

## Selection Guide

# Product Catalog

## Temperature and Process Control Instrumentation



Order from: **C A Briggs Company**

622 Mary Street; Suite 101; Warminster, PA 18974

Phone: 267-673-8117 - Fax: 267-673-8118

[Sales@cabriggs.com](mailto:Sales@cabriggs.com) - [www.cabriggs.com](http://www.cabriggs.com)



# Introducing West Control Solutions

**Focused on providing valued temperature and process control expertise, global presence and support**

West Control Solutions is part of Gems Setra, a leading global supplier of sensing and monitoring technologies, operating under Fortive Corporation, and is home to PMA, West Instruments, and CAL Controls. West Control Solutions provides efficient, cost-effective, high-quality products that today's automation marketplace demands.

Easy-to-use products can meet various needs, from simple, entry-level temperature controllers to highly sophisticated, functionally rich solutions for even the most complex control applications. Our comprehensive product range is a top choice for use in several industrial and scientific applications, including plastics machinery, ovens, furnaces, laboratory and test equipment, packaging machinery, food processing, semiconductors, and many more.

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# Single Loop Panel-Mounted Controllers

## Model



| Model                           | MAXVU                 | 3200        | 3300, 9300 & 9400   | 9500P           | 6100+, 8100+ & 4100+     | 6170+, 8170+ & 4170+     | N2300           | Pro 16                     | Pro 8           | Pro 4                      |
|---------------------------------|-----------------------|-------------|---------------------|-----------------|--------------------------|--------------------------|-----------------|----------------------------|-----------------|----------------------------|
| <b>Product Family</b>           | MAXVU                 | CAL         | CAL                 | CAL             | P-Series                 | P-Series                 | N-Series        | West Pro                   | West Pro        | West Pro                   |
| <b>Page Number</b>              | 5                     | 6           | 7                   | 8               | 9                        | 10                       | 11              | 13                         | 14              | 15                         |
| <b>Front Format</b>             |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| 1/32 DIN (24 x 48mm)            |                       | ●           | ●                   |                 |                          |                          | ●               |                            |                 |                            |
| 1/16 DIN (48 x 48mm)            | ●                     |             | ●                   | ●               | ●                        | ●                        |                 | ●                          |                 |                            |
| 1/8 DIN (96 x 48mm)             | ●                     |             |                     |                 | ●                        | ●                        |                 |                            | ●               |                            |
| 1/4 DIN (96 x 96mm)             |                       |             |                     |                 | ●                        | ●                        |                 |                            |                 | ●                          |
| 1/8 DIN horizontal (48 x 96mm)  |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| Depth (behind panel)            | 70mm                  |             | 107mm               | 107mm           | 1/16 110mm, other 100mm  | 1/16 110mm, other 100mm  | 110mm           | 112mm                      | 118mm           | 118mm                      |
| <b>Display</b>                  |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| Display type                    | Large 2 x 4 digit LED |             | 1 x 2 digit LED (1) | 2 x 4 digit LED | 2 x 4 digit LED          | 2 x 4 digit LED          | 1 x 4 digit LED | 1 x 4 digit LED + 1 x text | 2 x 4 digit LED | 2 x 4 digit/ text/ bar LED |
| <b>Connectors</b>               |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| Screw terminal - fixed          | ●                     |             | ●                   | ●               | ●                        | ●                        | ●               |                            | ○               | ○                          |
| Screw terminal - plug-in        |                       | ●           |                     |                 |                          |                          |                 | ●                          |                 |                            |
| Spade terminals                 |                       |             |                     |                 |                          |                          |                 |                            | ○               | ○                          |
| <b>Inputs</b>                   |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| Thermocouple/RTD                | ●                     | ●           | ●                   | ●               | ●                        | ●                        | ●               | ●                          | ●               | ●                          |
| DC linear V/mA                  | ●                     |             |                     | ●               | ●                        | ●                        | ●               | ●                          | ●               | ●                          |
| Digital input                   |                       |             |                     |                 | 1 or 2                   | 1 or 2                   |                 | 2 or 4                     | 1 or 3          | 2 or 4                     |
| Remote set-point                |                       |             |                     |                 | ○                        | ○                        |                 | ○                          | ○               | ○                          |
| <b>Outputs</b>                  |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| Max. Number of outputs          | 3                     | 2           | 2                   | 3               | 3                        | 4                        | 3               | 6                          | 5               | 6                          |
| Relay                           | ○                     | ●           | ○                   | ●               | ○                        | ○                        | ●               | ○                          | ○               | ○                          |
| SSR driver                      | ○                     | ●           | ○                   | ○               | ○                        | ○                        | ●               | ○                          | ○               | ○                          |
| DC linear                       |                       |             |                     | ○               | ○                        | ○                        |                 | ○                          | ○               | ○                          |
| Triac                           |                       |             |                     |                 | ○                        | ○                        |                 |                            |                 |                            |
| Transmitter PSU                 |                       |             |                     |                 | ○                        | ○                        |                 | ○                          | ○               | ○                          |
| <b>Features &amp; Functions</b> |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| Control type                    | On/Off, PID           | On/Off, PID | On/Off, PID         | On/Off, PID     | On/Off, PID              | VMD                      | On/Off, PID     | On/Off, PID VMD            | On/Off, PID VMD | On/Off, PID VMD            |
| Profiler                        |                       |             |                     | ●               |                          |                          |                 | ●                          | ●               | ○                          |
| Retransmission output           |                       |             |                     | ○               | ○                        | ○                        |                 | ○                          | ○               | ○                          |
| Heater break alarm              |                       |             |                     |                 |                          |                          |                 | ○                          | ○               | ○                          |
| RS485 Modbus® comms             | ○                     |             | ○                   | ○               | ○                        | ○                        | ○               | ○                          | ○               | ○                          |
| Software                        | MAXVU Configurator    |             | CALgrafix           | CALgrafix       | Plus Series Configurator | Plus Series Configurator |                 | BlueControl                | BlueControl     | BlueControl                |
| <b>Power Supply</b>             |                       |             |                     |                 |                          |                          |                 |                            |                 |                            |
| 110 VAC                         | ○                     | ○           | ○                   | ●               | ○                        | ○                        | ○               | ○                          | ○               | ○                          |
| 230 VAC                         | ○                     | ○           | ○                   | ●               | ○                        | ○                        | ○               | ○                          | ○               | ○                          |
| 12 VAC/DC                       |                       | ○           | ○                   |                 |                          |                          | ○               |                            |                 |                            |
| 24 VAC/DC                       | ○                     | ○           | ○                   |                 | ○                        | ○                        | ○               | ○                          | ○               | ○                          |
| 48 VAC/DC                       |                       |             |                     |                 | ○                        | ○                        |                 |                            |                 |                            |

● Fitted ○ Option

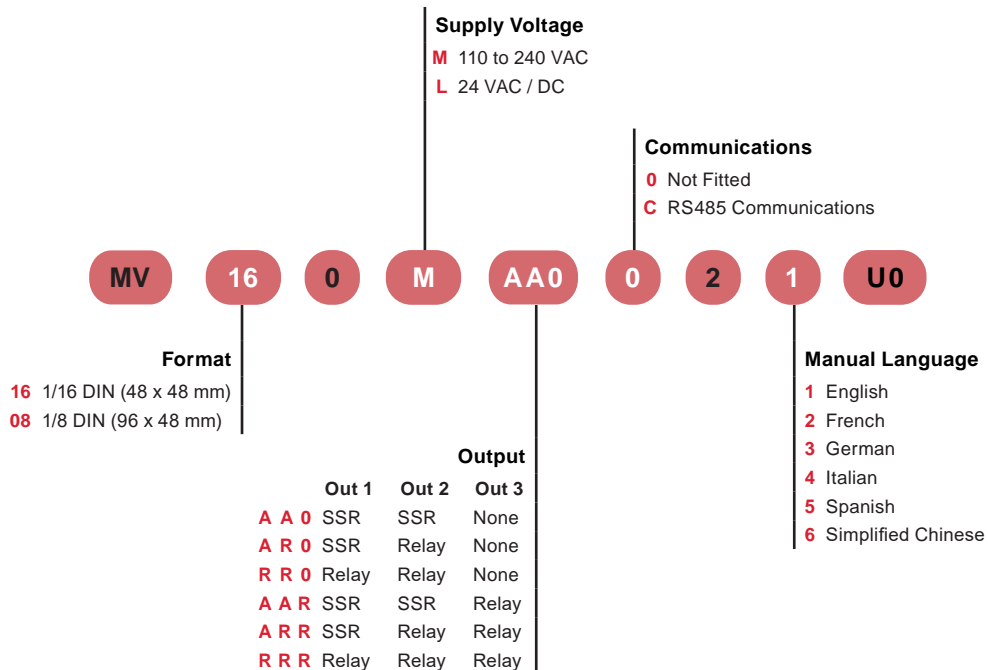
<sup>(1)</sup>9400 display: 2 x 4 digit LED

# MAXVU16 & MAXVU8 Compact Controller

The MAXVU is a cost effective temperature controller which is fast-to-configure, has improved display visibility and with only 70mm depth, reduces costs by minimizing wiring and panel space.

## Benefits & Features

- 1/16 DIN (48 x 48 mm) and 1/8 DIN (96 x 48 mm) 70mm depth
- Large high visibility LED display
- Universal input for thermocouple, PT100, mV, V and mA sensors
- 2 or 3 outputs
- RS485 Modbus® RTU communications
- Heat/cool strategy
- Ramp/dwell with delay time
- Front panel keys or software set up
- CE, UL and cUL



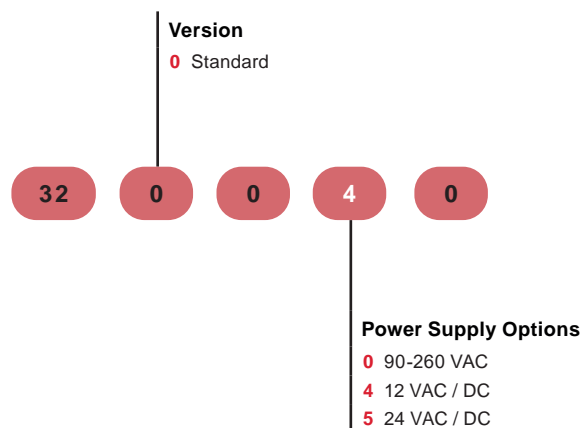
# CAL 3200 Simple PID Temperature Controller

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 rubberized buttons with positive feedback. PID tuning is simple and efficient whilst the unique dAC function minimizes overshoot.

## Benefits & Features

- 1/32 DIN (24 x 48 mm) and 1/16 DIN (48 x 48 mm), 102mm depth
- High impact fascia with rubberized buttons
- Thermocouple, PT100 (2 wire) and mV sensor input 2 outputs
- Plug in terminal block
- Simple menu-driven setup
- Heat/cool control strategy
- CE, UL and cUL





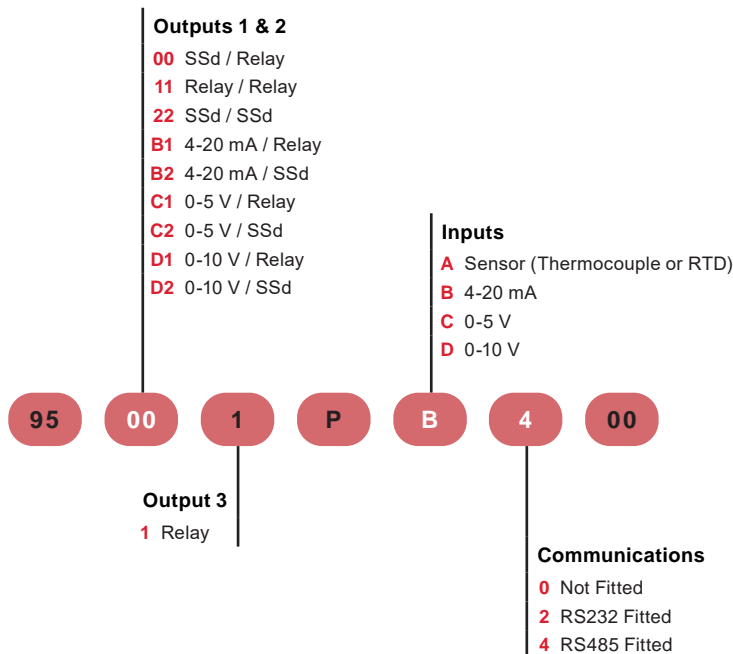
The CAL 9500P is ideal for applications requiring fixed value or ramping temperature profiles in a compact 1/16th DIN unit. The programmer allows up to 31 programs with up to an overall total of 126 segments.

Set up of the instrument can be carried out using the front buttons or alternatively with the CALgrafix software. The tool allows quick configuration and is easy to create recipes using the graphical 'drag and drop' feature. Users can also clone parameter settings of one unit to multiple instruments in the same network.



