



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604T* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 65
OUNCES (1843 GRAMS)

SERIES:

604T*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 420°F

-39° to 216°C

OPERATING TEMPERATURE:

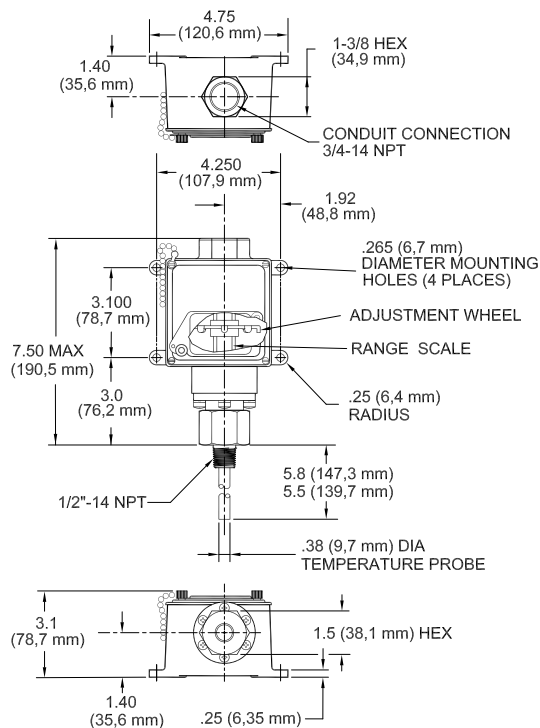
-40° to 186°F

-40° to 86°C

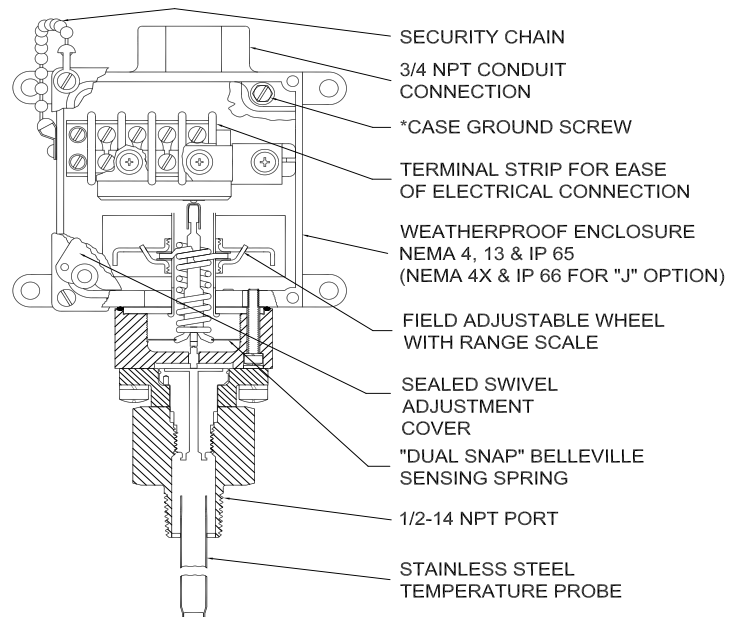
STANDARD FEATURES:

- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038) for standard units only

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 604T

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®

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Models: 604T*, Page 1 of 2
Form 830G 7.20.15



