

HARMONICGUARD[®] ***ACTIVE***

Active Harmonic Filter Quick Start Unit Software Setup










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<p>Warning</p> 	<p>Be sure to read, understand, and follow all safety instructions.</p>
<p>Warning</p> 	<p>Only qualified electricians should carry out all electrical installation and maintenance work on the HarmonicGuard Active Filter (HGA).</p>
<p>Warning</p> 	<p>All wiring must be in accordance with the National Electrical Code (NEC) and/or any other codes that apply to the installation site.</p>
<p>Warning</p> 	<p>Disconnect all power before working on the equipment. Do not attempt any work on a powered Active Harmonic Filter.</p>
<p>Warning</p> 	<p>The HGA, drive, motor, and other connected equipment must be properly grounded.</p>
<p>Warning</p> 	<p>The HGA may receive power from two or more sources. Three-phase power is connected to the main input terminals of the HGA. All of these sources of power must be disconnected before working on the HGA.</p>
<p>Warning</p> 	<p>After switching off the power, always allow 5 minutes for the capacitors in the HGA and in the drive to discharge before working on the HGA, the drive, the motor, or the connecting wiring. It is good practice to check with a voltmeter to make sure that all sources of power have been disconnected and that all capacitors have discharged before beginning work.</p>

NOTE: Full User Manual

- For the full user manual and other supporting documentation please go to:
<http://www.transcoil.com>



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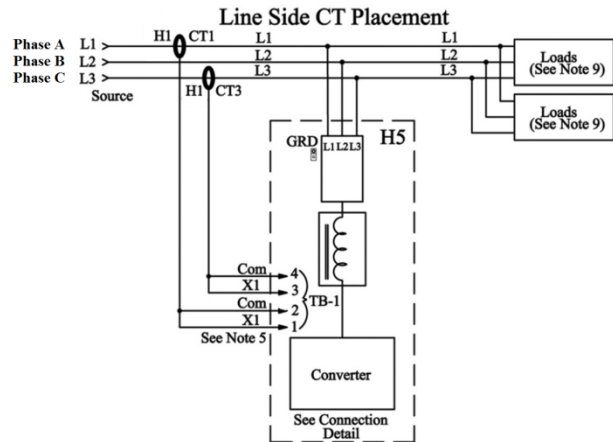
1) Verify unit external connections

- Phase A, B, C power connection, with positive A-B-C phase rotation expected
- CT H1 Terminal is pointing toward the source
- CT feedback on phases A & C to TB-1
- Leave CT shorting bars in place on TB-1
- With the HGA circuit breaker open, energize the source to the HGA
- Close the HGA circuit breaker
- Fans and HMI should come on in < 5 seconds
- HMI will start on Home screen
- Load(s) have an integral 5% line reactance or equivalent dc bus choke

Warning

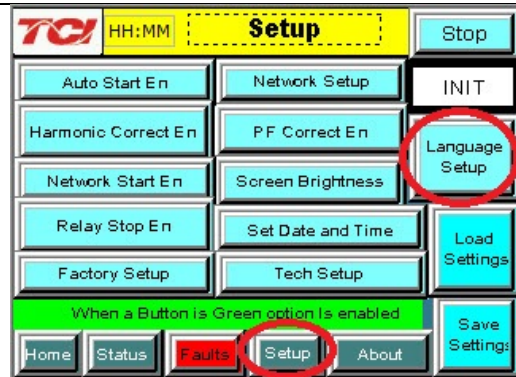


Hazardous voltages are present when unit is energized



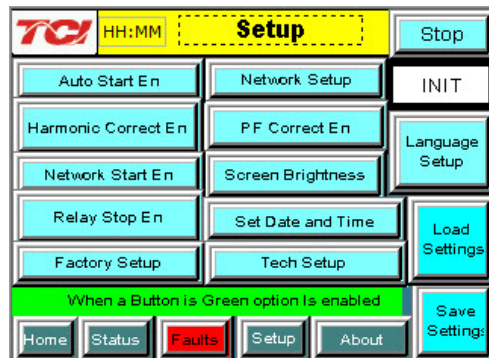
NOTE: Language Selection

- The active filter supports several languages including English, French and Spanish
- Press “Setup” to navigate to Setup screen and press the “Language Setup” button.
- Select language setting from the language setup pop-up screen.



