

Instructions for installation

StatLink® Zone Modules

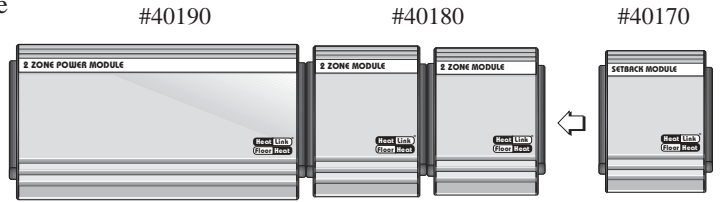
Connection

Connection Facilities

The power module and the expansion module each control two (2) zones with connections for two (2) thermostats and five (5) zone motors. You can connect up to five (5) 2-zone expansion modules (#40180) and one (1) Timer Modules (#40170) to one (1) power module (#40190). For individual control of 12 rooms or heating zones, with a maximum of 16 zone motors per power module.

Connecting the Modules

Simply line up the required modules, ensuring that nothing is obstructing the pins and push the modules gently together.



Installation

Installing the Power Modules (#40190)

Connect 24vac power to the terminal strip ①. The required transformer size is dependant on the total zone motors connected to the transformer. A 40VA transformer will handle up to 16 zone drive motors. Do not connect anything else to this transformer.

When the module is properly connected and under power the indicator light ④ will light up

Pump/Boiler Switching ②

When a thermostat calls for heat, the pump and/or boiler is switched on with no delay if temperature setback is off and after a 4 minute delay if temperature setback is on (using Channel 1). When no thermostat demands heat, the pump and/or boiler is automatically switched off after a user adjustable 0, 3, 5 or 10 minutes as an allowance for the slow acting zone drive motors. To adjust the “off” time delay, move the jumper plug to the desired position (0, 3, 5 or 10 minutes). Connect the StatLink® pump relay to the DC terminal strip ②. This is a 24 V DC output, do NOT use any other relay then a StatLink® DC pump relay. DPDT and TPDT relays are available separately or mounted on a DIN rail in an electrical enclosure.

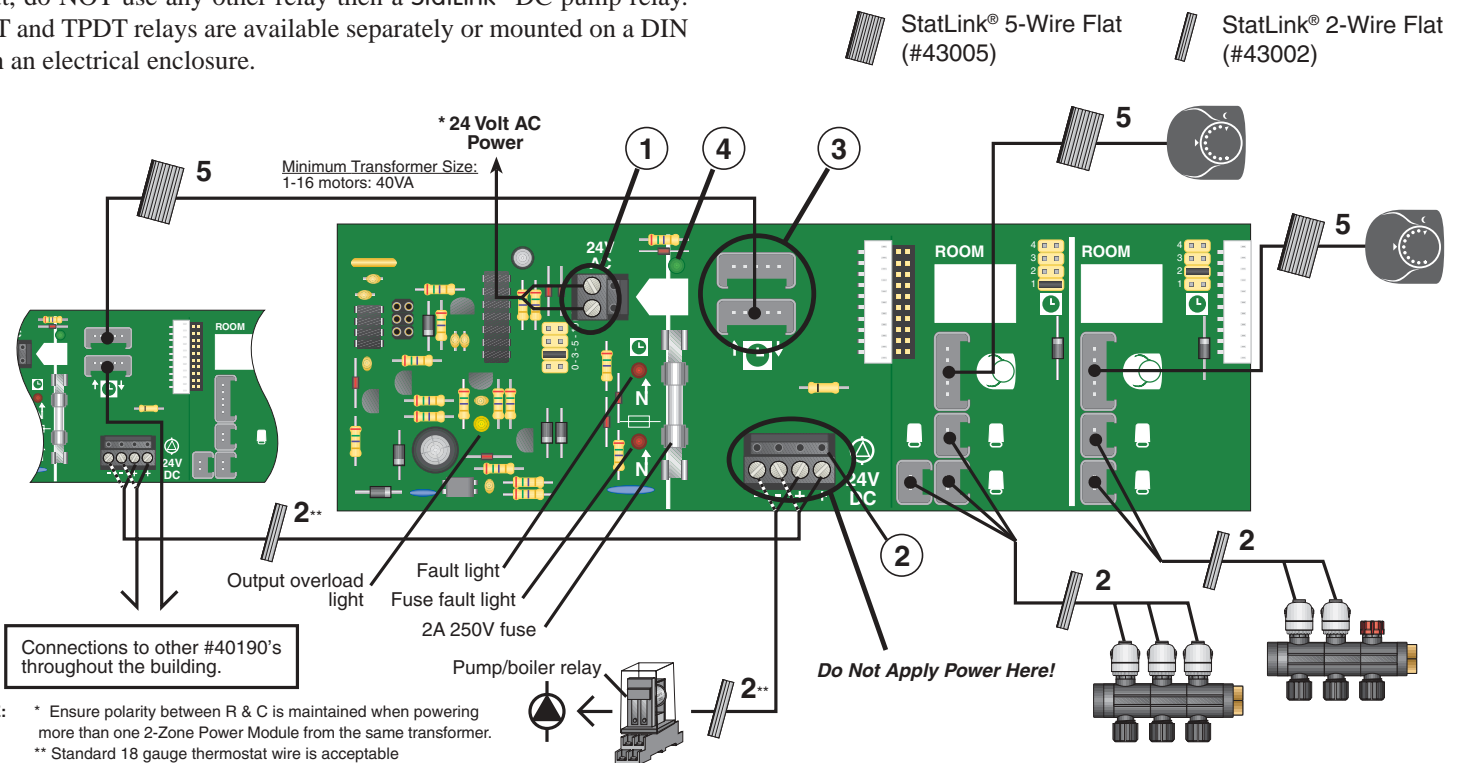
Interconnecting Multiple Power Modules (#40190)

