OWNERS MANUAL

Self-Contained Electric Steam Jacketed Kettle

Models:
FT-6CE
FT-10CE
FT-12CE

COVERING:
INSTALLATION
OPERATION
SERVICE & PARTS

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An Employee Owned Company

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Section 1 INTRODUCTION

THIS OWNERS MANUAL CONTAINS DESCRIPTIVE INFORMATION, INSTALLATION, OPERATING INSTRUCTIONS, MAINTENANCE AND TROUBLE-SHOOTING INFORMATION FOR MODELS FT6CE, FT10CE & FT12CE STEAM-JACKETED KETTLES. PARTS LISTS ARE ALSO INCLUDED IN WHICH EACH REPLACEABLE PART IS IDENTIFIED AND SHOWN IN AN ACCOMPANYING ILLUSTRATION

1.1 DESCRIPTION

Market Forge Models FT6CE (6 gallon capacity), FT10CE (10 gallon capacity) and FT12CE (12 gallon capacity) are electrically powered, self-contained, counter-top, tilting Kettles. Each model has a jacket of double-wall construction forming a sealed reservoir around the lower $^2/_3$ of the kettle. The reservoir is charged with water and anti-freeze solution. Kettles are equipped with a removable electric heating element and controls, including a low water cutoff device for protection of the heating element. Both models are of identical construction, except for kettle size and element heating capacity.

1.2 BASIC FUNCTIONING

Self-contained kettles operate by generating steam in the kettle reservoir. The sequence of operation is as follows:

1. Operator flips the power switch to the ON position and sets the temperature control dial at the desired setting from 1 to 10 (90°F to 300°F, 32°C to 149°C, jacket temperature).

2. Control circuit is normally completed to the temp- erature controller if the following conditions exist:

   a. Water level in kettle reservoir is adequate to prevent circuit interruption by the low water cutoff device. An activated cutoff is indicated by the amber low water light turning on, and the heating element shutting off.

   b. Kettle is in vertical position with circuit completed through the tilt interlock switch (Micro switch).

3. Thermostatic control contacts close to energize contactor coils.

4. Power is supplied to the elements through closed power contactors.

5. As the temperature of water rises in the kettle reservoir. increase in steam pressure is indicated on the pressure gauge.

6. When the temperature of steam in the reservoir reaches the setting shown on the temperature control dial the temperature controller opens to break the contacts and shut off the heating element. ON/OFF cycles will occur as required to maintain temperature control. See Section 3.

1.3 SERVICE

Required service. both preventive and corrective. is explained in Section 3. Should repairs be required. a network of authorized agencies is available to assist with prompt service. A current Directory of Authorized Service Agencies may be obtained by contacting:

Product Service Department
Market Forge Co.
35 Garvey Street
Everett. Massachusetts 02149-4403
Telephone: (617) 387-4100

The model and serial numbers must be referenced when corresponding with Market Forge. These numbers can be found on the data plate located on the right side of the control box.

Section 2 INSTALLATION

2.1 INSTALLATION

a) Position kettle on counter allowing sufficient rear clearance from wall to tilt freely and completely without obstruction.

b) Mark (4) corner locations of kettle base, as shown below.

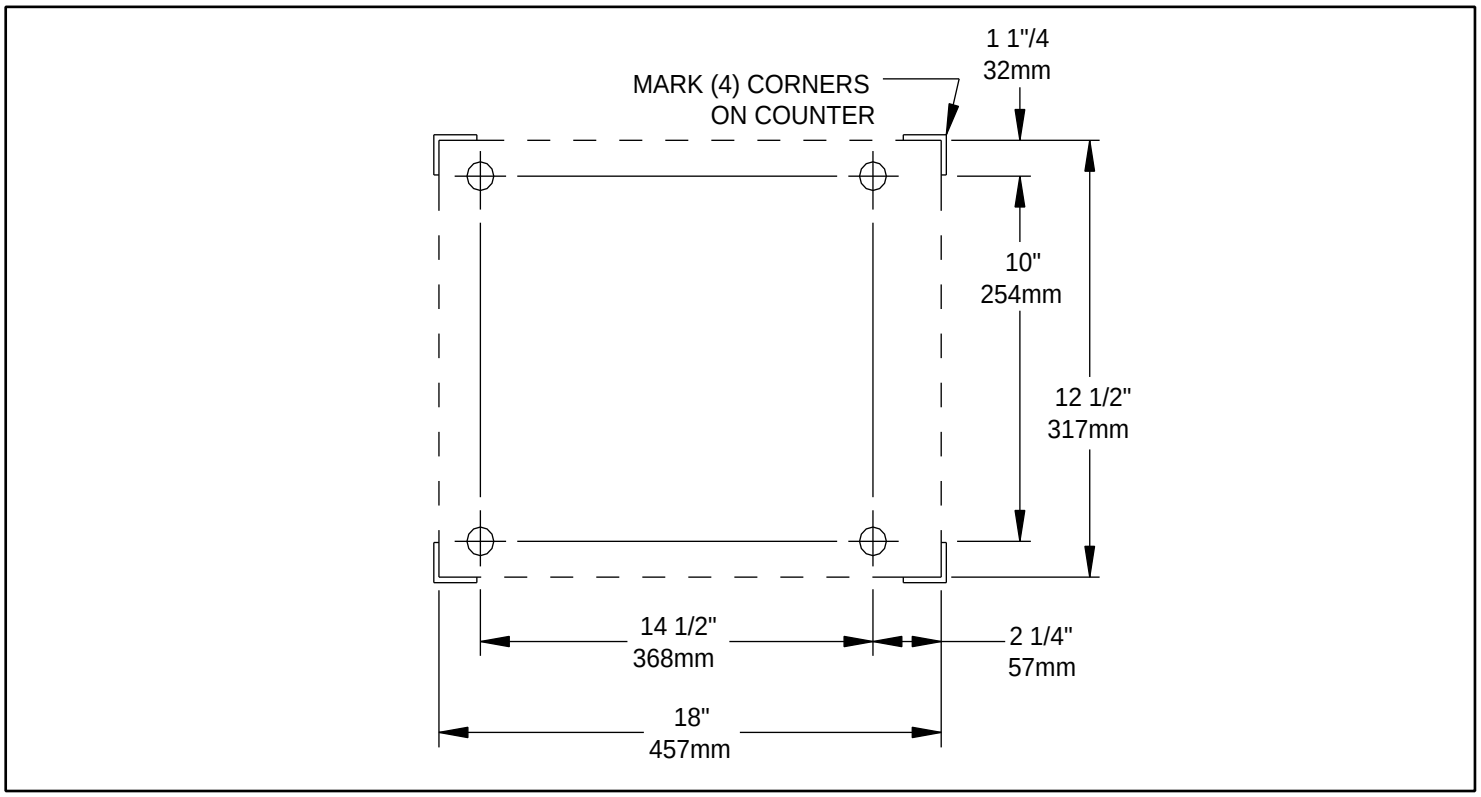

Figure 2-1 Front of Kettle

c) Remove kettle from counter and locate position of 4 holes as per above drawing. Drill four 7/6" diameter holes.

d) Apply a continuous bead of Silastic or other equivalent sealant along the complete perimeter edge of the kettle base.

e) Use 5/16 - 18 x 1 1/2" Hex Cap Screws with suitable flat washers to bolt down.

f) Wipe off excess sealant.

g) A Control Box with power supply equivalent to Electrical Rating of kettle should be located conveniently nearby.

h) A waterproof electrical connection for power supply to console housing must be provided.

i) Ground kettle to terminal provided inside console housing.

j) Turn power ON and check for proper operation. (See Section 3).

Section 3 OPERATION

MODELS: FT -6CE, FT -1 OCE & FF-12CE
ELECTRIC SELF-GENERATING COUNTER- TOP STEAM JACKETED KETTLE

3.1 COOKING

1. Ensure that the external electrical shut-off to kettle is on.

2. Check pressure gauge for correct cold kettle reading. Reading should be 25-30 In.Hg (84-100 k/Pa) of vacuum. If reading is not low enough, follow VENTING procedure prior to using kettle. (See Section 3.3).

3. Place power switch in ON position.

4. Preheat kettle by placing thermostat knob at '10' and wait until TEMPERATURE light goes off.

NOTE: Preheating should not be used when cooking milk and egg food products which adhere to hot cooking surfaces. These foods should be placed into kettle before heating is begun.

