INSTALLATION INSTRUCTIONS

Model SWC5 Hydronic Heating Control.

Features:
- Controls five heating zones plus a domestic hot water priority zone.
- Expandable by adding additional SWC5 Controls.
- Controls external DHW circulator and System Circulator.
- Can be expanded to control separate system circulators in applications with both low temperature in-floor installations and high temperature baseboard radiators.
- Simplifies and consolidates all hydronic control wiring.
- UL Listed. UL 873 Standard for Temperature Indicating and Regulating Equipment.

Operation: When a zones thermostat calls for heat, the associated zone valve motor is energized. Upon closure of the associated Zone Valve end switch, the system circulator is energized. If there is a call for heat from the domestic hot water tank, the system circulator is de-energized and the DHW circulator is energized. If terminals P1 and P2 are connected with a jumper, the System circulator also continues to run when there is a DHW call for heat. When any zone valve end switch is closed or when there is a DHW call for heat, the boiler is activated by a contact closure on the boiler TT leads. Multiple SWC5 controls can be interconnected as shown in the following figures. Wiring between multiple SWC5 controls expands 24VAC and End Switch connections. DHW priority can be maintained across multiple SWC5 Controls.

Power Input: 120VAC, Class 1, 10 Amps maximum. 24VAC, Class 2, 100VA maximum.

Power Outputs: 120VAC, Class 1:
- DHW Circulating Pump, 1/6th HP, 2A maximum.
- System Circulating Pump, 1/6th HP, 2A maximum,
- 120VAC to external Class 2 transformer.
- Expansion to additional SWC5 Controls via terminal P2, 2A maximum.

Thermostats: Thermostats are interconnected to zone valve actuators through the SWC5 Control. The Heat Anticipator setting for each thermostat is determined by the zone valve motor current demand.

Zone Valves: The Zone Valves used with the SWC5 Control must have an end switch. Either 3 wire or 4 wire zone valves can be used. See the attached figures for wiring information.

External Transformer: The external transformer must have a VA rating greater than the total load of all zone valves and thermostats combined, with a maximum rating of 100 VA. Example: 5 thermostats at 1 VA each plus 5 zone valves at 7 VA each equals 40 VA. The suggested transformer would have a 50VA rating.

Indicators: Power-Green, illuminated when 24VAC is present. Zone 1 through 5-Red, illuminated when the associated thermostat is calling for heat. DHW CIRC-Red, illuminated when the Domestic Hot Water Circulator is energized. SYSTEM CIRC-Red, illuminated when the System Circulator is energized.

Warning: Follow all local and national electrical codes. Use Copper wire only. Keep all 120VAC, Class 1 wiring separate from Class 2, 24VAC wiring. Failure to follow this warning could result in electrical shock hazard that could lead to injury or death.

LIMITED WARRANTY

DW Sales Corporation will repair or replace this control if shown to be defective within 24 months of manufacture. DW Sales Corporation shall not be responsible for any cost other than the original purchase price of this control. Any claim for replacement or repair must be made in writing directly to DW Sales Corporation and the control under consideration must be returned prior to refund or replacement.

DW Sales Corporation, P O Box 4945, 503 Gregg Drive, Buena Vista, Colorado, 81211
SINGLE SWC5 CONTROL INSTALLATION INSTRUCTIONS

FIVE ZONE RADIANT HEAT WIRING EXAMPLE WITH DOMESTIC HOT WATER PRIORITY

USE COPPER WIRE ONLY
FOLLOW ALL LOCAL BUILDING CODES

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MODEL SWC5 RADIANT HEAT CONTROL

24VAC CLASS 2 ONLY

SWC5 CONTROL BOARD
ALL 120VAC, CLASS 1 WIRING
MUST BE SEGREGATED FROM
24VAC, CLASS 2 WIRING
120VAC CLASS 1 ONLY

120VAC 10 A MAXIMUM

1/6 HP MAXIMUM
DHW CIRCULATOR

1/6 HP MAXIMUM
SYSTEM CIRCULATOR

THE VA RATING OF THE EXTERNAL CLASS 2 TRANSFORMER MUST BE GREATER THAN THE TOTAL LOAD OF ALL THERMOSTATS AND ZONE VALVES COMBINED, 100 VA MAXIMUM.
SWC5 INSTALLATION INSTRUCTIONS FOR THREE WIRE ZONE VALVES WITH DOMESTIC HOT WATER PRIORITY

THIS DRAWING DESCRIBES TYPICAL WIRING OF THREE WIRE ZONE VALVES THAT HAVE A COMMON MOTOR AND END SWITCH LEAD.

MODEL SWC5 RADIANT HEAT CONTROL
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Note: LED Zone indicator for active zones is reversed.

SWC5 CONTROL BOARD
ALL 120VAC, CLASS 1 WIRING MUST BE SEGREGATED FROM 24VAC, CLASS 2 WIRING

THE VA RATING OF THE EXTERNAL TRANSFORMER MUST BE GREATER THAN THE TOTAL LOAD OF ALL THERMOSTATS AND ZONE VALVES COMBINED, 100 VA MAXIMUM

USE COPPER WIRE ONLY
FOLLOW ALL LOCAL BUILDING CODES
SWC5 INSTALLATION INSTRUCTIONS FOR TWO INTERCONNECTED CONTROLS WITH DOMESTIC HOT WATER PRIORITY

THIS DRAWING DESCRIBES TYPICAL WIRING OF TWO SWC5 CONTROLS. CONNECTIONS ARE MADE TO CONTROL DOMESTIC HOT WATER AND UP TO TEN HEATING ZONES.

THE VA RATING OF THE EXTERNAL CLASS 2 TRANSFORMER MUST BE GREATER THAN THE TOTAL LOAD OF ALL THERMOSTATS AND ZONE VALVES COMBINED, 100 VA MAXIMUM.

USE COPPER WIRE ONLY
FOLLOW ALL LOCAL BUILDING CODES

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SWC5 INSTALLATION INSTRUCTIONS FOR TWO INTERCONNECTED CONTROLS WITH DOMESTIC HOT WATER PRIORITY PLUS 2 DIFFERENT TEMPERATURE DISTRIBUTION MANIFOLDS

THIS DRAWING DESCRIBES TYPICAL WIRING OF TWO SWC5 CONTROLS. CONNECTIONS ARE MADE TO CONTROL DOMESTIC HOT WATER, UP TO 5 ZONES OF INFLOOR HEATING AND UP TO 5 ZONES OF BASEBOARD HEATING.

SWC5 CONTROL BOARD
ALL 120VAC, CLASS 1 WIRING MUST BE SEGREGATED FROM 24VAC, CLASS 2 WIRING.

MODEL SWC5 RADIANT HEAT CONTROL
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SINGLE SWC5 CONTROL INSTALLATION INSTRUCTIONS
RADIANT HEAT WIRING EXAMPLE WITH DOMESTIC
HOT WATER PRIORITY AND REMOTE TELESTAT MANIFOLDS

MODEL SWC5 RADIANT HEAT CONTROL
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Interconnect with Telestat Connection Boards (typical)

Remote Telestat Manifold with 2 Zones,
3 Loops on 1A, 2 Loops on 1B

Zone 1A
Zone 1B

Continue similar wiring for primary zones 3, 4, and 5.
Consult multiple SWC5 wiring diagrams for more than 5 primary zones

Remote Telestat Manifold with 3 Zones
3 Loops on 2A, 1 Loop on 2B, 2 Loops on 2C

Zone 2A
Zone 2B
Zone 2C

This wiring is typical for an INF5 Manifold Board in an installation
using multiple remote secondary zones per main primary zone.