

APPLICATION NOTES



Application Note 3011: IO and W Series

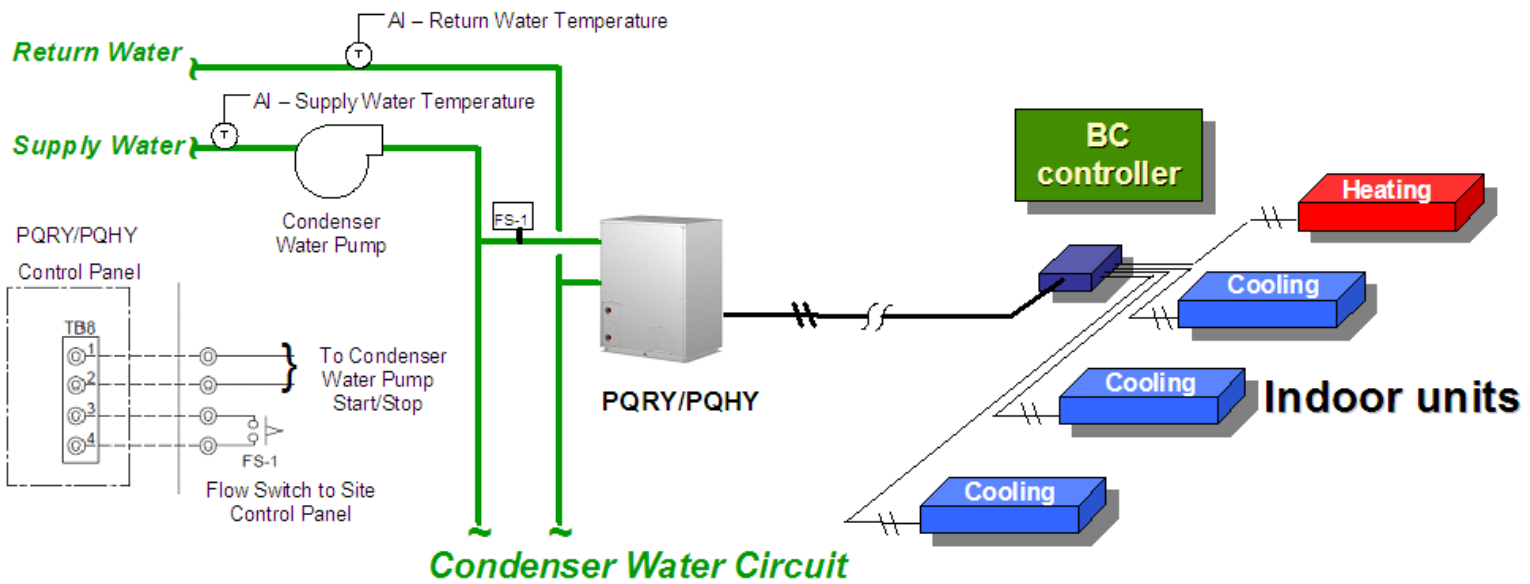


Figure 1. Input/Output (I/O) Controller and W-series (PQRY/PQHY) Outdoor Units

Table 1. Controls network alarms for water temperature

Point Description	Hardware Points			Functions			Alarms		
	Digital Output	Digital Input	Analog Input	Schedule	Trend	Display	High Limit	Low Limit	Abnormality
Pump Start/Stop									
Pump Status									
Pump Alarm									
Supply Water Temperature			X		X	X	X	X	X
Return Water Temperature			X		X	X	X	X	X

Sequence of Operation

The IO Controller and W-series Outdoor Unit setup is shown in Figure 1. The CITY MULTI® outdoor units shall start/stop the pump based on the system's call for condenser water flow. The CITY MULTI® Controls Network shall monitor the condenser supply water temperature and condenser return water temperature, display and trend temperatures via the AG-150/GB-50ADA/GB-24 Web Browser or TG-2000 as shown in Table 1. If the supply water temperature or return water temperature exceeds the preset high and low limits (user defined) then an alarm shall be generated.

Required Equipment

The Analog Input (AI) controller is used in conjunction AG-150/GB-50ADA/GB-24 to monitor temperature and humidity.

DIDO Controller

The Digital Input/Digital Output (DIDO) controller has 2 channels. Each channel consists of 1 DO for start/stop control, 1 DI for status monitoring and 1 DI for alarm input. Each channel will have 1 graphic displayed on the AG-150/TC-24 Centralized Controller's display, the AG-150/GB-50ADA/GB-24 Centralized Controllers Web Browser, or via TG-2000 software.

Channel (2 per DIDO Controller)

DO – Start/Stop
DI – Status
DI – Alarm

The DIDO Controller requires a 24 VDC power supply (PSMN-40A24DS). A 24 VDC interposing relay (RIBMU2C-Dual 24 VDC Relay) is also required.

AI Controller

The AI controller has 2 inputs for monitoring and trending temperature and/or humidity. Each input can have user-defined high and low limits. Alarm limits can be set by the user to allow for alarms to be generated should the water temperature rise or fall outside the preset limits. Each analog input requires a 0-10 VDC, 4-20 mA or 1-5 VDC signal from a field-supplied temperature and humidity sensor. Each channel will have 1 graphic displayed on the AG-150 Centralized Controller's display, the AG-150/GB-50ADA/GB-24 Centralized Controllers Web Browser or via TG-2000 software.

Temperature and/or humidity trending can be done via the AG-150/GB-50ADA/GB-24 Web Browser, or via TG-2000 software.

The AI Controller requires a 24 VDC power supply (PSMN-40A24DS).

Notes:

1. Not all inputs and outputs listed may be available on third-party equipment.
2. Additional field-supplied devices may be required to provide inputs and outputs listed.
3. DIDO and AI controllers are not available for fire and life safety control.
4. DIDO and AI controllers are not supported by the BACnet™ and LonWorks® interfaces.
5. AI controller is not supported by the TC-24 Centralized Controller.