

ATLOSON

THERMAL SYSTEMS

ORCA UC20000

INSTALLATION AND OPERATION MANUAL

OPERATION | MAINTENANCE | PARTS



HEAT DRIVES
POSSIBILITIES

01 Identification, safety and use

This manual accompanies model ORCA UC20000. Record SKU, serial number, voltage, fuel and revision before installation. Accessories, functions and protective devices depend on the supplied variant.

Engine preheating and heating of a closed antifreeze circuit; cabin heating via a separate heat exchanger. No direct connection to drinking water.

SKU	Fuel	Voltage
ATL-ORC-UC200-D24	Diesel	24V

Carbon monoxide: combustion gases must remain outside occupied spaces. Do not operate in a garage or other enclosed location. Keep intakes and flue outlets clear, especially after snow, mud or travel.

Fuel smell, abnormal smoke, leakage or a CO alarm: stop use, move occupants away and have the installation inspected. Do not restart to conceal a fault. Contact emergency services if there is immediate danger.

Fire and burns: keep combustible materials away from the appliance, hot ducts and exhaust. Do not use the service compartment for storage. Allow cooling before inspection and keep children away from hot surfaces.

Power: use the nameplate voltage. Never increase a fuse rating or bypass protection. For a normal stop, allow the controlled cooling cycle to finish before disconnecting power.

Stop before refuelling. Fuel, combustion, gas and mains work require a qualified professional. Install and maintain a CO detector suitable for the application according to its own instructions.

Coolant heating: the appliance belongs in an approved cooling loop and needs adequate circulation. Confirm flow direction, pump, bleeding, fluid compatibility, valves, flow rate and pressure. Never work on a hot or pressurised loop. Engine coolant is not drinking water.

02 Variant specifications

Common specification	Value
Fuel	Diesel
Operating voltage	24 V DC
Heat output class	20 kW
Heat output	20 kW
Approximate output	≈68,000 BTU/h
Controller	Digital controller / seven days
Application	Engine cooling and cabin heat exchanger

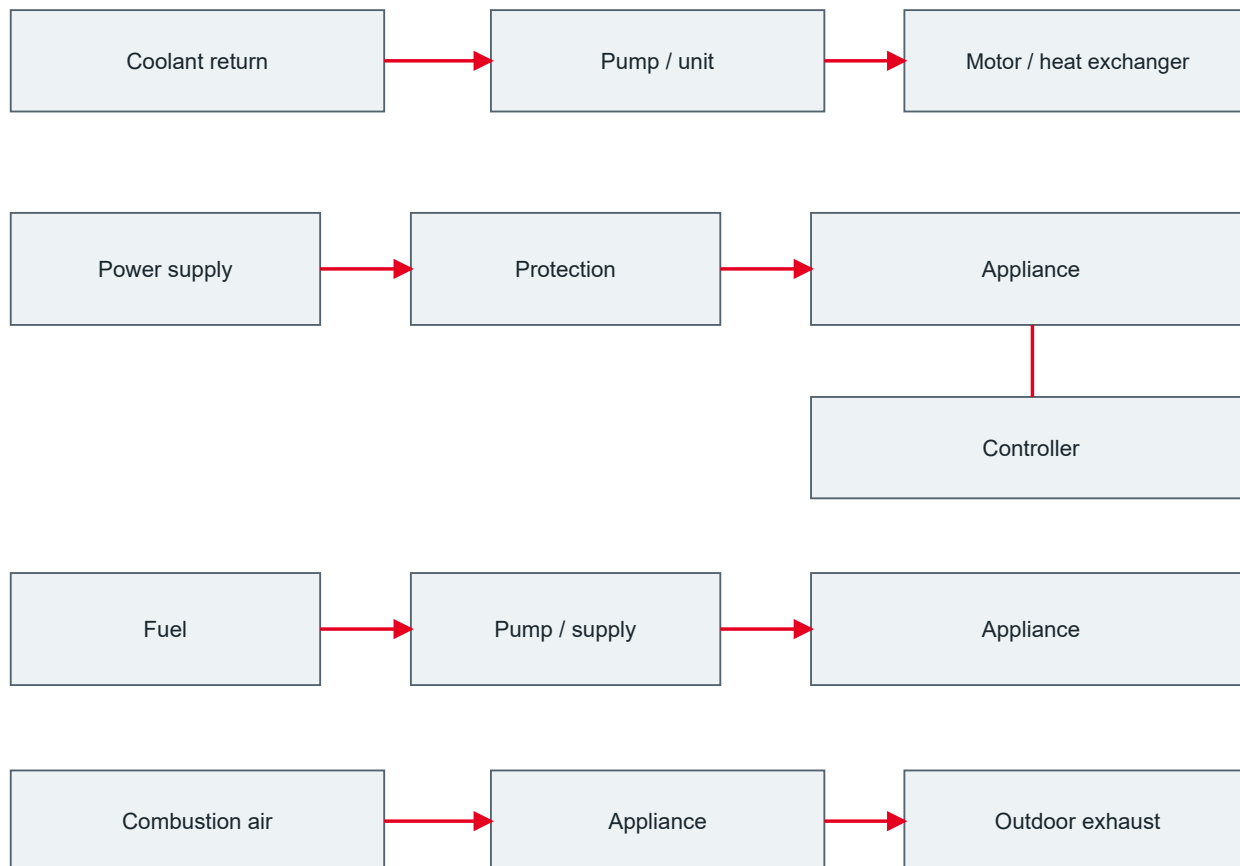
For unpublished values, use the supplied variant's nameplate and data sheet: starting current, fastening torque, pressure, pump flow and protection devices cannot be inferred from power.