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604T* - Probe

OPERATING AND ORDERING DATA

| SERIES 604T* | WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE, NICKEL PLATED STEEL, BUNA N O-RING (RANGES 1-3) / SILICONE RUBBER O-RING (RANGES 4&5) | | | | |
|-------------------------------------|--|--|--|---------------------------------------|---|
| | ADJUSTABLE SET POINT RANGE | | APPROXIMATE DEAD BAND | | MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C) |
| | INCREASING TEMPERATURE DEGREES F (DEGREES C) | DECREASING TEMPERATURE DEGREES F (DEGREES C) | AT BOTTOM OF RANGE DEGREES F (DEGREES C) | AT TOP OF RANGE DEGREES F (DEGREES C) | |
| 604T*1 | -30° to +55° (-34° to +13°) | -39° to +52° (-39° to +11°) | 9° (5°) | 3° (2°) | +150° (66°) |
| 604T*2 | +35° to +140° (+2° to +60°) | +21° to +135° (-6° to +57°) | 14° (4°) | 5° (3°) | +300° (+149°) |
| 604T*3 | +90° to +210° (+32° to +99°) | +75° to +205° (+24° to +96°) | 15° (8°) | 5° (3°) | +300° (+149°) |
| 604T*4 | +175° to +310° (+80° to +154°) | +159° to +305° (+71° to +152°) | 16° (9°) | 5° (2°) | +500° (+260°) |
| 604T*5 | +275° to +420° (+135° to +216°) | +256° to +414° (+123° to +212°) | 19° (12°) | 6° (4°) | +500° (+260°) |
| EXTERNAL PROBE PRESSURE: | | | | | |
| System Pressure: 1250 PSIG (86 bar) | | | Proof Pressure: 1500 PSIG (103 bar) | | |

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604TM5-7008)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONS MODEL CODES

J: CSA Approved
(File No. LR22665)
(SPDT ONLY)

M: DPDT Electrical

X: Double Break Electrical Assembly

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

| VOLTS | AMPERES | | |
|--------------------|---------|----------|-------------|
| | SPDT | DPDT "M" | Dbl Brk "X" |
| | Res. | Res. | Res. |
| 125 AC - 50/60 Hz | 15 | 5 | 15 |
| 250 AC - 50/60 Hz | 15 | 5 | 15 |
| 480 AC - 50/60 Hz | 15 | - | 15 |
| 28 DC | 6 | 5 | - |
| 125 DC | .5 | .5 | 1 |
| 250 DC | .2 | - | .5 |
| *125 AC - 50/60 Hz | 1 max | 1 max | - |
| *30 DC | 1 max | 1 max | - |

*Gold Contacts -7008 Suffix

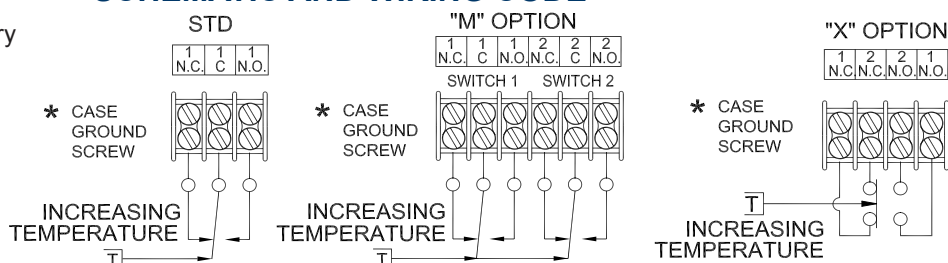
THERMOWELLS

Order as separate line items. See accessory page for detailed information.

113-34-2: 1" NPT 316 SST 7.5" "U" Dim.

113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

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Models: 604T*, Page 2 of 2
Form 830G, 7.20.15



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604TU* - Capillary

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 65 OUNCES (1843 GRAMS)

Capillary not shown.

SERIES:

604TU*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 630°F

-39° to 332°C

OPERATING TEMPERATURE:

