

the plant is so much simpler and more effective, especially if you have the right higher level systems in place.”

Last year also saw the implementation of a new CIP system which was built completely with Profibus. Here, five tanks and eight cleaning lines – plus their returns – are each fitted with seven Profibus PA flow and temperature instruments, with regulating valves for maintaining the heat. The tanks have four temperature and level instruments each and, in total, there are more than 70 Profibus PA instruments used in this system.

Profibus is also used on four of the five finishing lines. The

first is an aseptic filling machine, Profibus DP handles all remote I/O via ET200 modules and there are also Profibus enabled frequency-converters for the motors, plus some Profibus DP repeaters, an ASi-gateway and Festo valve blocks. Two other aseptic filling lines are also employed at the site. Profibus DP is used for remote I/O and for controlling the frequency converters for the motors. There are also AS-interface gateways and Festo valve blocks.

The fourth line is intended to fill only milk in one litre bottles, Profibus DP is used for discrete I/O and frequency-converters on this machine.

New Products



Communicative Control For High-Speed Machines and Processes

The new CPU 319-3 PN/DP from the Simatic-S7-300 controller family of Siemens Automation and Drives (A&D) is especially fast and has three integrated communication interfaces: Profibus DP/MPI, Profibus DP and Profinet. The CPU is particularly suitable for data-intensive tasks and closed-loop control tasks requiring extremely short cycle times. Short instruction execution times and sufficiently dimensioned quantity structures, such as the 1.4MB work memory, offer high-speed response times and machine cycle times even in the case of more extensive and complex control programs. The Profinet interface maintains up to 32 simultaneous active Industrial Ethernet connections to partner devices, and up to 256 field devices can be connected via Profinet IO. The integrated Profinet ASIC Ertec 400 also generates short response times on Ethernet.

Instructions are processed quickly by means of powerful CPU processor architecture and optimized language display. This applies equally to binary operations and word operations, fixed-point and floating-point arithmetic, and user program execution. The integrated communication processors offer high data throughput for diverse communication functions such as S7 Communication, TCP/IP, UDP,

ISO on TCP based on RFC 1006, Profinet IO, Profinet CBA and Profibus DP. DPV1 standard slaves communicate efficiently with each other by means of direct data exchange. The Profibus DP interface processes I/O data deterministically and links the user program isochronously with the connected I/O devices. This is a particular performance advantage in distributed automation structures.

Software is available in the form of the familiar STEP7 engineering tools such as SCL (Structured Control Language), CFC (Continuous Function Chart), and programming of sequencers with S7-Graph. Thanks to its high performance and quantity structures, the CPU is also suitable for motion control tasks with Easy Motion Control.

Other functions of the CPU 319-3 PN/DP are the detailed device diagnostics in all operating states, allowing reductions in possible downtimes, and the expanded ranges of block numbers. These offer improved porting and re-use of programs or program sections of other Simatic CPUs – from the smaller S7-300 CPUs to the largest S7-400 CPUs.

You can find more information on the Internet at: www.siemens.de/s7-300

New Products



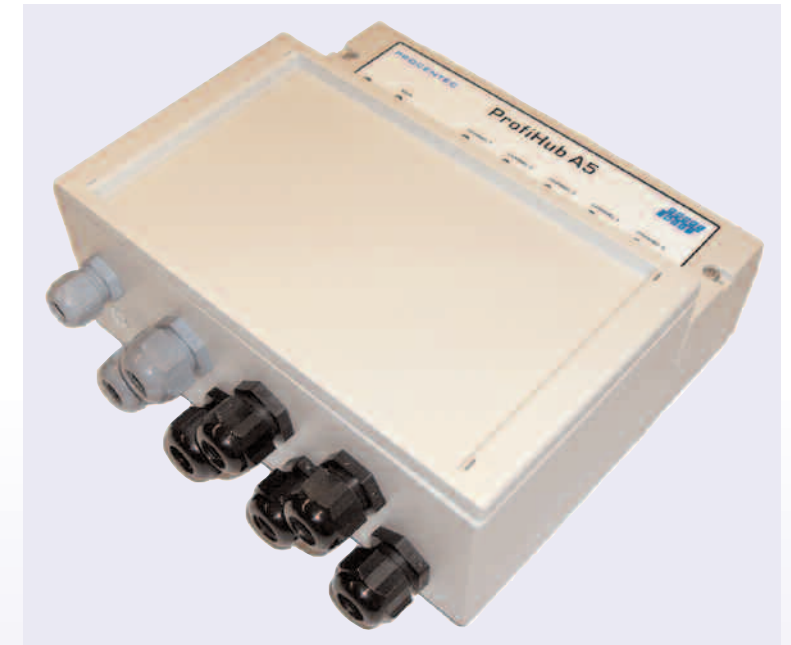
ProfiHub A5 A perfect solution to create star and tree networks in PROFIBUS DP installations

In the process industry we see more and more PROFIBUS DP implementations. In these demanding environments the connection of the bus cable to the instruments is most of the time realized by glands to obtain the IP65/67 protection. The disadvantage of glands in combination with DP is that 2 PROFIBUS cables are required to connect the device in order to follow the rules for fault-free communication (cable-in and -out). The device cannot be added or removed without breaking the main cable. To overcome this a lot of times spur lines (T-connectors/terminal strips) are constructed to create an improvised solution for instrument exchange. This implementation produces new problems like data communication faults because of the exceeded stub lines.

An innovative component for these applications is the ProfiHub A5. It is a perfect economic solution to implement reliable spur lines in high speed DP networks. It has the functionality of 5 galvanic isolated repeaters connected to an internal backbone. This allows transparent network structures with extended spur lines that individually handle a maximum of 31 devices and a length equal to the main bus.

Because the ProfiHub creates isolated segments, the devices can now be removed and added during operation. Also electrical bus problems and EMC disturbances in a spur do not spread to the other segments. The intelligent logic and isolation circuits of the ProfiHub do not change the bit width. This means the ProfiHub does not have limitations in serial placement. The logic also detects the baudrate automatically.

To assist the installation work, termination is integrated and can be switched on/off. The grounding concept is also selectable: direct or capacitive grounding. The ProfiHub is powered by a 10 to 32 DC Voltage (110/230V AC version is also available). For troubleshooting & maintenance the ProfiHub has a display on the outside which indicates the status of each channel (Data and Error).



Sample applications:

- Dynamic spur lines to actuators, flow meters and pH analyzers.
- Removable drives and motors.
- Pull/Plug motor control centers (drawers).
- Outdoor applications with device and cable stress.
- Roof mounted devices in Tank Parks.
- Dirty and humid environments.
- Barrier for non galvanic isolated equipment.
- Large star/tree structured networks.

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