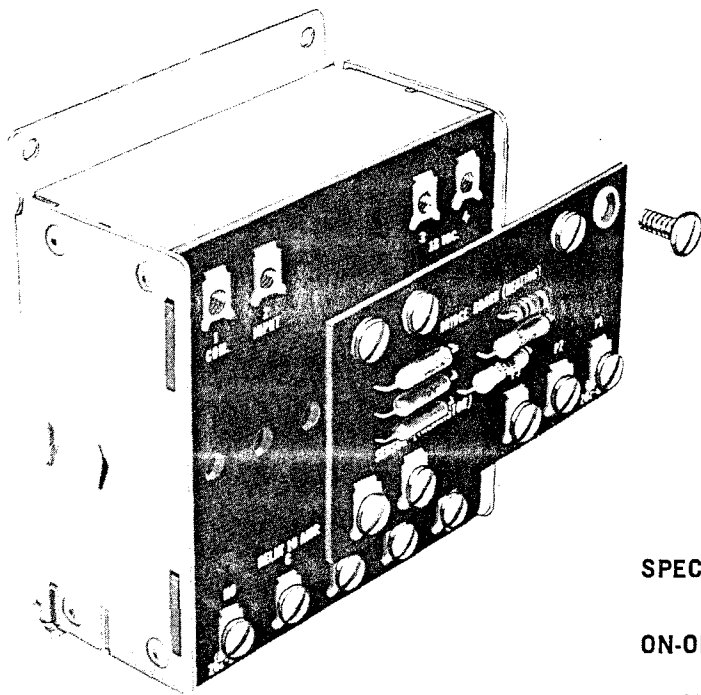


Temperature Controller



FEATURES

- ON/OFF control
- Sub-panel mount
- External bridge board for easy range change
- Remote setpoint potentiometer
- Operate with either RTD or thermistor sensors
- Excellent switching sensitivity
- U.L. Recognized

GENERAL DESCRIPTION

The Model 15 temperature controllers are designed for those applications requiring close control of process temperatures. The sub-panel on-off unit offers a unique temperature range and sensor selection feature. This feature utilizes an external bridge board and setpoint potentiometer assembly which can be changed to suit the user's requirements without changing the basic controller. A complete system would consist of a controller, bridge board, set point potentiometer and a sensor assembly (either thermistor or platinum type). Special units consisting of integral set pots and/or internal bridges and cooling bridge boards are also available on request.

DATA SHEET MODEL 15



Effective 5/1/78

SPECIFICATIONS:

ON-OFF CONTROL

SWITCHING SENSITIVITY: Thermistor sensors, typically 0.1°F.
Platinum sensors, typically 0.3°F.

OUTPUTS:

- (1) 50 VA sealed Reed Switch, N.O. contacts.
- (2) S.P.D.T. relay, rated 10 A rms at 120 VAC, 5 A rms at 240 VAC.

LINE VOLTAGE:

- 120 VAC \pm 10%, 50/60 Hz. (Model 15-00-01 Reed Model).
- 120 VAC \pm 10%, 50/60 Hz. (Model 15-00-11 Relay Model).
- 240 VAC \pm 10%, 50/60 Hz. (Model 15-00-12 Relay Model).

POWER CONSUMPTION: 2.5 VA.

OPERATING AMBIENT: 30 to 130°F.

NOISE IMMUNIZATION:

Sudden fluctuations of \pm 20% of A.C. line will not cause the output relay to switch.

BRIDGE EXCITATION: 18 VAC.

SETPOINT POTENTIOMETER ASSEMBLY:

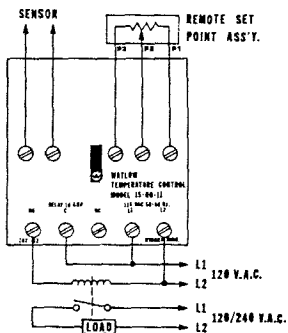
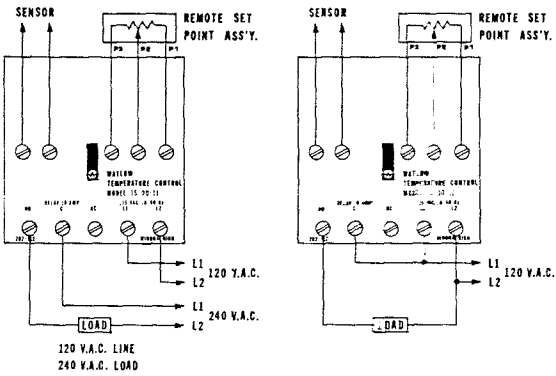
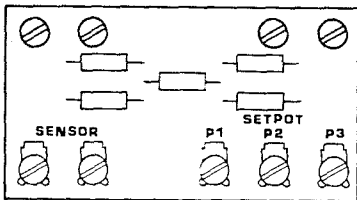
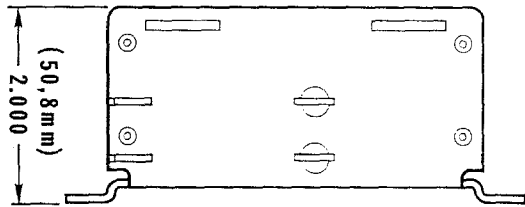
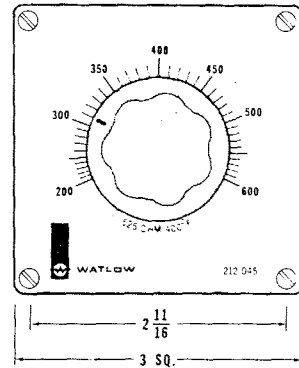
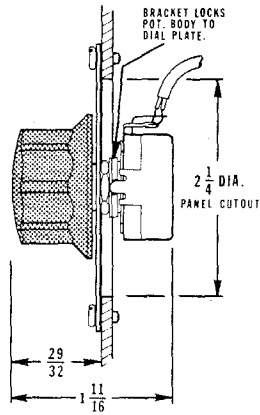
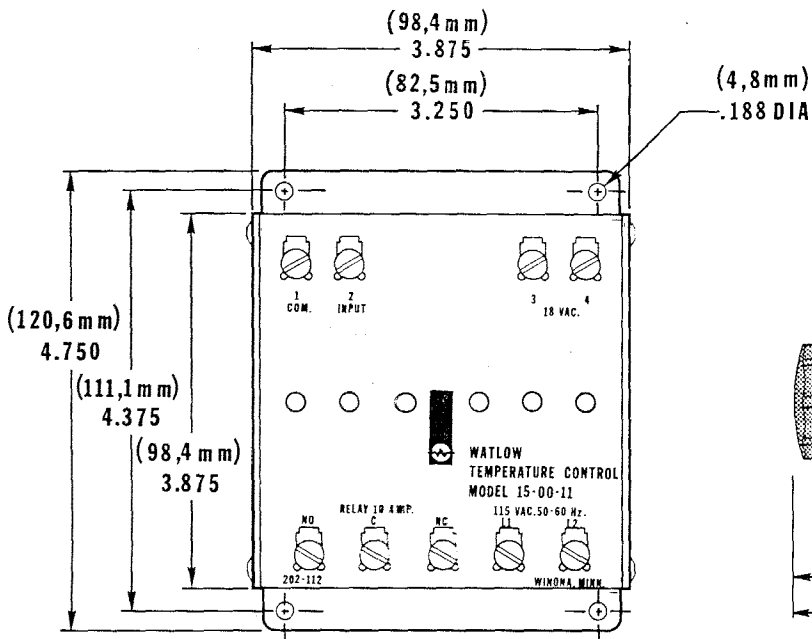
Remote, 24-inch leads standard.

WATLOW WINONA, INC.

WINONA, MINNESOTA 55987

1265 EAST SANBORN STREET

PHONE 507 454-5300



TEMPERATURE RANGES

THERMISTOR SENSOR		
RANGE	BRIDGE BOARD	SET POINT ASSEMBLY
-50 to +150°F	B007-074	A006-130
0 to 100°F	B007-059	A006-145
0 to 250°F	B007-019	A006-079
0 to 500°F	B007-054	A006-163
25 to 250°F	B007-009	A006-081
200 to 600°F	B007-014	A006-032
-20 to +60°C	B007-035	A006-040
40 to 200°C	B007-046	A006-129

PLATINUM SENSOR		
RANGE	BRIDGE BOARD	SET POINT ASSEMBLY
-100 to +500°F	B007-033	A006-038
0 to 100°F	B007-093	A006-037
0 to 1000°F	B007-016	A006-101
100 to 650°F	B007-049	A006-078
0 to 60°C	B007-076	A006-162
0 to 350°C	B007-018	A006-071
0 to 100°C	B007-045	A006-128

ORDERING INFORMATION

Specify model number, temperature range, bridge board number, sensor type, and setpoint potentiometer assembly number.

- Model 15-00-01 (50 VA Reed Model)
- 15-00-11 (Relay Model 120 V. Line)
- 15-00-12 (Relay Model 240 V. Line)



MODEL 15 SERIES
TEMPERATURE RANGES
AVAILABLE

7-25-74

PLATINUM HEATING/°F

-100 to +500°F	218-071	B007-033	A006-038
0 to 500°F	218-110	B007-015	A006-100
0 to 1000°F	218-067	B007-016	A006-101
100 to 650°F	218-010C	B007-049	A006-078
200 to 800°F	218-072	B007-064	A006-151
500 to 1000°F	218-093	B007-050	A006-131
-10 to 200°F	218-160	B007-084	A006-178
0 to 100°F	218-037	B007-093	A006-037

PLATINUM HEATING/°C

Skirted: -150°C to -50°C	218-266	B007-055	A006-080
0 to 60°C	218-055	B007-076	A006-162
0 to 100°C	218-139	B007-045	A006-128
0 to 350°C	218-065	B007-018	A006-071

PLATINUM COOLING/°C

-100 to 0°C	218-226	B007-044	A006-127
-------------	---------	----------	----------



WAYNCO INC.

WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 507 454-5300



MODEL 15 SERIES
TEMPERATURE RANGES
AVAILABLE

6-18-74

-053

THERMISTOR HEATING/°F

800-010 ^{300Ω}	-50 to 150°F	218-131	B007-074	A006-130
800-010	-40 to 100°F	218-114	B007-080	A006-070
800-010	-25 to +45°F	218-099	B007-069	A006-153
800-010	-25 to +75°F	218-189	B007-048	A006-052
800-011 ^{1K}	0 to 100°F	218-132	B007-059	A006-145
800-010	0 to 140°F	218-096	B007-056	A006-137
800-012 ^{3K}	0 to 250°F	218-041	B007-019	A006-079
800-018	0 to 500°F	218-142	B007-054	A006-163
800-012	25 to 250°F	218-133	B007-009	A006-081
800-011	50 to 100°F	218-066	B007-072	A006-073
800-011	50 to 150°F	218-047	B007-053	A006-146
800-012	50 to 250°F	218-369	B007-082	A006-173
800-041	100 to 150°F	218-304	B007-057	A006-140C
800-020	100 to 400°F	218-134	B007-010	A006-034
800-016 ^{100Ω}	150 to 450°F	218-042	B007-007	A006-139
800-002	200 to 500°F	218-031	B007-077	A006-164
800-016	200 to 600°F	218-045	B007-014	A006-032
800-005 or 800-020	250 to 650°F	218-043	B007-021	A006-155



WAYNCO INC.

WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 507 454-5300

077



MODEL 15 SERIES
TEMPERATURE RANGES
AVAILABLE

11-11-75

THERMISTOR HEATING/°C

800-010	-50 to +100°C	218-138	B007-042	A006-124
800-011	-30 to +70°C	218-126	B007-052	A006-069
800-011	-25 to +25°C	218-028	B007-041	A006-123
800-010	-20 to +60°C	218-020	B007-035	A006-040,-082
	-20 to +60°C	218-246	B007-032	A006-087,-126
	-10 to +100°C	218-015C	B007-023	A006-088
800-012	-10 to +120°C	218-370	B007-083	A006-174
800-011	-5 to +50°C	218-111	B007-040	A006-132
800-017	40 to 200°C	218-048	B007-046	A006-129
800-011	0 - 60°C	218-236	B007-127	A006-220

THERMISTOR COOLING/°F

800-010	-40 to 100°F	218-114	B007-006	A006-070
---------	--------------	---------	----------	----------

THERMISTOR COOLING/°C

800-013	0 to 100°C	218-027	B007-071	A006-159
---------	------------	---------	----------	----------



WAYNCO INC.

WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 507 454-5300



MODEL 15 SERIES
TEMPERATURE RANGES
AVAILABLE

6-6-75

THERMISTOR HEATING/°C

800-010 <i>300 ohm</i>	-50 to +100°C	218-138	B007-042	A006-124
800-011 <i>1K</i>	-30 to +70°C	218-126	B007-052	A006-069
800-011 <i>1K</i>	-25 to +25°C	218-028	B007-041	A006-123
800-010 <i>300 ohm</i>	-20 to +60°C	218-020 <i>212-020</i>	B007-035	A006-040 <i>-082</i>
	-20 to +60°C	218-246 <i>212-001C</i>	B007-052	A006-087 <i>-126</i>
	-10 to +100°C	218-015C	B007-023	A006-088
<i>X</i> 800-012 <i>3K</i>	-10 to +120°C	218-370	B007-083	A006-174 <i>57L</i>
800-011 <i>1K</i>	-5 to +50°C	218-111	B007-040	A006-132
800-012 <i>3K</i>	0 to 100°C	218-125	B007-043	A006-096 <i>57L</i>
800-017 <i>20K</i>	40 to 200°C	218-048	B007-046	A006-129
800-011 <i>1K</i>	0 - 60°C	218-236	B007-127	A006-220

THERMISTOR COOLING/°F

800-010	-40 to 100°F	218-114	B007-006	A006-070
---------	--------------	---------	----------	----------

THERMISTOR COOLING/°C

800-013	0 to 100°C	218-027	B007-071	A006-159
---------	------------	---------	----------	----------

10K



WAYCO INC.

WINONA, MINNESOTA 55907

1265 EAST EIGHTH STREET

PHONE 507 454-5300

210-015



MODEL 15 SERIES
TEMPERATURE RANGES
AVAILABLE

8-20-73

THERMISTOR HEATING/°F

800-010	-50 to 150°F	218-131	B007-074	A006-130
800-010	-40 to 100°F	λ 218-114	B007-080	A006-070
800-010	-25 to +45°F	218-099	B007-069	A006-153
800-010	-25 to +75°F	218-189	B007-048	A006-052
800-011	0 to 100°F	218-132	B007-059	A006-145
800-010	0 to 140°F	218-096	B007-056	A006-137
800-012	0 to 250°F	218-041	B007-019	<u>A006-079</u>
800-018	0 to 500°F	218-142	B007-054	A006-163 ✓
800-012	25 to 250°F	218-133	B007-009	A006-081
800-011	50 to 100°F	218-066	B007-072 3	A006-073
800-011	50 to 150°F	λ 218-047	— B007-053 17	A006-146
800-012	50 to 250°F	λ 218-369	" <u>B007-082</u>	<u>A006-173</u>
800-041	100 to 150°F	218-304	B007-057	A006-140C
800-020	100 to 400°F	218-134	B007-010	A006-034
800-016	<u>150 to 450°F</u>	λ 218-012	λ <u>B007-007</u>	A006-139
800-002	200 to 500°F	218-031	B007-077	A006-164
800-016	200 to 600°F	λ 218-045	λ <u>B007-014</u>	<u>A006-032</u> ✓
800-005 or 800-020	250 to 650°F	218-043	B007-021	A006-155



WAYNCO INC.

WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 507 454-5300



MODEL 15 SERIES
TEMPERATURE RANGES
AVAILABLE

8-20-73

PLATINUM HEATING/°F

-100 to +500°F	218-071	B007-033	A006-038
0 to 500°F	218-110	B007-015	A006-100
0 to 1000°F	218-067	B007-016	A006-101
100 to 650°F	218-010C	B007-049	A006-078
200 to 800°F	218-072	B007-064	A006-151
500 to 1000°F	218-093	B007-050	A006-131

PLATINUM HEATING/°C

Skirted: -150°C to -50°C	218-266	B007-055	A006-080
0 to 60°C	218-055	B007-076	A006-162
0 to 100°C	218-139	B007-045	A006-128
0 to 350°C	218-065	B007-018	A006-071

PLATINUM COOLING/°C

-100 to 0°C	218-226	B007-044	A006-127
-------------	---------	----------	----------



WAYNCO INC.

WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 307 454-5300

210-015 Model 15 Therm. Htg
 210-022 " " Plat.

207-015
 3/32

DEC 15 1975

BRIDGE BOARD P.C. ASS'YS.

PAGE 1

	P.C. ART	TERM. ART	TYPE	RANGE	BRIDGE	BLANK	
B 007-001	210-188	202-0188	Uni. Therm Htg	200° - 600°F	218-262	209- 109 ⁰⁰⁶	
-002	210-188	202-0188	Uni. Therm Htg	0° - 250°F	218-261	209- 109 ⁰⁰⁶	
-003	210-188	202-0188	Uni. Therm Htg	-20° - +60°C	218-263	209- 109 ⁰⁰⁶	
Use Z100-02504	210-015	202-079	Model 15 Therm Htg, Fasten Terms, No Resistors				
-005	210-188	202-0188	Uni. Therm Htg	-30° - 180°F	218-280	209- 109 ⁰⁰⁶	
-006	210-042	202-080	Thermistor Clg	-40° - 100°F	218-114	209-006	
-007	210-015	202-079	Thermistor Htg	150° - 450°F	218-007C	209-006	
-008	210-015	202-079	Thermistor Htg	-50° F to +100°F	218-281	209-006	
-009	210-015	202-079	Therm. Htg	25° - 250°F	218-133	209-006	
-010	210-015	202-079	Therm. Htg	100° to 400°F	218-134	209-006	
Use -014	011	210-015	202-079	Therm. Htg	200° - 600°F	218-045C	209-006
-012	210-022	202-098	Plat. Htg	0° - 200°C	218-140	209-006	
-013	210-022	202-098	Plat. Htg	0° - 200°C	218-011C	209-006	
-014	210-015	202-079	Therm. Htg.	200° - 600°F	218-045	209-006	
-015	210-022	202-098	Plat. Htg	0° - 500°F	218-110	209-006	
-016	210-022	202-098	Plat. Htg	0° - 1000°F	218-067	209-006	
-017	210-056 Was A007-055	202-094	R.H. Comp. Hum.	20% - 90%	218-074	209-006	
-018	210-022	202-098	Platinum Htg.	0 - 350°C	218-065	209-006	
-019	210-015	202-079	Therm. Htg.	0 - 250°F	218-041	209-006	
-020	210-022	202-098	Plat. Htg.	50 - 350°F	218-092	209-006	
-021	210-015	202-079	Therm. Htg.	250-650°F	218-043	209-006	
-022	210-022	202-098	Plat. Htg.	0 - 400°C	218-003C	209-006	
-023	210-015	202-079	Therm. Htg:	-10° - +100°C	218-015C	209-006	
-024	210-015	202-079	Therm. Htg.	30° - 125°C	218-021C	209-006	
-025	210-022	202-098	Plat. Htg.	-10° - 100°C	218-029C	209-006	

BRIDGE BOARD P.C. ASS'YS.

PAGE 2

	P.C. ART	TERM. ART	TYPE	RANGE	BRIDGE	BLANK	
3 007-026	210-015	202-079	Therm. Htg.	-50° - +5°C	218-031C	209-0	
	-027	210-015	202-079	Therm. Htg.	-30° - +110°C	218-036C	209-006
	-028	210-078	202-0239	Liquid Level Pump Up	218-061	209-006	
	-029	210-066	202-101	R.H. Uncomp.Hum. 20 - 90%	218-070	209-006	
	-030	210-015	202-079	Therm. Htg.	-30° - +30°C	218-161	209-006
	-031	210-015	202-079	Therm. Htg.	-30° - +140°C	218-166	209-006
	-032	210-015	202-079	Therm. Htg.	-20° to +60°C	218-246	209-006
	-033	210-022	202-098	Plat. Htg.	-100° - +500°F	218-071	209-006
	-034	210-079	202-0241	Liquid Level Pump Down	218-034	209-006	
	-035	210-015	202-079	Therm. Htg -20°C - +60°C	218-020	209-006	
	-036	210-015	202-079	Therm. Htg 90°C - 110°C	218-224	209-006	
	-037	210-015	202-079	Therm. Htg -30° - +70°C	218-035C	209-006	
	-038	210-022	202-098	Plat Htg -40° - +250°F	218-014C	209-006	
	-039	210-015	202-079	Therm. Htg -20°C - +70°C	218-284	209-006	
	-040	210-015	202-079	Therm. Htg -5°C to +50°C	218-111	209-006	
	-041	210-015	202-079	Therm. Htg -25°C to +25°C	218-028	209-006	
	-042	210-015	202-079	Therm. Htg -50° to +100°C	218-138	209-006	
	-043	210-015	202-079	Therm. Htg 0 to +100°C	218-125	209-006	
	-044	210-023	202-097	Plat. Cooling -100° to 0°C	218-226	209-006	
	-045	210-022	202-098	Plat. Htg 0° to +100°C	218-139	209-006	
	-046	210-015	202-079	Therm. Htg +40° to +200°C	218-048	209-006	
See -074	-047	210-015	202-079	Therm. Htg -50° to +150°C	218-131	209-006	
	-048	210-015	202-079	Therm. Htg -25°F to +75°F	218-189	209-006	
	-049	210-022	202-098	Plat. Htg 100° to 650°F	218-010C	209-006	
	-050	210-022	202-098	Plat. Htg 500° to 1000°F	218-093	209-006	

BRIDGE BOARD P.C. ASS'YS.

	P.C. ART	TERM. ART	TYPE	RANGE	BRIDGE	BLANK
B007-051	210-068	202-0275	Therm. Htg	-10°C to +40°C) -30° to +60°C)	218-292) 218-293)	209-065
-052	210-015	202-079	Therm. Htg	-30° to +70°C	218-126	209-006
✓-053	210-015	202-079	Therm. Htg	+50° to +150°F	218-047	209-006
-054	210-015	202-079	Therm. Htg	+0° to +500°F	218-142	209-006
-055	210-022	202-098	Plat. Htg	-150°C to -50°C	218-266	209-006
-056	210-015	202-079	Therm. Htg	0° to +140°F	218-096	209-006
-057	210-015	202-079	Therm Htg	100°F to 150°F	218-304	209-006
-058	210-015	202-079	Therm Htg	200°F to 500°F	218-008	209-006
-059	210-015	202-079	Therm Htg	0° - 100°F	218-132	209-006
-060	210-022	202-098	Liquid Level	-	218-034	209-006
-061	210-189	202-0189	^{un} _A ^{versal} Alt. Plat Htg	0° - 100°C	218-315	209-006
-062	210-022	202-098	Plt Htg	WNIB Special	Chgo Spec	209-006
-063	210-351	202-338	Liq Lev Pump-up		218-332	209-006
-064	210-022	202-098	Plt. Htg.	Verco	218-072	209-006
-065	210-015	202-079	Therm. Htg.	-70°C to +30°C Hotpack	218-330	209-006
-066	210-188	202-0188	Uni Therm Htg	-10° to +110°F	218-333	209-006
-067	210-015	202-079	Therm Htg	-10° to +110°F	218-333	209-006
-068	210-022	202-098	Plat.	(Water, Air)	218-335	209-006
-069	210-015	202-079	Therm Htg	-25° to +45°F	218-099	209-006
-070	210-015	202-079	Therm. Htg.	-65 to +70°F Z100-032	218-147	209-006
-071	D 210-042	202-080	Therm. Cooling	0-100°C Z100-063	218-027	209-006
-072	D 210-015	202-079	Therm. Htg	50 to 100°F Z100-032	218-066	209-006
-073	D 210-268	202-0275	Therm. Htg.	-10 to +45°C Z100-064	218-341	209-065
-074	D 210-015	202-079	Therm. Htg.	-50 to -150°F Z100-032	218-131	209-006
-075	D 210-188	202-0188	Un. Therm. Htg.	-10 to 100°C	218-343	209-006

800-044 2252 f-@ 25°C

BRIDGE BOARD P.C. ASS'YS.

