Temperature

Temperature is one of the most widely measured variables in industrial applications; Product quality is highly dependent on accurate temperature measurement and control. Emerson Process Management can provide a complete solution for your temperature measurement application.

Complete Temperature Assemblies
Emerson provides complete Rosemount temperature assemblies to reduce procurement and installation costs. The transmitter, sensor, extension hardware, and thermowell arrive installation-ready, enabling immediate installation into the process.

Single Point and High Density Solutions
Temperature measurement points in industrial applications are typically either low density, single point measurements or high density where several measurement points are clustered together. Single point measurements are either geographically separated from other measurement points, are used in critical control and safety loops, or are essential to controlling product quality. High density measurement applications require the same level of reliability, but can take advantage of new technologies to minimize installed cost. These high density applications include distillation columns, heat exchangers, boilers, bearing temperatures and reactor profiles. Emerson leads the process control industry in providing solutions for both single point and high density applications.

Table 1. Transmitter Selection Chart

Models	Application		Functionality									Housing				Available Outputs			
	Single Point	High Density	Sensor Inputs	RTD Inputs	Thermocouple Inputs	LCD Display	Hot Backup®	Sensor Drift Alert	Safety Certified	Transmitter Sensor Matching	Integral Transient	Dual-Compartment	Head Mount	Rail Mount	Other	HART	FOUNDATION fieldbus	Wireless	PC-Programmable
3144P			2	X	X	X	X	X	X	X	X	X	–	–	–	X	X	–	–
648			1	X	X	X	–	–	–	X		X	–	–	–	X	–	X	–
644			1	X	X	X	–	–	–	X	X	–	X	X	–	X	X	–	–
248			1	X	X	–	–	–	–	–	–	–	X	X	–	X	–	–	–
148			1	X	X	–	–	–	–	–	–	–	X	–	–	–	–	–	X
848T			8	X	X	–	–	–	–	–	X	–	–	X	–	–	X	–	X
848T Wireless			4	X	X	–	–	–	–	–	–	–	–	–	X	X	–	X	–

= Recommended X = Available – = Not Available NA Not Applicable

Temperature Products

Comprehensive Product Catalog

Table 2. Sensor Selection Chart

Models	Style		Technology		Specifications			
	U.S.	European DIN / Metric	RTD	Thermocouple	Temperature Range °C (°F)	Use with Transmitter-Sensor Matching	Measurement Points	Comments
68	X	–	X	–	–50 to 400 (–58 to 752)	X	1	Thin-film RTD
78	X	–	X	–	–200 to 600 (–328 to 1112)	X	1 or 2	Wire-wound RTD
68Q	X	–	X	–	–50 to 200 (–58 to 392)	X	1 or 2	Sanitary RTD
183	X	–	–	X	–180 to 1150 (–292 to 2102)	–	1 or 2	U.S. Style Thermocouple
1080/ 1082	NA	NA	X	X	–40 to 800 (–40 to 1472)	X	2 to 60	Multipoint sensor for temperature profiling
65	–	X	X	–	–196 to 600 (–321 to 1112)	X	1 or 2	DIN style RTD
65Q	–	X	X	–	–50 to 250 (–58 to 482)	X	1 or 2	Sanitary RTD
65B	–	X	X	–	–50 to 250 (–58 to 482)	X	1 or 2	Sanitary RTD
185	–	X	–	X	–40 to 1000 (–40 to 1832)	–	1 or 2	DIN style thermocouple
1075	–	X	–	X	0 to 1700 (32 to 3092)	–	1	High Temperature Thermocouple

X = Available **–** = Not Available **NA** Not Applicable

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