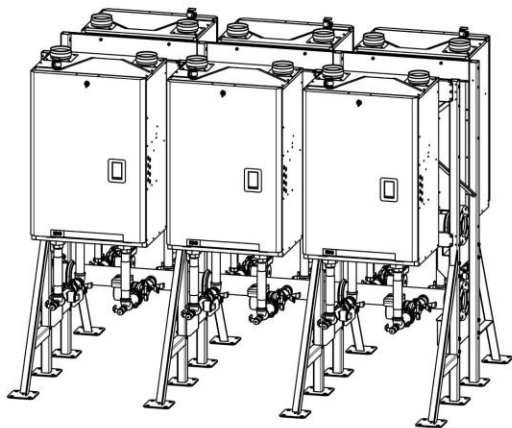
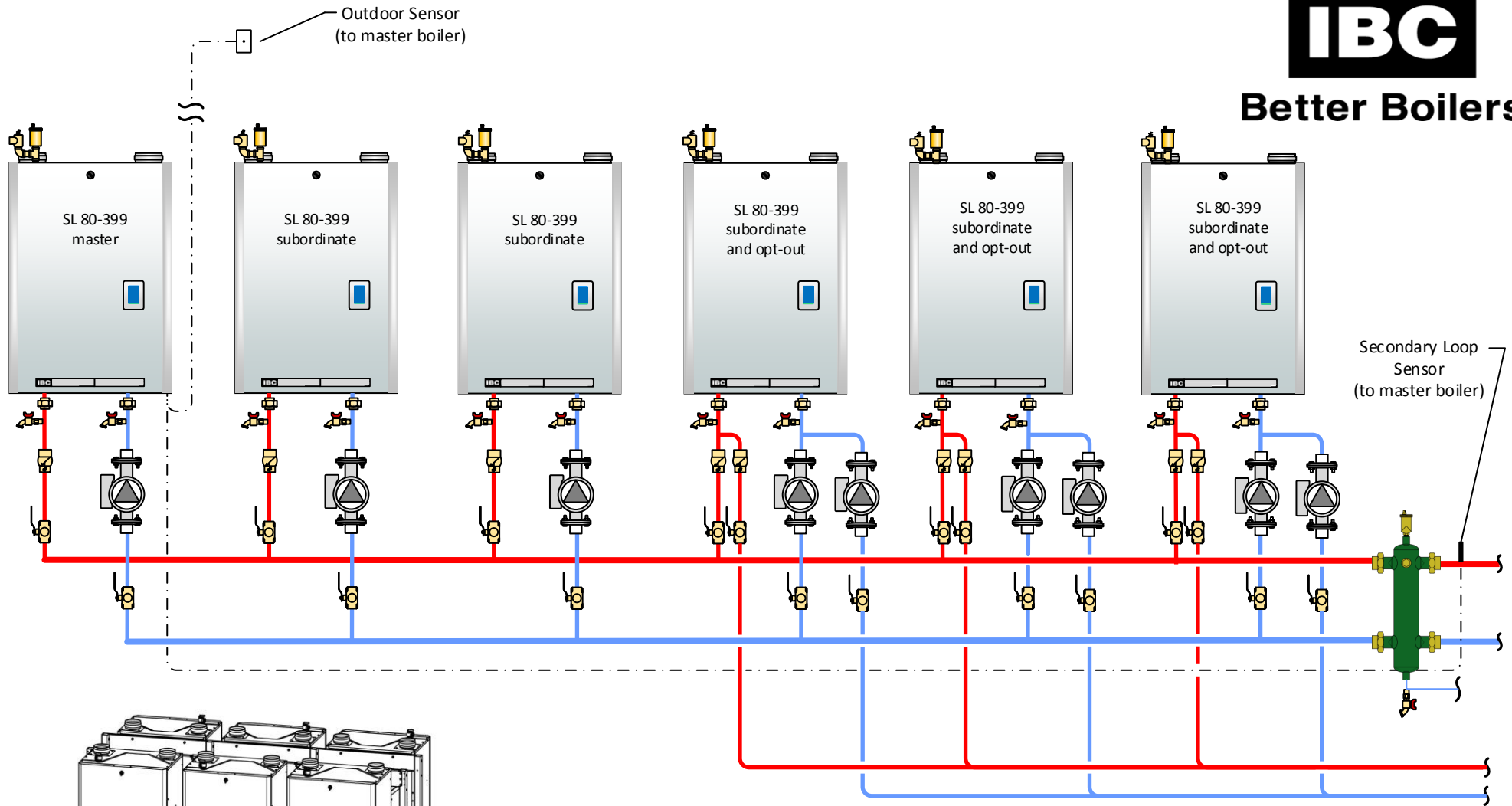




