Honeywell

L404 AND L604 PRESSURETROL CONTROLLERS

L404 AND L604 PRESSURETROL CONTROLLERS ARE LINE VOLTAGE PRESSURE CONTROLLERS THAT PROVIDE OPERATING CONTROL, AUTOMATIC LIMIT PROTECTION, OR MANUAL RESET LIMIT PROTECTION FOR PRESSURE SYSTEMS OF UP TO 300 psi [21.1 kg/cm* or 2066 kPa].

CI L404A	☐ L404D	☐ L604A
☐ L404B	☐ L404F	☐ L604L
☐ L404C		☐ L604M

- These controllers may be used with steam, air, noncombustible gases, or fluids noncorrosive to the pressure sensing element.
- Stainless steel diaphragm (except the 300 psi [21.1kg/cm² (2066 kPa)] models) also allows use with ammonia, oxygen, distilled water, and similar media.
- Stainless steel diaphragm (except the L404L and 300 psi [21.1kg/cm² (2068 kPa)]) ammonia, oxygen, distilled water, and similar media.
- L404B is recommended for supervision of atomizing medium pressure in oil burner systems.
- Models are available with spst, spdt, or dpst switching and in a variety of operating ranges.
- Dustproof, trouble-free mercury switches (all models except the L404F, which has a snap-acting switch).
- Automatic reset models have *an* adjustable, subtractive differential (except the L604M).
- Trip-free mechanism on manual reset models ensures that the limit function of the controller cannot be defeated by jamming the reset lever.
- Adjustments are made by screws on top of case.
- Scaleplates are marked in English (psi) and Metric [kg/cm²] units.
- L404F models are available with European enclosure, British Standard Pipe Threads, ground screw, and scalepfates marked on kg/cm* and either psi or kPa.
- Case has clear plastic cover so that prssure settings and switch action can be observed.
- Leveling indicator visible through cover.
- Hexagonal fitting with 1/4-18 NPT internal threads for direct mounting to a 14026 Steam Trap (siphon loop).
- Can also be surface mounted by screws through holes (knockouts) in back of case.

SPECIFICATIONS

STANDARD MODELS

MODELS: L404A-D,F and L604A,L,M Pressuretrol Controllers. See Table I on the next page. A 14026 Steam Trap (siphon loop) is available, except where noted in Table I. The steam trap is necessary for boiler installations.

SWITCH(ES): Mercury switch(es) in all models except the L404F, which has a Micro Switch snap-acting switch.

PRESSURE SENSING ELEMENT: Stainless steel diaphragm (brass bellows in 300 psi [21.1 kg/cm*, (2068 kPa)] models).

MAXIMUM AMBIENT TEMPERATURE: 150 F [66 C].

MINIMUM AMBIENT TEMPERATURE: Minus 35 F [minus 37 C]; also refer to note under Location and Mounting in the INSTALLATION section.

ADJUSTMENT MEANS: Screws on top of controller case. Scales are marked in psi and kPa.

ELECTRICAL CONNECTIONS: Internal screw terminals; hole in side of case for 1/2 in. conduit.

MOUNTING MEANS: Hexagonal fitting on diaphragm has 1/4-18 NPT internal threads for mounting on a pipe or steam trap (siphon loop). Also can be surface mounted by screws through 2 holes (knockouts) in back of case.

DIMENSIONS: See Fig. 1; also Fig. 2 for mounting steam trap (siphon loop).

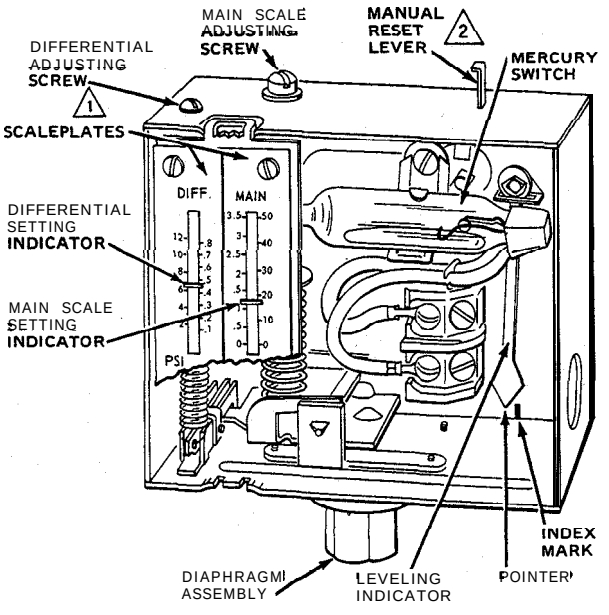
WEIGHT: 2 lb. [0.91 kg].

