DITTMAN & GREER DISPATCH

News on Automation, Process Control and Electric Heating Applications

Winter, 2007

Introducing Our Newsletter

Welcome to the premier issue of the *Dittman & Greer Dispatch*. The purpose of this newsletter is to keep you, our customer, informed of all the ways in which Dittman & Greer can support your company with solutions for your automation, sensing and electric heater requirements. The *Dispatch* will include information about our vendors and their products, including new product announcements. Application and technical articles will increase your knowledge of the features and benefits of the products that we sell.

Since we want this newsletter to be as relevant to your business as possible, we look forward to hearing your comments on the first issue. We would also welcome any suggestions that you may have for future issues. Thank you for your interest.

The D & G Inside Sales Team: Matt Cusson, Jessica Studinski, Eleonora Masi, Jane Petrin, Jessica Thomas, Len Skowronek

Siemens' "Blended Learning" *On-Line Courses Provide Solid Foundation Before Classroom Training*

Siemens Energy & Automation, Inc. offers companies a way to ensure that each of their employees has the fundamental knowledge and skills needed to succeed in specific Siemens classroom training courses. Siemens has redesigned the classroom courses to encompass a Totally Integrated Automation (TIA) learning environment, providing a hands-on learning experience that requires students to be better prepared beforehand. To that end, Siemens has developed a series of "Blended Learning" modules that serve as prerequisites to the classroom training.

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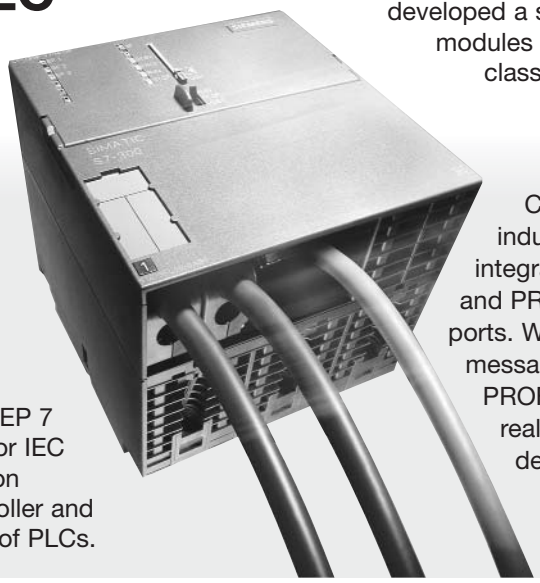
Siemens SIMATIC S7 CPU 319: Delivering Large PLC Performance in a Small Package



The new SIMATIC S7 CPU 319 controller is the latest and most powerful of Siemens' S7-300 PLC family. It combines the performance previously available only in large PLCs with the exceptional value found in smaller models.

This CPU is programmed with existing STEP 7 engineering software, available in the major IEC 61131 programming languages. Application programs are portable between this controller and others in the Siemens SIMATIC S7 family of PLCs.

Connectivity to a wide range of industrial devices is provided by integral PROFINET Industrial Ethernet and PROFIBUS DP communication ports. While facilitating traditional messaging, both PROFINET and PROFIBUS DP capabilities enable real-time data to be sent deterministically, while linking the

Story continued on page 3...

Tech Tutor:

The Basics of Three Types of Ultrasonic Sensors

Ultrasonic sensors are valuable components of modern automated production processes. These sensors use sound waves to detect the presence or absence of objects and are thereby not affected by color or transparency and little by texture. These properties make them ideal for a variety of problem-solving applications. Dittman & Greer supplies customers with three basic types of ultrasonic sensors: diffuse proximity, retro-reflective and through-beam.

Ultrasonic diffuse proximity sensors

These sensors employ a special sonic transducer, which allows for alternate transmission and reception of sound waves. The transducer emits a series of sonic pulses and then "listens" for their return as they are reflected from the target. Once the reflected signal is received, the sensor signals an output to a control device such as a PLC.