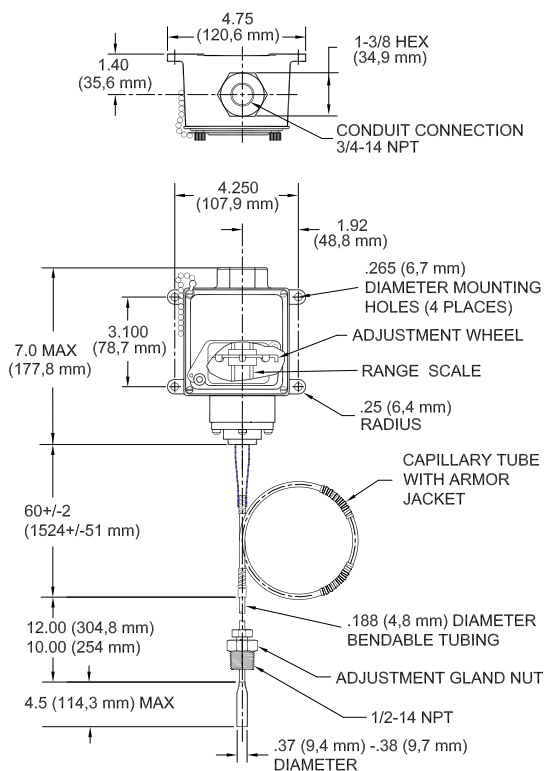
-40° to 186°F

-40° to 86°C

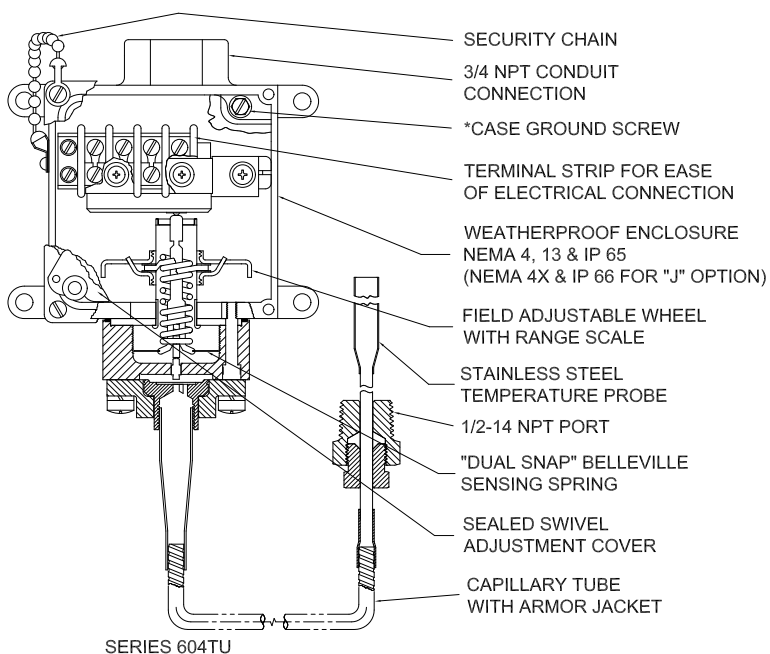
STANDARD FEATURES:

- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038) for standard units only

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 604TU

FIELD SETTING: Remove access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®

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Models: 604TU*, Page 1 of 2
Form 830G, 7.20.15



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604TU* - Capillary

OPERATING AND ORDERING DATA

| SERIES 604TU* | WETTED PARTS: 300 STAINLESS STEEL AND GRAPHITE TEMPERATURE PROBE WITH LUBRICATED GLASS FIBER CAPILLARY TUBE | | | | |
|-------------------------------------|--|--|--|---------------------------------------|---|
| | ADJUSTABLE SET POINT RANGE | | APPROXIMATE DEAD BAND | | MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C) |
| | INCREASING TEMPERATURE DEGREES F (DEGREES C) | DECREASING TEMPERATURE DEGREES F (DEGREES C) | AT BOTTOM OF RANGE DEGREES F (DEGREES C) | AT TOP OF RANGE DEGREES F (DEGREES C) | |
| 604TU*1 | -30° to +55° (-34° to +13°) | -39° to +52° (-39° to +11°) | 9° (5°) | 3° (2°) | +150° (66°) |
| 604TU*2 | +35° to +140° (+2° to +60°) | +21° to +135° (-6° to +57°) | 14° (4°) | 5° (3°) | +300° (+149°) |
| 604TU*3 | +90° to +210° (+32° to +99°) | +75° to +205° (+24° to +96°) | 15° (8°) | 5° (3°) | +300° (+149°) |
| 604TU*4 | +175° to +310° (+80° to +154°) | +159° to +305° (+71° to +152°) | 16° (9°) | 5° (2°) | +500° (+260°) |
| 604TU*5 | +275° to +420° (+135° to +216°) | +256° to +414° (+123° to +212°) | 19° (12°) | 6° (4°) | +500° (+260°) |
| 604TU*6 | +380° to +525° (+193° to +274°) | +355° to +520° (+179° to +271°) | 25° (4°) | 5° (3°) | +600° (316°) |
| 604TU*7 | +480° to +630° (+249° to +332°) | +456° to +624° (+236° to +329°) | 24° (13°) | 6° (3°) | +650° (343°) |
| EXTERNAL PROBE PRESSURE: | | | | | |
| System Pressure: 1250 PSIG (86 bar) | | | Proof Pressure: 1500 PSIG (103 bar) | | |

