



Flow Research, Inc.
27 Water Street
Wakefield, MA 01880
(781) 245-3200
(800) 245-1799 (from the USA)
(781) 224-7552 (fax)
www.flowresearch.com



The Market for Temperature Transmitters in the Americas, 2nd Edition

Smart and High-Tier Products Dominate a Changing Temperature Transmitter Market

Wireless Transmitters

**High-Tier
Smart
Programmable
Analog
Low-Cost**

Foundation™ Fieldbus

The temperature transmitter market is changing. But how is it changing?

Flow Research has just spent eight months working to answer that question. We began by identifying every supplier of temperature sensors and transmitters we could find, including ones in Europe and Asia. We found more than 250 companies. We then sent each company a detailed questionnaire asking about their products and their company. We then followed up with phone calls, interviewing many of these companies by telephone. In the end, we analyzed all the data we collected and created two studies: one on temperature sensors in the Americas, and the other one on temperature transmitters in the Americas.

This study analyzes the temperature transmitter market for the Americas. It includes a technology and product analysis, market share and market size data, and also provides in-depth



segmentation of the market by various product and geographic categories. It also includes detailed market growth projections through 2011 for five types of temperature transmitters. Detailed market strategies are provided for suppliers, and 23 companies are profiled. Data is provided for the Americas, which includes the following geographic regions:

- The Americas, including the United States, Canada, and Latin America
- United States
- Canada
- Latin America

This study provides the following vital information about the temperature transmitter market:

- Market size in dollars and units for each temperature transmitter type
- Growth forecasts through 2011 for each temperature transmitter type
- Market shares for each type of temperature transmitter
- Detailed product descriptions by supplier
- Growth factors for the temperature transmitter market
- Growth forecasts for temperature transmitters by industry
- Strategies to employ to compete successfully in the temperature transmitter market
- Profiles of 23 suppliers to the temperature transmitter market
- Temperature transmitter sales by distribution channel
- Temperature transmitter sales by customer type

Why this study is important to you as a decision-maker in this market

1. The study includes the main types of temperature transmitters:

- High-Tier
- Smart
- Programmable
- Analog
- Low-Cost

This study is important for many reasons, including the following:

2. We were able to determine the status of several trends we originally identified in the first edition of this study, published in 2000. Among these are a shift from analog temperature transmitters to programmable temperature transmitters. Another is the shift in the market towards smart temperature transmitters.

3. We determined how much the market has grown in the past seven years, including market size in dollars and units. We have this information for each temperature transmitter type. This study tells you how growth in the smart and programmable temperature transmitter markets compares to changes in the analog and low-cost markets. With this knowledge, you can better evaluate the prospects for your own temperature transmitter products.

4. This 300+ page study provides market shares for the temperature transmitter market as a whole, and for each type of temperature transmitter. It tells you the major and

minor players in each market, and does so by geographic region. Along with this are 23 company profiles that provide detailed financial and product information on most of the suppliers to this market.

5. It has been at least several years since a new study of this market has been done. What's more, we believe we are the only market research company currently studying this market. Not only is this new study the result of a thorough examination of the temperature transmitter market, we can also see the market in light of the first edition of this study, published in 2000. While some market research firms have neglected the temperature transmitter market, we recognize its importance and will continue to research and document this market.

The following describes the temperature transmitters included in this study

High Tier

Leading suppliers have introduced enhanced, high-performance temperature transmitters called “high-tier” temperature transmitters. While these transmitters are smart devices, they are more advanced than most smart transmitters and are characterized by features that enhance performance rather than their ability to communicate with other devices. These features include the following:

- Higher accuracy than smart temperature transmitter

- Capability of accepting more than one type of sensor

Smart

Honeywell introduced the first smart pressure transmitter in 1983. Since that time, “smart” devices have gained in popularity each year. Even so, it took nearly ten years for smart pressure transmitters to gain substantial market share. Users are often very slow to adapt to new technologies, and installed base has a major impact on decision making. As noted above, smart temperature transmitters have never had the same popularity as smart pressure transmitters.

The primary characteristic of a smart temperature transmitter is having a digital output. However, “smart” refers to more than one characteristic. To be smart, the device must have the following three features:

- Microprocessor-based
- Digital output
- Capable of remote two-way communication

Programmable

Some analog temperature transmitters can be programmed using a handheld device or a personal computer. Values that are typically programmed into a temperature transmitter are sensor type (e.g., a thermocouple of a certain type or an RTD), span value, etc. While smart temperature transmitters are programmable by definition, there is a group of primarily analog transmitters that are called “programmable.” These

have the same features as analog transmitters, except that they are programmable.

