

# BIMETAL CUTOUTS

R53  
R54  
R55

# R



## CANTHERM

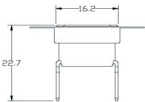
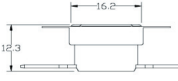
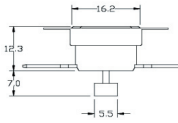
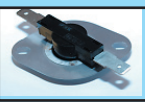
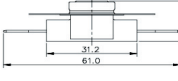
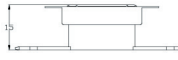
*Supplying high-quality bimetal and thermal sensor products.*

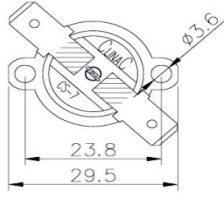
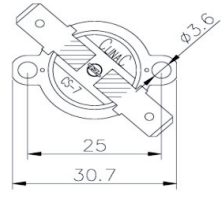
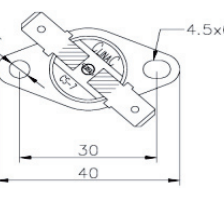
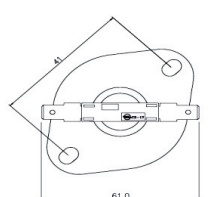
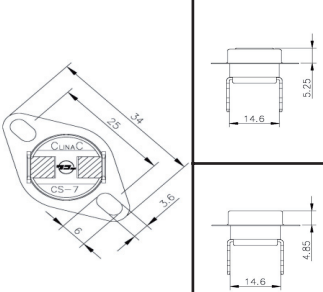


## Technical data

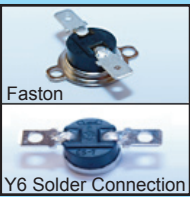
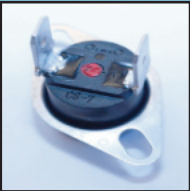
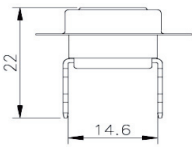
| ratings \ control type                                                                                                                                                                                                                                                                                                                                                          |                                         | R53                                              |         |            | R54         |            | R55         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|---------|------------|-------------|------------|-------------|
|                                                                                                                                                                                                                                                                                                                                                                                 |                                         | CS-7S                                            | CS-17   | B-2        | CH-15       | CH-152-35  | CR71        |
| function                                                                                                                                                                                                                                                                                                                                                                        |                                         | automatic                                        |         | SOD        | automatic   | SOD        | manual      |
| version                                                                                                                                                                                                                                                                                                                                                                         |                                         | normally closed / normally open                  |         | nc         | nc / no     | nc         | nc          |
| VDE                                                                                                                                                                                                                                                                                                                                                                             | rated current at 250 Vac ( cos ϕ 0,95 ) | 10A                                              | 25A     | 25A/15A    | 15 (10)     | 10         | 10(8)       |
|                                                                                                                                                                                                                                                                                                                                                                                 | switching cycles                        | 100,000                                          | 100,000 | 1          | 100,000     | 1          | –           |
|                                                                                                                                                                                                                                                                                                                                                                                 | temperature range TA (steps in 5°C)     | -20...200°C                                      |         | 60...150°C | -20...200°C | 0...220°C  | -20...200°C |
| UL                                                                                                                                                                                                                                                                                                                                                                              | rated current at 125/250                | * 15A/10A                                        | 25A/25A | 25A        | 15/10       | 17A        | 15(10)      |
|                                                                                                                                                                                                                                                                                                                                                                                 | switching cycles                        | 100,000                                          | 100,000 | 1          | 100,000     | 1          | –           |
|                                                                                                                                                                                                                                                                                                                                                                                 | temperature range TA (steps in 5°C)     | -20...200°C                                      | 150°C   | 0...200°C  | 0...250°C   | 0...260°C  | 50...200°C  |
| tolerance                                                                                                                                                                                                                                                                                                                                                                       |                                         | > +/- 3°C (+/- 5°C Typical)                      |         |            |             |            |             |
| contact resistance / Insulation res. / dielectric res.                                                                                                                                                                                                                                                                                                                          |                                         | < 50 mΩ / >100 mΩ at 500V / 1500V for 1 minute   |         |            |             |            |             |
| hysteresis / reset temp. (Rt)                                                                                                                                                                                                                                                                                                                                                   |                                         | 20K ±5K                                          |         | (Rt) -35°C | 20K ±5K     | (Rt) -35°C | –           |
| deg. of protection provided by enclosures (EN 60529)                                                                                                                                                                                                                                                                                                                            |                                         | IP00                                             |         |            |             |            |             |
| approvals                                                                                                                                                                                                                                                                                                                                                                       | VDE / ENEC                              | Cert# 40010923 EN 60730-1 / -2-9 / 1-A15 / 1-A16 |         |            |             |            |             |
|                                                                                                                                                                                                                                                                                                                                                                                 | UL / CUL                                | UL 873 File E50367                               |         |            |             |            |             |
|                                                                                                                                                                                                                                                                                                                                                                                 | CSA                                     | C22.2 No.24 File LR85323                         |         |            |             |            |             |
| <div><div>* Additional ratings for CS-7 only:</div><div><div>12VDC 15A / 20,000 switching cyles (Not UL, CSA, VDE)</div><div>24VDC 10A / 20,000 switching cyles (Not UL, CSA, VDE)</div></div><div><div>9.5VDC 0.38A / 100,000 switching cyles (UL Approved, Pilot Duty Only)</div><div>12VDC 0.075A / 100,000 switching cyles (UL Approved, Pilot Duty Only)</div></div></div> |                                         |                                                  |         |            |             |            |             |
| For use as a guideline only.                                                                                                                                                                                                                                                                                                                                                    |                                         |                                                  |         |            |             |            |             |