5. Add food to be cooked into kettle.

6. Place thermostat knob at required temperature setting from '1' to '10' coinciding with a temperature range from roughly 90°F to 300°F (32°C to 149°C) in the reservoir. Approximate cooking temperatures with water at various thermostat settings are as follows:

THERMOSTAT SETTING	APPROXIMATE TEMPERATURE (WATER) °F	°C
4	90°	32°
5	125°	52°
6	160°	71°
7	195°	91°
8	231°	110°
9	273°	134°
10	300°	149°

7. When cooking is finished, set thermostat knob and power switch to OFF position.

8. Pour finished product from kettle using tilt handle. Be careful to avoid splashing.

9. Add water to kettle for cleaning purposes.

10. Wash kettle thoroughly. See CLEANING procedure.

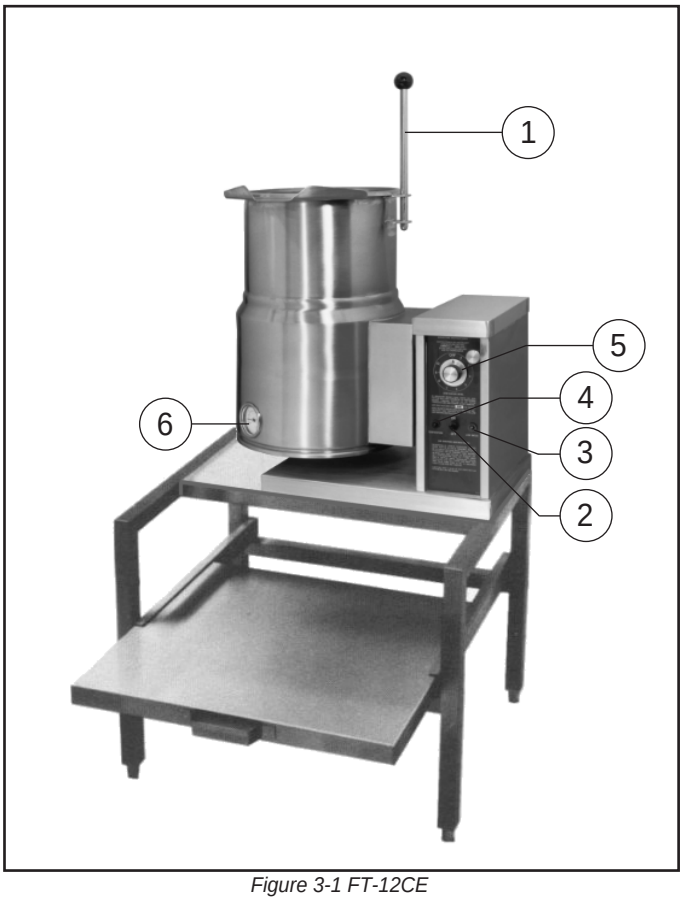

Figure 3-1 FT-12CE

Figure 3-1 FT-12CE

1.	Tilt Handle
2.	Power Switch
3.	Low Water Indicator Light
4.	Temperature (Heat Indicator) Light
5.	Temperature Control Thermostat
6.	Vacuum/Pressure Gauge

Section 3 OPERATION

MODELS: FT -6CE, FT -1 OCE & FF-12CE
ELECTRIC SELF-GENERATING COUNTER- TOP STEAM JACKETED KETTLE

3.2 CLEANING

The kettle interior and exterior should be thoroughly washed after each use in preparation of a different food.

1. Add water and mild detergent to the kettle immediately after use.

2. Scrub kettle interior with a nylon brush.

NOTE: Never scrape the inside of kettle with metal tools, steel scouring pads, or abrasive cleaners. Scratches will result which will spoil the kettle's general appearance and make it harder to clean and maintain in a sanitary condition.

3. Loosen food which is stuck to kettle by allowing it to soak at a low temperature setting.

4. Rinse with clear water and dry.

WARNING: Do not hose down unit under any condition. Failure to comply will void warranty.

5. Wipe down exterior, rinse and dry.

3.3 VENTING

Check vacuum/pressure gauge when kettle is cold. Gauge should be in the vacuum zone between 25-30 In. Hg (84-100k/Pa). If not, air is present which must be vented (removed) for proper heating. Use the following procedures to vent air.

1. Place power switch in ON position; kettle empty.
2. Set temperature control thermostat to '10'. Heat kettle until heat indicator light goes off.
3. Using a 7/16" wrench, open bleed vent one full turn for 10 seconds and close.
4. Cool kettle. Check for proper vacuum of 25-30 In. Hg (84-100k/Pa). If reading is not low enough, repeatentire procedure, steps 1-3.

1.	Bleed Vent
2.	Pressure Relief Valve

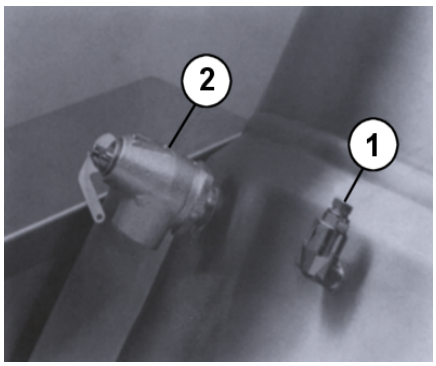

Figure 3-2 Safety Valve/Airvent (*Rear of Kettle*)

3.4 FILLING-JACKET RESERVIOR

The reservoir water level must be maintained at or above the minimum needed to submerge the heating elements. If the low water light turns on during use, the water level is not adequate and the low water protection control has automatically shut off the heating elements.

CAUTION: Before adding water to the reservoir, water supply should be analyzed to ensure that hardness is no greater than 2.0-grains per gallon and pH level is within the range of 7.0-8.5. Water which fails to meet these standards should be treated, or ionized distilled water with sodium used. EQUIPMENT FAILURE CAUSED BY INADEQUATE WATER QUALITY IS NOT COVERED UNDER WARRANTY.

Use the following procedure to fill reservoir. Check vacuum/pressure gauge to ensure that there is no pressure in kettle when adding water.

1. Turn thermostat and power switch to OFF position.

2. Remove 7/16" vent fitting from bleed vent on back of kettle. Insert a funnel into vent opening and add prescribed volume of water. For 6 gallon models, add 50 ounces (1.5 liters). For 10 and 12 gallon models, add 100 ounces (3 liters).

3. Replace and tighten vent fitting.

4. With kettle in upright position, the low water light should be off at this time. If so, follow venting procedure to vent air from reservoir (see Sec. 3.3 Venting). If low water light is not off, repeat Sec. 3.4, Filling Jacket Reservoir.

Section 4 ILLUSTRATED PARTS LIST

4.1 GENERAL

This section contains a complete listing of replaceable parts for the self-contained, steam jacketed counter top FT6CE, FT10CE and FT12CE. The units are illustrated with circled reference numbers to identify specific parts. Each parts list includes the figure reference number, the Market Forge part number, and a brief description.

4.2 ORDERING INFORMATION

Orders for replacement parts should be directed to the nearest authorized parts distributor. For a current Market Forge Authorized Parts Distributor List contact:

Product Service Department
Market Forge Co.
35 Garvey Street
Everett, Massachusetts 02149-4403
Telephone: (617) 387-4100

All orders must include the Market Forge part number(s), part description(s), and the kettle model and serial numbers.

