

A19

Capillary and Space Thermostats, IP65

Product Bulletin

These thermostats are available with fixed or adjustable differential. The various control ranges cover a broad range of temperature applications with a minimum number of models.

SPDT contacts are standard on all models.

Application

These thermostats are designed for applications where a splash-proof and/or dust-tight enclosure is required.

Four types are available:

- Types A19ARC are general purpose capillary thermostats.
- Types A19BRC and A19BQC are space thermostats with coiled element to be used as farm control, outdoor thermostats or in cold storage rooms.
- Types A19AQF is specially designed for milkcool-tank applications.
- Type A19AQC-9101 is specially designed for ice-bank application.



Features

- **Liquid filled sensing element**
No cross ambient temperature problems. Contact differential over the whole range.
- **Dust tight Penn switch**
Prevents pollution of the contacts by electrostatic influences.
- **IP65 protection class**
Suitable for outdoor applications.
- **Front adjustment**
Less mounting space required.

Note: These controls are designed for use only as operating controls. Where an operating control failure would result in personal injury or loss of property it is the responsibility of the installer to add devices or systems that protect against, or warn of, control failure.

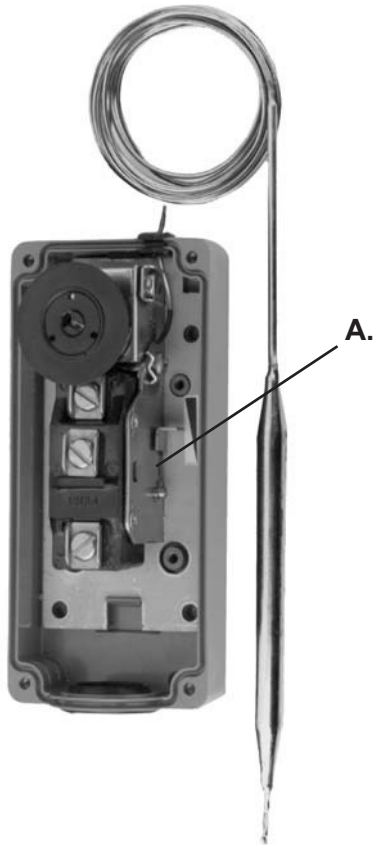


Fig.1: Thermostat A19ARC, cover removed
A.: Differential adjustment lever

Adjustment

The dial set point indicates the low switch point (1 - 2 open, 1 - 3 closed). The high switch point (1 - 2 closed, 1 - 3 open) is obtained by adding the differential to the low switch point.

Adjustable differential models can be adjusted by means of the differential adjustment lever, see Fig. 1 (A.).

Contact Functions

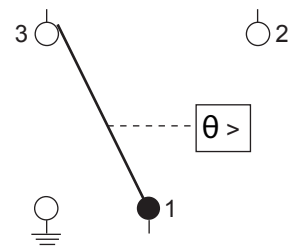
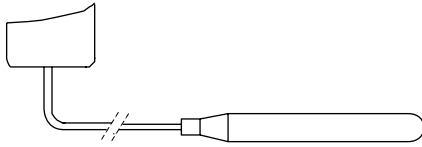


Fig. 2: 1-2 closes on temperature increase

Repair and Replacement

Repair is not possible. In case of an improperly functioning control, please check with your nearest supplier. When contacting the supplier for a replacement you should state the type/model number of the control. This number can be found on the data plate or cover label.

