

SECTION 4 ONLINE CATALOGUES

COST EFFECTIVE

MEASURING INSTRUMENTS & UNIVERSAL TEMPERATURE CONTROLLERS CHART - NOVUS CONTROLLERS




N1030
Temperature



N1020 
Temperature



N480D 
Temperature



N960 
Temperature



N2020 
Temperature

ADVANCED FEATURES FAMILIES (Universal Input, RS485 Modbus, Ramp & Soaks, PID Analog Output, 4-20 mA retransmission, Digital Input, Square Root)



N120
Process




N3000 
Process



N1200 
Process



N1200-HC 
Process



N2000-S 
Process

PANEL INDICATION



N1540 
Universal Indicator



N1040i 
Indicator



N1500
N1500-LC / Load cells
N1500-FT / Flow rate indication
Universal Indicator



ADDA B.C.D. INDICATORS are available in DIN panel mount (24x48 & 48x96), and also in large digit (100mm) wall mount. The ADDA SYSTEMS range of B.C.D. instruments has been specifically designed to provide easy interfacing to Programmable Logic Controllers. Two alternate input drive variations are available:

- 1- Direct Drive with four Binary Coded Decimal inputs for each digit. This allows for easy programming, but requires 16 P.L.C. outputs.
- 2- Multiplexed Drive with four common Binary Coded Decimal inputs and one input for each digit to control the latching. Thus, only eight P.L.C. outputs are required for the first panel meter and four additional outputs for each subsequent device. (Multiplexing is by digit.) For large systems other more efficient multiplexing schemes are available.

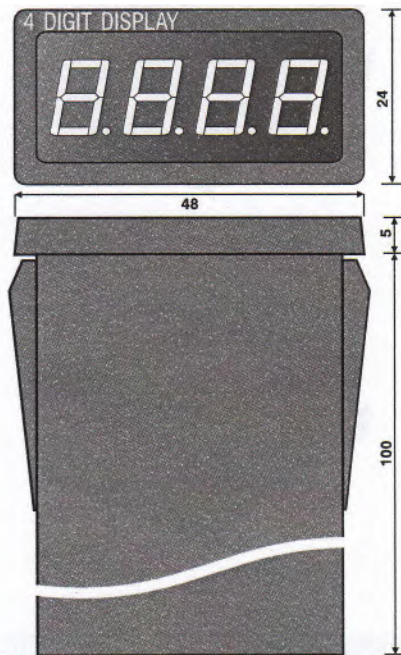
As accessories for the ribbon cable versions we also offer 10 & 26 way D.I.N. Omega Rail Ribbon Cable to Terminal transition boards and Ribbon Cable assemblies.

To "special order" ADDA SYSTEMS can also supply these units with 5V, 12V, 15V or 24V supply voltage and logic levels.

24V DC DISPLAY, 24V POSITIVE LOGIC, DIRECT OR MULTIPLEXED INPUTS, TERMINAL OR RIBBON CABLE OUTPUTS, MULTI-INSTRUMENT MULTIPLEXED SCHEMES AVAILABLE.

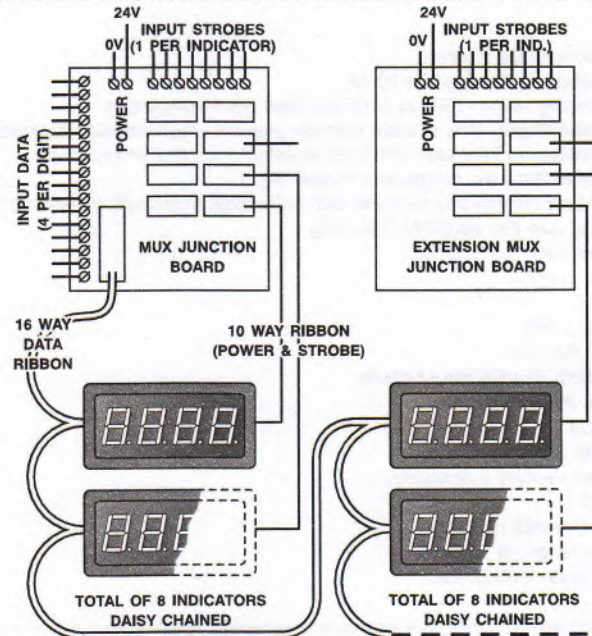
ABD14RI24D

S - Normally Stock
L - Limited Stock
O - Ex Order



GROUP CONNECTION OF MULTIPLE INDICATORS VIA MUX JUNCTION BOARDS MULTIPLEXING BY INSTRUMENT

THE NUMBER OF INDICATORS IS ONLY LIMITED BY THE SWITCHING CAPACITY OF THE PLC OUTPUTS



B.C.D. METER DRIVER BOARDS

S - Normally Stock
L - Limited Stock
O - Ex Order

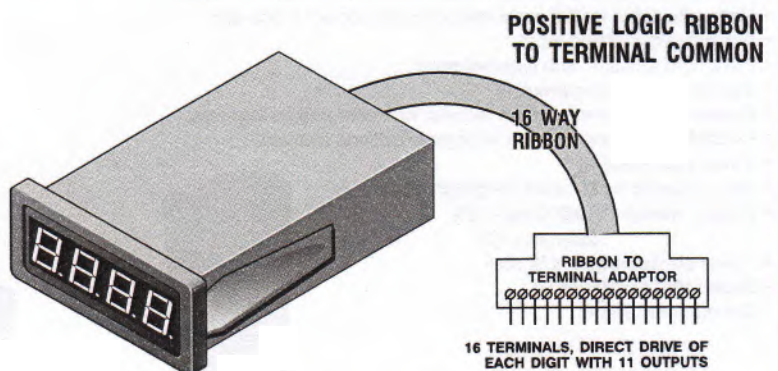
VOLTAGES APPLIED TO INPUTS

LOGIC "1" HIGH

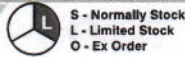
GUARANTEED MINIMUM INPUT VOLTAGE	20.6V
TYPICAL MINIMUM INPUT VOLTAGE	15.5V
ABSOLUTE MAXIMUM INPUT VOLTAGE	28.5V

LOGIC "0" HIGH

GUARANTEED MINIMUM INPUT VOLTAGE	20.6V
TYPICAL MINIMUM INPUT VOLTAGE	15.5V



ABD2... (20mm digit height)



BCD INDICATORS

ABD14624D (38mm digit height)

- 24V d.c. display.
- 24V Positive Logic.
- Direct or Multiplexed inputs.
- Terminal or Ribbon cable outputs.
- Multi-instrument multiplexed schemes available.
- Din 48x96mm
- Cutout 45x92mm



Special split display
(optional silkscreened text)

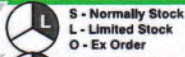


These meters have been designed to be used with programmable logic controllers and function in the same manner as the four digit BCD meters in our range. The case is a standard DIN 48 * 96 case and termination is provided with removable terminals on the rear of the unit. High brightness red 14mm led characters are used for the display. The units are available as standard with 24V logic and supply voltage level and special voltages can be supplied on special order. Can be cascaded to save PLC output lines.

