# SIEMENS

**MechTronics Controls**
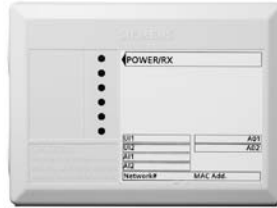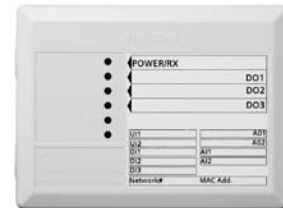www.hvacusa.com
Phone (877) 632-4876

# Siemens MS/TP Point Pickup Module



**6 Point Digital**



**6 Point Analog**



**12 Point Combination**

## Description

The Siemens Point Pickup Modules (PPM) are expansion I/O devices that communicate on a BACnet master-slave/token-passing (MS/TP) network, allowing for the incorporation of a cluster of remote points into the Building Automation Station over the MS/TP network.

The PPM family leverages the MS/TP network to extend the reach of any BTL-listed BACnet Building Controllers application program.

Each Universal Input can be configured for analog or digital input. Input/Output type is configured by writing to BACnet object properties.

## Features

- Wide range of signal type support for flexible IO solutions.

- Device ID and Device name auto-populated for efficient start up (Device ID and Device name are also writable for customization).

- UL and cUL Listed as Enclosed Energy Management Equipment. No additional enclosure required.

- Evaluated and certified by UL as suitable for installation in plenum areas. (Building codes for plenum requirements vary by location, check with local building authority).

- LEDs, visible through the housing, indicate the power, communication, and DO status.

- Default communication at 19200 baud also supports 9600, 38400 and 76800 via DIP switch.

- 8-bit DIP switch to configure MAC address.

- Recover and resume communication on the network after a power interruption without operator intervention.

- Capable of mounting on electrical junction box without field modification or adaptors. (4 in. x 4 in. standard depth US box, 100 mm x 100 mm x 25 mm Asia/Pacific standard box.)

- DIN rail and surface mount installation also possible.

- Assembly has a cover label associated with the LEDs for easy labeling and identification.

- Supports unsolicited COVs when faster data point value updates are required.

## Hardware

### Controller Board

The controller interfaces with, but does not provide, direct control of the following external devices:

- Digital input devices (dry contacts from motion sensors, alarm and door contacts) or Accumulator (gas, water, electrical)

- Digital output devices (fans, pumps, lighting)

- Analog input devices (temp, humidity, flow, pressure)

- Analog output (valves, actuators)

| | | PPM Type | | |
| | | Digital PPM | Analog PPM | Combo PPM |
| --- | --- | --- | --- | --- |
| **I/O function** | **Description** | **Maximum number of functions per module** | | |
| **Digital inputs** | | | | |
| Binary Inputs | Status indication, voltage-free/dry contact | 4 | 2 | 5 |
| Counter | Count/accumulator, voltage-free/dry pulse contact | 3 | | |
| **Analog inputs w/ 12-bit A/D resolution** | | | | |
| | Temperature Pt 1000 385 | | 4 | 4 |
| | Temperature NTC 10K Type II | 1 | | |
| | Voltage, DC 0 … 10V | | 4 | 4 |
| | Current DC 4… 20 mA | | 2 | |
| **Digital outputs** | | | | |
| BO OnOff | NO Contact, 240Vac, 5A Resistive/ 2 A General Purpose | 2 | | 3 |
| **Analog outputs** | | | | |
| | DC 0..10 V | | 2 | 2 |

## MS/TP Point Pickup Modules Specifications

| | |
| --- | --- |
| Power Requirements Operating Range Power Consumption | Input power range of 19.2 Vac to 28.8 Vac (50 or 60 Hz) 4 VA to 7 VA |
| Universal Inputs | **6 Point Digital PPMs (PPM-1U32.BPR and PPM-1U32.BPF)** <br> 1- 10KΩ Type II NTC Thermistor or dry contact <br> **6 Point Analog PPMs (PPM-2U22.BPR and PPM-2U22.BPF)** <br> 2- 1000 Nickel RTD, 1000 Pt RTD, 0-10V, or dry contact <br> **12 Point Combination PPMs (PPM-2U3322.BPR and PPM-2U3322.BPF)** <br> 2- 1000 Nickel RTD, 1000 Pt RTD, 0-10V, or dry contact |
| Digital Outputs | **6 Point Digital PPMs (PPM-1U32.BPF and PPM-1U32.BPR)** <br> 2- Form A NO (Normally Open) Relays. 24 to 240 Vac, 5A resistive, 2A General Purpose, 5(2) <br> **6 Point Digital PPM (PPM-1U32.BPR)** <br> 2- Hand-Off-Auto switches provide manual operation of the relays for commissioning <br> **12 Point Combination PPMs (PPM-2U3322.BPF and PPM-2U3322.BPR)** <br> 3- Form A NO (Normally Open) Relays. 24 to 240 Vac, 5A resistive, 2A General Purpose, 5(2) |