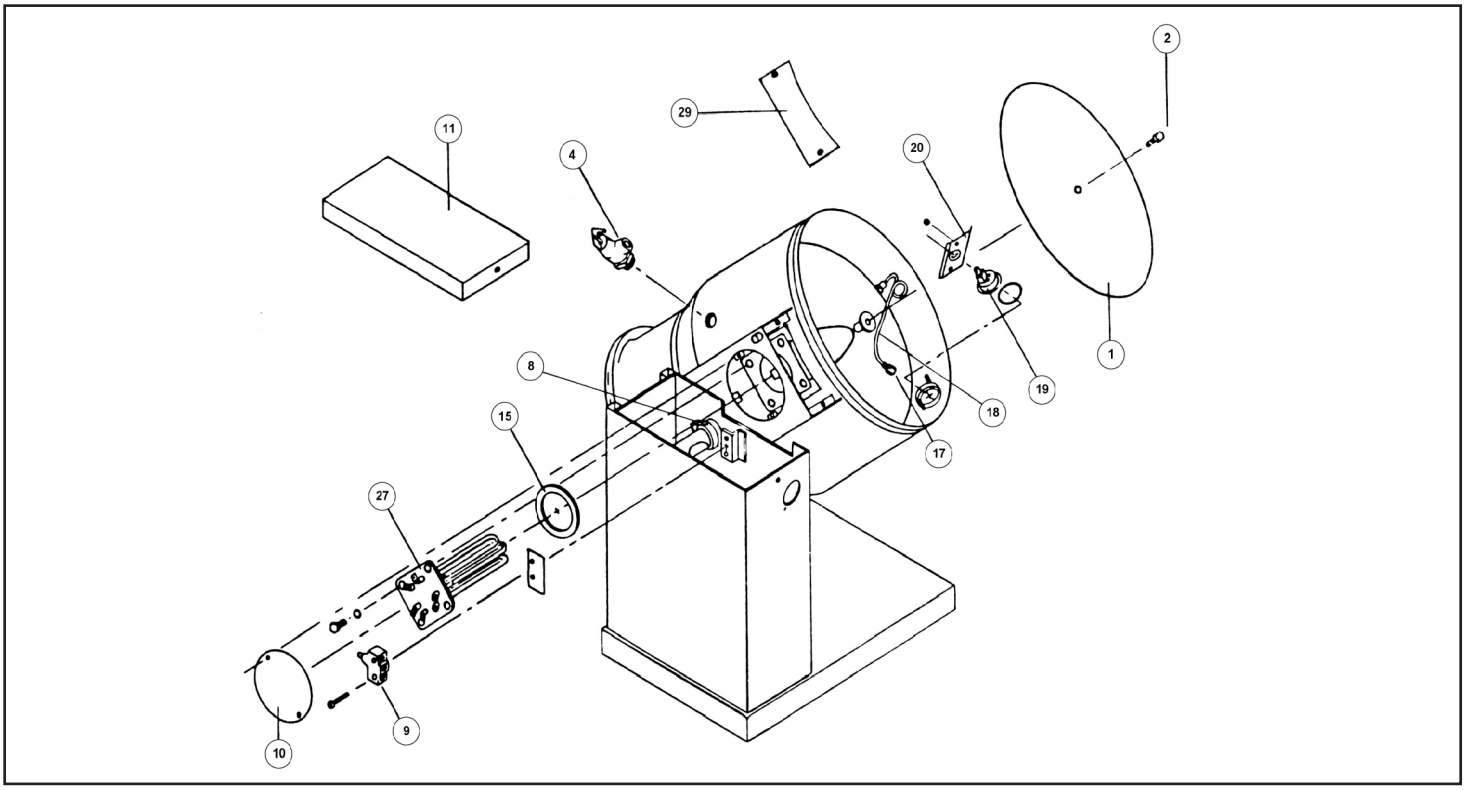

Figure 4-1 Kettle Exterior and Components

Figure 4-1 INDEX NO.	PART NO.	DESCRIPTION	Figure 4-1 INDEX NO.	PART NO.	DESCRIPTION
1	97-5004	Cover, Kettle Enclosure FT-6CE	19	97-5002	Gauge, Pressure
	97-5006	Cover, Kettle, Enclosure FT-10CE & -12CE	20	97-5147	Plate, Mounting
2	97-5005	Bolt, Enclosure Cover	21*	10-6307	Knob Thermostat
3*	97-5010	Air Vent 7/16", Assy.	22*	09-6493	Controller, Temperature (thermostat)
4	97-5009	Valve, Relief, Safely (50PSI)	23*	97-0572	Potentiometer,Remote
5*	97.5007	Handle, Tilt, FT-6CE, -10CE & -12CE	24*	09-6474	Sensor, temperature
6*	97-5008	Knob, Handle, Tilt	25*	20-0007	Light. Low Water
7*	97-5011	Switch, Power	26*	20-0007	Light, Temperature
8	97-5026	Collar, Retaining	27	--	Elements Heating FT-6CE
9	08-6362	Switch, Interlock		97-5015	208V,7.5KW
10	97-5144	Cover, Access, Element		97-5016	220V or 380V 7.5KW
11	97-5003	Cover, Box, Control		97-5017	240V or 415V 7.5KW
12*	10-7934	Liquid Level Control		97-5018	480V 7.5KW
13*	20-0043	Contactor		--	Elements Heating FT-10CE & -12CE
14*	10-5069	Section, Terminal Block		97-5019	208V 12KW
	10-5070	End, Terminal Block		97-5021	240V, or 415V 12KW
15	97-5024	Gasket FT-6CE, Element		97-5020	220V/380V 12KW
	97-5025	Gasket FT-10CE & -12CE, Element		97-5022	480V 12KW
16*	10-7935	Probe	28	97-5150	Panel, Control
17	10-3425	Connector 1/4 x 1/4	29	97-5149	Cover, Box, Trunnion FT-10CE & -12CE
18	97-5145	Tube, Copper, FT-6CE		97-5148	Cover, Box, Trunnion FT -6CE
	97-5146	Tube, Copper, FT-10CE & -12CE	30*	10-5562	Logo, Casting. M.F

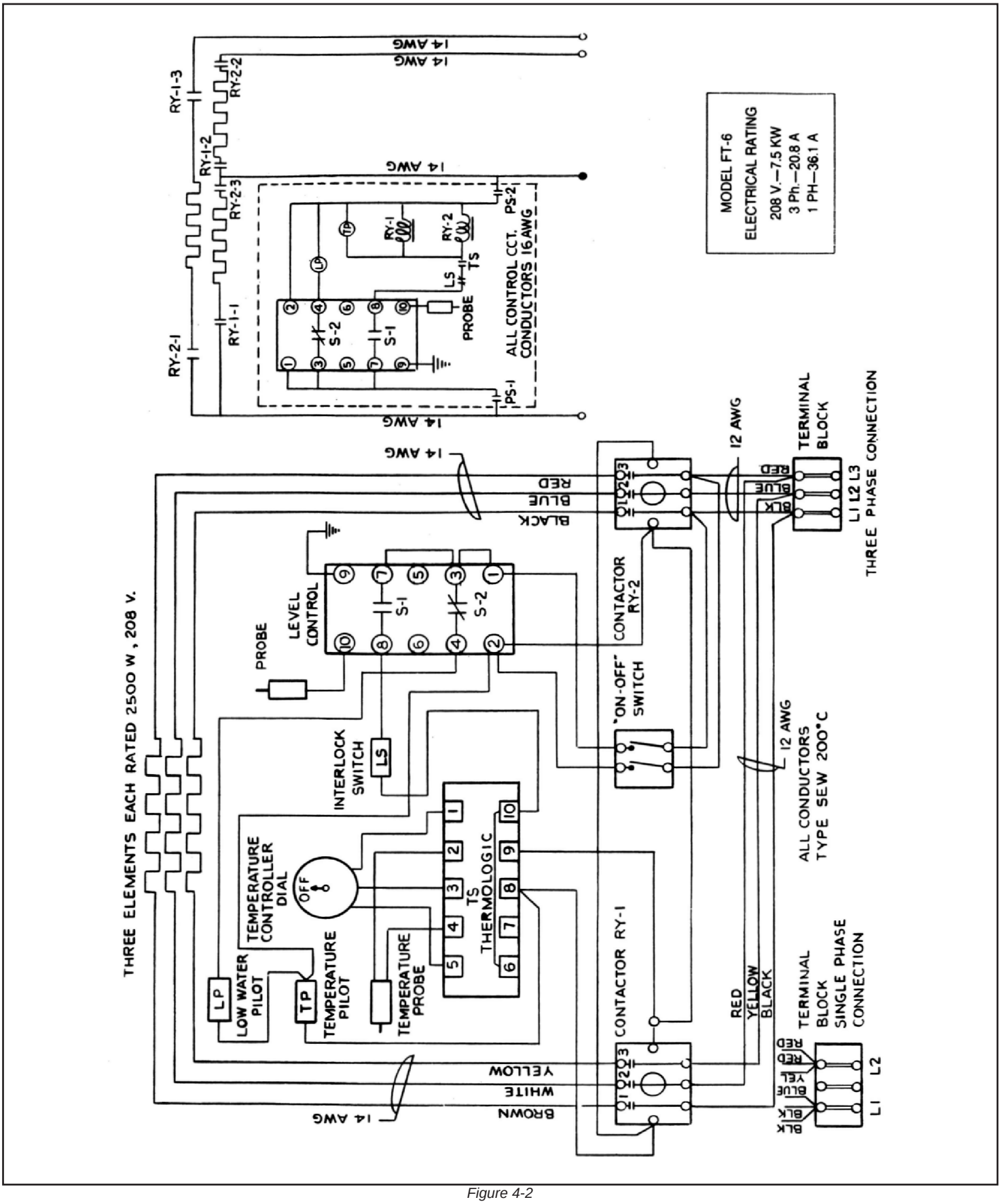
MODEL FT-6
ELECTRICAL RATING
208 V.—7.5 KW
3 Ph.—20.8 A
1 PH—36.1 A
THREE ELEMENTS EACH RATED 2500 W, 208 V.
ALL CONTROL CCT. CONDUCTORS 16 AWG
PS-1
PS-2
RY-1-1
RY-1-2
RY-1-3
RY-2-1
RY-2-2
RY-2-3
RY-1
RY-2
S-1
S-2
LS
TS
PROBE
LEVEL CONTROL
INTERLOCK SWITCH
"ON-OFF" SWITCH
CONTACTOR RY-1
CONTACTOR RY-2
TEMPERATURE CONTROLLER DIAL
OFF
TS THERMOLOGIC
LP
LOW WATER PILOT
TP
TEMPERATURE PILOT
TEMPERATURE PROBE
14 AWG
12 AWG
BLACK
BLUE
RED
BROWN
WHITE
YELLOW
RED
YELLOW
BLACK
ALL CONDUCTORS TYPE SEW 200°C
TERMINAL BLOCK
L1 L2 L3
THREE PHASE CONNECTION
TERMINAL BLOCK
SINGLE PHASE CONNECTION
L1 L2