## Benefits & Features

- 1/16 DIN (48 x 48 mm), 107mm depth
- High impact fascia with rubberized buttons
- Thermocouple, PT100 (2 wire), mA, V and mV sensor input
- 3 outputs
- RS232 or RS485 Modbus® RTU communications
- Heat/cool control strategy
- Up to 126 segments shared in up to 31 programs
- Profiler functions include event outputs, loop, call, hold back and 3 power recovery modes
- Simple menu-driven setup
- CE, UL and cUL

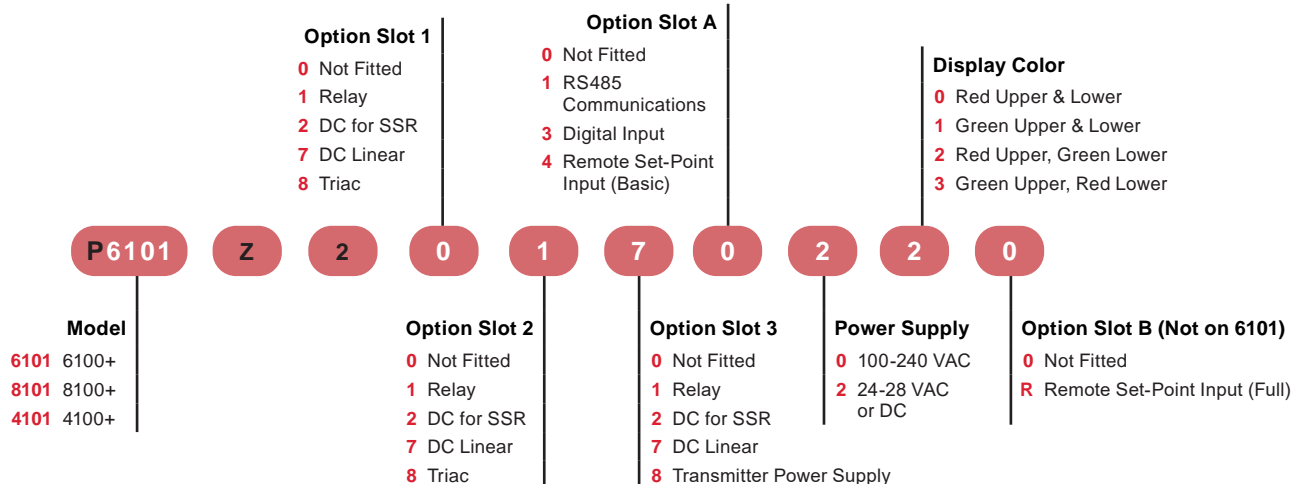


# 6100+, 8100+ & 4100+ Flexible PID Controller

The + series of controllers are used in many temperature and process control applications due to their versatility and ease-of-use. A wide range of input and output options include relay, SSR, transmitter power supply, linear, remote set-point and digital inputs. Control functionality includes remote and dual set-point options, heat/cool control and set-point ramping.

## Benefits & Features

- 1/16 DIN (48 x 48 mm), 110mm depth, 1/8 DIN (96 x 48 mm), 100 mm depth and 1/4 DIN (96 x 96 mm), 100mm depth
- Membrane fascia with common + series design
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 4 outputs
- Wide range of options available
- RS485 Modbus® RTU communications
- Heat/cool control strategy
- Programming port for fast configuration using FTP software
- CE, UL, cUL and CSA

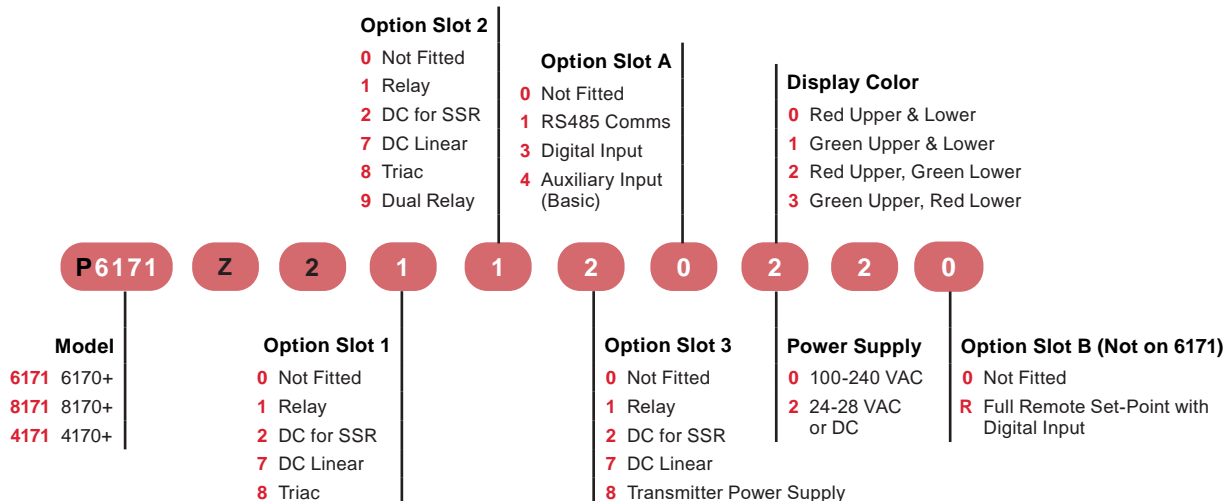


# 6170+, 8170+ & 4170+ Valve Motor Drive Controller

The 6170+, 8170+ and 4170+ have been designed for valve motor drive (VMD) applications. They feature the common + series interface and greater field flexibility. A unique VMD tuning algorithm continuously monitors the process to provide stable control at all times.

## Benefits & Features

- 1/16 DIN (48 x 48 mm), 110mm depth, 1/8 DIN (96 x 48 mm), 100 mm depth and 1/4 DIN (96 x 96 mm), 100mm depth
- Membrane fascia with common + series design
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 4 outputs
- Wide range of options available
- RS485 Modbus® RTU communications
- Valve Motor Drive control strategy
- Programming port for fast configuration using FTP software
- CE, UL, cUL and CSA

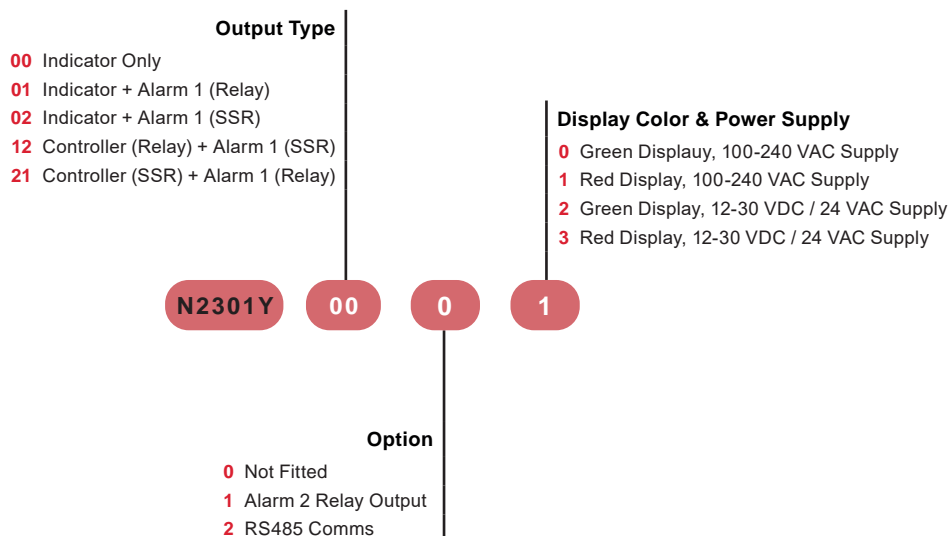


The West N2300 offers flexibility as a controller or an indicator. In addition to the main 4 digit display the N2300 benefits from three multi-color status LEDs for process, alarm and configuration indication.

The large, tactile rubberized keys provide a more practical human interface which is complemented with a specially developed PID tuning algorithm, Easy-Tune, which continuously monitors and improves control. The N2300 indicator has up to two outputs (relay or solid state driver) for alarm.

## Benefits & Features

- 1/32 DIN (24 x 48 mm), 110 mm depth
- High impact fascia with rubberized buttons
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 3 outputs
- RS485 Modbus® communications
- PID control with manual override tune capability for specialized applications
- Simple operation and easy setup
- CE, UL and cUL



# Pro-16 1/16 DIN Advanced Controller

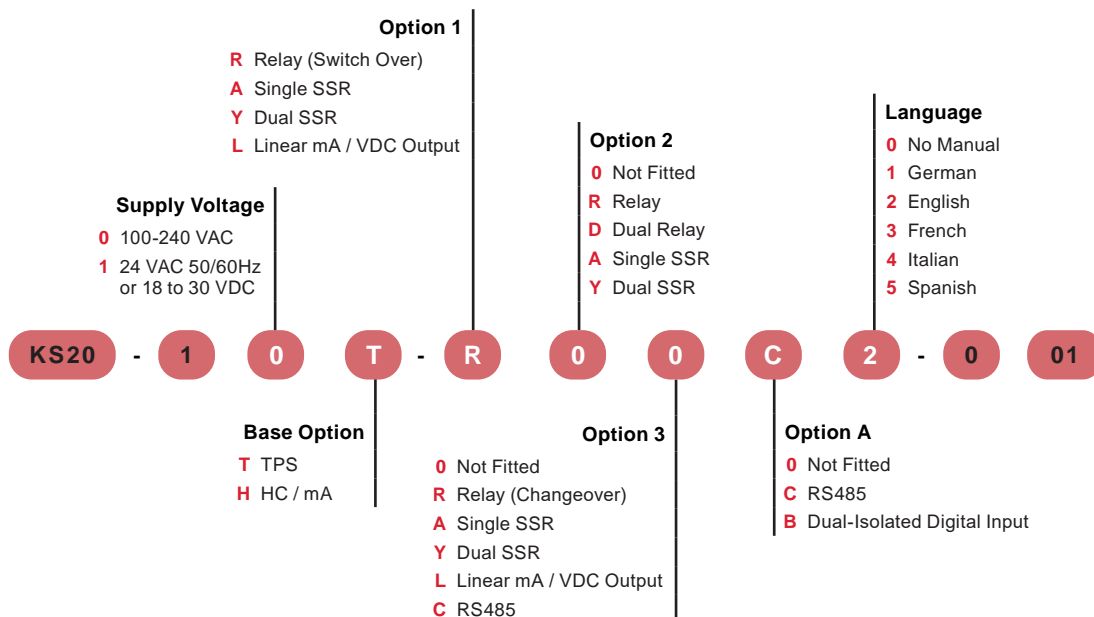
A compact, fully featured controller for demanding applications.

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

The Pro-16 offers many integrated features for unrivaled performance such as two PID sets to ensure reliable control over a wide set-point range and separate PID for heat and cool strategies for optimized control and stability. Extensive flexibility is offered with 1 universal input and 1 optional process input, up to 4 digital inputs, 6 outputs and a built-in profiler.

## Benefits & Features

- 1/16 DIN (48 x 48 mm), 112 mm depth
- Display supports backlight color change and text
- Common West Pro family styling
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 6 outputs
- RS485 Modbus® communications
- PID Heat/Cool and VMD control strategies
- Optional heater current or remote set-point
- Customer-specific linearization for sensors
- Transmitter power supply
- Profiler 16 profiles x 16 segments
- CE, UL and cUL

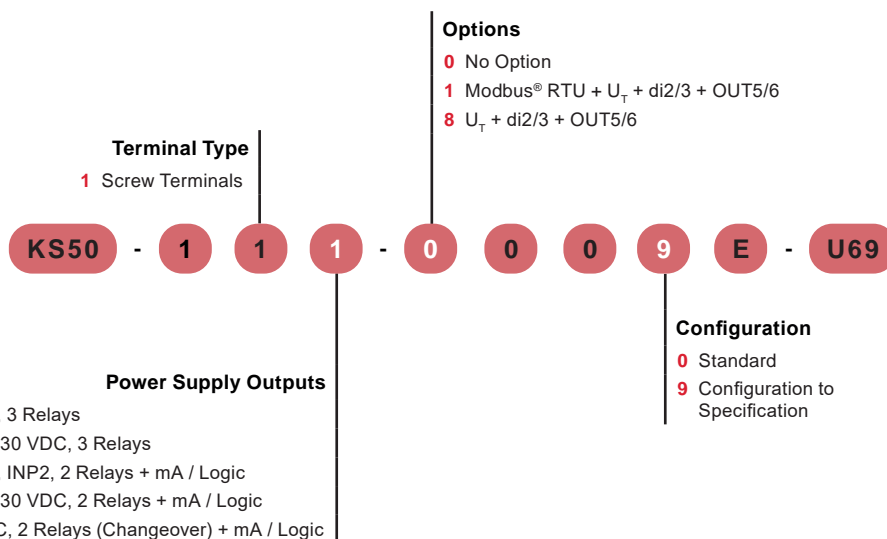


# Pro-8 Universal Controller

The Pro-8 devices are intended for universal and precise control tasks in all process applications plus special features for plastics machinery. Embedded monitoring functions supervise sensors and heaters for preventative maintenance.

## Benefits & Features

- 1/8 DIN (96 x 48 mm), 118 mm depth
- Common West Pro family styling
- Programmable function key
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Customer-specific linearization for non-standard sensors
- Up to 3 outputs
- RS422/485 Modbus® communications
- Optional heater current or remote set-point
- PID heat/cool control strategy with water cooling
- Front interface and BlueControl® software
- Maintenance manager and error list
- Emergency operation after sensor break using % power output average
- Extended temperature range to 60°C
- CE, UL, cUL and EN 14597

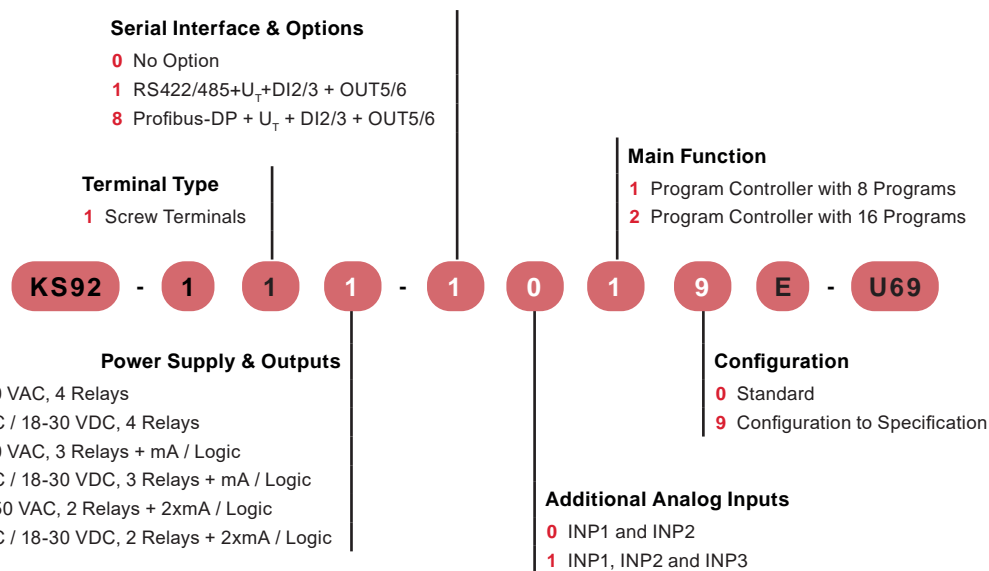


# Pro-4 Advanced Controller

The industrial and process controller Pro-4, takes over automatic control functions in all industrial sectors, precisely and economically. They offer the choice of simple On/Off control, PID control or stepping motor control. A bar-graph / text display provides the user with additional clear messages and process information.

