

Product Catalog

A comprehensive range of temperature and process control instrumentation



About West Control Solutions

West Control Solutions is a global specialist in the design and manufacture of process and temperature control instrumentation. Through our leading product brands - CAL, PMA and West – we have been providing first-class, reliable control solutions for almost a century.

Our easy-to-use products can meet a variety of demands from offering simple, entry-level temperature controllers through to highly sophisticated, functionally-rich solutions for even the most complex of control applications. Our comprehensive product range is routinely selected for use in a number of industrial and scientific applications including plastics and extrusion, ovens and furnaces, laboratory and test equipment, packaging, food and beverage.

As the specialists in temperature control, our products are supported by a dedicated team of experienced temperature control experts, who can provide in-depth application expertise and advice.

West Control Solutions is headquartered in the UK with offices worldwide and a global network of carefully selected distribution partners.







www.West-CS.com

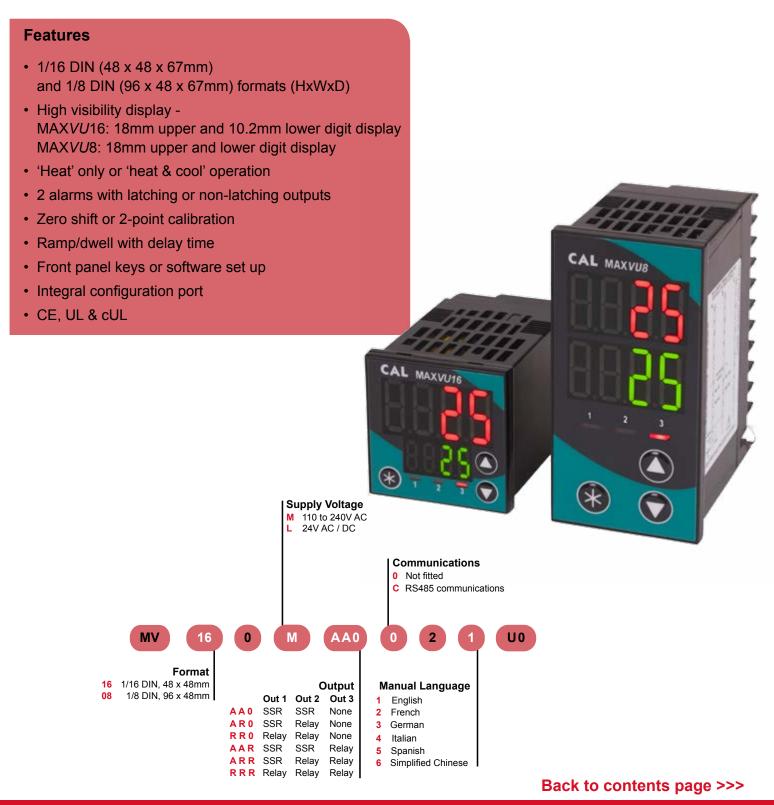
Contents

Single Loop Temperature Controllers	4	245 30.0 0000
Multi-loop Temperature Controllers	14	
Rail-mounted Devices	20	
Indicators	27	8848
Limit Devices	31	Bass
Thermostats	33	1 5 B
Solid State Relays	37	
Thyristors	40	23
Paperless Recorders	43	

Single Loop Temperature Controllers

MAXVU16 & MAXVU8 Single Loop Controllers

The new MAXVU is a cost effective temperature controller which is fast-to-configure, has improved display visibility and reduces costs by minimising wiring and panel space.



CAL 3200 Simple PID Temperature Controller

The compact CAL 3200 1/32DIN temperature controller is designed to be easy-to-use and reliable within the most demanding process and manufacturing applications.

Designed for industrial or scientific applications CAL3200 has an impact resistant smoked fascia with large rubberised buttons with positive feedback. PID tuning is simple and efficient whilst the unique dAC function minimises overshoot.

Features

- 1/32 DIN (24 x 48 x 102mm)
- Thermocouple, PT100 (2 wire) and mV sensor input
- 1 x 4 digit LED display with output LED
- · 2 outputs; Relay and SSd
- · Easy-to-use autotuning
- · Simple menu-driven configuration
- · Removable terminal block for easy wiring.
- · IP66 protection
- UL, CUL



3300, 9300 & 9400 Temperature Controllers

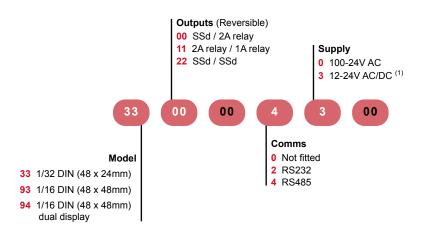
The CAL range provides a choice of compact, efficient temperature controllers. The easy-to-use controllers provide essential temperature control functionality including heat/cool operation and a simple ramp/dwell program. Integrated auto-tune for optimum PID settings is included and the CAL controllers also offer a unique dAC function to minimise overshoot.

Features

- 1/32 DIN (24 x 48 x 107mm) and 1/16 DIN (48 x 48 x 107mm) formats (HxWxD)
- Thermocouple, PT100 (2 wire) and mV sensor input
- Two outputs plus RS232 or RS485 MODBUS comms options
- Simple menu-driven setup
- · Single ramp/soak (dwell) program
- · Heat/cool operation
- · IP66 protection







(1) Models 3311, 9311, 9400, 9411 and 9422 are not currently available in low voltage 12-24V option.

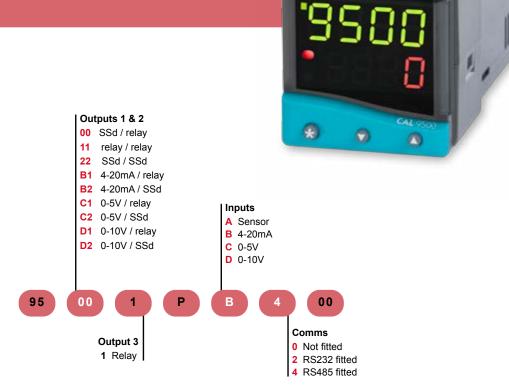
9500P Programmable Controller

The CAL 9500P is ideal for applications requiring programmable temperature control in a compact 1/16th DIN unit. The Controller features up to 31 programs with up to an overall total of 126 segments.

Set up of the instrument can be carried out using the front buttons. Alternatively, CALgrafix software is available to quickly configure a unit and easily create programs using the graphical 'drag and drop' feature. Users are able to clone settings for the configuration of multiple instruments in a single network.

Features

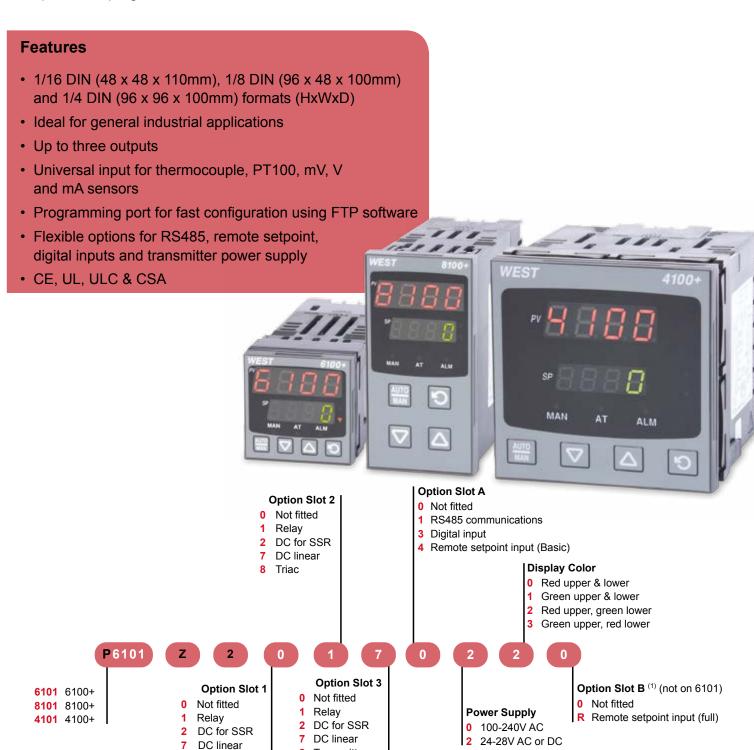
- 1/16 DIN (48 x 48 x 107mm) format (HxWxD)
- Thermocouple, PT100 (2 wire), mA, V and mV sensor input
- Three outputs plus RS232 or RS485 Modbus comms options
- Up to 126 segments shared in up to 31 Programs (memory dependant)
- · Memory usage indication during programming
- Profiler functions include event outputs, loop, call, hold back, loop, call and 3 power recovery modes
- · Simple menu-driven setup
- Graphical profile setup using CALgrafix software
- Heat/cool operation
- IP66 protection
- · CE, UL & CSA



6100+, 8100+ & 4100+ Temperature Controllers

The Plus series of controllers are used in a broad range of temperature and process control applications due to their built-in versatility and ease-of-use. Input and output options include relay, SSR, transmitter power supply, linear remote setpoint and digital.