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604TUM7-7001)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

7001: 10' Capillary
7002: 15' Capillary
7003: 25' Capillary
7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONS MODEL CODES

J: CSA Approved
(File No. LR22665)
(SPDT ONLY)
M: DPDT Electrical
X: Double Break Electrical
Assembly

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

113-34-1: 1" NPT 316 SST 4.5" "U" Dim.
113-34-2: 1" NPT 316 SST 7.5" "U" Dim.
113-34-3: 1" NPT 316 SST 10.5" "U" Dim.
113-34-4: 1" NPT 316 SST 13.5" "U" Dim.
113-35-1: 3/4" NPT 316 SST 4.5" "U" Dim.
113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.
113-35-3: 3/4" NPT 316 SST 10.5" "U" Dim.
113-35-4: 3/4" NPT 316 SST 13.5" "U" Dim.

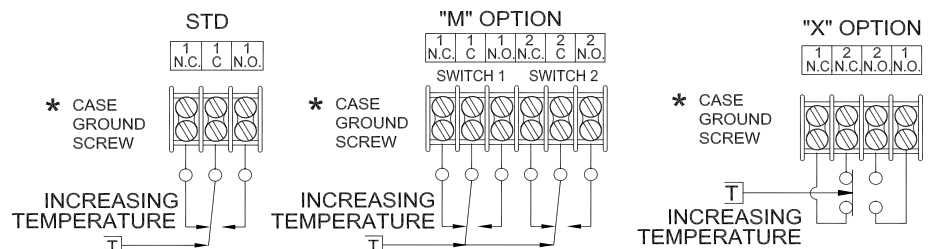
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

| VOLTS | AMPERES | | |
|--------------------|---------|----------|-------------|
| | SPDT | DPDT "M" | Dbl Brk "X" |
| | Res. | Res. | Res. |
| 125 AC - 50/60 Hz | 15 | 5 | 15 |
| 250 AC - 50/60 Hz | 15 | 5 | 15 |
| 480 AC - 50/60 Hz | 15 | - | 15 |
| 28 DC | 6 | 5 | - |
| 125 DC | .5 | .5 | 1 |
| 250 DC | .2 | - | .5 |
| *125 AC - 50/60 Hz | 1 max | 1 max | - |
| *30 DC | 1 max | 1 max | - |

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



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Models: 604TU*, Page 2 of 2
Form 830G, 7.20.15



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900T* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 32 OUNCES (907 GRAMS)

SERIES:

6900T*

ADJUSTABLE

SET POINT RANGE:

TEMPERATURE:

0° to 405°F

-18° to 207°C

OPERATING TEMPERATURE:

