



### ● Features:

- \* With strong and durable quality and high resistance of concussion
- \* Dual scale (°F&°C)
- \* Back or bottom connection

### ● Applications:

- \* Can be used in heating, ventilating, air-conditioning, refrigeration system, measuring liquid & gas temperature system, measuring liquid & gas temperature directly
- \* The remote reading, Shockproof requirements, refrigeration plant, marine machinery, etc

### Specifications

|               |   |
|---------------|---|
| Dial          | 2.5"(63mm), 4"(100mm)   |
| Case          | Stainless steel, ABS case available                                     |
| Capillary     | Copper or stainless steel, Length from 0.2m to 10m                      |
| Form & Flange | Back connection with front flange<br>Bottom connection with back flange |
| Installation  | Insert  |
| Accuracy      | ±2%   |

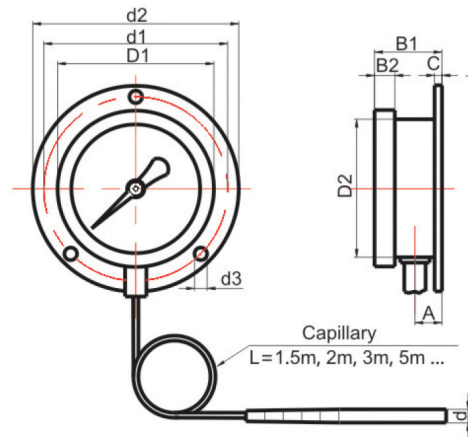
### ● TCD Series Product Code

| Dial Size            | 4"(100mm)                             |          |          | 2.5"(63mm)                                 |            |            |  |            |            |
|----------------------|---------------------------------------|----------|----------|--|------------|------------|--|------------|------------|
|                      | 1/2" NPT or without Connection Bottom |          |          | 1/4" NPT or without Connection Center Back |            |            | 1/4" NPT or without Connection Center Back |            |            |
| Case                 | Black ABS with Back Flange            |          |          | SS Case without Flange                     |            |            | SS Case with Front Flange                  |            |            |
| Capillary Length     | 1m                                    | 2m       | 3m       | 8"   | 12"        | 15"        | 8"   | 12"        | 15"        |
| -40/60°F & -40/15°C  | C4B211F                               | C4B221F  | C4B231F  | C25B411WF                                  | C25B421WF  | C25B431WF  | C25B411OF                                  | C25B421OF  | C25B431OF  |
| -40/110°F & -40/40°C | C4B212F                               | C4B222F  | C4B232F  | C25B412WF                                  | C25B422WF  | C25B432WF  | C25B412OF                                  | C25B422OF  | C25B432OF  |
| -20/120°F & -30/50°C | C4B213F                               | C4B223F  | C4B233F  | C25B413WF                                  | C25B423WF  | C25B433WF  | C25B413OF                                  | C25B423OF  | C25B433OF  |
| 30/150°F & 0/65°C    | C4B214F                               | C4B224F  | C4B234F  | C25B414WF                                  | C25B424WF  | C25B434WF  | C25B414OF                                  | C25B424OF  | C25B434OF  |
| 0/180°F & -20/80°C   | C4B215F                               | C4B225F  | C4B235F  | C25B415WF                                  | C25B425WF  | C25B435WF  | C25B415OF                                  | C25B425OF  | C25B435OF  |
| 30/240°F & 0/115°C   | C4B216F                               | C4B226F  | C4B236F  | C25B416WF                                  | C25B426WF  | C25B436WF  | C25B416OF                                  | C25B426OF  | C25B436OF  |
| 40/220°F & 5/100°C   | C4B217F                               | C4B227F  | C4B237F  | C25B417WF                                  | C25B427WF  | C25B437WF  | C25B417OF                                  | C25B427OF  | C25B437OF  |
| 80/300°F & 25/150°C  | C4B218F                               | C4B228F  | C4B238F  | C25B418WF                                  | C25B428WF  | C25B438WF  | C25B418OF                                  | C25B428OF  | C25B438OF  |
| 100/400°F & 40/205°C | C4B219F                               | C4B229F  | C4B239F  | C25B419WF                                  | C25B429WF  | C25B439WF  | C25B419OF                                  | C25B429OF  | C25B439OF  |
| 100/500°F & 40/260°C | C4B2110F                              | C4B2210F | C4B2310F | C25B4110WF                                 | C25B4210WF | C25B4310WF | C25B4110OF                                 | C25B4210OF | C25B4310OF |

