SIEMENS	DATA SHEET

WiPS 200 Series
Analog, Digital, and Pulse I/O Expansion Modules

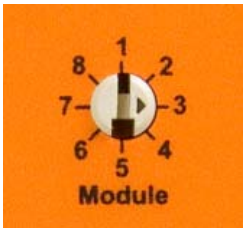
Description

I/O Expansion Modules provide a WiPS[1] 200 Series wireless network[2] with additional signal input and output capability. Each module plugs directly into a 5-pin bus connector on the side of a transceiver or another I/O module. This bus connector carries power and communications between the transceiver and I/O modules.

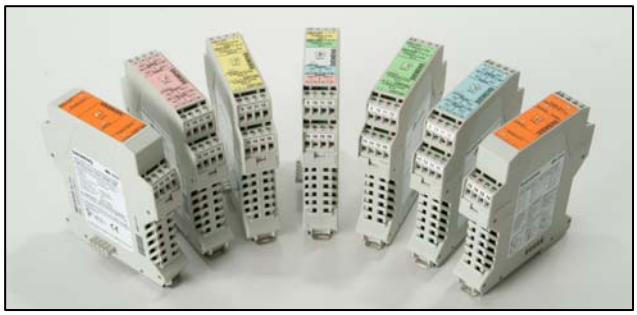
Up to eight (8) I/O modules may be connected to the *Master* transceiver. Up to eight (8) *complementary* I/O modules can then be connected to up to eight (8) *Remote* transceivers. I/O modules are installed in complementary pairs. For example, an input module at the *master* transceiver requires an output module of the same type at a *remote* transceiver*;* likewise, an output module at the *master* must have an input module at a *remote*. An on-line WiPS Configurator will help you utilize the full power of your controller or PLC.

Configuring I/O Module Addresses

Using a switch on the face of each module, see the graphic below, each complementary pair of I/O modules is assigned a module address. Available addresses are 1 through 8. Once assigned, that module address may not be used for another pair of I/O modules on that wireless network.



If module addresses conflict or are improperly set within a wireless network, the status LED will flash. A rapidly flashing LED indicates an "internal error" or a "module type mismatch". A mismatch occurs when two different module types (e.g. a digital module and an analog module) are assigned the same address, or two pairs of modules are assigned the same address. When the status LED is ON steady, module address settings are OK.



I/O Module Types

Description	Order Number
8-Channel Digital Input Module	TGX:16347-322
8-Channel Digital Output Module	TGX:16347-323
4-Channel Analog Input Module	TGX:16347-324
4-Channel Analog Output Module	TGX:16347-325
Combination Input/Output Module with one Analog Input Channel and two Digital Input Channels plus one Analog Output Channel and two Digital Output Channels	TGX:16347-326
2-Channel Pulse Input Module	TGX:16347-327
2-Channel Pulse Output Module	TGX:16347-328

Specifications

Digital Input Module

Channels.....8
Input Voltage Range.....5 to 30 Vac/Vdc, reverse polarity protected
Input Impedance.....20k Ohms
Status LEDs
  Module Status.....1
  Channel Status.....8
Channel Isolation.....Optical
Over-Voltage Rating.....100 Vac/Vdc maximum
Current Consumption.....30 mA maximum
Weight.....3.7oz (120 grams)

[1] WiPS – Wireless Process Solutions
[2] A WiPS-200 wireless network consists of 1 master transceiver, up to 8 remote transceivers, and up to 16 optional I/O Expansion Modules. I/O modules are also used with the DR300 300 Series Transceivers. Multiple wireless networks can be installed at a plant site.

