Controllers,
profilers, indicators...

Controllers, profilers,

indicators

...and **much more**

Chart Recorders: for hard copies of all process activities

West Instruments distributes a wide range of Partlow brand digital (microprocessor based) and analogue circular chart recorders. The range provides reliable operation in rugged environments – from light industrial through to extreme industrial wet applications to industry specific flow and relative humidity applications.

Applications include: Plastics forming/Industrial Ovens/Food Processing/Pharmaceutical and Chemical Processing and Pulp and Paper Processing.

Circular chart recorders range in sophistication from a basic one-pen one-process recording instrument to a multiple input, multiple-equation profiling recorder.

They are easily programmable via a front-panel keypad or via serial PC communication.

Thyristors: problem solvers in many guises

Thyristor units are available from 10-2600A, including single, two and three phase units.

The range includes innovative products to solve all of the most commonly encountered application problems, integrating state-of-the-art technology for the ultimate product performance.

There are a wide range of outputs, options and firing types available, including burst and phase angle firing and zero crossing.

Also available is an industrial thyristor package, normally used in applications where many zones are operating (co-extrusion, blow moulding, thermoforming machines and in furnaces to model flat glass etc.)

## Sensors: models available for almost every need

With over 30 years supplying experience of sensors, West's range offers a combination of performance and quality that is hard to beat.

These high quality temperature sensors can be manufactured in many styles, from a simple welded junction joining two dissimilar metals, to mineral-insulated sensors with waterproof connecting heads and adjustable process fittings.

The diverse range of designs means there will be one ideally suited to just about any installation or application.
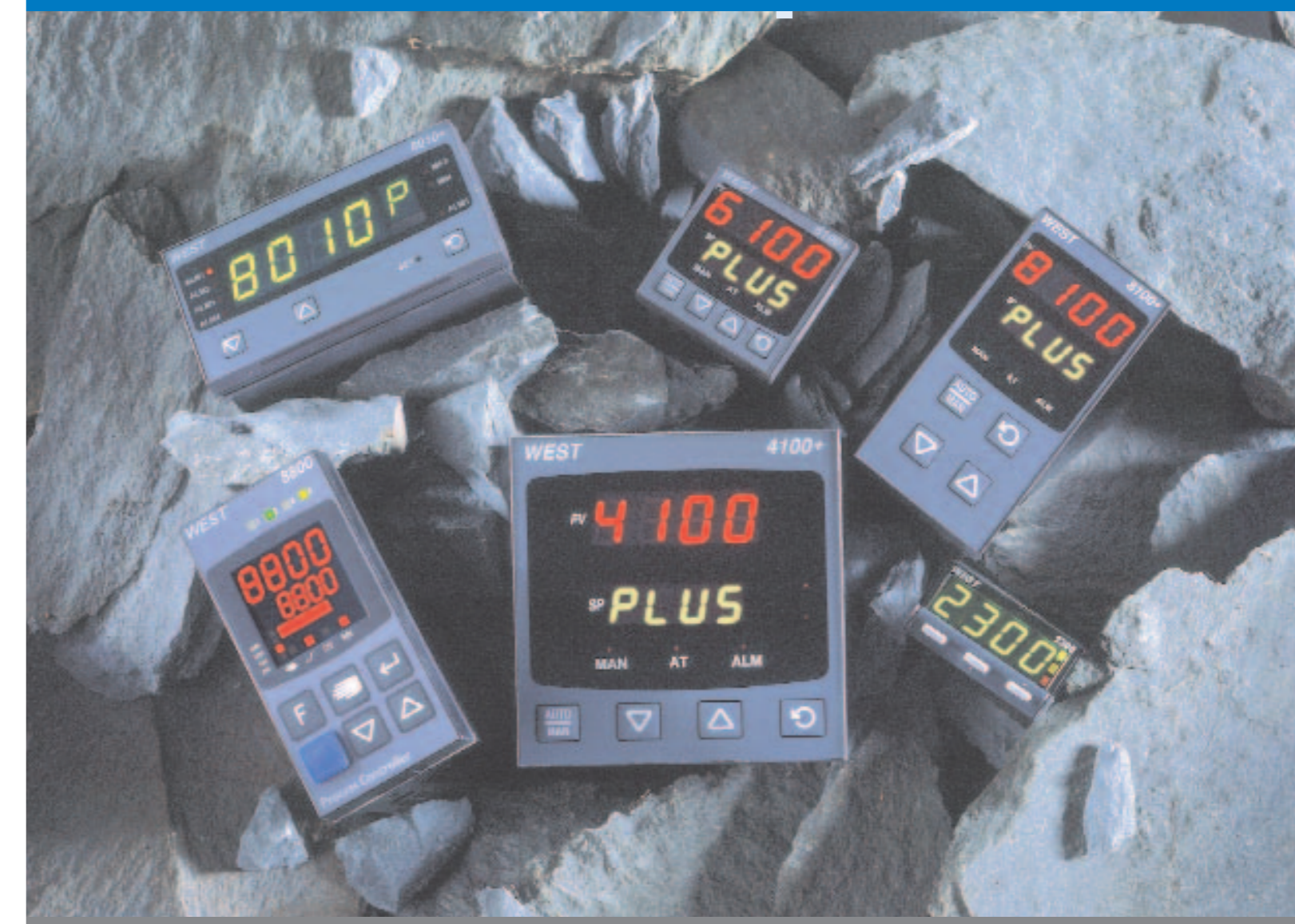
...and the versatility of a range of ancillary equipment