Figure 4-2

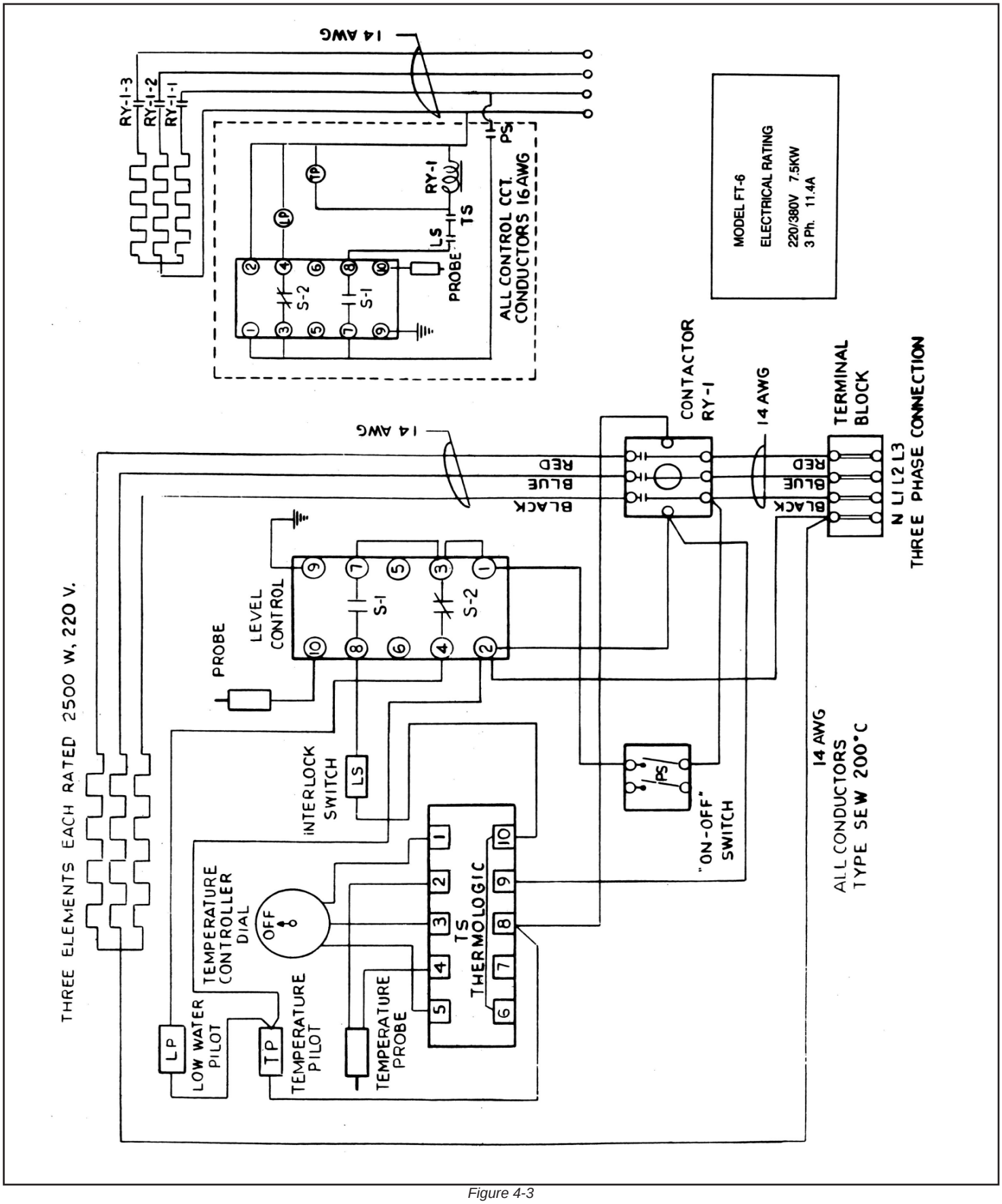
14 AWG
RY-1-3
RY-1-2
RY-1-1
PS
TP
RY-1
LP
LS
TS
PROBE
S-2
S-1
ALL CONTROL CCT. CONDUCTORS 16 AWG
MODEL FT-6
ELECTRICAL RATING
220/380V 7.5KW
3 Ph. 11.4A
CONTACTOR RY-1
14 AWG
TERMINAL BLOCK
BLACK
BLUE
RED
N L1 L2 L3
THREE PHASE CONNECTION
LEVEL CONTROL
PROBE
INTERLOCK SWITCH
"ON-OFF" SWITCH
14 AWG
ALL CONDUCTORS
TYPE SEW 200°C
THREE ELEMENTS EACH RATED 2500 W, 220 V.
TEMPERATURE CONTROLLER DIAL
OFF
TS THERMOLOGIC
LOW WATER PILOT
TEMPERATURE PILOT
TEMPERATURE PROBE

