

TITLE: PROCESS TEMPERATURE SENSOR

DEPARTMENT: TECHNICAL SUPPORT

DESCRIPTION:

Aside from the standard mud temperature sensor (SPECS-DRL-057), additional temperature sensors may be provided for general process installations. Wide range of RTD and Thermocouple sensors are available, utilizing one transmitter type, easing equipment support and minimizing downtime.



Possible points of data acquisition are Wellhead Temperature, (Upstream and Downstream) Choke Lines, Geothermal Bloopie Line, etc.



A. Standard Unit Specifications.

BRAND: Rosemount
MODEL: Model 244EH PC Programmable Temperature Transmitter
SENSOR TYPES: (See Table below)

Notes:

All Pt types, Ni and Cu are classified under RTD (Resistance Temperature Detectors).

Type B, E, etc. are all classified under Thermocouple.

Accuracy values – the effective accuracy is “whichever is greater” (between the two values).

Sensor Type	Temperature Ranges		Accuracy
	°C	°F	
Pt 100, $\alpha = 0.00385$	-200 to 850	-328 to 1562	0.05% of span + 0.15°C or 0.2°C
Pt 100, $\alpha = 0.003916$	-200 to 645	-328 to 1093	0.05% of span + 0.15°C or 0.2°C
Pt 200, $\alpha = 0.00385$	-200 to 850	-328 to 1562	0.01% of span or 0.4°C
Pt 500, $\alpha = 0.00385$	-200 to 850	-328 to 1562	0.01% of span or 0.3°C
Pt 1000, $\alpha = 0.00385$	-200 to 300	-328 to 572	0.01% of span or 0.3°C
Ni 120	-70 to 300	-94 to 572	0.01% of span or 0.2°C
Type B, NIST	100 to 1820	212 to 3308	0.2% of span or 1.0°C
Type E, NIST	-50 to 1000	-58 to 1832	0.1% of span or 0.5°C
Type J, NIST	-180 to 760	-292 to 1400	0.1% of span or 0.5°C
Type K, NIST	-200 to 1372	-292 to 2502	0.1% of span or 1.0°C
Type N, NIST	-200 to 1300	-328 to 2372	0.1% of span or 1.0°C
Type R & S, NIST	0 to 1768	32 to 3214	0.1% of span or 1.0°C
Type T, NIST	-200 to 400	-328 to 7452	0.1% of span or 0.5°C
Type W5Re / W26Re	0 to 2000	32 to 3632	0.1% of span or 1.0°C



TECHNICAL DATA SHEET

PROCESS TEMPERATURE SENSOR

No. SPECS-DRL-056

Rev. 0

Page 2 of 2

RESPONSE TIME: 1 sec

STABILITY: 0.1% of reading or half of sensor accuracy (whichever is greater) for 12 months

APPROVALS/CERTIFICATION: Explosion-Proof for Class I, Division 1, Groups B, C, & D. Dust-ignition Proof for Class II, Division 1, Groups E, F, & G. Dust-ignition Proof for Class III, Division 1 hazardous locations.
Intrinsically Safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Non-incendive for Class I, Division 2, Groups A, B, C, D hazardous locations. Temperature Code T5 (Tamb = 80°C) (T6(Tamb = 40°C))

OUTPUT: Chart Recorder, DLS System, Digital Monitors

IL STANDARD MODEL CONFIGURATION:

Temperature Transmitter: **244EHK5J3Q4**

244EH: Head Mount Temperature Transmitter

K5: FM intrinsic safety, non-incendive, and explosion-proof approval combination

J3: Universal Head (junction box with ½ -14 NPT entries)

Q4: Calibration Certificate. 3-point standard ; use

APPROVAL:

Dept. Supervisor : VICTOR SAET

Date: 24th May 2002

Technical Committee : ALAN MORRISON

Date: 24th May 2002