Control functionality includes remote and dual setpoint options, heat/cool control and setpoint ramping.



8 Transmitter

power supply

Transmitter

power supply

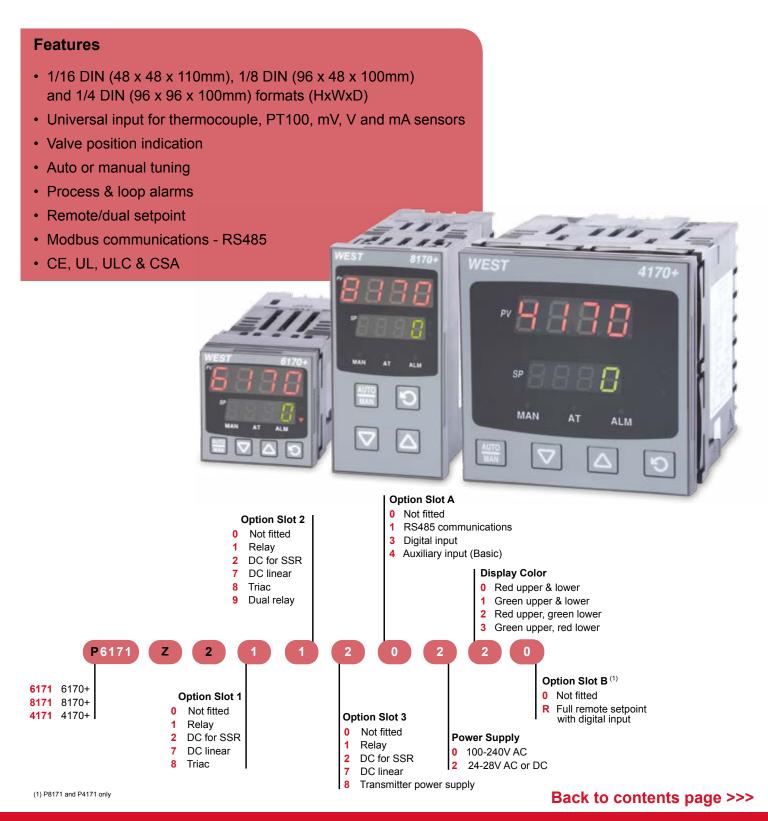
Back to contents page >>>

(1) Not on 6101

6170+, 8170+ & 4170+ Temperature Controllers

The 6170+, 8170+ and 4170+ have been designed specifically for open loop valve motor drive (VMD) applications.

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



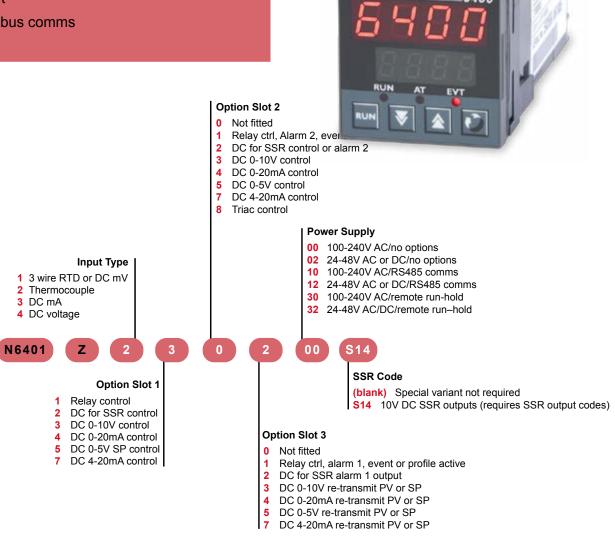
N6400 Programmable Process Controller

The N6400 is a powerful, single loop programmable controller for complex processes. It offers profiling capability with 4 programs each of 16 free format segments.

The N6400 is an easy-to-use controller, which benefits from an informative display providing maximum process information at a glance. A dedicated configuration port allows configuration directly from a PC and allows for the development, transfer and storage of recipes by dedicated software.

Features

- 1/16 DIN (48 x 48 x 110mm) format (HxWxD)
- · Fast and accurate control via raPID fuzzy logic
- · 4 programs with 16 free-form segments
- · Program ramps in rate or time mode
- 'Auto hold' facility, remote run hold, event output, power failure recovery and guaranteed soak
- Delayed start
- RS 485 Modbus comms
- CE & cULus



Pro-16 Advanced Process Controller

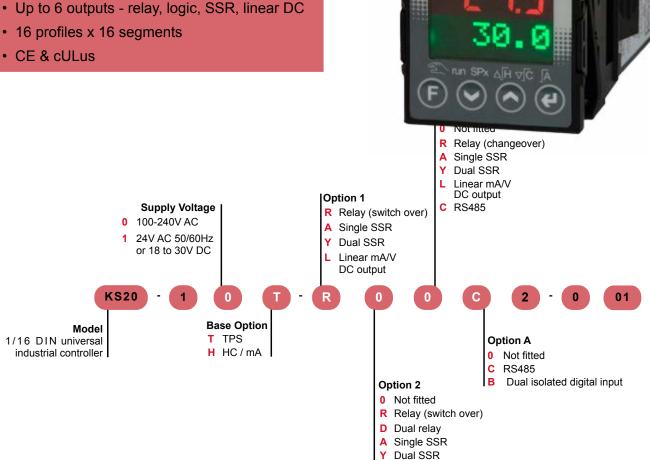
A compact, fully featured controller for demanding applications.

Pro-16 is the only controller of its size, flexible with up to 6 outputs, 2 digital inputs, a remote setpoint input, RS485 communications and linked to best in class BlueControl[©] software.

The Pro-16 offers many integrated features for unrivalled performance such as two PID sets to ensure reliable control over a wide setpoint range and separate PID for heat and cool strategies for optimised control and stability. Extensive flexibility is offered with 1 universal input and 1 optional, up to 4 digital inputs, 6 outputs and an inbuilt profiler.

Features

- 1/16 DIN (48 x 48 x 118mm) format (HxWxD)
- 1 universal input + 1 optional
- · Up to 4 digital inputs
- Heater or remote setpoint current input
- Customer specific linearisation for sensors
- Transmitter power supply



Pro-8 Differential Temperature Controller

The Pro-8 offers many integrated features for unrivalled performance such as two PID sets to ensure reliable control over a wide setpoint range and separate PID for heat and cool strategies for optimized control and stability. The Pro-8 controller includes soft start and heater boost functionality.

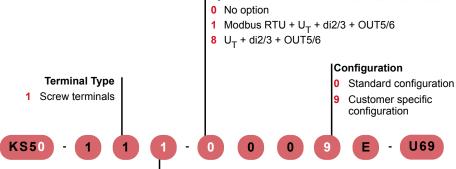
Extensive flexibility is offered with 1 universal inputs and 1 optional, up to 3 digital inputs, 6 outputs and an inbuilt profiler with 10 segments.

Meeting challenging application requirements through a high level of I/O, advanced control capability and offering the best-in-class configuration software, BlueControl[©].

