

# **PQ**connect

## **PQconnect Quick Start Guide**



TCI, LLC  
W132 N10611 Grant Drive  
Germantown, Wisconsin 53022

Phone: 414-357-4480  
Helpline: 800-TCI-8282  
Web Site: [www.transcoil.com](http://www.transcoil.com)  
© 2019 TCI, LLC All rights reserved

## PQconnect Quick Start Unit Software Setup

- Verify connections to the PCB via ModbusRTU over RS485 before filter is energized
- Download PQvision software found on our website:  
<https://transcoil.com/wp-content/uploads/2018/11/PQvision-Setup-v1.zip>
- Enter password: 08252014 to access software package
- Select communication port (Data should be shown after the board communicates)
  - Note: Default Modbus settings of the application are below.
  - Baud rate: 115200
  - Parity: Even
  - Slave Address: 10
  - See PQconnect Display connections section for changing the default settings

## PCB Connections

Most customer connections to PQconnect will be made on the PCB. Refer to connection diagrams in Figure 9. The details of the power and communications terminals are shown in Table 15. Form C relays are available on the PCB, these connections are shown in Table 16. Two relay outputs are available on the PCB.

The relay contactor control command input connection on J11 of the PCB allows the user to open/close the contactor of the HarmonicGuard® Passive filter. The second relay (input connections on J12) is optional and could be used for a second contactor for dual tuned circuit filters or as a secondary status detection.

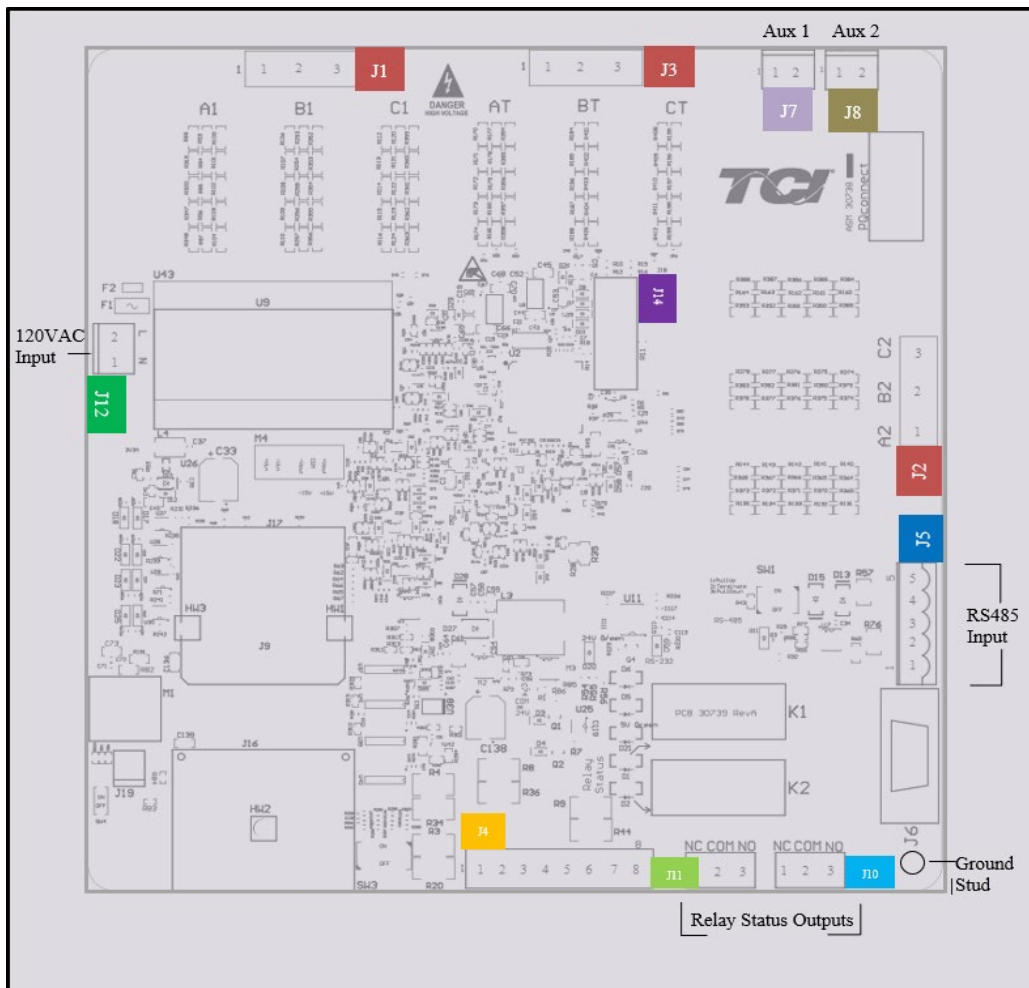


Figure 10: PQconnect Connections

**Table 15: Power & Communications Terminals**

Terminal	Pin	Description	Label	Rating
J1, J2, J3	1	Phase A	For factory use; Measurement connection points	600VAC
	2	Phase B		
	3	Phase C		
J4	1,2,3,4	Not Connected		N/A
	5,6,7,8	Current transformer connections	For factory use; Only used for filters with dual tuned circuits	N/A
J5	1	RS485	Not Connected	N/A
	2		B (non-inverting)	
	3		Ground	
	4		A (inverting)	
	5		Not connected	
J12	1	Input Power from control power transformer	Neutral	120 VAC
	2		Line	
J14	1-14	Micro Programming	For factory use	N/A

**Note:** The power terminals on the PQconnect accepts 28 to 14 AWG stranded wire, with a tightening torque of 4.4 in-lb. (0.5 Nm).

**Table 16: Form C Relay Contacts**

Terminal	Pin	Description	Label	Tightening Torque	Wire Range
J7	1, 2	Multi-functional digital Input 1	Customer contacts	3.5 lb.-in (0.4 Nm)	28-12 AWG
J8	1, 2	Multi-functional digital Input 2	For factory use	3.5 lb.-in (0.4 Nm)	28-12 AWG
J11	1	Digital output form C Contact 1	Normally Closed (NC)	4.4 lb.-in (0.5 Nm)	28-14 AWG
	2		Common (COM)		
	3		Normally Open (NO)		
J10	1	Digital output form C Contact 2	Normally Closed (NC)	4.4 lb.-in (0.5 Nm)	28-14 AWG
	2		Common (COM)		
	3		Normally Open (NO)		

**Note:** Form-C relay contacts are gold plated with a load rating of 5.0A @ 120VAC

The filter is set to control the contactor pickup/drop-out at 30% of load current by factory default. This setting can be changed in the tech access page from the settings menu.

Multi-functional digital inputs have the following functions:

- DEFAULT: 0 = Disabled
- 1 = Tuning Reactor Thermal Switch Input
- 2 = Line Reactor Thermal Switch Input
- 3 = Reset Command
- 4 = External Control Input

Digital Output form C Contact

- J11 reserved for contactor control
- J10 used for status detection

### Modbus RTU

The PQconnect Modbus RTU network communication interface transmits and receives command and status data from the PQconnect Modbus master over a RS-485 serial link. Modbus RTU is a simple serial communications protocol originally developed by Modicon for use with Programmable Logic Controllers (PLCs) in control of industrial devices. Modbus RTU is commonly supported by most PLCs and is an open, royalty-free communications standard.

### Wiring and Configuration

The PQconnect implements a Modbus RTU Master/Slave device, which supports two-wire RS-485 signal levels. The PQconnect communication port used for the Modbus RTU interface is connected directly to the PCB. The communication port is located on the side of the PQconnect board.