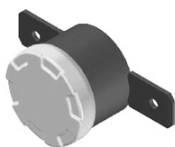
## Standard types

| type                           | nc | no | code                     | photo                                                                               | drawing dimensions (mm)                                                              | technical description                                                                                                            | approvals    |
|--------------------------------|----|----|--------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>R53</b><br>CS-7S, CS-17, B2 | 2  | 1  | Term = Z1<br>Ring = D    |  |  | Terminals 6.3 x 0.8, 4.8 x 0.5mm Sn or Ni plate, Housing: Thermoset, Cap: SS or Al, Loose Bracket, Terminals Vertical (Z type)   | UL, CSA, VDE |
|                                |    |    | Term = Y1<br>Ring = D    |  |  | Terminals 6.3 x 0.8, 4.8 x 0.5mm Sn or Ni plate, Housing: Thermoset, Cap: SS or Al, Loose Bracket, Terminals Horizontal (Y type) |              |
| <b>R55</b><br>CR-71            | 2  | —  | Ring = D                 |  |  | Terminals 6.3 x 0.8, 4.8 x 0.5mm Sn or Ni plate, Housing: Thermoset, Cap: SS or Al, Loose Bracket, Terminals Horizontal (Y type) | UL, CUL, VDE |
| <b>R53</b><br>CS-17            | 2  | 1  | Ring = L                 |  |  | Terminals 6.3 x 0.8, 4.8 x 0.5 mm Sn or Ni plate, Housing: Thermoset, Cap: SS, Welded Bracket, Terminals Horizontal (Y type)     |              |
| <b>R54</b><br>CH-15, CH-152-35 | 2  | 1  | Ring = None<br>Term = Y7 |  |  | Terminals 6.3 x 0.8, Steel Ni plate, Housing: Ceramic Thermoset, Cap: Aluminum, Loose Bracket, Terminals Horizontal (Y type)     |              |