These sensors are capable of reliably detecting a variety of targets, including solids, liquids, granules or powders, irrespective of color and opacity, at sensing ranges up to 2.5 m. Their sensitivity, defined as the time window for "listen" cycles versus "send" cycles, may be adjusted via a teach-in button or a potentiometer. While standard diffuse ultrasonics will give simple presence/absence of target information, analog versions provide for actual distance measuring, by offering a 4-20 mA or 1-1- V output dependent on range to the target. This output can easily be converted into useable distance information.

Ultrasonic retro-reflective sensors

Retro-reflective sensors detect objects within a specified sensing distance by measuring propagation time. The sensor emits a series of sonic pulses that bounce off of a fixed opposing "reflector." The reflector can be any flat, hard surface such as a piece of machinery or board. The sound waves must return to the sensor within a fixed user-adjusted time interval. The sensor signals an output if that time interval changes due to an obstructing object in its sensing path. Since the sensor is, in essence, "listening" for any change in propagation time, as opposed to a returned signal, it is ideal for the detection of sound absorbent and sound deflecting materials like cotton, foam, cloth and foam rubber.

Ultrasonic through-beam sensors

Unlike proximity and retro-reflective sensors, these sensors separate the emitter and the receiver into separate housings. The emitter sends a continuous signal, which is then picked up by the receiver. When an object disrupts the sonic beam, the receiver reacts and triggers an output. These sensors are ideal in applications that require the detection of a continuous object such as a web of clear plastic. If the clear plastic breaks, the output of the sensors will trigger the attached PLC or load.

We at Dittman & Greer would be happy to recommend an ultrasonic sensor for dependable service in your specific application. Please contact us to discuss your requirements.

– Technical information was condensed from an essay entitled "Ultrasonic Sensors: The Basics" by Stephen Petronio, Manager Engineering for Baumer Electric.

Siemens' "Blended Learning" On-Line Courses Provide Solid Foundation Before Classroom Training

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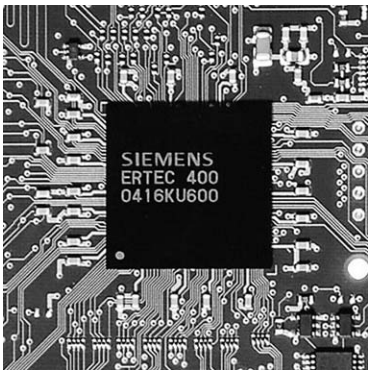
Accessed on-line through the Siemens Web site (automation.usa.siemens.com), the Blended Learning modules provide solid introductions to key terminology, concepts and architecture which will be used in the subsequent classroom courses. Blended Learning tutorials include: "PLCs for Beginners"; "STEP7"; "S7PROFIBUS"; "S7 ETHERNET"; "S7PROFINET"; "MicroMaster 420"; and "ProTool Pro."

Each Blended Learning module concludes with a self-guided quiz that allows the student to measure their own progress without their score being made available to anyone else. As Siemens says, these modules are a great opportunity for students to "jump-start" their learning experience.

Siemens' ERTEC Controller Wins *Control Engineering* Editors' Choice Award

In January, 2006, Siemens' PROFINET Enhanced Real Time Ethernet Controller (ERTEC) with integrated switch functionality was recognized by *Control Engineering* magazine with an Editors' Choice Award in the Networks and Communication category. This Siemens controller was among 45 Editors' Choice winners selected from the thousands of products presented in *Control Engineering* during 2005.



Siemens ERTEC Controller with Integrated Switch Functionality

The jury was particularly impressed by the ability of the ERTEC to manage both standard TCP/IP communication and real-time PROFINET communication simultaneously on the same network. The ERTEC Controller uses a real-time communication cycle in which time-critical real-time data is exchanged in predefined and exact isochronous intervals, while in the remaining time the standard TCP/IP packets are transmitted. Thus, this Siemens switch maximizes the efficiency of the available bandwidth, even with a large number of network nodes.

Siemens SIMATIC S7 CPU 319 Delivers Large PLC Performance in a Small Package

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user program isochronously with the connected I/O devices. With this real-time network performance and the superior speed of the controller, even the demands of such applications as high-speed closed loop and motion tasks can be met.