Features

- 1/8 DIN (96 x 48 x 118mm) format (HxWxD)
- Up to 10 segments
- BluePort® front interface and BlueControl® software
- · Maintenance manager and error list
- · One universal input and one optional input
- · 2 PID set manually selectable
- · Self-Tuning at start-up and setpoint
- RS 422/485 Modbus RTU interface
- Built-in transmitter power supply
- CE & cULus





Options

Power Supply & Control Outputs

- 0 90-250V AC, 3 relays
- 1 24V AC / 18-30V DC, 3 relays
- 2 90-250V AC, INP2, 2 relays + mA//V/logic
- 3 24V AC / 18-30V DC, 2 relays + mA/V/logic
- 4 90-250V AC, 2 relays (Wechsler) + mA/V/logic

Pro-4 Temperature Regulator Controller

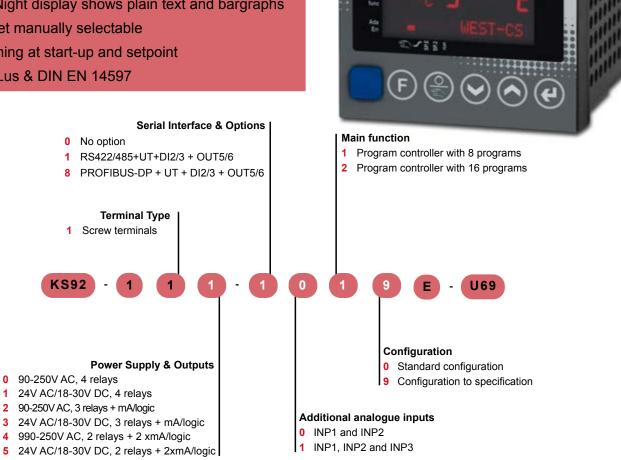
The Pro-4 offers many integrated features for unrivalled performance such as two PID sets to ensure reliable control over a wide setpoint range and separate PID for heat and cool strategies for optimized control and stability.

Extensive flexibility is offered with 2 universal inputs and 1 optional, up to 3 digital inputs, 6 outputs and an inbuilt profiler with 16 segments x 16 profiles.

Meeting challenging application requirements through a high level of I/O, advanced control capability and offering the best-in-class configuration software, BlueControl[©].

Features

- 1/4 DIN (96 x 9 x 118mm) format (HxWxD)
- · Up to 16 programs with 16 segments each
- 4 control (event) tracks
- · Plain text program names
- BluePort[®] front interface and BlueControl[©] software
- · Maintenance manager and error list
- · Two universal inputs
- Day & Night display shows plain text and bargraphs
- · 2 PID set manually selectable
- Self-Tuning at start-up and setpoint
- CE, cULus & DIN EN 14597



(1) only available with screw terminals

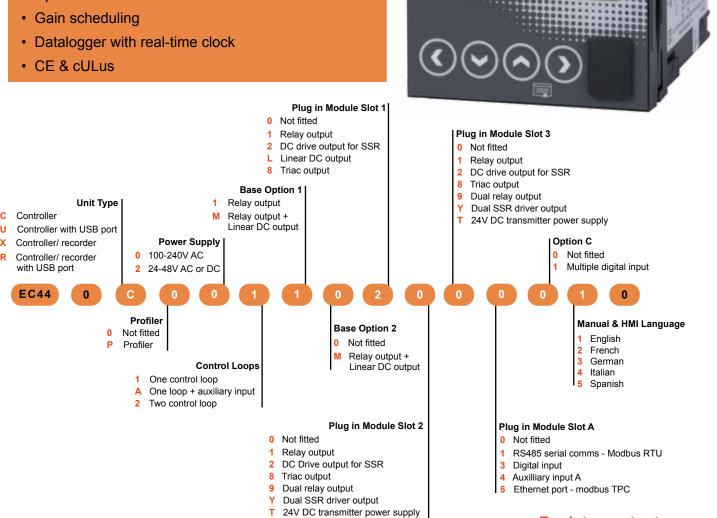
Multi-loop Temperature Controllers

Pro-EC44 Single or Dual Loop Controller

Pro-EC44 is designed to simplify user setup, step by step configuration with a wizard saves needing to work through several menus for initial configuration of common settings. A logical menu structure for intuitive navigation allows fast changes and updates to individual settings. Alternatively Pro-EC44 can be set up through the BlueControl[©] PC software.

Features

- 1/4 DIN (96 x 96 x 117mm) format (HxWxD)
- · Single or two loop
- · Supports cascade and ratio control
- Graphical / text display (red/green backlit LCD)
- · Profiler 255 segments shared by up to 64 programs
- · USB configuration and data access
- Modbus RS485 or Modbus TCP Ethernet
- Up to 5 PID sets



PRO-EC44

MLC 9000+ Compact Multi-loop Controller

The MLC 9000+ system comprises 1 to 8 control modules. 1, 3 & 4 loop modules are available (control up to 32 loops per system), with heater break options on 1 and 3 loop modules. Communication options for connecting to a PLC, HMI, PC or SCADA include Modbus, Devicenet, PROFIBUS, Ethernet I/P and Modbus TCP.

The MLC 9000+ features a hot swap facility, a module can be replaced and back in service within 30 seconds due to automatic reconfiguration.

Features

- Bus Module: 100 x 30 x 120mm format
 Loop Module: 100 x 22 x 120mm format (HxWxD)
- · Quick to setpoint and fast reaction to process disturbances
- On-demand and auto-tuning no need to manually tune loops
- · Set-up 32 loops in less than 30 minutes
- Only buy the loops required no need to buy in multiples of four
- CE & UL

Bus Modules

MLC 9000

BM220 MB

BM220 - MB Modbus RTU
BM230 - DN DeviceNet
BM240 - PB Profibus-DP
BM250 - EI Ethernet/IP
BM250 - MT Modbus/TCP

Loop Modules

MLC 9000

Z1200

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Z1200	One universal input, two SSR/relay outputs
Z1300	One universal input, two SSR/relay outputs and one linear output or three SSR/relay outputs
Z1301	One universal input, one heater break input, two SSR/relay outputs and one linear output or three SSR/SP relay outputs
Z3611	Three universal inputs, one heater break input, six relay outputs
Z3621	Three universal inputs, one heater break input, six SSR outputs
Z3651	Three universal inputs, one heater break input, six outputs (three SSR/three relay)
Z4660	Four universal inputs, six outputs (four SSR/two relay)
Z4610	Four universal inputs, six relay outputs

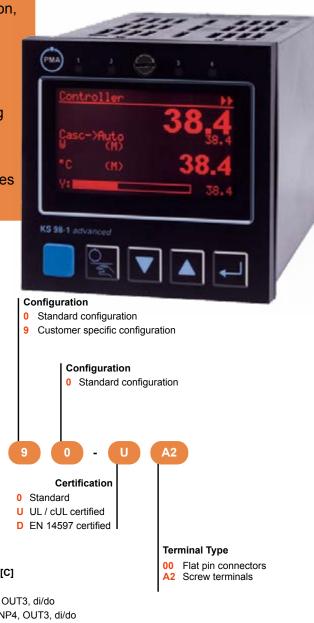
Back to contents page >>>

Z4620 Four universal inputs, six SSR outputs

With its compact design and freely configurable functionality, KS 98-1 makes it possible to create flexible solutions for complex process control tasks. And its full graphical LCD display (160 x 80 pixels) sets new standards. Individual plain text lines can be displayed with the current function states. Choose to visualise setpoint and actual values or manipulated variables either in bar graphs or trend curves.

Features

- 1/4 DIN (96 x 96 x 118mm) format (HxWxD)
- Front interface, graphical engineering tool and simulation, parameter setting via BlueControl[©]
- Extended and improved operator functions
- Tailor-made operating concepts in user language
- All automation functions in one unit: controlling, computing, sequencing, visualising, operating, alarming and many more ...
- Built-in analogue and digital I/O
- I/O extension via CANopen or integrated plug-in modules
- CE, cULus & DIN EN 14597



Option B Serial Interface

- 0 No Interface
- 1 TTL-Interface + di/do
- 2 RS422 + di/do + clock
- 3 ProfiBus DP + di/do

Basic Unit

- 0 KS98 standard
- 1 KS98 with TPS
- 2 KS98 with CANopen (1)

KS98



Power Supply & Control Outputs

4 90-250V AC, 2 relays + 2 current outputs

5 24V UC, 2 relays + 2 current outputs





























Additional I/O [C]

- No option
- 1 INP3, INP4, OUT3, di/do
- 2 INP3 (nV), INP4, OUT3, di/do
- 3 Basic card without module (2)
- 4 Basic card with ordered module (2)

0 90-250V AC, 4 relays

1 24V UC, 4 relays

⁽¹⁾ Not possible with Modular Option C RM 200 not included in UL/cUL approval

⁽²⁾ Not possible with CANopen I/O modules must be ordered separately! Mind possible combinations and power limitations

KS 800 & KS 816 Multi-loop Controllers

The KS 800 multi-loop controller handles 8 zones simultaneously and can be configured as a signal device, 2-point controller, 3-point controller, cascade controller or stepping motor controller.

