

New batch centrifugal control

BMA has developed a new control system for its batch centrifugals, which is based on an S7-300 programmable controller and incorporates decentralized input and output boards for the centrifugal's sensors and actors. This concept with decentralized inputs and outputs eliminates the need for multi-wire cabling between the centrifugal and the control cabinet.

A multi-function panel with 12" touch screen provides the interface for centrifugal operation. A key element of the new automation concept is the Profibus. Thanks to its open architecture, the Profibus allows frequency converters of different suppliers to be used so that specific customer requirements can be easily accomplished. Since the control system will be used in factories all over the world, this was a fundamental criterion.

Control panel installation with decentralized input and output boards and the multi-function panel forms an integral part of the manufacturing process in BMA's workshops. The same applies to the wiring required for the sensors and actors mounted on the centrifugal. This allows a detailed functional test to be made before the machine leaves the workshop, and consequently reduces the time required for start-up procedures in the factory.

The special feature of the hardware now used is the bright 12" colour display, which has been optimized to offer operators a clear and logically structured user interface. Machine operation and functions, as well as the main parameters are graphically displayed for easy reference and optimized machine handling and monitoring.

For the service personnel, the multi-function panel provides clearly structured start-up screens. These may also be accessed by the customer and allow him to monitor all inputs and outputs in the programmable controller and to perform a manual machine test run, e.g. at the beginning of a campaign.

A detailed alarm library with extensive help files is available for error analysis and simplified error isolation.

Centrifugal sequencing, required when several machines are operated in parallel, uses the MPI-Bus which the S7-300 control system incorporates as a standard. This avoids additional cable connections as well as possible errors.

Each S7-300 control system may optionally be equipped with a communication module, e.g. for Profibus DP, which will be used to link to a higher-level control system. All variables necessary for centrifugal monitoring and parameter adjustment are saved in data modules. This is a standard feature.

A teleservice option for the centrifugal control system allows BMA to provide remote assistance for error detection. This novel feature requires an analog telephone connection. But since it will make assistance and servicing much more efficient it is expected to be widely accepted very soon.

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*Final installation
of the new
control system*