Figure 4-3

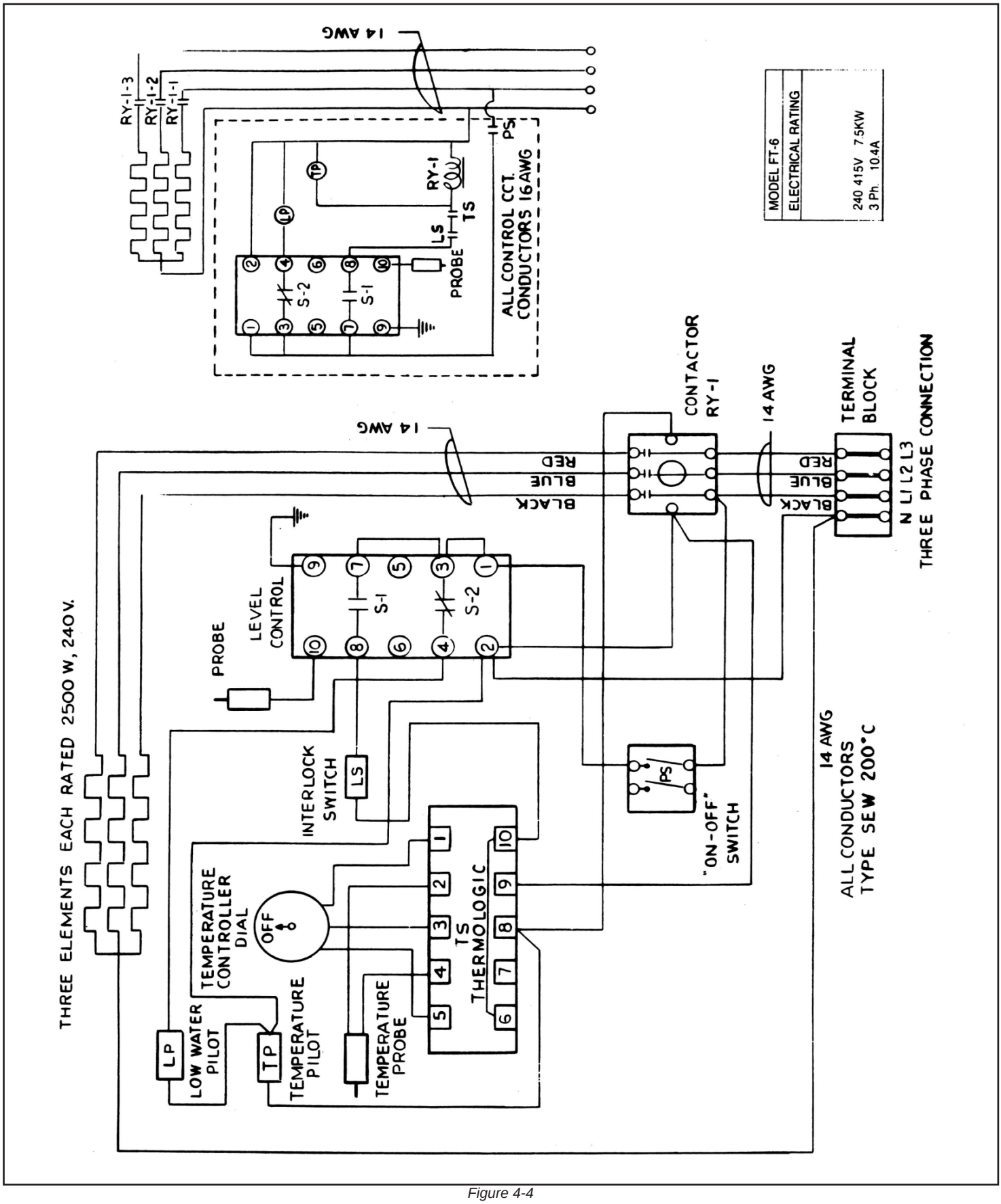
MODEL FT-6
ELECTRICAL RATING
240 415V 7.5KW
3 Ph. 10.4A
THREE ELEMENTS EACH RATED 2500 W, 240 V.
THREE PHASE CONNECTION
N L1 L2 L3
TERMINAL BLOCK
CONTACTOR RY-1
14 AWG
BLACK
BLUE
RED
ALL CONTROL CCT. CONDUCTORS 16AWG
PS
RY-1
TP
LP
LS
TS
PROBE
S-1
S-2
RY-1-1
RY-1-2
RY-1-3
LEVEL CONTROL
INTERLOCK SWITCH
"ON-OFF" SWITCH
ALL CONDUCTORS TYPE SEW 200°C
TS THERMOLOGIC
TEMPERATURE CONTROLLER DIAL
OFF
LOW WATER PILOT
TEMPERATURE PILOT
TEMPERATURE PROBE

Figure 4-4

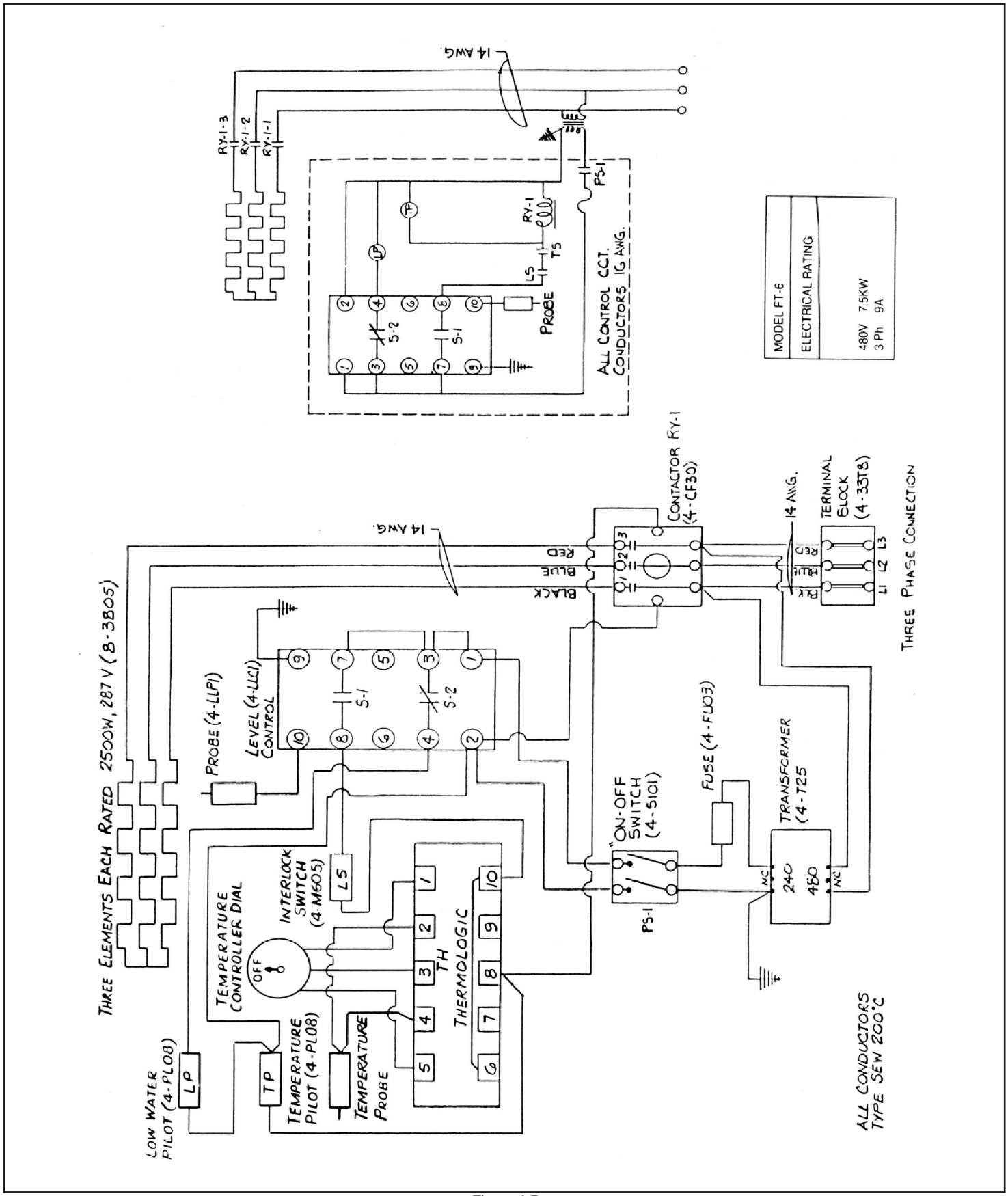
MODEL FT-6
ELECTRICAL RATING
480V 7.5KW
3 Ph 9A
14 AWG.
RY-1-3
RY-1-2
RY-1-1
ALL CONTROL CCT. CONDUCTORS 16 AWG.
PS-1
RY-1
T5
LS
PROBE
S-2
S-1
CONTACTOR RY-1 (4-CF30)
TERMINAL BLOCK (4-33T3)
L1 L2 L3
THREE PHASE CONNECTION
BLACK
BLUE
RED
LEVEL (4-LLC1) CONTROL
PROBE (4-LLP1)
THREE ELEMENTS EACH RATED 2500W, 287 V (8-3805)
"ON-OFF SWITCH (4-5101)
FUSE (4-FU03)
TRANSFORMER (4-T25)
240
480
NC
TEMPERATURE CONTROLLER DIAL
OFF
INTERLOCK SWITCH (4-M605)
LS
TH
THERMOLOGIC
TEMPERATURE PROBE
TEMPERATURE PILOT (4-PL08)
TP
LOW WATER PILOT (4-PL08)
LP
ALL CONDUCTORS TYPE SEW 200°C