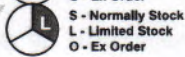
- Din 48x96mm
- Cutout 45x92mm



APM4020-24D 24VDC



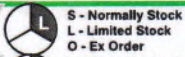
APM4120-24D (24VDC with 2 alarm set points)



- 4 Digit
- 48 x 96mm Bezel
- 45 x 92mm Cutout
- High brightness Red 20mm LED display.
- Programmable input range: 0-20mA and 4-20mA
- User programmable display range -1999 to 9999 (decimal point selectable)
- Controls available behind display lens (hidden controls prevent unauthorized adjustment) or Alternatively pushbuttons on front face with lockout selector on rear of enclosure.
- High quality tactile pushbuttons (no membrane to peel off).
- Programmable Hi and Low voltage free contacts with adjustable hysteresis (APM4120 only)
- LED indication of Hi and Low Alarms (APM4120 only)
- Removable plug in terminals
- 3 year guarantee
- High accuracy
- Supply voltage: 24VDC $\pm 15\%$
- Power consumption: 2,5W max
- Accuracy, Linearity: 0,05% of full scale, ± 1 count
- Internal A-D resolution: 200 000 counts
- Input Impedance: 100 Ω
- Temperature coefficient: 20 ppm/ $^{\circ}\text{C}$ typ
- Conversion rate: 1-5 per second (adjustable)
- Settling time: 1 second
- Memory retention: Non volatile operation
- Operating temperature range: -5°C to 50°C
- Alarm relay contact ratings: 1A@28VDC

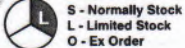


BARGRAPH DISPLAYS



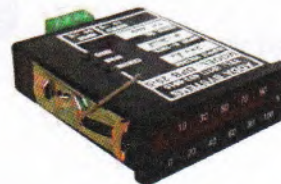
DPB205H-24D (Horizontal)

ABG502....



DPB205V-24D (Vertical)

- 50 High brightness Red or Yellow dual bar display.
- Factory calibrated to various ranges 0-2V/0-10V/0-20mA/4-20mA
- User adjustable for full scale deflection/Bar or dot mode etc.
- Galvanically isolated input.
- Peak hold function with external reset.
- Standard DIN size cut-out.
- Custom scaling available on request with customized legends.
- Vertical or horizontal format front plate options available.
- 3 year guarantee
- Also available as Modbus Bargraph display
- Supply voltage: 110/220Vac $\pm 10\%$
12/24Vdc $\pm 15\%$
- Power consumption: 4 W max
- Bezel: 48x144x70mm(D)
- Cut-out: 45x138mm



- 20 LED bars each 1,47 x 4mm
- Signal input 4-20mA
- Supply voltage 24V DC non isolated
- Adjustments for center, span & zero
- Center linearity
- Bezel 24x72x90mm(D)
- Cutout 21x69mm

N1540



S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

UNIVERSAL INDICATOR

N1540 process meter was designed with advanced technology for highest performance and reliability in the most demanding applications. The N1540 can be easily installed in panels and enclosures where space is at a premium.

- Accepts thermocouples J, K, T, E, N, R, S, B, Pt100, 0-50 mV, 0-5 Vdc, 0-10 Vdc, 0-20 mA and 4-20 mA
- Adjustable indication offset / Adjustable digital filter
- Programmable indicating range from -1999 to 9999
- Sampling rate: up to 50 measurements per second
- Two relay alarms: SPST 1.5 A / 240 Vac
- Alarm functions: LO, HI, differential, differential LO, differential HI, sensor break
- Flash function (display flashes under alarm condition)
- Bright 14 mm display
- Auxiliary 24 Vdc voltage source
- USB Interface for configuration and monitoring
- IP65 UL 94 V-2 front; IP20 UL 94V-0 enclosure
- Size: 96 x 48 x 35 mm
- Power: 100-240 Vac/dc $\pm 10\%$



USB Interface

N1040i



S - Normally Stock
L - Limited Stock
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The Universal Indicator N1040i combines, in one compact and convenient 1/16 DIN enclosure, a high precision microprocessor based analog circuit with a very simple configuration interface to monitor a wide range of analog variables. Compatible with most common thermocouples, Pt100 RTD and linear as 4 to 20 mA and mV.

- Thermocouple inputs J, K, T, N, R, S, B, E, RTD Pt100 and linear 0-20 mA, 4-20 mA, 0-50 mV, 0-5 V e 0-10 V in one model
- Analog input signal retransmission over 0-20 mA or 4-20 mA
- Up to 2 programmable alarms outputs
- Up to 2 relay outputs, SPDT and SPST-NO
- Alarm functions: minimum, maximum, differential, minimum differential, maximum differential and sensor break
- Universal switching power supply ensures high precision even under mains voltage oscillations
- Power Supply: - 100 to 240 Vac ($\pm 10\%$), 50/60 Hz - 48 to 240 Vdc ($\pm 10\%$) - 24 to 240 Vdc ($\pm 10\%$) (model N1040i-F)
- Dimensions: 48 x 48 x 80 mm



N1500

N1500LC (Load Cell)

N1500FT (Flow Meter)



S - Normally Stock
L - Limited Stock
O - Ex Order



S - Normally Stock
L - Limited Stock
O - Ex Order



S - Normally Stock
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O - Ex Order

The N1500 series of Universal Process Indicators are high performance instruments used for monitoring analog signals in the vast majority of industrial and laboratory processes.

