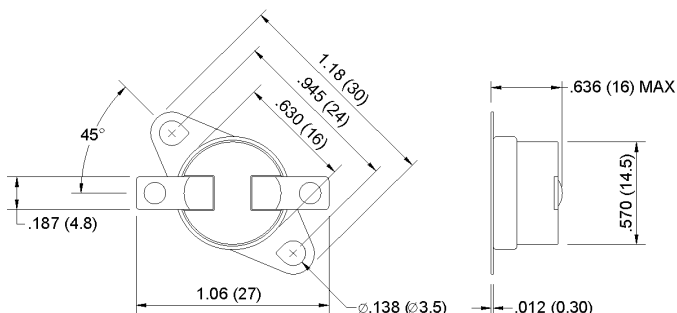


# 1/2" Disc Thermostats - Automatic Reset

## CA/OA (602S) Series, Gold Contacts (602K)



### SPECIFICATIONS

|                                    |  |
|------------------------------------|--|
| <b>Electrical ratings - Type S</b> | 125VAC, 15 Amps, Resistive, 100,000 Cycles<br>250VAC, 10 Amps, Resistive, 100,000 Cycles                                   |
| <b>Inductive load ratings</b>      | 120VAC, 5.8FLA, 34.8LRA, 6,000 Cycles<br>240VAC, 2.9FLA, 17.4LRA, 6,000 Cycles   |
| <b>Electrical ratings - Type K</b> | 30VDC, 1 Amp, Resistive, 100,000 Cycles<br>120VAC, 125VA (pilot duty), 1 Amp   |
| <b>Temperature range</b>           | 50°F to 302°F (10°C to 150°C)  |
| <i>UL approved models</i>          |  |
| <i>Non-UL approved models</i>      | 302°F to 320°F (575°C to 608°C)  |
| <b>Differential</b>                | 15°F to 100°F (8°C to 56°C)  |
| <b>Environmental temperature</b>   | 32°F to 350°F (0°C to 177°C)   |
| <b>Insulation resistance</b>       | 100M Ω or more (with a 500VDC megger)  |
| <b>Circuit resistance</b>          | 50m Ω or less (initial value)  |
| <b>Dielectric strength</b>         | 1,500VAC/1 minute  |
| <b>Approvals</b>                   | UL File No. E145478(S), XAPX2<br>CSA File No. LR63201<br>VDE File No. 69046<br>Demko File No. DK-451, CE<br>RoHS Compliant |

This line of highly reliable switches utilize a temperature sensitive disc, electrically isolated from the switch. Contacts will open or close on rise when surface or ambient temperature increase to the snap point of the calibrated bimetal disc. The entire switch is enclosed in a phenolic dust-free housing. The bimetal disc is retained by a metal heat-conducting end cap.

The CA and OA Series thermostats are used in a variety of applications. They are produced in an ISO 9000 certified factory to insure safe and reliable operation. All models are 100% factory inspected for temperature, continuity and function.

Value Added options available including over-mold and seal. For details regarding Value Added options, see pages 48.

Models available from stock - subject to availability • CA - Close On-Rise (normally open) • OA - Open On-Rise (normally closed)