Figure 4-5

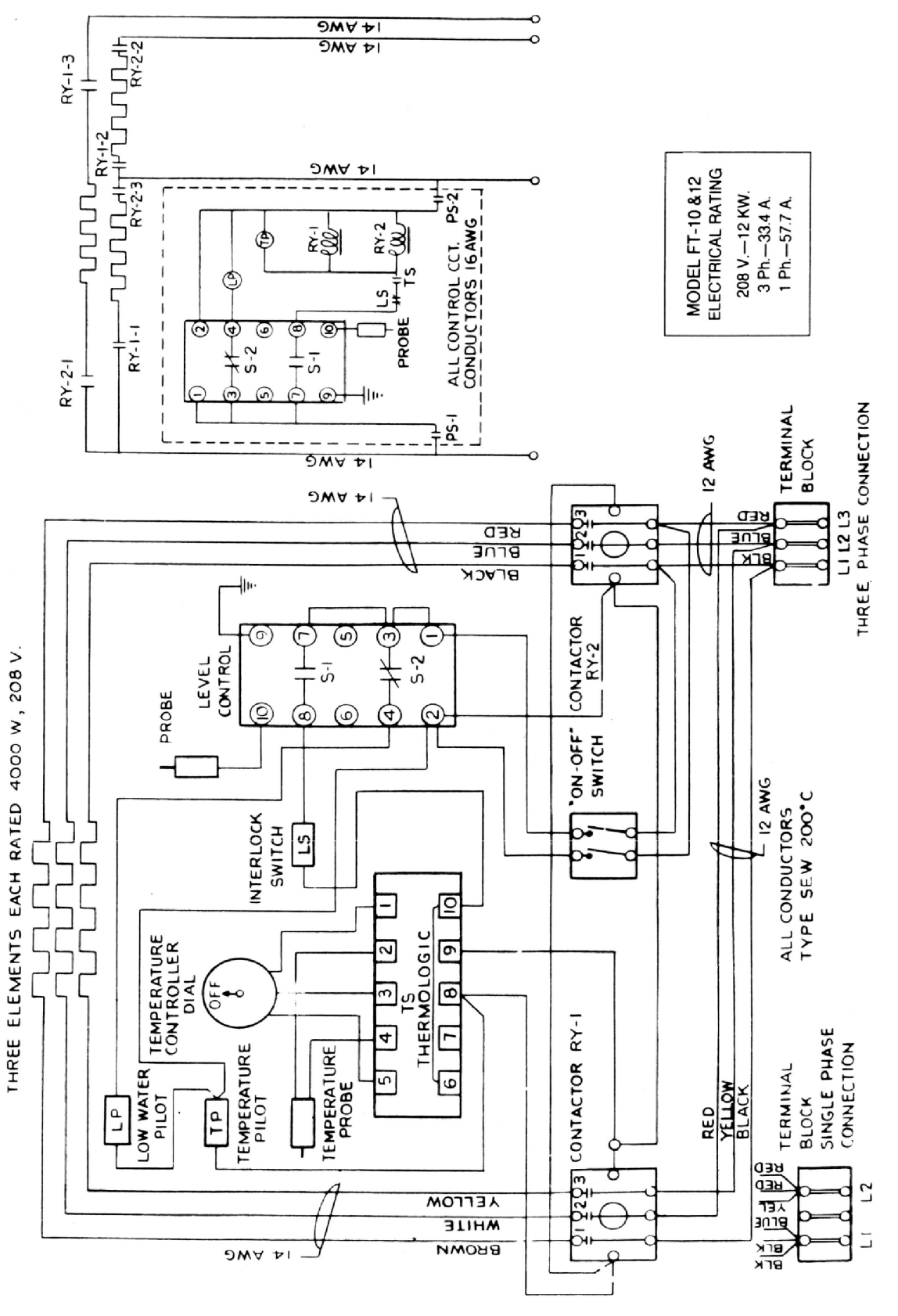
MODEL FT-10 &12
ELECTRICAL RATING
208 V.—12 KW.
3 Ph.—33.4 A.
1 Ph.—57.7 A.
THREE ELEMENTS EACH RATED 4000 W, 208 V.
ALL CONTROL CCT. CONDUCTORS 16 AWG
PS-1
PS-2
RY-1-1
RY-1-2
RY-1-3
RY-2-1
RY-2-2
RY-2-3
RY-1
RY-2
S-1
S-2
LS
PROBE
TS
14 AWG
12 AWG
BLACK
BLUE
RED
BROWN
WHITE
YELLOW
BLK
YEL
L1 L2 L3
THREE PHASE CONNECTION
TERMINAL BLOCK
CONTACTOR RY-1
CONTACTOR RY-2
"ON-OFF" SWITCH
ALL CONDUCTORS TYPE SEW 200°C
TERMINAL BLOCK SINGLE PHASE CONNECTION
L1 L2
LEVEL CONTROL
INTERLOCK SWITCH
TS THERMOLOGIC
TEMPERATURE CONTROLLER DIAL
OFF
TEMPERATURE PROBE
TEMPERATURE PILOT
LOW WATER PILOT
LP
TP

Figure 4-6

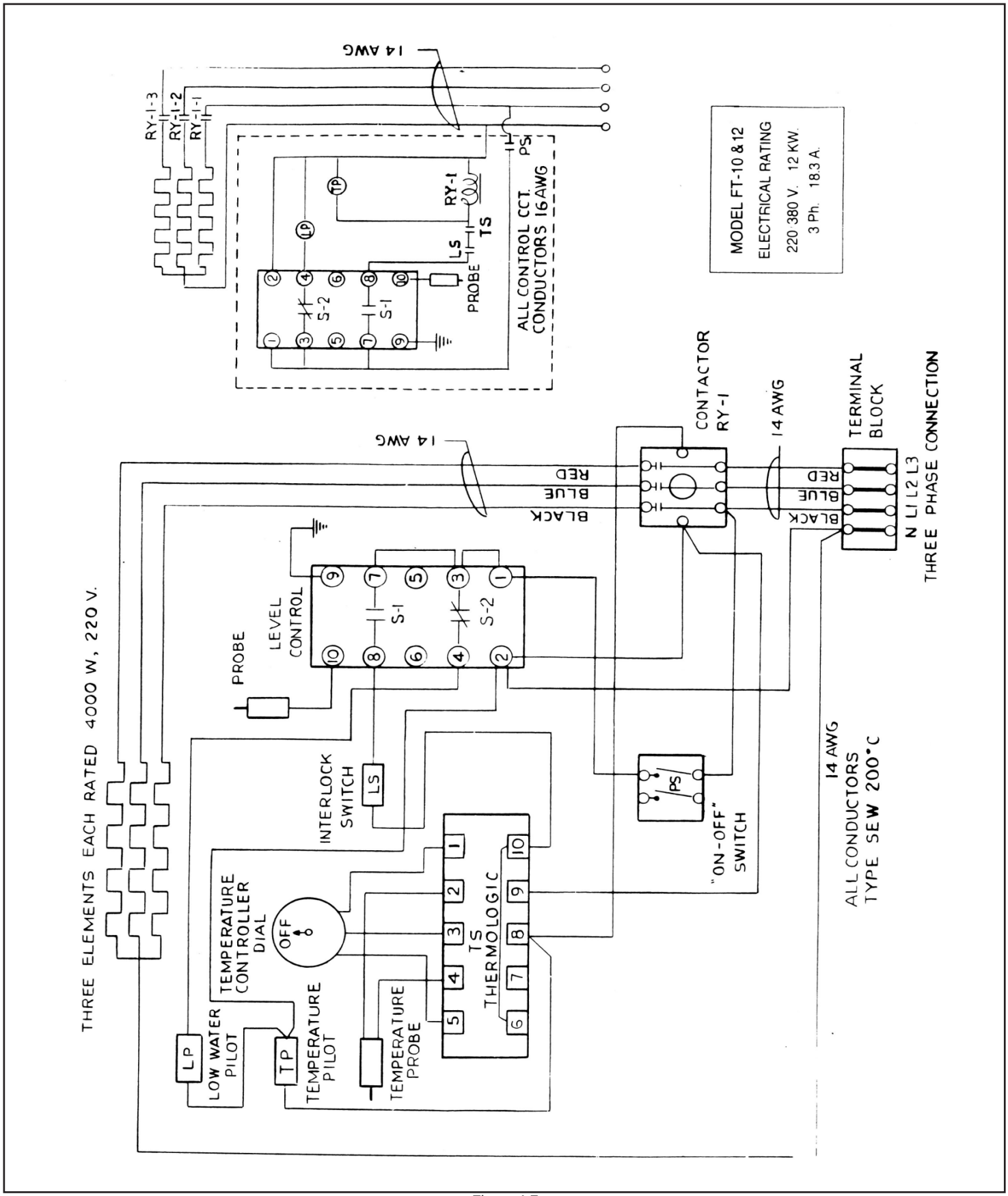
MODEL FT-10 & 12
ELECTRICAL RATING
220 380 V. 12 KW.
3 Ph. 18.3 A.
14 AWG
RY-1-3
RY-1-2
RY-1-1
PS
TP
LP
RY-1
LS
TS
PROBE
S-2
S-1
ALL CONTROL CCT. CONDUCTORS 16 AWG
CONTACTOR RY-1
14 AWG
TERMINAL BLOCK
BLACK
BLUE
RED
N L1 L2 L3
THREE PHASE CONNECTION
LEVEL CONTROL
INTERLOCK SWITCH
"ON-OFF" SWITCH
ALL CONDUCTORS TYPE SEW 200°C
THREE ELEMENTS EACH RATED 4000 W, 220 V.
TEMPERATURE CONTROLLER DIAL
OFF
TS THERMOLOGIC
LOW WATER PILOT
TEMPERATURE PILOT
TEMPERATURE PROBE

