Application Note 3039: Thermostat Interface Installation with Zoning System

Table of Contents

Introduction

This application note is to explain the wiring process between the Mitsubishi Thermostat Interface (PAC-US444CN-1) and the Honeywell Zoning system (HZ221).

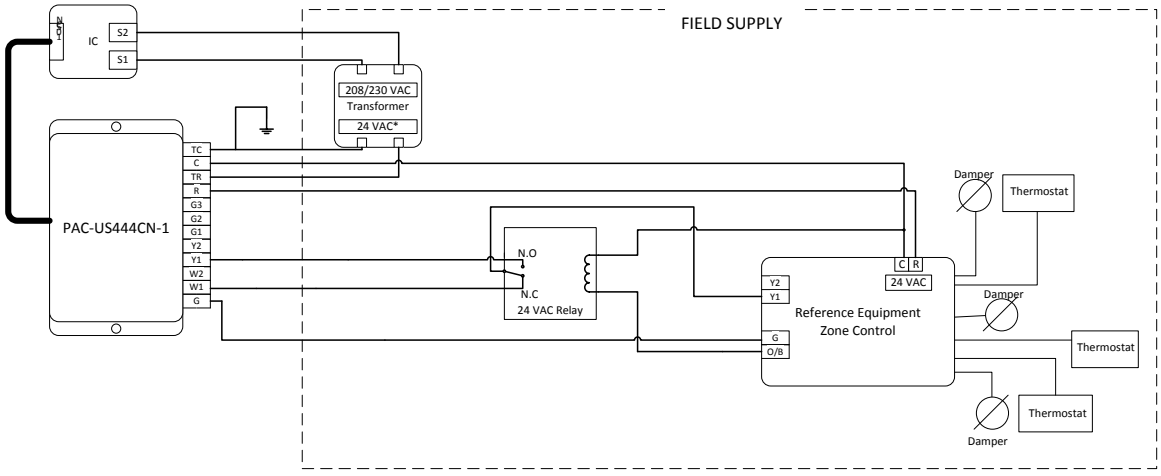
This is only a reference guide for wiring the thermostat interface. Duct sizing, bypass damper, static pressure settings, and local code requirements must be followed and developed per application.

***Note: Local codes take precedence over recommendations contained in this document.**

Wiring Information

The Thermostat Interface takes the incoming signals from an open/close switch to the air conditioner and outputs the on/off signals from the air conditioner to the back-up heater. The wires are polarity sensitive so it is necessary to double check the orientation before powering on the unit. See figure 2 for the wiring diagram.

Figure 1: Thermostat Interface



*NOTE: Up to 40 VAC for Honeywell
System shown as an example only.
Please refer to the equipment manual for system details.

Figure 2: Wiring Diagram Note

The Thermostat Interface dip switches must be changed in order to allow for advanced functionality to be supported. When received, the dip switches will be in the default off position.

To change the static pressure of the system, dip switches SW2-1, SW2-2, and SW2-3 on the Thermostat Interface will need to be set. Please refer to the applicable Indoor Unit manual for more information. This may change depending on duct size, building insulation quality, and other reasons.

Table 1: External Static Pressure Settings

DIP switch position on PAC-US444CN-1			Indoor Unit Settings	
SW2-1	**SW2-2**	**SW2-3**	**Mode 8**	**Mode 10**
OFF	OFF	OFF	Not set	Not set
OFF	OFF	ON	Not set	Not set
OFF	ON	OFF	2	1
OFF	ON	ON	2	2
ON	OFF	OFF	1	1
ON	OFF	ON	1	2
ON	ON	OFF	3	1
ON	ON	ON	3	2

Table 2: Mode Information

Setting	Mode 8: Auto Fan (Speed Setting)	Mode 10: High Performance Filter Installed
1	Quiet	NO
2	Standard	YES
3	High Ceiling	Not Supported

Thermostat Operation

To set the two stage indoor unit operation, SW2-6 will need to be set to on. When the third party thermostat calls for 1st stage of heat, the thermostat interface will change the indoor unit mode into heat and will optimize the variable capacity. When the 2nd stage of heat is requested, the thermostat interface will change the indoor unit mode into heat and ramp the indoor unit to full capacity.

Table 3: Two Stage Thermostat Operation

SW2-6	Operation during stage 1
OFF	Full capacity
ON	The capacity is adjusted so that the room temperature is adjusted (heated or cooled) at a fixed rate.

It is REQUIRED that both SW1-1 and SW1-2 be changed to ON in order to have the time delay set to zero. If the time delay is set to a period of time other than zero, the unit will continue to blow air with the dampers closed. See table 4 for the dip switch settings.

Table 4: Delayed Off Dip Switch Setting Table

SW1-1	SW1-2	Result
OFF	OFF	5 minutes (Default)
ON	OFF	10 minutes
OFF	ON	30 minutes
ON	ON	0 minutes

Bypass Damper General Information

Although many units supplied by Mitsubishi Electric do not require dampers, the air handlers (MVZ, PVA, and PEAD) can be combined with dampers in order to maintain the temperature in each zone. When wiring these products, please see the necessary wiring diagram in the bypass damper instruction manuals to verify installation with the Mitsubishi Electric system.

***Note: Local codes take precedence over recommendations contained in this document.**