



PT2060/91 SIM System Interface Module

ProvibTech's PT2060/91 SIM module is a communication and system interface module. This module is used to:

- ✓ Connect to a configuration station
- ✓ Communicate to PT2060 system racks
- ✓ Communicate to other control systems (PLC/DCS or Historian)
- ✓ Provides two phase references channels
- ✓ Provide storage of system and alarm events
- ✓ Virtual address configuration

Communication with Modbus

The PT2060/91 has one active Modbus communication port, two RS232, one RS485 port and one Ethernet port. They are available for connection flexibility which can be used to communicate to: PT2060 system racks, control systems (PLC/DCS or historian) configuration station (PC loaded with PT2060-CFG software) and more.

Note: If redundant communication or additional Modbus ports are required the PT2060/96 communication module needs to be added to the PT2060 system.

Rack Interconnection

Multiple system racks can be networked together via Modbus through the SIM module.

System Configuration

The PT2060-CFG software connected via Modbus through the SIM module enables configuration of the system rack, modules, and channels.

System Event and Alarm Event Storage

The PT2060/91 SIM stores up to 500 system and 500 alarm events. This historical data can be accessed through one of the Modbus ports or through PT2060 system configuration software.

Phase Reference

Dual phase reference is also provided on the SIM module. The two phase reference channels can be used to provide phase information for all the channels on the system rack.



Specifications

Electrical

Power supply:

Internally converted by the rack power supply module

8.0W total typical for each module

LED Indicators:

OK / IO: green

TRIP-MLT: red

BYPASS: red

CONFIG: green

Modbus communication:

RS-232 (2): one on front and one on back panel.

RS-485 (1): on the back panel of module. There is only one active Modbus communication port. The available baud rate values are: 1200, 2400, 4800, 9600, 19.2k, 38.4k and 115.2k baud. RS-485 cable can run up to maximum 1220 meters (4000ft).

Ethernet port (1): on the back panel of module. 10Mbps, IEEE802.3.



Electrical Continued

System Alarm:

There will be a dedicated relay for indication of system OK status. This is an energized relay; a de-energized indicates a system error for one of the system components.

Relays:

Seal: Epoxy
Capacity: 2A/240VAC or 2A/24VDC, resistive load
Relay type: SPDT
Isolation: 1000VDC

Phase reference:

Phase reference signal Input:
Input impedance: > 20K Ω
Input voltage range: 0 to -24VDC

Input frequency:

The PT2060/91 module will support 1 - 255 events per revolution with a maximum full scale range of 60000 RPM and a maximum input frequency of 10 kHz.

Start at 1RPM (0.0167Hz) for proximity probes

Sensors:

Proximity probes

Threshold:

Auto: > 1.0 V pk-pk
Manual: > 0.5 V pk-pk. Trigger level can be programmed from -17VDC to -3VDC

Hysteresis:

0.5 - 2.5 V user selectable

Phase reference Output:

On the front panel, each channel has one BNC connector. The output is the phase reference signal.

Output Impedance:

150 Ω

Proximity Transducer Power:

-24VDC, current limited. Less than 50mA on each channel.

Approvals:

CE;
CSA:
Non-incendive, class I, div.2, GrpABCD, T4
-40 $^{\circ}$ C to +75 $^{\circ}$ C
Certification Number: 2011996

Environmental

Temperature:

Operation: -20 $^{\circ}$ C to +65 $^{\circ}$ C

Storage: -40 $^{\circ}$ C to +85 $^{\circ}$ C

Humidity:
95% non-condensing

Physical

Each module comes with two components- the front panel assembly and the back panel assembly.

Dimensions and Location:

241mm (9.5in) X 24.5mm (0.96in)

This module has to be located in the second slot from the right hand side of the rack. Note: there is only one SIM module per system rack.

Weight:

1.0 kg (2.0 lbs)

Ordering Information

PT2060/91-AX

AX: System IO Type
A0: Modbus RTU RS-485/ RS-232 module (with PT2060-009102)
A1: Modbus TCP module (with PT2060-009105-A00)

Optional Accessories:

PT2060-009100
SCALANCE X-108: 8-port industrial unmanaged Ethernet switch, wide temp. Produced by Siemens Co., Ltd. The switch is used to connect many computers and other network device. It can provide 8 Ethernet ports, and support 10/100M. Provibtech suggests that user should choose two TM900 which provide redundancy 24VDC power for PT2060-009100(SCALANCE X-108).

