MIC 1401
MICROBASED 1/4 DIN LIMIT CONTROLLER

| 1 | 4 | 0 | 1 | | | | | | |

ORDERING

OUTPUT 1
1   Relay

OUTPUT 2#
0   None
1   Relay*
4   Transmitter Power Supply+

OUTPUT 3#
0   None
1   Relay*
3   4-20mA**
4   Transmitter Power Supply++

OPTIONS
0   None
1   RS-485 Communications
2   Remote Reset

SUFFIX
(Blank)   None
02   Line Voltage 24 V AC/DC

* For alarm output only.
** For retransmission only.
+ Cannot be included if output 3=4.
++ Cannot be included if output 2=4.

Factory Mutual System

Approved

CE

ORDERING INFORMATION
For pricing and additional ordering information, refer to Form 3265, Electronic Price Book, Page 15.

DESCRIPTION

The MIC 1401 is a line of limit controllers designed to provide a programmable safety cut out and optional alarm for use in a wide variety of applications.

Packaged in 1/4 DIN, the MIC 1401 provides a latched relay output which is activated when process parameters either exceed or fall below the desired value, providing a fail safe shutoff which has to be manually reset before the process can continue.

The instrument can be configured to be either a high limit unit where the relay will de-energize when the PV is above the limit point setpoint, or a low limit where the relay will drop out when the PV falls below the setpoint.

LED indication shows when limits have been exceeded and when the relay is latched out.

It offers a full range of universal sensor input options, universal power supply, and versatile configuration.

SPECIFICATIONS

Input

Thermocouple types	J, K, T, R, S, B, L 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 ⌐LL⌐ or ⌐HH⌐ 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) and under-range (RTD & V, mV, mA)
Remote Reset	Voltage free contact, closure required to reset

Limit Output

Relay	SPDT
	5.0 A Resistive at 120/240 VAC

Alarm Output

Relay	2.0A Resistive at 120/240 VAC

Retransmit Output

	0-20mADC into 500 ohm maximum
	4-20mADC into 500 ohm maximum
	0-10VDC 500 ohm minimum
	0-5VDC 500 ohm minimum
Resolution	>10 bits in >1000ms typical

Display

Digital Display	Four 7 segment LEDs, top .53" high, bottom .39" high
Status Indicators	Individual LED indictors for OUT, Exceed, ALM, and when in Setup

Maximum/Minmum Hold

Feature that tracks and saves the maximum (high limit) or minimum (low limit) excursions of the process variable

Time Exceed

Feature that measures the amount of time that the limit is exceeded

Alarms

Maximum Number	Two "soft" alarms
Maximum # Outputs	Up to 2 outputs can be used for alarm purposes
Comb. of Alarms	Logical ORing and ANDing of alarms to an individual hardware output is available

Alarm Adjustment

Process Alarm	– Input Span

Performance

Measurement Accuracy	– 0.25% of span, – 1 LSD at 20 deg C Note: Reduced performance with Type "B" thermocouple between 100-600C (212-1112F)
Ambient Temperature Error	0.01% of span /deg C change in ambient
Linearization Accuracy (TC and RTD)	Better than – 0.2 deg C any point, 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
Scan Rate	4 per second
Noise Rejection	Common mode: >120dB at 50/60Hz giving negligible effect at up to 264V 50/60Hz Series Mode: >500% of span (at 50/60 Hz) causes negligible effect
Line Voltage	90 to 264VAC 50/60 Hz
Operating Temperature	0 to 55 C
Storage Temperature	-20 to 80 C
Humidity	20 to 95% non condensing
Source Resistance	1000 ohm maximum (thermocouple)
Lead Resistance	50 ohm per lead maximum balanced (Pt100)
Dimensions	1/4 DIN front panel, 3.94" deep
Weight	8 ounces maximum
Front Panel Sealing	IP65/NEMA4
Power Consumption	4 Watts

Agency Approvals

FM (Pending)	File 120694.MMO

Digital Communications

Type	RS-485 serial communication port:
Character Format	ASCII
Bit Rate	User configurable to 1200, 2400, 4800, 9600
Address	User configurable 1 to 32