Commercial technology is used for the S7 CPU 319's integrated Web Server capability, allowing easy access to diagnostic and process data from any Internet browser. Users can quickly connect to their control system from anywhere in the world, using an off-the-shelf browser.

Greg Meinert, PLC and I/O marketing manager for Siemens, sums up the advantages of this controller: "Overall, the S7 CPU 319 offers greater best-in-class performance and overall value than any other platform on the market."

Application Solution

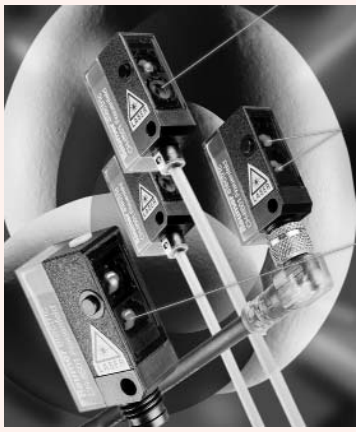
Baumer Electric's OZDK 10 Contrast Sensor Solves Bar Code Detection Difficulties

The Problem:

A customer was concerned with identifying the start of a bar code on a continuous label for a cutting process. They wanted to identify the first line of the code only and receive an output for each bar in the code. They had been using a standard diffuse photoelectric sensor with unsatisfactory results. The standard diffuse sensor would either miss the initial bar or detect multiple bars within the same code, causing miscuts.

The Solution:

Baumer Electric's OZDK 10 Laser Contrast Sensor



Baumer Electric OZDK 10

This sensor is designed to recognize color and contrast changes. When the sensor was mounted about 20 mm away from the bar code, the beam spot was just below 1.5 mm in diameter. The 1.5 mm spot allowed the sensor to ignore the gap between each bar, thereby triggering only once per code. The sensor is in a "light operate" configuration, meaning that output is "on" for the white-colored background and "off" when the black bar code comes into view.

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Application Solution

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Benefit to User:
Although the customer could have purchased a high-end bar code reader, this would have resulted in a significant cost increase and a decrease in the speed at which they could run the cutting process. The fast response and repeatability and relatively low cost made the OZDK 10 a perfect solution. The small 10 x 27 x 14 mm size was also a plus.

– Taken from an Application Story by Thomas A. Kinney, Field Sales Engineer for Baumer Electric

Winter is Coming! Be Prepared with Chromalox Heaters

With ChromaStar™ Infra-Red Radiant Heaters, you can provide localized warmth where blower or convection heating is impractical. Available in fixed overhead and portable models, these rugged heaters are UL and CSA approved. Voltages range from 120 to 480, and kilowatts range from 1.2 to 13.5. It's never too early to think about keeping your employees and equipment warm – call Dittman & Greer for more information on Chromalox heaters.

Chromalox®
PRECISION HEAT AND CONTROL

New Product News

SICK's S3000 Short Range and Professional CMS Safety Scanners

SICK has just added two new models to its family of more than 15 safety laser scanners. The S3000 Short Range Safety Laser Scanner features a 4-meter safety field and is designed for applications such as slower-moving vehicles or static applications where large safety fields are not necessary. On the other hand, the S3000 Professional CMS (Contour Measurement & Safety) Laser Scanner is ideal for the navigation requirements of complex mobile vehicle applications.

SICK S3000 Safety Scanner

Weidmuller WAVEGUARD

Weidmuller's WAVEGUARD Electronic Fusing System

This innovative fusing system from Weidmuller was developed specifically for use with regulated switch mode power supplies. This type of power supply, due to its technical characteristics, cannot supply a dynamic output current or can only do so within defined limits. Its inability to reliably trip conventional circuit breakers and fusible links is addressed by the WAVEGUARD electronic fusing system. Of course, the system can also be used for all direct current applications.

Dittman & Greer has the latest technical data on all of these new products. Please contact us for any information that you require.

DITTMAN & GREER, INC.
The Right People – The Right Products

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