Sensor Styles



**Fig. 4: Style 1a
(drawn bulb)**

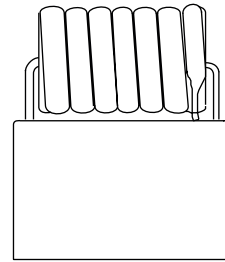
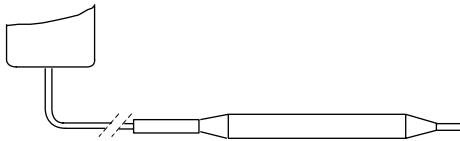


Fig. 5: Style 3 (coil)



**Fig. 5: Style 1b
swaged bulb, can be used with closed-tank connector
FTG13A-600**

Bulb Size and Finish, Bulb Wells

Range (°C)	Style	Bulb Size (mm)	Finish	Bulb Well (optional)
-35 to 10	1b	9.5 x 110	Tin-plated	WEL14A602R
-35 to 10	3	---	Stainless Steel	---
-35 to 40	1b	9.5 x 135	Tin-plated	WEL14A602R
-35 to 40	3	---	Stainless Steel	---
-20 to 65	1a	7.4 x 75	---	WEL11A601R
-10 to 50	1b	9.5 x 110	---	WEL14A602R
- 5 to 5	1a	9.3 x 80	---	WEL16A601R
- 5 to 28	1b	9.5 x 135	Tin-plated	WEL14A603R
- 5 to 28	3	---	Stainless Steel	---
0 to 43	3	---	Stainless Steel	---
1 to 60	1b	9.5 x 115	---	WEL14A602R
5 to 50	1	10.5 x 110	Neoprene coated	---
0 to 10	1a	9.3 x 80	---	WEL16A601R
40 to 120	1b	9.5 x 110	---	WEL14A602R

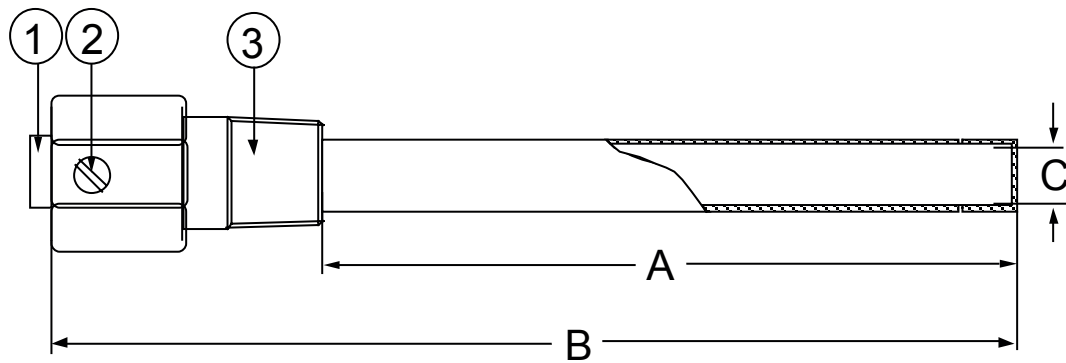
Type Number Selection Table

Range (°C)	Diff. (K)	Bulb Style	Cap. Length (m)	Max. Bulb Temp. (°C)	Wholesaler Code	Order Number
Type A19ARC Capillary thermostat, adjustable differential, knob adjustment						
-35 to 10	2.8 to 11	1b	2	60	A19-AS1	A19ARC-9100
-35 to 40	2.8 to 11	1b	2	60	A19-AS4	A19ARC-9113
-20 to 65	3.5 to 13	1a	3.5	85		A19ARC-9104
-5 to 28	2 to 8	1b	2	60	A19-AS2	A19ARC-9101
1 to 60	2 to 8	1b	3	85	A19-AS3	A19ARC-9109
40 to 120	3.5 to 13	1b	2	143		A19ARC-9107
Type A19ARC Capillary thermostat, adjustable differential, concealed adjustment						
-10 to 50	2.5 to 11	1b	2	80		A19ARC-9110
Cooling tower thermostat, neoprene coated bulb and capillary, concealed adjustment						
5 to 50	2.5 to 11	1	2	100		A19ARC-9105
Cooling tower thermostat, concealed adjustment fixed differential						
-5 to 55	2.5	2	---	85	A19-A3	A19AQC-9200
A19AQC Ice bank thermostat, case compensation, concealed adjustment, fixed differential						
-5 to 5	2	1a	2	80		A19AQC-9101
A19AQC capillary thermostat, fixed differential, knob adjustment						
-5 to 28	2	1b	2	60		A19AQC-9102
Type A19AQF Milkcool thermostat, small fixed differential, concealed adjustment, case compensation						
0 to 13	1.5	1a	2	80		A19AQF-9100
0 to 13	1.5	1a	3	80		A19AQF-9102
Type A19BRC Space thermostat, adjustable differential, knob adjustment						
-35 to 10	2.8 to 11	3	---	60	A19-BS1	A19BRC-9252
-35 to 40	2.8 to 11	3	---	60	A19-BS4	A19BRC-9253
-5 to 28	2 to 8	3	---	60	A19-BS2	A19BRC-9250
0 to 43	2 to 8	3	---	60	A19-BS3	A19BRC-9251
Outdoor change-over thermostat, concealed adjustment. For bivalent heatpumps						
-5 to +25	2	3	---	60		A19BQC-9252

