

THERMOSTATS & CONTROLLERS



BULB THERMOSTATS

A19, A28, A319, A419 SERIES

DESCRIPTION

The **Johnson Controls A19 Series** is a single stage, heating or cooling, SPDT temperature control that uses a liquid-filled sensing element and capillary. The unit has an exposed or concealed set point dial with adjustable differential, and it will switch line voltages. The **A28 Series** is a two stage, heating or cooling, w/2-SPDT temperature control that uses a liquid-filled sensing element and capillary. The unit has an exposed or concealed set point dial with adjustable differential, and it will switch line voltages. The **A319 Series** is a single stage, heating or cooling, SPDT temperature control that uses a Type 21 thermistor sensor. The unit uses a set point dial and operates on 120 VAC or 240 VAC with a wide adjustable differential. A separate LED indicates relay operation.

The **A419 Series** is a single stage, heating or cooling, SPDT temperature control that uses a PTC sensor. This unit features a digital display and buttons to adjust the set point differential, setback temperature, anti-short cycle delay, and failsafe control. The unit operates on 120 or 240 VAC and a 3/8" (0.95 cm) display with H/C, °F /°C and setback indication. A separate LED indicates relay operation.



| SPECIFICATIONS | | | | |
|------------------------|------------------------------------------------|-----------------------------------------------|--------------------------|--|
| | A19/A28 | A319 | A419 | |
| Voltage | None required | 120/208/240 VAC 50/60 Hz | | |
| Power | None required | 1.8 VA | 1.8 VA | |
| Setpoint Adjust | Screwdriver slot or knob (concealed available) | Dial | Buttons and 3/8" display | |
| Sensor | Liquid-filled bulb and capillary | Thermistor | PTC | |
| Ambient Temp | Typical 140°F (60°C), strap-on 290°F (143°C) | -30° to 140°F (-34° to 60°C) | | |
| Differential | x2, x3, x4 multiplier from min differential | 1° to 30°F (0.5° to 17°C) | | |
| Dimensions | 4.5"H x 2.2"W x 2.0"D (11.43 x 5.59 x 5.08 cm) | 5.0"H x 2.4"W x 3.0"D (12.70 x 6.10 x 7.6 cm) | | |
| Approvals | UL Listed File #E6688, CSA | UL Listed File #E27734, CSA | | |
| Weight | 1.2 lb (0.55 kg) | 1.75 lb (0.75 kg) | | |
| Warranty | 1 year | 1 year | 1 year | |

WIRING

Action on increase of temperature

Setpoint shaft with slot for knob or concealed with plug

Differential adjustment multiplier (if min, diff = 3°) (if X2, diff = 6°)

A19 with 1 SPDT Shown Above
A28 has two sets of SPDT contacts
 (2nd Contact Actuation per order)

A319

| FUNCTION | JUMPER LABEL | SETTING | JUMPER POSITION * |
|------------------|--------------|-----------|-------------------|
| Cooling/ Heating | P4-Heat | Cooling* | Removed |
| | | Heating | Installed |
| Setpoint | P4-Cut-out | Cut-in* | Removed |
| | | Cut-out | Installed |
| Keypad Lock | P5-Unlock | Locked | Removed |
| | | Unlocked* | Installed |

