

F L O W
L E V E L
P R E S S U R E
A N A L Y T I C A L
T E M P E R A T U R E
I N S T R U M E N T A T I O N
P A S T E U R I Z A T I O N C O N T R O L S

The Anderson "DART" Digital Reference Thermometer

Meets PMO Provisions

Digital display reads to 0.1°F (0.01°C) providing precise and accurate temperature indication

Display blanks providing failsafe performance if the differential between RTD elements exceeds .5°F; sensor fails; lead broken; electrical short

Sensors can be easily replaced without the need to recalibrate the instrument and with no effect on the DART's accuracy

Degree F/C is user selectable enabling global performance

Meets requirements for use as Alternative Temperature Indicating Device (ATID) on Retort cookers

Quick Disconnect Receptacle (QDR) sensor connection optional for Retort and Non-PMO applications The Anderson "DART" Digital Reference Thermometer is the only digital thermometer available today that complies with the applicable provisions of the Pasteurized Milk Ordinance (PMO). With accuracy greater than twice that of mercury-in-glass pasteurization thermometers, the DART assures consistent processing. Unlike conventional thermometers which must be viewed at the process location, the "DART" display may be located up to 1500 feet from the sensor.

Its dual-element sensor and proprietary comparator circuitry

assure fail-safe performance. Self-diagnostics guarantee continued, reliable service and an internal test feature allows for easy verification of accuracy and performance by regulators. The DART not only meets or exceeds the requirements of the PMO, it stands up to the demands of the pasteurization loop. Dual element DART sensors are built to meet 3-A standards, and are interchangeable requiring no field calibration. As with all critical temperature instruments, DARTs are calibrated to Anderson's exacting performance requirements and are traceable to the National Institute of Standards and Technology (N.I.S.T.).

For Retort applications, the unique features of the DART also meet the requirements of the updated 21 CFR Part 113 document covering the use of Alternative Temperature Indicating Devices (ATID's). The DARTs' dual element comparator circuit ensures that readings are never compromised. With the ability to locate the display up to 1500' from the sensor, Retort process monitoring can easily be performed in the control room.



Specifications

SENSOR

Type: 8 wire, dual-element, resistive
Material: Type 316 stainless steel
Finish: Meets or exceeds 3-A sanitary

standards (#09-08)

Process Connections: Split ferrule or sanitary-clamp type available in

various sizes.

Wiring Connection: Integral conduit housing with cap sealable by

health authority

Cable Length: 25' standard, 1500' maximum Stability: Within 0.45°F (0.22°C) per year

Calibrated Accuracy: ±0.1°F at 32°F and 212°F (±0.06°C at 0°C

and 100°C)

Linearity: ±0.036°F between 32°F and 212°F (±0.02°C

between 0°C and 100°C)

Interchangeability: ±0.10°F (±0.06°C)

Service Range: -50°F to +350°F (-45°C to +176°C)

DIGITAL DISPLAY

Housing Type: Remote mount, wall or panel

Housing Material: Die cast aluminum coated with two-part

urethane paint

Closure: Fully gasketed and splashproof (provision for

health authority seal)

Dimensions: 8-1/6" W x 10" H x 4" D

Power: 115 Volt A.C. nominal, 50/60 Hz, 85.0 volt

A.C. minimum, 138.0 Volt A.C. maximum

Effect of Line Voltage Changes: None within stated minimum and

maximum VAC

Power Consumption: 5 watts maximum

Display: 1/2" LED, 4-1/2 active digits

Display Value: Fahrenheit or Celsius, user selectable
Display Range: -50°F to +350°F (-45°C to +176°C)

Resolution: 0.1°F (0.01°C)

Calibrated Accuracy: ±0.1°F (±0.06°C) at room temperature,

70°F - 80°F (21°C - 26°C)

Linearity: ± 0.1 °F (± 0.06 °C)

Repeatability: ±0.1°F (±0.01°C) at room temperature Ambient Temperature Limits: 40°F to 120°F (5°C to 49°C)

Interchangeability: 0.1°F (±0.06°C)

Long-term Stability: Within 0.5°F (0.28°C) per year

Warm-up Time: One hour to meet stated specifications

OVERALL SPECIFICATIONS (Display Unit and Sensor)

Calibrated Accuracy:

±0.3°F (±0.16°C) including drift, linearity and

repeatability

Stability:

3 months minimum to calibrated accuracy

Calibration Adjustment:

"Fine" zero ±2.5°F (±1.39°C) only; (tracks for °F and °C)

All factory adjustments sealed

Speed of Response:

Within four seconds for standard PMO test

(Appendix I, Test 7)

Interchangeability of Cable:

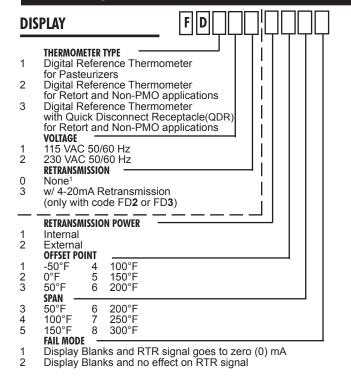
Changing, adding or subtracting cable length has

no effect on system specifications

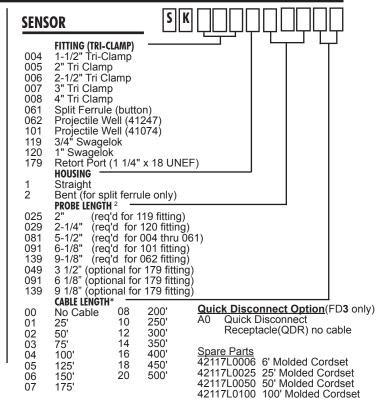
Special Applications:

Consult factory

Ordering Information



¹ For Option "0", no additional coding required.



² For longer or intermediate lengths, consult factory.