Figure 4-7

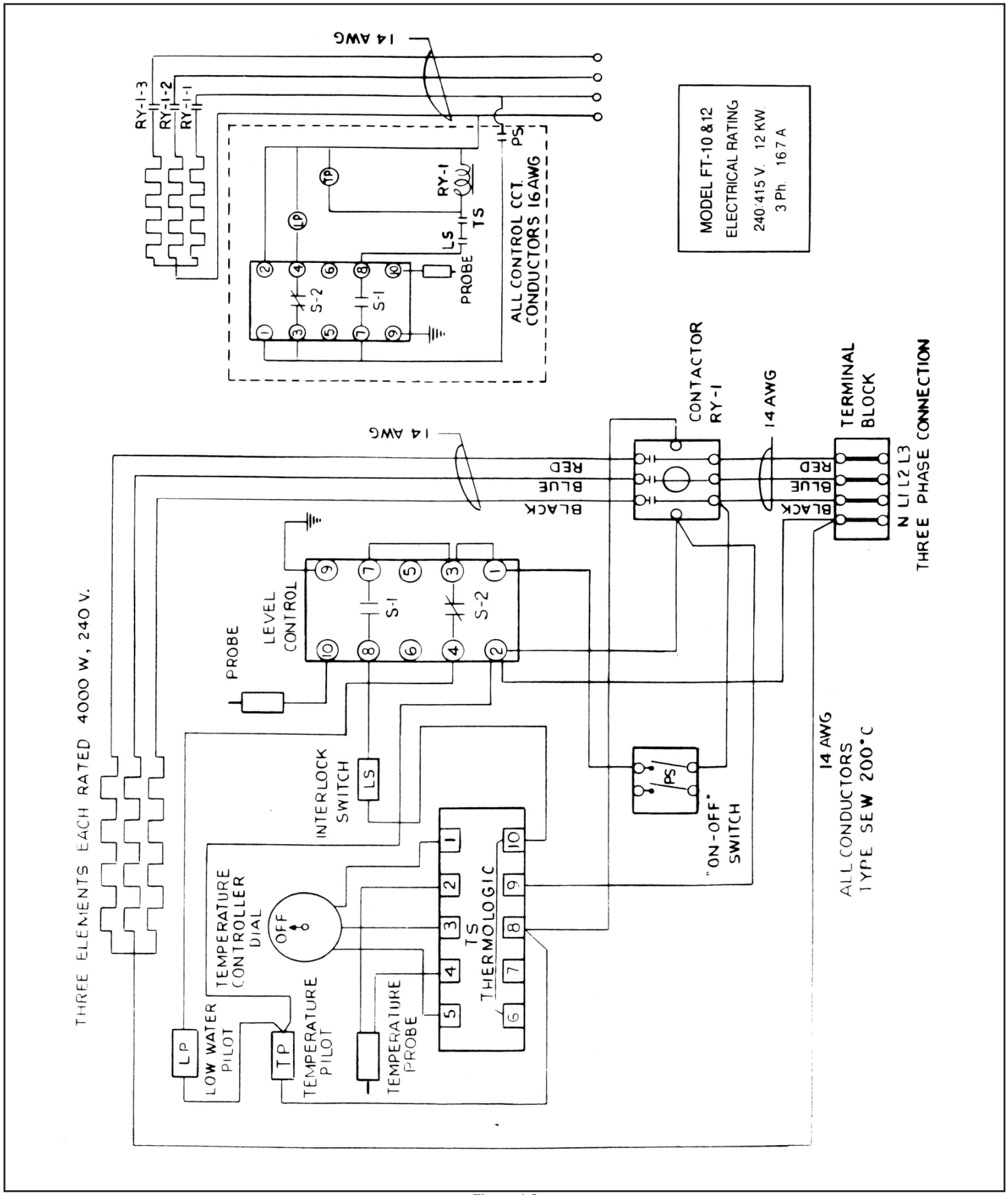
MODEL FT-10 & 12
ELECTRICAL RATING
240/415 V. 12 KW
3 Ph. 16.7 A
14 AWG
RY-1-3
RY-1-2
RY-1-1
PS
TP
LP
RY-1
LS
TS
PROBE
S-2
S-1
ALL CONTROL CCT. CONDUCTORS 16 AWG
CONTACTOR RY-1
TERMINAL BLOCK
RED
BLUE
BLACK
N L1 L2 L3
THREE PHASE CONNECTION
LEVEL CONTROL
INTERLOCK SWITCH
"ON-OFF" SWITCH
TEMPERATURE CONTROLLER DIAL
OFF
TS THERMOLOGIC
LOW WATER PILOT
TEMPERATURE PILOT
TEMPERATURE PROBE
THREE ELEMENTS EACH RATED 4000 W, 240 V.
ALL CONDUCTORS TYPE SEW 200°C