03 Recommended applications and output selection

Indicative engine displacement	6 à 12 L
Coolant circuit	Record the vehicle's actual capacity and size for target temperature, available time, circulation and heat losses.

Engine-displacement ranges are selection guides. They do not establish a circuit-volume limit. Use the vehicle-specified antifreeze mixture and a suitable pump.

04 Assembly identification



Functional identification diagram. A revision-specific internal drawing must accompany any disassembly work.

05 Step-by-step installation

STEP 1 - Mount the heater

Provide an accessible rigid support. Identify coolant inlet and outlet on the unit and leave clearance for the burner, pump and connections.

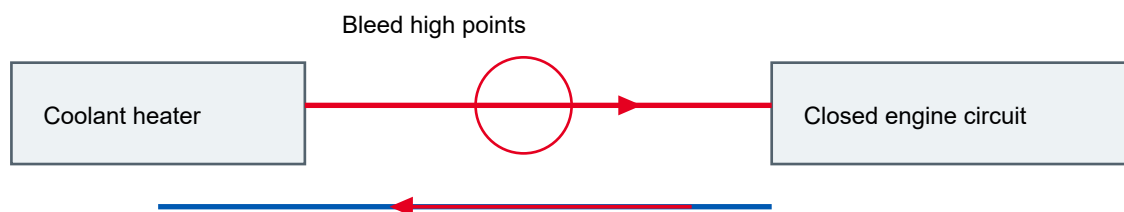
STEP 2 - Create the hydraulic circuit

Connect to the closed antifreeze circuit. Follow circulation direction and avoid restrictions and high points trapping air. Install the pump suitable for the circuit; separate engine coolant from drinking water.

STEP 3 - Fill and bleed

With the engine cold, fill with the vehicle-specified coolant. Open the necessary valves, bleed the heater and pump, then check level and leak tightness. Never start dry.

ACTION DETAIL - schematic



Check pump direction and measure supply / return temperatures.

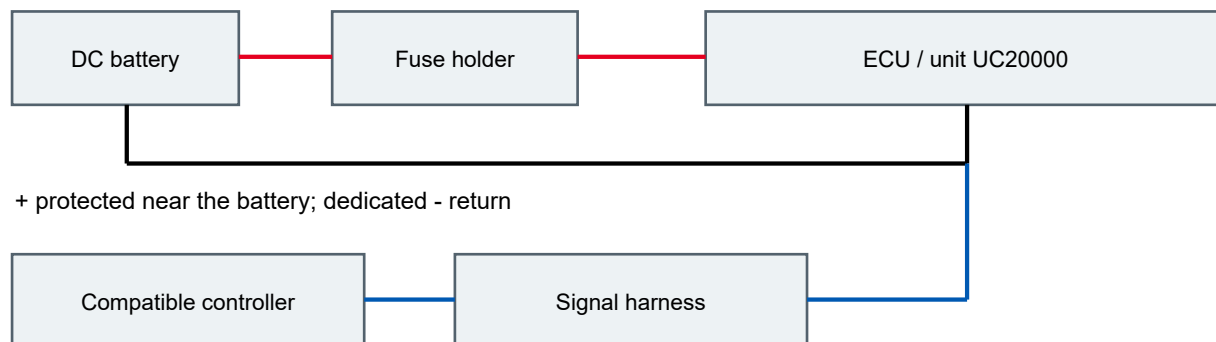
STEP 4 - Connect combustion circuits

Install combustion intake and exhaust outside the cabin. For UC5000/UC9000 use the matched metering pump. For larger units follow the supplied burner's architecture: do not replace the circuit with a small metering pump.