## Benefits & Features

- 1/4 DIN (96 x 96 mm), 118 mm depth
- Day/night display with additional text/bar line
- Common West Pro family styling
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Optional second Universal input
- Customer-specific linearization for non-standard sensors
- Up to 6 outputs
- RS422/485 Modbus® or Profibus communications
- PID heat/cool and VMD control strategies
- Front interface and BlueControl® software
- Profiler function 16 programs x 16 segments
- Maintenance manager and error list
- CE, UL, cUL and EN 14597



# Multi-Loop Controllers

Pro-EC44



KS 98-2



KS Vario



## Model

|                                 | Pro-EC44    | KS 98-2                    | KS Vario     |
|---------------------------------|-------------|----------------------------|--------------|
| <b>Page Number</b>              | 17          | 19                         | 21           |
| <b>Control Loops</b>            |             |                            |              |
| Maximum number                  | 2           | 30                         | 30           |
| <b>Format</b>                   |             |                            |              |
| 1/4 DIN (96 x 96mm) panel mount | ●           | ●                          |              |
| DIN rail behind panel           |             |                            | ●            |
| <b>Display</b>                  |             |                            |              |
| Display type                    | Mono LCD    | Color LCD                  | None         |
| <b>Connectors</b>               |             |                            |              |
| Screw terminal - fixed          | ●           | ●                          |              |
| Screw terminal - plug In        |             |                            |              |
| Spade terminals                 |             | ○                          |              |
| Plug in spring terminals        |             |                            | ●            |
| <b>Inputs</b>                   |             |                            |              |
| Process inputs                  | 2           | 21                         | 30           |
| Thermocouple/RTD                | ●           | ○                          | ○            |
| DC linear V/mA                  | ●           | ○                          | ○            |
| Digital input                   | 9           | 22                         | 5            |
| Remote set-point                | ○           | ○                          | ○            |
| <b>Outputs</b>                  |             |                            |              |
| Max. Number of outputs          | 9           | 11                         | 300          |
| Relay                           | ●           | ○                          | ○            |
| SSR driver                      | ○           | ○                          | ○            |
| DC linear                       | ○           | ○                          | ○            |
| Triac                           | ○           |                            |              |
| Transmitter PSU                 | ○           | ○                          |              |
| <b>Features &amp; Functions</b> |             |                            |              |
| Control type                    | On/Off, PID | Fully programmable         | On/Off, PID  |
| Retransmission outputs          | ○           | ○                          | ○            |
| Heater break alarm              |             | ○                          | ○            |
| Logic capability                |             | ○                          |              |
| Software                        | BlueControl | ET/KS 98-2 and SIM/KS 98-2 | Blue Control |
| <b>Communication</b>            |             |                            |              |
| Modbus® RTU                     | ○           | ○                          | ○            |
| Profibus                        |             | ○                          | ○            |
| DeviceNet                       |             |                            | ○            |
| CAN open                        |             | ○                          | ○            |
| Modbus® TCP                     | ○           | ○                          | ○            |
| Ethernet IP                     |             |                            | ○            |
| Profinet                        |             | ○                          | ○            |
| <b>Power Supply</b>             |             |                            |              |
| 110 VAC                         | ○           | ○                          |              |
| 230 VAC                         | ○           | ○                          |              |
| 24 VAC/DC                       | ○           | ○                          | DC only      |
| 48 VAC/DC                       | ○           |                            |              |

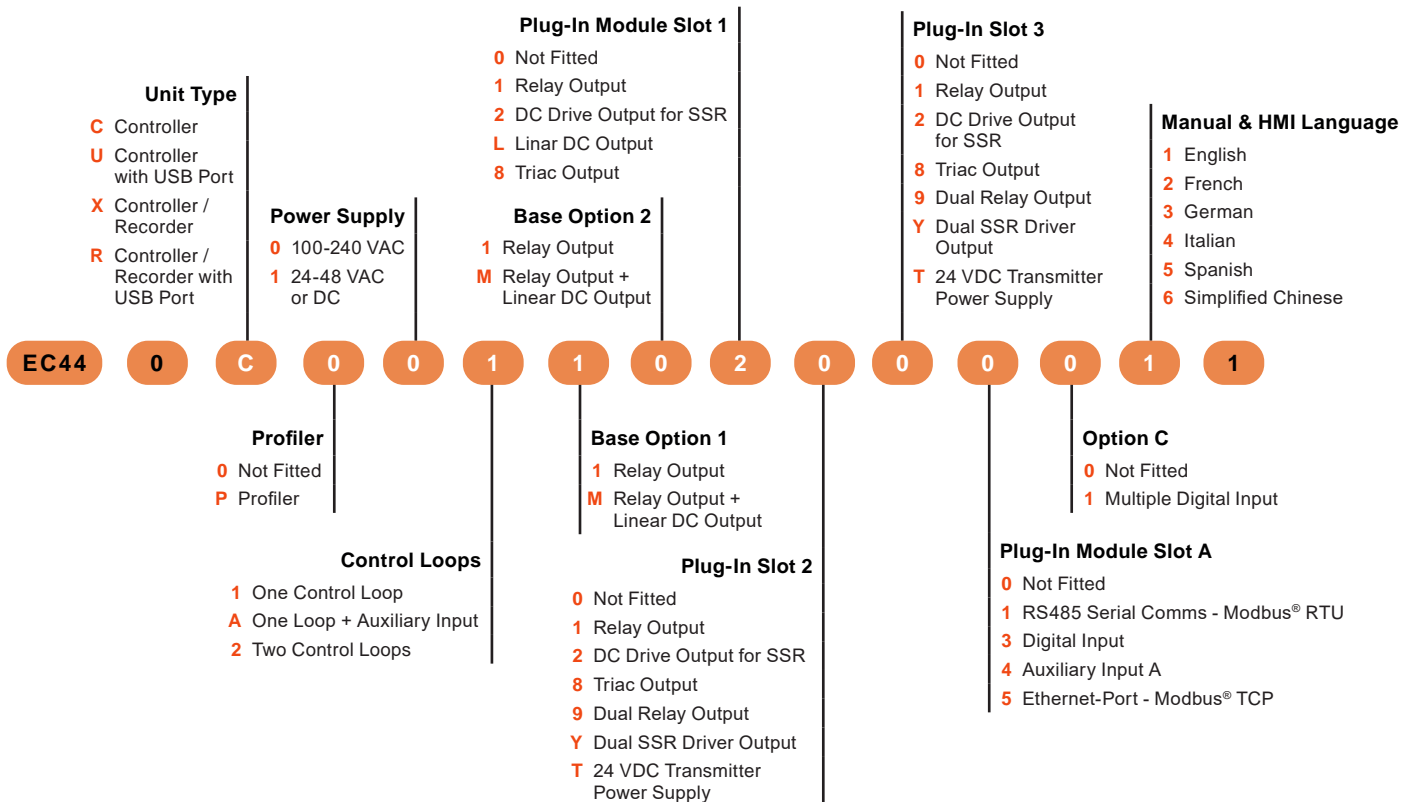
● Fitted ○ Option

# Pro-EC44 Single/Dual-Loop Advanced Controller

Pro-EC44 includes many features to ensure good control performance and easy to use. Single or dual-loop capability in a single device, cascade, valve and ratio enhanced control with support for advanced features so Pro-EC44 has the flexibility to fit many application needs. In addition data-logging, trending, USB, Ethernet options add even more capability to an already powerful device.

## Benefits & Features

- 1/4 DIN (96 x 96 mm), 117mm depth
- Graphical/text mono LCD display (red/green backlit LCD)
- 1 or 2 universal inputs for thermocouple, PT100, mV, V and mA sensors
- Customer-specific linearization for non-standard sensors
- Up to 9 outputs
- RS 485 Modbus® or Ethernet Modbus® TCP communications
- USB configuration and data access
- PID heat/cool and VMD control strategies
- Gain scheduling, ratio and cascade control
- Profiler function 64 programs with up to 255 segments
- Data logger with real-time clock
- CE, UL, cUL



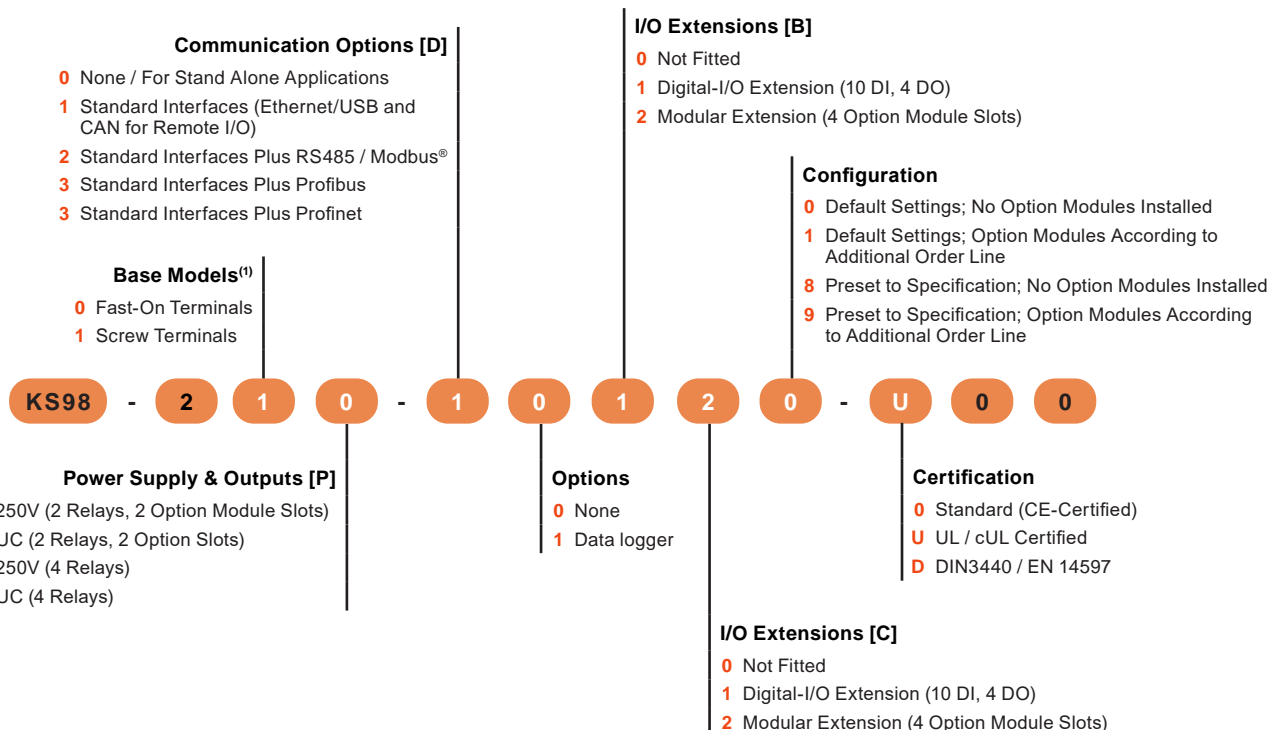
# KS 98-2 Multi-Function Controller

PMA's multi-function instrument KS 98-2 combines PID control, process monitoring, sequence control, data logging and alarms.

Function blocks from an extensive library can be used to build an application by easily selecting and connecting the blocks graphically using the "ET/KS98"-utility. This method is ideal for creating tailored control, including user interface pages with minimal effort. As a complete solution in a single unit, the KS 98-2 multi-function instrument helps to reduce programming, installation cost and control cabinet space.

## Benefits & Features

- Modular automation system in a 1/4-DIN (96 x 96mm), 118 mm depth
- 3.5 " color touch-screen display
- Universal Input (TC, RTD, DC linear mA/mV)
- Expandable with modular inputs and outputs
- Up to 20 additional process inputs
- Up to 26 outputs
- Ethernet, USB, CAN, RS485, Profibus DP, Profinet
- Measure, control, calculate, and record
- Process visualization, operation, alarm and alerts
- Comprehensive application-oriented functionality
- Graphical programming utility with simulator
- CE, cULus, DIN EN 14597



(1) Universal Input, 2 digital inputs, TPS, 2 option module slots

# KS 98-2 Multi-function Controller

KS 98-2 offers comprehensive modular input and output options to adapt the unit to the application needs. The unit is optimized to handle the precise measurements required in the process industry via I/O modules supporting a variety of sensor types and also have galvanic isolation. Additional signal conditioners and isolating amplifiers are not necessary in most applications, saving cost and less installation.