| Dial Size            | 4"(100mm)                                  |           |           | 4"(100mm)                   |           |           |
|----------------------|--|-----------|-----------|-----------------------------|-----------|-----------|
|                      | 1/2" NPT or without Connection Center Back |           |           |                             |           |           |
| Case                 | Stainless Steel without Flange             |           |           | Stainless Steel with Flange |           |           |
| Connection           | Stainless Steel without Flange             |           |           | Stainless Steel with Flange |           |           |
| Capillary Length     | 1m   | 2m        | 3m        | 1m                          | 2m        | 3m        |
| -40/60°F & -40/15°C  | C4B211WF                                   | C4B221WF  | C4B231WF  | C4B211OF                    | C4B221OF  | C4B231OF  |
| -40/110°F & -40/40°C | C4B212WF                                   | C4B222WF  | C4B232WF  | C4B212OF                    | C4B222OF  | C4B232OF  |
| -20/120°F & -30/50°C | C4B213WF                                   | C4B223WF  | C4B233WF  | C4B213OF                    | C4B223OF  | C4B233OF  |
| 30/150°F & 0/65°C    | C4B214WF                                   | C4B224WF  | C4B234WF  | C4B214OF                    | C4B224OF  | C4B234OF  |
| 0/180°F & -20/80°C   | C4B215WF                                   | C4B225WF  | C4B235WF  | C4B215OF                    | C4B225OF  | C4B235OF  |
| 30/240°F & 0/115°C   | C4B216WF                                   | C4B226WF  | C4B236WF  | C4B216OF                    | C4B226OF  | C4B236OF  |
| 40/220°F & 5/100°C   | C4B217WF                                   | C4B227WF  | C4B237WF  | C4B217OF                    | C4B227OF  | C4B237OF  |
| 80/300°F & 25/150°C  | C4B218WF                                   | C4B228WF  | C4B238WF  | C4B218OF                    | C4B228OF  | C4B238OF  |
| 100/400°F & 40/205°C | C4B219WF                                   | C4B229WF  | C4B239WF  | C4B219OF                    | C4B229OF  | C4B239OF  |
| 100/500°F & 40/260°C | C4B2110WF                                  | C4B2210WF | C4B2310WF | C4B2110OF                   | C4B2210OF | C4B2310OF |

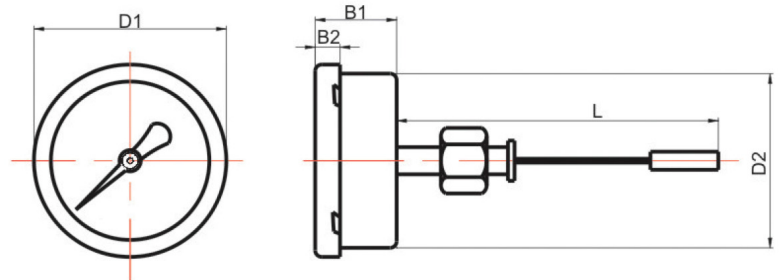
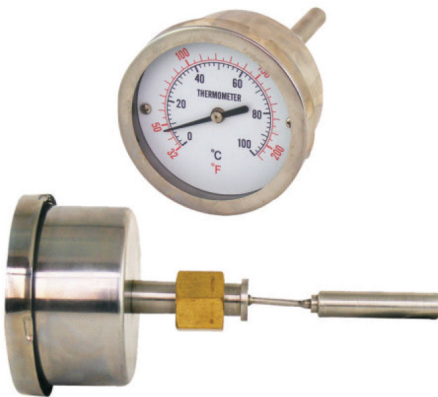
● Other ranges and stem lengths are available, and dual scales C&F or single scale °C available.

