

# ProVU: advanced temperature and process control

Powerful, flexible and simple to use



# ProVU: powerful, flexible and easy to use

ProVU combines advanced programming and data logging with single or dual loop control in an integrated, cost effective unit.

West Control Solutions is a leading manufacturer of a diverse portfolio of advanced control devices for use in many different industrial and process applications.

ProVU advanced temperature and process controller, designed to be flexible, efficient and simple to operate, with a comprehensive choice of features including colour LCD graphics display with colour change green/red backlighting.

In particular, ProVU features single or dual independent control loops, making the system ideal for demanding or complex processes, such as those in environmental chambers and autoclaves.

ProVU is powerful and easy to program and offers full data logging facilities, with extensive text and graphics display options, plus the ability for remote configuration from a PC using the BlueControl® software suite.

### Applications:

- Industrial furnaces, ovens and burners
- Product hardening processes
- Autoclaves
- Refrigeration systems
- Ceramic furnaces
- Drying systems
- Food and beverage production plants
- Textile machinery
- Tunnelling systems

And much, much more...

# Advanced Process Visualisation, simple user interface and powerful data management



### 1. Full graphic LCD display

- Descriptive process status
- Clear, unambiguous text messages
- Optimised menu structures
- Red/green colour change on alarms and events

### 2. Data logging and configuration

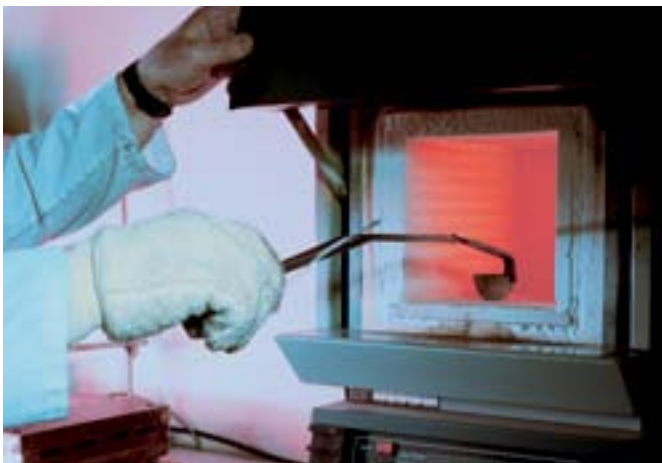
- Data export via USB port or interface
- Recording of process values, setpoints and alarms
- Download/upload configuration data via a USB memory stick



Food and beverage



Ceramics



Ovens



Autoclaves



### Programmer functions

- Programmer with 2 profiles
- 255 segments in up to 64 programs
- Graphic display of the program values
- Program selection via digital inputs (BCD or binary)
- Up to 5 event outputs
- Timer function
- Real-time clock
- Auto-hold feature
- Hold time/step/event/loop/jump to another program functions



### Communication

- RS485 interface ModbusRTU
- Ethernet interface ModbusTCP
- USB front interface for configuration and data reading



### Alarm

- Absolute or deviation alarm
- Up to 8 alarms
- High, low or band alarm types
- Loop alarm



### User interface

- Full graphic LCD display
- Colour red/green
- Inverse display
- Customer-specific texts possible
- 4 status LEDs are user configurable



### Control

- Single or dual control loops
- Heat only, heat/cool, valve motor drive
- PID or on/off control
- Manual or auto tuning
- Ratio or Cascade control capability



### Outputs

- A maximum of seven outputs for each configuration
- SSR/Triac/mV/mA transmitter outputs and supply



### Inputs

- 2 Universal TC/RTD/mV/mA
- Galvanic isolation between inputs
- Up to 10 digital inputs



### Data Logger/recording function

- Data collection for actual values, set points and alarms
- Storage interval 1sec to 30min



### Configuration and evaluation

- Offline and online configuration of the controller
- Offline simulation tools
- Download function for the data logger
- Evaluation of historical data

# Specifications

## Features

Control mode	Full PID with pre-tune, auto-pretune, self-tune or manual tuning, heat only or heat & cool
Auto manual	Selectable with 'bumpless' transfer when switching between auto and manual control
Output configuration	Up to 9 for control, alarms, profiler event outputs, 24VDC transmitter power supply & retansmission
Alarms	Up to 5 alarms; selectable alarms as process high, process low, deviation & band, plus sensor break and loop alarms. Logical OR alarm
Display	160 x 80 pixel, monochrome graphic LCD with a dual colour (red/green) backlight
PC Configuration	BlueControl® configuration and commissioning software

## Input

Thermocouple	J, K, R, S, T, B, C, D, E, L, N, PtRh 20%: 40%
RTD	3 wire PT100, NI120
DC Linear	0-20mA, 4-20mA, 0-50mV, 10-50mV, 0-5V, 0-10V, 2-10V (0-100mV and 2Kohm pot also on aux-B input) scaling - 1999 to 9999
Accuracy	±0.1% of input range ± 1 LSD, Thermocouple CJC, (Aux Input : ±0.25% of input range ± 1 LSD)
Sampling	Process input 10 per second, Aux input: 4 per second
Sensor break	Detected within 2 secs, control goes to user preset power value
Digital Inputs	Functions: setpoint select, control output, enable/disable, auto/manual control, profiler run/hold/abort, datalogger start/stop Volt free contact or DC voltage: open contact / 2 to 24VDC signal = Logic high, closed contact / - 0.6 to 0.8 VDC signal = Logic low

## Outputs

Relay	Single relay: 2A resistive SPDT at 120/240 VAC, > 500,000 operations Dual & Quad relay: 2A resistive SPST at 120/240VDC, > 200,000 operations (dual) or > 500,000 operations (quad)
SSR Driver	Voltage > 10V into 500Ω min
Triac	Operating voltage: 20 to 280Vrms (47 to 63Hz), Rating 0.01 to 1A @ 25° C
Linear DC	Ranges: 0-5V, 0-10V, 1-5V, 2-10V, 0-20mA & 4-20mA (selectable) ± 0.25% of range (mA@250Ω, V@2kΩ)
Transmitter PSU	Power rating 24V nominal (19 to 28VDC) into 910Ω min (option to use DC linear output as 0-10V adjustable Tx PSU)
Communications	RS232 via RJ11 cable (configuration only) RS485 - Modbus RTU master or slave, Ethernet - Modbus TCP slave (10 base - T or 100 base - T) Ver 1.1/2.0 USB host for memory stick

## Profiler

Memory	255 segments can be freely allocated in up to 64 programs
Segment types	Ramp (rate or time), dwell (soak), hold (manual guaranteed soak or real-time profiling), loop (to previous segment), join another profile, end or repeat sequence
Control	Run, hold, abort, profile select, jump to next segment, delayed profile start, real-time clock profile start

## Datalogger

Data record options	PV (Process variable), max and min PV between samples, actual SP (setpoint), output power, alarm & event status, power on/off
Recording modes	FIFO (circular buffer) or run-then-stop (fixed buffer)
Recording Interval	1, 2, 5, 10, 15, 30 sec or 1, 2, 5, 10, 15, 30 min
Control	Manual; serial comms; digital input; synchronised with profile; PV rate of change; log on alarm

## Environmental

Standards	CE, UL, cUL. EMI - EN61326, Safety EN61010-1 & UL61010C-1 Pollution degree 2, Installation category II
Protection	Fascia IP66 (IP65 with USB fitted), Behind panel IP20
Dimensions and weight	Front Panel 96 x 96mm (Panel cutout 92 x 92mm ), Behind panel depth - 117mm, 0.65kg maximum



**WEST Control Solutions - your global partner for measurement and control technology**

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