# Better Boilers



### Notes

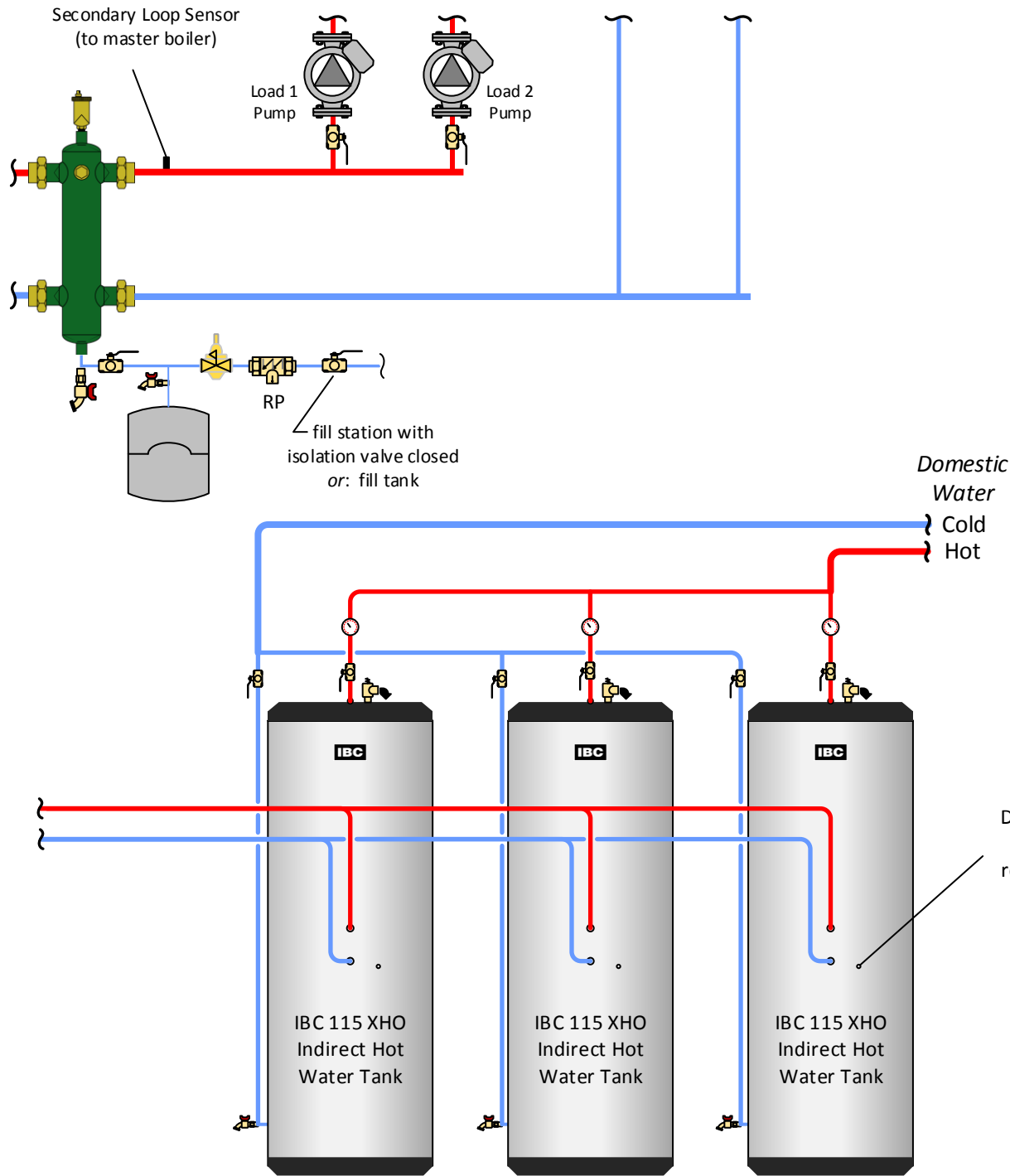
- See p.2 for load piping.
- See p.3 electrical diagram
- 6-Boiler back-to-back Multiplex racking system shown, IBC part 90-168. System comes complete with Boiler racking, UPS 43-44 boiler pumps, near boiler piping, valves, check valves and 4" manifold headers.