### ● TCD-1 Series, Black ABS Case, Bottom with Back Flange



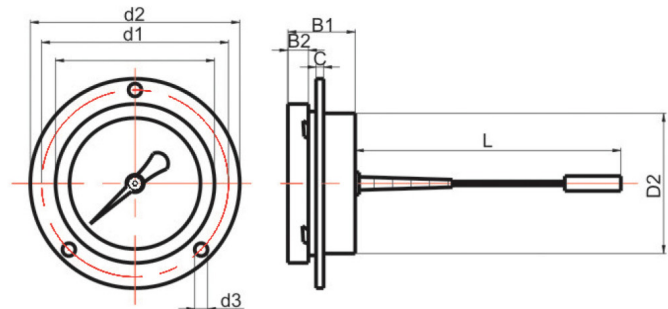
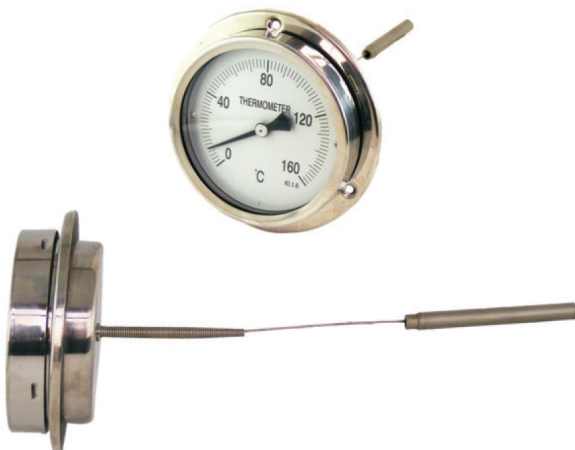
| Dial Size | D 1               | D 2               | B 1              | B 2              | C               | d                | d 1               | d 2               | d 3             | A                | L                          |
|-----------|-------------------|-------------------|------------------|------------------|-----------------|------------------|-------------------|-------------------|-----------------|------------------|----------------------------|
| 4"        | 4.409"<br>(112mm) | 4.016"<br>(102mm) | 1.969"<br>(50mm) | 0.669"<br>(17mm) | 0.197"<br>(5mm) | 0.472"<br>(12mm) | 4.882"<br>(124mm) | 5.315"<br>(135mm) | 0.197"<br>(5mm) | 0.748"<br>(19mm) | 1 m<br>1.5 m<br>2 m<br>3 m |

### ● TCD-2 Series, Back Connection without Flange (SS Case)



| Dial Size | D 1               | D 2               | B 1              | B 2              | L   |
|-----------|-------------------|-------------------|------------------|------------------|---|
| 2.5"      | 2.717"<br>(69mm)  | 5.441"<br>(62mm)  | 1.496"<br>(38mm) | 0.472"<br>(12mm) | 8" (200mm)<br>12" (300mm)<br>15" (400mm)<br>20" (500mm) |
| 4"        | 4.370"<br>(111mm) | 3.937"<br>(100mm) | 1.654"<br>(42mm) | 0.669"<br>(17mm) | 8" (200mm)<br>12" (300mm)<br>15" (400mm)<br>20" (500mm) |

### ● TCD-3 Series, Back Connection with Flange (SS Case)



| Dial Size | D 1               | D 2               | B 1              | B 2              | C               | d 1               | d 2               | d 3               | L                            |
|-----------|-------------------|-------------------|------------------|------------------|-----------------|-------------------|-------------------|-------------------|------------------------------|
| 2.5"      | 2.717"<br>(69mm)  | 5.441"<br>(62mm)  | 1.496"<br>(38mm) | 0.472"<br>(12mm) | 0.157"<br>(4mm) | 3.780"<br>(96mm)  | 4.409"<br>(112mm) | 0.177"<br>(4.5mm) | 0.5 m<br>1 m<br>1.5 m<br>2 m |
| 4"        | 4.370"<br>(111mm) | 3.937"<br>(100mm) | 1.654"<br>(42mm) | 0.669"<br>(17mm) | 0.157"<br>(4mm) | 4.882"<br>(124mm) | 5.512"<br>(140mm) | 0.177"<br>(4.5mm) | 0.5 m<br>1 m<br>1.5 m<br>2 m |

### ● Features:

- \* An economical thermometer for remote reading applications
- \* Stainless steel case
- \* Gas-filled type
- \* Panel mounted
- \* Dual scale (°F&°C)
- \* ASME B40.200 compliant



● Back Conn.