WEST Temperature Control Solutions

West Instruments for controllers, profilers, indicators and
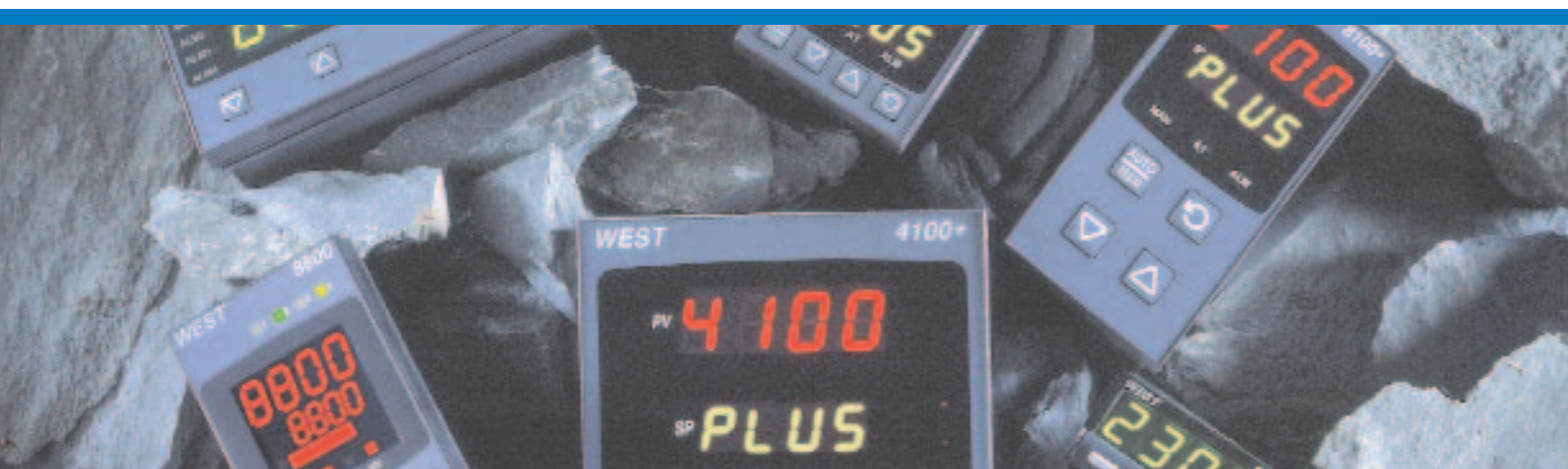
West Instruments: the latest cost-effective technology backed by long experience

As part of the multi billion dollar Danaher Corporation, West Instruments has been developing and supplying process instrumentation for over 60 years. With experience like that, the company knows what customers need and knows how to provide it.

That was true when, back in the 1970's, it became one of the first companies to design a microprocessor-based temperature control device and it's just as true today.

With Worldwide Centres of Excellence in Germany (PMA) and the UK (West), the R&D and manufacturing traditions for the development and manufacture of temperature and process controllers are continued. This has led to innovations such as the new-generation Plus Series instruments, offering faster, easier set up and operation together with improved performance and many other cost saving features.

The West product portfolio also includes limit controllers, profilers and indicators and the company also distributes a wide range of temperature sensors, circular chart recorders, thyristors and actuators.

Contents

Technical Data

Model Number

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
DIN Size	1/32,	1/16,	1/16, 1/8, 1/4	1/8,	1/16, 1/8, 1/4	1/16, 1/8	1/16, 1/8	1/8,	1/16, 1/8, 1/4	1/16,	1/8, 1/4	DIN Rail

Inputs

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
Thermocouple/RTD	●	●	●	●	●	●	●	○	●	●	●	●
DC Linear V			●	●	●		●	○	●	●	●	●
DC Linear mV/mA	●		●	●	●		●	○	●	●	●	●
Remote Setpoint			○		○		○					