	P.C. ART	TERM. ART	TYPE	RANGE	BRIDGE	BLA'''
B007-076	210-022	202-098	Plt. Htg.	0 to 60°C	218-055	209-006
-077	210-015	202-079	Therm. Htg	200 - 500°F, Z100-032	218-031	209-006
-078	210-189	202-0189	^{universal} A Plt. Alt.Htg	150 to 400°F	218-344	209-006
-079	210-015	202-079	Therm. Htg.	-50 to 80°C, Z100-032	218-346	209-006
-080	210-015	202-079	Therm. Htg.	-40° to 100°F, Z100-032	218-114	209-006
-081	210-268	202-0275	Therm. Htg.	-30° to +60°C, Z100-064	218-368	209-065
-082	210-015	202-079	Therm. Htg.	50° to 250°F, Z100-032	218-369	209-006
-083	210-015	202-079	Therm. Htg.	-10°C to +120°C, Z100-032	218-370	209-006
-084	210-022	202-098	Plt. Htg.	-10°F to +200°F	218-160	209-006
-085	210-015	202-079	Therm Htg.	65°F to 95°F, Z100-032	218-187	209-006
-086	210-015	209-079	Therm Htg.	70°F to 120°F, Z100-032	218-295	209-006
-087	210-189	202-0189	Plt. Alt.	0° to 100°C Z100-017	218-374	209-
-088	210-015	202-079	Therm. Htg.	100 to 220°F Z100-032	218-050	209-006
-089	210- 015 ⁴⁶⁴	202- 079 ⁴⁰⁰	Therm. Htg.	-20 to 60°C Z100-032	218-397	209-006
-090	210-015	202-079	Therm. Htg.	Z100-032	218-052C	209-006
-091	210-544	202-0416	Plat. Alt. Htg.	Z100-093	218-405	209-006
-092	210-544	202-0416	Plat. Atl. Htg.	Z100-093	218-406	209-006
-093	210-022	202-098	Plat. Htg.	0 to 100°F Z100-034	218-137	209-006
-094	210-201	202-0201	Univ. Plat. Htg.	0 to 60°C Z100-020	218-430	209-006
-095	210-268 ²¹⁰⁻¹⁶²⁴	202-0275	Therm Htg.	Z100-094	218-413	209-065
-096	210-520	202-0429	Wet/Dry	-5° to 65°F Z100-095	218-417	209-006
-097	USE -092					
-098	USE -091					
-099	210-527	202-079	Therm Htg	-10° to +100°C Z100-097	218-268	209-006
-100	210-527	202-079	Therm. Htg.	-20° to +60°C Z100-097	218-253	209-

BRIDGE BOARD P.C. ASS'YS.

	P.C. ART 210	TERM. ART 202	Z100	TYPE	RANGE	BRIDGE	BLANK
B007-101	-527	-079	-097	Therm. Htg.	-20° to +70°C	218-254	209-006
-102	-527	-079	-097	Therm. Htg.	-20° to +125°C	218-414	209-006
-103	-544	-0416		Plt. Alt. Htg.	50° to +150°F	218-421	209-006
-104	-544	-0416		NI Alloy Alt.	-125 to +400°F	218-399	209-006
-105	-268	-0275		Therm. Htg [#]	132 -40°C to +60°C	218-423	209-065
-106	-544	-0416	-093	Plt. Alt Htg	-50°F to 160°F	218-422	209-006
-107	-537	-0440		Plt. Htg.	0 to 200°C	218-424	209-006
-108	-022	-098	-034	Plt. Htg.	-50 to 250°F	218-425	209-006
-109	-527	-079		Therm. Htg.	30 to 125°C	218-426	209-006
-110	-544	-0416		Plt. Alt.	-75 to +125°F	218-427	209-006
-111	-544	-0416		Plt. Alt.	-320 to +350°F	218-428	209-006
-112	-544	-0416		Plt. Alt.	-105 to 405°F	218-429	209-006
-113	-544	-0416		Plt. Alt	0 to 400°F	218-432	209-006
-114	-527	-079		Therm. Htg.	50 to 150°F	218-434	209-006
-115	-015	-079		Therm. Htg.	-10 to +10°C	218-436	209-006
-116	-015	-079		Therm. Htg.	50 to 120°F	218-438	209-006
-117	-544	-0416		Plt. Alt	60 to 120°F	218-437	209-006
-118	-544	0416		Plt. Alt.	-100 to 500°F	218-440	209-006
-119	-537	-0440		Plt. Htg.	-10 to +100°C	218-442	209-006
-120	-015	-079		Therm. Htg.	50 to 165°F	218-441	209-006
-121	-015	-079		Therm. Htg.	0 to 70°C	218-445	209-006
-122	-015	-079		Therm. Htg.	-45 to 65°C	218-260	209-006
-123	-576	-0455		I to E Converter	0 to 100	218-448	209-006
-124	-544	-0416		Plt. Alt. Htg	-30 to 0°F	218-446	209-006
-125	-544	-0416		Plt. Alt. Htg.	0-140°F	218-444	209-006

BRIDGE BOARD P.C. ASS'YS

	P.C. ART 210	TERM. ART 202	TYPE Bridge	RANGE	BRIDGE 218	BLANK 209
B007-126	-544	-0416	Plt. Alt. Htg.	-100 to +250°F	-450	-006
-127	-015	-079	Therm. Htg.	0-60°C	-236	-006
-128	-583	-0275	Therm. Htg.	-10 to 45°C	-449	-006
-129	-015	-079	Therm. Htg.	-10 to +45°C	-0451	-006
-130	-544	-0416	Plt. Alt. Htg.	0-50°C	-453	-006
-131	-015	-079	Therm. Htg.	75-125°F	-455	-006
-132	-022	-098	Plt. Htg.	0-200°C	-454	-006
-133	-614	-0467	2 wire	None	---	-006
-134	-636	-0478	0-500 MV	0-500 MV	-461	-006
-135	-637	-0478	Plt. P.T.D.	-10 to 200°F	-462	-006
-136	-527	-079	Therm.	-70 to +30°C	-330	-006
-137	-614	-0467	2 wire		-407	-006
-138	-614	-0467	2 wire		-408	-006
-139	-665	-489	0 - 5V	0 - 100% R.H.	-466	-006
-140	-663	-486	0 - 500 mv	0 - 100% R.H.	-463	-006
-141	-637	-0479	100 Ohm Plt.	-100 to +200°C	-464	-006
-142	-554	-0416	100 Ohm Plt.	-125 to +350°F	-465	-006
-143	-614	-0467	2 wire		-467	-006
-144	-614	-0467	2 wire		-468	-006
-145	-614	-0467	2 wire	300°F - 300°F	-469	-006
-146	-022	-098	100 Ohm Plt.	-50°C to +30°C	-472	-006
-147	-022	-098	100 Ohm Plt.	-40°C to +160°C	-473	-006
-148	-527	-079	Therm.	+20°C to +45°C	-470	-006
-149	-614	-467	2 Wire		-471	-006
-150	-520	-429	Wet/Dry	0° to 60°F	-475	-065
-151	-637	-479	100 Ohm Plt.	0-1000°F	-476	-006

BRIDGE BOARD P.C. ASSEMBLIES

	P.C. ART 210	TERM. ART 202	TYPE BRIDGE	RANGE	BRIDGE 218	BLANK 209
B007-152	715	0501	THERM	-20 - 60°C	0489	006
-153	↑	↑	↑	-10 - 120°C	0490	↑
-154	↓	↓	↓	50 - 150°F	0491	↓
-155	↓	↓	↓	150 - 450°F	0492	↓
-156	715	0501	THERM	200 - 600°F	0493	006
-157						
-158						
-159						
-160						
-161						
-162	-614	-0467	2 Wire			
-163	-614	-0467	2 Wire			
-164	-614	-0467	2 Wire	PROX. CON.		-006
-165	-614	-0467	2 Wire	MARYLAND CUP		-006
-166	-527	-079	Therm.	-30°C to +60°C	-478	-006
-167			0 - 10V D.C.			
-168	-702	-0498	100 Ohm Plt.	0°F to 100°F		-006
-169	-614	-0467	2 Wire	77°F to 540°F	-480	-006
-170	-614	-0467	2 Wire	0 - 500°F		-006
-171	-702	-498	100 Ohm Plt.	0°C to 100°C		-006
-172	-706	-0499	100 Ohm Plt.	-10° to 100°C	-486	-006
-173	-706	-0499	100 Ohm Plt.	-100 to 200°C	-487	-006
-174	-614	-0467	2 Wire	CVP Systems	-488	-006 12-15-
-175	-713	Series 200 Model 190/191	Therm.			-240 1-16-7
-176	-714	Series 200 Model 190/191	T/C "J"			-240 1-16-7
-177	-716	Series 200 Model 190/191	Plat.			-240 1-16-7

BRIDGE BOARD P.C. ASSEMBLIES

B007-	210-	202-	TYPE INPUT	BR. CKT. 218-	RANGE	SET PT.	209-	DATE
178	718	200/201	T/C				240	1-23-78
179	719	200/201	Plat.				240	1-23-78
180	720	200/201	Therm.				240	1-23-78
181	723	190	% R.H.				240	1-23-78
182	614	0467	2 Wire	Tapco Products		005-012 200 Ohms	006	2-2-78
183	724		D.I.				243	2-6-78
184	614	0467	2 Wire	Selco		005-012 200 Ohms	006	3-9-78
185	614	0467	2 Wire	O.E.M. Supply		005-012 100 Ohms	006	4-3-78
186	637	0479	Plat.		-100 to +400°F	0-5V Input	006	5-3-78
187	754		Plat.				240	6-6-78
188	614	0467	2 Wire	Cambridge Instr., 1000 Watt		005-012 100 Ohms	006	6-8-78
189	022	098	Plat. McGraw Edison RTD 334	505	0 to 300°F	005-012 500 Ohms	006	6-27-78 (15-00-11)
190	614	0467	2 Wire	Selco 39 Loop, 72" Cable Lg.		005-012 250 Ohms	006	7-11-78
191	022	098	100 Ohm Plat.	507	-35 to +35°C	005-012 100 Ohms	006	8-15-78 (Model 1)
192	795		Therm.	305			240	11-3-78
193	614	0467	2 Wire	510	100 to 1000°F	005-012 500 A	006	3-13-79
194	614	0467	2 Wire	511 Tapco		005-012 250	006	4-4-79
195	614	0467	2 Wire	512 D.M.E. Dave Martignon		005-012 500	006	4-9-79
196	614	0467	2 Wire	Thermon		005-012 1K	006	2-29-80
197	614	0467	2 Wire	Thermon		A006-237 500	006	2-29-80

BRIDGE BOARD P.C. ASSEMBLIES

B007-	210-	202-	TYPE INPUT	BR. CKT. 218-	RANGE	SET PT.	209-	DATE
198	663	486	0-500mv	463	0-100% R.H.		006	3-17-80
199	614	0467	2 Wire	515	Tapco	005-012 500ohm	006	5-13-80
200	614	0467	2 Wire	516		005-012 25 ohm	006	6-4-80
201	975		Plat.			5 K	240	9-29-80
202	706	0499	Plat.	517	-100 to 300°C	5K 005-019		10-7-80
203	SAME AS B007-133 with 803-025-10 Shunt							
204	527	079	Therm. Htg.	521	-30 to +70°C	500 ohm	006	2-6-81