In the 2-point and 3-point configurations, it can also be set up as a continuous and splitrange controller. With functions such as "setpoint reduction" and "heating/cooling with four alarms", it is particularly well-suited for temperature control in plastic processing machines, packaging machines and tempering equipment or for similar thermal processes.

An extensive array of special functions and a precise and autonomous algorithm takes the load off of PLCs and IPCs. As an option, the field bus can be connected via CANopen, DeviceNet or Profibus DP. With the KS 816 version of the multi-loop controller, the control output signals are transmitted to the decentralised actuators via the bus. The 16-channel controller can also be used as a powerful universal transmitter.

Features • 170 x 124 x 85mm format (HxWxD) • 8/16-channel controller in housing for rail mounting • Monitoring for heating current and complete control loop • Direct connection of melt pressure sensors • Universal inputs for thermocouple and RTDs • cULus KS 800 Option 0 Without additional outputs 1 8 x 20mA outputs 3 Constant voltage source, 2 relays for melt pressure sensors

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Back to contents page >>>

9407-480

0 KS800 RS (ASCII)

3 KS800 DP (ProfiBus)6 KS800 CAN (CANopen)7 KS800 DN (DeviceNet)

8 Loop Controller

KS Vario Multi-loop Controller

The KS vario multi-loop controller system was specifically developed for temperature control. In its basic configuration it comprises a controller module and a field bus coupler. Together these two components already constitute a valuable 4, 6 or 8-channel controller.

By adding any number of I/O modules, the system can be expanded up to 30 control loops very economically and in precise increments. The number of I/O module used need not exceed the actual number of inputs or outputs required.

Features

- · Compact and modular design
- · Open for all major industrial field buses
- Between 4-30 temperature zones can be controlled
- · Additional measurements can be integrated
- · Highly modular expansion
- · Detachable connectors
- · CE, UL & CSA



Buscoupler



KSVC - 1 0 1 - 0 0 1 1 1 - U 00

Option

- 1 Profibus-DP/V1
- 2 CANopen
- 3 Modbus TCP
- 4 DeviceNet
- 5 Modbus RTU
- 7 Profinet
- 8 Ethernet IP

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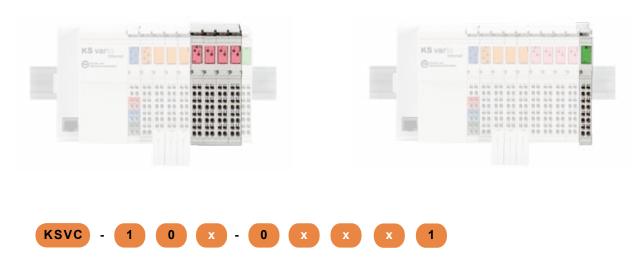
Controller



Option

- 33 KS VARIO T4/RTD
 Vario temperature controller, 4-channel, spring-clamp connection,
 labeling field, 4 inputs, RTD (resistance element), 3 wire connection +
 screening, 6 outputs 24 V DC, 1 heating current input, I/O extensible
- 43 KS VARIO T4/UTH
 Vario temperature controller, 4-channel, spring-clamp connection,
 labeling field, 4 inputs, TC (thermocouples), 2 wire connection +
 screening, 8 outputs 24 V DC, 1 heating current input, I/O extensible
- 34 KS VARIO T6/RTD Vario temperature controller, up to 30-channel, spring-clamp connection, labeling field, 6 inputs, RTD (resistance element), 3 wire connection + screening, 6 outputs 24 V DC, 1 heating current input, I/O extensible up to 30 channels
- 44 KS VARIO T8/UTH
 Vario temperature controller, up to 30-channel, spring-clamp connection,
 labeling field, 8 inputs, TC (thermocouples), 2 wire connection + screening,
 8 outputs 24 V DC, 1 heating current input, I/O extensible up to 30 channels

I/O Extension



For a full list of available modules please refer to the KS Vario price list or visit **www.West-CS.com** to get in contact.

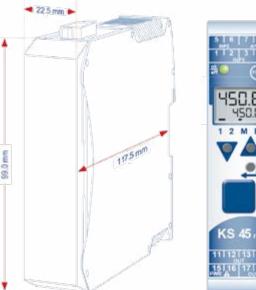
Rail-mounted Devices

RaiLine

Decentralised installations with field bus systems are finding increasing use in process and machine automation. In order to ensure reliable control in these allocations – also involving complex processes – modular components with additional functionality are required. The flexible RaiLine system, WEST Control Solutions offers a comprehensive product portfolio for decentralised automation.

The combination of RL field bus couplers (for Profibus, CAN, Modbus TCP and Modbus RTU) with various I/O-modules, KS 45 universal controller, Uniflex CI 45 and SG 45 transmitters and the TB 45 temperature limiter, permits modular systems with distributed intelligence to be created.

The space-saving modules for rail mounting and other universally applicable system components help to save time and costs during system configuration, engineering and commissioning.



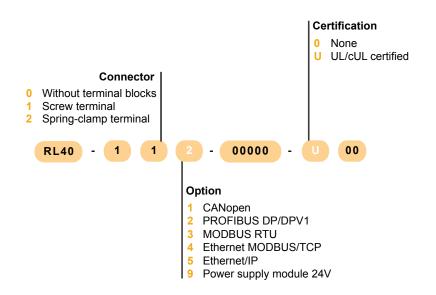
Features

- 96 x 22.5 x 117.5mm format (HxWxD)
- Field bus coupler for Profibus, CAN, Modbus TCP, Modbus RTU and Ethernet IP – ensures cost-effective and convenient connections to PLC, IPC and operating terminals
- · Bus monitoring
- Pre-defined output states in case of communication failure
- Compact design modules only 22.5 mm wide
- 3-key operation and multi-line LC display
- Plug-in terminals no wiring to disconnect in case of module replacement
- Module replacement during operation (hot swap)
- BluePort[®] front port
- PC configuration tool BlueControl[©]
- · Cost advantages during projecting, implementation and maintenance
- Local operation
- · Freely configurable menu structure
- Freely selectable monitoring functions

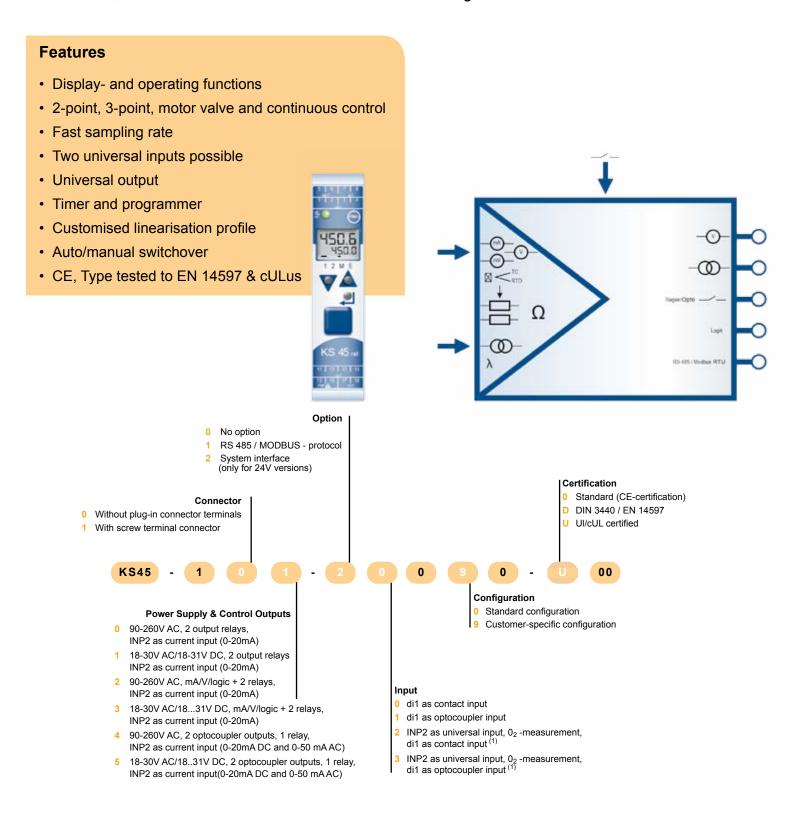
Field bus couplers

- Profibus DP
- Ethernet IP
- Modbus/TCP
- CANopen
- Modbus RTU
- · And additional power supply for large systems





The KS 45 process controller is a stand alone version for direct connection via RS485 Modbus or system version with buscoupler and inter-module connections permit additional controllers, transmitters and limiters to be fitted without wiring.