| Close/Open On-Rise | Model Number | Open °F  | Close °F | Mounting         | Terminals                       | Orientation from Mounting Holes |
|--------------------|--------------|----------|----------|------------------|---------------------------------|---------------------------------|
| Close              | CA-50        | 32 ± 10  | 50 ± 7   | surface          | solder tabs                     | 45°                             |
| Close              | CA-60        | 40 ± 9   | 60 ± 7   | surface          | solder tabs                     | 45°                             |
| Close              | CA-60-QCV    | 40 ± 10  | 60 ± 7   | surface          | .250 quick connects, vertical   | 90°                             |
| Close              | CA-85        | 67 ± 9   | 85 ± 7   | surface          | solder tabs                     | 45°                             |
| Close              | CA-85-PCB    | 55 ± 10  | 85 ± 7   | air              | printed circuit board           | ●                               |
| Close              | CA-85-QC     | 67 ± 10  | 85 ± 7   | surface          | .187 quick connects, horizontal | 45°                             |
| Close              | CA-100       | 70 ± 10  | 100 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-104-ST-18 | 86 ± 10  | 104 ± 8  | 6-32 stud        | .250 quick connects, vertical   | ●                               |
| Close              | CA-107-QCV   | 90 ± 10  | 107 ± 7  | surface          | .187 quick connects, vertical   | 90°                             |
| Close              | CA-110       | 80 ± 10  | 110 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-110-PCB   | 80 ± 10  | 110 ± 7  | air              | printed circuit board           | ●                               |
| Close              | CA-110-QC45  | 80 ± 10  | 110 ± 7  | surface          | .187 quick connects, horizontal | 45°                             |
| Close              | CA-115-QC    | 100 ± 10 | 115 ± 7  | rotating bracket | .250 quick connects, horizontal | ●                               |
| Close              | CA-120       | 90 ± 10  | 120 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-120-QC    | 90 ± 10  | 120 ± 7  | surface          | .250 quick connects, horizontal | 90°                             |
| Close              | CA-120-QCH   | 90 ± 10  | 120 ± 7  | surface          | .187 quick connects, horizontal | 45°                             |
| Close              | CA-120-QCV   | 90 ± 7   | 120 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Close              | CA-130-QC    | 110 ± 10 | 130 ± 7  | surface          | .250 quick connects, vertical   | 45°                             |
| Close              | CA-130-QCH   | 100 ± 10 | 130 ± 7  | surface          | solder tabs                     | 90°                             |
| Close              | CA-130-ST    | 112 ± 10 | 130 ± 7  | 8-32 stud        | .250 quick connects, vertical   | ●                               |
| Close              | CA-130-WOB   | 100 ± 10 | 130 ± 7  | no bracket       | solder tabs                     | 45°                             |
| Close              | CA-140       | 110 ± 10 | 140 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-140-QC    | 110 ± 10 | 140 ± 7  | surface          | .250 quick connects, vertical   | 90°                             |
| Close              | CA-140-QC18  | 122 ± 10 | 140 ± 7  | rotating         | .250 quick connects, vertical   | ●                               |
| Close              | CA-150       | 120 ± 10 | 150 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-160       | 130 ± 10 | 160 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-160-QC    | 130 ± 10 | 160 ± 7  | surface          | .250 quick connects, horizontal | 90°                             |
| Close              | CA-160-QC15  | 145 ± 7  | 160 ± 10 | surface          | .250 quick connects, horizontal | 90°                             |
| Close              | CA-170       | 140 ± 10 | 170 ± 7  | surface          | solder tabs                     | 45°                             |

# 1/2" Disc Thermostats - Automatic Reset

## CA/OA (602S) Series, Gold Contacts (602K)

Models available from stock - subject to availability • CA - Close On-Rise (normally open) • OA - Open On-Rise (normally closed)