BRIDGE BOARD	RE - - OHMS	RE - - OHMS	RE - - OHMS	0212 -	0005 -	CIRCU
B007-0056-0000	0°F = 16.43	70°F = 344	140°F = 98.5	0090	0012-0500	218-096
B007-0057-0000	100°F = 12.25	125°F = 750	150°F = 475	0291	0012-0100	218-304
B007-0059-0000	0°F = 59.81	50°F = 1778	100°F = 634.8	0129	0012-0500	218-132
B007-0070-0000	-65°F = 10.36K	0°F = 1642	70°F = 344.5	0146	0012-0500	218-147
B007-0073-0000	-10°C = 1246K	15°C = 3539	45°C = 938.8	0322	0019-1.5K	218-341
B007-0074-0000	-50°F = 6471	50°F = 519.7	150°F = 84.2	0128	0012-0500	218-131
B007-0076-0000	0°C = 100	30°C = 111.87	60°C = 123.64	0055	0012-	218-055
B007-0077-0000	200°F = 5100	350°F = 650	500°F = 140	0031	0012-0500	218-031
B007-0079-0000	-50°C = 8262	15°C = 430.2	80°C = 56.6	0367	0012-0500	218-346
B007-0080-0000	-40°F = 4817	30°F = 805.1	100°F = 194.6	0110	0012-0500	
B007-0081-0000	-30°C = 39.86K	20°C = 2814	60°C = 560.3	0373	0019-1.5K	218-0368
B007-0082-0000	50°F = 5870	150°F = 640.6	250°F = 118.2	0374	0012-0500	218-369
B007-0091-0000	-10°F = 90.70	95°F = 113.84	200°F = 136.59	0410	0019-0500	218-405
B007-0092-0000	-125°F = 64.85	125°F = 120.38	350°F = 168.39	0409	0019-0500	218-406
B007-0095-0000					0010-1.5K	218-413
B007-0099-0000	-10°C = 4172	45°C = 499	100°C = 103.6	015C	0012-0500	218-268
B007-0100-0000	-20°C = 1816	20°C = 358	60°C = 98.5	001C	0012-0500	218-253
B007-0101-0000	-20°C = 6649	25°C = 1000	70°C = 231	0211, 0269	0012-0500	218-254
B007-0102-0000	-20°C = 6649	50°C = 423.9	125°C = 57.7	0421	0019-0500	218-414
B007-0107-0000	0°C = 100	100°C = 139.16	200°C = 177.15	011C	0012-0500	218-424
B007-0116-0000	50°F = 1778	85°F = 851	120°F = 438.5		0012-0500	218-438
B007-0119-0000	-10°C = 96.02	50°C = 119.73	100°C = 139.16	023C	0012-0500	218-442
B007-0122-0000	-45°C = 6280	10°C = 519.4	65°C = 85.4	0218	0012-0500	218-260
B007-0123-0000	0 = 4 ma	50 = 12 ma	100 = 20 ma	0468	0012-0500	218-448
B007-0127-0000	0°C = 2691	30°C = 833.7	60°C = 310.5	0196	0012-0500	218-236
B007-0131-0000	75°F = 1042	100°F = 635.3	125°F = 401.9	0483	0012-0500	218-455
B007-0133-0000					1	
B007-0134-0000	0% = 0mV, 0Ω	50% = 250mV, 250Ω	100% = 500mV, 500Ω		-0500	218-461
B007-0139-0000	0% = 0mV, 0Ω	50% = 2500mV, 250Ω	100% = 5000mV, 500Ω		-0500	218-466
B007-0140-0000	0% = 0mV, 0Ω	50% = 250mV, 2.5V	100% = 500mV, 5V			218-463

②





electronic on-off controllers



Model 15-00-11 with Model 218-XXX
Bridge Board Attached

INTRODUCTION: The Model 15-00-XX Series is a low cost, versatile line of solid state, on-off controllers. They may be used to control any variable such as: temperature, humidity, liquid level, etc., where the variable can be sensed as a resistance. The output relay is either a sealed reed switch or an electro-mechanical relay.

The complete control system consists of four items:

1. Controller.
2. Bridge Board.
3. Set Point Potentiometer.
4. Sensor.

CONTROLLER: The major difference between models is the output relay and voltage rating.

Model	Output Relay
15-00-01	50 VA, SPST sealed reed switch.
15-00-10	1 amp @ 115 VAC resistive, SPDT.
15-00-11	10 amp @ 115 VAC resistive, SPDT.
15-00-12	10 amp @ 230 VAC resistive, SPDT.

Where it is desired to switch loads exceeding the current capacity of the output relay, the Model 15 may be used as a pilot relay for a larger load contactor.

BRIDGE BOARD: The function of the controller is determined by the Model 218-XXX Bridge Board which attaches to the front terminal board. (Refer to Figure 1.) A list of standard bridge boards is given in Table 1. Waynco can furnish bridge boards for many special requirements.

features:

- versatile—control temperature, humidity, liquid level, etc.
- easy range change.
- reliable solid state design.
- excellent switching sensitivity.
- economical.

The function of the controller may be changed at a later date simply by changing the bridge board and the set point dial assembly. Blank bridge boards are available if the customer desires to design his own bridge. (Refer to Table 1, Section E.)

SET POINT POTENTIOMETER: The standard set point potentiometer is shown in Figure 2. Waynco will customize the dial plate to include the customer's name and logo. Should the customer choose to make his own dial, Waynco will supply the required calibration and art work. Where maximum accuracy is desired, special dial scales and special set point potentiometers may be furnished.

SENSORS: The Model 15-00-XX controllers can be used with a wide variety of variable resistance sensors. Thermistors and wire wound sensors may be used for temperature control. Other possible sensors are: light dependent resistors (LDR), relative humidity sensors, strain gauges, and resistance type pressure transducers.

For temperature measurement refer to Waynco Bulletin 800 which describes a wide variety of Waynco Temperature Sensors. Thermistor sensors are normally lower in cost than wire-wound platinum sensors. However, platinum sensors can be used over a wider temperature range and have the best long term stability and interchangeability.



WAYNCO INC.
WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 8-4626

PERFORMANCE SPECIFICATIONS:

A) Power Supply—Models 15-00-01, -10 and -11; 115 VAC, 50/60 Hz. nominal. Operating Range—105 to 135 VAC.

Model 15-00-12; 230 VAC, 50/60 Hz. nominal. Operating Range—210 to 270 VAC.

B) Power Consumption—2.5 volt amperes.

C) Switching Sensitivity—Less than one millivolt expressed in terms of input signal. In terms of the variable being controlled this is equivalent to:
Temperature:

Thermistor Sensor—Typically 0.1° F.
Platinum Sensor—Typically 0.3° F.

D) Noise—Sudden AC fluctuations of ±20% will not cause the relay to switch.

E) Ambient Operating Temperature—Stable in operation over the temperature range of 0° to 125° F.

F) Output Relay—

Model Output Relay

15-00-01 50 VA, SPST sealed reed switch 115 VAC.

15-00-10 1 amp @ 115 VAC resistive, SPDT.

15-00-11 10 amp @ 115 VAC resistive, SPDT.

15-00-12 10 amp @ 230 VAC resistive, SPDT.

G) Bridge—the bridge excitation is 18 VAC.

H) Set Point Potentiometer—Refer to Figure 2. The standard is a single turn potentiometer.

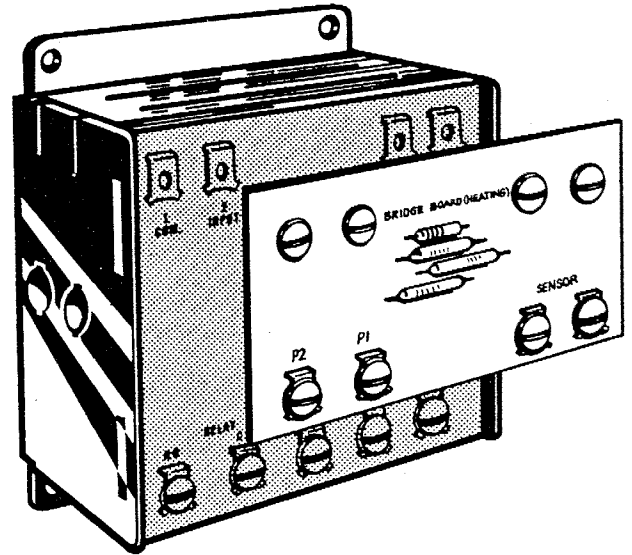


FIGURE 1—Removable Model 218-XXX Bridge Board

HOW TO ORDER: The control system consists of:

A) *Controller:* Refer to Section F under specifications and order by model number.

B) *Bridge Board:* Refer to Table 1 and specify bridge board number.

C) *Set Point Potentiometer and Dial Assembly:* The standard is the Model 006-004. The dial scale supplied corresponds to the bridge board range.

D) *Sensors:* Refer to Waynco Bulletin 800 for temperature sensors. Refer to page 4 for illustrations of relative humidity sensors and liquid level probes.

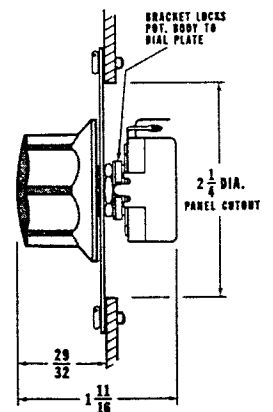
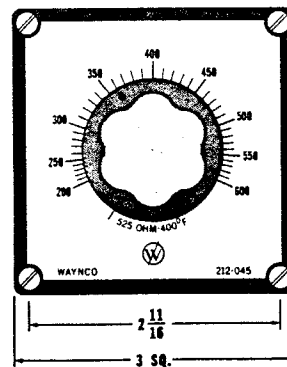


