification |
|            |            | Drawing No.     |               |
|            |            | NIPPON GT CORP. |               |