



EnzAir CCU

Condensate Control Unit

End User Manual

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1. What is the CCU?

The EnzAir CCU (Condensate Control Unit) is a smart monitoring and control device fitted to your air compressor. Its job is to protect your compressor from the damaging effects of condensation forming through machine underutilisation.

Condensation builds up inside a compressor when it runs for short periods and never gets hot enough to burn off the moisture. Over time this causes corrosion, contamination of the oil and premature wear which are not covered under the machines warranty.

The EnzAir CCU solves this by monitoring the compressor temperature and, when needed, automatically opening a solenoid valve to bleed a small amount of air. This keeps the compressor running at an optimised speed for long enough to reach the temperature needed to burn off any moisture — protecting the machine and extending its service life.

2. How it works

The CCU continuously monitors two things:

- System Air Pressure
- Compressor Oil Temperature

When the compressor starts up and the system pressure rises above the set threshold, the CCU begins a burn-off routine. Here is what happens step by step:

Step	What happens
1	Pressure rises above the Cycle Start threshold — the CCU detects a compressor start-up.
2	The CCU starts monitoring temperature. If the temperature is already at or above the target, no action is needed and the routine ends.
3	If the temperature has not reached the target, the CCU watches the pressure. When the pressure reaches the upper pressure set point, the solenoid valve opens and air is bled off.
4	The valve stays open until the pressure drops to the lower pressure set point, then it closes. This protects the air supply for users while still keeping the compressor loaded.
5	Steps 3 and 4 repeat, cycling the valve open and closed, until the compressor reaches the target temperature.
6	Once the target temperature is reached the valve closes and the burn-off routine is complete. The CCU returns to standby ready for the next qualifying start-up.

i The CCU does not run the burn-off routine on every single start-up. You can set it to run on the first start-up after power-on and then every Nth start-up after that. This is adjustable from your phone.



3. Indicator lights

The relay module on the CCU has two LED indicators:

LED	State	Meaning
Power LED	Solid green	CCU is powered on and running normally
Relay LED	OFF	Solenoid valve is closed — normal standby state
Relay LED	Solid	Solenoid valve is open — burn-off routine is actively bleeding air

4. Connecting to the CCU from your phone

The CCU creates its own Wi-Fi network — you do not need an internet connection or site Wi-Fi. Any smartphone or tablet with a web browser can connect to it.

Step-by-step:

1. Make sure the CCU is powered on — the green power LED will be lit.
2. On your phone, go to Settings → Wi-Fi.
3. Connect to the network named: EnzAir CCU
4. Enter the password: Enzair1904
5. Once connected, open your phone's web browser (Safari, Chrome etc).
6. Type the following address into the browser: <http://192.168.4.1>
7. The CCU web interface will load — you will see live readings and settings.

i When connected to the CCU Wi-Fi your phone will not have internet access. This is normal. Simply disconnect from EnzAir CCU when you are finished and reconnect to your normal Wi-Fi.



5. The web interface — what you can see

Once connected in your browser you will see the following:

Display item	What it shows
Status banner	Current state of the CCU — STANDBY, BURN-OFF ACTIVE, or BURN-OFF COMPLETE
Temperature	Live compressor discharge temperature in °C, updating every 2 seconds
Pressure	Live system air pressure in bar, updating every 2 seconds
Solenoid Valve	Shows ON or OFF — whether the valve is currently open or closed
Cycle number	How many compressor start-up cycles have been detected since the CCU was last powered on
Settings panel	All adjustable thresholds — see Section 7

6. Adjusting settings

All settings can be changed directly from the web interface on your phone. Changes take effect immediately — you do not need to restart the CCU.

How to save a new setting:

1. Connect to the CCU web interface as described in Section 4.
2. Scroll down to the Settings panel at the bottom of the page.
3. Tap the value you want to change and type in the new number.
4. Tap the orange SAVE SETTINGS button.
5. You will see a confirmation message: Settings saved ✓

i Settings are applied immediately but are not stored permanently — if the CCU loses power it will return to the default values. If you regularly use non-default values, note them down so you can re-enter them after a power cycle.