## Hardware Flexibility

- Unprecedented number of I/O in a 1/4-DIN device
- Fully adaptable with up to 12 internal I/O-modules
- Almost every 1/4 DIN controller can be replaced/upgraded

## KS 98-2 Option Modules

To be installed into KS98-2 in order line above  
Please indicate for all option module slots (12 digits)



A98 - F - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Factory installed  
Strip P / Segment 3  
Strip P / Segment 4  
Strip A / Segment 2  
Strip A / Segment 3  
Strip B / Segment 1  
Strip B / Segment 2  
Strip B / Segment 3  
Strip B / Segment 4  
Strip C / Segment 1  
Strip C / Segment 2  
Strip C / Segment 3  
Strip C / Segment 4

**Modules and Positions**

|         |         |         |   |
|---------|---------|---------|---|
| 0 0 0 0 | 0 0 0 0 | 0 0 0 0 | Not Fitted                                      |
| - - U U | U U U U | U U U U | Universal Input                                 |
| - - R R | R R R R | R R R R | Dual Pt100/1000, Ni100/1000, Resistance         |
| - - T T | T T T T | T T T T | Dual Thermocouple, mV, 0/4...20mA               |
| - - V V | V V V V | V V V V | Dual -50...1500mV (eg. Zirconia Probe), 0...10V |
| - - P P | P P P P | P P P P | 0/4...20mA Input with Transmitter Power Supply  |
| A A A A | A A A A | A A A A | Dual DC Drive Output for SSR                    |
| L L L L | L L L L | L L L L | Dual Linear Out (mA / VDC)                      |
| B B B B | B B B B | B B B B | Dual Bipolar Linear Out (-10V...10V)            |
| - - D D | D D D D | D D D D | Dual Digital I/O                                |

## Separate Module Orders

A98 - M - U

**Available Modules**

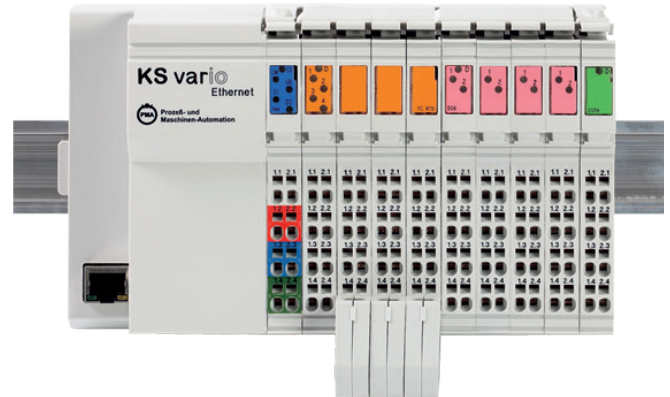
- U Universal Input
- R Dual Pt100/1000, Ni100/1000, Resistance
- T Dual Thermocouple, mV, 0/4...20mA
- V Dual -50...1500mV (eg. Zirconia Probe), 0...10V
- P 0/4...20mA Input with Transmitter Power Supply
- A Dual DC Drive Output for SSR
- L Dual Linear Out (mA/ VDC)
- B Dual Bipolar Linear Out (-10V...10V)
- D Dual Digital I/O

# KS Vario Modular I/O Multi-Loop Control System

The KS vario behind panel multi-loop controller system was specifically developed for machine temperature control in combination with PLC systems. To ensure easy integration to wider plant systems, many common fieldbus systems are supported. By selecting the necessary I/O modules, the system can be configured for up to 30 control loops very economically and in precise increments.

## Benefits & Features

- Remote I/O style mechanical design - Single module 12.2 x 120 x 71.5mm
- Up to 30 process inputs for thermocouple, PT100, mV, V and mA sensors
- Variety of outputs for control and alarms
- RS485 Modbus, Ethernet Modbus® TCP, Profibus, Profinet, Ethernet/IP and CAN open communications
- PID control loops can be assigned to process inputs
- Additional process measurements and signals can be integrated
- Highly modular expansion
- Heater current monitoring
- CE, UL, cUL and CSA



For full dimensions see datasheet

## Bus Coupler

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

### Option

- 1 Profibus-DP/V1
- 2 CAN Open
- 3 Modbus® TCP
- 5 Modbus® RTU
- 7 Profinet
- 8 Ethernet IP

## Controller

KSVC - 1 0 4 - 0 0 33 1 - U 00

### Protocol

- 1 For Ethernet Mod/TCP, Ethernet IP, Profibus, Modbus®, Profinet
- 2 CAN Open

### 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 VDC, 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 VDC, 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 VDC, 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 VDC, 1 Heating Current Input, I/O Extensible Up to 30 Channels

## I/O Extension

KSVC - 1 0 x - 0 x x x 1

For a full list of available modules please refer to the KS Vario price list or visit [www.west-cs.com](http://www.west-cs.com) to get in contact.

# DIN Rail Panel-Mounted Controller

## Model

MAXVU Rail

KS 45

CI 45

SG 45

Rail Line I/O modules



| Device Type                                     | Controller/Transmitter | Controller  | Transmitter           | Strain Gauge Transmitter | I/O           |
|---|------------------------|-------------|-----------------------|--------------------------|---------------|
| <b>Page Number</b>                              | 23                     | 25          | 26                    | 26                       | 27            |
| <b>Dimensions (mm)</b>                          |                        |             |                       |                          |               |
| Height  | 107                    | 99          | 99                    | 99                       | 99            |
| Width   | 22                     | 22          | 22                    | 22                       | 22            |
| Depth   | 123                    | 117         | 117                   | 117                      | 117           |
| <b>Display</b>                                  |                        |             |                       |                          |               |
| Display type                                    | OLED                   | LCD         | LCD                   | LCD                      | LED indicator |
| <b>Connectors</b>                               |                        |             |                       |                          |               |
| Screw terminal - plug in                        | ○                      | ○           | ○                     | ○                        | ○             |
| Spring terminal - plug-in                       | ○                      | ○           | ○                     | ○                        | ○             |
| <b>Inputs</b>                                   |                        |             |                       |                          |               |
| Thermocouple/RTD                                | ●                      | ●           | ●                     |                          | ○             |
| DC linear V/mA                                  | ●                      | ●           | ●                     |                          | ○             |
| Strain gauge                                    |                        |             |                       | ●                        |               |
| Digital inputs                                  | ●                      |             |                       |                          |               |
| Remote set-point                                |                        | ●           |                       |                          | ○             |
| <b>Outputs</b>                                  |                        |             |                       |                          |               |
| Max. Number of outputs                          | 3                      | 3           | 3                     | 2                        | 8 per module  |
| Relay   | ○                      | ○           | ●                     |                          | ○             |
| SSR driver                                      | ○                      | ○           | ●                     |                          | ○             |
| DC linear                                       | ○                      | ○           |                       |                          | ○             |
| Triac   |                        |             |                       |                          |               |
| Transmitter PSU                                 |                        | ○           |                       | ●                        |               |
| <b>Features &amp; Functions</b>                 |                        |             |                       |                          |               |
| Control type                                    | On/Off, PID            | On/Off, PID | Measurement and alarm | Measurement and alarm    |               |
| Max. Number of alarms                           | 2                      | 3           | 3                     | 3                        |               |
| Retransmission output                           | ○                      | ○           | ○                     | ○                        |               |
| Heater break alarm                              |                        |             |                       |                          |               |
| Software  | MAXVU Configurator     | BlueControl | BlueControl           | BlueControl              | BlueControl   |
| <b>Communication</b>                            |                        |             |                       |                          |               |
| Modbus® RTU                                     | ○                      | ○           | ○                     | ○                        |               |
| Bus coupler module support (for major Fieldbus) |                        | ○           | ○                     | ○                        | ○             |
| <b>Power Supply</b>                             |                        |             |                       |                          |               |
| 110 VAC   | ○                      | ○           | ○                     | ○                        |               |
| 230VAC  | ○                      | ○           | ○                     | ○                        |               |
| 24VAC/DC  | ○                      | ○           | ○                     | ○                        | ●             |

● Fitted ○ Option

# MAXVU Rail Behind Panel Controller

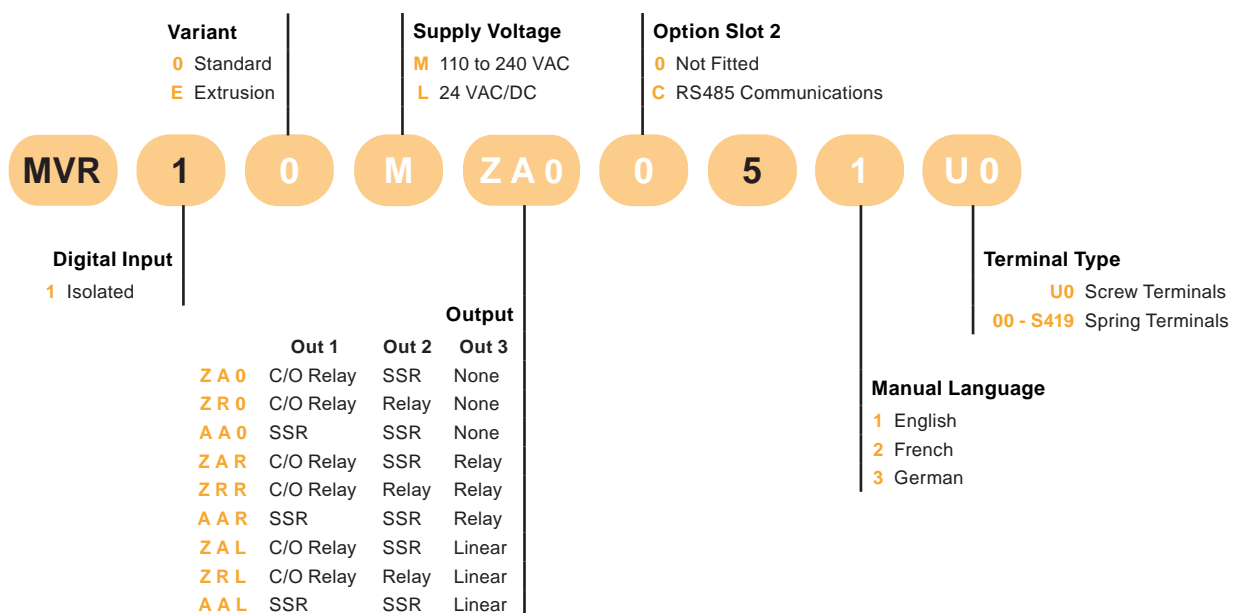
MAXVU Rail is a compact DIN-rail mount temperature controller/transmitter and limiter range for general industrial and scientific equipment requiring a reduced back panel footprint, centralized control or minimal front panel components.

## Benefits & Features

- DIN rail mounted, 107 x 22 x 103mm (HxWxD)
- OLED text/icon matrix display
- Thermocouple, PT100 or linear DC sensor input
- Isolated digital input
- Up to 3 outputs
- RS485 Modbus® RTU communications
- Heat/cool control strategy
- Quick setup menu
- Front configuration port
- CE, UL & cUL



## MAXVU Rail Controller / Transmitter



# Rail Line Process Instrumentation System

Rail Line offers high accuracy measurement modules and independent control, monitoring and limiter modules for decentralized automation installations. It provides connectivity to the common field bus systems.

## Benefits & Features

- DIN rail mounted, 96 x 22.5 x 117.5mm (HxWxD)
- Field bus coupler for Profibus, CAN, Modbus® TCP, Modbus® RTU and Profinet
- Up to 62 modules in a system
- Configurable fail safe mode
- Stand alone function modules
- Hot swap capability
- Plug-in terminals
- CE, UL & cUL



## Field Bus Couplers

- Profibus DP
- Profinet IO
- Modbus/TCP
- CAN open
- Modbus® RTU
- And additional power supply for large systems



### Connector

- 0 Without Terminal Blocks
- 1 Screw Terminal
- 2 Spring-Clamp Terminals

### Certification

- 0 None
- U UL/cUL-Certified

RL40 - 1 1 2 - 00000 - U 00

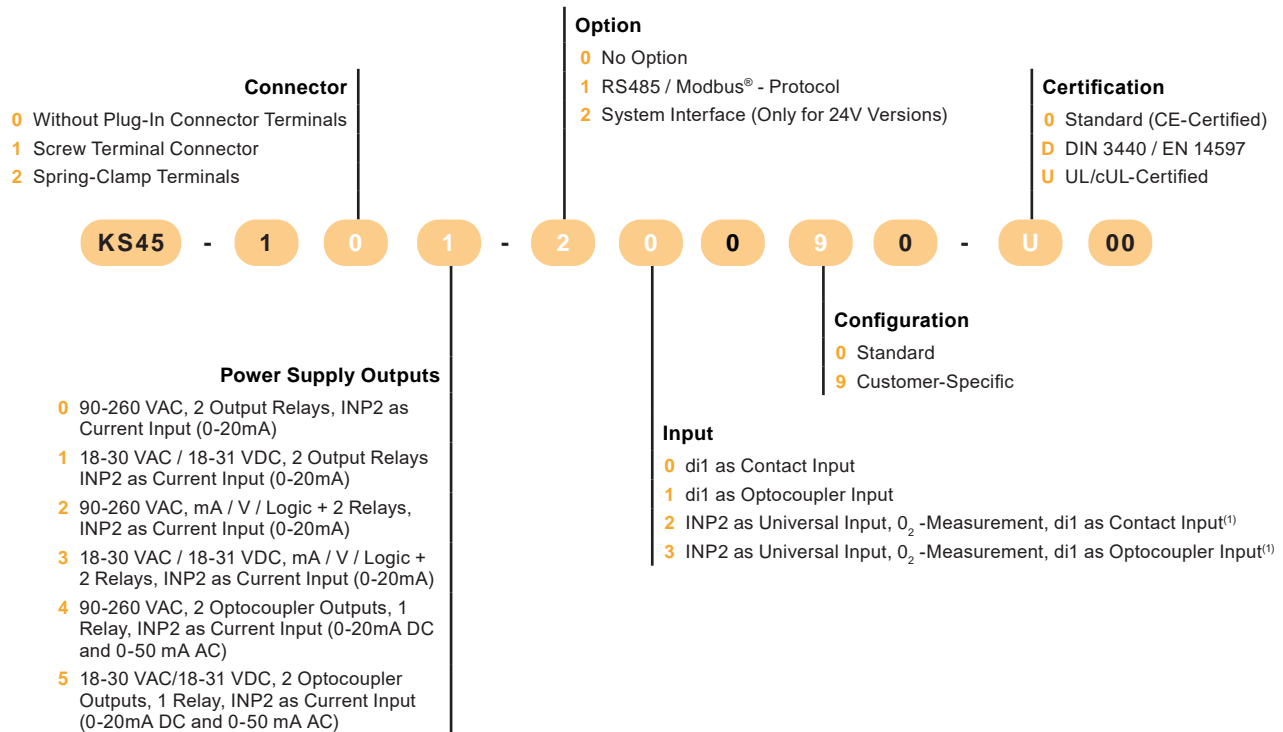
### Configuration

- 1 CAN Open
- 2 Profibus DP/DPV1
- 3 Modbus® RTU
- 4 Ethernet Modbus®/TCP
- 5 Profinet IO
- 9 Power Supply Module 24V

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

## Benefits & Features

- DIN-Rail Mounted 99mm x 22.5mm x 117.5mm (HxWxD)
- LCD configuration and status display
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Optional second universal input
- 3 outputs including one universal output
- RS485 Modbus® RTU or system fieldbus communications
- PID heat/cool and VMD control strategies
- Fast sampling rate
- Timer and programmer
- Customer-specific linearization for non-standard sensors
- CE, UL, cUL and type tested to EN 14597



<sup>(1)</sup>Not on versions with optocoupler outputs (KS45-1x4... and KS45-1x5...)