- Accepts: type J, K, T, E, N, R, S and B thermocouples; Pt100, 4-20 mA, 0-50 mV and 0-10 Vdc
 - Programmable scaling from -1999 to +9999 and adjustable digital filter
 - Accepts and linearizes non-linear 4-20 mA signals from thermocouple transmitters
 - Accepts front panel input of custom created non-linear curve with up to 20 segments
 - Selectable decimal point for Pt100, 4-20 mA and 0-50 mV
 - Alarms: Two 3 A SPST relay alarms in the basic version and two extra relays optional
 - Alarm functions: HI, LO, differential HI, diff. LO and sensor break detection
 - Five digit 13 mm ultra bright LED display
 - Standard 24 Vdc output for field transmitters
 - Front panel: IP65, Polycarbonate UL94 V-2; Back panel: IP30, ABS + PC UL94 V-0
 - Dimensions: 48 x 96 x 92 mm
- **N1500LC** - Dedicated for load cell application
 - Dimensions: 48 x 96 x 92 mm (1/16 DIN)
- **N1500FT** - Flow Meter Tailor made for flow applications, this instrument measures and displays both the instant measured value and the total value.
- Inputs: 4-20 mA, NPN, PNP, dry contact or coil signal
 - 4-20 mA input with integral function and square root option
 - Capable of reading pulsed signals from 0.1 to 8000 Hz
 - Isolated 4-20 mA output (instant flow) and pulse output (NPN - totalized)
 - Dual 6-digit displays, allows for several display messaging configuration
 - Alarms: 2 SPDT 3 A / 250 Vac relays; Configurable alarms: HI, LO and sensor break



APM4060-220A (220VAC)

S - Normally Stock
L - Limited Stock
O - Ex Order

ADDA

BIG DIGIT DISPLAYS

- Programmable input range: 0-20mA and 4-20mA
- Standard DIN enclosure: size 144 x 288 x 60mm (Depth)
- Cutout: 139 x 283mm
- User programmable display range-1999 to 9999 (decimal point selectable)
- Controls available behind display lens (hidden controls prevent unauthorized adjustment) or alternatively pushbuttons on front face with lockout selector on rear of enclosure. (Standard)
- High quality tactile pushbuttons (no membrane to peel off).
- Programmable Hi and Low voltage free contacts with adjustable hysteresis
- High brightness Red or Green 57mm LED display with user variable brightness.
- LED indication of Hi and Low Alarms
- Removable plug in terminals
- 3 year guarantee
- High accuracy
- Supply voltage: 230Vac 10%
- Power consumption: 15W max
- Accuracy, Linearity: 0,05% of full scale, 1 count
- Internal A-D resolution: 65 000 counts
- Input Impedance: 100
- Temperature coefficient: 20 ppm/ °C typ
- Conversion rate: 5 per second
- Settling time: 1 second
- Memory retention: Non volatile operation
- Operating temperature range: -5°C+50°C
- Alarm relay contact ratings: 2A@250Vac



57mm Digit Height

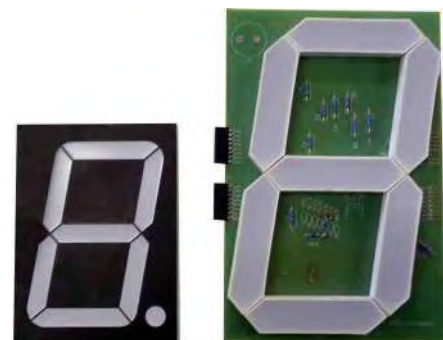
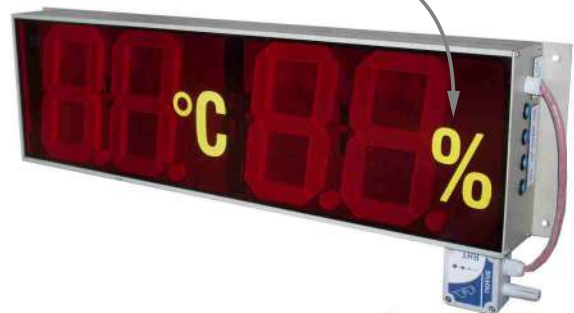
WDIND4100 (Big Digit Display - 4 Digit Programmable)

S - Normally Stock
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O - Ex Order

- Top quality Industrial Displays using large bright 100mm or 180mm digits.
- These units are for indoor use only, and are ideal for situations requiring a large clear display.
- The digits can be read from approx 60m away (depending on ambient light).
- Models are available to operate off a variety of input signals : 4-20mA, 0-10V, B.C.D etc
- 4 & 6 Digit Modbus versions also available.
- Black or Cream case options
- Optional Vinyl lettering
- Programmable input range : 0-20mA and 4-20mA
- User programmable display range -1999 to 9999 (decimal point selectable)
- Controls on the side of the housing.
- High Brightness Red 100mm LED display with user variable brightness.
- 3 Year guarantee
- High accuracy
- Supply voltages; 24Vdc ± 15 , 115VAC or 220VAC 10%
- Power consumption; 22W max
- Accuracy, linearity; 0,05% of Full Scale, ± 1 count
- Internal A-D resolution; >260 000 counts
- Input Impedance; 100 W
- Temperature coefficient; 30 ppm/ °C typ
- Conversion rate; 1-5 per second (adjustable)
- Settling time; 1 second
- Memory retention; Non volatile operation
- Operating temperature range; 5°C - 50 °C



Optional Vinyl Lettering



SGD 24-M (2.4" Programmable TFT Panel Meter)

SGD 28-M (2.8" Programmable TFT Panel Meter)

SGD 35-M (3.5" Programmable TFT Panel Meter)



S - Normally Stock
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PANEL PILOT

The SGD series are programmable panel meters featuring dual analogue inputs, alarm outputs and 2.4";2.8" or 3.5" TFT colour touchscreen display options. Configured using the free PanelPilot M Software, choose from an ever-increasing number of configurations including bar-graph, tank level, analogue style and trend graphs. Then customise colours, text labels, units and input scaling before uploading to a display via USB.

- Display: 2.4", 2.8" or 3.5" colour TFT screen
- Resolution: 320x240 pixels (QVGA)
- Operating Voltage: 4 - 30V d.c.
- Measurement Range: 0 - 40V d.c.



SGD 24-M420
SGD 28-M420
(2.4";2.8" Programmable TFT 4-20mA Meter)



SGD 24-M-IP
(2.4" Waterproof Programmable TFT Panel Meter)
SGD 24-M-IP420
(2.4" Waterproof Programmable TFT 4-20mA Panel Meter)



SGD 35-M420
(3.5" Programmable TFT 4-20mA Loop Meter)

SGD 43-A (4.3" Display with Analogue, Digital, PWM and Serial Interfaces)

SGD 70-A (7" Display with Analogue, Digital, PWM and Serial Interfaces)



S - Normally Stock
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SGD 70-A is a 7" AND SGD 43-A is a 4.3" are capacitive touch displays designed for use with PanelPilotACE Design Studio, a free drag-and-drop style software package for rapid development of advanced user interfaces and panel meters. This off the shelf display features a wealth of hardware interfaces, including four 16-bit bipolar analogue inputs (to a maximum of ±40V d.c.), eight digital input/output pins, two alarm outputs, four 8-bit PWM outputs, serial RS232 and RS485 and an additional add on board to measure temperature.