(1) Not on versions with optocoupler outputs (KS45-1x4... and KS45-1x5...)

A universal transmitter, stand alone version for direct connection via RS485 Modbus or system version with buscoupler and inter-module connections permit additional controllers, transmitters and limiters to be fitted without wiring.

Features · High resolution Fast sampling rate · Two universal inputs possible · Universal output · Two relay outputs Counter/frequency input, frequency output · Customised linearisation profile · Correction of measurement value Slave pointer (min/max indicator) лл • CE & UL Option 0 No option RS 485 / Modbus - protocol System interface (only for 24V versions) Certification O Standard (CE-certification) Connector U UI/cUL certified Without plug-in connector terminals With screw terminal connector 00 Configuration O Standard configuration 9 Customer-specific configuration **Power Supply & Control Outputs** 2 90-260V AC, mA/V/logic +1 relay Option 3 18-30V AC/18-31V DC, mA/V/logic +1 relay 0 No option 4 90-260V AC, mA/V/logic +2 relay Option package 1 (1) 5 18-30V AC/18-31V DC, mA/V/logic +2 relay 2 Option package 2 (2)

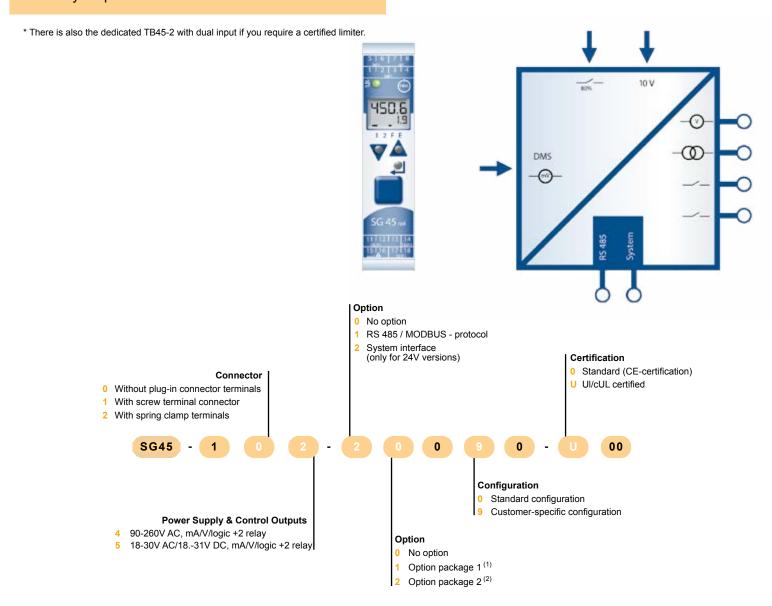
⁽¹⁾ Option package 1: additional universal input INP2, plus: O2-measuring; counter input; functions tare, sample & hold and integrator (2) Option package 2: additional to option package 1: digital input as optocoupler and frequency input / output

Back to contents page >>>

Strain-gauge bridge transmitter, stand alone version for direct connection via RS485 Modbus or system version with buscoupler and inter-module connections permit additional controllers, transmitters and limiters to be fitted without wiring.*

Features

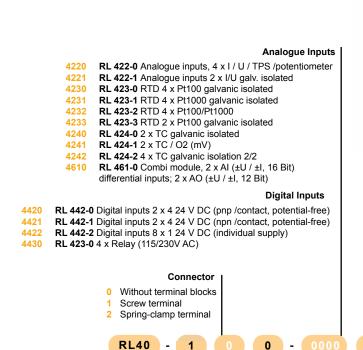
- · Special-purpose transmitter for strain gauge input
- 24-bit universal input
- Voltage supply for the strain gauge bridge
- · Simple scaling during commissioning
- · 4 or 6-wire connection for force measurement
- 2 relay outputs

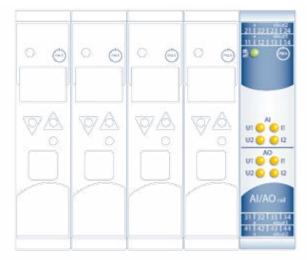


(1) Option package 1: additional universal input INP2, plus: O2-measuring counter input; functions tare, sample & hold and integrator (2) Option package 2: additional to option package 1: digital input as optocoupler and frequency input / output

RL 400 I/O expansion modules

- RL400 offers a variety of sophisticated I/O modules
- · High precision analogue inputs
- Output modules with fast on board signal processing
- Reinforced galvanic isolation
- Linearisation and measured value correction
- Up to 62 modules in a system
- Digital and analogue input & output modules
 - Pt 100 in 2 or 4-wire connection
 - Thermocouples
 - mA/V
 - Relays
 - Potential-free digital inputs
 - NPN/PNP inputs





Certification

- 0 Standard (CE-certification)
- U UI/cUL certified

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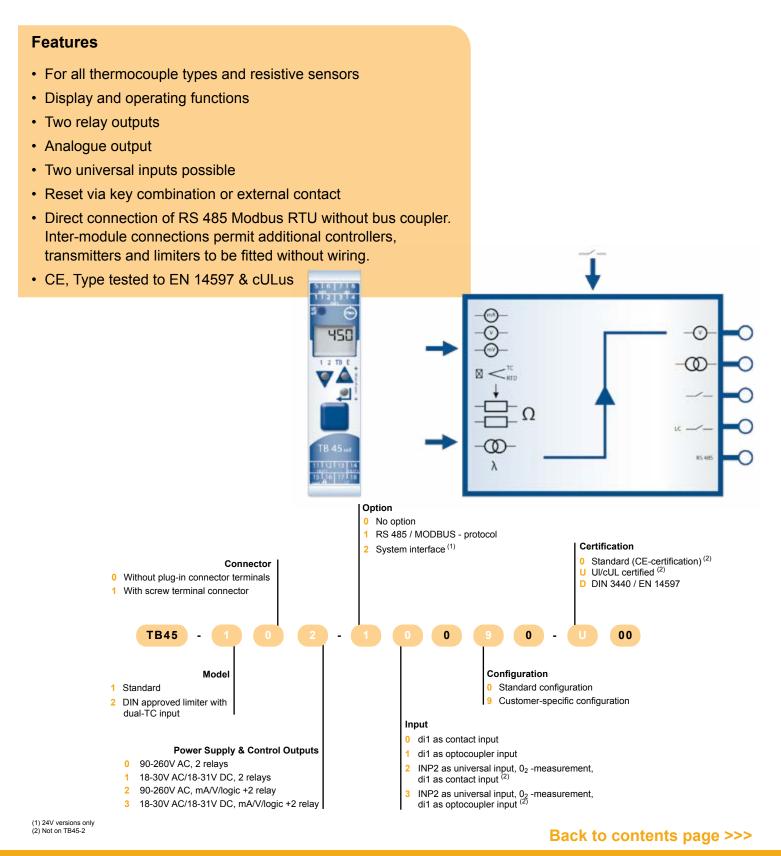
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Analogue Outputs

RL 431-0 4 x I / U (±10V / ±20mA, 12 Bit) 4310 **RL 461-0** Combi module, 2 x AI (±U / ±I, 16 Bit) differential inputs; 2 x AO (±U / ±I, 12 Bit)

RL 451-0 Digital outputs 2 x 4 24 V DC/2A RL 451-1 Digital outputs 2 x 4 24 V DC/2A 4511 (free wheeling diode)

4520 RL 452-0 Relay outputs 4 x 230 V DC/5A The TB 45 temperature monitor/limiter offers a stand alone version for direct connection via RS485 Modbus or system version with buscoupler and inter-module connections which permit additional controllers, transmitters and limiters to be fitted without wiring.



www.West-CS.com Rail-mounted Devices

26

Indicators

6010+ & 8010+ Process and Temperature Indicators

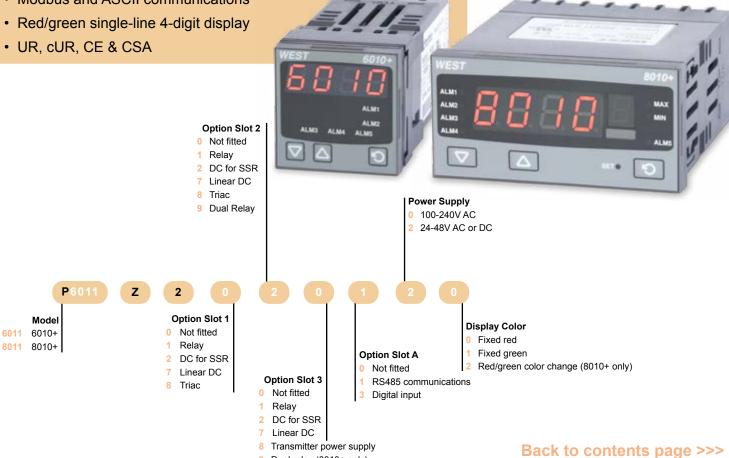
The 6010+ and 8010+ digital panel process indicators are designed for optimal ease of use in a wide variety of temperature and related process applications.