Outputs

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
Max. Number of Outputs	3	2	3	3	4-5	4	4-5	3	3	3	3	48
Relay	○	○	○	○	○	○	○	○	○	○	○	○
SSR Driver	○	○	○	○	○	○	○		○	○	○	○
DC Linear			○	○	○	○	○		○	○	○	○
Triac			○	○	○	○	○		○	○		
Transmitter PSU			○	○	○		○		○			

Features & Functions

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
PID Control	●	●	●	●	●	●			●		●	●
ON/OFF Control	●	●	●	●		●			●		●	●
Max. Number of Alarms	2	1	2	2	2	2	5		3	2	2	64
Retransmission Output			○	○	○	○	○	○	○	○	○	○
Heater Break Alarm				○		●						○
RS485 Communications	○		○	○	○	○	○	○	○	○	○	○

Tuning

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
Pre-tune	○		●	●	●	●				●	●	●
Easy-tune	●	●										●
Self-tune			●	●	●	●					●	●
Manual Tuning	●		●	●	●	●				●	●	●

Power Supply

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
100 – 240V AC	○	○	○	○	○	○	○	○	○	○	○	
20 – 50 V AC/22 – 65V DC		○	○	○	○	○	○	○	○	○	○	
12 – 24V AC/12 – 30V DC	○											18-30V DC

Function

	2300	6500	P6100 P8100 P4100	8800	P6170 P8170 P4170	6600 8600	P6010 P8010	8080	P6700 P8700 P4700	6400	4400 8840	MLC 9000+
Indicator	○						●	●				
Temperature Controller	○	●	●	●		●						●
Process Controller	○		●	●								●
Valve Controller				●	●				●		○	
Limit Controller									●			
Profiler / Controller										●	●	

● Fitted as Standard
○ Option

Whatever the process, **from ceramics to industrial heating…**

6600/8600: heater-break controllers for the plastics sector

The 6600 and 8600 controllers have been designed specifically for control of temperature in plastic forming applications. They provide early warning of heater element failure prior to production problems, thus improving production quality and reducing the incidence of scrap.

A low, high and short-circuit heater break alarm are all available at the same time to provide essential protection.

Front panel indication of heater failure is backed up with visible current and process variables shown on the dual colour four-digit displays.

Features include:
• Soft start
• Ramping setpoint
• Process & heater alarms
• Triac output
• Current 'Quick Transfer'
• Heat/Cool operation

6700+/8700+/4700+: limit controllers

The Plus Series limit controllers provide a latched relay output which is activated when process parameters either exceed or fall below the desired value, providing a fail safe cut-off which has to then be reset before the process can continue.

LED indication shows when limits have been exceeded and when the relay is latched out.

With a full range of universal sensor input options, the Plus Series range provide a valuable safety control element for most systems.

Features include:
• Improved, easy to use HMI
• Configuration via PC / Customisable operator menu
• Auto-hardware detect/set-up
• Modbus communications across the range (as well as West ASCII)
• Jumperless configuration
• FM approval

6170+/8170+/4170+: valve motor control

The NEW 6170+, 8170+ and 4170+ are a range of Plus Series controllers and have been designed specifically for open loop valve motor drive (VMD) applications. They feature an improved Plus Series interface and greater field flexibility.

A unique VMD tuning algorithm continuously monitors the process to provide stable control at all times.

In addition to the VMD outputs, further output options exist which can be designated as outputs for alarms, 24VDC transmitter power supply or retransmit of process value or setpoint.

Features include:
• Valve Position Indication
• Jumperless Configuration
• Auto or Manual tuning
• Process & Loop Alarms
• Remote/Dual Setpoint Options
• Modbus Communications
• Auto-Detected Hardware

The 2300 – A basic 1/32 DIN controller / indicator

The 2300 is available as a controller or indicator. Small size does not come at the expense of features; it has large displays, 2 amp relays and full 3-wire PT100 inputs.

This 2300 has a 4 digit display that can be specified in either red or green. It also offers 3 additional multi-colour LEDs to indicate alarm status and configuration mode.

The controller features our hands-free Easy Tune algorithm, full universal inputs and a relay output.

The 2300 indicator has universal input options which include Thermocouple, RTD & DC.

Features include:
• 3-Wire PT100, T/C or mV/mA Input
• 0.1% Accuracy
• Up to 2 process alarms
• Manual/Easy Tune
• Setpoint Lock
• On Control Indication

8080 Indicators: process changes at a glance

The West 8080 offers highly accurate process monitoring and unparalleled display quality. It features a custom-designed LED 5 digit display which offers larger, clearer numbers than other instruments of the same size.

There is a choice of colour for the display and this can be set up to change (green to red) to indicate alarm status.

With either temperature or process inputs available and a choice of alarm and re-transmission outputs, the 8080 can serve most process indication requirements.

