

iO-GEO

RADIANT FLOOR AND FORCED AIR GEOTHERMAL INTERFACE PANEL

PRINCIPLE OF OPERATION

Heating Mode

The iO-GEO interface panel is designed to control a radiant floor heating system and a forced air heat pump from a 3-stage heat / 2-stage cool thermostat. On a call for first stage heat, the panel will energize the radiant floor pump or valve by closing a set of dry contacts. The fan will also be brought on at the same time. The contacts are labeled 'FL' on the panel terminal strip. On a call for second-stage heat, the panel will energize the first-stage heat pump compressor. On a call for third-stage heat, the panel will bring on the electric auxiliary heat. If the unit has a second-stage compressor, it will not be used during the heat mode.

Cooling Mode

On a call for first-stage cooling, the panel will energize the first-stage heat pump compressor and fan. On a call for second-stage cooling, the panel will energize the second-stage compressor.

The iO-GEO is for heat pumps that energize the reversing valve on a call for cooling (O).

INSTALLATION

To install the panel, first slide the PC board out of its base and screw the base to a flat surface in a location that allows easy access to wiring. Reinstall the PC board by carefully centering it over the base and snapping it into the track grooves.

The iO-GEO receives its power from the forced air heat pump unit. Standard 18-gauge thermostat wire is required. The thermostat and equipment can be located up to 300 feet from the panel.

Wire the heat pump thermostat to the terminals marked 'HEAT PUMP THERMOSTAT'

Wire the radiant floor heating valve, pump or relay to the 'FL' terminals.

Wire the forced air heat pump to the 'FORCED AIR HEAT PUMP UNIT' terminals.

A separate hot water reset control must be installed unless it is being supplied as part of the geothermal heat pump.



LED INDICATION IN HEAT MODE:

FL	Radiant floor heat
Y1	First stage compressor
Y2	(no function)
W	Auxiliary heat
O	Not used in heating
G	Fan
R	24 Volt Hot
E	Emergency heat

LED INDICATION IN COOL MODE:

FL	(no function)
Y1	First stage compressor
Y2	Second stage compressor
W	(no function)
O	Reversing valve
G	Fan
R	24 volt hot
E	(no function)

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RADIANT + 2 HEAT / 1 COOL HP

The iO-GEO panel requires a 3 heat / 2 cool heat pump thermostat. For single compressor heat pump applications, refer to System Configuration 1 wiring diagram.

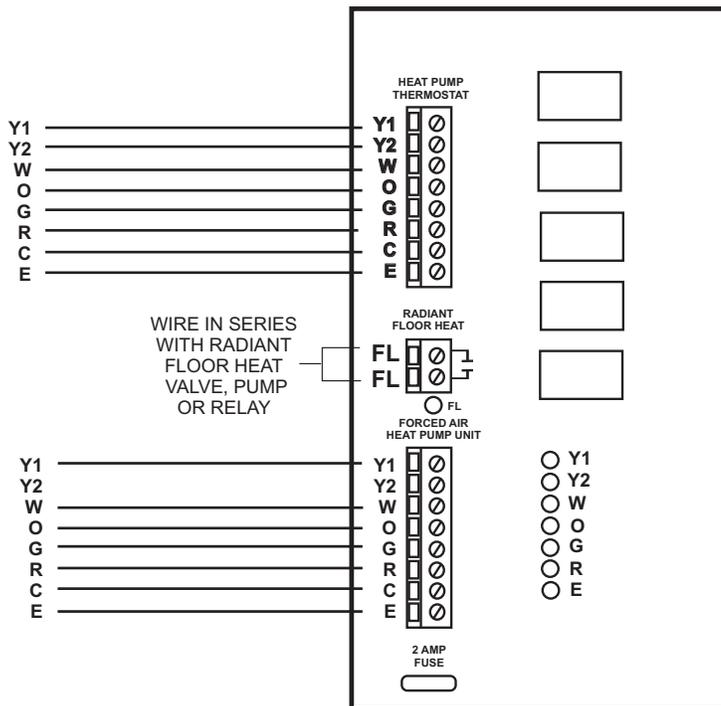
HEATING

INPUT	OUTPUT
Y1	FL
Y2	Y1
W	W
G	G
E	E

COOLING

INPUT	OUTPUT
Y1	Y1
O	O
G	G

SYSTEM CONFIGURATION 1



RADIANT + 2 HEAT / 2 COOL HP

For 2-stage compressor heat pump applications with auxiliary heat, refer to System Configuration 2 wiring diagram. In the heating mode, second-stage compressor is not used.

HEATING

INPUT	OUTPUT
Y1	FL
Y2	Y1
W	W
G	G
E	E

COOLING

INPUT	OUTPUT
Y1	Y1
Y2	Y2
O	O
G	G

SYSTEM CONFIGURATION 2