Output options allow for PV retransmission or transmitter power supply and up to 4 alarm relays (latching or non-latching).

Features

- 1/16 DIN (48 x 48 x 100mm) and 1/8 DIN (horizontal) (48 x 96 x 110mm) formats (HxWxD)
- Universal input for thermocouple, PT100, mV, V and mA sensors
- · Up to 4 outputs
- · Output options for SSR driver, triac, relay and linear
- Optional alarms are selectable as latching or non-latching outputs
- · PC Configurator with easy to use "wizard" suits both novice and experienced users
- Multi-point scaling and tare features included as standard





9 Dual relay (8010+ only)

The PMA Digital 280-1 indicator ensures a fast reaction time with a scan rate of 100 ms cycle time.

The instrument offers customer-specific linearisation for all sensors (16 segments). The maximum and minimum values are always stored and may be displayed on the front for quick reference. In addition to an indicator the Digital 280-1 can also be used as a signaller, on/off controller, two-point controller or a continuous controller.

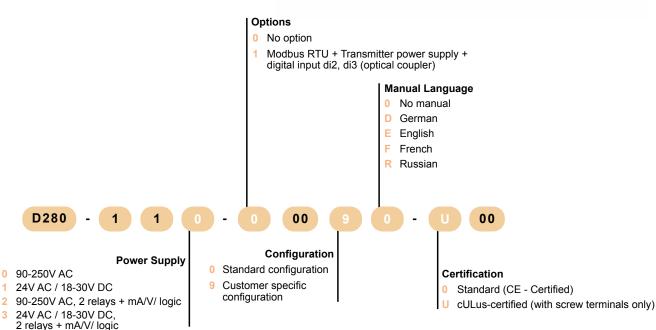
Features

- 1/8 DIN (horizontal) (48 x 96 x 118mm) format (HxWxD
- BluePort[®] front interface and BlueControl[©] software
- · Maintenance manager and error list
- · 5-digit, 20mm big display
- Limit signalling functions with hysteresis, discriminator time and rate of change monitor
- On/off-, 2-point- and continuous controller

Oxygen measurement with high-impedance input

· CE, cULus & GOST-R





Back to contents page >>>

www.West-CS.com Indicators 2

El2410 Temperature Indicator

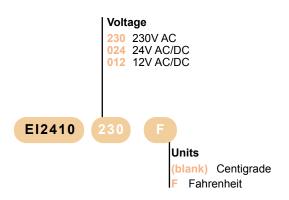
The CAL EI temperature indicators are ideal for use with other products from the CAL thermostat range.

The El2410 provides temperature indication on systems with NTC sensors operating within a range of -60 to 150°C.

Features

- 35 x 77 x 71mm format (HxWxD) (29 x 71mm cutout)
- NTC Sersor input
- · Zero point shift input calibration
- Temperature units selection °F or °C
- · Min and max values can be stored
- Upper and lower adjustable alarm limits
- CE





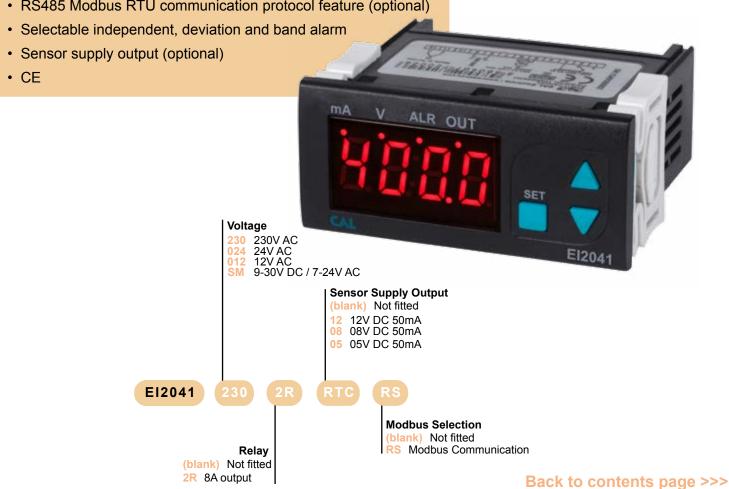
The El2041 indicator has linear mA and V input, scalable for accurate display of process data.

With selectable input types, easy-to-adjust sampling time and various options for display, the El2041 can be set up to meet a user's specific needs.

Features

- 35 x 77 x 71mm format (HxWxD) (29 x 71mm cutout)
- 4 digit display
- Scale adjustable between -1999 and 4000
- Adjustable decimal point 0000, 000.0, 00.00 or 0.000
- Measurement unit display
- Four selectable input types (0-20mA, 4-20mA, 0-1V, 0-10V)
- · Input calibration
- · Adjustable sampling time
- Min and max values can be stored on the display
- Two relay outputs for control and alarm (optional)
- Above and below setpoint value can be set

RS485 Modbus RTU communication protocol feature (optional)



Limit Devices

6700+, 8700+ & 4700+ Limit Controllers

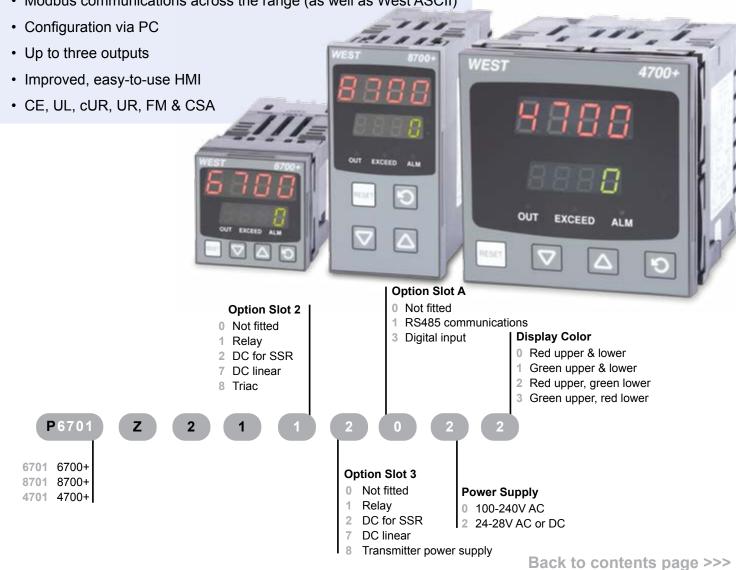
Limit controllers provide a latched relay output which is activated when process parameters either exceed or fall below the desired value, providing a fail safe cut-off which has to then be reset before the process can continue.

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 + series range provide a valuable safety control element for most systems.

Features

- 1/16 DIN (48 x 48 x 110mm), 1/8 DIN (96 x 48 x 100mm) and 1/4 DIN (96 x 96 x 100mm) formats (HxWxD)
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Modbus communications across the range (as well as West ASCII)

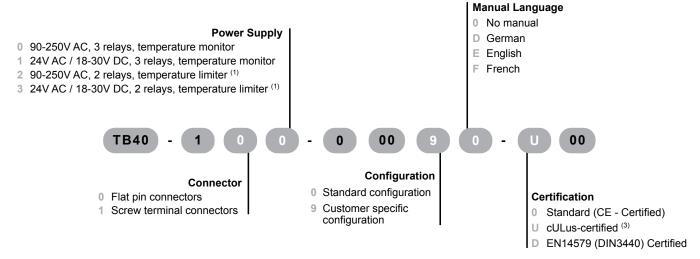


The TB40-1 can be used to protect heating and refrigeration processes. It is suitable for all thermocouple types and resistance type sensors.