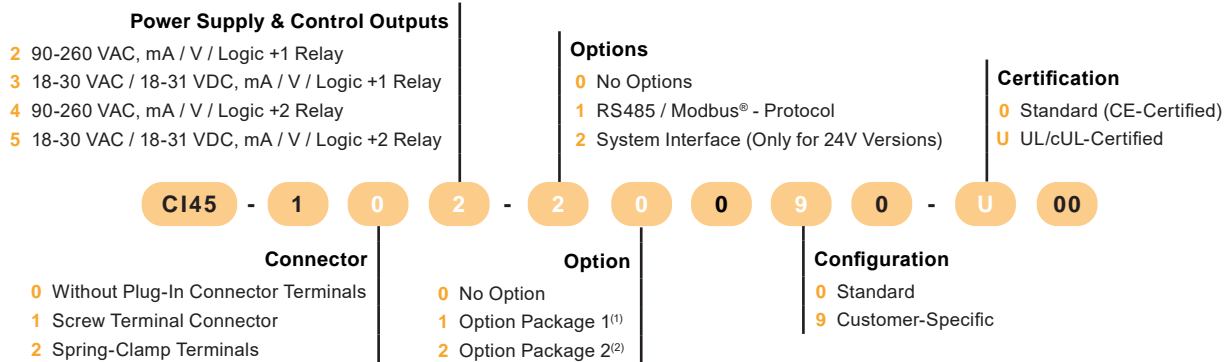
# CI 45 & SG 45 Rail Line Transmitter

High accuracy transmitters, stand alone version for direct connection via RS485 Modbus® or system version with bus coupler and inter-module connections permit additional controllers, transmitters and limiters to be fitted without additional power or communications wiring.

## CI 45 Universal Transmitter

### Benefits & Features

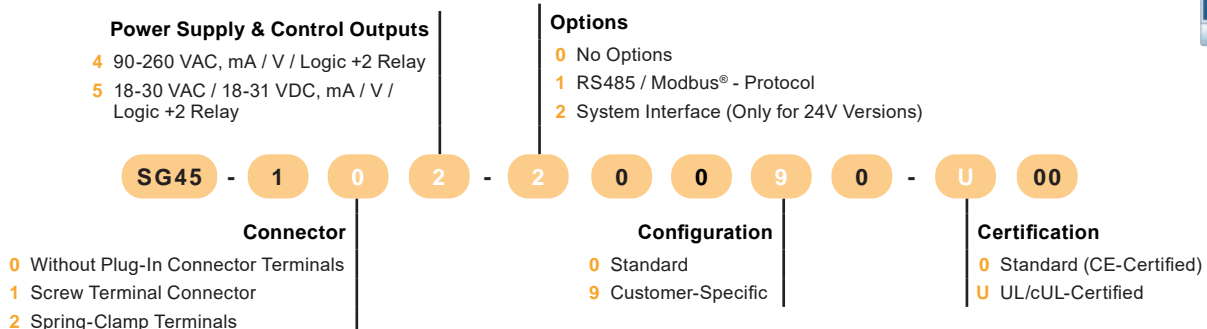
- DIN-Rail Mounted 99mm x 22.5mm x 117.5mm (HxWxD)
- LCD configuration and status display
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Optional second universal input
- 3 outputs including one universal output
- Counter/frequency input, frequency output
- RS485 Modbus® RTU or system fieldbus communications
- User input calibration
- Slave pointer (min/max indicator)
- Fast sampling rate
- Customer-specific linearization for non-standard sensors
- CE, UL and cUL



## SG 45 Strain Gauge Transmitter

### Benefits & Features

- Special-purpose transmitter for strain gauge input
- Mechanics, user interface and communications as KS 45
- 24 bit measuring bridge input
- 2 relay outputs
- Voltage supply for the strain gauge bridge
- Simple scaling during commissioning
- 4 or 6-wire connection for force measurement
- CE, UL and cUL



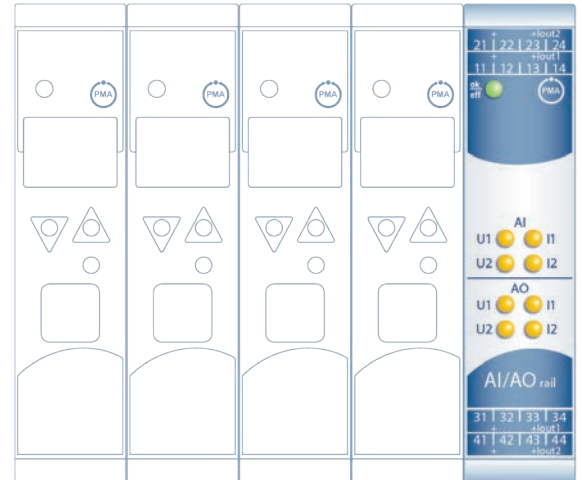
<sup>(1)</sup> Option package 1: additional universal input INP2, plus: O2-measuring; counter input; functions tare, sample & hold and integrator

<sup>(2)</sup> Option package 2: additional to option package 1: digital input as optocoupler and frequency input / output

Rail Line offers a variety of sophisticated I/O modules for data acquisition and monitoring. They can be used in combination with the specialized function modules or just as remote I/O.

## Benefits & Features

- DIN-rail mounted 99mm x 22.5mm x 117.5mm (HxWxD)
- LED indicators for status
- Digital and analog input & output modules
  - Pt 100 in 2 or 4-wire connection
  - Thermocouples
  - mA/V
  - Relays
  - Potential-free digital inputs
  - NPN/PNP inputs
- Fits with system fieldbus communications
- High precision analog signals
- Reinforced galvanic isolation
- Linearization and measured value correction
- CE, UL and cUL



- Analog Inputs**
- 4220 RL 422-0 Analog Inputs, 4 x I / U / TPS / Potentiometer
  - 4221 RL 422-1 Analog Inputs 2 x I / U Galvanic. Isolated
  - 4230 RL 423-0 RTD 4 x Pt100 Galvanic Isolated
  - 4231 RL 423-1 RTD 4 x Pt1000 Galvanic Isolated
  - 4232 RL 423-2 RTD 4 x Pt100/Pt1000
  - 4233 RL 423-3 RTD 2 x Pt100 Galvanic Isolated
  - 4240 RL 424-0 2 x TC Galvanic Isolated
  - 4241 RL 424-1 2 x TC / O<sub>2</sub> (mV)
  - 4242 RL 424-2 4 x TC Galvanic Isolation 2/2
  - 4610 RL 461-0 Combi module, 2 x AI ( $\pm U / \pm I$ , 16 Bit Differential Inputs; 2 x AO ( $\pm U / \pm I$ , 12 Bit)

- Digital Inputs**
- 4420 RL 442-0 Digital Inputs 2 x 4 24 VDC (PNP / Contact, Potential-Free)
  - 4421 RL 442-1 Digital Inputs 2 x 4 24 VDC (NPN / Contact, Potential-Free)
  - 4422 RL 442-2 Digital Inputs 8 x 1 24 VDC (Individual Supply)
  - 4430 RL 443-0 4 x Digital Inputs (115/230 VAC)

- Analog Outputs**
- 4310 RL 431-0 4 x I / U ( $\pm 10V / \pm 20mA$ , 12 Bit)
  - 4610 RL 461-0 Combi Module, 2 x AI ( $\pm U / \pm I$ , 16 Bit) Differential Inputs; 2 x AO ( $\pm U / \pm I$ , 12 Bit)
- Digital Outputs**
- 4510 RL 451-0 Digital Outputs 2 x 4 24 VDC / 2A
  - 4511 RL 451-1 Digital Outputs 2 x 4 24 VDC / 2A (Free Wheeling Diode)
  - 4520 RL 452-0 Relay Outputs 4 x 230 VDC / 5A

RL40 - 1 0 0 - 0000 0 - U 00

### Connector

- 0 Without Terminal Blocks
- 1 Screw Terminal
- 2 Spring-Clamp Terminal

### Certification

- 0 Standard (CE-Certified)
- U UL/cUL-Certified

# Panel-Mounted Indicators

| Model                           | 6010+ & 8010+            | D280-1      | EI2410              | EI2041      |
|---------------------------------|--------------------------|-------------|---------------------|-------------|
| <b>Family</b>                   | + Series                 | Blueport    | Thermostat          | Thermostat  |
| <b>Page Number</b>              | 29                       | 30          | 31                  | 31          |
| <b>Front Format</b>             |                          |             |                     |             |
| Thermostat format (29 x 71mm)   |                          |             | ●                   | ●           |
| 1/32 DIN (24 x 48mm)            |                          |             |                     |             |
| 1/16 DIN (48 x 48mm)            | ○                        |             |                     |             |
| 1/8 DIN horizontal (48 x 96mm)  | ○                        | ●           |                     |             |
| Depth                           | 110mm / 100mm            | 118mm       | 71mm                | 71mm        |
| <b>Display</b>                  |                          |             |                     |             |
| Display type                    | 4 digit LED              | 5 digit LED | 4 digit LED         | 4 digit LED |
| <b>Connectors</b>               |                          |             |                     |             |
| Screw terminal                  | ●                        | ○           | ●                   | ●           |
| Spade terminals                 |                          | ○           |                     |             |
| <b>Inputs</b>                   |                          |             |                     |             |
| Thermocouple/RTD                | ●                        | ●           |                     |             |
| DC linear V/ma                  | ●                        | ●           |                     | ●           |
| NTC                             |                          |             | ●                   |             |
| <b>Outputs</b>                  |                          |             |                     |             |
| Max. Number of outputs          | 3                        | 3           | 0                   | 2           |
| Relay                           | ○                        | ○           |                     | ○           |
| SSR driver                      | ○                        |             |                     |             |
| DC linear                       | ○                        | ○           |                     |             |
| Triac                           | ○                        |             |                     |             |
| Transmitter PSU                 | ○                        | ○           |                     | ●           |
| <b>Features &amp; Functions</b> |                          |             |                     |             |
| Alarm                           | ●                        | ●           | Visual display only | ●           |
| Retransmission output           | ○                        | ○           |                     |             |
| RS485 communications            | ○                        | ○           |                     | ○           |
| Software                        | Plus Series Configurator | BlueControl |                     |             |
| <b>Power Supply</b>             |                          |             |                     |             |
| 110 VAC                         | ○                        | ○           | ○                   | ○           |
| 230 VAC                         | ○                        | ○           | ○                   | ○           |
| 12 VAC/DC                       |                          |             | ○                   | ○           |
| 24 VAC/DC                       | ○                        | ○           | ○                   | ○           |
| 48 VAC/DC                       | ○                        |             |                     |             |

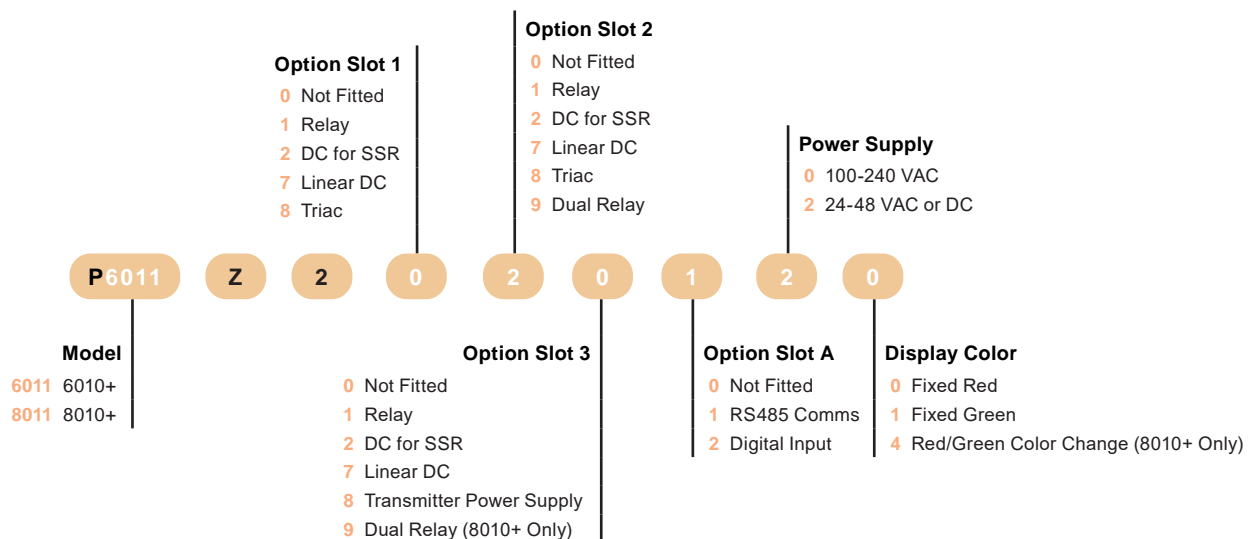
● Fitted ○ Option

# 6010+ & 8010+ Process 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).

## Benefits & Features

- 1/16 DIN (48 x 48 mm), depth 110mm and 1/8 DIN horizontal (48 x 96 mm), depth 100 mm
- Membrane fascia with common + series design
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 4 outputs
- RS485 Modbus® RTU communications
- Latching or non-latching alarm outputs
- Programming port for fast configuration using FTP software
- Multi-point scaling and tare features
- CE, UL, cUL and CSA



# D280-1 5-Digit Process Indicator

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

The instrument offers customer-specific linearization for special sensors (16 segments). The maximum and minimum values are stored and can be displayed when needed. In addition to an indicator the Digital 280-1 can also be used as a controller.