FIGURE 2—Model 006-004 Remote Set Point Potentiometer

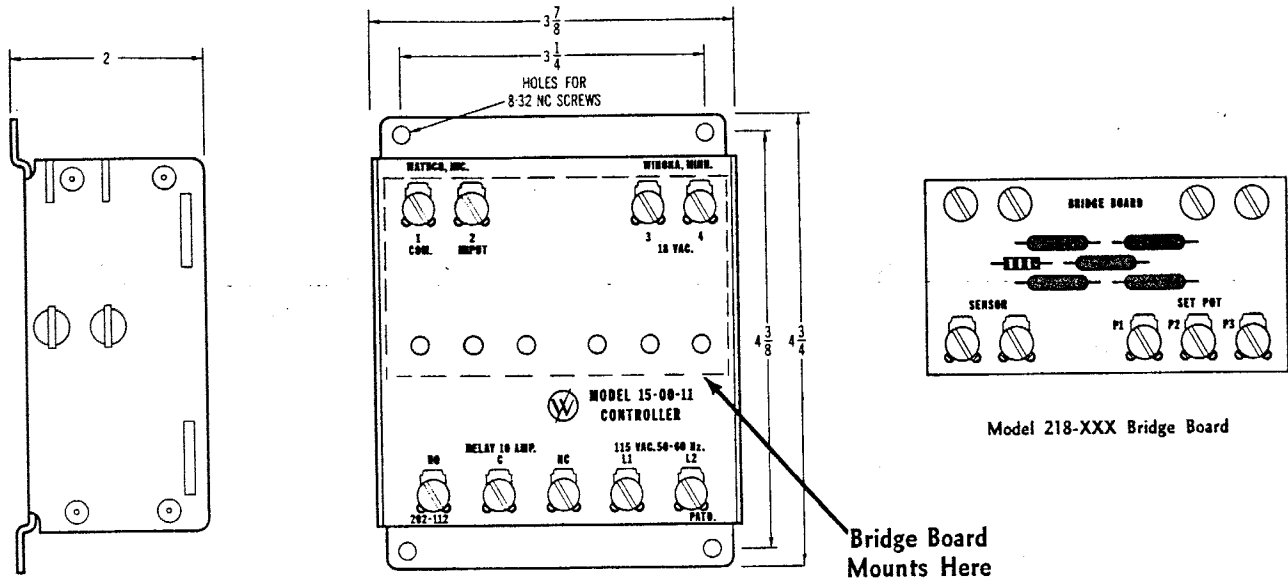


FIGURE 3—Model 15-00-11 Controller and Model 218-XXX Bridge Board

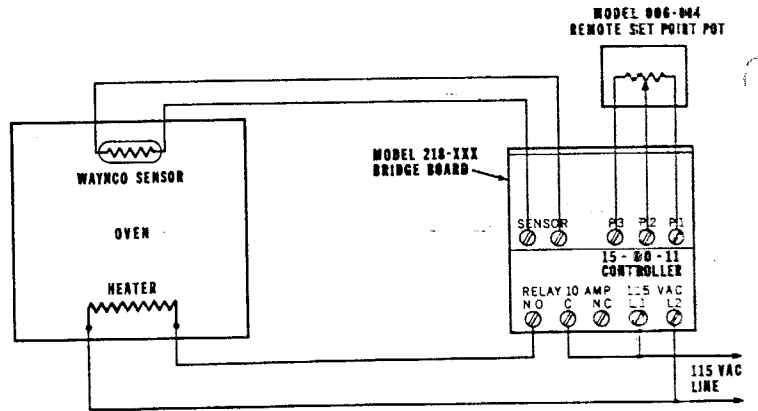
TABLE I — MODEL 218-XXX BRIDGE BOARDS							
A - Temperature — — Thermistor Sensors				B - Temperature — — Platinum Sensors			
°F		°C		°F		°C	
Temperature Range	Bridge Board Number	Temperature Range	Bridge Board Number	Temperature Range	Bridge Board Number	Temperature Range	Bridge Board Number
-65° to +70°	218-147	-50° to 100°	218-138	-250° to -50°	218-053	0° to +60°	218-055
-50° to 150°	218-131	-30° to +70°	218-126	-150° to +50°	218-143	0° to 100°	218-139
-40° to 100°	218-114	-25° to +25°	218-028	-100° to 500°	218-071	0° to 200°	218-140
-25° to +45°	218-099	-20° to +60°	218-020	0° to 100°	218-137	0° to 300°	218-062
0° to 100°	218-132	-10° to +10°	218-021	0° to 500°	218-110	0° to 350°	218-065
0° to 140°	218-096	- 5° to +50°	218-111	0° to 1000°	218-067	0° to 500°	218-084
0° to 250°	218-041	0° to 100°	218-125	0° to 1500°	218-068		
0° to 500°	218-142	0° to 200°	218-135	50° to 350°	218-092		
25° to 250°	218-133	0° to 300°	218-136	150° to 450°	218-058		
50° to 100°	218-066	40° to 200°	218-048	200° to 800°	218-072		
50° to 150°	218-047			500° to 1000°	218-093		
100° to 220°	218-050						
100° to 400°	218-134						
150° to 450°	218-042						
200° to 500°	218-031						
200° to 600°	218-045						
250° to 650°	218-043						
		C—RELATIVE HUMIDITY		D—LIQUID LEVEL			
		Temp. compensated	#218-074	Pump-up System		#218-061	
		Uncompensated	#218-070	Pump-down System		#218-034	
		E—Blank Bridge Boards		(2) Relative Humidity			
		(1) Temperature		Humidifying			
		Thermistor - heating	#210-056	Temp. compensated		#210-056	
		Thermistor - cooling	#210-042	Uncompensated		#210-066	
		Platinum - heating	#210-022	Dehumidifying			
		Platinum - cooling	#210-023	Temp. compensated		#210-064	
				Uncompensated		#210-065	

TYPICAL APPLICATIONS

A—OVEN TEMPERATURE CONTROL

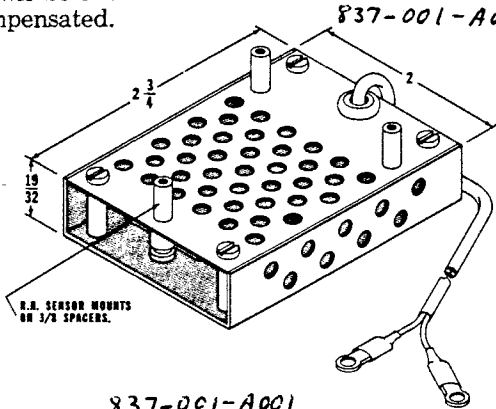
Where the heater load exceeds the current capacity of the output relay, the Model 15 may be used as a pilot relay to a larger load contactor.

For cooling applications the output relay may be used to actuate a solenoid valve or a mechanical refrigeration system.



B—RELATIVE HUMIDITY CONTROL

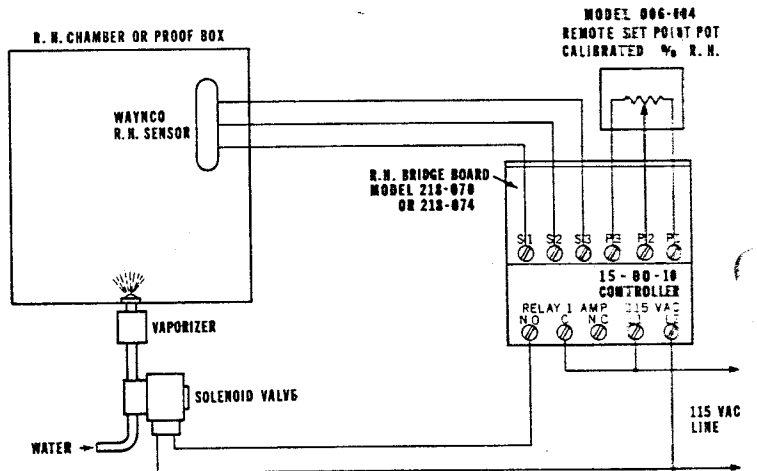
Waynco offers two different relative humidity sensors shown below. The Model 017-837-002 is temperature compensated.



837-001-A001

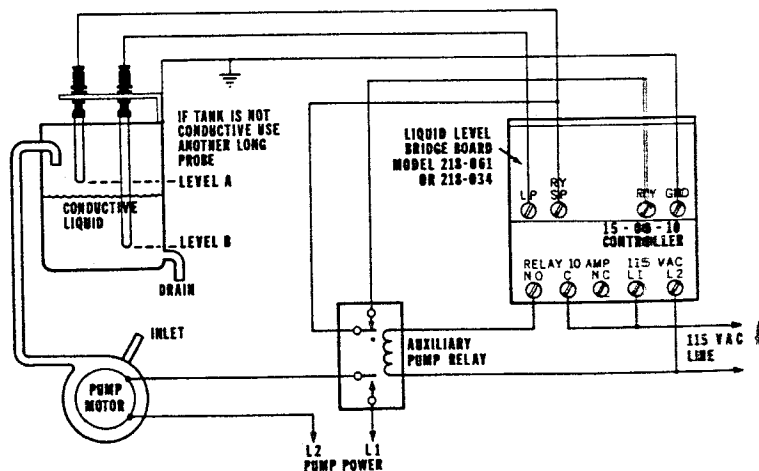
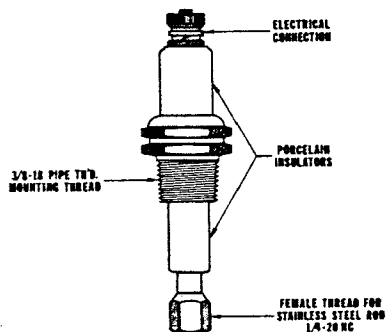
The Model 016-837-001 is uncompensated. If temperature control is desired a separate sensor and control is necessary as shown in "A" above.

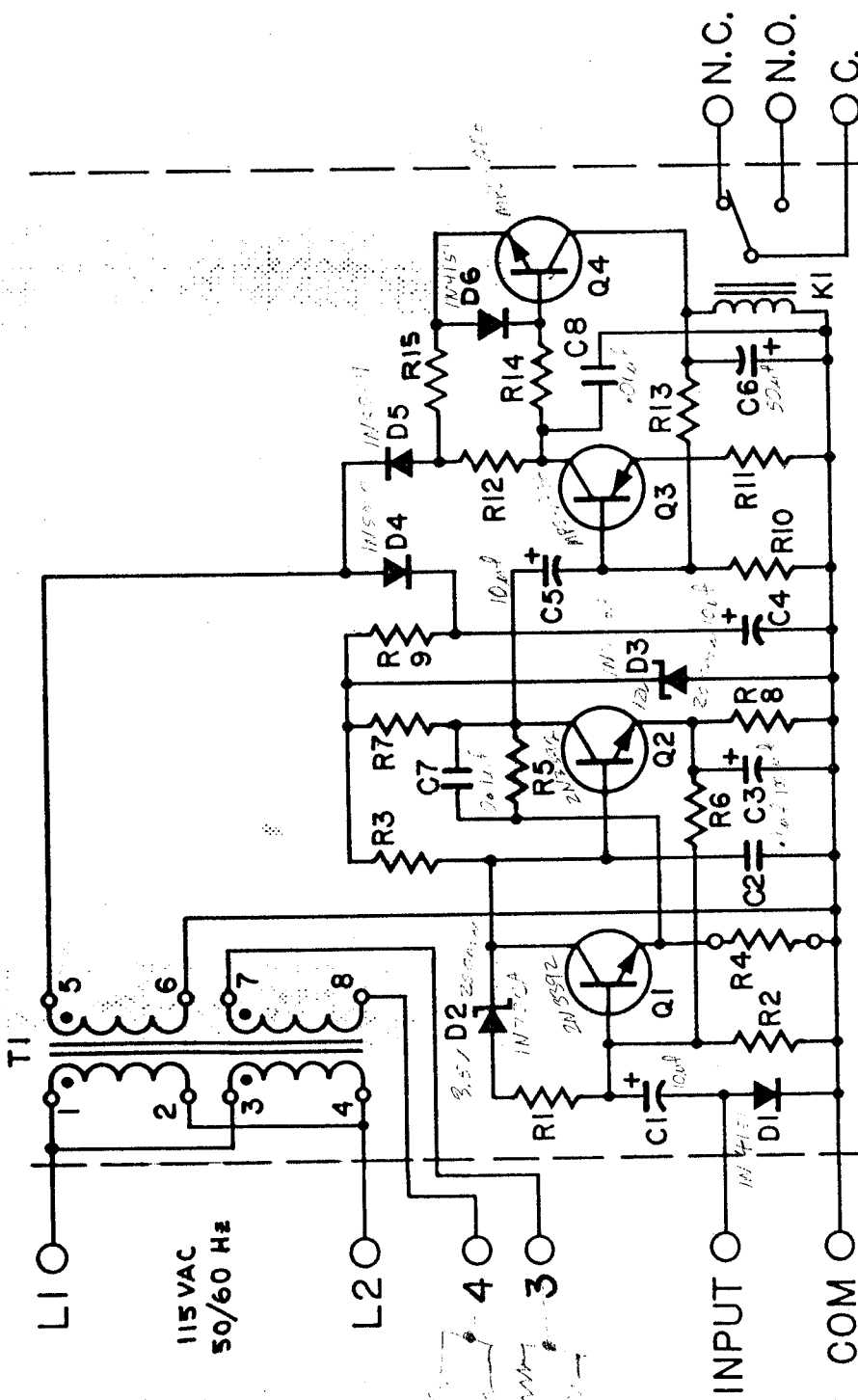
Waynco also offers a bridge board to control the wet bulb depression (temperature difference between the wet and dry bulb).



C—LIQUID LEVEL CONTROL (PUMP-UP)

The liquid level is controlled between levels "A" and "B". The probes are stainless steel rods which are insulated from each other and ground. Waynco offers the Model 011-001 Probe Insulator as shown below (UL approved).

