

# L91A,B,D Proportioning Pressuretrol<sup>®</sup> Controllers

## PRODUCT DATA



## APPLICATION

L91 Proportioning Pressuretrol<sup>®</sup> Controllers are Series 90 Modulating Pressure Controllers that provide direct control of modulating motors or valves used on automatic burners or steam heating systems.

## FEATURES

- Models available for pressure systems up to 300 psi (2068 kPa).
- May be used with steam, air, noncombustible gases, or other fluids noncorrosive to brass or phos-bronze (300 psi model) bellows.
- When used with steam boilers, a steam trap (siphon loop) is recommended.
- Wiper on controller potentiometer moves in response to pressure changes.
- L91D has two potentiometers for unison control of two motors.
- L91B,D models have adjustable proportioning (throttling) range to allow selection of desired pressure control range.
- Adjustments made with screws on case top.
- Large, easily-read scaleplates in both U.S. customary (oz/sq. in., psi, or in. Hg) and metric (kPa, MPa, or mm Hg) units.
- Steel case with clear plastic cover to observe pressure settings and potentiometer action.
- Fitting with 1/4 -18 NPT threads allows rapid installation.
- Surface mount with screws through knockout holes in case back.

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## SPECIFICATIONS

Table 1. Models available.

Operating Ranges <sup>a</sup>			Proportioning (Throttling) Range at Midscale				Maximum Surge Pressure	
Model	U. S. Customary Units	Metric Units	Potentiometer Part No. <sup>b</sup>	Adjustable	U. S. Customary Units	Metric Units	psi	kPa
L91A	0 to 15 psi	0 to 103 kPa	23176CB	No	0.5 psi	3.4 kPa 25	172	
	5 to 150 psi	0.03 to 1.03 MPa	23176CB	No	5 psi	0.03 MPa	225	1551
	10 to 300 psi <sup>b</sup>	0.07 to 2.07 MPa	23176CB	No	12 psi	0.08 MPa	350	2413
L91B	0 to 15 psi	0 to 103 kPa	23176CF	Yes	1.5 to 12 psi	10 to 83 kPa	25	172
	5 to 150 psi <sup>c</sup>	0.03 to 1.03 MPa	23176CB	Yes	5 to 23 psi	35 to 160 kPa	225	1551
	10 to 300 psi <sup>c</sup>	0.07 to 2.07 MPa	23176CB	Yes	12 to 48 psi	85 to 330 kPa	350	2413
	10 to 300 psi	0.07 to 2.07 MPa	23176CF	Yes	30 to 110 psi	0.21 to 0.76 MPa	350	2413
L91D	0 to 15 psi	0 to 103 kPa	23176CF	Yes	1.5 to 12 psi	10 to 83 kPa	25	172
	5 to 150 psi <sup>c</sup>	0.03 to 1.03 MPa	23176CF	Yes	13 to 52 psi	0.09 to 0.36 MPa	225	1551
	10 to 300 psi <sup>c</sup>	0.07 to 2.07 MPa	23176CF	Yes	30 to 110 psi	0.21 to 0.76 MPa	350	2413

### Models (Table 1):

L91A: Single potentiometer; nonadjustable proportioning range.

L91B: Single potentiometer; adjustable proportioning range.

L91D: Two potentiometers allow unison control of motors; adjustable proportioning range.

**Electrical Rating:** 24 Vac.

**Potentiometer Action:** Wiper moves toward W on pressure rise, toward B on pressure fall. Potentiometer is field replaceable.

**Potentiometer Resistance:** 140 ohms (nominal) for L91A, B, and D models.

**Pressure Sensing Element:** Brass bellows, 10-300 psi models phos-bronze bellows.

**Minimum Ambient Temperature:** 32° F (0° C)

**Maximum Ambient Temperature:** 150° F (66° C)

**Adjustment Means:** Screws on controller case top; knurled knob for main scale setting on 10 to 300 psi (0.07 to 2.07 MPa) models.

**Setpoint:** At low pressure end of proportioning (throttling) range.

**Main Scaleplate:** Marked in both U.S. customary (oz/sq. in, psi, or in. Hg) and metric (kPa, MPa, or mm Hg) units.

**Proportioning Range Scaleplate (L91B,D only):** Graduated from A to F with a MIN (minimum) value below A. (See Table 2 for the value of each division.)

**Mounting Means:** Fitting on bellows has 1/4 - 18 NPT threads (external on 0 to 16 oz/sq. in., 0 to 4 psi, and 0 to 15 psi models; internal on all other models) for mounting on a pipe or steam trap (siphon loop).

NOTE: Some models are available with 1/4 - 19 BSP-TR internal threads; see Table 1.

Also can be surface mounted by screws through two knockout holes in case back.

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care  
1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Toronto, Ontario M1V 4Z9.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

**Electrical Connections:** Internal screw terminals. Hole inside of case for 1/2 in. conduit.

**Dimensions:** See Fig. 1; see Fig. 2 for mounting steam trap (siphon loop).

**Weight:** 1 lb, 15 oz (0.88 kg).

**Finish:** Gray.

**Replacement Parts:**

129178 Thermoplastic Cover.  
 23176CB Potentiometer: For all L91A models and a few L91B models (see Table 1); 140 ohms (nominal); length of active winding is 7/64 in. (2.8 mm).

23176CF Potentiometer: For all L91D models and most L91B models (see Table 1); 140 ohms (nominal); length of active winding is 1/4 in. (6.4 mm).

**Accessories:**

50024585-001 Steam Trap (siphon loop): 1/4 in. brass pipe with 1/4 -18 NPT external threads on both ends.  
 14026 Steam Trap (siphon loop): 1/4 in. steel pipe with 1/4 -18 NPT external threads on both ends.  
 33312B Knurled Adjustment Knob: With setscrew; fits on main scale pressure adjusting screw.  
 4074BWJ Limit Stop Assembly: To limit setpoint ranges; includes 129564 Range Stop 107194 Range Stop Screw, and 23466 Wrench.

**Table 2. Approximate value of each division (A to B, B to C, etc.) on proportioning (throttling) range scaleplate (L91B,D,F only)**

Operating Range		Value of Each Division	
U.S. Customary Units	Metric Units	U.S. Customary Units	Metric Units
0 to 10 oz/sq in.	0 to 7 kPa	6.2 oz/ sq in.	2.7 kPa
0 to 15 psi	0 to 103 kPa	1.8 psi	12.4 kPa
5 to 150 psi (L91B)	0.03 to 1.03 MPa	7.8 psi	0.054 MPa
5 to 150 psi (L91D)	0.03 to 1.03 MPa	6.7 psi	0.046 MPa
10 to 300 psi (L91B with 7/64 in. potentiometer)	0.07 to 2.07 MPa	16.4 psi	0.113 MPa
10 to 300 psi (L91B,D with 1/4 in. potentiometer)	0.07 to 2.07 MPa	13.8 psi	0.095 MPa