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Data Sheet

Controllers



MIC 1462

Multi-Program Profile Control with Enhanced HMI

1/4 DIN Profile Controller

DESCRIPTION

The MIC 1462 is a 1/4 DIN microprocessor based, single loop process controller with programmable setpoint programs. It can function either as a basic process controller, utilizing manual setpoint changes, or it can execute any one of eight setpoint programs.

Each program is adjustable in the range of 1 to 16 segments and are cascadable to a maximum length of 121 segments. Each segment may be a ramp, a dwell, a join or an end. A delayed start feature is standard as is an end of program relay. By using the auto-hold feature, assured dwells are possible.

The instrument can include two 4-20mA current outputs which can be used for control and a third current output to be used for retransmission. In lieu of current control outputs, relays or SSR drivers are available.

Four event outputs (relay) are available as an option.

APPLICATIONS:

Programmable profile device stores and implements temperature control sequences including ramp/soak profiles using exclusive PID techniques.

INDUSTRIES

- Industrial and lab ovens/furnaces, plastics and thermal forming
- Form/fill and seal
- Packaging applications
- And any others where low costs, smaller size and unmatched connectivity are critical requirements.

FEATURES/BENEFITS

- Dual, 4-digit, LED displays
- Enhanced HMI
- 1/4 DIN panel mount
- Universal Input for thermocouple, RTD, DC linear mA/V/mV user-selectable
- Sensor fault detection
- Up to 3 outputs; relay, 4-20mA, SSR driver, Triac
- Control, alarms (process, deviation/band); retransmission output functions
- PID, ON/OFF, profile (ramp/dwell) control
- Optional RS-485 serial communications
- Program security

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SPECIFICATIONS*

STANDARD FEATURES

Dual Display for fast view of process and control parameters - Enhanced Human-Machine Interface

Full PID capability

OR, AND alarm output via relay

Universal input for voltage, current, thermocouple and RTD

Profile Cycling

Program loading via communications port

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: 0 to 55°C

Storage Temperature: -20 to 80°C

Humidity: 20 to 95% non condensing

ELECTRICAL

Line Voltage: 90 to 264VAC 50/60 Hz (standard)

20 to 50V AC 50/60Hz or 22 to 65V DC (optional)

Power Consumption: 4 Watts

Source Resistance: 1000 ohm maximum (thermocouple)

Lead Resistance: 50 ohm per lead maximum balanced (Pt100)

EMI Susceptibility: Designed to meet EN50082 Part 2

EMI Emissions: Designed to meet EN50081 Part 2

INPUT

Thermocouple types: R, S, J, T, K, L, B, and N

RTD: 100 ohm (.00385 ohm/ohm/C)

Volts: 0 to 5VDC, 1 to 5VDC, 0 to 10VDC and 2 to 10 VDC

Millivolts: 0 to 50mVDC and 10 to 50mVDC

Milliamps: 0 to 20mADC and 4 to 20mADC

Sensor Fault Detection: Displays an alert for thermocouple or RTD inputs and sensor break, SnSr.
Control outputs set to OFF (0% power); alarms operate as if the process variable has gone over-range (TC) or under-range (RTD & V, mV, mA)

OUTPUTS

OUTPUT 1 & 2

Relay: SPDT; 2.0 A Resistive at 120/240 VAC

SSR Driver: > 4.2V DC into 1K ohms minimum

Current Output: 0 to 20mADC into 500 ohms max; 20mADC into 500 ohms max

Volts DC Output: 0 to 10VDC 500 ohms minimum; 0 to 5VDC 500 ohms minimum

Transmitter Power (output 2 only): 20 to 28VDC (24VDC nominal), Load Impedance: 910 ohms (22mA @ 20VDC)

Triac Output: 1 amp @ 40°C derated to 1/2 amp @ 80°C

OUTPUT 3

Relay: SPDT, 2.0 A Resistive at 120/240 VAC

SSR Driver: > 4.2V DC into 1K ohms minimum

Current Output: 0 to 20mADC into 500 ohms max

(retransmission only): 4 to 20mADC into 500 ohms max

Volts DC Output: 0 to 10VDC 500 ohms minimum

(retransmission only): 0 to 5VDC 500 ohms minimum

Transmitter Power: 20 to 28VDC (24VDC nominal), Load Impedance: 910 ohms (22mA @ 20VDC)

Triac Output: 1 amp @ 40°C derated to 1/2 amp @ 80°C

DISPLAY

Digital Display: Four 7 segment LEDs, top .53" high; bottom .36" high; message .19" high; profile/segment .25" high

