Phason Communication Hub installation guide

The Phason Communication Hub (**model PCH**) allows you to expand your OMNI-Select system. The PCH connects to the RS485-FD Converter and has four communication channels to connect to your Phason devices.

Features

- Four RS485 communication channels
- DC power adapter
- Rugged NEMA 4X enclosure (corrosion resistant, water resistant, and fire retardant)
- Limited warranty (90 days)

How the system works

The computer with OMNI Select and its modules sends commands to the devices and receives information back from them. This is called *communication*. The RS485-FD and PCH are the "traffic cops" of the system; they handle the communication between the computer and devices.

Accessories and options

Outdoor Temperature Probe (model OUT-1)

The OUT-1 connects quickly and easily to the Phason Communication Hub and allows you to monitor and display outdoor temperatures, as well as add additional functionality to OMNI Select modules.

Wireless RF Adapter (model IWIRE-FLEX)

iWire Radios provide wireless RS485 communication with other iWire Radios and connected Phason devices.

iWire Radios have an outdoor, line-of-sight range of up to 5 miles and an indoor range of up to 500 feet. iWire Flex includes an outdoor temperature terminal for connecting a temperature probe and adding all the functionality of the OUT-1 described above.

> NOTE
> You cannot have both an OUT-1 and IWIRE-FLEX because they connect to the same location on the PCH.

Regulated Power Supply (model RPS)

The RPS is a CSA-approved, Class 2 power supply that 24 VAC and 13.6 VDC for general applications. Its rugged design and battery backup option make it excellent for harsh environments.

Replacement kits

- Main circuit board (model **K325001**)
- RS485 modules (model **RS485-MODULE**)

What you need to know before installing the PCH

Precautions, guidelines, and warnings

- Phason recommends using conduit to protect all communication and power cables.
- Make sure the communication and sensor cables do not become pinched or bent.

> ◇ Mount the unit on a sheltered, vertical surface with the knockouts facing down.
> ◇ Use a screwdriver to tighten the screws in the enclosure. Do not use a drill or over tighten the screws; this can crack the enclosure and ruin the watertight seal.
> ◇ Use the electrical knockouts for bringing wires or cables into or out of the enclosures. Use conduit connectors for watertight strain reliefs at all cable-entry points.

Routing data wires

Routing data wires in the same conduit as, or beside AC power cables, can cause electrical interference, erratic readings, and/or improper operation. Data wires include the following:

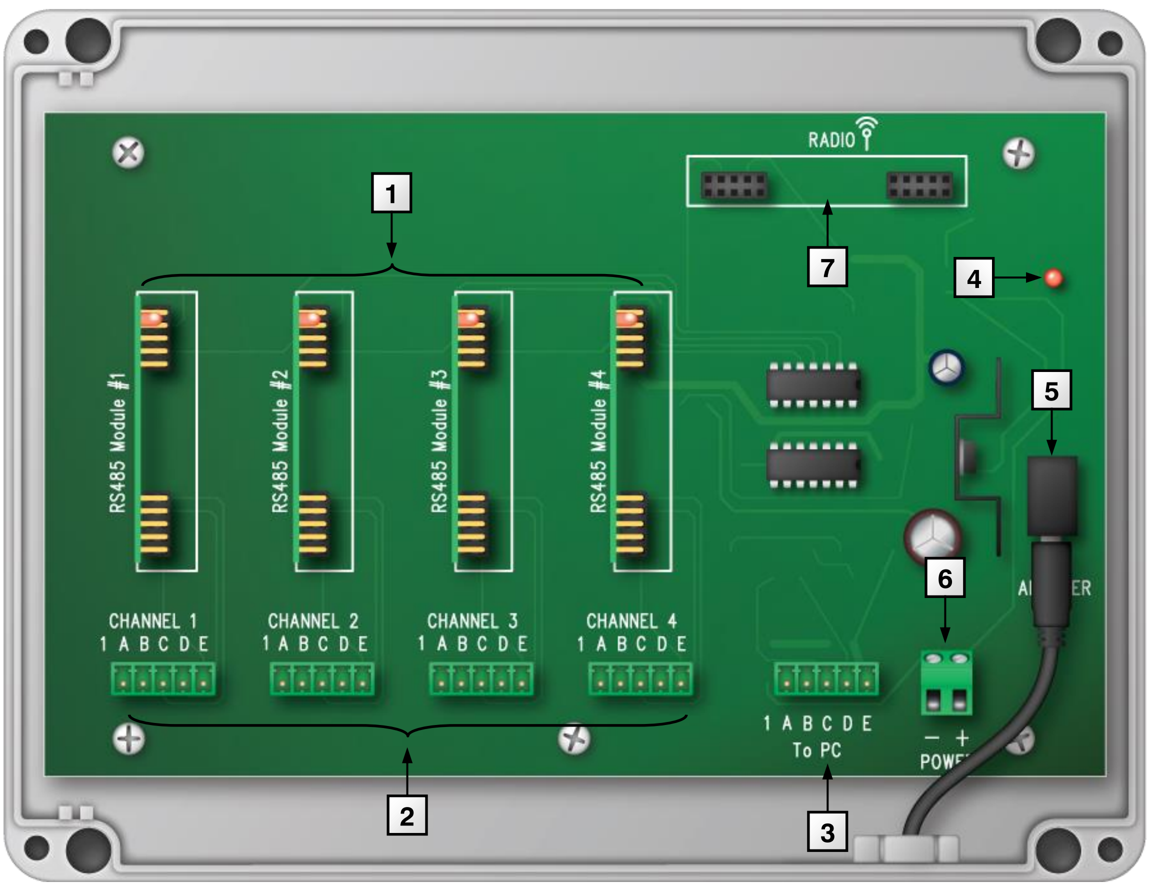
- Data communication wires, including RS-232/RS-485
- Any cable or wire that does not provide AC power