## Benefits & Features

- 1/8 DIN (horizontal - 48 x 96 mm), 118mm depth
- 5-digit, 20mm large display
- Common BluePort® family styling
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 3 outputs
- RS485 Modbus® RTU communications
- BluePort® front interface and BlueControl® software
- Maintenance manager and error list
- Widely configurable alarms
- CE, UL and cUL

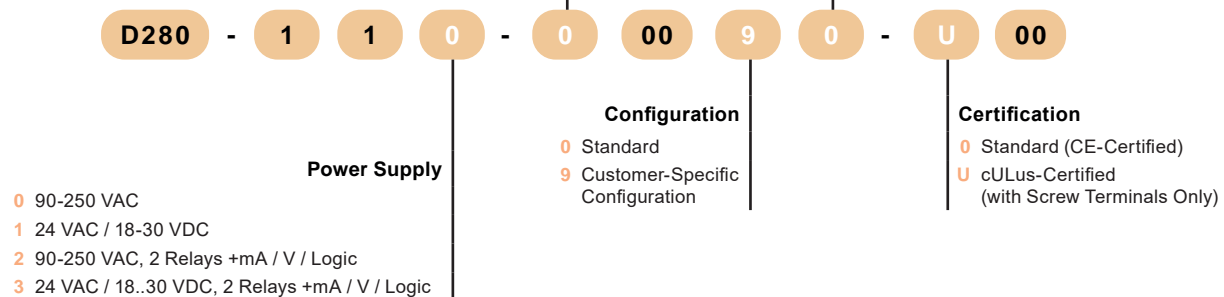


### Options

- 0 Not Option
- 1 Modbus® RTU + Transmitter Power Supply + Digital Input di2, di3 (Optical Coupler)

### Manual Language

- 0 No Manual
- D German
- E English
- F French
- R Russian



# EI2410 & EI2041 Basic Indicators

Compact digital indicators for temperature and process measurement. EI2410 offers temperature indication within a range of -60 to 150°C using a NTC sensor. EI2041 rescales linear DC signals to display process data in the required units.

## EI2410

### Benefits & Features

- 35 x 77 mm format, 71mm depth (29 x 71 mm cutout)
- NTC sensor 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



## EI2041

### Benefits & Features

- 35 x 77 mm format, 71mm depth (29 x 71 mm cutout)
- Input types (0-20mA, 4-20mA, 0-1V, 0-10V)
- Up to 2 relay outputs
- Scale adjustable between -1999 and 4000
- Adjustable decimal point with process units
- Min and max values can be stored on the display
- RS485 Modbus® RTU communications
- Alarm function
- TPS output
- CE



## EI2410

### Voltage

- 230 230 VAC
- 024 24 VAC/DC
- 012 12 VAC/DC

EI2410

230

F

### Units

- (Blank) Centigrade
- F Fahrenheit

## EI2041

### Voltage

- 230 230 VAC
- 024 24 VAC
- 012 12 VAC
- SM 9-30 VDC / 7-24 VAC

EI2041

230

2R

12

RS

### Relay

- (Blank) Not Fitted
- 2R 8A Output

### Sensor Supply Output

- (Blank) Not Fitted
- 12 12 VDC 50 mA
- 08 8 VDC 50 mA
- 05 5 VDC 50 mA

### Modbus® Selection

- (Blank) Not Fitted
- RS Communication

# Limit and Monitor Devices

|                                 | MAXVU Rail Limiter  | 6700+, 8700+ & 4700+  | TB 45   | TB 40-1   | STB 50  | STB 55  |
|---------------------------------|---|---|---|---|---|---|
| <b>Model</b>                    |  |  |  |  |  |  |
| <b>Family</b>                   | MAXVU   | + Series  | Rail Line   | Blue Port   |   |   |
| <b>Page Number</b>              | 33  | 34  | 35  | 36  | 37  | 38  |
| <b>Format</b>                   |   |   |   |   |   |   |
| 1/16 DIN (48 x 48mm)            |   | ●   |   |   |   |   |
| 1/8 DIN (96 x 48mm)             |   | ●   |   | ●   |   |   |
| 1/4 DIN (96 x 96mm)             |   | ●   |   |   | ●   |   |
| DIN rail behind panel           | ●   |   | ●   |   |   | ●   |
| Depth (inside panel)            | 123mm   | 110mm / 100mm   | 118mm   | 118mm   | 119mm   | 110mm   |
| <b>Display</b>                  |   |   |   |   |   |   |
| Display type                    | OLED  | 2 x 4 digit LED   | LCD   | 2 x 4 digit LED   | LCD   | LCD   |
| <b>Connectors</b>               |   |   |   |   |   |   |
| Screw terminal - fixed          |   | ●   |   | ○   |   | ○   |
| Screw terminal - plug-in        | ●   |   | ○   |   |   |   |
| Faston terminals                |   |   |   | ○   |   |   |
| Spring clamp terminal           |   |   | ○   |   | ●   |   |
| <b>Inputs</b>                   |   |   |   |   |   |   |
| Thermocouple/RTD                | ●   | ●   | ●   | ●   | ●   | ●   |
| DC linear V/mA                  | ●   | ●   | ●   | ●   |   |   |
| Digital inputs                  | 1   | 1 or 2  | 1   | 1 or 3  | 1   | 1   |
| <b>Outputs</b>                  |   |   |   |   |   |   |
| Max. Number of outputs          | 3   | 3   | 3   | 3   | 3   | 3   |
| Relay                           | ●   | ●   | ●   | ●   | ●   | ●   |
| SSR driver                      | ○   | ○   |   |   |   |   |
| DC linear                       | ○   | ○   | ●   | ●   | ●   | ●   |
| Triac                           |   | ○   |   |   |   |   |
| Transmitter PSU                 |   | ○   |   |   |   |   |
| <b>Certification</b>            |   |   |   |   |   |   |
| FM                              | ●   | ●   |   |   |   |   |
| EN14597                         |   |   | ●   | ●   | ●   | ●   |
| SIL2                            |   |   |   |   | ●   | ●   |
| <b>Features &amp; Functions</b> |   |   |   |   |   |   |
| RS485 communications            | ○   | ○   | ○   | ○   |   |   |
| Software                        | MAXVU Configurator  | Plus Series Configurator  | BlueControl   | BlueControl   |   |   |
| <b>Power Supply</b>             |   |   |   |   |   |   |
| 110 VAC                         | ○   | ○   | ○   | ○   | ○   | ○   |
| 230 VAC                         | ○   | ○   | ○   | ○   | ○   | ○   |
| 24 VAC/DC                       | ○   | ○   | ○   | ○   | ○   | ○   |

● Fitted ○ Option

# MAXVU Rail Behind Panel Temperature Limiter

MAXVU Rail is a compact DIN-rail mount temperature limiter for equipment requiring a reduced back panel footprint, centralized control or minimal front panel components.

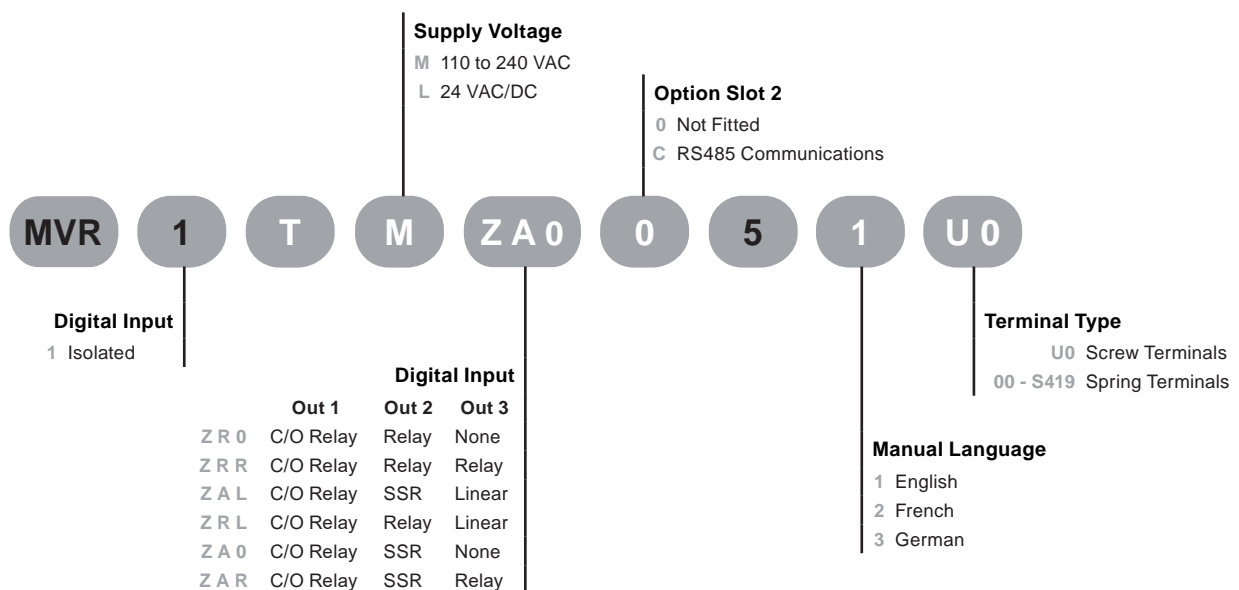
## Benefits & Features

- DIN rail mounted, 107 x 22 x 103mm (HxWxD)
- OLED Text / Icon matrix display
- Thermocouple, PT100 or linear DC sensor input
- Isolated digital input
- Up to 3 outputs
- RS485 Modbus® RTU communications
- Limit alarm plus separate warning
- Quick setup menu
- Front configuration port
- CE, UL & cUL & FM



Limit Device Approval: FM

## MAXVU Rail Limiter



# 6700+, 8700+ & 4700+ Panel Mount Limit Controller

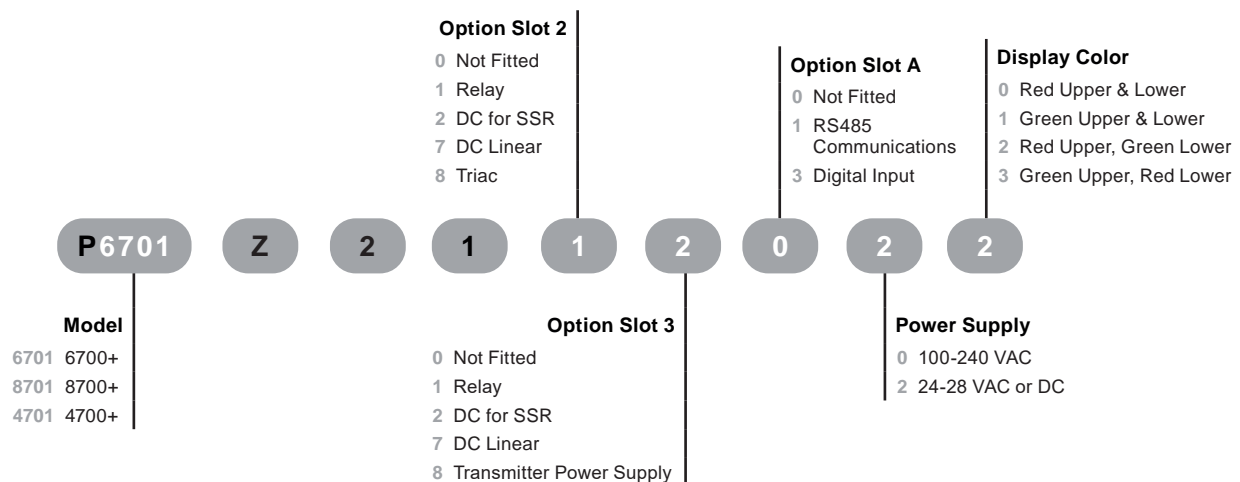
The + series of limiter are used in a broad range of temperature control applications where independent protection is required. The devices have commonality with the + series controllers in both styling and operation so can both easily be integrated within the same equipment.

## Benefits & Features

- 1/16 DIN (48 x 48 mm), 110mm depth, 1/8 DIN (96 x 48 mm), 100 mm depth and 1/4 DIN (96 x 96 mm), 100mm depth
- Membrane fascia with common + series design
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 3 outputs
- Wide range of options available
- RS485 Modbus® RTU communications
- Limit alarm plus separate warning
- Programming port for fast configuration using FTP software
- CE, UL, cUL, CSA and FM



## Limit Device Approval: FM



# TB 45 Behind Panel Temperature Limiter

The TB 45 temperature monitor/limiter offers a stand alone version for direct connection via RS485 Modbus® or system version with bus coupler and inter-module connections which permit additional controllers, transmitters and limiters to be fitted without additional power or communications wiring.