Features

- 1/8 DIN (96 x 48 x 118mm) format (HxWxD)
- BluePort[®] front interface and BlueControl[©] software
- · Maintenance manager and error list
- · Alarm reset via RESET-key
- · Alarm reset via digital input
- CE, Type tested to EN 14597 and cULus





(1) TB (EN14597, 2009-1), not available with cULus (3) With screw terminals only, not available as Temperature limiter TB (EN14597, 2009-1)

Thermostats

ET2001 & ET2011 Digital Thermostats

The CAL thermostat range is a complete family of small format devices for basic heating or cooling applications.

The ET thermostats are cost-effective thermostat devices for both industrial heating or cooling applications, two output version also includes alarm function.

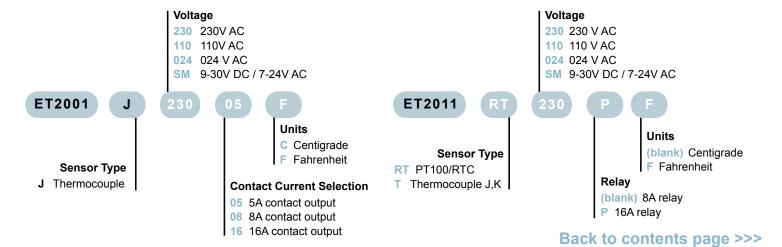
Features

- 35 x 77 x 71mm format (HxWxD) (29 x 71mm cutout)
- Ideal for industrial applications with thermocouple or PT100 temperature sensors
- Range -200 to 1700°C (sensor type dependant)
- · Heating or cooling control
- · 1 or 2 outputs for control and alarms
- CE



Single output - Relay

Two output - Relay & SSR Drive



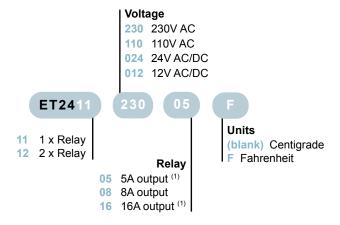
The ET2411 and ET2412 are specifically designed for use with NTC sensors.

The units are easy to configure and use, have a large clear display for good visibility and a compact design that is fast to install.

Features

- 35 x 77 x 71mm format (HxWxD) (29 x 71mm cutout)
- Ideal for industrial or commercial applications with NTC temperature sensors
- Range -0 to 150°C
- · Heating or cooling control
- · 1 or 2 outputs for control and alarms
- CE





(1) 5 and 16A only available on ET2411

Back to contents page >>>

www.West-CS.com Thermostats

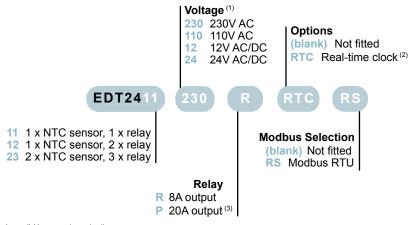
EDT2411, EDT2412 & EDT2423 Defrost Thermostats

The EDT defrost thermostats have additional features to ensure optimum control and performance of a refrigeration system such as compressor protection, defrost control, real-time clock, communications and fast CAL-Key memory programming.

Features

- 35 x 77 x 71mm format (HxWxD) (29 x 71mm cutout)
- · Compressor, defrost and fan control
- · Up to two NTC inputs for main and defrost temperature measurement
- Manual, timed and evaporator temperature defrost modes supported
- CAL-Key for fast configuration
- · Real-time clock option
- RS485 communications option
- CE





(1) 9-30V DC, 7-24V AC version is also available as an extra cost option (2) only available with 8A relay devices (3) not on EDT2423

In the same style as the thermostat range, a digital timer is available for associated monitoring and time-based control.

The ETM2432 is fully adjustable with nine timer modes and designed for easy integration within a control installation to fit the user's needs.

Features

- 35 x 77 x 71mm format (HxWxD) (29 x 71mm cutout)
- · Dual contact timed output
- · External start, reset and hold digital inputs
- HH:MM or MM:SS
- Scale 0:01 to 99:59 minutes
 0:01 to 99:59 hours
- · Adjustable increasing and decreasing steps
- · Time remaining displayed
- · Start/stop control from front panel
- · Upper and lower adjustable timer limits
- Audible tones
- CE



Voltage

230 230V AC

24 24V AC/DC

12 12V AC/DC

SM 9-30V DC / 7-24V AC

ETM2432

230

www.West-CS.com Thermostats

Solid State Relays

Panel Mount SSRs

The WP SSRs provide an economy option for users requiring devices to switch up to 75A.

Features

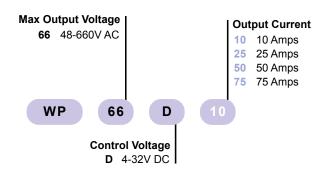
- 10, 25, 50 and 75A output rating
- 48 to 660V AC load voltage rating
- · 4 to 32V DC control voltage
- Panel mounting (or separate heatsink)
- · High thermal performance
- · RoSH compliant
- · CE and UL / cUL

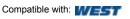














The WS range offers slim-line products for greater space saving. These single phase solid state relays fit a standard DIN-rail in a reduced 12mm or 18mm width for a minimal panel footprint.

The WS SSR is a self-contained device with no need for an additional heat sink.

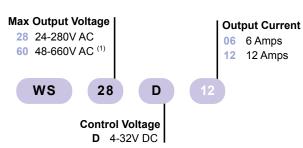
Features

- 6 & 12 Amps output rating
- 24 to 280V and 48 to 600V AC load voltage ratings
- 4 to 32V DC control voltage
- · DIN rail mounting
- · IP20 housing
- · Zero Voltage turn-on
- · RoHS compliant
- · CE and UL / cUL









Compatible with:





(1) On 12A unit only

DIN-Rail Mounted SSR with Integral Heatsink

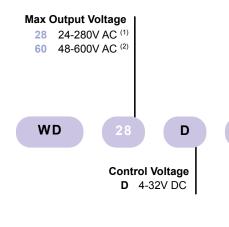
The WD range of DIN-rail mounted single phase devices come in 22.5mm and 45mm width and range up to 45A. The SSRs can be direct or DIN-rail mounted.

The series also benefits from built-in heat sink with small panel footprint.

Features

- 10, 20, 30 and 45 Amps output rating
- 24 to 280V and 48 to 600V AC load voltage ratings
- 4 to 32V DC control voltage
- · DIN-rail or panel mounting
- · Epoxy-free design
- IP20 touch-safe housing
- · RoHS compliant
- CE and UL / cUL

22.5mm



Output Current
10 10 Amps
20 20 Amps
30 30 Amps

WEST

WD28D10

WEST

WD60D20

WEST

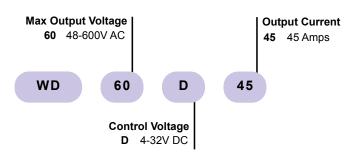
WD60D30

30 AMP 48 - 500 VAC WEST

WD60D45

2/11

45mm



Compatible with:



(1) On 10A unit only (2) Not on 10A unit

Thyristors

Relay CL - 1PH Thyristor Power Controller

Single-phase thyristor power controller for complex load requirements including feedback and current limit.

Features

- Load type: normal resistance, infrared long, short and medium waveform, silicon carbide and cold resistance coupled with transformer
- Inputs: 0-10V dc, 4-20mA, 10kpot, SSR, RS485
- Firing mode: burst firing, single cycle, soft start + phase angle and | delayed triggering
- Operating temperature: 0 to 40°C without derating
- Control mode: voltage, VxI power and current I and I2
- · RS485 port. RTU Modbus protocol
- CUL



Firing

- D Delayed triggering + burst firing DT+BF (3)
- Phase angle PA
- Soft start +
- phase angle S+PA
- 0 No fan < 120A
- 1 Fan 110V > 90A
- 2 Fan 220V > 90A

Manual

- No manual
- Italian
- 2 English
- 3 German
- 4 French

RCL

035



Max Voltage

4 480V

6 600V







Input

V 0:10V dc

4:20 mA

K 10 KΩ Pot

RS 485













Version (4)

- 1 Std with fuse + fuse holder up to 40A
- Second fuse normally used with phase
- Second fuse with an additional safety electromechanical relay to open in alarm conditions (5)





150 150A 180 180A 210 210A

280 280A

500A 500

700 700A

Voltage Supply Aux.

