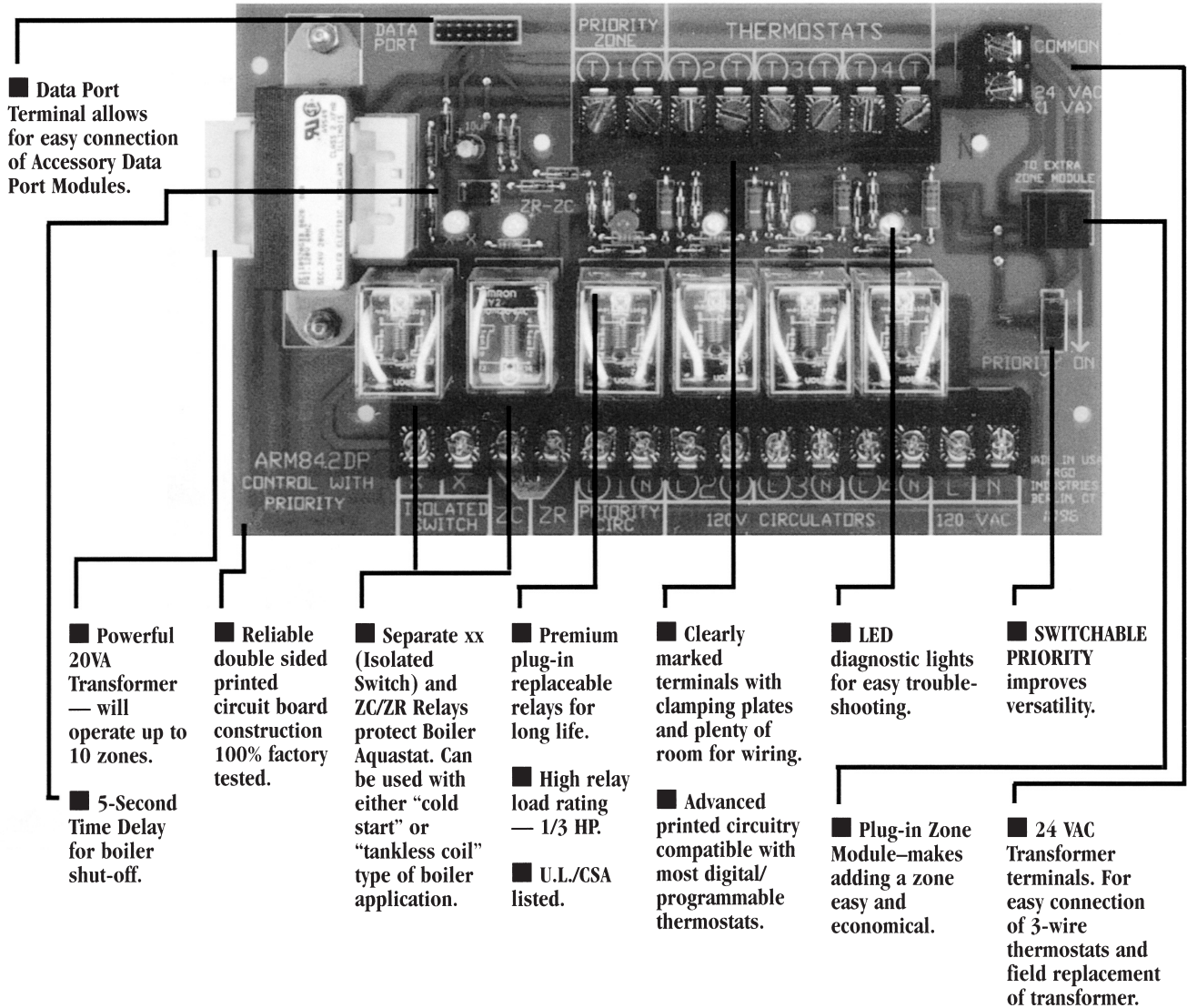


ARM 842 DP* - ARM 861 DP - ARM 866 DP SWITCHING RELAYS WITH PRIORITY

WIRING INSTRUCTIONS AND DIAGRAMS

* For simplicity, only the (4) Zone ARM 842 DP is shown in this manual. The smaller ARM 861 DP (3) Zone and expanded ARM 866 DP (6) Zone version have identical operating features and electrical specifications.