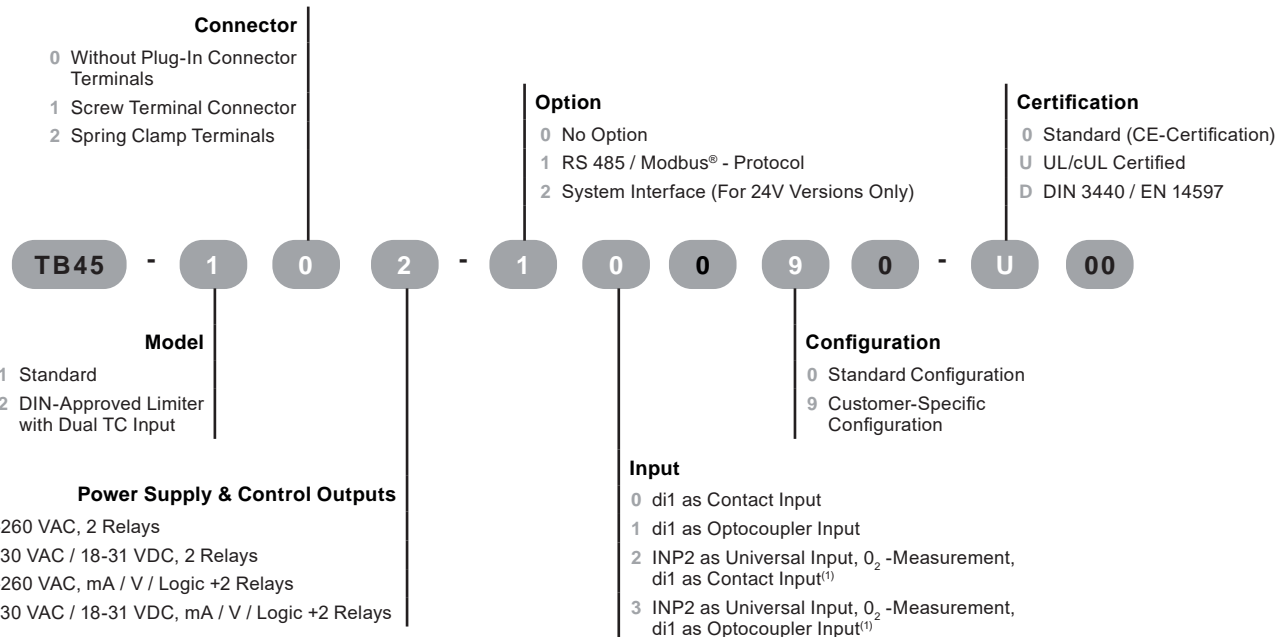
## Benefits & Features

- DIN-Rail Mounted 99mm x 22.5mm x 117.5mm (HxWxD),
- LCD configuration and status display
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Optional second input
- 2 alarm outputs and retransmission output
- RS485 Modbus® RTU or system fieldbus communications
- Limit alarm plus separate warning
- Meets requirement of TB and TW to EN14597
- CE, UL and cUL

See other Rail Line products on page 24.



**Limit Device Approval:  
EN14597 TB & TW**



<sup>(1)</sup> Only available on standard version (model = 1).

# TB 40-1 Panel Mount Temperature Limiter

The TB40-1 limiter is used in a broad range of temperature control applications including furnaces and steam equipment where independent protection is required.

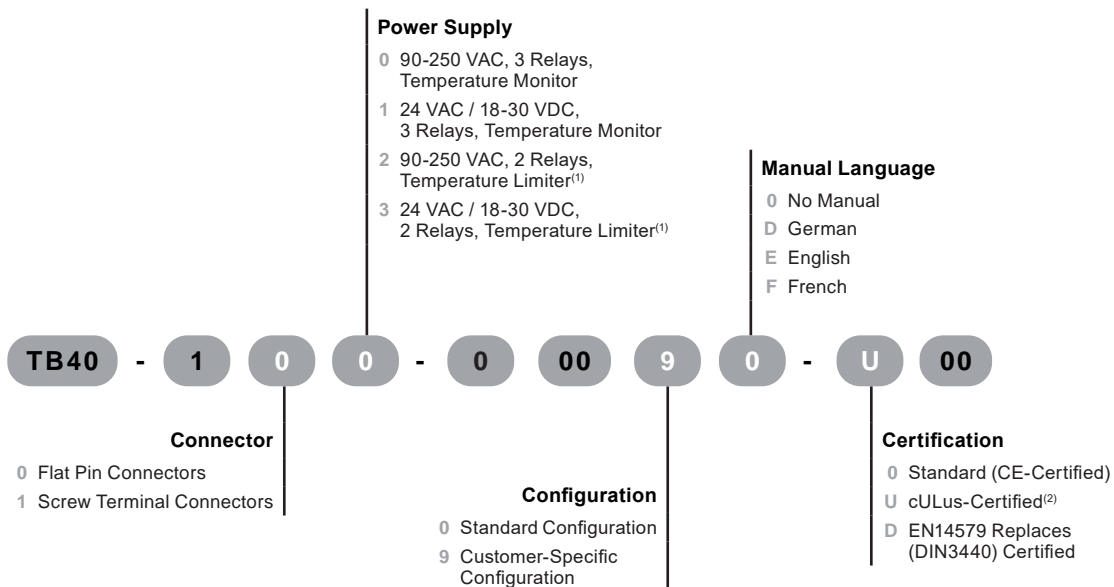
The devices have commonality with the BluePort® controllers in both styling and operation so can easily be integrated within the same equipment.

## Benefits & Features

- 1/8 DIN (horizontal - 48 x 96 mm), 1/8 DIN (96 x 48 mm) and 1/4 DIN (96 x 96 mm), 118 mm depth
- Common BluePort® family styling
- Universal input for thermocouple, PT100, mV, V and mA sensors
- Up to 3 outputs
- RS 422/485 Modbus® communications
- BluePort® Front interface and BlueControl® software
- Limit alarm plus separate warning
- Meets requirement of TB and TW to EN14597
- CE, UL and cUL



**Limit Device Approval:  
EN14597 TB & TW**



<sup>(1)</sup> TB (EN14597, 2009-1), not available with cULus

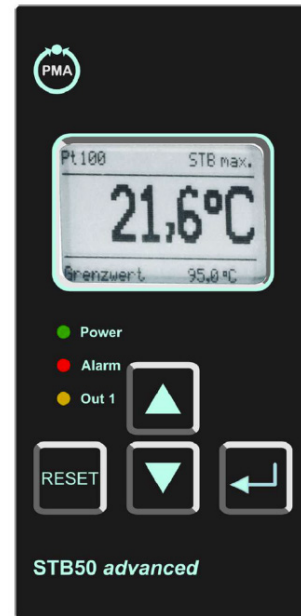
<sup>(2)</sup> With screw terminals only, not available as Temperature limiter TB (EN14597, 2009-1)

# STB 50 Panel Mount Safety Limiter

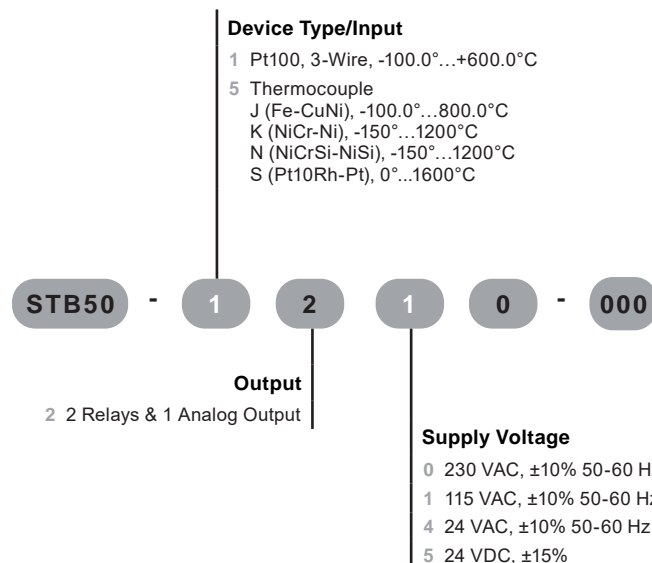
The STB 50 safety temperature limiter is used as a panel mounted device when thermal processes must be monitored and the system must be transferred into a safe operational state in case of fault.

## Benefits & Features

- 1/8 DIN (96 x 48 mm), 119 mm depth
- Panel-mounted device
- Graphic-LCD-display, with white LCD-backlight
- Inputs RTD Pt100 or double-thermocouple
- 2 alarm outputs and retransmission output
- Usable as limiter and exhaust gas limiter
- Safety limit alarm plus separate warning
- Memory function for error message
- Certified according to DIN EN 14597 SIL2



**Limit Device Approval:**  
SIL2, EN14597

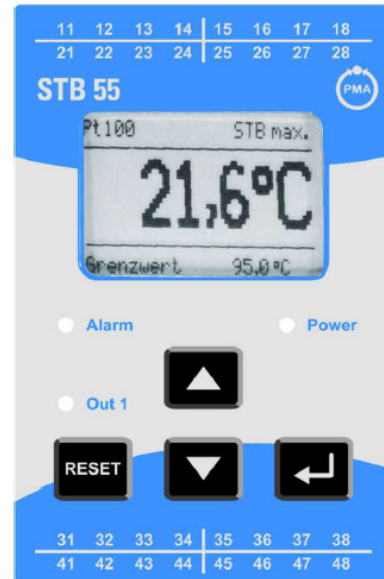


# STB 55 Behind Panel Safety Temperature Limiter

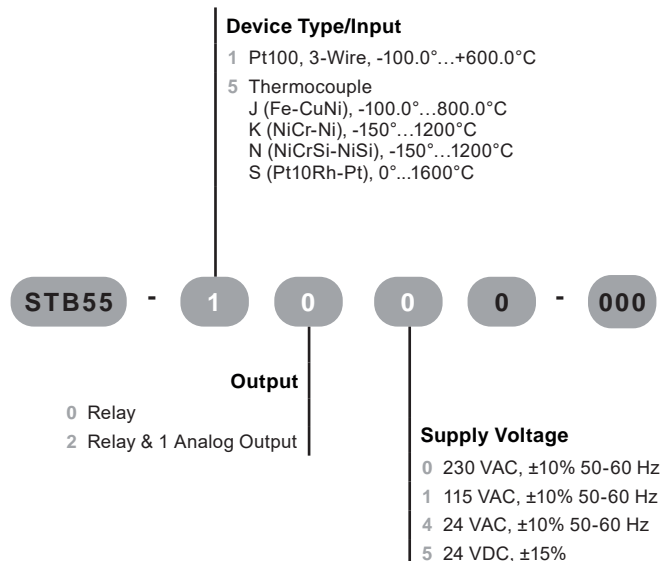
The STB55 safety temperature limiter is used as a behind panel device when thermal processes must be monitored and the system must be transferred into a safe operational state in case of fault.

## Benefits & Features

- Rail Mounted (100 x 50 mm), 110 mm depth
- Behind panel device
- Graphic-LCD-display, with white LCD-backlight
- Inputs RTD Pt100 or double-thermocouple
- 2 alarm outputs and retransmission output
- Usable as limiter and exhaust gas limiter
- Safety limit alarm plus separate warning
- Memory function for error message
- Certified according to DIN EN 14597 SIL2



**Limit Device Approval:  
SIL2, EN14597**



# Digital Thermostats

| Model                           | ET2001 & ET2011 | ET2411 & ET2412 | EDT2411, EDT2412 & EDT2423 | ETM2432<br>Timer |
|---------------------------------|-----------------|-----------------|----------------------------|------------------|
| <b>Page Number</b>              | 40              | 41              | 41                         | 42               |
| <b>Display</b>                  |                 |                 |                            |                  |
| Display type                    | 1 x 4 digit LED | 1 x 4 digit LED | 1 x 4 digit LED            | 1 x 4 digit LED  |
| Single line                     | ●               | ●               | ●                          | ●                |
| <b>Connectors</b>               |                 |                 |                            |                  |
| Screw terminal                  | ●               | ●               | ●                          | ●                |
| <b>Inputs</b>                   |                 |                 |                            |                  |
| J thermocouple                  | ○               |                 |                            |                  |
| PT100                           | ○               |                 |                            |                  |
| NTC                             |                 | ●               | ●                          |                  |
| Digital input                   |                 |                 |                            | 3                |
| <b>Outputs</b>                  |                 |                 |                            |                  |
| Max. Number of outputs          | 2               | 2               | 3                          | 2                |
| Relay                           | ●               | ●               | ●                          | ●                |
| SSR                             | ○               |                 |                            |                  |
| <b>Features &amp; Functions</b> |                 |                 |                            |                  |
| Control type                    | On/Off, PID     | On/Off          | On/Off                     | Timed relay      |
| Defrost function                |                 |                 | ●                          |                  |
| RS485 communications            |                 |                 | ○                          |                  |
| CAL-key programming             |                 |                 | ○                          |                  |
| <b>Power Supply</b>             |                 |                 |                            |                  |
| 110 VAC                         | ○               | ○               | ○                          | ○                |
| 230 VAC                         | ○               | ○               | ○                          | ○                |
| 12 VAC/DC                       | ○               | ○               | ○                          | ○                |
| 24 VAC/DC                       | ○               | ○               | ○                          | ○                |

● Fitted ○ Option

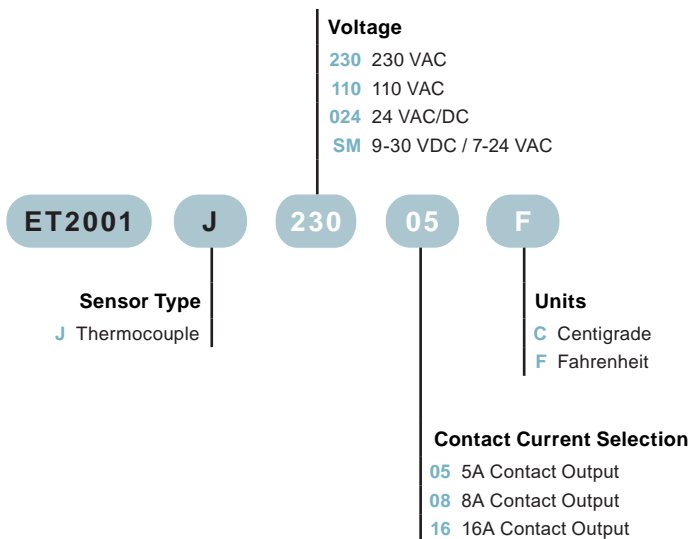
The CAL thermostat range is a complete family of small format devices for basic heating or cooling applications. The ET thermostats are cost-effective thermostat devices for both industrial heating or cooling applications, two output version also includes alarm function.