FINISH: Gray.

APPROVALS:

UNDERWRITERS LABORATORIES INC. LISTED (L404A,B,C,D,F; L604A,M only): File No. MP466, Vol. 10; Guide No. MBPR.

CANADIAN STANDARDS ASSOCIATION CERTIFIED (L404A,B,C,D,F; L604A,L only): File No. LR1620; Guide No. 400-E-0.



1 ADJUSTABLE DIFFERENTIAL ON THE L404A,B,F; L404L WITH A 5 TO 150 PSI [.34 TO 10.3 kg/cm² (34T0 134 kPa)] OPERATING RANGE; AND L604A MODELS ONLY.

A2 TRIP-FREE MANUAL RESET LEVER ON THE L404C,D AND L604L MODELS ONLY.

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FIG. I-SETTING A PRESSURETROL CONTROLLER.

TABLE I-MODELS AVAILABLE

MODEL	SWITCHING ACTION ON PRESSURE RISE TO SET POINT	OPERATING RANGES[a] psi	OPERATING RANGES[a] kg/cm²	OPERATING RANGES[a] kPa	MIDSCALE SUBTRACTIVE DIFFERENTIAL[a] (adjustable) psi	MIDSCALE SUBTRACTIVE DIFFERENTIAL[a] (adjustable) kg/cm²	MIDSCALE SUBTRACTIVE DIFFERENTIAL[a] (adjustable) kPa	MAXIMUM SURGE PRESSURE psi	MAXIMUM SURGE PRESSURE kg/cm²	MAXIMUM SURGE PRESSURE kPa
L404A	spst, breaks circuit	2 to 15[c] 5 to 50 10 to 150[c] 20 to 300[b]	.14 to 1.0 .35 to 3.5 .66 to 10.6 1.4 to 21.0	14 to 103 34 to 345 69 to 1034 138 to 2068	1 to 6 4 to 12 8 to 16 15 to 40	.07 to .41 .28 to .82 .56 to 1.10 1.04 to 2.76	7 to 41 27 to 83 55 to 110 103 to 276	50 85 225 500	3.5 5.9 15.5 34.5	345 586 1551 3447
L404B[i]	spst, makes circuit	2 to 15[d,e] 5 to 50 10 to 150[d,c] 20 to 300[b]	.14 to 1.1 .35 to 3.5 .66 to 10.6 1.4 to 21.0	14 to 103 24 to 345 69 to 1034 138 to 2068	1 to 6 4 to 12 8 to 16 15 to40	.07 to .41 .28 to .82 .56 to 1.10 1.04 to2.76	7 to 41 27 to 83 55 to 110 103 to276	50 85 225 500	3.5 5.9 15.5 34.5	345 586 1551 3447
L404C	spst, breaks circuit	2 to 15 5 to 50 10 to 150 20 to 300[b]	.14 to 1.0 .35 to 3.5 .66 to 10.6 1.4 to 21.0	14 to 103 34 to 345 69 to 1034 138 to 2068	manual reset (fixed, subtractive differential)			50 85 225 500	3.5 5.9 15.5 34.5	345 586 1551 3447
L404D	spst, makes circuit	12 to 150	.66 to 10.6	69 to 1068	(fixed manual reset differential)			50 225	3.5 15.5	345 1551
L404F	spdt snap-acting switch, makes R-W,	2 to 15 5 to 50 20 to 300[b]	.14 to 1.0 .66 to 10.5 1.4 to21.0	14 to 103 34 to 345 138 to 2086	2 to 6 6 to 12 20 to 50	.14 to .41 .69 to 1.72 1.4 to 3.5	14 to41 60 to 152 138 to 345	50 85 225 500	3.5 5.9 15.5 34.5	345 586 1551 3447
L604A	circuitsisolated spdt,[h] makes R2-B, breaks	5 to 50 200to300[b]	.35 to 3.6 1.68 to 21.0	34 to 345 165 to 2068	4 to 12 16 to 16	.28 to .82 1.56 to 12.76	27 to 83 153 to 2076	50 85 225 500	3.5 5.9 15.5 34.5	345 586 1551 3447
L604L	spdt circuit makes R-W, breaks R-B	2 to 15	.14 to 1.0	14 to 103	manual reset[i] (fixed, subtractive differential)			50	3.5	345
L604M	spdt circuit makes R-W, breaks R-B	10 to 150	.66 to 10.6	69 to 1034	fixed: 3.5 psi [24.1 kPa]			225	15.5	1551