Feature:

Provides 8 Fast Ethernet ports with Auto MDI/MDI-X
Supports 10/100Mbps Auto Negotiation
Provides compact size with DIN-rail/Wallmount
Supports redundant 18~32 VDC power input
Diagnosis on device by means of LEDs (power, link status,data traffic) and signal contact
Simple fault signal contact set-up using the SET button



PT2060 Monitor

Supports wide operating temperatures from
-20~70°C

PT2060-009101

USB to RS-485 Converter with PT2060-009106-
A00 communication Cable.

PT2060-009102

USB to RS-232 Converter with PT2060-009107
-A00 cross communication cable.

PT2060-009103

RS-485 HUB

PT2060-009104-AXX

Hub to PT2060/91/96 Ethernet internet Cable
RJ45

AXX: Cable length

A00	3 meters	(9.8 feet)
A01	15 meters	(49.2 feet)
A02	75 meters	(246 feet)

PT2060-009105-AXX

PLC, DCS to Pt2060/91/96 Ethernet direct
communication Cable RJ45 Port

AXX: Cable length

A00	3 meters	(9.8 feet)
A01	15 meters	(49.2 feet)
A02	75 meters	(246 feet)

PT2060-009106-AXX

USB to RS-485 Converter to PT2060/91/96 serial
communication Cable RS-485

AXX: Cable length

A00	3 meters	(9.8 feet)
A01	15 meters	(49.2 feet)
A02	100 meters	(328 feet)

PT2060-009107-AXX

PC to PT2060/91/96 cross serial communication
Cable RS-232

AXX: Cable length

A00	1.5 meters	(5 feet)
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PT2060-009108-AXX

PT2060/91/96 to RS485 HUB cable RS-485

AXX: Cable length

A00	3 meters	(9.8 feet)
A01	15 meters	(49.2 feet)
A02	100 meters	(328 feet)

PT2060-009109-AX

AX: Panel type

A0: PT2060/91 Modbus RTU RS-485/
RS-232 Front panel

A1: PT2060/91 Modbus TCP Front panel

PT2060-009110-AX

AX: Panel type

A0: PT2060/91 Modbus RTU RS-485/
RS-232 back panel

A1: PT2060/91 Modbus TCP back panel

TM900-GX

TM900 is used to provide 24VDC power with
PT2060-009100(SCALANCE X-108), please
refer to appendix for detail.