Digital Output Module

Channels ..... 8 digital relay outputs
Output Terminal..... Dry contact, normally open
Contact Rating..... 2A @ 250 Vac/30 Vdc resistive
Channel Isolation..... Full
Status LEDs
  Module Status 1
  Channel Status..... 8
Current Consumption ..... 160 mA maximum
Weight ..... 4.5 oz (145 grams)

Analog Input Module

Channels 4
Range..... 4-20 mA
Resolution..... 16-bit
Input Impedance..... <170 Ohms
Channel Isolation..... No (power supply connections are common with transceivers power supply)
Reverse Polarity ..... Yes, protected
Compatibility..... 2-wire, 3-wire, 4-wire devices
Over-Voltage Rating..... 42 Vdc maximum
Accuracy..... 0.2% of full scale
Repeatability..... 0.02% of full scale
Status LEDs..... 1
Current Consumption ..... 130 mA maximum
Weight ..... 3.6 oz (120 grams)

Analog Output Module

Channels 4
Range..... 4-20 mA
Resolution..... 16-bit
Channel Isolation..... Optical
Short Circuit Protected ..... Yes
Compatibility..... 2-wire, 3-wire, and 4-wire devices
Accuracy..... 0.2% of full scale
Repeatability..... 0.02% of full scale
Status LEDs..... 1
Current Consumption ..... 130 mA maximum
Loop Voltage Drop..... 10V minimum
Weight ..... 3.9 oz (125 grams)

Combination Input/Output Module

Channels ..... 1 analog input
  1 analog output
  2 digital inputs
  2 digital outputs
Channel Isolation..... All (except for the analog input channel)
Reverse Polarity ..... Yes, protected
Analog Channel
  Range..... 4-20 mA
  Input Impedance..... <170 Ohms
  Accuracy..... 0.2% of full scale
  Repeatability..... 0.02% of full scale
  Resolution 16-bit
  Compatibility..... 2-wire, 3-wire, 4-wire devices
  Over-Voltage Rating..... 42 Vdc maximum
Digital Input Channel
  Voltage ..... 5 to 30 Vac/Vdc
  Input Impedance..... 20k Ohms
  Over-Voltage Rating..... 100 Vac/Vdc maximum
Digital Output Channel
  Contact Rating..... 2A @ 250 Vac/30 Vdc resistive
  Type..... Dry contact, normally open
Status LEDs
  Module Status..... 1
  Digital Chan. Status..... 4
Current Consumption..... 120 mA maximum
Weight..... 4.0 oz (130 grams)

Pulse Input Module

Channels..... 2
Input Voltage..... 3.6 Vdc minimum (Single Edge Mode), 100 mVac P-P (Differential Mode)
Input Frequency..... 0-32 kHz
Pulse Width..... 10 µSec minimum
Input Impedance ..... 1k Ohms (low), 90k Ohms (high), selectable
Coupling..... AC or DC, selectable
Channel Isolation ..... Optical
Reverse Polarity ..... Yes, protected
Backup Power Supply..... 12-30 Vdc
Current Consumption..... 50 mA maximum

Pulse Output Module

Channels..... 2
Output ..... 30 Vdc @ 250 mA maximum
External Voltage ..... 30 Vdc maximum
Frequency..... 0-32 kHz
Duty Cycle 50%
Internal Pull-Up ..... 1k Ohms
Channel Isolation ..... No
Power Consumption ..... 120 mA maximum

Environmental

Temperature ..... -40° to 158°F (-40° to 70°C)
Humidity..... 20% to 90% non-condensing
Power..... Supplied through transceiver
Wiring Connections..... 12-24 AWG (3.3-0.23mm^2)
Mounting ..... DIN Rail
Case Material..... Plastic
Approvals..... UL/CUL Class 1, Div. 2, Groups A, B, C, D; Temp Code T5; CSA Approved
Environmental Rating ..... NEMA 1 (Equiv. to IP 30)

Dimensions, Mounting

I/O Module ..... 99 x 114.5 x 22.5 (mm)
  3.90 x 4.51 x 0.85 (inch)
Mounting ..... DIN Rail

Contact Information

Visit the Siemens public Internet site www.usa.siemens.com/pi or telephone: 800-365-8766 for additional details.

Siemens sales representatives are available to provide sales and application support. For your Siemens office, visit www.usa.siemens.com/pisupport.

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