| Close/Open On-Rise | Model Number | Open °F  | Close °F | Mounting         | Terminals                       | Orientation from Mounting Holes |
|--------------------|--------------|----------|----------|------------------|---------------------------------|---------------------------------|
| Close              | CA-170-QC    | 140 ± 10 | 170 ± 7  | surface          | .250 quick connects, vertical   | 90°                             |
| Close              | CA-170-WOB   | 140 ± 10 | 170 ± 7  | no bracket       | solder tabs                     | ●                               |
| Close              | CA-175-QC    | 145 ± 10 | 175 ± 7  | surface          | .250 quick connects, horizontal | 90°                             |
| Close              | CA-180       | 150 ± 10 | 180 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-180-QCV   | 150 ± 10 | 180 ± 7  | rotating         | .250 quick connects, vertical   | ●                               |
| Close              | CA-185-ST    | 145 ± 10 | 185 ± 7  | 6-32 stud        | .250 quick connects             | ●                               |
| Close              | CA-190       | 169 ± 10 | 190 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-190-QC    | 172 ± 10 | 190 ± 7  | surface          | .250 quick connects, vertical   | 90°                             |
| Close              | CA-200       | 170 ± 10 | 200 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-205       | 175 ± 10 | 205 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-205-ST    | 175 ± 10 | 205 ± 7  | 6-32 stud        | .250 quick connects @ 30°       | ●                               |
| Close              | CA-210-QC    | 180 ± 10 | 210 ± 7  | surface          | .187 quick connects, vertical   | 90°                             |
| Close              | CA-225       | 195 ± 10 | 225 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-230-QC    | 203 ± 7  | 230 ± 10 | rotating bracket | .187 quick connects, horizontal | ●                               |
| Close              | CA-230-STG   | 185 ± 10 | 230 ± 7  | 6-32 stud        | .187 quick connects, vertical   | ●                               |
| Close              | CA-240       | 210 ± 10 | 240 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-270       | 240 ± 10 | 270 ± 7  | surface          | solder tabs                     | 45°                             |
| Close              | CA-270-QCV   | 240 ± 7  | 270 ± 10 | surface          | .187 quick connects, vertical   | 45°                             |
| Close              | CA-300       | 270 ± 10 | 300 ± 7  | surface          | solder tabs                     | 45°                             |
| Open               | OA-50        | 50 ± 5   | 32 ± 10  | surface          | solder tabs                     | 45°                             |
| Open               | OA-60        | 60 ± 5   | 40 ± 7   | surface          | solder tabs                     | 45°                             |
| Open               | OA-60-PCB    | 60 ± 5   | 40 ± 7   | air              | printed circuit board           | ●                               |
| Open               | OA-60-QCR    | 60 ± 5   | 40 ± 10  | rotating         | .250 quick connects, vertical   | ●                               |
| Open               | OA-60-QCV    | 60 ± 5   | 40 ± 10  | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-60-WOB    | 60 ± 5   | 40 ± 9   | no bracket       | solder tabs                     | ●                               |
| Open               | OA-70        | 70 ± 5   | 50 ± 10  | surface          | solder tabs                     | 45°                             |
| Open               | OA-80        | 80 ± 5   | 50 ± 9   | surface          | solder tabs                     | 45°                             |
| Open               | OA-80-PCB    | 80 ± 5   | 50 ± 10  | air              | printed circuit board           | ●                               |
| Open               | OA-80-QCV    | 80 ± 5   | 50 ± 9   | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-85        | 85 ± 5   | 67 ± 9   | surface          | solder tabs                     | 45°                             |
| Open               | OA-95-QC     | 95 ± 5   | 77 ± 9   | surface          | .250 quick connects, horizontal | 90°                             |
| Open               | OA-100       | 100 ± 5  | 70 ± 10  | surface          | solder tabs                     | 45°                             |
| Open               | OA-100-QC    | 100 ± 5  | 85 ± 10  | surface          | .250 quick connects, horizontal | 90°                             |
| Open               | OA-110       | 110 ± 5  | 80 ± 10  | surface          | solder tabs                     | 45°                             |
| Open               | OA-110-QC    | 110 ± 5  | 80 ± 10  | rotating bracket | .250 quick connects, horizontal | ●                               |
| Open               | OA-120       | 120 ± 5  | 90 ± 10  | surface          | solder tabs                     | 45°                             |
| Open               | OA-120-15-45 | 120 ± 5  | 105 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-120-QC    | 120 ± 5  | 90 ± 10  | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-120-QCH   | 120 ± 5  | 90 ± 10  | surface          | .250 quick connects, horizontal | 45°                             |
| Open               | OA-130       | 130 ± 5  | 100 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-130-ST    | 130 ± 5  | 100 ± 10 | 10-32 stud       | .250 quick connects, horizontal | ●                               |
| Open               | OA-140       | 140 ± 5  | 110 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-140-QCV   | 140 ± 5  | 110 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-150       | 150 ± 5  | 120 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-150-PCB   | 150 ± 5  | 120 ± 10 | air              | printed circuit board           | 90°                             |
| Open               | OA-150-QCC   | 150 ± 5  | 120 ± 10 | surface          | .250 quick connects, vertical   | ●                               |
| Open               | OA-158-ST    | 158 ± 5  | 118 ± 10 | 6-32 stud        | .250 quick connects             | ●                               |
| Open               | OA-160       | 160 ± 5  | 130 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-160-QC20  | 160 ± 5  | 140 ± 10 | surface          | .250 quick connects, horizontal | 90°                             |
| Open               | OA-160-QCH   | 160 ± 5  | 130 ± 10 | surface          | .187 quick connects, horizontal | 45°                             |
| Open               | OA-160-QCV20 | 160 ± 5  | 140 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-165-145   | 165 ± 5  | 145 ± 9  | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-170       | 170 ± 5  | 140 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-170-PCB   | 170 ± 5  | 140 ± 10 | air              | printed circuit board           | ●                               |
| Open               | OA-170-WOB   | 170 ± 5  | 140 ± 10 | no bracket       | .187 quick connects, horizontal | ●                               |
| Open               | OA-175       | 175 ± 5  | 157 ± 10 | surface          | solder tabs                     | 45°                             |
| Open               | OA-175-QC    | 175 ± 5  | 145 ± 10 | surface          | .250 quick connects, vertical   | 45°                             |
| Open               | OA-175-QCH   | 175 ± 5  | 157 ± 10 | surface          | .250 quick connects, horizontal | 45°                             |
| Open               | OA-175-S2    | 175 ± 6  | 145 ± 10 | 10-32 stud       | .250 quick connects, horizontal | ●                               |
| Open               | OA-180       | 180 ± 5  | 150 ± 10 | surface          | solder tabs                     | 45°                             |