## Benefits & Features

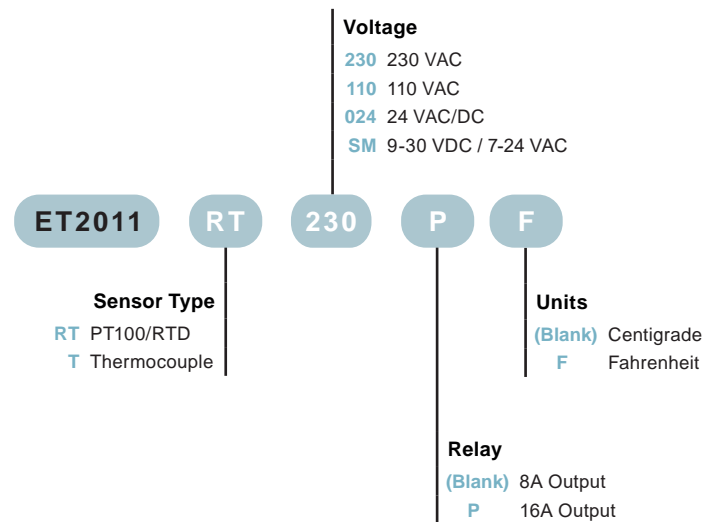
- 35 x 77 mm format, 71mm depth (29 x 71 mm cutout)
- J Thermocouple, PT100 (ET2011 only)
- Up to 2 outputs
- High current relay output available
- Heating or cooling control strategy
- On/Off or PID (ET2011) Control
- CE



## Single Output - Relay



## Two Output - Relay & SSR Drive



# ET2XXX & EDT24XX Commercial Digital Thermostats

The ET2411 and ET2412 are specifically designed for use with NTC sensors. They are easy to configure, have a large clear display for good visibility and a compact design that is fast to install.

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.

## ET2411 & ET2412 Digital Thermostats

### Benefits & Features

- 35 x 77 mm format, 71mm depth (29 x 71 mm cutout)
- NTC Sensor input -60 to 150°C
- Up to 2 outputs
- High current relay output available
- Heating or cooling On/Off control strategy
- CE



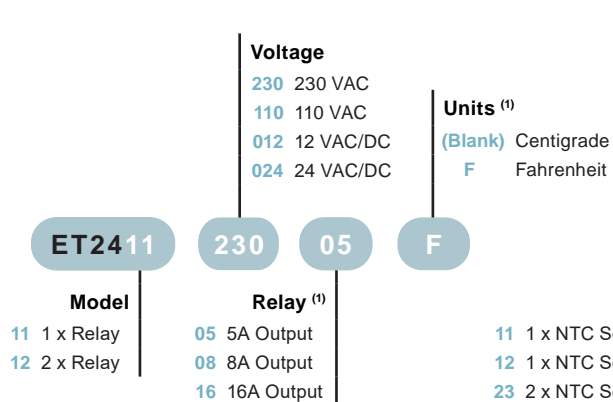
## EDT2411, EDT2412 & EDT2423 Digital Thermostats

### Benefits & Features

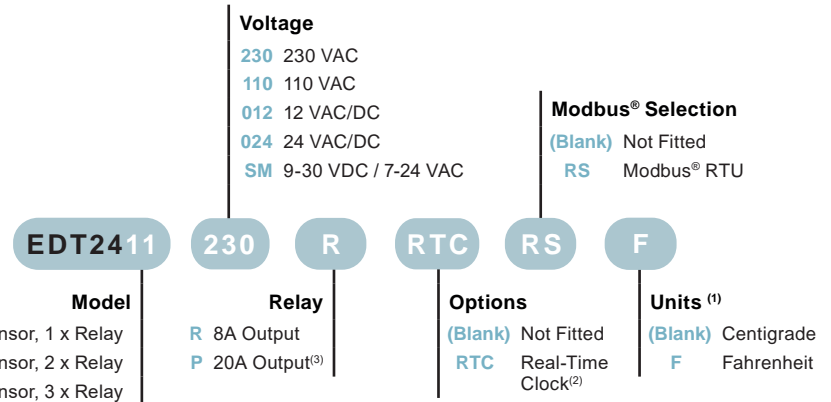
- 35 x 77 mm format, 71mm depth (29 x 71 mm cutout)
- Up to Two NTC Sensor input -60 to 150°C
- Up to 3 outputs
- High current relay output available
- RS485 Modbus® communications
- Compressor, defrost and fan control
- Real-time clock option
- CAL-key configuration
- CE



## ET2411 & ET2412



## EDT2411, EDT2412 & EDT2423



<sup>(1)</sup> These options are only available on ET2411 <sup>(2)</sup> Only available with 8A relay devices <sup>(3)</sup> 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.

### Benefits & Features

- 35 x 77 mm format, 71mm depth (29 x 71 mm cutout)
- External start, reset and hold digital inputs
- Dual contact timed output
- HH:MM or MM:SS
- Scale 0:01 to 99:59 minutes or 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
- CE



#### Voltage

- 230** 230 VAC
- 110** 110 VAC
- SM** 9-30 VDC / 7-24 VAC

ETM2432

230

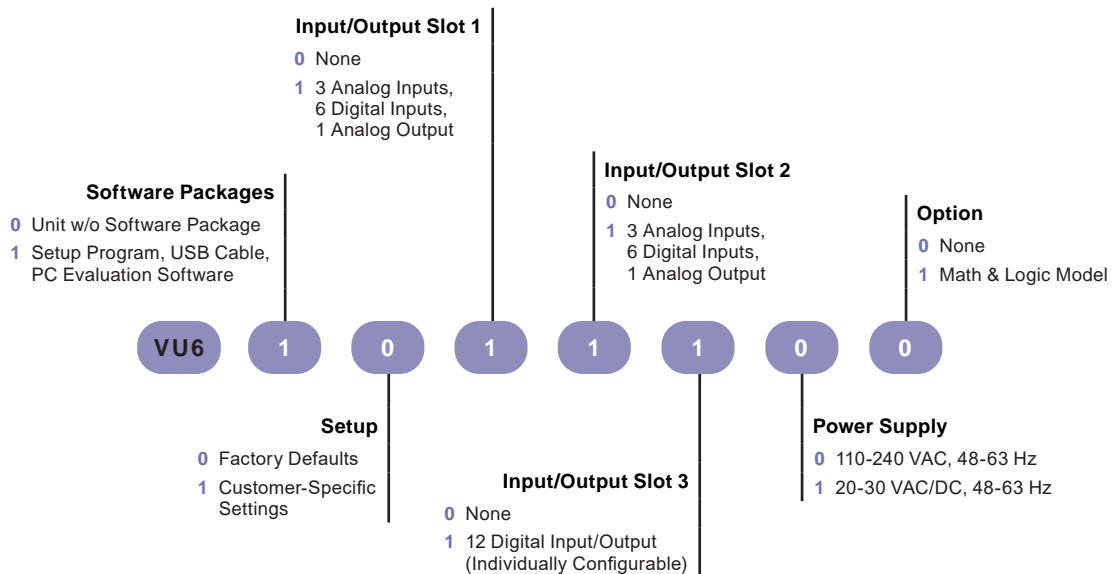
# Paperless Recorders

## DataVU 6 Paperless Recorder

The DataVU 6 paperless recorder features a resistive touchscreen and an intuitive, icon-based operation and visualization concept that makes it very easy to use. DataVU 6 supports up to 6 internal channels and up to 24 total by adding external I/O.

### Benefits & Features

- 144 x 144 x 119 mm (H x W x D)
- TFT display with touch operation
- Up to 6 internal analog inputs
- Up to 2 analog outputs
- RS485 Modbus® and Modbus® TCP communications
- Modbus® master function
- 18 external analog and digital channels
- 1 GB internal data memory
- Horizontal and vertical line graph
- CE, UL and cUL





# Pressure Transmitters

## P30-2 Pressure Transmitter

Industrial pressure transmitters for safe measurement and monitoring of many applications including gases, vapors and liquids. Designed to withstand harsh environments in the process industry.

P30-2 is suitable for applications up to 40 bar gauge pressure.

### Benefits & Features

- Premium pressure transmitter for gauge pressure measurement with 3 years warranty
- High repeatability and long-term stability
- High overload resistance
- Measuring ranges up to 40 bar (600psi)
- Customer-specific measuring ranges available
- Flush-mounted or manometer connection
- Housing and connection made from 316L



#### Process Connection (Internal Diaphragm)

- 1 G ½" A, EN 837, ISO 228
- 2 G ¼" A, EN 837, ISO 228
- 3 M20 x 1,5, EN 837, DIN 13
- 4 G ½" A, with M5 Inner Thread
- 5 G ½" A, with Mechanical Damping

#### Process Connection (Flush-mounting)

- 7 G ½" A, DIN3852, ISO 228
- 8 G ½" A with O-Ring

#### Output Signal

- 1 4..20mA, Two-Wire Connection
- 2 0..10V, Three-Wire Connection

#### Configuration

- |               |                                 |
|---------------|---------------------------------|
| 03 0-400 mbar | 09 0-6.0 bar                    |
| 04 0-600 mbar | 10 0-10 bar                     |
| 05 0-1 bar    | 11 0-16 bar                     |
| 06 0-1.6 bar  | 12 0-25 bar                     |
| 07 0-2.5 bar  | 13 0-40 bar                     |
| 08 0-4 bar    | 99 Special Ranges (From -1 bar) |

**P30** - **2** **1** **1** - **2** **0** **03** **0** - **00** **1**

#### Electrical Connection

- 1 M12 Connector
- 2 Valve Connector ISO4400 M16
- 3 Valve connector ISO4400 NPT1/2

#### Test & Calibration

- 0 Manufacturing Test Report
- 1 Calibration Certificate

#### Output Filter (Electronic Damping)

- |             |          |
|-------------|----------|
| 0 No Filter | 3 300 ms |
| 1 100 ms    | 4 400 ms |
| 2 200 ms    | 5 500 ms |

# P40-2 Pressure Transmitter

Industrial pressure transmitters for safe measurement and monitoring of many applications including gases, vapors and liquids. Designed to withstand harsh environments in the process industry.

P40-2 is suitable for applications up to 400 bar gauge and absolute pressure with excellent accuracy and repeatability.

## Benefits & Features

- Premium pressure transmitter for gauge and absolute pressure measurement with 3 years warranty
- High repeatability and long-term stability
- High overload resistance
- Measuring ranges up to 400 bar (6000psi)
- Customer-specific measuring ranges available
- Flush-mounted or manometer connection
- Housing and connection made from 316L



### Process Connection (Internal Diaphragm)

- 1 G 1/2" A, EN 837, ISO 228
- 2 G 1/4" A, EN 837, ISO 228
- 3 M20 x 1,5, EN 837, DIN 13
- 4 G 1/2" A, with M5 Inner Thread
- 5 G 1/2" A, with Mechanical Damping

### Process Connection (Flush-mounting)

- 7 G 1/2" A, DIN3852, ISO 228
- 8 G 1/2" A with O-Ring

### Measuring

- 0 Gauge Pressure
- 1 Absolute Pressure

### Special Version

- 0 Standard
- 1 Free of Grease and Oil

### Configuration

- |               |                                 |
|---------------|---------------------------------|
| 02 0-250 mbar | 12 0-25 bar                     |
| 03 0-400 mbar | 13 0-40 bar                     |
| 04 0-600 mbar | 14 0-60 bar                     |
| 05 0-1 bar    | 15 0-100 bar                    |
| 06 0-1.6 bar  | 16 0-160 bar                    |
| 07 0-2.5 bar  | 17 0-250 bar                    |
| 08 0-4 bar    | 18 0-320 bar                    |
| 09 0-6.0 bar  | 19 0-400 bar                    |
| 10 0-10 bar   | 99 Special Ranges (From -1 bar) |
| 11 0-16 bar   |                                 |

P40

- 2

1

1

- 1

0

03

0

- 00

1

### Electrical Connection (4..20mA)

- 1 M12 Connector
- 2 Valve Connector ISO4400 M16
- 3 Valve connector ISO4400 NPT1/2
- 4 Cable Outlet with 5m Cable
- 5 Cable Outlet with 10m Cable
- 6 Cable Outlet with 25m Cable

### Test & Calibration

- 0 Manufacturing Test Report
- 1 Calibration Certificate

### Output Filter (Electronic Damping)

- |             |          |
|-------------|----------|
| 0 No Filter | 3 300 ms |
| 1 100 ms    | 4 400 ms |
| 2 200 ms    | 5 500 ms |

For a full list of available modules please refer to the Pressure Transmitters brochure or visit [www.west-cs.com](http://www.west-cs.com) to get in contact.

## Contact

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Order from: **C A Briggs Company**

622 Mary Street; Suite 101; Warminster, PA 18974

Phone: 267-673-8117 - Fax: 267-673-8118

[Sales@cabriggs.com](mailto:Sales@cabriggs.com) - [www.cabriggs.com](http://www.cabriggs.com)

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