● Bottom Conn.

### ● Applications:

- \* Freezers, walk-in refrigeration units, food storage cabinets, heating and ventilation. Widely specified in the HVAC, commercial and mechanical industrial segments

### ● TRD Series Product Code

| Dial Size             | 4"(100mm)                                     |         |         |         |   |         |         |         |
|-----------------------|---|---------|---------|---------|---|---------|---------|---------|
| Connection            | 1/2"NPT<br>Bottom Connection with Back Flange |         |         |         | 1/2" NPT<br>Back Connection with Front Flange |         |         |         |
| Capillary Length      | 1.5m  | 2m      | 3m      | 5m      | 1.5m  | 2m      | 3m      | 5m      |
| -40/60°F & -40/15°C   | R1L151F                                       | R1L21F  | R1L31F  | R1L51F  | R1B151F                                       | R1B21F  | R1B31F  | R1B51F  |
| -40/110°F & -40/40°C  | R1L152F                                       | R1L22F  | R1L32F  | R1L52F  | R1B152F                                       | R1B22F  | R1B32F  | R1B52F  |
| -20/120°F & -30/50°C  | R1L153F                                       | R1L23F  | R1L33F  | R1L53F  | R1B153F                                       | R1B23F  | R1B33F  | R1B53F  |
| 30/150°F & 0/65°C     | R1L154F                                       | R1L24F  | R1L34F  | R1L54F  | R1B154F                                       | R1B24F  | R1B34F  | R1B54F  |
| 0/180°F & -20/80°C    | R1L155F                                       | R1L25F  | R1L35F  | R1L55F  | R1B155F                                       | R1B25F  | R1B35F  | R1B55F  |
| 30/240°F & 0/115°C    | R1L156F                                       | R1L26F  | R1L36F  | R1L56F  | R1B156F                                       | R1B26F  | R1B36F  | R1B56F  |
| 40/220°F & 5/100°C    | R1L157F                                       | R1L27F  | R1L37F  | R1L57F  | R1B157F                                       | R1B27F  | R1B37F  | R1B57F  |
| 80/300°F & 25/150°C   | R1L158F                                       | R1L28F  | R1L38F  | R1L58F  | R1B158F                                       | R1B28F  | R1B38F  | R1B58F  |
| 100/400°F & 40/205°C  | R1L159F                                       | R1L29F  | R1L39F  | R1L59F  | R1B159F                                       | R1B29F  | R1B39F  | R1B59F  |
| 100/500°F & 40/260°C  | R1L1510F                                      | R1L210F | R1L310F | R1L510F | R1B1510F                                      | R1B210F | R1B310F | R1B510F |
| 0/600°F & -20/315°C   | R1L1511F                                      | R1L211F | R1L311F | R1L511F | R1B1511F                                      | R1B211F | R1B311F | R1B511F |
| 100/1000°F & 50/550°C | R1L1512F                                      | R1L212F | R1L312F | R1L512F | R1B1512F                                      | R1B212F | R1B312F | R1B512F |
| 100/1200°F & 50/650°C | R1L1513F                                      | R1L213F | R1L313F | R1L513F | R1B1513F                                      | R1B213F | R1B313F | R1B513F |