CAUTION: This drawing is a simple schematic guide to a successful installation. There may be many necessary components not shown here. We require that our boilers be installed by licensed and experienced trades people who are familiar with the applicable local and national codes. System design is to be completed by an experienced hydronic designer or Engineer. It is necessary to carefully read and follow the installation instructions that come with the boiler along with the application drawing that fits your system.

|   |  |                                    |                |
|---|--|------------------------------------|----------------|
| IBC 399 6.2.ind   |  | IBC SL 80-399 6 boiler network DHW |                |
| DRAWN BY<br>BRAD POULSEN  |  | DATE<br>16/06/2016                 |                |
| DESCRIPTION<br>Multi-boiler multi-load installation with three Extra High Output Indirect Tanks on opt-out. |  |                                    |                |
|   |  |                                    | PAGE<br>1 OF 3 |



# Better Boilers



### Notes

- Recommended DHW opt-out pumps UPS 43-100 on speed two, or other pump sized for 28 gpm and 16 feet of head.
- Reverse return piping on Domestic piping (shown) delivers equal temperature water to all three tanks for added redundancy.

### Programming Note

- For the three opt-out boilers: small differences in *DHW Tank Differential* will stagger boilers and help prevent short-cycling. Preliminary recommended settings for the *DHW Tank Differential* temperatures on the 3 opt-out boilers are 5°F, 8°F and 12°F. *DHW Tank Setpoint* temperature to be set identically across all three.

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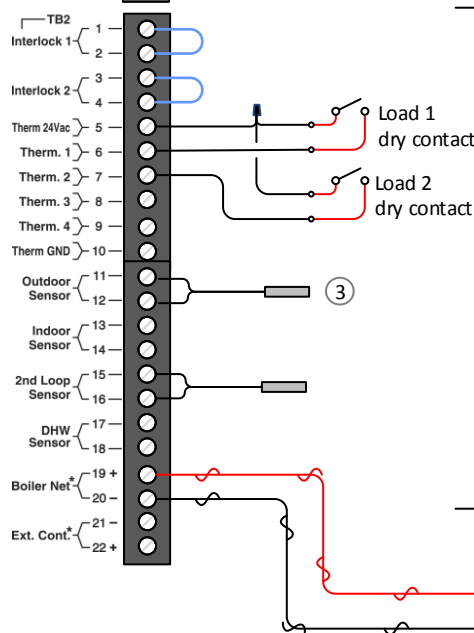
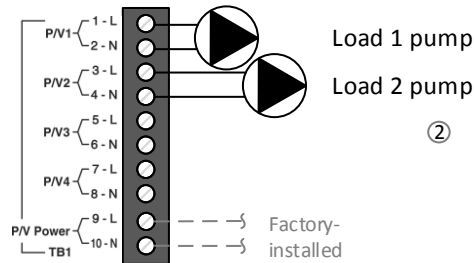
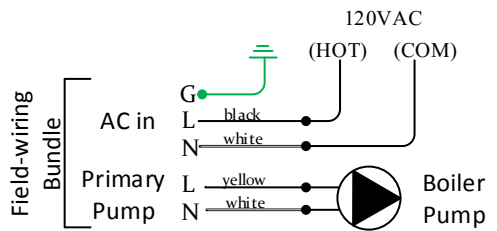
|   |                                    |
|---|------------------------------------|
| IBC 399 6.2.ind   | IBC SL 80-399 6 boiler network DHW |
| DRAWN BY<br>BRAD POULSEN  | DATE<br>16/06/2016                 |
| DESCRIPTION<br>Multi-boiler multi-load installation with three Extra High Output Indirect Tanks on opt-out. |                                    |
| PAGE<br>2 OF 3  |                                    |



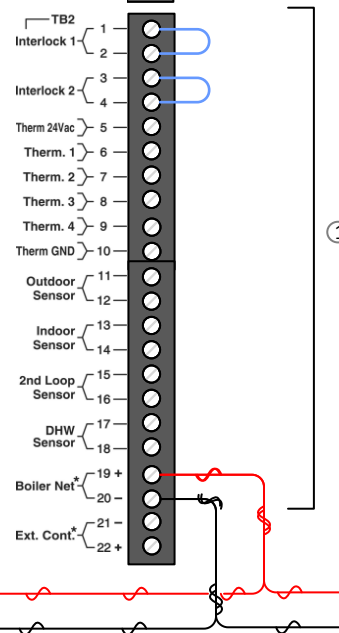
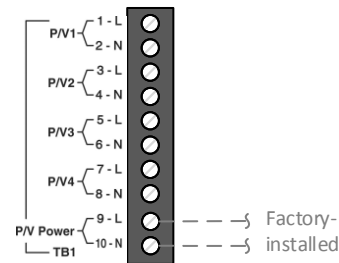
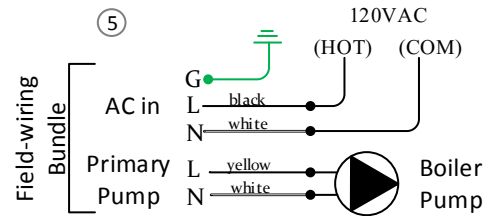
# Better Boilers