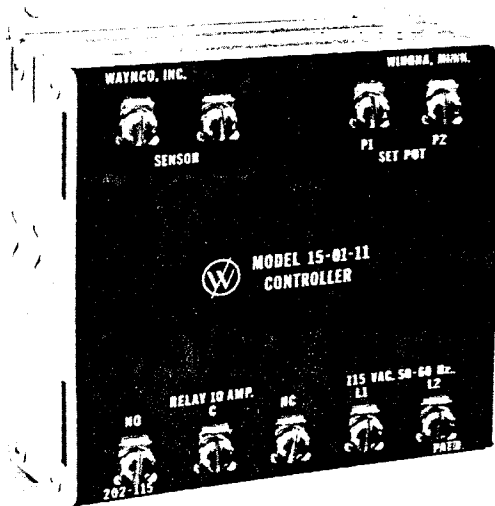




- A007-103-001
- T1 = 004-119
- K1 = 003-042
- D1 = 1N4151
- D2 = 1N703A
- D3 = 1N716A
- D4 = 1N5059
- D5 = 1N5059
- D6 = 1N4151
- Q1 = 2N3392
- Q2 = 2N3392
- Q3 = MPS-A56
- Q4 = MPS-A06
- R1 = 681
- R2 = 22K
- R3 = 8.2K
- R4 = 15
- R5 = 22K
- R6 = 18.2K
- R7 = 6.8K
- R8 = 1.5K
- R9 = 1.2K
- R10 = 10K
- R11 = 150
- R12 = 10K
- R13 = 120K
- R14 = 10K
- R15 = 33.2
- C1 = 10 @ 25V
- C2 = .1 @ 250V
- C3 = 100 @ 15V
- C4 = 10 @ 50V
- C5 = 10 @ 25V
- C6 = 50 @ 50V
- C7 = .1 @ 250V
- C8 = 0.01 @ 100V



electronic temperature controllers



INTRODUCTION: The Model 15-01-XX Series, On-Off, Solid State, Temperature Controllers are similar to the Model 15-00-XX Series except they are designed specifically for a platinum sensor input and have a built in bridge. The output is an electromechanical relay. These controllers are used with a remote set point potentiometer and dial assembly.

CONTROLLER: The only difference between models is the output relay and A.C. line voltage rating.

Model	Output Relay
15-01-10	1 Amp @ 115 VAC resistive, SPDT.
✓15-01-11	10 Amp @ 115 VAC resistive, SPDT.
✓15-01-12	10 Amp @ 230 VAC resistive, SPDT.

Where it is desired to switch loads exceeding the current capacity of the output relay, the Model 15-00-XX may be used as a pilot relay for a larger load contactor. The above three models are available with the following temperature ranges:

TEMPERATURE RANGES	
°F	°C
-250 to -50	-155 to -45
-150 to +50	-100 to +10
-100 to +500	-75 to +260
50 to 350	10 to 175
0 to 1000	0 to 535
500 to 1000	260 to 535

features:

- *platinum sensor input*
- *economical*
- *reliable solid state design*
- *wide temperature range*
- *integral bridge*

SET POINT POTENTIOMETER AND DIAL ASSEMBLY: The standard Model 006-004 Set Point Potentiometer and Dial Assembly is shown in Figure 1. The body of the potentiometer is keyed to the dial plate to prevent the body from turning. For quantity applications, Waynco will customize the dial plate to include the customer's name, logo or other identification. Should the customer choose to make his own dial, Waynco will supply the required calibration and art work. Where maximum accuracy is desired, special dial scales, and special set point potentiometers can be furnished.

TEMPERATURE SENSORS: Refer to Bulletin 800.

PERFORMANCE SPECIFICATIONS:

- 1) Power Supply—Models 15-01-10, and -11; 115 VAC, 50/60 Hz. nominal. Operating Range—105 to 135 VAC.

Model 15-01-12; 230 VAC, 50/60 Hz. nominal. Operating Range—210 to 270 VAC.

- 2) Power Consumption—2.5 volt amperes.
- 3) Switching Sensitivity—Approximately 0.3° F.
- 4) Noise—Sudden AC fluctuations of 20% will not cause the relay to switch.
- 5) Ambient Operating Temperature—Stable over the temperature range 0° to 125° F.
- 6) Output Relay—

Model	Output Relay
15-01-10	1 Amp @ 115 VAC, SPDT.
15-01-11	10 Amp @ 115 VAC, SPDT.
15-01-12	10 Amp @ 230 VAC, SPDT.

- 7) Set Point Potentiometer—Refer to Figure 1.



WAYNCO INC.

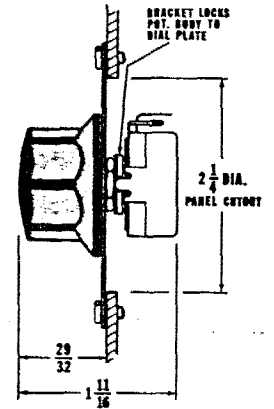
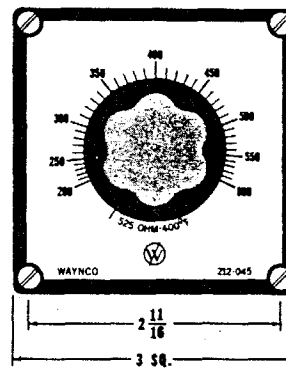
WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 8-4626

HOW TO ORDER: A Waynco control system consists of:

- 1) *Controller:* Specify model number and temperature range.
- 2) *Set Point Potentiometer and Dial Assembly:* Specify Model 006-004.
- 3) *Temperature Sensors*—Refer to Bulletin 800.



**FIGURE 1—Model 006-004
Set Point Potentiometer**

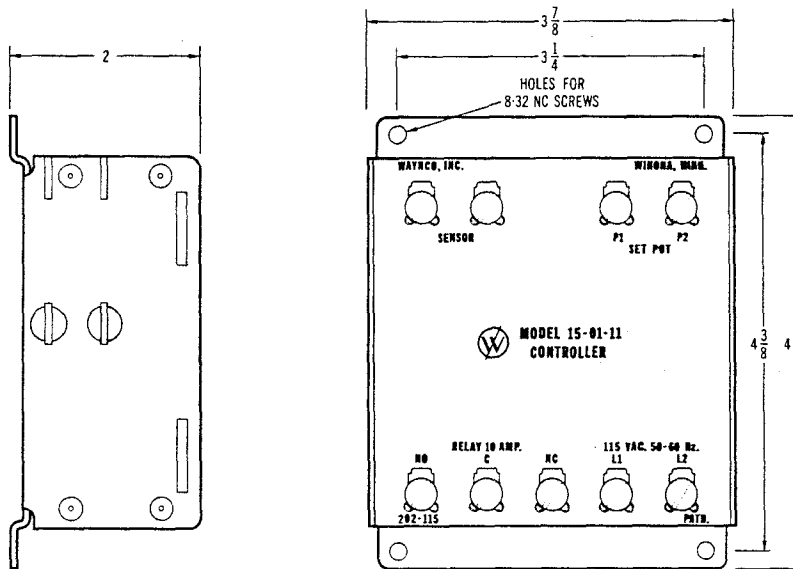


FIGURE 2—Model 15-01-11 Controller

TYPICAL APPLICATION: Where the heater load exceeds the current capacity of the output relay, the Model 15-01-XX may be used as a pilot relay to a larger load contactor.

For cooling applications the output relay may be used to actuate a solenoid valve or a mechanical relay.

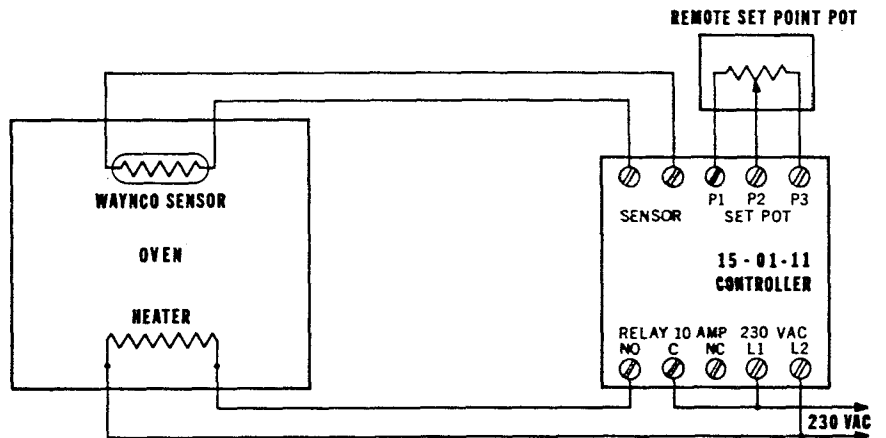


FIGURE 3—Typical Heating Application



electronic temperature controllers



Model 15-03-11 Controller

features:

- *thermistor sensor input*
- *reliable solid state design*
- *economical*
- *0.1° F switching sensitivity*
- *integral bridge*

INTRODUCTION: The Model 15-03-XX Series, On-Off, Solid State Temperature Controllers are similar to the Model 15-00-XX Series except they are designed specifically for a thermistor sensor input and have a built in bridge. The output is an electromechanical relay. These controllers are used with a remote set point potentiometer and dial assembly.

CONTROLLER: The only difference between models is the output relay and A.C. line voltage rating.

MODEL	OUTPUT RELAY
15-03-10	1 Amp @ 115 VAC resistive, SPDT.
15-03-11	10 Amp @ 115 VAC resistive, SPDT.
15-03-12	10 Amp @ 230 VAC resistive, SPDT.

Where it is desired to switch loads exceeding the current capacity of the output relay, the Model 15-03-XX may be used as a pilot relay for a larger load contactor. The above three models are available with the following temperature ranges:

TEMPERATURE RANGES	
° F	° C
- 50 to +150	-45 to + 65
25 to 250	0 to 120
50 to 150	10 to 65
100 to 400	40 to 200
200 to 600	100 to 300
300 to 750	150 to 400

SET POINT POTENTIOMETER AND DIAL ASSEMBLY: The standard Model 006-004 Set Point Potentiometer and Dial Assembly is shown in Figure 1. The body of the potentiometer is keyed to the dial plate to prevent the body from turning. For quantity applications Waynco will customize the dial plate to include the customer's name, logo or other identification. Should the customer choose to make his own dial, Waynco will supply the required calibration and art work. Where maximum accuracy is desired, special dial scales and special set point potentiometers can be furnished.

TEMPERATURE SENSORS: Refer to Bulletin 800.

PERFORMANCE SPECIFICATIONS:

- 1) Power Supply—Models 15-03-10 and 15-03-11; 115 VAC, 50/60 Hz. nominal. Operating Range—105 to 135 VAC.

Model 15-03-12; 230 VAC, 50/60 Hz. nominal. Operating Range—210 to 270 VAC.
- 2) Power Consumption: 2.5 volt amperes.
- 3) Switching Sensitivity — approximately 0.1° F.
- 4) Noise — Sudden AC fluctuations of 20% will not cause the relay to switch.
- 5) Ambient Operating Temperature — Stable over the temperature range 0° to 125° F.
- 6) Output Relay —

Model	Output Relay
15-03-10	1 Amp @ 115 VAC, SPDT.
15-03-11	10 Amp @ 115 VAC, SPDT.
15-03-12	10 Amp @ 230 VAC, SPDT.
- 7) Set Point Potentiometer—Refer to Figure 1.



WAYNCO INC.

WINONA, MINNESOTA 55987

1265 EAST EIGHTH STREET

PHONE 8-4626

HOW TO ORDER: A Waynco control system consists of:

- 1) *Controller:* Specify model number and temperature range.
- 2) *Set Point Potentiometer and Dial Assembly:* Specify Model 006-004.
- 3) *Temperature Sensors:* Refer to Bulletin 800.