SGD 43-A

- Display: 4.3" TFT with 262k colours
- Touchscreen: Capacitive touch screen
- Resolution: 480 x 272px
- Processor: Freescale i.MX283 (454MHz, 32bit, ARM 9)
- Analogue Inputs: Four 16-bit to ±40V d.c.
- Supply: 5 to 30V d.c. (300mA typical at 5V d.c.)
- Outside Dimensions: 119.3mm (4.7") x 79.8mm (3.1") x 20.0mm (0.8")

SGD 70-A

- Display: 7" TFT with 16.7M colours
- Touchscreen: Capacitive touch screen
- Resolution: 1024 x 600 pixel
- Processor: Freescale i.MX 6SoloX (ARM Cortex A9 & M4)
- Analogue Inputs: Four 16-bit to ±40V d.c.
- Supply: 5 to 30V d.c. (300mA typical at 5V d.c.)
- Outside Dimensions: 186mm (7.3") x 122mm (4.3") x 21mm (0.8")

Can also be used for data logging

SGD 43-ATP

- 4.3" panel mounted display module with capacitive touch screen
- 4 channel thermistor temperature board
- 4 x temp probes
- -40°C to +125°C

SGD 70-ATP

- 7" panel mounted display module with capacitive touch screen
- 4 channel thermistor temperature board
- 4 x temp probes
- -40°C to +125°C



SGD 43-A



SGD 70-A



SGD 43-ATP
4 channel Temp data logger



SGD 70-ATP
4 channel Temp data logger



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A series of low profile digital panel meters, designed to be mounted in a 5.5mm (7/32") diameter hole. The EM series has a splashproof option, by fitting the rubber seal provided, when installing the meters. All have a bezel size of 44x21mm.

EMA 1710 (Analog DC Voltmeter)

- 9 segment virtual analog LCD
- Colour scale
- Auto-zero
- 1V full scale deflection
- No calibration required
- 3 wire connection



Single Hole Fixing.

EMT 1900 (Thermometer)

- 3 digit LCD with °C and °F
- 12.5mm (0.5") digit height
- 4 measurement ranges
- Internal or external sensor
- 5 wire connection



Single Hole Fixing.

EMV 1025S-01 (DC Voltmeter)

- 3½ digit LCD with low batt .sign
- 12.5mm (0.5") digit height
- 200mV full scale reading
- 3 wire connection



Single Hole Fixing.

EMV 1200 (2 Wire DC Voltmeter)**EMV 1200-40** 1-40V d.c Version

- 3 digit LCD
- 12.5mm (0.5") digit height
- Signal powered
- Range: 4-25V
- Reverse polarity protection
- No calibration required
- 2 wire connection



Single Hole Fixing.

EMV 1125 (DC Voltmeter)

- 3½ digit LCD low battery warning
- 12.5mm (0.5") digit height
- Programmable decimal points
- Auto-zero, auto polarity
- 6-10 wire connection
- Supplied with screw terminal board



Single Hole Fixing.

EMC 1500 (Elapsed hour meter Single-Hole Mounting)

- 5 digit LCD with annunciators
- 9.0mm (0.35") digit height
- Volt sense input
- Reset and trip/total inputs
- Leading zero blanking input
- Pulse output every hour
- Remembers elapsed time on power loss
- 3-8 wire connection



Single Hole Fixing.



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The EM32 Series consists of an LCD and LED digital voltmeter designed to be panel mounted in most low and medium volume applications. Panel cut-out: ϕ 32.5mm. These meters feature an 8mm digit height, 3½ or 4 digit display, 3 decimal points, auto-polarity, auto zero, 200mV full scale reading and low current consumption. Each product has been designed so that NO soldering is required. Connection is via screw terminals & options are selected via jumper links. The modules feature a round metal bezel, requiring a 32.5mm (1.28") diameter cut out, it is secured with the nut provided. Protection from the front to IP67 / NEMA 4X standards is achieved by fitting the rubber seal provided between the module and panel during assembly.

EM32-1B

- 3½ digit LCD with 8mm digit height
- 200mV d.c. full scale reading
- 500µA @ 3.5 to 6.5V d.c. or 150µA @ 7.5 to 14V d.c. Operation

**EM32-1B-LED**

- 3½ digit LED with 8mm digit height
- 200mV d.c. full scale reading
- 50mA @ 5V d.c. operation



LED

EM32-4-LED

- 4 digit LED with 8mm digit height
- 20mA @ 5V d.c. Operation
- Drives up to 4 External LED's
- Connection via 2 rows of posts



LED

EM32-1900 LCD NTC Thermometer

- 3 digit LED with 12.5mm digit height
- Range -40 to 105°C
- 3 samples / sec
- Supply Voltage 4 to 28 V d.c.
- Supply Current 1- 10mA





A new series of digital panel meters combining a low profile with miniature "Component style" body. The SP series can provide splash-proof protection, when the supplied silicon seal is fitted. All these units have a 35x22mm bezel & a 34x21mm cut-out.

Sp100 (LED Voltmeter, 12 Pin version)

- 3½ digit LED voltmeter
- 9.4mm (0.37") digit height
- Auto-zero, auto polarity
- Programmable decimal points
- 200mV full scale reading
- Display blanking facility
- Compatible with other manufacturer's modules
- DIL connection
- Digital hold version **Sp101**

LED

**Sp200** (LCD Voltmeter, 12 Pin version)

- 3½ digit LCD voltmeter
- 9.75mm (0.38") digit height
- Low battery warning
- Auto-zero, auto-polarity
- Programmable decimal points
- 200mV full scale reading
- LED backlighting
- Compatible with other manufacturer's modules
- DIL connection

**Sp300** (LED Voltmeter, 8 Pin version)

- 3½ digit LED voltmeter
- 9.4mm (0.37") digit height
- Auto-zero, auto polarity
- Programmable decimal points
- 200mV full scale reading
- SIL connection

LED

**Sp300** BLUE LED backlighting

SP 300 - 8 Pins.