# 1/2" Disc Thermostats - Automatic Reset CA/OA (602S) Series, Gold Contacts (602K)

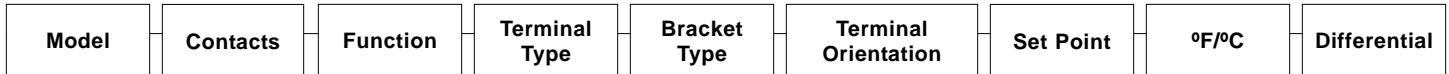
Models available from stock - subject to availability • CA - Close On-Rise (normally open) • OA - Open On-Rise (normally closed)

| Close/Open On-Rise | Model Number  | Open °F  | Close °F | Mounting         | Terminals                       | Orientation from Mounting Holes |
|--------------------|---------------|----------|----------|------------------|---------------------------------|---------------------------------|
| Open               | OA-180-QC     | 180 ± 5  | 150 ± 10 | surface          | .187 quick connects, horizontal | 45°                             |
| Open               | OA-180-QCV    | 180 ± 5  | 150 ± 10 | surface          | .250 quick connects, vertical   | 45°                             |
| Open               | OA-180-QCVR   | 180 ± 5  | 150 ± 10 | rotating bracket | .250 quick connects, vertical   | ●                               |
| Open               | OA-185-QC18   | 185 ± 10 | 167 ± 10 | rotating bracket | .250 quick connects, vertical   | ●                               |
| Open               | OA-185-QCP    | 185 ± 5  | 154 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-185-ST10   | 185 ± 5  | 131 ± 10 | 10-32 stud       | .250 quick connects, horizontal | ●                               |
| Open               | OA-190        | 190 ± 5  | 160 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-190-QC     | 190 ± 7  | 172 ± 10 | surface          | .250 quick connects, vertical   | 45°                             |
| Open               | OA-194-QC     | 194 ± 5  | 164 ± 10 | surface          | .187 quick connects, vertical   | 45°                             |
| Open               | OA-194-QC18   | 194 ± 5  | 176 ± 10 | surface          | .250 quick connects, horizontal | 90°                             |
| Open               | OA-194-QCC    | 194 ± 5  | 153 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-200        | 200 ± 5  | 170 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-200-QC     | 200 ± 5  | 181 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-200-QCV    | 200 ± 5  | 170 ± 10 | surface          | .250 quick connects, vertical   | 45°                             |
| Open               | OA-200-QCV-90 | 200 ± 5  | 170 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-200-ST     | 200 ± 5  | 170 ± 8  | 10-32 stud       | .250 quick connects             | ●                               |
| Open               | OA-203-QCP    | 203 ± 5  | 163 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-203-QCV    | 203 ± 5  | 167 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-203-ST     | 203 ± 5  | 163 ± 10 | 10-32 stud       | .250 quick connects             | ●                               |
| Open               | OA-210        | 210 ± 5  | 180 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-210-QC     | 210 ± 5  | 180 ± 10 | surface          | .187 quick connects, horizontal | 45°                             |
| Open               | OA-210-QCR    | 210 ± 5  | 195 ± 10 | rotating bracket | .250 quick connects, horizontal | ●                               |
| Open               | OA-210-QCV    | 210 ± 5  | 180 ± 10 | surface          | .250 quick connects, vertical   | 45°                             |
| Open               | OA-212-QCP    | 212 ± 5  | 167 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-220        | 220 ± 5  | 190 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-220-PCB    | 220 ± 5  | 190 ± 10 | air              | printed circuit board           | ●                               |