Operation

The ARM series of circulator relays are controlled by low voltage thermostats or any other low voltage controllers having an SPST switching action. The relays provide intermediate switching to permit one, two, three or up to ten separate line voltage loads. (Circulators)

Advanced circuit design will operate with most digital/programmable thermostats.

The isolated end switch relay (terminals XX) has a full 10 amp contact rating.

When a zone calls for heat (TT terminals are connected), the following operation sequence occurs:

1. Isolated switch relay closes.
2. XX switch is closed.
3. XX indicator light turns on
4. Control relay closes (ZC and ZR connection required either by factory installed jumper or through aquastat)
5. ZC/ZR indicator light turns on
6. Zone circulator will start

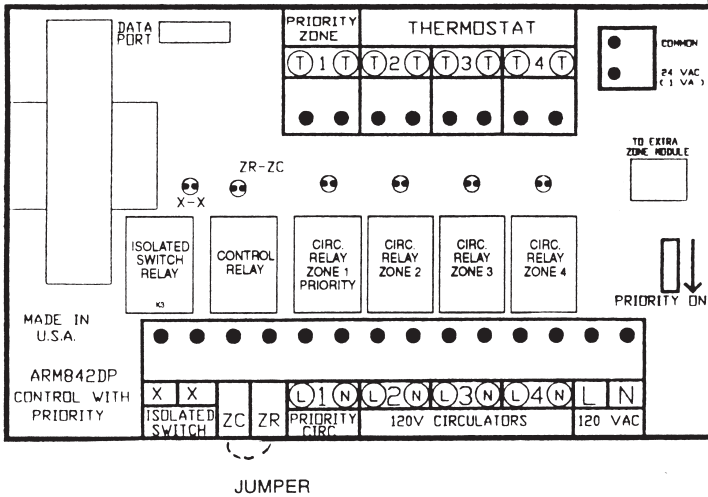
If Priority switch is in ON position—

1. Zone 1 becomes priority zone
2. Circulators for zones 2,3,4 and any zone modules will not operate when zone 1 (Priority) circulator is actuated.

Wiring instructions

1. All wiring must agree with applicable electrical codes, including wire size, type of insulation and enclosure. All primary wiring must be 14 Awg minimum. Never connect the load terminal to load that takes more current than the amount listed for the relay in the electrical ratings. Torque Terminal screws 6 to 7 inch lbs.
2. The number of applications possible for this relay are too numerous to include them in the illustrations listed. The circuit diagrams 1-6 indicate the proper terminals for the power supply, load, and thermostat, for most applications.
3. AD-1 and AD-4 Zone modules are supplied with 18" connectors which plug into ARM 842* (See Diagram 7) Separate line voltage is required.

"Cold Start" Boiler Application



Each of the low voltage controllers (SPST thermostats) will actuate a circulator and start the burner when used in conjunction with an isolated end switch aquastat on the boiler.

Jumper

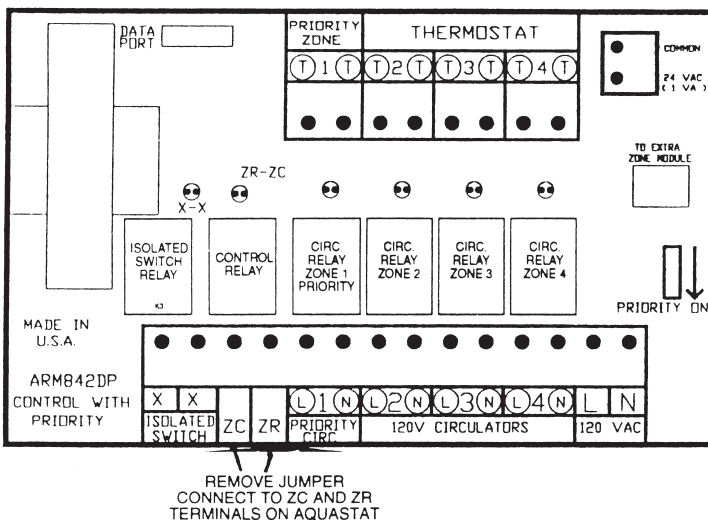
To be placed between terminals ZC and ZR. (Jumper is factory installed in this position) (When priority switch is not in on position, all zones operate independent of each other.)