1 90:130V (2) 2 170:265V (2) 3 230:345V (2)

5 300:530V (2) 6 510:690V ⁽²⁾ 7 600:760V (2)

Control Mode Open loop

Voltage feed back V

W Power feed back VxI Q Voltage square V2 Current feed back I

Fuse & Option

- Y For units =< 40A fuse + fuse holder + CT Standard
- H Fuse + fuse holder + CT + HB with screw terminal
- For units > 40A fixed fuse + CT
- H fixed fuse + CT + HB

(1) Available on units > 280A

400 400A

600 600A

(2) Load voltage must be included in selected auxiliary voltage range
(3) 8 cycles at 50% power demand
(4) After final option, write current and voltage of load inside brackets Ex (190A-400V) (5) This option is possible with unit up to 40A. Dimension equal relay M 2PH of same rating

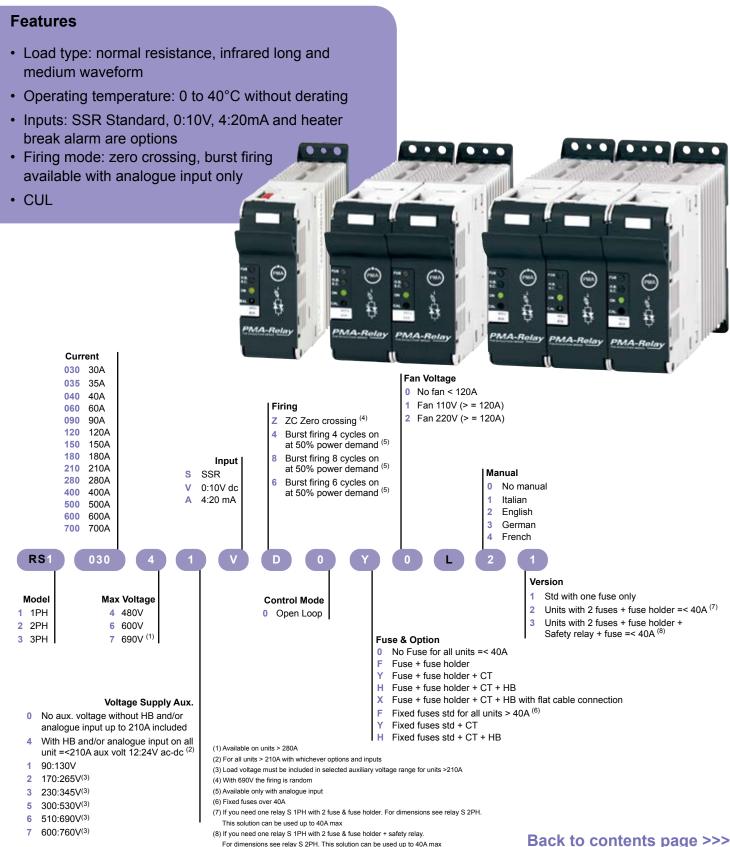
Back to contents page >>>

40

www.West-CS.com **Thyristors**

Relay S - 1PH, 2PH & 3PH Thyristors

Simple on/off firing with a DC logic input, time proportioned burst firing with a DC linear input (basic firing selectable between 4,8 or 16 cycles). These simple units can be connected with Relay PC to manage multi-zone system.



Relay M - 1PH, 2PH & 3PH Thyristors

Time proportioned burst firing with a DC linear input, front panel display & RS485 comms as standard.

Features

- · Load type: normal resistance, infrared short, long and medium waveform, and silicon carbide
- Firing mode: zero crossing, burst firing, single cycle, soft start + phase angle and delayed triggering
- Operating temperature: 0 to 40°C without derating
- Inputs: 0:10V dc, 4:20mA, 10kpot, SSR, RS485
- · Control mode: voltage, VxI power, I and I2

 RS485 port. RTU Modbus protocol

• CUL



0 No fan < 120A</p>

1 Fan 110V (> = 120A) 2 Fan 220V (> = 120A)

040 40A 060 60A 090 90A 120 120A 150 150A 180 180A 210 210A 280 280A 400 400A 500 500A 600 600A 700 700A

Current 035 35A

> Input SSR 0:10V dc 4:20 mA

> > 10 KΩ Pot

RS485

Firing

- Z ZC Zero crossing
- Single cycle SC
- B Burst firing BF
- Soft start + burst firing S+BF D Delayed triggering +
- burst firing DT+BF
- Phase angle PA
- Soft start + phase angle S+PA

Manual

- No manual
- Italian
- 2 English
- 3 German
- 4 French

Version

1 Std with one fuse only

RM1

Model 1 1PH 2PH

3 3PH

Max Voltage 4 480V 6 600V

7 690V ⁽¹⁾

Voltage Supply Aux

- 1 90:130V (3)
- 2 170:265V (3)
- 3 230:345V (3)
- 5 300:530V (3) 6 510:690V (3)
- 7 600:760V (3)

Control Mode

- 0 Open loop
- U Voltage feed back
- W Power feed back
- Current feed back
- Voltage to power feed

- Fuse & Option
- Y For units =< 40A fuse + fuse holder + CT
- H Fuse + fuse holder + CT + HB with terminal
- For units > 40A fixed fuse std + CT (4)
- Fixed fuse std + CT + HB
- Control mode retransmission 4:20mA
- Control mode retransmission 0:10mV
- (1) Available on units > 280A
- (2) For all Units > 210A with whichever options and inputs
- (3) Load voltage must be included in selected auxiliary voltage range for units >210A
- (4) Fixed fuses over 40A
- (5) If you need one relay S 1PH with 2 fuse & fuse holder. For dimensions see relay S 2PH. This solution can be used up to 40A max
- (6) If you need one relay S 1PH with 2 fuse & fuse holder + safety relay. For dimensions see relay S 2PH. This solution can be used up to 40A max

Back to contents page >>>

Units with 2 fuses + fuse holder =< 40A (5)

Units with 2 fuses + fuse holder +

Safety relay + Fuse =< 40A (6)

www.West-CS.com **Thyristors** 42

Paperless Recorders

DataVU 7 Paperless Recorder

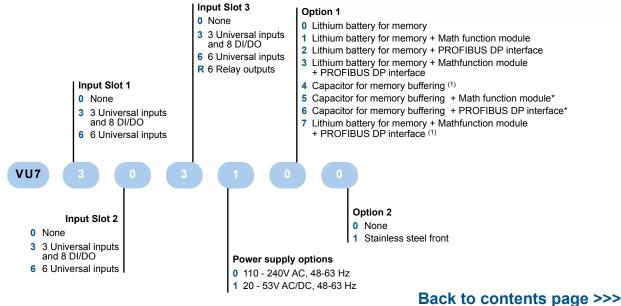
DataVU 7 provides advanced flexibility to meet a user's specific requirements without the need to change a process to fit the recorder. If process requirements are subject to change at a later date then the user benefits from the ease with which modifications can be made to the recorder configuration. The recorder is fully scalable - cards can be added to the recorder, facilitating future expansion.

Reporting can be tailored to provide the exact information needed. The DataVU 7 allows reports to be created for daily, weekly, monthly and yearly periods. Furthermore if particular data needs to be evaluated then reports can be created using a custom date range to provide maximum flexibility.

Features

- 144 x 144 x 200mm format (HxWxD)
- Enhanced security through password protections, instrument can only be configured by authorised operating personnel
- Fully scalable so additional option cards can be added to the recorder at a later date facilitating future expansion
- PC Evaluation software provides option to run reports on data for a specific period (daily, weekly, monthly, annually vand custom)
- Data can be annotated with individual comments via the recorder relating to process events
- Able to withstand humid conditions and meets standards for IP65 ingress protection
- · Easy to clean, even with aggressive media
- DataVU 7 is a robust and durable recorder that is ideally suited to challenging and harsh environments







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