GX: Mount

G0: 35mm DIN-rail mount

G1: Plate mount



RS485 HUB



Back Panel Connectors Layout

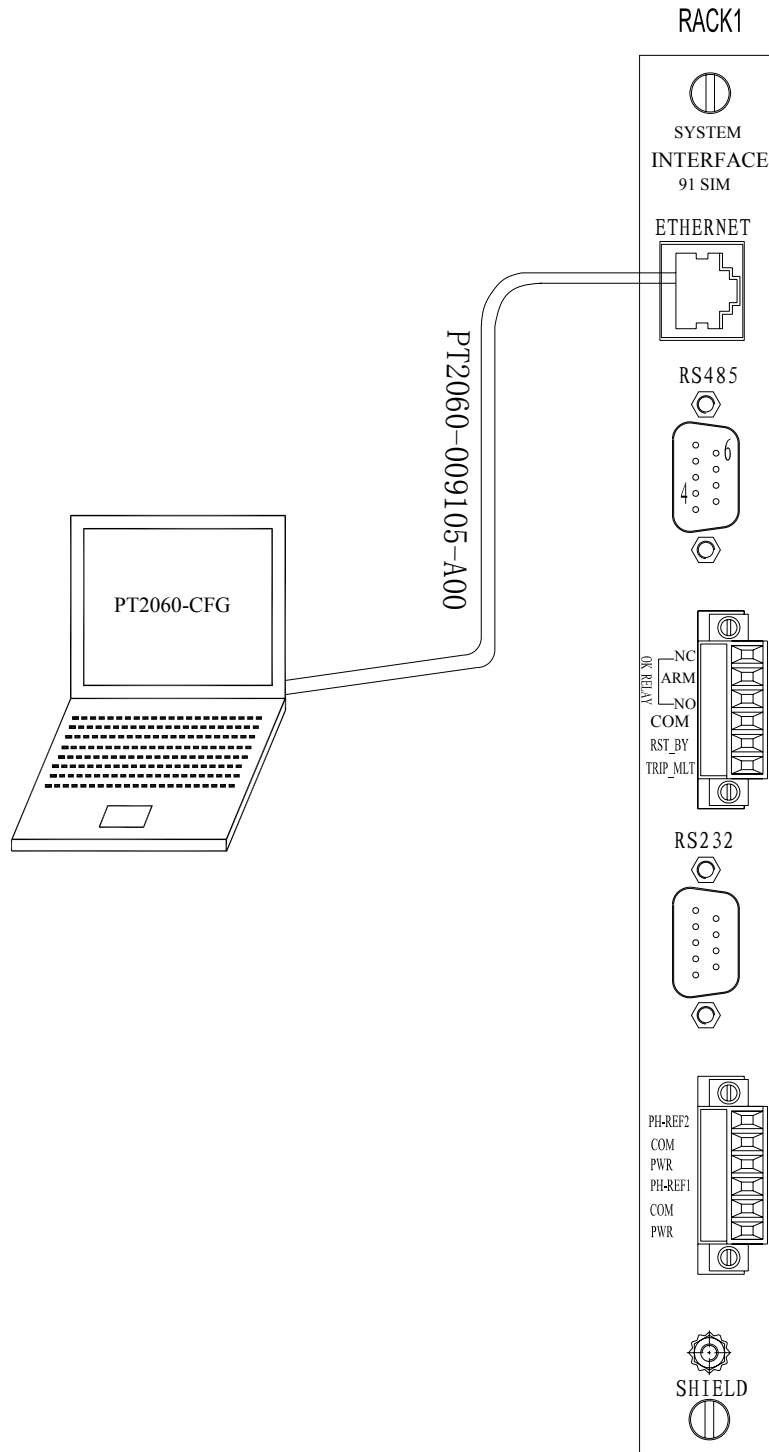




PT2060 Monitor

Field-wiring Diagram

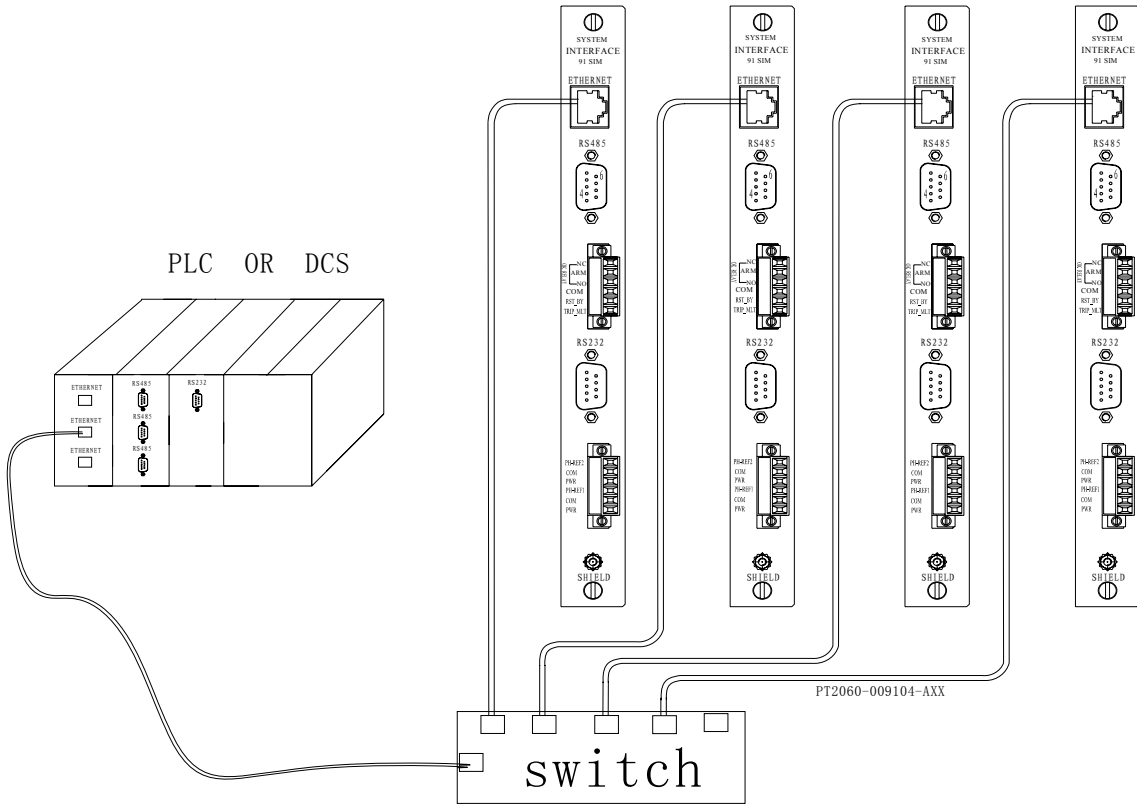