| | |
|---|---|
| Analog Inputs | **6 Point Analog PPMs (PPM-2U22.BPF and PPM-2U22.BPR)** |
| | 2- 1000 Nickel RTD, 1000 Pt RTD, 0-10Vdc, or 4-20mA |
| | **12 Point Combination PPMs (PPM-2U3322.BPF and PPM-2U3322.BPR)** |
| | 2- 1000 Nickel RTD, 1000 Pt RTD, 0-10Vdc |
| Analog Outputs | **6 Point Analog PPM (PPM-2U22.BPF and PPM-2U22.BPR)** |
| | 2- 0-10 Vdc |
| | **12 Point Combination PPM (PPM-2U3322.BPF and PPM-2U3322.BPR)** |
| | 2- 0-10 Vdc |
| Digital Inputs | **6 Point Digital PPMs (PPM-1U32.BPF and PPM-1U32.BPR)** |
| | 3- Dry contact or Pulse accumulator |
| Dimensions | 4.5 in x 4.5 x 1.4 in (114.3 mm x 114.4 mm x 34.5 mm) |
| Weight | 0.8 lb max. including box |
| Communications Remote Local | BACnet MS/TP master or slave |
| | 9600 to 76800 baud set via DIP switch |
| Storage Temperature | -40°F to 158°F (-40°C to 70°C) |
| Operating Range | 32°F to 122°F (0°C to 50°C) 5% to 93% RH (non-cond.) |

## Ordering Information

| Part Number | Description |
|---|---|
| PPM-1U32.BPF | 6 Point Digital BACnet MS/TP Point Pickup Module, Fixed terminal blocks (1UI 3DI 2DO) |
| PPM-1U32.BPR | 6 Point Digital BACnet MS/TP Point Pickup Module, Removable terminal blocks and HOA switches (1UI 3DI 2DO) |
| PPM-2U22.BPF | 6 Point Analog BACnet MS/TP Point Pickup Module, Fixed terminal blocks (2UI 2AI 2 AO) |
| PPM-2U22.BPR | 6 Point Analog BACnet MS/TP Point Pickup Module, Removable terminal blocks (2UI 2AI 2 AO) |
| PPM-2U3322.BPF | 12 Point Combination BACnet MS/TP Point Pickup Module, Fixed terminal blocks (2UI 3DI 3DO 2AO 2AI) |
| PPM-2U3322.BPR | 12 Point Combination BACnet MS/TP Point Pickup Module, Removable terminal blocks (2UI 3DI 3DO 2AO 2AI) |
| PPM-DIN.RMB | BACnet MS/TP Point Pickup Module DIN rail mounting brackets(5 pair) |
| 550-975P100 | 3-wire 120 ohm 1/2W carbon composition resistor/each end of line terminator (pkg. of 100) |
| 550-974P10 | 3-wire RS-485 reference terminator for single earth ground termination at one end of network. |

# BACnet Protocol Implementation Conformance Statement (Abbreviated)

Date: 8 June 2010

Vendor Name: Siemens

Product Name: Siemens Point Pickup Module

Product Model Number: PPM-1U32.BPF, PPM-1U32.BPR, PPM-2U22.BPF, PPM-2U22.BPR, PPM-2U3322.BPF, PPM-2U3322.BPR

Applications Software Version: 1.2

Firmware Revision: 1.00

BACnet Protocol Revision: 135-2004

Product Description: BACnet MS/TP I/O expansion module.

BACnet Standardized Device Profile (Annex L): BACnet Application Specific Controller (B-ASC)

BACnet Interoperability Building Blocks Supported (Annex K):

DS-RP-B, DS-RPM-B, DS-WP-B, DS-COVU-B, DM-DDB-B, DM-DOB-B, DM-DCC-B,

Segmentation Capability: (None)

Standard Object Types Supported:

| PPM Type | Digital PPM | Analog PPM | Combination PPM |
|---|---|---|---|
| **Objects types supported** | AI, BO BI, Accumulator, Device | AI, AO BI, Device | AI, AO, BO, BI, Device |
| **PPM Part Number** | PPM-1U32.BPF PPM-1U32.BPR | PPM-2U22.BPF PPM-2U22.BPR | PPM-2U3322.BPF PPM-2U3322.BPR |

See additional documentation for optional and proprietary properties.

Data Link Layer Options:

MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400, 76800

MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800

Device Address Binding:

Is static device binding supported? No

Networking Options: (None)

Character Sets Supported:

ANSI X3.4

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