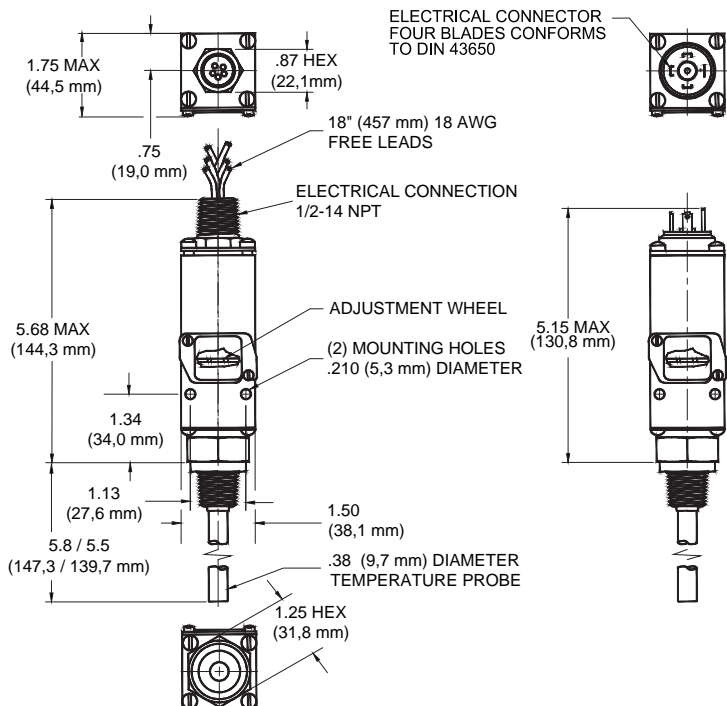
-40° to 186°F

-40° to 86°C

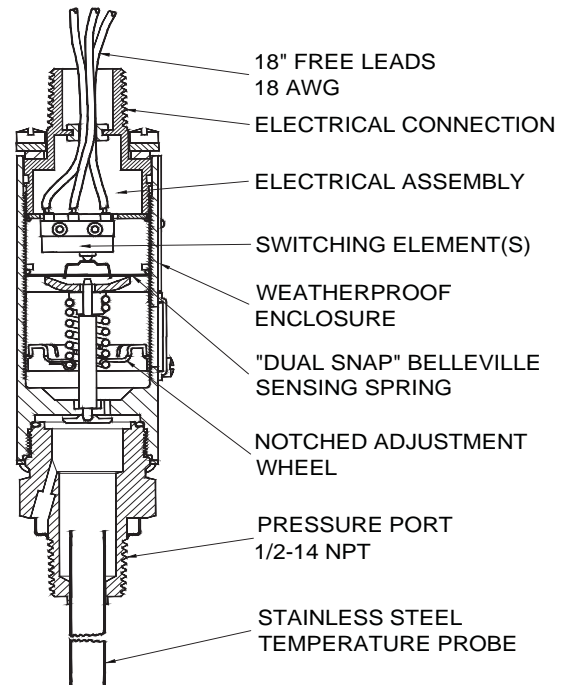
STANDARD FEATURES:

- CE Mark
- CCC
- CSA Listed
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP66
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6900T

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.





CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900T* - Probe

OPERATING AND ORDERING DATA

| SERIES 6900T* | WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE | | | | |
|-------------------------------------|---|--|--|---------------------------------------|---|
| | ADJUSTABLE SET POINT RANGE | | APPROXIMATE DEAD BAND | | MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C) |
| | INCREASING TEMPERATURE DEGREES F (DEGREES C) | DECREASING TEMPERATURE DEGREES F (DEGREES C) | AT BOTTOM OF RANGE DEGREES F (DEGREES C) | AT TOP OF RANGE DEGREES F (DEGREES C) | |
| 6900T*12 | +20° to +120° (-7° to +49°) | +0° to +113° (-18° to +45°) | 20° (11°) | 5° (4°) | +200° (+93°) |
| 6900T*14 | +80° to +205° (+27° to +96°) | +60° to +198° (+16° to +92°) | 20° (11°) | 5° (4°) | +300° (+149°) |
| 6900T*16 | +185° to +315° (+85° to +157°) | +165° to +308° (+74° to +153°) | 20° (11°) | 5° (4°) | +400° (+204°) |
| 6900T*18 | +280° to +405° (+138° to +207°) | +260° to +398° (+127° to +203°) | 20° (11°) | 5° (4°) | +500° (+260°) |
| EXTERNAL PROBE PRESSURE: | | | | | |
| System Pressure: 1250 PSIG (86 bar) | | | Proof Pressure: 1500 PSIG (103 bar) | | |

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900T18-7008)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

7042: Stainless Steel Body

7075: Electrical Connector with 4 Blades Conforms to DIN-43650 (SPDT only)

7090: 2 Meter Free Leads

7092: 18 inch Teflon Free Leads (Low Temp Wire)

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

113-34-2: 1" NPT 316 SST 7.5" "U" Dim.