Status Indicators: Individual LED indictors for Output 1, Output 2, Manual, Alarm, Pre or Auto Tune, Run, Hold, Times 60 Time Base, and Event 1 thru Event 4

ALARM

Process Alarm: ± Input Span

Deviation Alarm: ± Input Span

Deviation Band Alarm: 0 to Input Span

CONTROL

On/Off Hysteresis: 0.1% to 10.0% of Input Span

Proportional Band: 0 (Off), 0.5% to 999.9% of Input Span

Manual Reset: 0% to 100% of Output Power

Auto Reset: 1 sec to 99 min 59 sec/repeat and OFF

Rate: 0 sec to 99 mins. 59 sec

Cycle Time: .5, 1, 2, 4, 8, 16, 32, 64, 128, 256, and 512 seconds

Deadband/Overlap: -20% to +20% of PropBand 1 + PropBand 2

PROGRAM SPECIFICATIONS

Programs: Eight, each with free-form segments

Length of Program: 1 to 16; cascadable max of 121 segment

Segment Types: Ramp, Dwell, Join, Repeat or End

Program Cycling: 1 to 9999, infinite

Delayed Start: 0 to 99 hrs 59 mins

Control: Run, Hold, Abort, Time Base x60 (local/remote); select program (local/remote); jump to next segment

Start From: Current process variable or controller setpoint value, user selectable

End On: Final Value or Controller Setpoint, user selectable

PERFORMANCE

Measurement Accuracy: ± 0.25% of span, ± 1 LSD at 20 deg C

Note: Reduced performance with Type "B" thermocouple between100-600C (212-1112F)

Ambient Temperature Error: 0.01% of span /° C change in ambient Linearization Accuracy Better than ± 0.2 deg C any point, (TC and RTD) any 0.1 deg C range (± 0.05 deg C typical). Better than ± 0.5 deg C any point, any 1 deg C range

Cold Junction Compensation: Better than ± 0.7 deg C

Noise Rejection: Common mode: >120dB at 50/60Hz giving negligible effect at up to 264V 50/60Hz

Series Mode: >500% of span (at 50/60Hz) causes negligible effect

Dimensions: Front panel: 96mm x 96mm (3.78" x 3.78") 100mm deep

Weight: 16 ounces maximum

Front Panel Sealing: IP65/NEMA4

DIGITAL COMMUNICATIONS

Type: RS-485 serial communication port:

Protocol: MODBUS/RTU or West ASCII

PHYSICAL DIMENSIONS

Dimensions: 1/4 DIN front panel, 100mm (3.9") deep

Front Panel Rating: NEMA 4/IP65

Weight: 454 g. (16 oz.) maximum

STANDARDS

CE, UL & cUL recognized (E67237)

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MIC 1462

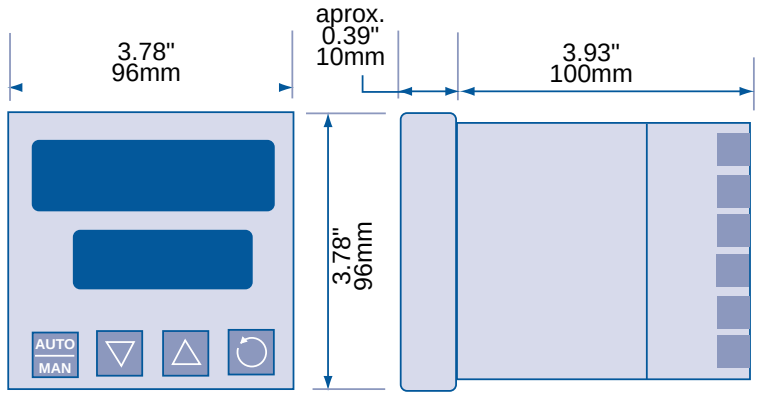
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MODELS

Code 1: Model #	Code 2: Output 1	Code 3: Output 2	Code 4: Output 3	Code 5: Option 1	Code 6: Option 2	Code 7: Suffix
1462	☐	☐	☐	☐	☐ ☐	☐ ☐
1/4 DIN Profile Controller	**1** Relay **2** SSR Driver **3** 4-20mA* **8** Triac†	**0** None **1** Relay **2** SSR Driver **3** 4-20mA* **4** Transmitter Power Supply+ **8** Triac†	**0** None **1** Relay **2** SSR Driver **3** 4-20mA** **4** Transmitter Power Supply++ **8** Triac†	**0** None **1** RS-485 Communications	**00** None **10** Event Outputs (4) **20** Remote profile control inputs (6)*** **30** Both event outputs & remote inputs **40** Real Time Clock **50** Real Time Clock & Event Outputs (4) **60** Real Time Clock & Remote Profile Control Inputs **70** Event Outputs, Remote Profile Control Inputs & Real Tim Clock	**Blank** None **02** Low Line Voltage Option 24 V AC/DC