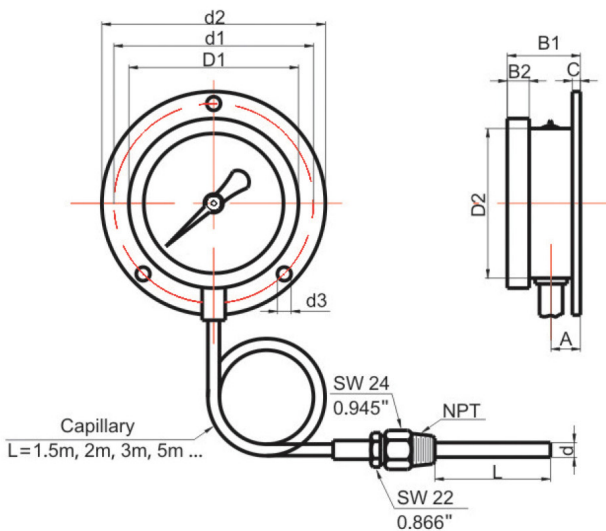
| Dial Size             | 6"(150mm)                                     |         |         |         |   |         |         |         |
|-----------------------|---|---------|---------|---------|---|---------|---------|---------|
| Connection            | 1/2"NPT<br>Bottom Connection with Back Flange |         |         |         | 1/2" NPT<br>Back Connection with Front Flange |         |         |         |
| Capillary Length      | 1.5m  | 2m      | 3m      | 5m      | 1.5m  | 2m      | 3m      | 5m      |
| -40/60°F & -40/15°C   | R2L151F                                       | R2L21F  | R2L31F  | R2L51F  | R2B151F                                       | R2B21F  | R2B31F  | R2B51F  |
| -40/110°F & -40/40°C  | R2L152F                                       | R2L22F  | R2L32F  | R2L52F  | R2B152F                                       | R2B22F  | R2B32F  | R2B52F  |
| -20/120°F & -30/50°C  | R2L153F                                       | R2L23F  | R2L33F  | R2L53F  | R2B153F                                       | R2B23F  | R2B33F  | R2B53F  |
| 30/150°F & 0/65°C     | R2L154F                                       | R2L24F  | R2L34F  | R2L54F  | R2B154F                                       | R2B24F  | R2B34F  | R2B54F  |
| 0/180°F & -20/80°C    | R2L155F                                       | R2L25F  | R2L35F  | R2L55F  | R2B155F                                       | R2B25F  | R2B35F  | R2B55F  |
| 30/240°F & 0/115°C    | R2L156F                                       | R2L26F  | R2L36F  | R2L56F  | R2B156F                                       | R2B26F  | R2B36F  | R2B56F  |
| 40/220°F & 5/100°C    | R2L157F                                       | R2L27F  | R2L37F  | R2L57F  | R2B157F                                       | R2B27F  | R2B37F  | R2B57F  |
| 80/300°F & 25/150°C   | R2L158F                                       | R2L28F  | R2L38F  | R2L58F  | R2B158F                                       | R2B28F  | R2B38F  | R2B58F  |
| 100/400°F & 40/205°C  | R2L159F                                       | R2L29F  | R2L39F  | R2L59F  | R2B159F                                       | R2B29F  | R2B39F  | R2B59F  |
| 100/500°F & 40/260°C  | R2L1510F                                      | R2L210F | R2L310F | R2L510F | R2B1510F                                      | R2B210F | R2B310F | R2B510F |
| 0/600°F & -20/315°C   | R2L1511F                                      | R2L211F | R2L311F | R2L511F | R2B1511F                                      | R2B211F | R2B311F | R2B511F |
| 100/1000°F & 50/550°C | R2L1512F                                      | R2L212F | R2L312F | R2L512F | R2B1512F                                      | R2B212F | R2B312F | R2B512F |
| 100/1200°F & 50/650°C | R2L1513F                                      | R2L213F | R2L313F | R2L513F | R2B1513F                                      | R2B213F | R2B313F | R2B513F |

- Other ranges and stem lengths are available, and dual scales C&F or single scale °C available.