113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

OPTIONS MODEL CODES

M: DPDT Electrical

ACCESSORIES - SOLD SEPARATELY

69-102: Mating DIN-43650 Connector

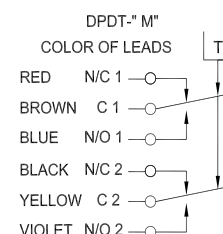
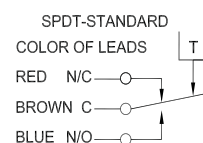
57-159: Sealing DIN-46650 Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

| VOLTS | AMPERES | |
|-----------------------------|-----------|---------------|
| | SPDT Res. | DPDT "M" Res. |
| 125 AC - 50/60 Hz | 11 | 11 |
| 250 AC - 50/60 Hz | 11 | 11 |
| 30 DC | 5 | 5 |
| 125 DC | .5 | .5 |
| *125 AC - 50/60 Hz | 1 max | 1 max |
| *30 DC | 1 max | 1 max |
| *Gold Contacts -7008 Suffix | | |



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Models: 6900T*, Page 2 of 2
Form 830G, 11.19.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900TU* - Capillary



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 32 OUNCES (907 GRAMS)

SERIES:

6900TU*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 650°F

-18° to 340°C

OPERATING TEMPERATURE:

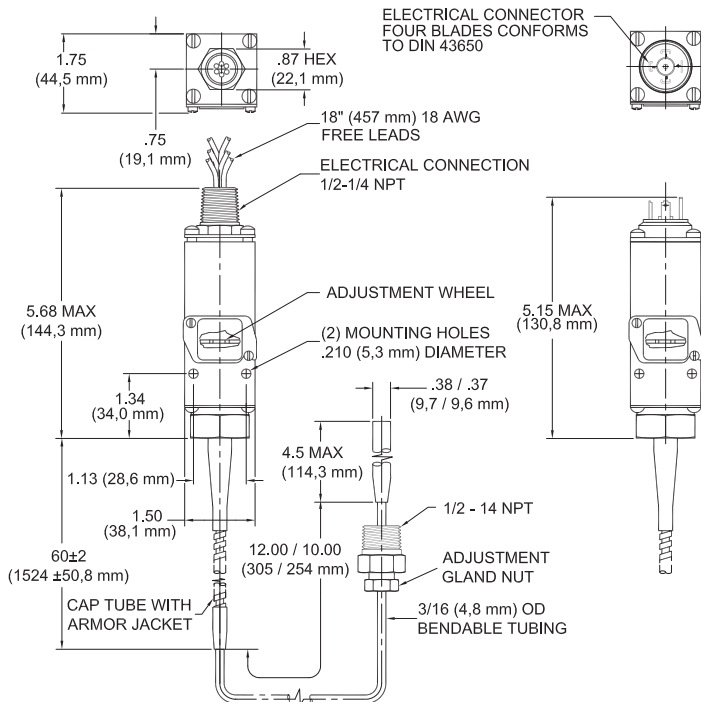
-40° to 186°F

-40° to 86°C

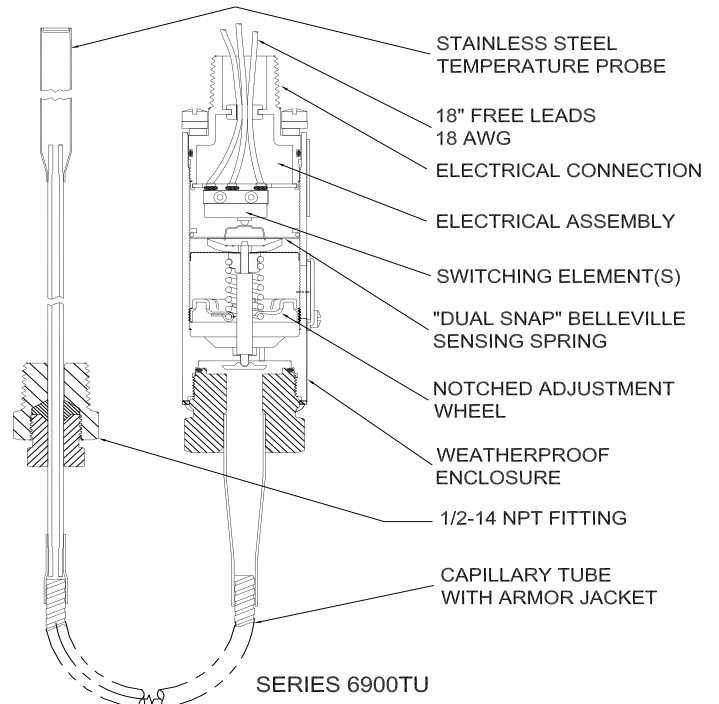
STANDARD FEATURES:

- CE Mark
- CCC
- CSA Listed
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP66
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.





CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900TU* - Capillary

OPERATING AND ORDERING DATA

| SERIES 6900TU* | WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE WITH 5' STAINLESS STEEL GRAPHITE AND LUBRICATED GLASS FIBER CAPILLARY TUBE | | | | |
|-------------------------------------|---|---|---|--|---|
| | ADJUSTABLE SET POINT RANGE | | APPROXIMATE DEAD BAND | | MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C) |
| | INCREASING TEMPERATURE DEGREES F (DEGREES C) | DECREASING TEMPERATURE DEGREES F (DEGREES C) | AT BOTTOM OF RANGE DEGREES F (DEGREES C) | AT TOP OF RANGE DEGREES F (DEGREES C) | |
| 6900TU*12 | +20° to +120° (-7° to +49°) | +0° to +113° (-18° to +45°) | 20° (11°) | 5° (4°) | +200° (+93°) |
| 6900TU*14 | +80° to +205° (+27° to +96°) | +60° to +198° (+16° to +92°) | 20° (11°) | 5° (4°) | +300° (+149°) |
| 6900TU*16 | +185° to +315° (+85° to +157°) | +165° to +308° (+74° to +153°) | 20° (11°) | 5° (4°) | +400° (+204°) |
| 6900TU*18 | +280° to +405° (+138° to +207°) | +260° to +398° (+127° to +203°) | 20° (11°) | 5° (4°) | +500° (+260°) |
| 6900TU*20 | +385° to +565° (+196° to +296°) | +360° to +555° (+182° to +291°) | 25° (14°) | 10° (5°) | +650° (+343°) |
| 6900TU*22 | +465° to +650° (+241° to +343°) | +440° to +640° (+227° to +338°) | 25° (14°) | 10° (5°) | +700° (+371°) |
| EXTERNAL PROBE PRESSURE: | | | | | |
| System Pressure: 1250 PSIG (86 bar) | | | Proof Pressure: 1500 PSIG (103 bar) | | |

HOW TO ORDER

Follow these steps to
build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900TUM12-7090)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001:** 10' Capillary
7002: 15' Capillary
7003: 25' Capillary
7008: Gold Contacts
7042: Stainless Steel Body
7075: Electrical Connector with
4 Blades Conforms to
DIN-43650 (SPDT only)
7090: 2 Meter Free Leads
7092: 18 inch Teflon Free Leads
(Low Temp Wire)

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1:** 1" NPT 316 SST 4.5" "U" Dim. **113-35-1:** 3/4" NPT 316 SST 4.5" "U" Dim.
113-34-2: 1" NPT 316 SST 7.5" "U" Dim. **113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.
113-34-3: 1" NPT 316 SST 10.5" "U" Dim. **113-35-3:** 3/4" NPT 316 SST 10.5" "U" Dim.
113-34-4: 1" NPT 316 SST 13.5" "U" Dim. **113-35-4:** 3/4" NPT 316 SST 13.5" "U" Dim.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

OPTIONS MODEL CODES

M: DPDT Electrical

ACCESSORIES - SOLD SEPARATELY

- 69-102:** Mating DIN-43650 Connector
57-159: Sealing DIN-46650 Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

| VOLTS | AMPERES | |
|-----------------------------|---------|----------|
| | SPDT | DPDT "M" |
| | Res. | Res. |
| 125 AC - 50/60 Hz | 11 | 11 |
| 250 AC - 50/60 Hz | 11 | 11 |
| 30 DC | 5 | 5 |
| 125 DC | .5 | .5 |
| *125 AC - 50/60 Hz | 1 max | 1 max |
| *30 DC | 1 max | 1 max |
| *Gold Contacts -7008 Suffix | | |

SCHEMATIC AND WIRING CODE