7. Understanding the settings

Setting	Default	Unit	What it does
Cycle Start	7.5	bar	The pressure level the system must rise above to be counted as a compressor start-up. Set this just below your compressor's normal cut-in pressure.
Relay ON above	9.5	bar	When pressure reaches this level during a burn-off routine, the solenoid valve opens and air starts bleeding. This should be set close to your compressor's unload pressure.
Relay OFF below	8.2	bar	When pressure drops to this level the solenoid valve closes to protect the air supply. This must be set lower than the Relay ON value — the gap between the two prevents the valve chattering on and off rapidly.
Target Temp	80	°C	The temperature the compressor must reach for the burn-off to be considered complete. 80°C is the recommended value for most rotary screw compressors to ensure condensation is fully evaporated.
Run every Nth cycle	1	cycles	This Controls how often the burn-off routine runs. Set to 1 means it runs on every start-up. Set to 5 means it runs on the 1st start-up after power-on and then every 5th start-up after that. Useful on compressors that run frequently and rarely need assistance.

i Tip for 8-bar machines: If your compressor is set up as an 8-bar machine, adjust the Relay ON pressure down to around 7.8 bar and the Relay OFF pressure to around 7.0 bar to suit the lower operating range.



8. Status messages explained

Status	Meaning
STANDBY	The CCU is running and monitoring, but no burn-off routine is currently active. This is the normal state between compressor cycles.
 BURN-OFF ACTIVE	A burn-off routine is in progress. The CCU is managing the solenoid valve to keep the compressor on load until the target temperature is reached. The compressor may run longer than usual — this is intentional.
 BURN-OFF COMPLETE	The compressor has successfully reached the target temperature and the burn-off is complete. The solenoid valve is closed. The CCU will return to STANDBY once the system pressure drops back down.

9. Frequently asked questions

The compressor seems to run longer than usual — is something wrong?

No. When the burn-off routine is active the CCU is deliberately keeping the compressor loaded for longer. This is normal and is exactly what the system is designed to do. You will see BURN-OFF ACTIVE on the web interface when this is happening.

The web page won't load on my phone.

Make sure you are connected to the EnzAir CCU Wi-Fi network and not your normal Wi-Fi or mobile data. Open your browser and type <http://192.168.4.1> exactly as shown — do not search for it in a search engine. If it still won't load, try turning Wi-Fi off and back on again on your phone.

The temperature or pressure readings look wrong.

There will be a slight difference between the readings on your app and the compressor controller, this is normal and to be expected. When setting the CCU up please take these into consideration. Check that the CCU has been running for at least 30 seconds after power-on to allow the sensors to settle. If readings look significantly out, please contact EnzAir.

I changed a setting, but it went back to the default.

Settings are held in memory and are lost if the CCU loses power. Re-enter your settings after any power interruption. Write your preferred values in the notes section at the back of this manual for reference.

Can more than one person connect to the CCU at the same time?

Yes, multiple devices can connect to the EnzAir CCU Wi-Fi network simultaneously, however only one person should make changes to settings at any time to avoid conflicts.



What happens if the compressor reaches temperature without the valve being needed?

If the compressor reaches the target temperature on its own before the pressure band is reached, the CCU simply notes the burn-off is complete and does nothing — the solenoid valve is never opened. The system only intervenes when it is needed.

10. Troubleshooting

Symptom	Check
No power LED on unit	Check 5V power supply is connected and fuse is intact.
Cannot find EnzAir CCU WiFi	Ensure CCU is powered on. Move closer to the unit. Try turning phone WiFi off and back on. The network name is EnzAir CCU.
Web page shows -- for readings	The page has just loaded. Wait 2-3 seconds for the first reading to appear.
Pressure reading shows 0.0 bar	Check pressure transducer wiring and 24V supply. Check the signal wire connection at GPIO33.
Temperature reading seems wrong	Check PT100 probe is fully seated and wiring is secure. Allow 30 seconds after power-on for sensor to settle.
Burn-off routine never starts	Check the Cycle Start pressure setting is appropriate for your system. The pressure must rise above this value from below to trigger a cycle.
Solenoid valve not opening	Check relay LED — if it lights but valve does not open, check mains wiring to solenoid. If relay LED does not light, check GPIO26 wiring to relay module.
Burn-off complete but temp never reached 80°C	This should not happen — check that Target Temp setting has not been accidentally changed to a low value.

If you are unable to resolve an issue using this guide please contact EnzAir Compression Systems for support. Do not attempt to modify the internal wiring of the CCU unit.



Notes — My Settings

Use this space to record your site-specific settings for reference after a power cycle.

Setting	My Value
Cycle Start Pressure (bar)	
Relay ON Pressure (bar)	
Relay OFF Pressure (bar)	
Target Temperature (°C)	
Run every Nth cycle	
Notes	