Note

If what you need is not in the type number selection table then please contact your representative.

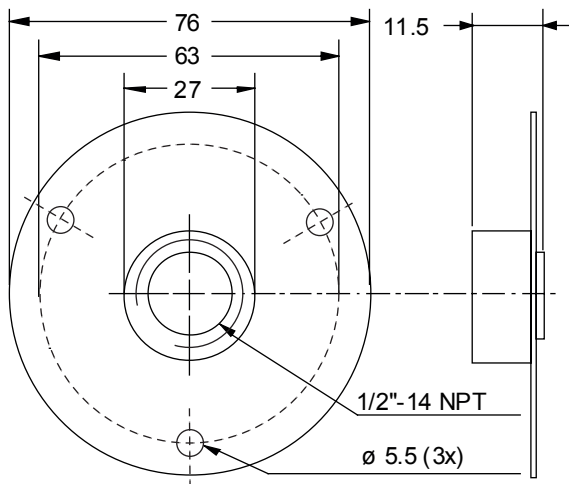
Accessories (optional)



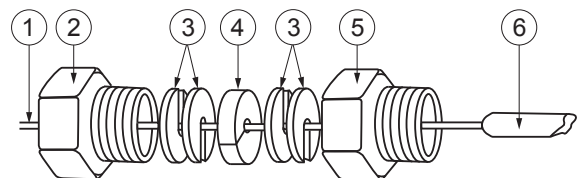
Ordering Codes	Dimension A	Dimension B	Dimension C Internal
WEL11A601R	60 mm	118 mm	7.3 mm
WEL14A602R	125 mm	171 mm	9.8 mm
WEL14A603R	147 mm	193 mm	9.8 mm
WEL16A601R	71 mm	117 mm	9.5 mm

1. Bushing
2. Set screw
3. Adapter, 1/2"-14 NPT

Fig. 6: Bulb well (brass, copper pipe)