[2] Scaleplates are marked in both spi and kg/cm².

[b] Brass bellows replaces stainless steel diaphragm. Not suitable for use with ammonia, oxygen, or other corrosive materials.

[c] Model available with special fixed low differential. Switch rated for 0.5 A at 120 Vac.

[d] Model available with minimum operating pressure of 1.25 psi [0.09 kg/cm² or 8.62 kPa] and minimum subtractive differential of 0.5 psi [0.035 kg/cm² or 3.45 kPa].

[e] Model available with special fixed low differential. Switch rated for 0.5 A at 120 Vac.

[f] Model available with sealed bell crank adjustment.

[g] L404F only; all other models have mercury switches.

[h] Spst switches operate in unison; spdt action when jumper is installed between RI and R2.

[i] L404C,D and L604L models are designated as "Manual Reset 2" controllers. the trip-free reset mechanism does not permit the controller to function as an automatic-reset device if the manual reset lever is held in the "reset" position. The subtractive differential is fixed at the minimum value of the adjustable differential of the L404A for each corresponding operating range.

[j] Also recommended for supervision of atomizing medium pressure (air or steam) in an oil burner system.

SWITCH CONTACT RATING (in amperes at 50/60 Hz):

MODEL	LOAD	120 Vac	240 Vac	120 Vdc	248 Vdc
L404[a]	Full Load	8.0	5.1	2.4	1.2
	Locked Rotor	48.0	30.6	24.0	12.0
	Noninductive[a]	10.0	5.0	5.0	2.0
L604A,L[b]	Full Load	8.0	5.1	2.0	1.0
	Locked Rotor	48.0	30.6	20.0	10.0
	Noninductive	10.0	5.0	8.0	4.0
L604M	Full Load	1.0	0.5	1.0	0.5

[a] L404F (snap-acting) does not have noninductive or dc ratings.

[b] L604A and L have also been tested (and listed by Underwriters Laboratories Inc.) and *breaking* (not making) a load with a total rating of 9.8 A full load, plus 360 VA ignition, plus 250 VA pilot duty at 120 Vac.

TABLE II-CONVERSION TABLE (psi to kPa)

OPERATING RANGE SCALE-PLATE osi	OPERATING RANGE EQUIVALENT kg/cm²	OPERATING RANGE EQUIVALENT kPa	SUBTRACTIVE DIFFERENTIAL SCALE-PLATE psi	SUBTRACTIVE DIFFERENTIAL EQUIVALENT kg/cm²	SUBTRACTIVE DIFFERENTIAL EQUIVALENT kPa
0 to 15	0 to 1.0	0 to 103	—	—	—
2 to 15	.14 to 1.0	14 to 103	1 to 6	.07 to .4	7 to 41
			2 to 6	.14 to .4	14 to 41
5 to 50	.3 to 3.5	34 to 345	4 to 12	.3 to .8	28 to 83
			5 to 14	.4 to 1.0	41 to 97
5to 150	.3 to 10.3	34to 1034	—		
10 to 150	.7 to 10.3	69 to 1034	8 to 16	.6to 1.1	55 to 110
			10 to 22	.7 to 1.5	69 to 152
20to 300	1.4 to 20.7	138 to 2068	15 to 40	1.0 to 2.8	103 to 276
			20 to 50	1.4 to 3.5	138 to 345