LED

**Sp400** (LCD Voltmeter, 9 Pin version)

- 3½ digit LCD voltmeter
- 9.75mm (0.38") digit height
- Low battery warning
- Auto-zero, auto-polarity
- Programmable decimal points
- 200mV full scale reading
- LED backlighting
- SIL connection

**Sp400-EB**

- 3½ Digit LCD Voltmeter
- Enhanced Black LCD
- LED Backlighting
- 200mV Full Scale Reading
- 9 Pin SIL Connection
- 7 colour options

**Sp400** BLUE LED backlighting

The SP5 series consists of a 2-wire, signal powered voltmeter, 1V d.c. virtual analog voltmeter and a graphics display in a clip mount housing. This range of modules has a very low profile design. Once fitted, the face of the module sits almost flush with the panel. At the rear of the module, the mounting depth is also kept to a minimum, allowing use of the space behind the module. For harsher applications, the SP5 series is supplied with a rubber seal which, once fitted makes the modules splashproof from the front. Typical applications for this series include handheld Instrumentation and process equipment. All these units have a 48x36mm bezel & a 47x35mm cut-out.

SP5-GFX1 (128 x 64 Pixel Graphics Display)

- 128 x 64 pixel LCD
- LED backlighting
- 6 o'clock viewing direction
- Serial data interface
- No calibration required
- Supplied with splashproof seal
- SIL 10-way connection

**SP8-100** (LED Voltmeter, 8 Pin version)

- 3½ digit LED voltmeter
- 14.2mm (0.56") digit height
- 200mV d.c. full scale reading
- 50mA @ +5V d.c. power supply
- Auto-zero and auto-polarity
- Programmable decimal points
- Bright red LED display





S - Normally Stock
L - Limited Stock
O - Ex Order

LASCAR

A series of digital panel meters with a one-piece, snap-in design, making installation a quick and easy procedure. Each meter has a large display in a miniature housing. All are backlit or use LED displays.

DPM116 (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting. 12-way SIL.



DPM125 (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting. Single-in-line SIL.



DPM125-BL (3 ½ Digit LCD Voltmeter LED backlit)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting. Single-in-line SIL.



DPM160 (4 ½ Digit LCD Voltmeter)

This 200mV/2V voltmeter features a 4½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting.



DPM160S (4 ½ Digit LCD Voltmeter Single Rail Version)

This 200mV/2V voltmeter features a 4½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting.



DPM 1AS-BL (Compact 3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 5.5mm (0.22") digit height, one-piece snap-in housing and LED backlighting.



DPM2000 (3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 15mm (0.6") digit height and a low-profile bezel for mounting.



DPM2000S (3 ½ Digit LCD Voltmeter Single Rail Version)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 15mm (0.6") digit height and a low-profile bezel for mounting.



DPM 2AS-BL (Compact 3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 8.25mm (0.32") digit height, one piece snap-in housing and LED backlighting.



DPM340 (Compact 3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LED with 8mm (0.31") digit height, one piece snap-in housing.



LED

DPM342 (Compact 4-20mA Loop Powered LCD Meter)

Compact 4-20mA loop powered panel meter featuring a 3½ digit LCD with 11mm (0.43") digit height, LED backlighting and one-piece snap-in housing.



DPM 3AS-BL (Compact 3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 11mm (0.43") digit height, one-piece snap-in housing and LED backlighting.



DPM40 (200mV LED Voltmeter)

This panel meter features a 3½ digit LED display with 11mm (0.43") digit height.

LED



DPM400 (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 10mm (0.4") digit height, annunciators and a low-profile bezel for mounting.



DPM500 (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and a low-profile bezel for mounting.



DPM500S (3 ½ Digit LCD Voltmeter Single Rail)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and a low-profile bezel for mounting, Single Rail.





S - Normally Stock
L - Limited Stock
O - Ex Order

A series of digital panel meters with a one-piece, snap-in design, making installation a quick and easy procedure. Each meter has a large display in a miniature housing. All are backlit or use LED displays.

DPM600 (200mV LCD Voltmeter with Annunciators)

This panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and annunciators.

**DPM600S** (200mV LCD Voltmeter with Annunciators)

This Single rail panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and annunciators.

**DPM700** (200mV LCD Voltmeter with Annunciators)

This panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and LED backlighting.

**DPM700S** (Bezel Mounted LCD Voltmeter with LED Backlighting)

This panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and LED backlighting.

**DPM702S** (Dual 200mV Voltmeter with LED Backlighting)

This dual channel 3½ digit LCD panel meter features 6.4mm (0.25") digit height, 200mV d.c. full scale reading, auto-zero and auto-polarity.

**DPM742-BL** (4-20mA Loop Powered LCD Meter with LED Backlighting)

4-20mA loop powered panel meter featuring a 3½ digit LCD with 12.7mm (0.5") digit height and LED backlighting.

**DPM750S-BL** (200mV LCD Voltmeter with Backlighting)

This panel meter features a 3½ digit LCD with 12.7mm (0.5") digit height, annunciators and LED backlighting.

**DPM750S-EB-W** (LCD Voltmeter with White Digits & Black Background)**DPM942-FPSI** (Large 4-20mA Loop Powered LCD Meter with Red/Green Programmable Backlighting)

This large loop powered indicator features a 3½ digit LCD with 19mm (0.75") digit height and programmable LED backlighting.

**DPM942** (Large 4-20mA Loop Powered LCD Meter)

This large loop powered indicator features a 3½ digit LCD with 19mm (0.75") digit height.

**DPM942-BL** (Large 4-20mA Loop Powered LCD Meter & LED Backlighting)**DPM950** (Large Voltmeter with LED Backlighting)

This large panel meter features a 3½ digit LCD with 19mm (0.75") digit height and LED backlighting.

**DPM950S** (Large 200mV LCD Single Rail Voltmeter with LED Backlighting)

Compact 4-20mA loop powered panel meter featuring a 3½ digit LCD with 11mm (0.43") digit height, LED backlighting and one-piece snap-in housing.

**DP950S-EB** (Large 200mV Single-rail Voltmeter with White Digits & Black Background)

This large panel meter features a 3½ digit LCD with 19mm (0.75") white on a black background.

**DPM950S-FPSI** (Large 200mV LCD Voltmeter with Red/Green Programmable Backlighting)

This large panel meter features a 3½ digit LCD with 19mm (0.75") digit height and programmable LED backlighting.

**DPM959B** (Large 200mV LED Voltmeter)

This large panel meter features a 3½ digit LED display with 19mm (0.75") digit height.

LED

**DPM970** (Large AC LCD Voltmeter with LED Backlighting)

This large panel meter features a 3½ digit LCD with 19mm (0.75") digit height and LED backlighting.





S - Normally Stock
L - Limited Stock
O - Ex Order

LASCAR

Designed as component style meters, the OEM series are ideally suited to both Medium & high volume applications. Typical uses for this series include personal instrumentation, integral sensor indicators and power supply monitoring. The range consists of two LCD meters, a bare PCB style meter & metal framed version and a potted LED meter. The LED meter is dimensionally compatible with the metal framed LCD version and has the same digit height.