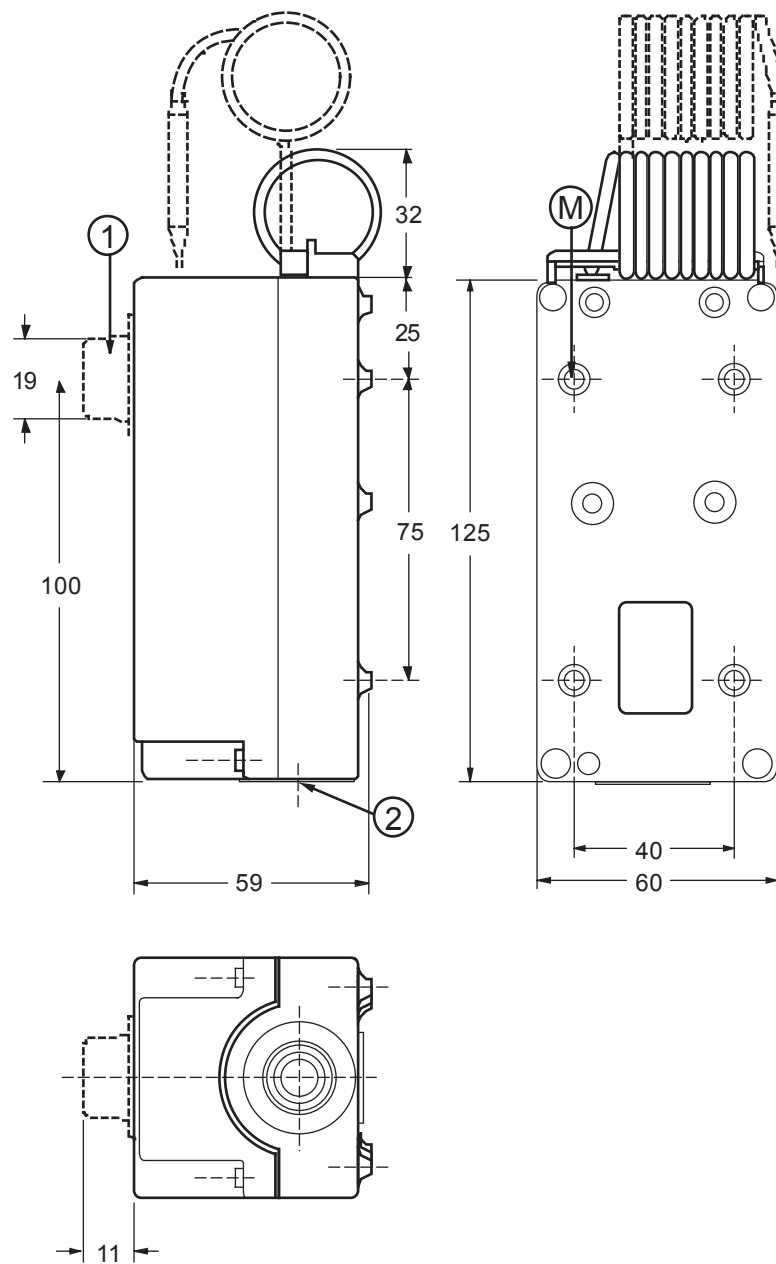
**Fig. 7: Duct flange to be used with closed-tank connector
FTG13A-600R
Order number T-752-1001**



1. Style 1b bulb support tube
2. Packing nut
3. Washer
4. Packing
5. Adapter, 1/2"-14 NPT
6. Bulb

**Fig. 8: Closed-tank connector
Order number FTG13A-600R**

Dimensions (in mm)