Guidelines for routing data wires

- Do not run the wires in the same conduit as AC power cables.
- Do not run the wires beside (within 12 inches) AC power cables or near electrical equipment.
- When crossing other cables or power lines, cross them at a 90-degree angle.

If in doubt, **do not run any wire or cable that is not an AC-power wire** inside the same conduit or beside other AC-power wires.

Installing the Communication Hub



1	**RS485 Modules:** There is one RS485 Module for each wired communication channel. If one of the channels is not working, you might need to replace the RS485 module. For more information, contact your dealer or Phason customer support.
2	**Communication channel connectors:** Connect the communication wiring for the channels to these connectors.
3	**To PC connector:** Connect the communication wiring for the RS485-FD to this connector.
4	**Power LED:** The LED should be on when the PCH has power.
5	**DC adapter:** Make sure the adapter is properly connected. Connect the other end to a 120 VAC outlet.
6	**Optional power connector:** If you are be using a Phason Regulated Power Supply (RPS) to power the Communication Hub, connect it here. For more information, read **Connecting the power** below.
7	**Add-on socket:** If you have an OUT-1 temperature probe; connect it to the left-hand connector. If you have an iWire Flex, connect it to both connectors.

Connecting the communications

Connect the communication wiring according to the instructions in the **RS485-FD installation guide**.

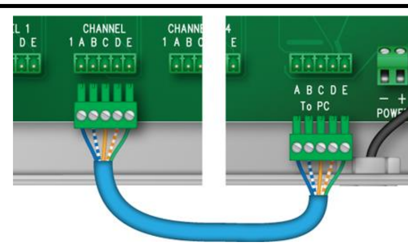
Wire function		RS485		PCH (To PC)		Channels 1 to 4	
A	communication	**A**	blue	**A**	blue	**A**	blue
B	communication	**B**	white/blue	**B**	white/blue	**B**	white/blue
C	communication	**C**	orange	**C**	orange	**C**	orange
D	communication	**D**	white/orange	**D**	white/orange	**D**	white/orange
E	common reference	**E**	green	**E**	green	**E**	green

NOTE

The Communication Hub MUST be the first device after the RS485-FD. You cannot install devices between the RS485 and the PCH or they will not communicate.

TIP

If you need more than four communication channels, you can connect two Communication Hubs together; connect one of the channels on one hub, to the **TO PC** on the other.



Connecting the power

- If you are using the supplied DC adapter for power, make sure it is connected inside the PCH. Plug the other end into a 120 VAC outlet.
- If you are using a Regulated Power Supply (RPS) for power, disconnect the DC adapter and then connect the wiring to the **POWER** terminal according to the instructions in the **Regulated Power Supply installation guide**.

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