| Open               | OA-220-QC     | 220 ± 5  | 190 ± 10 | surface          | .250 quick connects, horizontal | 45°                             |
| Open               | OA-225-205    | 225 ± 5  | 205 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-230        | 230 ± 5  | 200 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-230-QCV    | 230 ± 7  | 200 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-239-ST     | 239 ± 7  | 189 ± 10 | 6-32 stud        | .250 quick connects             | ●                               |
| Open               | OA-240-QCV    | 240 ± 7  | 200 ± 10 | surface          | .250 quick connects, vertical   | 90°                             |
| Open               | OA-250        | 250 ± 7  | 220 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-250-PCB    | 250 ± 5  | 220 ± 10 | air              | printed circuit board           | ●                               |
| Open               | OA-250-QC     | 250 ± 5  | 220 ± 10 | surface          | .187 quick connects, horizontal | 45°                             |
| Open               | OA-250-QCA    | 250 ± 7  | 220 ± 10 | surface          | .250 quick connects, horizontal | 45°                             |
| Open               | OA-265-QCA    | 265 ± 7  | 235 ± 10 | air              | .250 quick connects, vertical   | 90°                             |
| Open               | OA-270-90     | 270 ± 7  | 240 ± 10 | surface          | solder                          | 90°                             |
| Open               | OA-275-QCH    | 275 ± 7  | 245 ± 10 | surface          | .250 quick connects, horizontal | 45°                             |
| Open               | OA-280        | 280 ± 7  | 250 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-280-QC     | 280 ± 7  | 250 ± 10 | surface          | .250 quick connects, vertical   | 45°                             |
| Open               | OA-300        | 300 ± 7  | 270 ± 10 | surface          | solder                          | 45°                             |
| Open               | OA-300-QC     | 300 ± 7  | 220 ± 14 | rotating bracket | .250 quick connects, vertical   | ●                               |
| Open               | OA-300-QCVR   | 300 ± 7  | 270 ± 10 | rotating bracket | .250 quick connects, vertical   | ●                               |

# Special Order Map

## For CA/OA , OM, CR/OR, and CRA/OR Series

### Build Your Own Part



#### Model

|        |   |                    |
|--------|---|--------------------|
| 602S   | CA/OA Series - 1/2" Automatic Reset                 | refer to pages 5-7 |
| 603U-H | OM Series - 1/2" Manual Reset                       | refer to page 8    |
| 622A   | CR/OR Series - Standard Case - 1/2" Automatic Reset | refer to page 11   |
| 622P   | CR/OR - 4-Post Case - 1/2" Automatic Reset          | refer to page 11   |
| 625A   | CRA/OR - High Temperature - 1/2" Automatic Reset    | refer to page 12   |

#### Contacts

|   |                 |
|---|-----------------|
| S | Silver contacts |
| K | Gold contacts   |

#### Function

|   |                                |
|---|--------------------------------|
| X | Open on-rise (normally closed) |
| Y | Close on-rise (normally open)  |

#### Terminal Type

|  |                  |
|--|------------------|
| Models CA/OA (602S) and OM (603U-H)            | refer to page 10 |
| Models CR/OR (622A and 622P) and CRA/OR (625A) | refer to page 14 |

#### Bracket Type

|  |                  |
|--|------------------|
| Models CA/OA (602S) and OM (603U-H)            | refer to page 9  |
| Models CR/OR (622A and 622P) and CRA/OR (625A) | refer to page 13 |

#### Terminal Orientation

0°  
45°  
90°

### Example Part Number