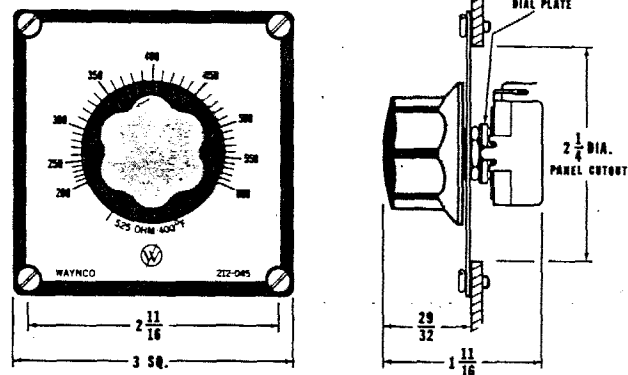


FIGURE 1—Model 006-004 Set Point Potentiometer

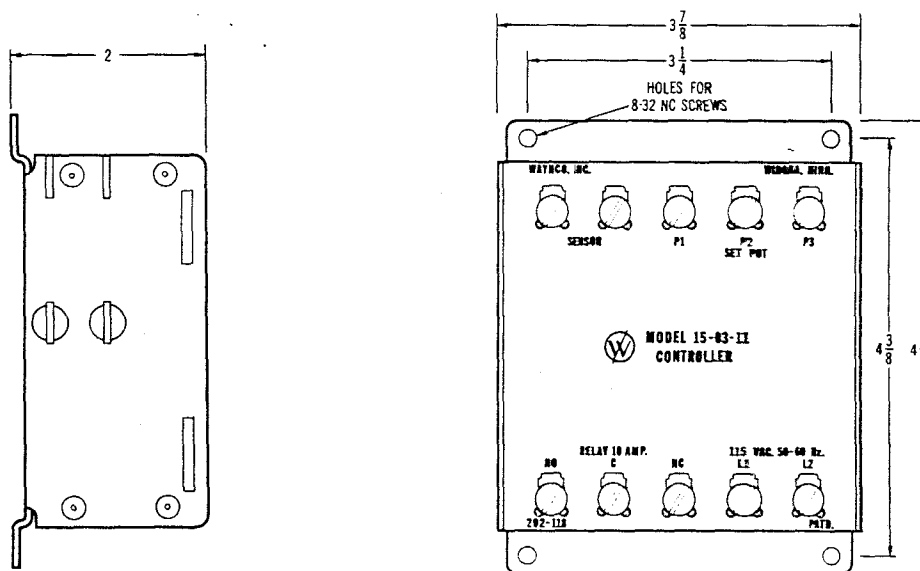


FIGURE 2—Model 15-03-11 Controller

TYPICAL APPLICATION: Where the heater load exceeds the current capacity of the output relay, the Model 15-03-XX may be used as a pilot relay to a larger load contactor.

For cooling applications the output relay may be used to actuate a solenoid valve or a mechanical relay.

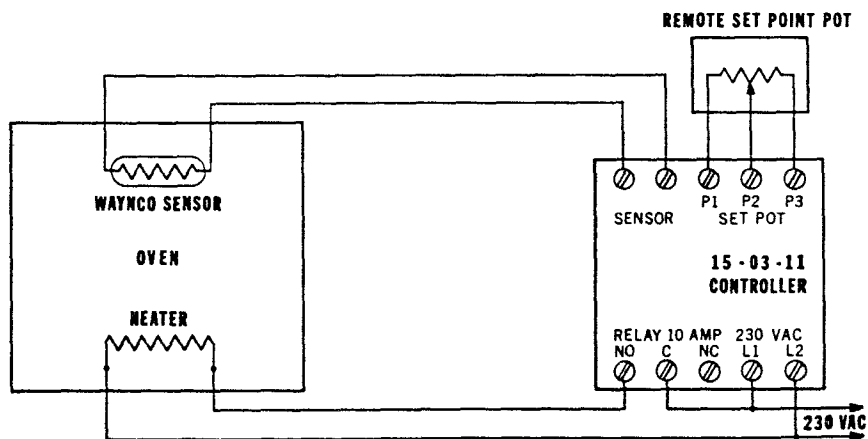
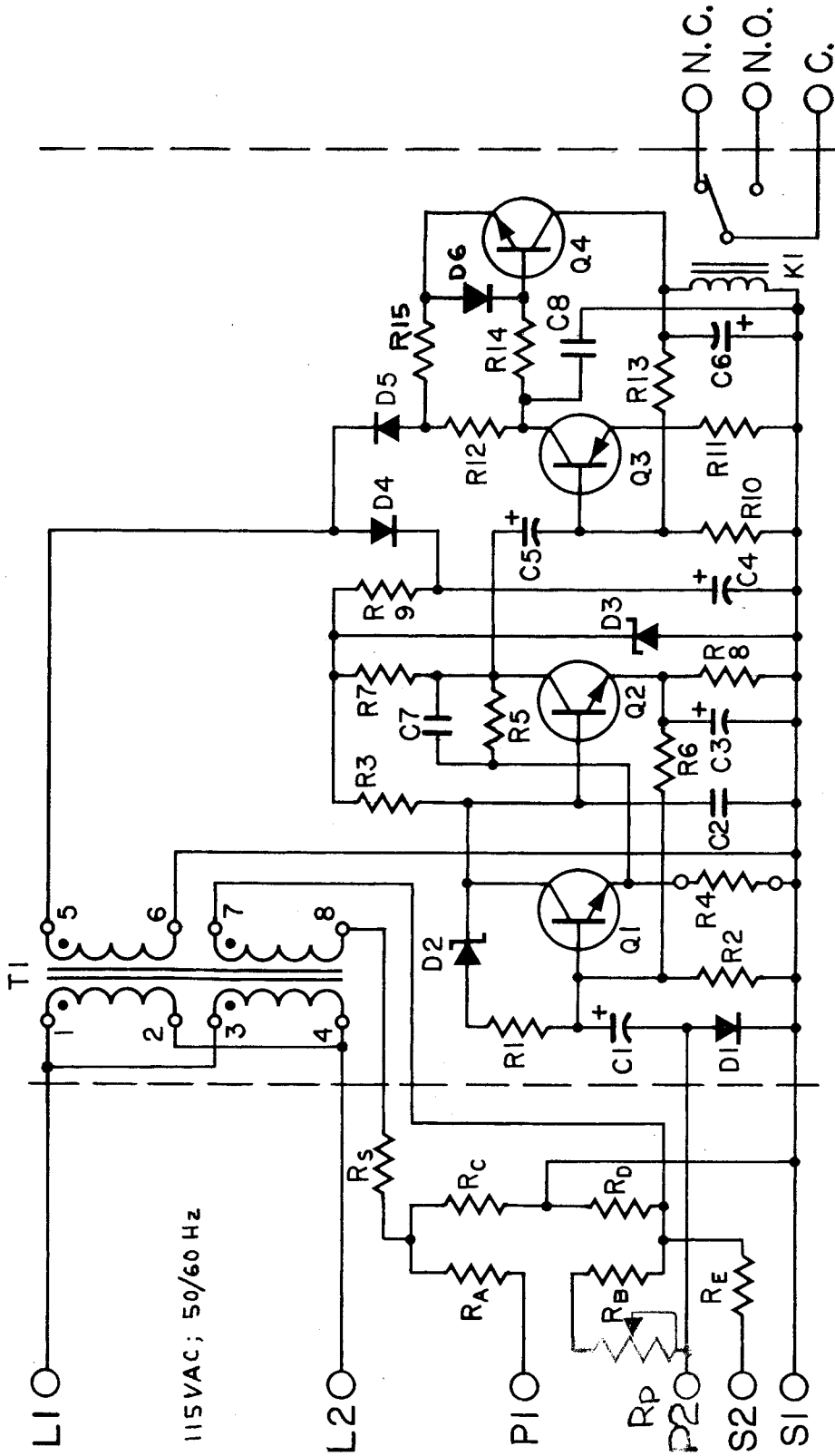


FIGURE 3—Typical Heating Application



A007 103-001

T1 = 2004-19-0000

K1 = 003-042 SPDT

- D1 = 1N4151
- D2 = 1N703A
- D3 = 1N716A
- D4 = 1N5059
- D5 = 1N5059
- D6 = 1N4151

- Q1 = 2N3392
- Q2 = 2N3392
- Q3 = MPS-A56
- Q4 = MPS-A06
- R1 = 681
- R2 = 22K
- R3 = 8.2K
- R4 = 15
- R5 = 22K

- R6 = 18.2K
- R7 = 6.8K
- R8 = 1.5K
- R9 = 1.2K
- R10 = 10K
- R11 = 150
- R12 = 10K
- R13 = 120K
- R14 = 10K

- R15 = 33.2
- C1 = 10 @ 25V
- C2 = .1 @ 200V
- C3 = 100 @ 15V
- C4 = 10 @ 50V
- C5 = 10 @ 25V
- C6 = 50 @ 50V
- C7 = .1 @ 200V
- C8 = 0.01 @ 100V

A007 389-001

- RS = 3K
- RA = 750
- RB = 174
- RC = 750
- RD = 750
- RE = 64.9
- RP = 100

A-2647 9/29/83

DATE: 5-24-76

MODEL: 15-03-16

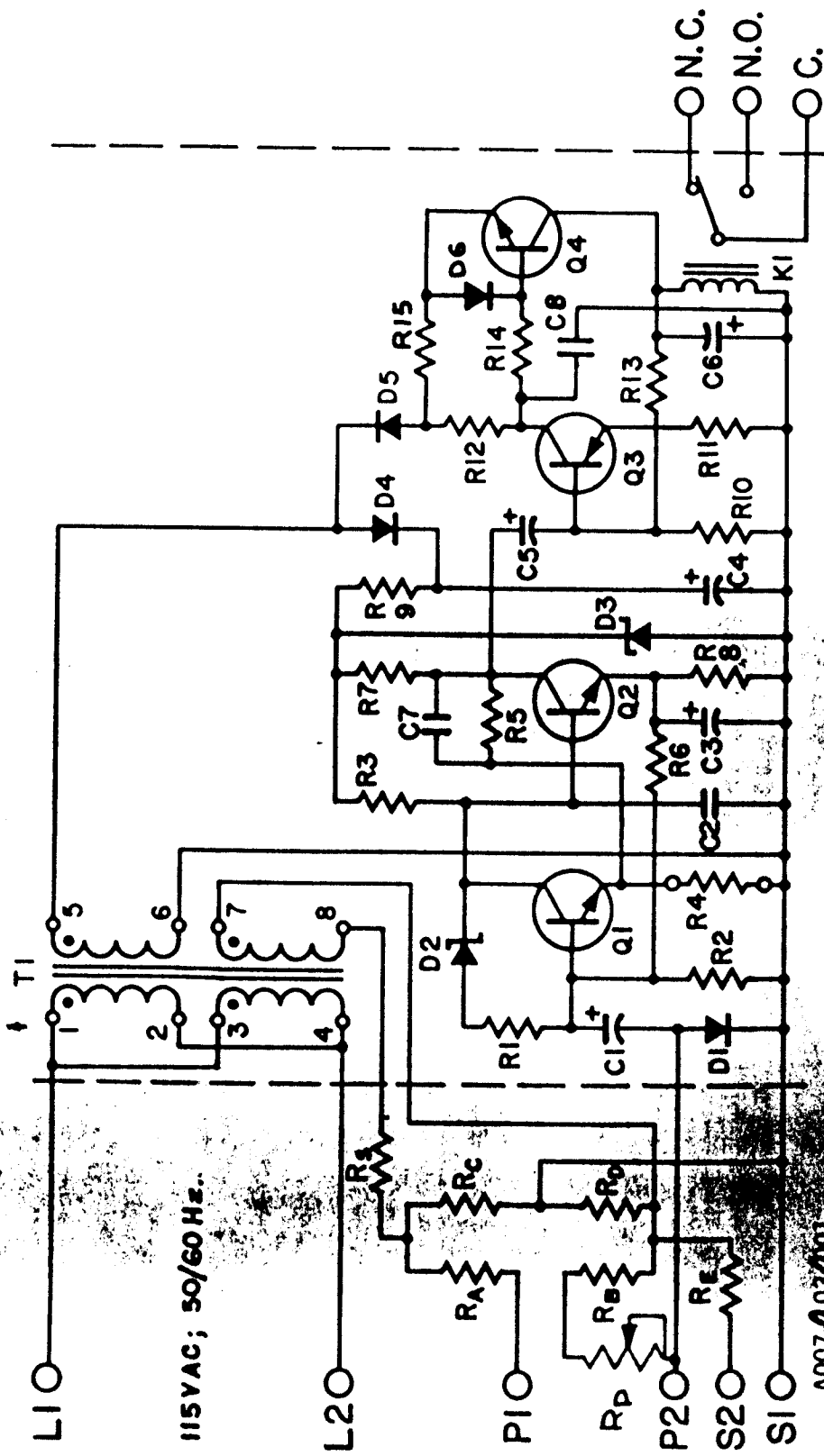
SCHEMATIC: 15-03-16
 TYPE OF ASSEMBLY: FINAL
 DRAWING: 15-00-01

C/D	P/N OR DWG. NO	DESCRIPTION	QTY.	UNIT COST	TOTAL COST
1	A007-103-001	P.C. BOARD ASS'Y (210-096)	1		
2	A007-390-001	TERM. BD. ASS'Y (202-0313 B1k)(210-310)	1		
3	216-343	CHASSIS (BASE)	1		
4	216-338	END PLATE	2		
5	818-014	RIVET	8		
	022-146	INTERNAL WIRING DIAGRAM	REF.		