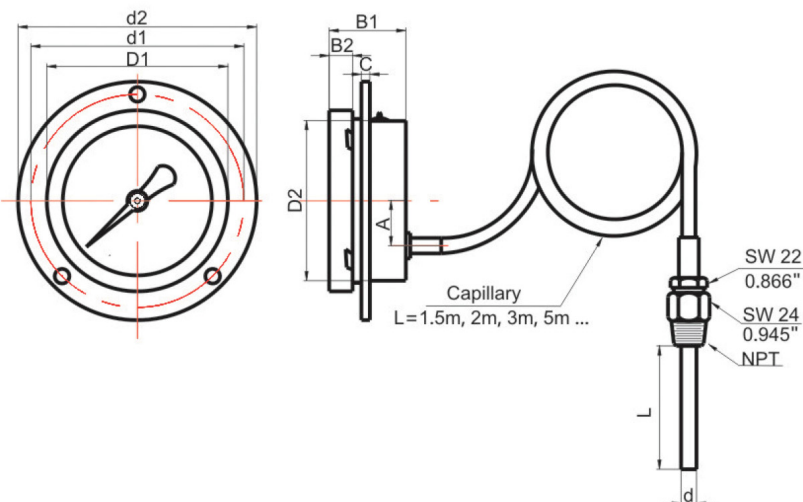
| Specifications        |   |
|-----------------------|---|
| Dial                  | 4"(100mm), 6"(150mm). Aluminum, painted white with black markings |
| Case                  | Stainless steel case with flange                                  |
| Lens                  | Glass   |
| Pointer               | Aluminum, painted black   |
| Welding               | Argon-arc   |
| Capillary             | Stainless steel 1.5m, 2m, 3m, 4m, 5m, 6m, 10m etc.                |
| Protective Spring     | Stainless steel   |
| Bulb                  | Stainless steel, $\phi 10\text{mm}$ or $\phi 12\text{mm}$         |
| Operating Temperature | Recommended maximum 75% of full scale value                       |
| Accuracy              | $\pm 1.5\%$ of full scale   |

## ● Back Connection with Front Flange



| Dial Size | D1                  | D2                  | B1                | B2               | C  |
|-----------|---------------------|---------------------|-------------------|------------------|--|
| 4"        | 4.370"<br>(111mm)   | 3.937"<br>(100mm)   | 1.654"<br>(42mm)  | 0.669"<br>(17mm) | 0.157"<br>(4mm)  |
| 6"        | 6.339"<br>(161mm)   | 5.866"<br>(149mm)   | 1.969"<br>(50mm)  | 0.669"<br>(17mm) | 0.157"<br>(4mm)  |
| Dial Size | d1                  | d2                  | d3                | A                | d x L (mm)   |
| 4"        | 4.882"<br>(124mm)   | 5.512"<br>(140mm)   | 0.157"<br>(4.5mm) | 0.591"<br>(15mm) | $\phi 12 \times 100$<br>$\phi 10 \times 160$<br>$\phi 10 \times 200$ |
| 6"        | 4.791"<br>(122.5mm) | 7.650"<br>(194.3mm) | 0.217"<br>(5.5mm) | 0.591"<br>(15mm) | $\phi 12 \times 100$<br>$\phi 10 \times 160$<br>$\phi 10 \times 200$ |

## ● Bottom Connection with Back Flange



| Dial Size | D1                  | D2                  | B1                | B2               | C  |
|-----------|---------------------|---------------------|-------------------|------------------|--|
| 4"        | 4.370"<br>(111mm)   | 3.937"<br>(100mm)   | 1.457"<br>(37mm)  | 0.669"<br>(17mm) | 0.157"<br>(4mm)  |
| 6"        | 6.339"<br>(161mm)   | 5.866"<br>(149mm)   | 1.969"<br>(50mm)  | 0.669"<br>(17mm) | 0.157"<br>(4mm)  |
| Dial Size | d1                  | d2                  | d3                | A                | d x L (mm)   |
| 4"        | 4.882"<br>(124mm)   | 5.512"<br>(140mm)   | 0.157"<br>(4.5mm) | 1.378"<br>(35mm) | $\phi 12 \times 100$<br>$\phi 10 \times 160$<br>$\phi 10 \times 200$ |
| 6"        | 4.791"<br>(122.5mm) | 7.650"<br>(194.3mm) | 0.217"<br>(5.5mm) | 1.378"<br>(35mm) | $\phi 12 \times 100$<br>$\phi 10 \times 160$<br>$\phi 10 \times 200$ |