OEM 1B (Ultra Compact LCD Voltmeter)

This ultra-compact, low current consumption panel meter features a 3½ digit LCD voltmeter with 8mm (0.31") digit height.



OEM 1B-LED (Ultra Compact LED Voltmeter)

This ultra-compact, low current consumption panel meter features a 3½ digit LED voltmeter with 8mm (0.31") digit height.



S - Normally Stock
L - Limited Stock
O - Ex Order

LASCAR

A series of digital panel meters intended for use in high volume applications. Each meter has good performance, is easy to use and offers value for money. The V 1, V 125 and V 600 modules are only available in packs of 10. All modules are supplied with bezels. An evaluation pack V EVAL, containing one of each meter and a demonstration unit is also available.

V1 (Low Cost 200mV LCD Voltmeter)

- 3½ digit LCD voltmeter
- 6.3mm (0.25") digit height
- Auto-zero, auto-polarity
- User selectable decimal points
- 200mV full scale reading
- DIL connection



V125 (Low Cost 200mV LCD Voltmeter)

- 3½ digit LCD voltmeter
- 12.5mm (0.5") digit height
- Auto-zero, auto-polarity
- User selectable decimal points
- 200mV full scale reading
- SIL connection



V600 (Low Cost 200mV LCD Voltmeter)

- 3½ digit LCD voltmeter
- 15mm (0.6") digit height
- Auto-zero, auto-polarity
- User selectable decimal points
- 200mV full scale reading
- Compatible with industry-standard types
- SIL connection



N480D



S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

The N480D series of PID temperature controllers was designed for non-experienced novice users for combining extreme simplicity in operation with high performance only found in expensive high end controllers. It is a low-cost instrument which can be easily installed and operated. It accepts most thermocouples and Pt100 RTD, features a relay and pulse output for driving solid state relays and optionally can be supplied with a linear 4 to 20 mA output. Auto tuning PID function, dual display, full range universal power supply and ramps soak function are standard.

- Accepts thermocouples type J range -50 °C to 760 °C, type K range -90 °C to 1370 °C, type T range -100 °C to 400 °C, type R range 0 to 1760 °C, type S from 0 to 1760 °C, type E range -30 a 720 °C, type N range -90 a 1300 °C com with cold junction compensation.
- Accepts 2 or 3-wire Pt100 RTD, range -200 °C to 530 °C, with cable resistance compensation.
- Pt100 excitation current: 0.170 mA.
- Four-digit 10 mm red display for measured variable and four-digit 7 mm green display for set point.
- Sampling rate: 5 measurements per second.
- 5 Vdc 20 mA logic control output.
- 1 SPDT relay and 2 SPST 3A @ 250 Vac relays.
- Power: 100 to 240 Vac/dc, 50/60 Hz; optional 24 Vdc/ac.
- Power consumption: less than 9 VA.
- Operating environment: 0 to 55 °C, 20 to 95 % RH.
- Front panel: IP65, Polycarbonate UL94 V-2.
- Back panel: IP30, ABS+PC UL94 V-0.
- Dimensions: 48 x 48 x 110 mm (1.89" x 1.89" x 4.33").



USB Interface



N960



S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

TEMPERATURE CONTROLLERS

Great substitute for the old and obsolete analog controllers for holding extreme simplicity in operation and yet featuring the highly accurate performance of digital technology. The 20 mm high display can be viewed from far away and the big functional keyboard can be operated by users wearing gloves.

- Display: 4 digits, 20 mm, high efficiency
- Input: Thermocouples and Pt100
- Control output: SPST relay and voltage pulse, both available in the basic model
- Power: 100-240 Vac/dc or 24 Vdc/ac (Optional)
- Ramp and soak: one controlled ramp and one timed soak are standard
- Auto tuning PID
- Detects any sensor failure
- Keyboard protection by hardware
- Size: 96 x 96 mm, ABS enclosure



USB Interface



N1020



S - Normally Stock
L - Limited Stock
O - Ex Order

The temperature controller N1020 features advanced performance capability for the most complex and critical applications. Based on a high-end microprocessor and designed with a sophisticated auto-adaptive PID algorithm it continuously adjusts the PID parameters for best controlling performance. .

- Switching power supply: 100 to 240 Vac and 24 to 240 Vdc
- High brightness red LED display
- Universal input: thermocouples, Pt100 RTD and 50 mV
- Auto-adaptive PID control
- PID parameters auto-tuning
- Dual output: 1 pulse and 1 relay
- Output functions: control, alarm 1, alarm 2
- Configurable alarms with 8 different functions
- Silicone keypad
- Front pannel: IP65, polycarbonate UL94 V-2
- Enclosure: IP20, polycarbonate UL94 V-2
- Size: 48 x 24 1/32 DIN



USB Interface

N1030



S - Normally Stock
L - Limited Stock
O - Ex Order

N1030 is a temperature controller that features a high performance PID algorithm in a compact housing, with only 35 mm depth. Its compact construction and the convenient detachable connector provide an easy set up on short profile panels, optimizing the space and reducing costs.

- Single Loop PID and ON/OFF controller
- PID auto tuning
- Dual relay output or 1 pulse and 1 relay versions
- Six alarm functions: LO, HI, differential, differential LO, differential HI, sensor break
- Thermocouples J, K, T and Pt100 input
- Dual red and green four-digit display
- Front panel material PC UL94 V-2 / Enclosure material: PC UL94 V-2
- Front panel protection: Ip65
- Operating environment: 0 to 60 °C, 20 to 80 % RH
- Dimensions: 48 x 48 x 35 mm
- Power supply: 100 to 240 Vac/dc or 12 to 24 Vdc / 24 Vdc/ac



N1040



S - Normally Stock
L - Limited Stock
O - Ex Order

N1040T (Time & Temp Controller)



S - Normally Stock
L - Limited Stock
O - Ex Order

The microprocessor based N1040 was conceived for low cost applications and yet achieving high degree of accuracy. It features a short depth enclosure of only 70 mm thus reducing panel space considerably. Another important innovation is the exclusive removable wiring connection block which translates into ease of use during installation process.

