

### Safety, Simplicity.

Future Design's L91 is a 1/16DIN control designed to provide limit protection in process applications. Up to three discreet setpoints, two outputs, fast scan rates and user friendly prompts make it the right choice for safety protection. The L91 offers a full range of universal inputs. Power supply selections of 90-264 VAC (std) or 11-26 VAC/VDC allows the L91 to be used virtually anywhere. Output selections include Relay, SSR Drive or Triac. Optional features such as a second latching relay, DC power supply, remote reset or communications offer maximum flexibility for demanding applications. The L91 display can be configured for PV, HSP, LSP or Safe, offering the simplicity required by operations personnel.

- Latching Outputs
- Annunciator Output
- Remote Reset
- RS-485 Interface
- Operations Friendly
- UL, FM, CE Approvals



FDC-L91

1/16 DIN LIMIT CONTROL

## FDC-L91 SPECIFICATIONS

### POWER

90-264 VAC, 49-63 Hz, 10VA, 5W MAXIMUM  
 11-26 VAC/VDC, 10VA, 5W MAXIMUM

### INPUT

**Thermocouple:** (T/C): Type J,K,T,E,B,R,S,N,L  
**RTD:** PT 100 ohm RTD (DIN or JIS)  
**Linear:** 4-20, 0-20mA, 0-60mV, 0-1, 0-5, 1-5, 0-10VDC  
**Range:** Per table in manual  
**Accuracy:** Typically better than  $\pm .25\%$  of span  
**Cold Junction Compensation:**  $\pm 1.5\mu V/^{\circ}C@25^{\circ}C$   
**Sensor Break:** 4 sec. for sensor input, 0.1 sec. for linear 4-20 mA or 1-5 VDC  
**Common Mode Rejection:** 120dB  
**Sample Rate:** 5 times per second

### LIMIT OUTPUT TYPES

**Relay:** Form C 2.0 Amp/240 VAC Resistive  
**SSR Drive:** 5 Volt VDC@30 Ma  
**Triac:** 1.0 Amp/240 VAC

### INDICATION

**Single LED Display:** 0.4" Height, 4 Digits Red  
**Unit Display:**  $^{\circ}C$  and  $^{\circ}F$  Indicator  
**Status Indicator:** Out1, Out2, HSP1, LSP2, SP2, Lock

### OPTIONS

**Second Output:** Relay Form A 2.0Amp@240 Res. (N.O.)  
 SSR Drive 5VDC@30MA  
 Triac 1.0 AMP@240 VAC

**Second Output Types:** Latching, Non-Latching, Annunciator

**Communications:** Modbus RTU

**DC Power Supply:** Isolated 20 VDC@25 MA  
 Isolated 12 VDC@40 MA  
 Isolated 5 VDC@80 MA

**Remote Reset:** External Contact Closure Reset

### ENVIRONMENTAL AND PHYSICAL

**Operating Temperature:** -10 to  $50^{\circ}C$   
**Storage Temperature:** -40 to  $60^{\circ}C$   
**Humidity:** 0/90% RH (non-condensing)  
**Insulation:** 20 M ohms Minimum (500 VDC)  
**Dielectric Strength:** 2000 VAC, 50/60 Hz@1 Min.  
**Shock Resistance:** 200m/s<sup>2</sup> (20G)  
**Vibration:** 10-55Hz, 10m/s<sup>2</sup> for 2 hours  
**Molding:** Flame retardant polycarbonate  
**Dimensions:** 1.89" (H) x 1.89" (W) x 3.70" (D)  
**Weight:** 5.3 oz. (150 grams)

# ORDERING INFORMATION

Enter a number in each box which corresponds to the specifications you want when ordering the L91.

## FDC-L91

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### POWER INPUT

- 4: 90-264 VAC 49/63 Hz
- 5: 11-26 VAC/VDC
- 9: Special Order

### SIGNAL INPUT

- 1: Universal Input T/C, RTD, Mv
- 2: Voltage DC: 0-1, 0-5, 1-5
- 3: Voltage DC: 0-10
- 4: mA 0-20, 4-20
- 5: Special Order

**NOTE:** Instruments ordered with signal inputs 2, 3 & 4 are not FM approved.

### OUTPUT 1

- 1: Form C Relay - 2.0 Amps@240 VAC Res.
- 2: SSR Drive - 5 VDC@30 ma
- 3: Triac - 1.0 Amp@240 VAC
- 4: Special Order

### OPTIONS

- 0: None
- 1: Form A Relay - 2.0 Amps@240 VAC Res. (N.O.)
- 2: SSR Drive - 5 VDC@30 ma
- 6: TRIAC - 1.0 Amp@240 VAC
- 7: Isolated DC Power Supply - 20 VDC@25 mA
- 8: Isolated DC Power Supply - 12 VDC@40 mA
- 9: Isolated DC Power Supply - 5 VDC@80 mA
- A: RS - 485 (Modbus RTU)
- B: Remote Reset
- C: Special Order