STEP 5 - Check electrical supply and heating

Test power under load and circulation. Measure supply/return temperatures. Check the cabin-fan control if fitted. Complete a full shutdown and recheck the level when cold.

06 Electrical connections



Schematic. Pins, rating and voltage: use the supplied harness.

Maintain power during cooling. Normal shutdown uses the controller; do not install a switch that interrupts the cycle. Protect cables and connections against water, abrasion and heat.

07 Initial commissioning

Check	Result to verify
Rating plate and controller	SKU, voltage, fuel and connectors match
Mounting	Mountings, clearances, ducts and outlets checked
Fluid circuit	Filled and bled; no leaks
Supply under load	Voltage measured during starting
Complete cycle	Ignition, operation, setpoint and shutdown/cooling tested
Delivery	Rating-plate photo, measurements, date and installer recorded

08 Operation and controls

The coolant heating setpoint differs from ambient temperature. Set the duration and program on the compatible circuit controller; check circulation and battery charge before automatic start.

Situation	Action
Before starting	When cold, check level and antifreeze protection. Ensure required valves are open and the circuit is filled and bled. Do not start with an empty or frozen circuit. Never open a hot pressurized circuit cap.
Engine preheating	Program time only after an initial supervised test. Start with the correct coolant-heater controller. Displayed room temperature does not necessarily represent the coolant setpoint. Check circulation, leaks and gradual temperature rise.
Cabin heating	If a heat exchanger and vehicle fan controller are installed, check their operation separately. Cabin heating consumes some heat output and battery power; allow a longer preheating time than with coolant alone.
Shutdown / circulation fault	Stop normally with the controller; maintain power during purging and cooling. If overheating occurs or hoses remain abnormally cold, allow cooling and have the level, air bleeding, valves, restrictions and pump checked before restarting.

09 Maintenance and winterization

When	Work
Before use	Check fuel, battery, ducts, outlets, connections and absence of leaks.
After transport	Inspect mountings, cables, ducts and exposed components.
Before the season	Supervised test; full inspection of combustion and protective devices.
Engine circuit	Check cold level, antifreeze protection, bleeding and circulation.
After repair	Suitable seals, leak test, complete cycle and measurements recorded.

Before use and after travel, inspect ducts, supports, openings, fuel lines and accessible connections. Once cool, remove external debris without directing water into the intake or flue.

Before the season and after storage, have the installation, battery, protection, tightness and combustion checked. Hour-based intervals, exercise-run duration and component life remain to be confirmed for the exact model and revision.

The user may keep access clear and clean cold surfaces using material-appropriate methods. Burner, exchanger, pump, sensor and ECU removal is qualified service work. Do not adjust fuel delivery or thermal protection.

After repair, require leak checks and a full cycle. Record date, hours, symptom, code, part SKUs and technician. Confirm applicable warranty terms with ATLOSON; no other warranty is implied.

10 Troubleshooting and fault codes

Symptom	Action
Display off	Check the permitted power supply, visible connection and identified protection device; a fuse that blows again requires professional diagnosis.
No ignition / flameout	Record the code and check fuel level and visible obstructions. Do not repeat starting or priming attempts; have fuel dosing and combustion checked.
Overheating / low heat output	Keep air passages clear. On a coolant circuit, allow cooling before checking the level; have air bleeding, circulation and pump checked. Do not bypass the sensor.
Smoke / odor / leak	Stop using the system and have it inspected before returning it to service. Do not tighten or repair a hot pipe.
Communication / remote control	Record the message and version. Have harness and protocol confirmed. For GSM, check the module and network availability with the installer.

Record the exact code before clearing it. Stop and allow cooling, check the power supply under load, then ducts and the fluid circuit. Correct the cause before a supervised test. A repeated fault requires workshop service.

For a code not described here, record the number, controller revision and circumstances; send them to ATLOSON support. Do not use a fault table from another type of unit.

11 Parts, kits and purchasing

Order by part number and variant. Drawing callouts are not SKUs. Check voltage, fuel and connector before replacement. A complete-system reference is not a maintenance kit.

[ATLOSON parts](#)

Records and support

Date / hours: _____ Work / parts: _____

Keep the invoice, SKU, serial number and history. For assistance, provide a nameplate photo, code and symptom.

[ATLOSON support](#)