Modbus TCP for System Configuration



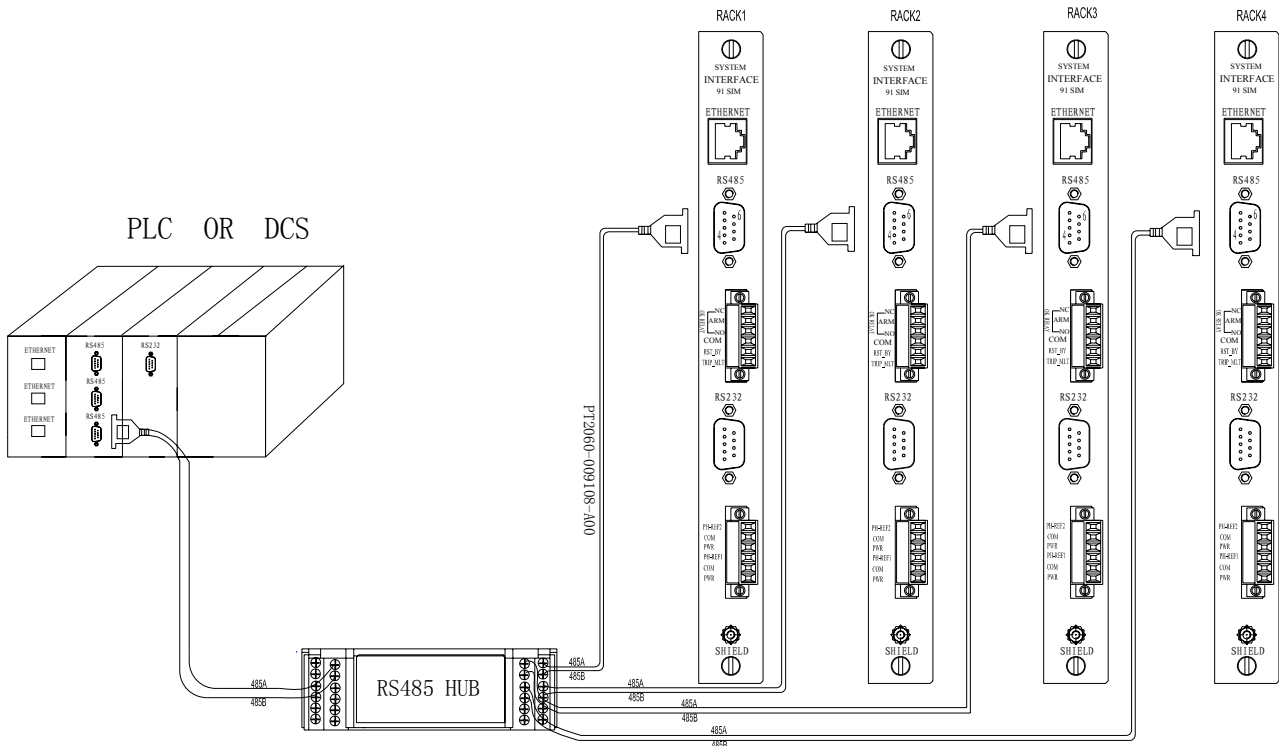


PT2060 Monitor

Modbus TCP for DCS, PLC Communication



Modbus RS-485 for DCS, PLC Communication





Modbus RS-232 for System Configuration

