

Press Release

Achieve Very Accurate Temperature Measurements Throughout Your Factory Using New 4–20mA Loop-Powered Temperature Transmitter with HART Protocol

Maxim Integrated's Novato smart temperature-transmitter reference design transmits temperature measurement over -200°C to +850°C range with better than $\pm 0.1\%$ accuracy.

San Jose, CA—February 25, 2014—Factories can now easily, and very accurately, measure and transmit industrial temperatures with the Novato (MAXREFDES16#) reference design, a 4–20mA loop-powered temperature transmitter with the HART® communication protocol from Maxim Integrated Products, Inc. (NASDAQ: MXIM).



The Novato reference design accurately measures and transmits industrial temperatures.

[High-resolution images:]

Temperature is among the most widely measured parameters in industrial process control and automation applications. The Novato reference design transmits temperature measurements from remote sensors to the central control unit over a 4–20mA current-loop using the highway addressable remote transducer (HART) communication protocol. This smart transmitter enables low-power temperature measurement from -200°C to +850°C with accuracy better than $\pm 0.1\%$ or $\pm 1.0^\circ\text{C}$. Novato's flexible design supports 2-, 3-, or 4-wire resistance temperature detector (RTD) sensor inputs and works with any type of RTDs, from PT100 to PT1000, making it ideal for a wide variety of industrial applications.

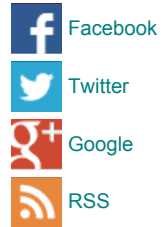
Key Advantages

- **High accuracy:** measures temperature from -200°C to +850°C with accuracy better than $\pm 0.1\%$ or $\pm 1.0^\circ\text{C}$
- **Flexibility:** supports a 2-, 3-, or 4-wire RTD sensor input; PT100 to PT1000 RTDs
- **Low power:** consumes less than 3.2mA
- **HART Communication Protocol:** the HART functions set is developed by AB Tech Solution, Westford, MA, an engineering firm specialized in product development services for industrial automation applications. The HART stack for Novato runs on the Renesas® RL78/G13 microcontroller and supports all universal and common practice commands

Commentary

- "Factories of the future will need a smart temperature transmitter like Novato to measure wide ranges of temperature, get the data to central control fast, and consume low power in the process," said Sean Long, Director at Maxim Integrated. "By integrating ABTech's HART stack running on the Renesas RL78 ultra-low-power microcontroller, Maxim offers a complete solution with this design."
- "Accurate temperature measurement in a factory setting is imperative," said Colin Barnden, Principal Analyst, Semicast. "The proliferation of smart sensors in the market will lead us to smarter systems within smart industrial applications."

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Availability and Pricing

- Pricing starts at \$ (FOB USA).
- Fits into a DIN size B head-mounting enclosure (< 40mm diameter) to meet field sensor needs.
- For information on other reference designs, please visit [Maxim's Reference Design Center](#).

Hi-res images for the [Novato reference design](#) and the [Novato schematic](#) are available.

About Maxim Integrated

At [Maxim Integrated](#), our designs make the world more integrated. And with analog integration, the possibilities are endless. In Fiscal 2013, we reported revenues of \$2.4 billion.

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