Features include:
• Security lock
• Colour change on alarm
• Process transmitter PSU
• Min/max value hold
• PV retransmit option
• 2 process alarms
• RS485 Comms

6010+ 8010+ Indicators: a versatile and highly visible option

The 8010+ and 6010+ are a new range of panel indicators, designed for use in a wide variety of applications. They offer fast, accurate and easy to read displays; together with quick and simple set-up procedures.

The 8010+ provides a new dual-colour display option; it is now available with red, green, or green to red colour change displays.

Plug-in modules allow PV retransmission or Transmitter Power Supply and up to 5 alarm relays on the 8010+ and up to 4 on the 6010+.

Features include:
• Up to 5 outputs
• Tare function
• Modbus and ASCII Communications
• PC Configuration
• Self-recognition of option boards
• Jumperless configuration

…and for anything from lab ovens to extruders, West has the solution

The flexibility of multiple loop control…   much more…

4400 and 6400: profiling performances that are hard to beat

The 4400 can create a profile with anything from 1 to 121 segments, store up to 8 programs and configure and store extra programs on a PC.

The 6400 is a leader in its class, offering a 4 recipe, 16 free-format segment profiling capability and unrivalled ease-of-use.

4400 features:
- 'Auto Hold' facility
- Remote run hold
- Remote programme select
- 4 event outputs
- Real-time clock
- Power failure recovery

6400 features:
- Fast accurate control via raPID fuzzy logic
- Saves up to 4 programmes in memory
- Programming in rate or time mode
- Guaranteed soak to protect production quality

MLC 9000+: compact multi loop controller

Versatile
Each MLC 9000+ system comprises up to 32 loops via a communication module and up to 8 control modules. Communication options include Modbus, DeviceNet, PROFIBUS, CANopen, Ethernet/IP and Modbus/TCP. Control modules are available with 1, 3 and 4 loops. Heater break inputs are available on 1 and 3 loop modules.

Less trouble than discrete controllers
Switching to one, neat MLC 9000+ significantly reduces installation time and cost. The MLC 9000+ involves less wiring with no need for panel cut-outs.

Better temperature control
Moving temperature control from a PLC/PC to the MLC 9000+ improves performance.

Benefits include:
- Quicker to setpoint and faster reaction to disturbances
- No need to manually tune loops
- Set up 32 loops in under 30 minutes
- Free up PLC capacity by 'outsourcing' loop control to the MLC 9000+

Easy to integrate into the master device
Setting up communication between the MLC 9000+ and the master device is simplicity itself. A 'drag and drop' feature in the configurator selects the parameters presented to the master device.

The configurator then automatically generates a custom file that can be imported into the master device.

Maximise up-time
The MLC 9000+ features a true hot-swap facility. A module can be removed, replaced and automatically re-configured and back in service in under 30 seconds! There is no need to touch the remaining control modules – allowing them to continue functioning when any of the other modules are removed.

HMI's: seeking the best match for the best performance
West also sells a wide range of HMI's, specifically for use with the MLC 9000+

The 6500: A basic 1/16 DIN controller

The 6500 is a simple, no frills 1/16 DIN controller offered at a competitive price.

Added to this are excellent display characteristics represented by a highly visible three-digit display and clear go/no go indication.

Features include:
- Easy Tune (PID) or On/Off
- Setpoint lock
- On control indicator
- Alarm lock
- Optional process alarm
- Adjustable PV offset

The benefits of the 6500 are:
- straightforward operator interface
- simple set-up
- ease of use
- a fast 'up-time' over a defined range

6100 +/8100+/4100+ discrete temperature controllers

The Plus series controllers combine sophisticated functionality with in-built versatility and ease-of-use to provide a range of controllers to suit most process environments.

Because their inputs and outputs are all plug in, including relay, SSR, triac, linear and digital, they can be easily customised as required.

Other features include:
- Jumperless configuration – one less area for potential error
- Auto-hardware detect/set-up – to reduce set-up times
- NEW options of remote set point (RSP) and transmitter power supply (TxPSU)
- Configuration via PC / Customisable operator menu
- Improved, easy to use HMI – making set-up process quick and easy

8800/8840: advanced temperature & process controllers

The 8800/8840 controllers offer the best in advanced process control for demanding applications. They provide a choice of simple 2-point (on/off) control, continuous PID control or VMD (valve motor drive).

Every 8800 and 8840 comes fitted with 4 process outputs – either relays or up to 2 universal outputs that can be used for operating a solid-state relay, linear current/voltage output or to power a two-wire transmitter.

Features include:
- Front Comms port & PC configuration software
- 2 or 3 Analogue inputs
- Valve motor drive with/without position feedback
- Maintenance manager and error list
- Self tuning to the setpoint without oscillation
- High visibility display sharing plain text or bargraphs

…offering superior, cost-effective performance – whatever your needs