

Versatile and flexible

WEST Intelligent systems for extruder automation
Control Solutions



Modular, compact, and economic

Customized control solutions for the plastics industry

One of the most important process parameters for extrusion is the quality of temperature control. During the manufacture of high-quality products, the temperature of the plastic melt is measured and controlled at numerous different points. Hereby, the heating energy must be controlled within fractions of a second, in order to maintain the required temperature during the entire production process. Moreover, reproducible production also means archiving of recipes and reliable repetition of setpoint settings. For this purpose, comprehensive data processing methods are necessary, which older systems simply cannot offer. Therefore, today's trend in instrumentation is away from single controllers and towards DIN rail-mounted systems that can be adapted easily to individual needs, and provide a uniform, integral operating concept. What's more, the system must take into account the limited space in compact control cabinets, and offer a solution for remote visualization.

Individual, and simple to use

With its flexible and modular control systems, WEST Control Solutions has developed all-inclusive solutions for plastics processing machines, which significantly reduce the engineering outlay. Ready-made algorithms have been implemented for all the usual control parameters. The software is simply adapted to the actual requirements (number of zones and drives, etc.), and configured on-screen.

More performance, less expense

The compact solutions reduce purchasing and installation costs, are simple and quick to install, flexibly expandable, offer uniform operating concepts, and permit faster problem solving as well as more efficient quality monitoring. Similarly, WEST Control Solutions' product portfolio ensures fast and cost-effective upgrading and conversion of existing plants with an all-inclusive automation system.



Diversity at a glance: the product portfolio

UNIVERSAL TEMPERATURE CONTROLLERS



eCAL

eCAL: Utmost functionality with a favourable price tag

eCAL is a compact, low-cost temperature & process controller with extended functionality. With two different front dimensions (48 x 48 mm or 48 x 96 mm), the unit can be retrofitted without any problems. Additional features:

- Universal input – just one input for all sensor types
- Only 70 mm deep for easy installation – also when retrofitted
- Programmer for applications requiring a variable setpoint

INDUSTRIAL & PROCESS CONTROLLERS



KS 50-1

KS 40-1

BluePort® controllers: Versatile specialists

KS 40-1: The compact KS 40-1 is suited primarily for all thermal control tasks requiring switching controllers, e.g. 2-point, 3-point or 3-point stepping output. For this, the unit is fitted with three relay outputs. Thanks to the analog universal output, the KS 40-1 can also be used as a continuous controller.

KS 50-1: Designed specifically for use in plastics processing machines, the KS-50-1 adapts easily to every control task – from fast hot runners up to slow mold tempering. Additional inputs & outputs permit e.g. the start of special functions or the monitoring of temperature profiles without the need for a PLC.

MULTILOOP TEMPERATURE CONTROLLER

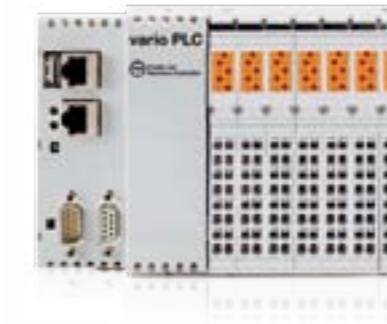


KS vario: modular multiloop control

The modular KS vario multiloop controller system has been developed specifically for temperature treatment processes, whereby the basic version consists of a controller module and a field bus coupler. These two components already provide a fully operational control unit with 4, 6 or 8 loops. Simply by adding the required number of individual I/O modules, the system is expandable up to 30 control loops with minimum extra cost. Hereby, no more I/O

modules are required than those needed for the actual number of inputs & outputs. The individual modules of a KS vario system are simply plugged together without tools – all interconnections are made automatically, and power is supplied via the bus coupler. The field bus coupler with integral power supply represents the heart of the system, and links the multiloop controller to all established field bus systems.

HIGH-END AUTOMATION SYSTEMS



Central component in an automation system: varioPLC

varioPLC performs all relevant sequencing tasks – from programmed control and process control to visualization and operation.

- Compact PLC with display controller
- Programming acc. to IEC 61131-3
- Soft PLC runtime (realtime operation)
- Integral process controller
- On-board I/O
- Direct connection of touch display
- Communication via CAN, Profibus, and Ethernet



Displays from 5,7" up to 12,1"

Transparency and convenient operation: the varioDISP display module

In combination with varioPLC, the varioDISP display modules permit the integration of sequencing and operating software in a common programming environment.