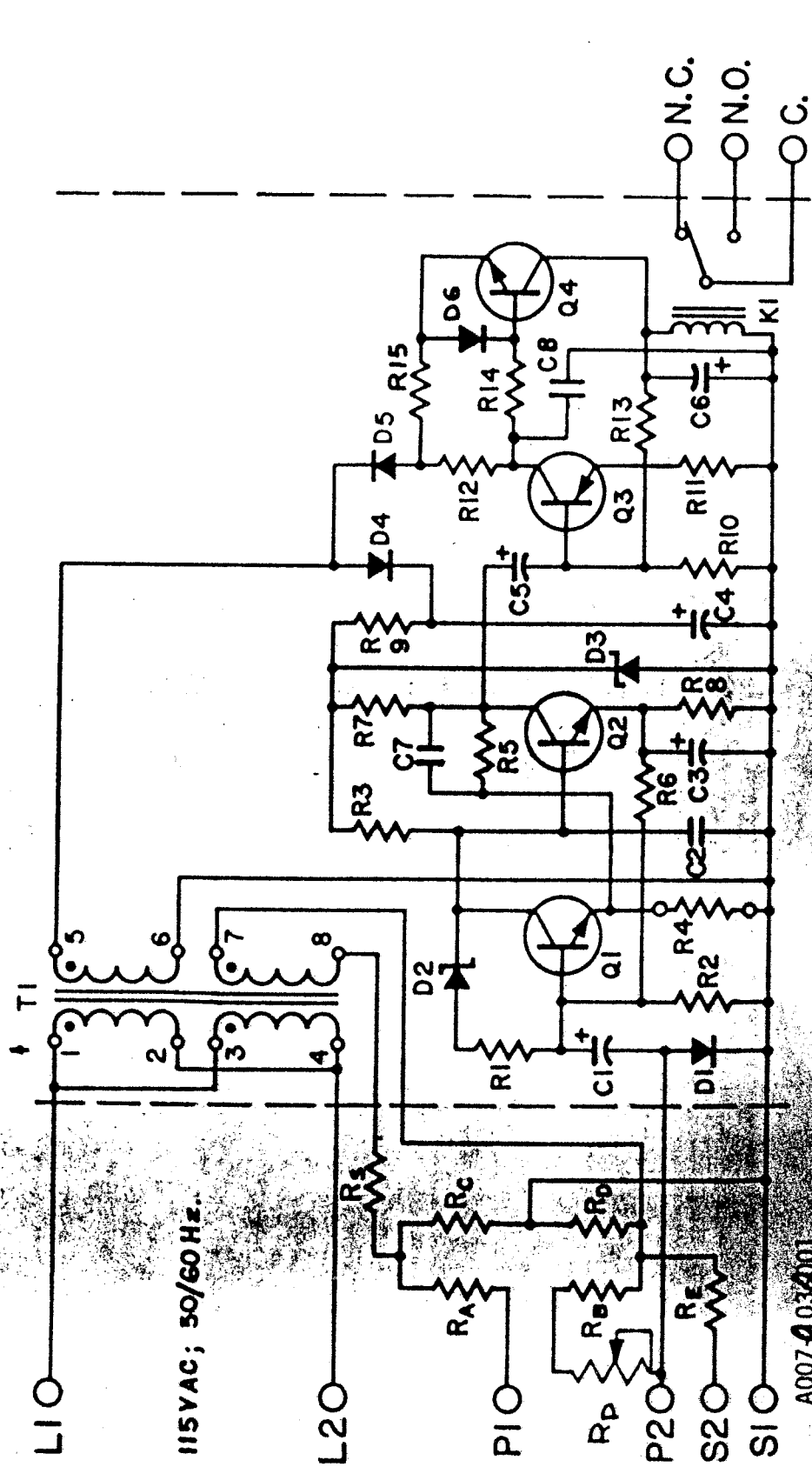
UNLISTED
 QUALITY CONTROL
 CONTROL MANAGER.

* CYCLE TEST : 15 MIN / CYCLE ; 6 PCS / CYCLE

3-14-79 gw	MIN./PIECE	MIN./ORDER
5-7-80	19.1	
BRD. ASS'Y		
FINAL ASS'Y	5.3	
TESTING *	2.6	
SET-UP/ORDER		97.
TOTAL MIN./ORDER		



- 115VAC; 50/60 Hz.
- A007-03/001
- T1 = 0004-915000-03
 KI = 003-042-SPDT
- Q1 = 2N3392
 Q2 = 2N3392
 Q3 = MPS-A56
 Q4 = MPS-A06
- R1 = 681
 R2 = 22K
 R3 = 8.2K
 R4 = 15
 R5 = 22K
- R6 = 18.2K
 R7 = 6.8K
 R8 = 1.5K
 R9 = 1.2K
 R10 = 10K
 R11 = 150
 R12 = 10K
 R13 = 120K
 R14 = 10K
- R15 = 33.2
- C1 = 10 @ 25V
 C2 = .1 @ 200V
 C3 = 100 @ 15V
 C4 = 10 @ 50V
 C5 = 10 @ 25V
 C6 = 50 @ 50V
 C7 = .1 @ 200V
 C8 = 0.01 @ 100V
- D1 = 1N4151
 D2 = 1N703A
 D3 = 1N716A
 D4 = 1N5059
 D5 = 1N5059
 D6 = 1N4151
- RA = 3K
 RB = 750
 RC = 267
 RD = 750
 RE = 931
 RP = Zero
- A007-390-001
- N.C.
 N.O.
 C.



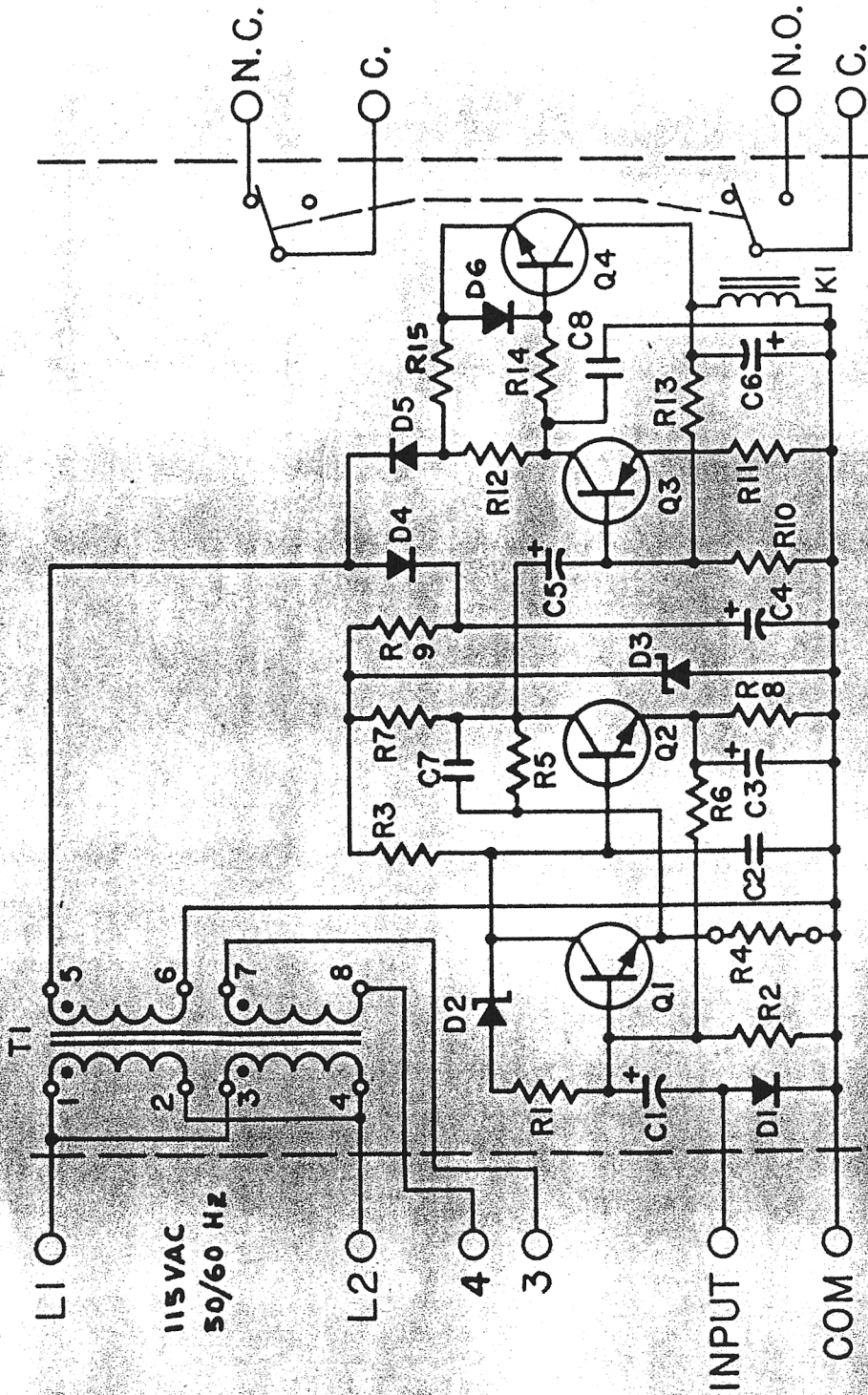
- A007-390-001
- RS = 3K
 - RA = 750
 - RB = 267
 - RC = 750
 - RD = 931
 - RE = Zero
 - RP = 100

- R15 = 33.2
- C1 = 10 @ 25V
- C2 = .1 @ 200V
- C3 = 100 @ 15V
- C4 = 10 @ 50V
- C5 = 10 @ 25V
- C6 = 50 @ 50V
- C7 = .1 @ 200V
- C8 = 0.01 @ 100V

- R6 = 18.2K
- R7 = 6.8K
- R8 = 1.5K
- R9 = 1.2K
- R10 = 10K
- R11 = 150
- R12 = 10K
- R13 = 120K
- R14 = 10K

- Q1 = 2N3392
- Q2 = 2N3392
- Q3 = MPS-A56
- Q4 = MPS-A06
- R1 = 681
- R2 = 22K
- R3 = 8.2K
- R4 = 15
- R5 = 22K

- A007-0030001
- T1 = 0004-150000
 - K1 = 003-047 SPDT
 - D1 = 1N4151
 - D2 = 1N703A
 - D3 = 1N716A
 - D4 = 1N5059
 - D5 = 1N5059
 - D6 = 1N4151



A007-0103-004

- T1 = 004-119
- K1 = 003-044 DPDT
- D1 = 1N4151
- D2 = 1N703A
- D3 = 1N716A
- D4 = 1N5059
- D5 = 1N5059
- D6 = 1N4151
- Q1 = 2N3392
- Q2 = 2N3392
- Q3 = MPS-A56
- Q4 = MPS-A06
- R1 = 681
- R2 = 22K
- R3 = 8.2K
- R4 = 15
- R5 = 22K
- R6 = 18.2K
- R7 = 6.8K
- R8 = 1.5K
- R9 = 1.2K
- R10 = 10K
- R11 = 150
- R12 = 10K
- R13 = 120K
- R14 = 10K
- R15 = 33.2
- C1 = 10 @ 25V
- C2 = .1 @ 200V
- C3 = 100 @ 15V
- C4 = 10 @ 50V
- C5 = 10 @ 25V
- C6 = 50 @ 50V
- C7 = .1 @ 200V
- C8 = 0.01 @ 100V