## Wiring Diagram

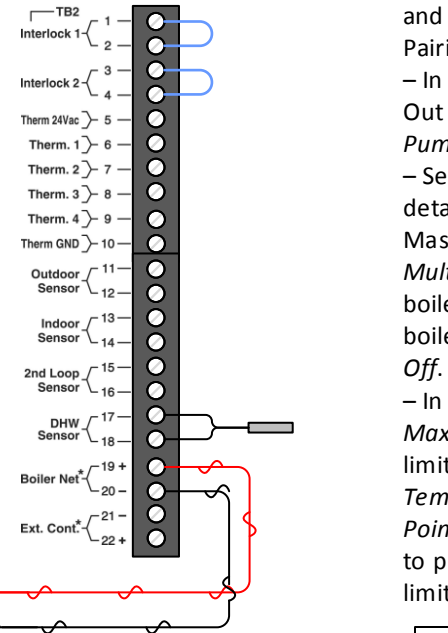
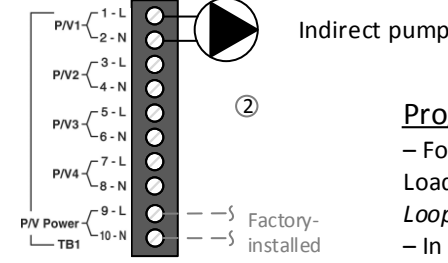
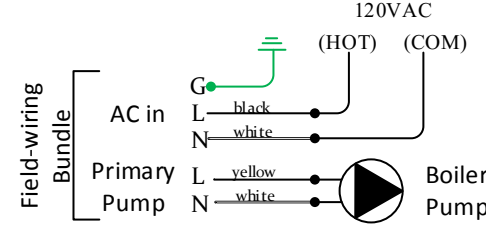
### Master Boiler



### Middle Subordinate Boilers – 4 to have JA02 removed



### Subordinate Boiler – typical of 3 Opt-Out Boilers



### Programming Notes

- For Master Boiler, in *Installer Setup* menu set Load 1 as *DHW*. Set *Water ° From to Secondary Loop*.
- In the same *Installer Setup* menu set Loads 1 and 2 for desired values; use Zoning or see Load Pairing Tech Memo as needed.
- In the *Installer Setup* menus for all *DHW Opt-Out* boilers, define Load 1 as *DHW*. Set *Boiler Pump to Off*. See Programming Note p. 2.
- See memo *Multiple Boiler Systems* for full details about network configuring. For the Master Boiler only, in *Installer Setup Menu / MultiBoiler*, turn Master Boiler to *On*, and define boiler ID as “1”. Set boiler ID at subordinate boilers to “2”, “3”, etc., leaving Master Boiler *Off*.
- In *Installer Setup Menu / Edit*, for any load: *Maximum Supply Temperature* acts as a high limit. The operating limits *Design Supply Temperature* (for Reset Heating) or *Supply Set Point* (for Set Point) must remain below this limit to prevent the boiler from cycling off on a safety limit.

### Wiring Notes

- No external voltages to be applied to TB2 control terminal strip connections 1-20.
- Pump circuits are fused for a total draw of 5A; maximum amperage draw of 4A per pump is recommended.
- Outdoor sensor installed on a North-facing exterior wall for accurate exterior air temperature reading.
- Boiler network wires are polarity-sensitive, and must be twisted once per inch, and not be routed parallel to line voltage wires
- Boilers 2 through 5, being non-terminal boilers in the network, have their Jumper A02 removed, as illustrated in *Multiple Boiler Systems Tech Memo* (or see Touch Screen manual page 25).

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|  |            |                                    |        |
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| BRAD POULSEN   | 16/06/2016 |                                    |        |
| DESCRIPTION  |            |                                    |        |
| Multi-boiler multi-load installation with three Extra High Output Indirect Tanks on opt-out. |            |                                    |        |
| PAGE   |            |                                    |        |
|  |            |                                    | 3 OF 3 |