Analog

Analog transmitters are very widely used, and they are used when a 4-20 mA signal is desired. There is a very large installed base of analog temperature transmitters in process and other manufacturing plants. Because end-users often replace like with like when ordering a replacement product, analog transmitters still form a large portion of the temperature transmitter market.

Low Cost

The term ‘low-cost’ is obviously a relative term, and what is “low cost” to one person might not be “low cost” to another. The term ‘low cost’ also has a different meaning for temperature transmitters than it does for other field devices such as pressure transmitters. This is because the prices of temperature transmitters are consistently lower than the prices of pressure transmitters. This is primarily due to the more complex and sophisticated sensors required for pressure transmitters when compared to temperature transmitters. Also, the cost of the sensor is included in the price of a pressure transmitter, while for temperature transmitters sensor cost is a separate item. In this study, “low-cost temperature transmitter” primarily means a temperature transmitter with a list price of equal to or under US \$100.

Undercurrents pull this market in multiple directions

The temperature transmitter market is a stable one that fills an ever-present need. It is a commonplace that temperature is the most measured variable. Because of the number of temperature measuring points in a process environment, there will always be a need for temperature transmitters to take a signal from a temperature sensor and convert it into a form that allows the signal to be transmitted accurately to the control room. Transmitters provide accurate and secure signal transmissions over distance. In many cases, their cost compares favorably with that of lead wire. Hence, the need for temperature transmitters in process and manufacturing environments is firmly established, and is not likely to change.

Despite the stable nature of the market, there is quite a lot of activity beneath the surface. Much of this activity has to do with the different types of temperature transmitters. The smart market has become divided between smart and high tier. Leading the way in high-tier temperature transmitters are multivariable transmitters that accept two temperature sensor inputs. The adoption rate of Foundation Fieldbus and Profibus transmitters has been increasing. Much progress has been made in the area of programmable temperature transmitters. These are providing an alternative for users who do not wish to invest in smart products. The low-cost market, on the other hand, will always be there, but is not changing significantly.

This study will help you plan your temperature product and marketing strategies by answering the following questions:

Which mounting types are most popular: rail-mounted, headmounted, or fieldmounted?

What is the adoption rate for communication protocols such as HART, Foundation Fieldbus, and Profibus?

What industries are temperature transmitters sold into by geographic region? Which are the fast-growing industries?

What companies are supplying wireless temperature transmitters, and what is the projected growth rate for this market?

Market shares of the leading suppliers

Much has changed among suppliers of temperature transmitters since the first edition was published in 2000. This study brings you up-to-date on the many ownership changes among temperature transmitter suppliers that have occurred in recent years.

Most importantly, this study tells you who are the leading suppliers for each temperature transmitter type. Market shares for each transmitter type are provided for the United States, Canada, and Latin America. The study reveals what companies from Brazil are supplying this market. It tells you who is supplying the temperature transmitter market in Canada. Of course, the US

market is completely covered, for all types of temperature transmitters.

List of companies profiled

This study, with 23 company profiles, has more profiles than any previous Flow Research study. The list of companies profiled includes both traditional suppliers and newer entrants. The profile for each includes an overview, a product description, and a discussion of the company's strategy and perspective. Here is a list of the companies profiled:

ABB

Acrolab

Adaptive Instruments

Bourdon-Haenni

Emerson Process Management –

Rosemount Division

Endress+Hauser

Enercorp Instruments

Honeywell International

INOR (Division of KROHNE)

Invensys / Eurotherm / Foxboro

IOPE Precision Instruments

JMS Southeast, Inc.

JUMO Process Control

Metalogic Technologies

Minco

Moore Industries

Omega Engineering, Inc

Pyromation

Siemens

Smar

Weed Instrument

Wika Instruments

Yokogawa

How will this study help you? This study tells you how many temperature transmitters are being sold, who are the leading suppliers, what segments are growing, what end-users are looking for, what technology trends are influencing the market, and much more.

One result we found is the **continued trend towards the use of programmable temperature transmitters**. A number of companies have added programmable temperature transmitters to their product lines in the past several years, and this has contributed to the growth in this market segment. We also found that the move toward smart is continuing, and that the use of Foundation Fieldbus and Profibus has increased significantly since our last study.

Another important trend we looked at is the **trend towards wireless temperature transmitters**. While wireless has had a limited effect on this market up to this point, it is the fastest growing segment of the temperature transmitter market. The use of wireless temperature transmitters is expected to increase dramatically as more suppliers enter this market. Customers are using wireless transmitters in remote locations, and also are buying them to save on wiring costs.

If you are involved in the temperature transmitter market, this is a must-have study for you. And now is the time to order the study, when it is “hot off the press,” with 2006 numbers!