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)

* Specifications are for base models with standard features only unless otherwise noted. Specifications subject to change without notice in accordance with our DBS policy of continuous improvement. All product and brand names are trademarks of their respective owners. All rights reserved.

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INDUSTRIAL CONTROLS

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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

aprox. 0.39" 10mm

3.78" 96mm

3.93" 100mm

3.78" 96mm
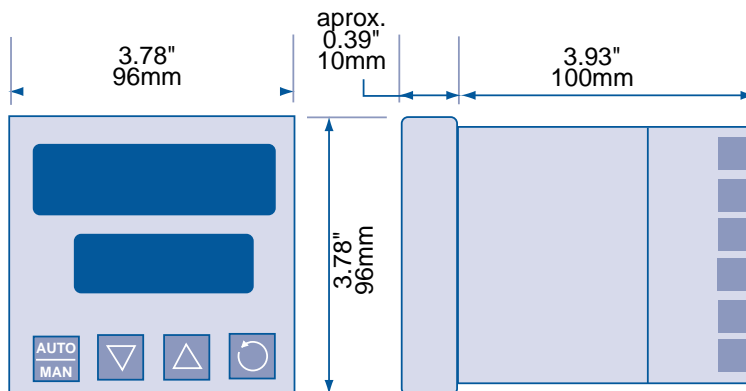
Panel Cutout: 92.0mm x 92mm (3.62" x 3.62")

* 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.

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A division of
Danaher, a
Fortune 500
company with
offices in 30
countries around
the world.

More Available. With factories around the world, global sales and applications support, and an expansive network of distributors, we stay close to our customers - shortening lead times and fostering responsiveness. Three-day lead time is standard, with same-day shipments available on many of our products.

More Selection. We have a broad selection of controllers to meet application requirements in a variety of industries. User-configurable, accurate and flexible, with low, mid, or high level performance ranges, our controller products meet your system and budgetary requirements.

More Reliable. Our experience with more than 25,000 customers has taught us to design controllers that are reliable and durable, with quality standards that meet six sigma requirements.

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

DANAHER
INDUSTRIAL CONTROLS

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