L41

INFORMATION

The limit control L41 is an over temperature or a high limit safety device with a latching output that could remove the power while the process is in abnormal condition, for example the process higher than high limit set point or lower than the low limit set point.

STANDARD SPECIFICATIONS

POWER

Power Supply	90 – 250 VAC, 47 – 63 Hz, 10VA, 5W maximum
Power Consumption	11 – 26 VAC / VDC, SELV, Limited Energy, 10VA, 5W maximum

SIGNAL INPUT

Input	Characteristics
Resolution	18 bits
Sampling Rate	5 times / second
Maximum Rating	-2 VDC minimum, 12 VDC maximum(1 minute for mA input)
Temperature Effect	±1.5 uV/ °C for all inputs except mA input ±3.0 uV/ °C for mA input
Sensor Lead Resistance Effect	T/C: 0.2uV/ohm 3-wire RTD: 2.6 °C/ohm of resistance difference of two leads 2-wire RTD: 2.6 °C/ohm of resistance sum of two leads 200nA
Common Mode Rejection Ratio (CMRR)	120dB
Normal Mode Rejection Ratio (NMRR)	55dB
Sensor Break Detection	Sensor open for TC, RTD and mV inputs, below 1 mA for 4-20 mA input, below 0.25V for 1 – 5 V input, unavailable for other inputs.
Sensor Break Responding Time	Within 4 seconds for TC, RTD and mV inputs, 0.1 second for 4-20 mA and 1 – 5 V inputs.

Characteristics			
Type	Range	Accuracy @ 25 °C	Input Impedance
J	-120 ~ 1000 °C (-184 ~ 1832 °F)	±2 °C	2.2MΩ
K	-200 ~ 1370 °C (-328 ~ 2498°F)	±2 °C	2.2MΩ
T	-250 ~ 400°C (-418 ~ 752°F)	±2 °C	2.2MΩ
E	-100 ~ 900 °C (-148 ~ 1652 °F)	±2 °C	2.2MΩ
B	0 ~ 1820 °C (32 ~ 3308 °F)	±2 °C (200°C – 1820°C)	2.2MΩ
R	0 ~ 1768 °C (32 ~ 3214 °F)	±2 °C	2.2MΩ
S	0 ~ 1768 °C (32 ~ 3214 °F)	±2 °C	2.2MΩ
N	-250 ~ 1300 °C (-418 ~ 2372 °F)	±2 °C	2.2MΩ
L	-200 ~ 900 °C (-328 ~ 1652 °F)	±2 °C	2.2MΩ
PT100 (DIN)	-210 ~ 700 °C (-346 ~ 1292 °F)	±0.4°C	1.3KΩ
PT100 (JIS)	-200 ~ 600 °C (-328 ~ 1112 °F)	±0.4°C	1.3KΩ
mV	-8 ~ 70mV	±0.05%	2.2MΩ
mA	-3 ~ 27mA	±0.05%	70.5Ω
V	-1.3 ~ 11.5V	±0.05%	302KΩ

INPUT 2

Resolution	18 bits
Sampling Rate	1.66 times / second
Maximum Rating	-2 VDC minimum, 12 VDC maximum
Temperature Effect	±1.5uV/ °C for all inputs except mA input ±3.0uV/ °C for mA input
Common Mode Rejection Ratio (CMRR)	120dB
Normal Mode Rejection Ratio (NMRR)	55dB
Sensor Break Detection	Below 1 mA for 4-20 mA input, below 0.25V for 1 – 5V input, unavailable for other inputs.
Sensor Break Responding Time	0.5 second

OUTPUT 1 / OUTPUT 2

Relay Rating	2A/240 VAC, life cycles 200,000 for resistive load
Pulsed Voltage	Source Voltage 5V, current limiting resistance 66Ω

TRIAC (SSR) OUTPUT

Rating	1A / 240 VAC
Inrush Current	20A for 1 cycle
Min. Load Current	50 mA rms
Max. Off-state Leakage	3 mA rms
Max. On-state Voltage	1.5V rms
Insulation Resistance	1000 Mohms min. at 500 VDC
Dielectric Strength	2500 VAC for 1 minute

ALARM 2

Alarm Relay	Form C,Max. rating 2A/240VAC, life cycles 200,000 for resistive load.
Alarm Functions	Dwell timer, Deviation High / Low Alarm, Deviation Band High / Low Alarm Process High / Low Alarm
Alarm Mode	Normal, Latching, Hold, Latching / Hold.
Dwell Timer	0.1 – 4553.6 minutes

DATA COMMUNICATION

Interface	RS-232 (1 unit), RS-485 (up to 247 units)
Protocol	Modbus Protocol RTU mode
Address	1 – 247
Baud Rate	2.4 ~ 38.4 Kbits/sec
Data Bits	7 or 8 bits
Parity Bit	None, Even or Odd
Stop Bit	1 or 2 bits
Communication Buffer	160 bytes

ANALOG RETRANSMISSION

Output Signal	4-20 mA, 0-20 mA, 0-1V, 0-5V, 1-5V, 0-10V
Resolution	15 bits
Accuracy	±0.05 % of span ±0.0025 %/ °C
Load Resistance	0 – 500 ohms (for current output),10 K ohm minimum (for voltage output)
Output Regulation	0.01 % for full load change
Load Resistance	0 – 500 ohms (for current output),10 K ohm minimum (for voltage output)

USER INTERFACE

Keypad	3 keys(C21), 4 keys(C91)
Programming Port	For automatic setup, calibration and testing
Communication Port	Connection to PC for supervisory control

Limit Control	High Limit, Low Limit and High/Low Limit programmable

DIGITAL FILTER

Function	First order
Time Constant	0, 0.2, 0.5, 1, 2, 5, 10, 20, 30, 60 seconds programmable

ENVIRONMENTAL & PHYSICAL

Operating Temperature	-10°C ~ 50°C
Storage Temperature	-40°C ~ 60°C
Humidity	0 to 90 % RH (non-condensing)
Altitude	2000m maximum
Pollution	Degree 2
Insulation Resistance	20 Mohms min. (at 500 VDC)
Dielectric Strength	2000 VAC, 50/60 Hz for 1 minute
Vibration Resistance	10 – 55 Hz, 10 m/s² for 2 hours
Shock Resistance	200 m/s2(20 g)
Moldings	Flame retardant polycarbonate
Dimensions	96mm(W) X 96mm(H) X 65mm(D), 53 mm depth behind panel
Mounting	panel mount, cutout 92 X 92 (mm)
Weight	250 grams

EVENT INPUT

Logic Low	Logic -10V minimum, 0.8V maximum.
Logic High	2V minimum, 10V maximum.
Functions	Remote reset, remote lockout.

APPROVAL STANDARDS

Safety	UL 61010C-1 , CSA C22.2 No. 24-93 , EN61010-1 (IEC1010-1)
Protective Class	IP65 front panel with additional option, IP50 front panel without additional option, all indoor use, IP 20 housing and terminals with protective cover.
EMC	EN61326