Setback Switching Extension ③

Only one setback module (#40170) is necessary for the entire building. Use the StatLink® 5-wire flat (#43005) with the 5-wire plugs (#43205) for interconnecting multiple power modules (observe coding; i.e. “black to black”). Plug each end into one of the counterplugs ③ on each of the modules to be connected.

Pump/Boiler Switching Extension ②

Only one pump/boiler relay is necessary for the entire building. Use StatLink® 2-wire flat (#43002) or standard thermostat wire for interconnecting multiple power modules. Connect each end to the DC terminal strip ②. One positive (+) and one negative (-) connection must be made. **Ensure that “+” to “+” and “-” to “-” wiring is maintained.** Mixing “+” and “-” will damage the unit. Any one of the two (2) “+” or the two (2) “-” terminals can be used interchangeably.



Power Module Data

Pump/Boiler “On” Delay

- 0 min when setback is off
- 4 min when setback is on (using Channel 1)

Pump/Boiler “Off” Delay (user selectable via jumper plug)

- 0 min jumper position 1
- 3 min jumper position 2
- 5 min jumper position 3
- 10 min jumper position 4

Relay Output

- U_{Rel} = 20 to 36 Vdc @ 24 Vac \pm 15%
- I_{Rel} \leq 70 mA
- I_{Short} \leq 110mA for $t < 10$ ms, after this time the relay automatically disconnects (every 2 s it will attempt to reconnect until it does connect)

LED Lights

- Green 24 Vac power has been applied
- Red (top) bad connection to thermostat
- Red (bottom) defective fuse
- Yellow AC - different phase or DC - polarity reversed

Hardware and Software

- Microcontroller controlled with internal timer and burn-out-detection
- Tests the jumper connection 10 times every 20 ms
- Test the pump connection 20 times every 10 ms
- Test the setback connection 100 times every 1.25 ms
- Watchdog 15 ms


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Connecting the Thermostats and Zone Motors

Use the StatLink® 5-wire flat (#43005) with the 5-wire plugs (#43205) to connect the thermostats to the StatLink® modules. (observe coding; i.e. “black to black”). Simply connect a 5-wire plug to the end of the wire coming from the thermostat and plug it into the connection ①. Use the room identification test kit (#44100) to identify which wire belongs to which thermostat. Plug the appropriate zone motors into the connection ②. If the 2-wire cable on the zone motor is not long enough use the StatLink® 2-wire flat (#43002) with the 2-wire plugs (#43202) and the 2-wire couplings (#43102) to connect the zone motors to the StatLink® modules.

 StatLink® 5-Wire Flat (#43005)

 StatLink® 2-Wire Flat (#43002)

Wiring

The maximum length of cabling per room for ① + ② is 30 meters (100 feet)