Figure 4-8

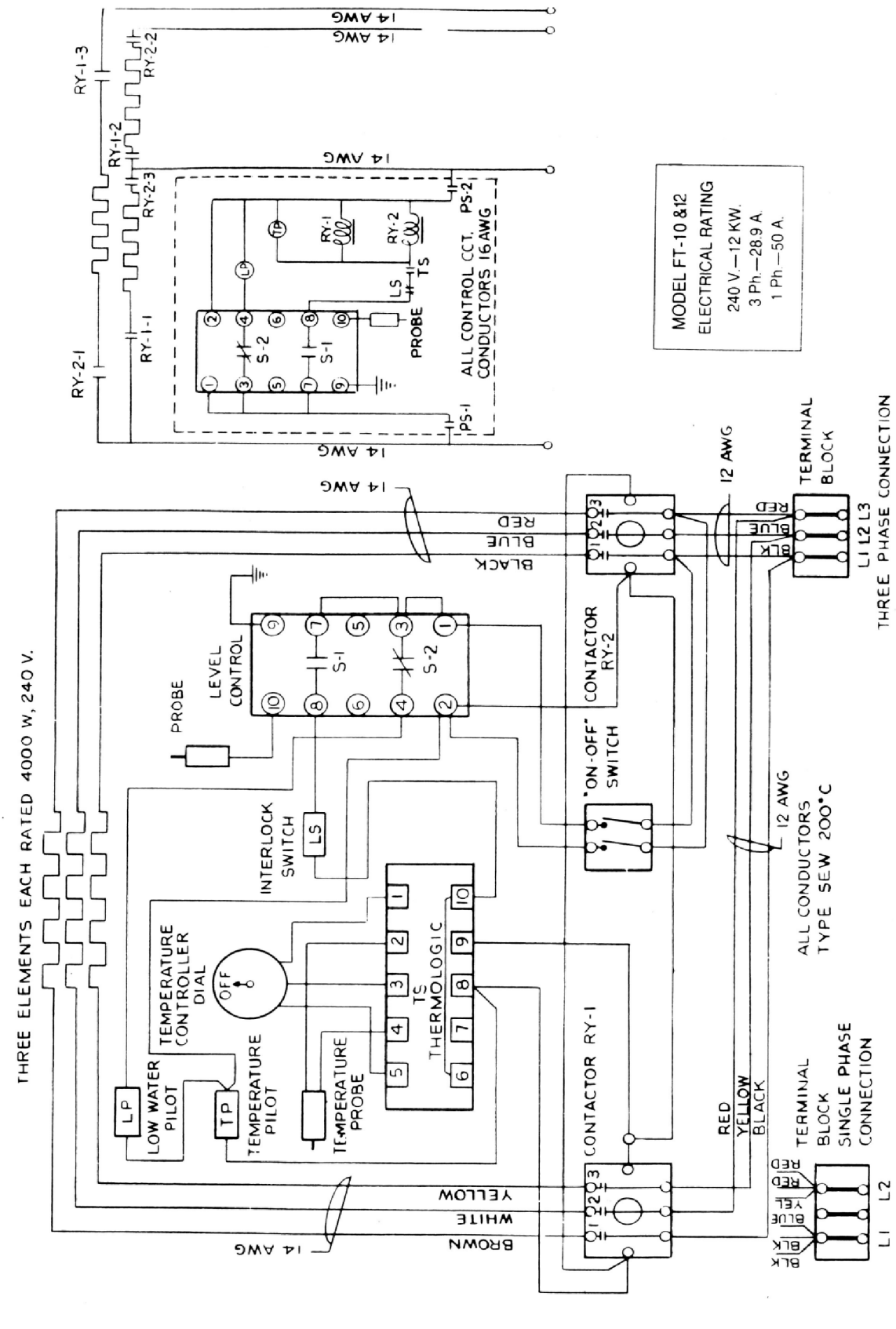
MODEL FT-10 &12
ELECTRICAL RATING
240 V.—12 KW.
3 Ph.—28.9 A.
1 Ph.—50 A.
ALL CONTROL CCT. CONDUCTORS 16 AWG
PS-2
PS-1
RY-1-3
RY-2-2
RY-1-2
RY-2-3
RY-2-1
RY-1-1
14 AWG
RY-1
RY-2
LS
TS
PROBE
S-2
S-1
LP
TP
THREE ELEMENTS EACH RATED 4000 W, 240 V.
LEVEL CONTROL
PROBE
INTERLOCK SWITCH
TEMPERATURE CONTROLLER DIAL
OFF
LOW WATER PILOT
TEMPERATURE PILOT
TEMPERATURE PROBE
THERMOLOGIC
CONTACTOR RY-1
CONTACTOR RY-2
"ON-OFF" SWITCH
BLACK
BLUE
RED
BROWN
WHITE
YELLOW
12 AWG
ALL CONDUCTORS TYPE SEW 200°C
TERMINAL BLOCK
L1 L2 L3
THREE PHASE CONNECTION
TERMINAL BLOCK
SINGLE PHASE CONNECTION
L1 L2

Figure 4-9

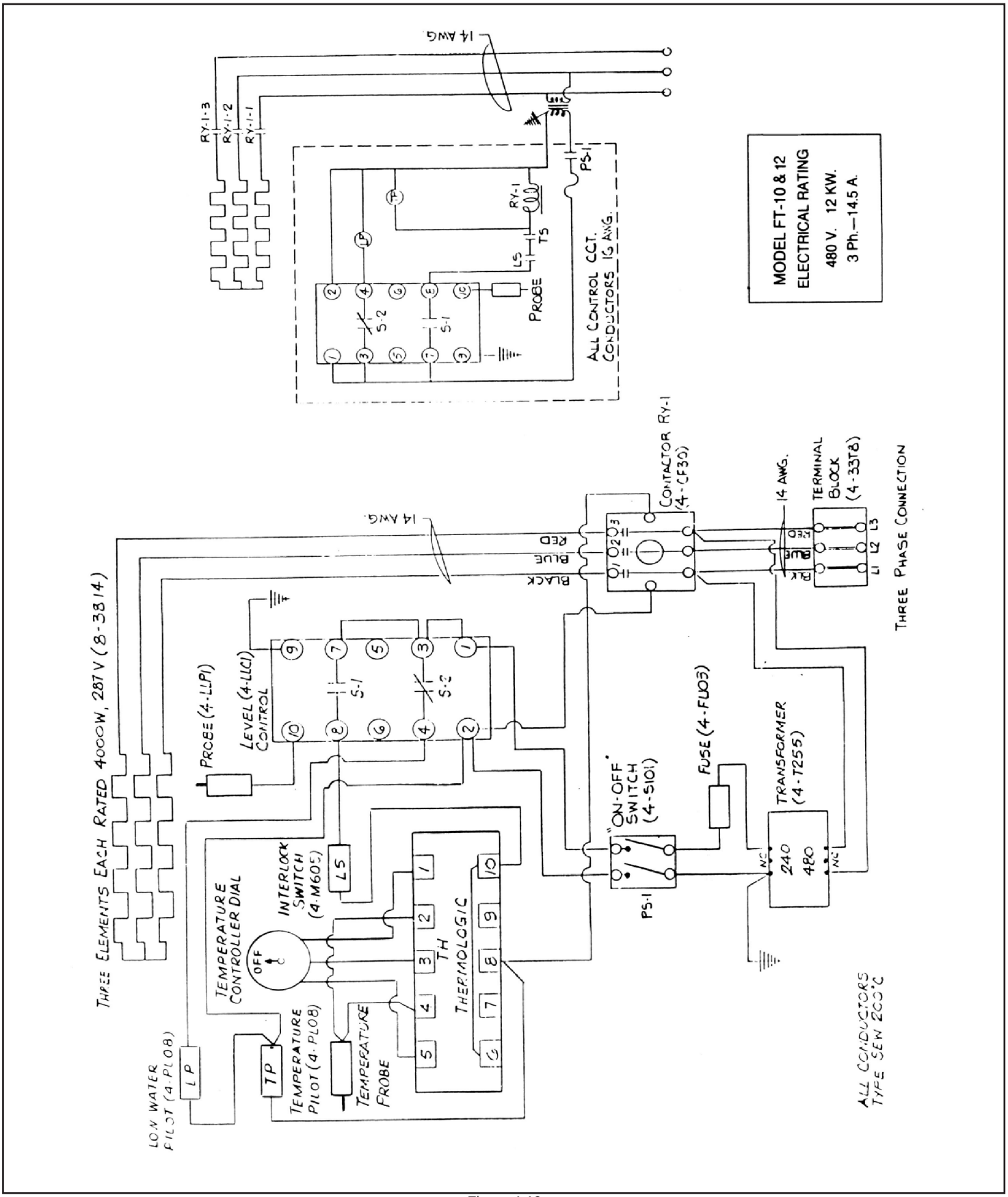
MODEL FT-10 & 12
ELECTRICAL RATING
480 V. 12 KW.
3 Ph.—14.5 A.
THREE ELEMENTS EACH RATED 4000W, 287 V (8-3814)
THREE PHASE CONNECTION
ALL CONDUCTORS TYPE SEW 200°C
ALL CONTROL CCT. CONDUCTORS 16 AWG.
14 AWG.
RY-1-3
RY-1-2
RY-1-1
RY-1
PS-1
LS
TS
PROBE
S-1
S-2
CONTACTOR RY-1 (4-CF30)
TERMINAL BLOCK (4-3378)
L1 L2 L3
BLACK
BLUE
RED
LEVEL (4-LLCI) CONTROL
PROBE (4-LLPI)
INTERLOCK SWITCH (4-M605)
LS
TEMPERATURE CONTROLLER DIAL
OFF
TH
THERMOLOGIC
TEMPERATURE PILOT (4-PL08)
TEMPERATURE PROBE
LOW WATER PILOT (4-PL08)
LP
TP
"ON-OFF" SWITCH (4-5101)
FUSE (4-FU03)
TRANSFORMER (4-T255)
240
480
NC

Figure 4-10