- Accepts thermocouples J, K, T and Pt100 RTD without any hardware change or recalibration
- Auto tuning of PID parameters
- Outputs: logic pulse (ideal for driving solid state relays) and 1 SPST relay
- Alarm functions: low, high, differential, low differential, high differential, sensor break
- Two alarm functions can be directed to one single output
- LBD (Loop Break Detection) function detects failures in the control loop
- Simplified programming menu makes operator programming very easy
- Silicone rubber frontal keypad / Keypad protection
- Front panel protection: Ip65



USB Interface

N1100

S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

TEMPERATURE CONTROLLERS

N1200

S - Normally Stock
L - Limited Stock
O - Ex Order

N1100 Universal Controller boasts features required in a majority of Industrial processes. Input and output functions are selected through the front keyboard without hardware change. **N1200** is an advanced self-adaptive PID controller with an algorithm that constantly monitors the process performance and adjusts PID settings in order to always obtain the best possible control response. A single model is able to accept most industrial sensors and signals and provides all output types required to control different processes. The multi-purpose inputs and outputs can be combined to provide tremendous versatility with extremely high accuracy in the most demanding applications

- Accepts thermocouples J, K, T, E, N, R, S, B, Pt100, 0-50mV, 0-5Vdc and 4-20mA
- Outputs: 2 relays SPST, Pulse for SSR and linear 4-20mA
- Up to 2 alarms with timers from 0 to 6500s
- Input resolution: 12000 levels
- PV or SP retransmission in 0-20/4-20mA
- Bumpless Auto/Manual function
- Remote setpoint input (4-20mA)
- Programmable soft start (0-9999s)
- Auto tuning PID
- Access password for configuration protection
- Sizes: 48 x 48 x 106 mm

USB
Interface

N2000 & N2000S

S - Normally Stock
L - Limited Stock
O - Ex Order

N3000 (big digit)

S - Normally Stock
L - Limited Stock
O - Ex Order

The N2000&N3000 Universal Process Controllers offer a breakthrough in versatility for holding in one single instrument all the major features required in the vast majority of industrial processes. From the very simple applications as a temperature controller to the most complex systems of distributed control with PLC's or SCADA networks. These units are specific for applications in controlling servo motorized valves, servo actuators and dampers by means of two time proportional relays. **N2000S** has twice as many proportionally driven relays to control servo-positioning valves and dampers.

- Accepts thermocouples type J, K, T, N, R, S; Pt100, 0-50mV, 0-5Vdc and 4-20mA
- Outputs: 2SPDT and 2 SPST relays, pulse for SSR and linear 4-20mA
- 4 software configurable alarms
- Up to 2 alarms with timers from 0 to 6500s
- Input resolution: 12000 levels
- Built-in auxiliary 24Vdc voltage source
- PV or SP retransmission in 4-20mA
- Bumpless Auto/Manual function
- Remote setpoint input(4-20mA)
- Programmable soft start (0-9999s)
- Auto tuning PID
- Ip65 UL 94 V-2 front panel; Ip20 UL94 V-0 enclosure
- Silicone Rubber keypad
- Power 100~240 VAC/DC $\pm 10\%$
- **N2000**: Size 48x96x92mm
- **N3000**: Size 96x96x92mm

USB
Interface

N2000



N3000

N2020

S - Normally Stock
L - Limited Stock
O - Ex Order

The N2020 PID temperature controller was designed to deliver high accuracy performance while keeping low cost. It features Auto/Manual function accessible via front keypad and several other advanced control characteristics.

- Accepts thermocouples J, K, T and Pt100 RTD
- Outputs: 2 SPST relays, Pulse and optional 4-20 mA
- Dual red and green 4-digit displays
- Sampling rate: 10 measurements per second
- Internal resolution: 15000 levels
- Alarm functions: LO, HI, differential LO and differential HI
- Quick function keypad: ON/OFF/auto/Manual, etc
- PV or SP retransmission in 4-20 mA
- Loop Break Detection function / Fail safe function
- Ramp and soak functions programming
- Access password for configuration protection
- IP65 UL94 V-2 front; P20 UL94 V-0 enclosure
- Size: 48 x 96 x 92 mm
- Power: 100~240 Vac/dc $\pm 10\%$

USB
Interface

N1040



S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

TEMP / TIME CONTROLLERS

The microprocessor based N1040 was conceived for low cost applications and yet achieving high degree of accuracy. It features a short depth enclosure of only 70 mm thus reducing panel space considerably. Another important innovation is the exclusive removable wiring connection block which translates into ease of use during installation process.

- Accepts thermocouples J, K, T and Pt100 RTD without any hardware change or recalibration
- Auto tuning of PID parameters
- Outputs: logic pulse (ideal for driving solid state relays) and 1 SPST relay
- Alarm functions: low, high, differential, low differential, high differential, sensor break
- Two alarm functions can be directed to one single output
- LBD (Loop Break Detection) function detects failures in the control loop
- Simplified programming menu makes operator programming very easy
- Silicone rubber frontal keypad / Keypad protection
- Front panel protection: Ip65



USB
Interface

N1040T (Time & Temp Controller)



S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

N1040T is an economic and efficient Time and Temperature controller, developed with modern technology and automatic tuning of PID parameters, ON-OFF control and totally configurable. It has a reduced depth flameproof plastic enclosure. It has two independent timers with several operation modes that allow timer association to the controller output or to the temperature control. It accepts Pt100 sensors and thermocouples types J/K/T with decimals on all sensors. It has a fast electrical connection coupler system that reduces installation time. Single model with 4 configurable outputs for process control, alarm or timing. Configuration protection by password and factory calibration recovery.



N1050



S - Normally Stock
L - Limited Stock
O - Ex Order

NOVUS

LCD TEMP PID CONTROLLER

N1050 is an LCD temperature PID controller that combines high performance with vivid design. With the fastest sampling rate upon the competition, it has the ability to operate in slow and dynamic processes. Combining the widely proven robustness of the NOVUS PID algorithm with a new display design, the LCD display provides 11-segment easy-to-read alphanumeric mnemonics, larger digits and clear status signaling.

Besides the PID auto tuning capability, N1050 outputs PWM control mode through pulse or relay. Up to three optional output relays can be selected. It also has 5 ramp-and-soak programs for set point profile, output soft start and timer function. With password protected, all parameters are configurable by the display menu, via USB port or optional RS485 Modbus interface.

Easy to install and maintain due its detachable connector, N1050 offers the lowest power consumption and light weight in the market. Housed in anti-flame material, it has 48x48 (DIN 1/16) format and low profile front panel. Suitable for hostile environments, it complies with standard EMC regulations, providing robustness and reliability including untapped temperature applications.



