



Temperature Products

Series DT-8300 Digital Thermometers

DESCRIPTION

The AMETEK DT-8300 Digital Thermometer is a rugged, field instrument designed for dependable, worry-free temperature measurement anywhere in the plant. This unique device can be used with any Type K thermocouple to provide quick, convenient, continuous monitoring of liquid and gas processes.

The DT-8300 is ideal for use in hard to reach places such as overhead pipes since it can be mounted remotely from the sensor by use of thermocouple extension wire. Four configurations provide for wall, pipe, panel, or stem mounting. The stainless steel housing and one piece VALOX[®] bezel/face provide a corrosion resistant package for harsh environments. This device performs reliably over a wide ambient temperature range.

The large, easy reading LCD display features low power and open sensor indication. A self-powered version is available incorporating commercially available size AA batteries for approximately 1.5 years of continuous operation. An external power model is also available for operation with an unregulated 6 to 28 VDC power supply. The DT-8300 is also inexpensive, priced far less than comparable electronic field temperature instruments.



SPECIFICATIONS

RANGES: Low: -50°F to 450°F (-50°C to 250°C); High: 400°F to 1500°F (200°C to 800°C)

INPUT: Type K thermocouple; supplied by U.S. Gauge distributor or customer, Type J and E inputs also available

ACCURACY:

Basic Accuracy: $\pm 1\%$ of full scale (excluding T/C error)
 Conformance (to ANSI MC95-1): Low Range: $\pm 2.2^\circ\text{F}$ (1.2°C) from -40°F to 450°F
 High Range: $\pm 2.7^\circ\text{F}$ (1.5°C) from 400°F to 1500°F
 Cold Junction Compensation And Zero Drift: .08 degrees (F or C)
 Span Drift: .008% of reading/°F (0.015% of reading/°C)
 Resolution: 1°F (1°C)

CALIBRATION ADJUSTMENT: Screw adjust permits calibration to within 1°F (1°C) at any desired point

OPERATING TEMPERATURES: -13°F to 160°F (-25°C to 72°C), depending on power supply

SELF-POWERED VERSION: Battery, 8 Size AA: 1-1/2 years continuous operation, typical. Note: Ambient temperatures above 100°F may shorten battery life

EXTERNALLY-POWERED VERSION:

Supply Voltage: 6 to 28 VDC (unregulated)
 Supply Current: 0 to 2.5 mA

INTRINSICALLY SAFE (FM APPROVED): Battery powered models are intrinsically safe, for Class I, II, and III, Division 1, Groups A, B, C, D, E, and G hazardous locations using U.S. Gauge battery board (accepts 8 AA batteries, not included) P/N 156834 and when installed in accordance with U.S. Gauge instructions AU-3459-F

External powered models are entity approved for safe operation in Class I, II, and III, Division 1, Groups A, B, C, D, E, and G hazardous locations in accordance with U.S. Gauge instructions AU-3459-F
 $V_{\text{max}} = 18.7 \text{ V}$, $I_{\text{max}} = 150 \text{ mA}$, capacitance equals $0.4 \mu\text{F}$, $Li = 0.0 \text{ mH}$

External powered models are also entity approved for safe operation in Class I, II, and III, Division 1, Groups C, D, E, and G hazardous locations in accordance with U.S. Gauge instructions AU-3459-F
 $V_{\text{max}} = 26.7 \text{ V}$, $I_{\text{max}} = 150 \text{ mA}$, capacitance equals $0.4 \mu\text{F}$, $Li = 0.0 \text{ mH}$

DISPLAY: 3-1/2 digit liquid crystal (LCD) 0.7" high numerals; update rate once per second; display blanks out for low power condition and displays large, negative number when thermocouple or extension wires are open

HOUSING: NEMA 4X design; 1/4 DIN; 302 stainless steel with one piece, VALOX front face/bezel and neoprene gasket; environmentally sealed with one-way valve for battery venting

CONNECTIONS: 1/2-14 NPT stainless steel half couple seal welded to case

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AMETEK[®]