Cable ①: 5 strand #43005

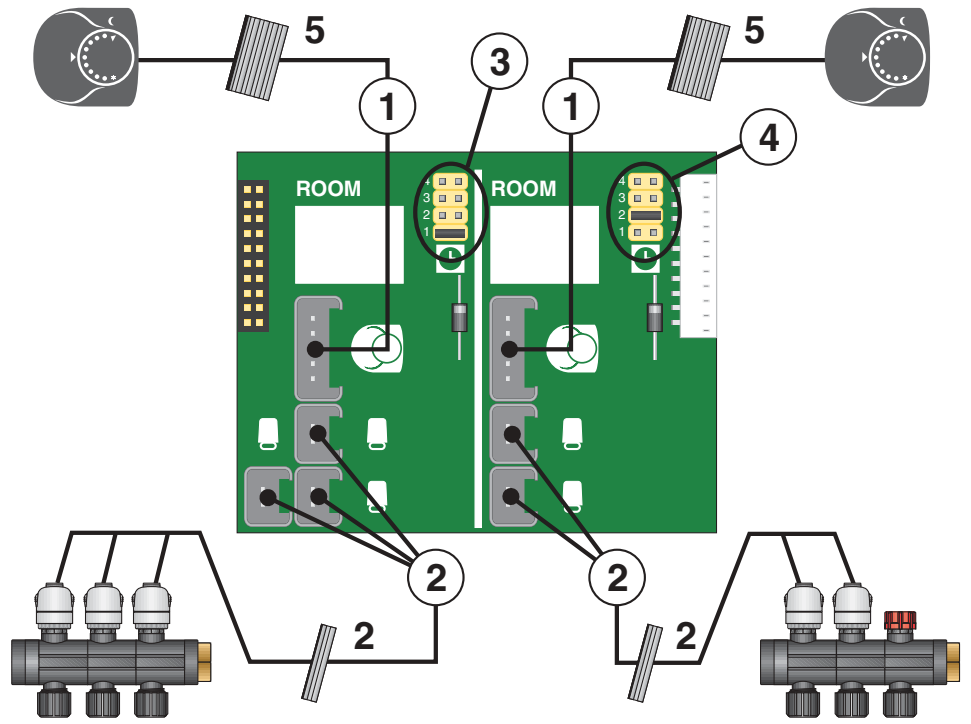
Cable ②: 2 strand #43002

Channel Selection

Only applicable together with the setback module (#40170) or the clock thermostat (#46155). The setback programs of these timers are automatically available for each room via the StatLink® power and expansion modules.

The setback programs are divided into channels 1 to 4. By means of the jumpers ③ and ④ each zone can access the desired setback program. When used with the clock thermostat each zone that is on the same channel as the clock thermostat will access that setback program.

Note: The setback module (#40170) accesses channel 1 and 2 only.



Plug Assembly

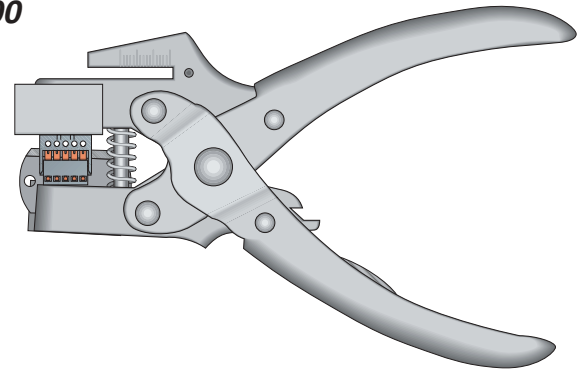
Method of Assembling Plugs

The 2 and 5 wire plugs should be connected to the cabling with the crimping pliers. They ensure even force distribution, and won't destroy the plug ends.

DO NOT USE REGULAR PLIERS!

Installation Note: Black wire connects to the black side of the plug!

#44200



Improper Wiring Effects on the Power Module

One Power Module with Setback

Power Wiring	Pump Wiring	Relay Output
same phase	same phase	normal function
opposite phase	same phase	one or both fuses blow
same phase	opposite phase	relay does not switch
opposite phase	opposite phase	one or both fuses blow

One Power Module without Setback

Power Wiring	Pump Wiring	Relay Output
same phase	same phase	normal function
opposite phase	same phase	relay switches on, then quickly off
same phase	opposite phase	relay does not switch
opposite phase	opposite phase	relay does not switch

Two Power Modules with Setback

Power Wiring	Pump Wiring	Relay Output
same phase	same phase	normal function
opposite phase	same phase	one or both fuses blow
same phase	opposite phase	relay does not switch
opposite phase	opposite phase	relay does not switch

Two Power Modules without setback

Power Wiring	Pump Wiring	Relay Output
same phase	same phase	normal function
opposite phase	same phase	normal function
same phase	opposite phase	relay does not switch
opposite phase	opposite phase	relay does not switch

Power input of the attached relay is too high or short circuited.

The Power Module tries every 2 seconds to turn on. If the overload or short circuit is eliminated then the Power Module will operate normally.