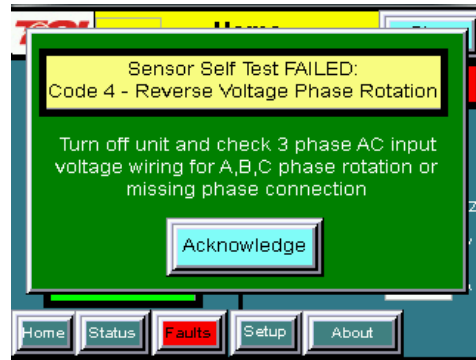
2) Converter check - 1

- Press “Setup” to navigate to Setup screen
- Ensure that “Auto Start En,” “Harmonic Correct En,” and “PWR Fact Correct En” buttons are off (blue color)
- If they are ON (green) press them to toggle to OFF (blue)
- Press “Save Settings”
- Press “Status” to navigate to Status screen
- Press “Home” to navigate to Home screen



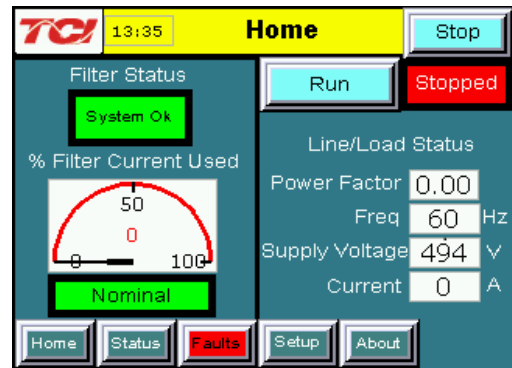
NOTE: Built In Sensor Wiring Error Detection

- The active filter has an automatic sensor wiring error detection algorithm built in to the controls.
- If a sensor wiring error is detected please reference the Sensor Error Auto Detection section of the full user manual available at www.transcoil.com.



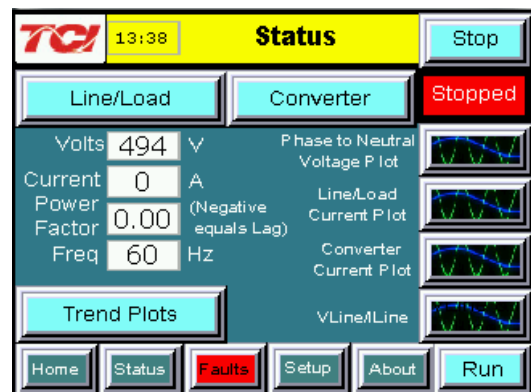
3) Home screen check

- Compare “Freq” to expected line frequency
- Compare “Supply Voltage” to expected line voltage
- “Current” expected to be zero because unit is not running and CT inputs are shorted
- If status indicates a Fault, press “Stop” button to reset condition



4) Status screen check

- Press “Status” to navigate to Status screen
- Compare “Volts” to expected line voltage
- Compare “Freq” to expected line frequency
- “Current” expected to be zero if unit is not running and CT inputs are shorted



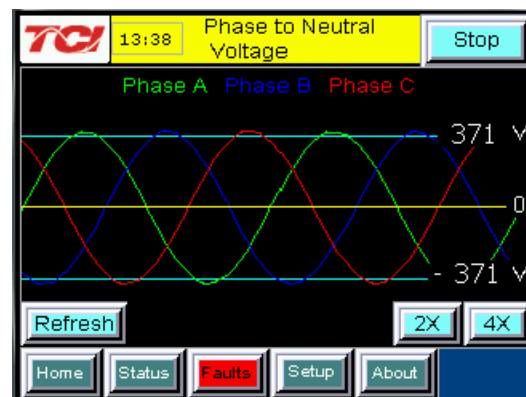
5) Phase rotation check

- Press “Phase to Neutral Voltage Plot”
- Check that the current peaks follow the following sequence from left to right: Phase A (green), Phase B (blue), Phase C (red)
- Equipment is phase rotation sensitive, if phase rotation is incorrect, power down unit and rewire to adjust phase rotation by swapping two incoming phase connections

Warning

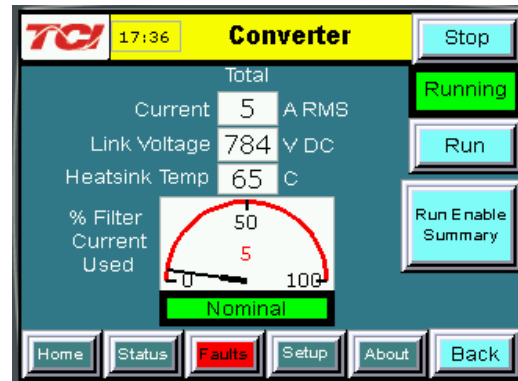


Improper operation will occur when input voltage phase rotation is incorrect.