- High-contrast colour TFT display
- Versions with 5.7", 10.4" and 12.1" screens
- Touch operation
- Compact, flat panel-mount housing
- Direct control via varioPLC
- Remote operation
- Cost-efficient wiring



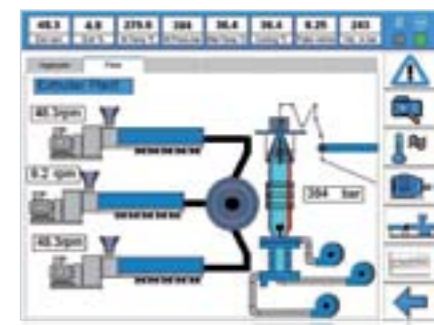
Operating level: Overview page

The overview page shows the process values, the setpoints, and the zone descriptions, plus the output value as a bargraph.



Operating page: Drive

On this page, all the defined drives (max. 5) can be operated directly.



Customized page

The ApplicationDesigner enables the user to configure an operating page using freely combinable functions.

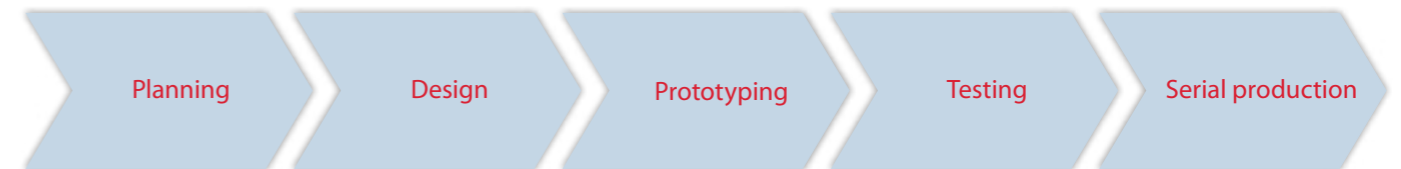


WEST Control Solutions: Your partner for success



Under the “WEST Control Solutions” umbrella brand, four successful companies – PMA, WEST, CAL, and Partlow – have formed an alliance. Consequently, WEST Control Solutions represents more than 80 years of experience in the field of measurement and control. As competent partners, we offer individual hardware and software solutions that are matched precisely to your process and application area – from simple and powerful up to flexible and multifunctional. Hereby, customer-specific control solutions are just as much part of the portfolio as engineering support for special processes or the complete automation of machines and plant.

Benefit from our development competence: Apart from defining your specifications and priorities beforehand, we also take your cost target into account. In addition, we ensure complete product life cycle management. Similarly, you can place full trust in our adherence to schedules: Even with high volumes and tight deadlines, we guarantee short turnaround times and therefore keep down the costs.



varioEC: Controlling, sequencing, visualizing

Compact extruder automation with touchpanel, soft-PLC, and modular multi-controllers

varioEC is based on the compact varioPLC automation unit, which monitors temperatures, heating & cooling output, melt pressure, and drive. The modular concept permits individual extensions to be made at any time.

Plug-in terminal strips ensure fast and highly efficient field wiring to the numerous on-board I/O. Additional plug-in controller modules are detected automatically by the operating system. Via the Ethernet port, the varioPLC can be linked into existing networks very easily. FTP and web services provide convenient access to data and programs. By means of CANopen and an additional optional field bus (CANopen, Profibus DP, Modbus RTU) intelligent sensors and special processing modules can be coupled to the system.

Intuitive operation, automatic diagnostics

Operation of the transparent multi-zone temperature control is done via the varioDISP touch display. Simply by touching the shortcut keys on the graphic display, the operator intuitively accesses the required information of each individual zone. Transparent operation is further supported by real photographs of the injection molder or hot runner with inserted temperature values. Moreover, animated pictographs give instant status information on all zones. For example, trend curves provide detailed records, e.g. of the start-up procedure. During commissioning of complex molds, automatic diagnostic functions generate messages in plain text and detect wrong sensor and zone assignments. In addition, exceeded heating current limits, other disturbances, or incorrect operations are detected.

WEST Control Solutions your global partner for temperature and process control



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