Connect isolated switch (terminals XX) to TT terminals on boiler aquastat control.

Priority

Circulators for zones 2, 3, 4 will not operate when zone 1 (priority) circulator is actuated. (Priority switch is in on position)

"Tankless Coil" Boiler Application



Each of the low voltage controllers (SPST thermostats) will actuate a circulator and start the burner when used in conjunction with boiler aquastat control. If boiler temperature drops below low limit (circulator) setting, all circulating will cease until temperature of boiler water is increased.

Jumper

Remove factory installed jumper between terminals ZC and ZR.

Connect ZC and ZR terminals to corresponding ZC and ZR terminals on boiler aquastat control.

Priority

Circulators for zones 2, 3, 4 will not operate when zone 1 (priority) circulator is actuated. (Priority switch in on position) (When priority switch is not in on position, all zones operate independent of each other.)

Note: ARM842 will not work properly if 120V AC polarity is not uniform with boiler aquastat.

Any control connected to the ARM842 (Example: MH8124 or MH8182) is isolated and protected from circulator current with built-in 120 volt control relay.

Diagram 4

(Tankless Coil Boiler)
 ARM 842*DP to MH L6081A
 L4006A, L6006A

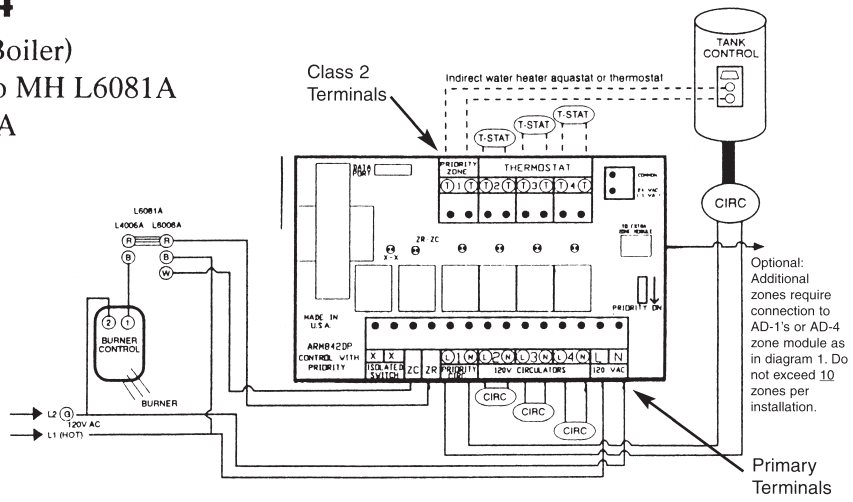


Diagram 5

(Cold Start Boiler)
 ARM 842*DP to Millivolt Gas Valve

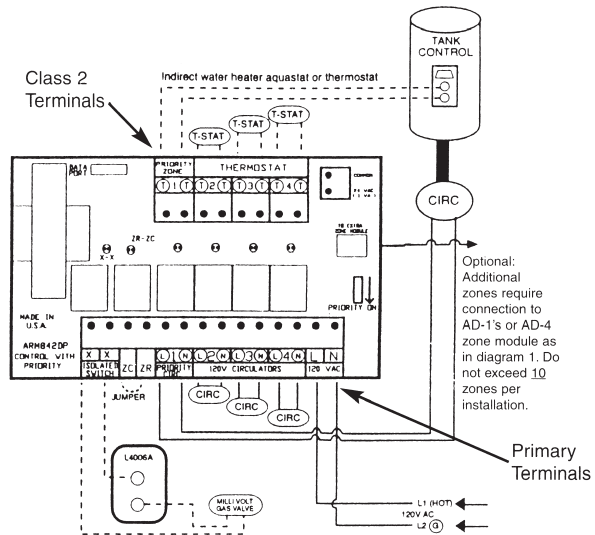


Diagram 6

(Cold Start Boiler)
 ARM 842* DP to 24 Volt Gas Valve

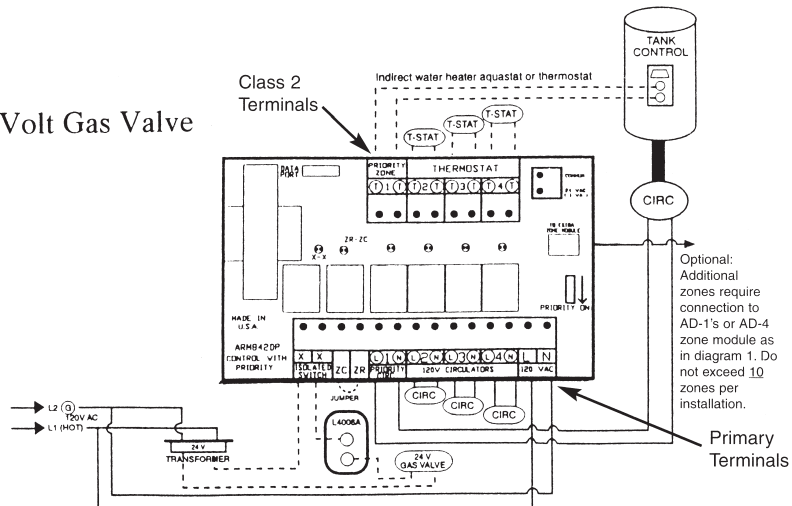


Diagram 7

ARM 842* DP to AD Expansion Modules

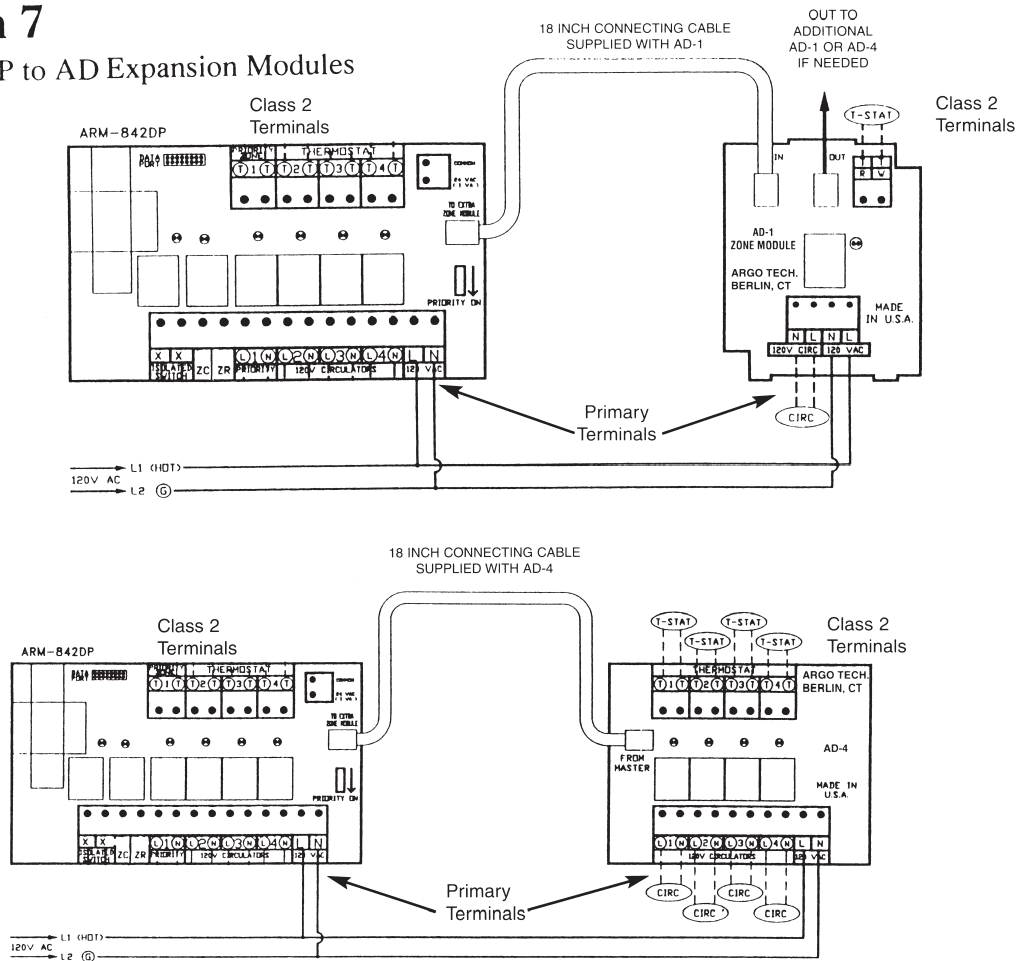
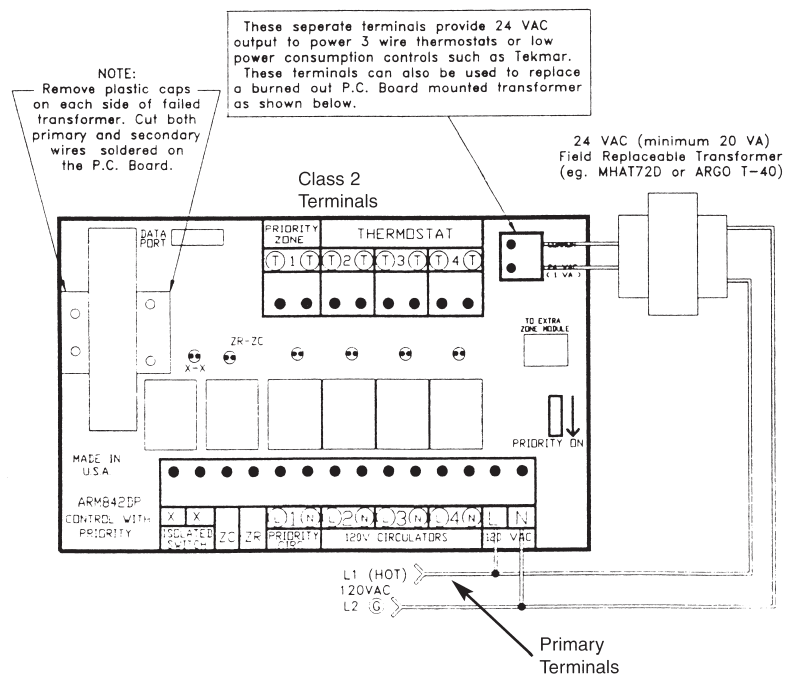


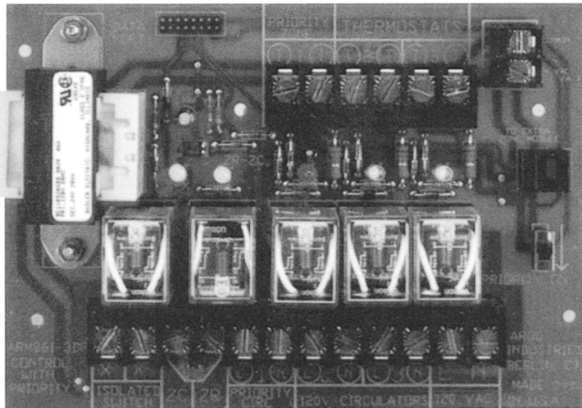
Diagram 8

ARM 842* DP to Field Replaceable Transformer



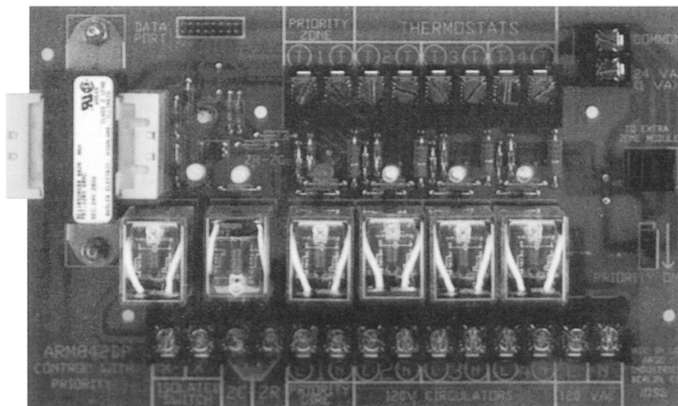
ARM SERIES SWITCHING RELAY SPECIFICATIONS