| type                    | code                           | photo                                                                               | drawing dimensions (mm)                                                              | technical description                                                             | approvals    |
|-------------------------|--------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------|
| CS-7S, CS-17, B2, CR-71 | Standard D                     |    |     | 23.8mm mounting ring, loose or fixed at 45°, 90°, or 135°.                        | UL, CSA, VDE |
|                         | M                              |    |     | 25mm mounting ring, loose or fixed at 45°, 90°, or 135°.                          |              |
|                         | E                              |    |     | 30mm mounting ring, loose.                                                        |              |
| CS-7S, B2, CR-71, CS-17 | L                              |   |    | 41mm mounting bracket fixed at 45°, 90° or 135°.                                  | UL, CUL      |
| CS-7S, B2, CR-71        | Thru-Hole Mnt. = F             |  |  | Flange Cap mounting, Stainless Steel fixed at 45°, 90° or 135°                    | UL, CSA, VDE |
|                         | Exposed Bimetal Thru Hole = FX |  |                                                                                      | Flange Cap mounting, w/exposed bimetal, Stainless Steel fixed at 45°, 90° or 135° |              |

## Terminals

| code                                                                                                                                                                                                                                                            | used in type                                                                                                                             | photo                                                                                                                 | drawing dimensions (mm)                                                              | technical description                                | approvals    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------|--------------|
| Y1 [STD] Brass Faston Tin Plate .250<br>Y2 Brass Faston Tin Plate .187<br>Y3 Brass Faston Nickel Plate .250<br>Y4 Brass Faston Nickel Plate .187<br>Y5 Steel Faston Nickel Plate .250<br>Y6 Steel Nickel Solder Connection<br>Y7 Brass Nickel Solder Connection | CS-7,CR-71, B2<br>CS-7,CR-71, B2<br>CS-7,CR-71, B2<br>CS-7,CR-71, B2<br>CS-7,CR-71, B2, CH-15<br>CS-7,CR-71, B2, CH-15<br>CS-7,CR-71, B2 | <br>Faston<br>Y6 Solder Connection |  | Horizontal Fastons<br>6.3mm x 0.8mm<br>4.8mm x 0.8mm | UL, CSA, VDE |
| Z1 [STD] Brass Faston Tin Plate .250<br>Z2 Brass Faston Tin Plate .187<br>Z3 Brass Faston Nickel Plate .250<br>Z4 Brass Faston Nickel Plate .187<br>Z5 Steel Faston Nickel Plate .250                                                                           | CS-7,CR-71, B2<br>CS-7,CR-71, B2<br>CS-7,CR-71, B2<br>CS-7,CR-71, B2<br>CH-15                                                            |                                    |  | Vertical Fastons<br>6.3mm x 0.8mm<br>4.8mm x 0.8mm   |              |



Cap in standard execution, material aluminium (code D)



Cap for fixed mounting stainless steel (code F)



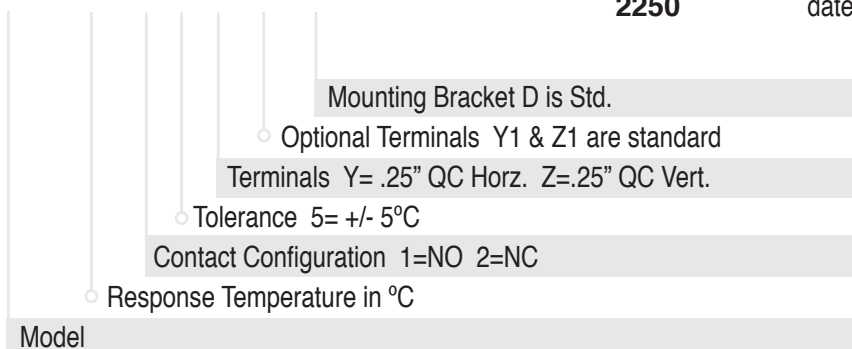
Exposed bimetal cap (code FX)

- Deviations from standard controls (caps, terminals, fixings) on request.
- Especially for electronic applications with voltage 6...120 Vac / 6...30 Vdc and current 10...100 mA, gold crossbar contacts are available.
- Single operation devices (SOD) are available up to 150°C or with reset temperature -35°C (type B-2).

## Ordering and marking example

### Ordering example

CS7 100 2 5 Y \_ \_



### Marking example

**CS-7S R100U** norm. closed response temperature

**CS710025Y** manufacture code

**2250** date of manufacture



**CANTHERM**

Supplying high-quality bimetal and thermal sensor products.

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