*Factory settings

A419

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ORDERING INFORMATION

| SINGLE-STAGE SPACE AND REMOTE BULB THERMOSTAT | | | | | | | | | | |
|-------------------------------------------------------|-------------------|-------------------------|---------------------------------|--------------------------------------------------|------------------------------|---------------------|------------------------------------------------------|--------------------|------|------|
| Model | Switch Action | Range °F (°C) | Diff °F (°C) Adjustable | Bulb and Capillary | Bulb Well # * | Range Adjuster | Electrical Ranges | | | |
| | | | | | | | Motor Ratings VAC | 120 | 208 | 240 |
| A19BAC-1C | SPDT | 30 to 110 (-1 to 43) | 3.5 fixed (1.9) | 1.4" x 2.25" coil | Space Thermostat | Convertible | AC full load amp | 16.0 | 9.2 | 8.0 |
| *A19ABA-40 | SPST ¹ | -30 to 100 (-34 to 38) | 3 to 12 (1.7 to 6.7) | 3/8" x 4" 6' cap | WEL14A-602R | Screwdriver slot | AC locked rotor amp | 96.0 | 55.2 | 48.0 |
| A19ABC-4C | SPDT | 50 to 130 (10 to 55) | 3.5 to 14 (1.9 to 8.0) | 3/8" x 5" 8' cap | WEL14A-603R | Knob | Noninductive or resistance load amp (not lamp loads) | 22A 120-277 VAC | | |
| A19ABC-24 | SPDT | -30 to 100 (-34 to 38) | 3 to 12 (1.7 to 6.7) | 3/8" x 4" 8' cap | WEL14A-602R | Convertible | | | | |
| A19ABC-36 | SPDT | -30 to 100 (-34 to 38) | 3 to 12 (1.7 to 6.7) | 3/8" x 4" 20' cap | WEL14A-602R | Convertible | | | | |
| *A19ABA-40 contacts open on temperature decrease. | | | | | | | | | | |
| MANUAL RESET - REMOTE LIQUID BULB THERMOSTAT | | | | | | | | | | |
| Model | Switch Action | Range °F (°C) | Diff °F (°C) Adjustable | Bulb and Capillary | Bulb Well # * | Range Adjuster | Electrical Ranges | | | |
| | | | | | | | Motor Ratings VAC | 120 | 208 | 240 |
| A19ACA-14 | SPST Open Low | -30 to 100 (-34 to 38) | Manual reset | 3/8" x 4" 6' cap | WEL14A-602R | Screwdriver slot | AC full load amp | 16.0 | 9.2 | 8.0 |
| A19ADB-1C | SPST Open High | 100 to 240 (38 to 116) | Manual reset | 3/8" x 3.5" 6' cap | WEL14A-602R | Knob | AC full load amp | 10.0 | — | 6.0 |
| | | | | | | | AC locked rotor amp | 60.0 | — | 36.0 |
| CHANGEOVER STRAP-ON LIQUID BULB THERMOSTAT (AQUASTAT) | | | | | | | | | | |
| Model | Switch Action | Range °F (°C) | Diff °F (°C) Fixed | Mounting to Coil | Range Adjuster | Electrical Ranges | | | | |
| | | | | | | Motor Ratings VAC | 120 | 240 | | |
| A19DAC-1 | SPDT | 100 to 240 (38 to 116) | 10 (5.6) | Direct clamp-on strap | Knob | AC full load amp | 10.0 | 6.0 | | |
| | | | | | | AC locked rotor amp | 60.0 | 36.0 | | |
| Note: A19DAC-1 not for use as a limit control | | | | | | | | | | |
| Pilot duty - 125 VA, 24-600 VAC | | | | | | | | | | |
| TWO-STAGE SPACE AND REMOTE BULB THERMOSTAT | | | | | | | | | | |
| Model | Switch Action | Range °F (°C) | Diff °F (°C) Adjustable | Bulb and Capillary | Bulb Well # * | Range Adjuster | Electrical Ranges | | | |
| | | | | | | | Motor Ratings VAC | 120 | 208 | 240 |
| A28AA-4C | 2-SPDT | 30 to 110 (-1 to 43) | 3.5 (1.9) 3 interstage | 1.4" x 2.25" 2' coil | Space Thermostat | Convertible | AC full load amp | 16.0 | 9.2 | 8.0 |
| A28AA-29C | 2-SPDT | -30 to 100 (-34 to 38) | 5 (2.8) 2 to 7 adj interstage | 3/8" x 4" 8' cap | WEL14A-602R | Convertible | AC locked rotor amp | 96.0 | 55.2 | 48.0 |
| A28MA-2C | 2-SPDT | 40 to 120 (4 to 49) | 5 (2.8) 8 interstage | 3/8" x 4" 6' cap | NEMA 3R WEL14A603R | Screwdriver slot | Noninductive or resistance load amp (not lamp loads) | 22A 120-277 VAC | | |
| A28AJ18C | 2-SPDT | 20 to 80 (-7 to 28) | 1.5 (0.8) 2 to 7 adj interstage | 3/8" x 5" 10' cap | WEL14A-603R | Convertible | Noninductive or resistance load amp (not lamp loads) | 10.0 | 9.2 | 8.0 |
| SOLID STATE SENSOR THERMOSTAT | | | | | | | | | | |
| Model | Switch Action | Range °F (°C) | Diff °F (°C) Adjustable | Bulb and Capillary | Range Adjuster | Electrical Ranges | | | | |
| | | | | | | Motor Ratings VAC | 120 | 208 | 240 | |
| A319ABC24-1 | SPDT | -20 to 100 (-30 to 38) | 1 to 30 (0.5 to 17.0) | Type 21 thermistor included 8' (2.4 m) Lead | Knob | AC full load amp | 16.0 | 9.2 | 8.0 | |
| A319ABC12-1 | SPDT | 100 to 220 (38 to 105) | 1 to 30 (0.5 to 17.0) | Type 21 thermistor included 8' (2.4 m) Lead | Knob | Noninductive | 15.0 | 10.0 | 10.0 | |
| A419ABC-1C | SPDT | -30 to 212 (-34 to 100) | 1 to 30 (1.0 to 30.0) | PTC sensor included 6.6' (2m) Lead 0.25 diameter | Buttons with digital display | Horsepower | 1.0 | 1.0 | 0.5 | |

* Bulb well not supplied

ACCESSORIES

PLT344-1R
SHL10A-603R
TE-6001-1
TE-6001-2
WEL14A-602R
WEL14A-603R

DIN rail end clips
Sun shield for A99 sensor for outdoor sunny locations
Holder for duct sensor
Holder for OSA sensor
4-15/16 COPPER BULB WELL
5-13/16 COPPER BULB WELL