IP65
FRONT PANEL

USB
Interface

Display	Alphanumeric 11-segment LCD type, high contrast multi viewing angle	Communication	RS485 Modbus RTU (optional)
Input Type	Thermocouple J, K T, S and Pt100	Power Consumption	max. 6 VA
PID Features	PWM Auto tune	Software configuration	NConfig, via USB (micro-B type)
Control Action	Heat or Cool	Certifications	CE, UL, cUL
Output Control	Pulse for SSR and relay 3 Relays (optional)	Power Supply	100-240 Vac/dc or 12-24 Vdc (Optional)
Ramp & Soak	5 Programs with 4 Segments	Operating Conditions	Temperature: 0 to 50 °C (32 to 122 °F) Humidity: 80 % @ 30 °C (86 °F)
Sampling Period	20 ms	Front Panel	IP65 Polycarbonate (PC) UL94 V-2
Special Functions	Soft-Start PID Loop Break alarm Ramp and Soak event 2 Alarms (7 alarm types)	Enclosure	48x48 mm (DIN 1/16) ABS+PC UL94 V-0

Selection Guide: NOVUS CONTROLLERS



We Measure, We Control, We Record

COST EFFECTIVE FAMILIES

ADVANCED FEATURES FAMILIES

(Universal Input, RS-485 Modbus, Ramp & Soaks, PID Analog Output, 4-20 mA retransmission, Digital Input, Square Root)

Controller Type	N1030	N1030T	N1040	N1040T	N1020	N480D	N960	N2020	N1200	N1200-HC	N2000	N2000-S
PID Output Control Mode	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	PWM & Analog (optional)	PWM & Analog	PWM & Analog	Process
Auto Tune PID	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Self-Adaptive PID Control Loops	1	1	1	1	1	1	1	1	1	2	1	1
Control Action	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat & Cool with Overlap	Heat or Cool	Heat or Cool
Output Relay	1	1	1	1	2	2	2	2	Up to 3	Up to 3	Up to 4	Up to 4
Output Pulse	✓	✓	✓	✓	Optional	Optional	Optional	Optional	✓	✓	✓	✓
Output Analog					✓	✓	✓	✓	✓	✓	✓	✓
Ramp to Soak Function					✓	✓	✓	✓	✓	✓	✓	✓
Ramp & Soak Programs					✓	✓	✓	✓	✓	✓	✓	✓
Soft-Start Function					✓	✓	✓	✓	✓	✓	✓	✓
Bumpless Function					✓	✓	✓	✓	✓	✓	✓	✓
Manual Operation	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double
Display					Single	Double	Double	Double	Double	Double	Double	Double
Input Type			J, K, T, e Pt100		J, K, T, R, S, E, N, Pt100 e 0-50mV	J, K, T, R, S, E, N e Pt100		J, K, T, e Pt100		J, K, T, R, S, E, B, N, Pt100, 0-50mV e 0-10V	J, K, T, R, S, E, B, N, Pt100, 4-20mA, 0-50mV e 0-5V	J, K, T, R, S, N, Pt100, 4-20mA, 0-50mV e 0-5V
Input Resolution Levels	32767	32767	32767	32767	32767	32767	32767	32767	32767	32767	32767	20000
Input Sample Rate	5 sps	5 sps	55 sps	55 sps	55 sps	55 sps	55 sps	20 sps	55 sps	55 sps	10 sps	5 sps
Detection of Sensor Break	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Detection of PID Loop Break			✓	✓								
Detection of Heater Break			✓	✓								
Alarm Number	1	1	2	2	2	2	2	2	Optional	4	4	2
Alarm Types		Low, High, Dif, DifLo, DifHi and InputErr			Low, High, Dif, DifLo, DifHi, Ton, TEnd e InputErr	Low, High, Dif, DifLo, DifHi, EndSoak, Event and InputErr		Low, High, Dif, DifLo, DifHi, Event and InputErr	Low, High, Dif, DifLo, DifHi, ResisitFail, Event and Input Error	Low, High, Dif, DifLo, DifHi, ResisitFail, Event and Input Error	Low, High, Dif, DifLo, DifHi, Event and Input Error	Low, High, Dif, DifLo, DifHi, ResisitFail, Event and Input Error
Digital Input									✓	✓	✓	✓
Remote Setpoint Input								✓				
Setpoint Retransmission												
Square Root												
Timer		✓		✓								
Data Logger Function												
Password Protection												
24V Power Supply for Sensors	✓	✓	✓	✓	Optional	✓	✓	✓	Optional	✓	✓	✓
RS-485 ModBus RTU												
USB												
CE Certification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL Certification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Frontal IP65	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Power Supply		100-240 Vac/dc or 12-24 Vdc (Optional)			100-240 Vac/dc	100-240 Vac/dc or 12-24 Vdc (Optional)		100-240 Vac/dc				
Panel Format	48x48 DIN 1/16	48x48 DIN 1/16	48x48 DIN 1/16	48x48 DIN 1/16	48x24 DIN 1/32	48x48 DIN 1/16	96x96 DIN 1/4	96x48 DIN 1/8	48x48 DIN 1/16	48x48 DIN 1/16	96x48 DIN 1/8	96x48 DIN 1/8
Model Variations	2	1	9	2	2	8	2	1	11	9	4	4

JOHANNESBURG



MIMIC COMPONENTS

ELECTRICAL & ELECTRONIC
WHOLESALE DISTRIBUTORS
SOUTHERN AFRICA

Address

5 Ramsay Street, Booyens,
2091 Johannesburg,
South Africa

P.O. Box 38493 Booyens,
2016 South Africa

Telephone

Switchboard: +27 (0)11- 689-5700
Fax: +27 (0)11- 493-8821

Email: sales@mimic.co.za

Website: www.mimic.co.za

CAPE TOWN



MIMIC CAPE

ELECTRICAL & ELECTRONIC
WHOLESALE DISTRIBUTORS
SOUTHERN AFRICA

Address

Unit 41A, Stella Park,
57 Stella Road, Montague Gardens,
Cape Town, 7441, South Africa

PO. Box 36955 Chempet,
7442 South Africa

Telephone

Switchboard: +27(0) 21-551-8185
Facsimile: +27(0) 21-551-8169

Email: anje@mimics.co.za

Website: www.mimic.co.za



MIMIC COMPONENTS sales@mimic.co.za www.mimic.co.za TEL: (011) 689-5700
5 Ramsay Street, Booyens 2091, Johannesburg PO. Box 38493, Booyens 2016, Johannesburg, South Africa FAX: (011) 493-8821



MIMIC CAPE anje@mimics.co.za www.mimic.co.za TEL: +27(0)21-551-8185 FAX: +27(0)21-551-8169
Unit 41A, Stella Park, 57 Stella Road, Montague Gardens, Cape Town 7441. PO Box 36955 Chempet 7442, South Africa