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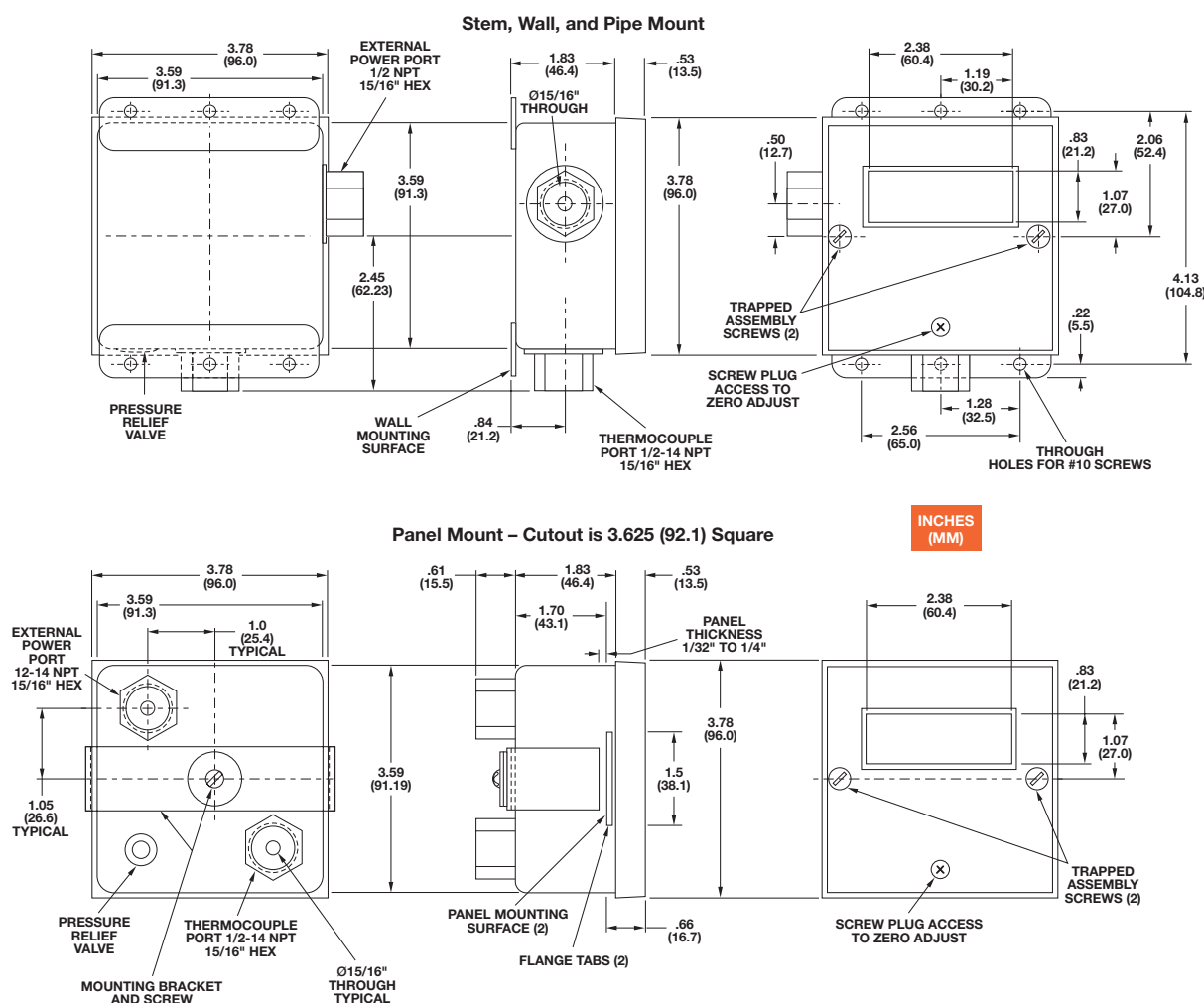
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MODEL SELECTION CHART

POWER PACK	MOUNTING	TEMPERATURE RANGES			
		-50°F to 450°F	-50°C to 250°C	400°F to 1500°F	200°C to 800°C
(8-AA) Battery FM Approved	Field* Panel	DT-8311 DT-8312	DT-8321 DT-8322	DT-8331 DT-8332	DT-8341 DT-8342
External Supply FM Approved	Field* Panel	DT-8315 DT-8316	DT-8325 DT-8326	DT-8335 DT-8336	DT-8345 DT-8346
Model number which appears on front of case		DT-8310	DT-8320	DT-8330	DT-8340

* Field mount versions may be stem, wall, and pipe mounted; pipe mounting kit is optional at extra cost



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SPEC NUMBER SELECTION CHART

Series DT-8310

(-50°F to 450°F Range) Type K D83C

Model Number	Size	Power	Mount	Spec No.
DT-8311	3-1/2" Square	Battery**	Field*	149011
DT-8312	3-1/2" Square	Battery**	Panel	149012
DT-8315	3-1/2" Square	External DC	Field*	149015
DT-8316	3-1/2" Square	External DC	Panel	149016

Series DT-8320

(-50°F to 250°F Range) Type K D83C

Model Number	Size	Power	Mount	Spec No.
DT-8321	3-1/2" Square	Battery**	Field*	149021
DT-8322	3-1/2" Square	Battery**	Panel	149022
DT-8325	3-1/2" Square	External DC	Field*	149025
DT-8326	3-1/2" Square	External DC	Panel	149026

Series DT-8330

(400°F to 500°F Range) Type K D83C

Model Number	Size	Power	Mount	Spec No.
DT-8331	3-1/2" Square	Battery**	Field*	149031
DT-8332	3-1/2" Square	Battery**	Panel	149032
DT-8335	3-1/2" Square	External DC	Field*	149035
DT-8336	3-1/2" Square	External DC	Panel	149036

Series DT-8340

(200°C to 800°C Range) Type K D83C

Model Number	Size	Power	Mount	Spec No.
DT-8341	3-1/2" Square	Battery**	Field*	149041
DT-8342	3-1/2" Square	Battery**	Panel	149042
DT-8345	3-1/2" Square	External DC	Field*	149045
DT-8346	3-1/2" Square	External DC	Panel	149046

Series DT-8350

(-50°F to 450°F Range) Type J D83C

Model Number	Size	Power	Mount	Spec No.
DT-8351	3-1/2" Square	Battery**	Field*	149051
DT-8352	3-1/2" Square	Battery**	Panel	149052
DT-8355	3-1/2" Square	External DC	Field*	149055
DT-8356	3-1/2" Square	External DC	Panel	149056

* Field mount model used for wall, stem, or pipe mounting

** Eight size AA batteries not included

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Sub-Assemblies and Replacement Parts for DT-8300 D83C

Main Frame Assemblies

(Bezel, Display, and Electronics)	Spec No.
-50 to 450°F	149300
-50 to 250°F	149301
400 to 1500°F	149302
2000 to 800°C	149303
J -50 to 450°F	149304

Case Assemblies

	Spec No.
Field Mount for Battery	149387
Field Mount for External DC	149383
Panel Mount for Battery	149386
Panel Mount for External DC	149381

Power Packs

	Spec No.
External DC*	149342
Battery Board**	156834

* Accepts unregulated 6-28 VDC supply

** Accepts eight size AA batteries (not included)

Miscellaneous Accessories

	Spec No.
Pipe Mounting Package Clamps and Hardware	149460

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