DIMENSIONS - 1/4 DIN



Panel Cutout: 92.0mm x 92mm (3.62" x 3.62")

* For control output only.
** For retransmission only.
*** Remote Control available - Run/Hold, Abort, Time Base Change (x60), and three (binary coded) Program Select.
\+ Cannot be included if output 3=4.
++ Cannot be included if output 2=4.
† Two Triac Outputs, max.

Process Automation Worldwide Brands:

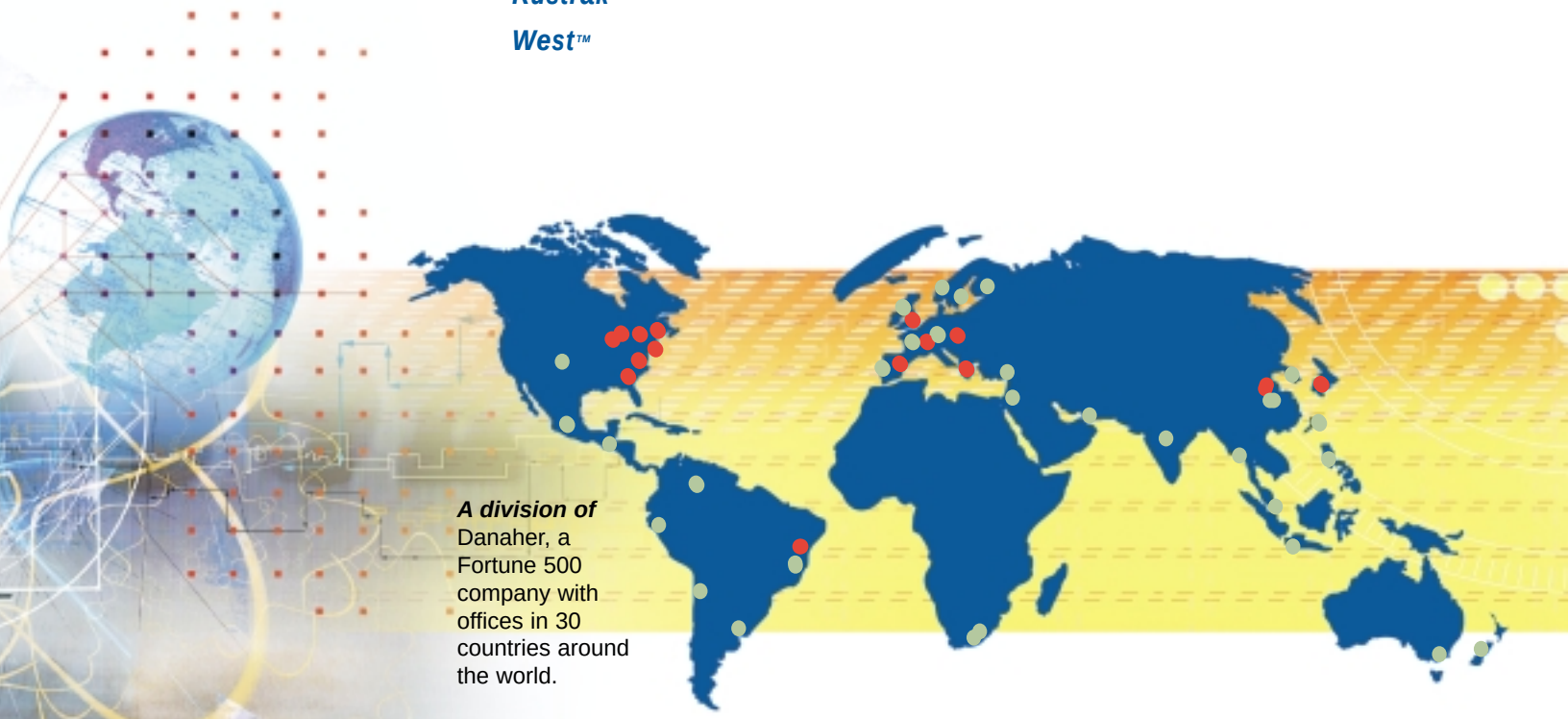
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For additional information or a full-line catalog, contact DICG Customer Service or visit our web site.

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