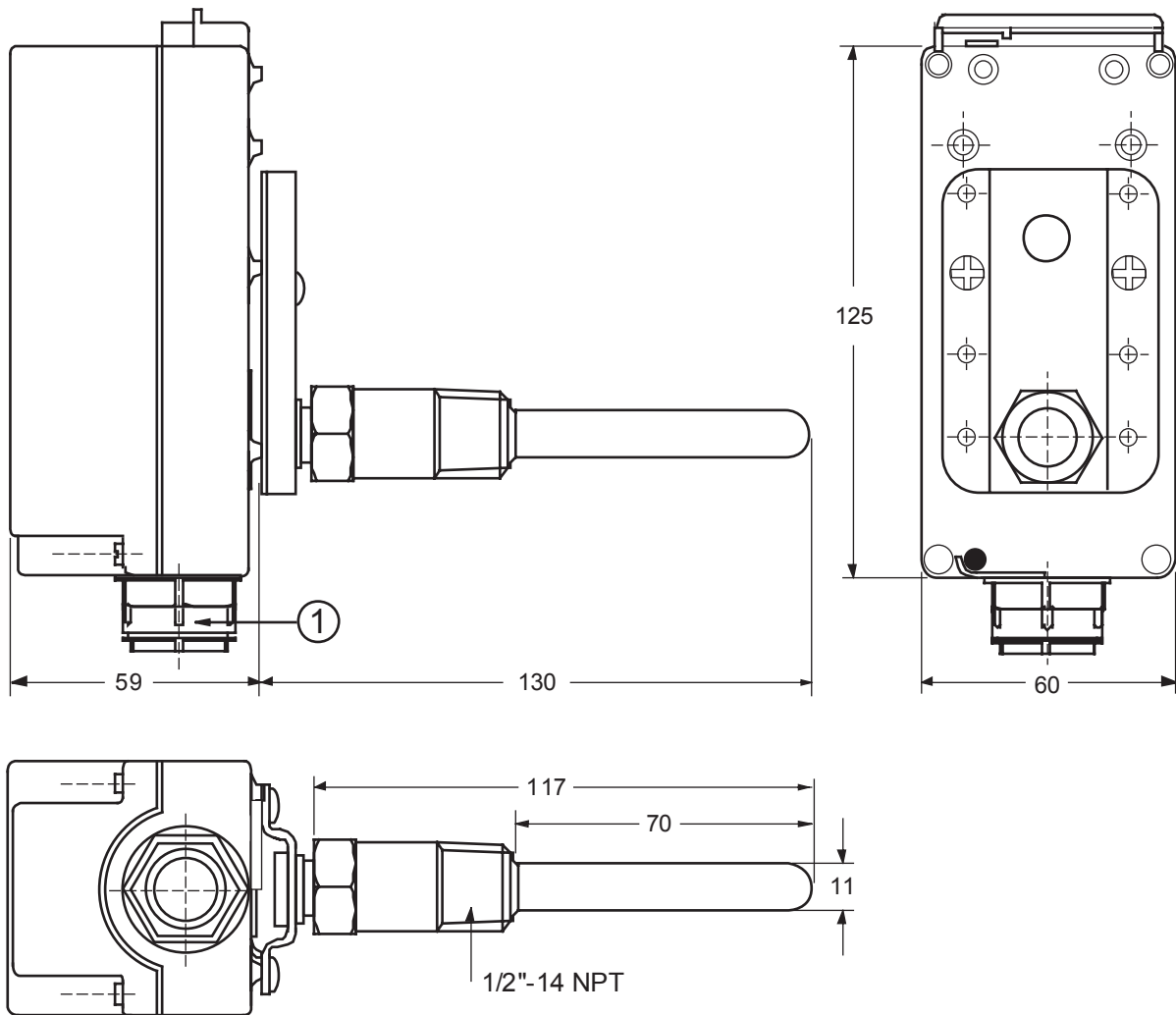


1 Knob (knob models only)

2 Dust cup

M Mounting holes Ø 4.5 mm use upper 2 holes only

Fig. 9

Dimensions (in mm)**A19AQC-9200**

1 PG16 connector

Fig. 10

Technical Specifications

Operating Range	-35 to 120°C. See "Type Number Selection Table"
Differential	See "Type Number Selection Table"
Differential Adjustments	Controls with adjustable differential (types A19ARC and A19BRC) have an adjustment lever under the cover
Sensor Styles	1a, 1b, 3 and 2 (See Page 3)
Electrical Ratings	~15(8)A 230V; except: A19AQC-9101: ~15(5) A 230 V; A19AQF: ~15(3) A 230 V
Ambient Temperature Limits	-35 to 55°C
Conduit Connector	Dust cup. Conduit opening also applicable for PG16 connector.
Material	
Case/Cover	Polycarbonate
Protection Class	Dust-tight, splash-proof IP65
Shipping Weight	
Individual Pack	0.5 kg
Overpack	12 kg (24 pcs) (A19AQC-9200 =14 pcs.)
Dimensions	See dimension drawing
CE Compliance	Johnson Controls declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU. RoHS Directive 2011/65/EU.

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls shall not be liable for damages resulting from misapplication or misuse of its products.



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