ARM861DP



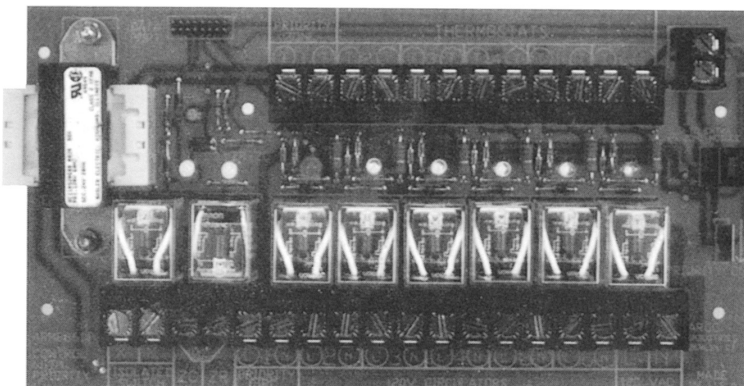
ZONES	Transformer Voltage	Relay Switching Action	Thermostat Current	Single Phase Motor Rating (Each Circuit)	
				120V AC	240V AC
3	120V 60 HZ 20VA	DPST	.085	1/3 HP	1/2 HP

ARM842DP



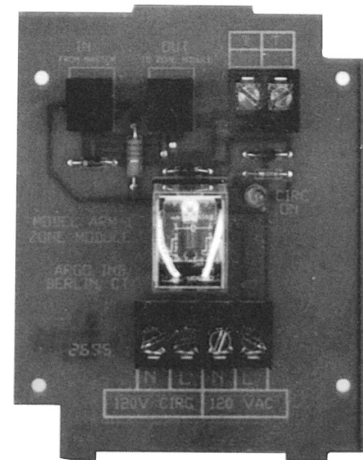
ZONES	Transformer Voltage	Relay Switching Action	Thermostat Current	Single Phase Motor Rating (Each Circuit)	
				120V AC	240V AC
4	120V 60 HZ 20VA	DPST	.085	1/3 HP	1/2 HP

ARM866DP



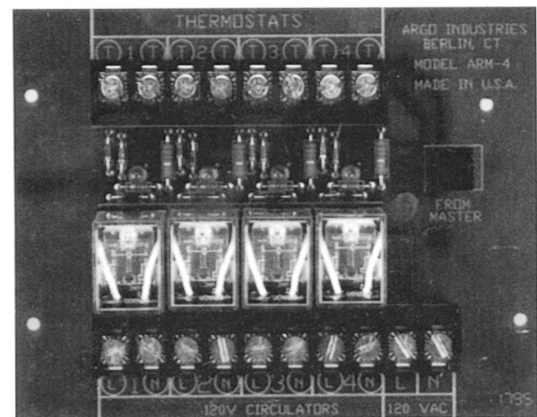
ZONES	Transformer Voltage	Relay Switching Action	Thermostat Current	Single Phase Motor Rating (Each Circuit)	
				120V AC	240V AC
6	120V 60 HZ 20VA	DPST	.085	1/3 HP	1/2 HP

AD-1 Expansion Zone Module



ZONES	Relay Switching Action	Thermostat Current	Single Phase Motor Rating (Each Circuit)	
			120V AC	240V AC
1	DPST	.085	1/3 HP	1/2 HP

AD-4 Four Expansion Zone Module



ZONES	Relay Switching Action	Thermostat Current	Single Phase Motor Rating (Each Circuit)	
			120V AC	240V AC
4	DPST	.085	1/3 HP	1/2 HP



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