6) Converter check – 2

- Press “Setup” to navigate to Setup screen
- Ensure that “Auto Start En,” “Harmonic Correct En,” and “PWR Fact Correct En” buttons are off (blue color)
- Press “Status” to navigate to Status screen
- Press “Run” to start unit operation



7) Remove CT shorting bars

- Press “Stop” to turn off unit
- Disconnect power from cabinet
 - Turn off the built in door breaker AND
 - Turn off the upstream feeder breaker

Warning



Lethal voltages may be present. Wait 5 minutes for DC bus voltage to drop to safe levels.

Warning



Check for voltage in cabinet with a DMM before working inside cabinet.

- Open the cabinet door and remove shorting bars from CTs connected to TB-1

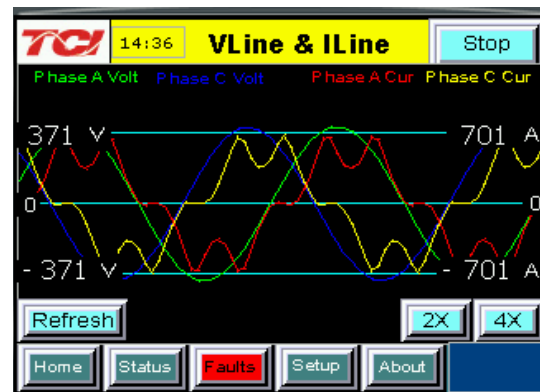
8) Current polarity - 1

- Power up unit
- From Home screen press “Run” to turn on unit
- Press “Status” to navigate to Status screen
- Select “Vline/Iline” screen
- Note: Lightly loaded conditions (less than 20% CT rating) will not have enough current to show up on Iline plot
- Check that Phase A to Neutral voltage peak lines up with Phase A current (use zoom if necessary)
- Check that Phase C to Neutral voltage peak lines up with Phase C current
- Power system down and check CT installation location and orientation if Phase A plots differ significantly from Phase C plots

Warning



Improper operation and damage may occur if CTs are installed incorrectly.



9) Current Polarity – 2

- Navigate to Status screen
- Navigate to Line/Load status
- Verify that “Volts,” “Current,” “Power,” “I THD,” and “V THD” match expected values for the power system
- If they do not, verify CTs are correctly installed

Warning



Improper operation and damage may occur if CTs are installed incorrectly.

TCI 17:47		Line/Load	Stop
Volts	480	VAC RMS	Stopped
Current	252	A RMS	
Power	186	K Watts	Run
Apparent Power	210	KVA	
Power Factor	-0.89		
I THD	37.1	%	
V THD	2.8	%	
I THD Ref	37.1	%	
Home	Status	Faults	Setup
About	Back		

10) Final setup

- Press “Setup” to navigate to Setup screen
- Press “Harmonic Correct En” to enable harmonic correction
- If unit is sized with sufficient capacity to provide power factor correction, press “PF Correct En”
- Press “Auto Start En” to enable Autostart

Warning



When Auto Start is enabled unit may operate without operator input.

- Press “Save Settings” to save settings and restart converter
- Let the unit come on automatically (about 30 s)

TCI HH:MM		Setup	Stop
Auto Start En	Network Setup	INIT	
Harmonic Correct En	PF Correct En	Language Setup	
Network Start En	Screen Brightness	Load Settings	
Relay Stop En	Set Date and Time	Save Settings	
Factory Setup	Tech Setup		
When a Button is Green option is enabled			
Home	Status	Faults	Setup
About	Save Settings		

11) Final check

- Navigate to Status screen
- Navigate to Line/Load status
- Note the corrected voltage, current, power and THD

TCI 17:38		Line/Load	Stop
Volts	479	VAC RMS	Running
Current	255	A RMS	
Power	212	K Watts	Run
Apparent Power	212	KVA	
Power Factor	1.00		
I THD	3.5	%	
V THD	1.1	%	
I THD Ref	37.1	%	
Home	Status	Faults	Setup
About	Back		



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