



INSTALLATION MANUAL FOR MOBILE APPLICATIONS

TOPCOOL – Single Radiator



Art.nr. 40230680

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v1 November 2009



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1 INTRODUCTION

1.1 GENERAL

This installation manual applies to the installation of the TopCool generator rooftop cooling system launched in November 2009. This manual is valid for the following models:

Part number	Description
40230670	TopCool for W-GV8 / 10
40230670	TopCool for W-GV2 / 3

For other product see our website:
www.whisperpower.com

This document is an extension of the Installation manual which comes with each delivered generator set and should only be used in combination with that document.



WARNING

A warning symbol draws attention to special warnings, instructions or procedures which, if not strictly observed, may result in damage or destruction of equipment, severe personal injury or loss of life.



DANGER

This danger symbol refers to electric danger and draws attention to special warnings, instructions or procedures which, if not strictly observed, may result in electrical shock which will result in severe personal injury or loss of life.



WARNING!

Before working (installation) on the system read the section safety instructions in the user's manual

1.2 ROOFTOP COOLING

The TopCool generator cooling system consists of 1 radiator with electric 230V fan and 1 expansion tanks. For generator sets with a water cooled alternator, both the engine and alternator are cooled by the same radiator.

The wiring and installation parts are prepared in the factory.

In normal working conditions the fan speed is set at a reduced speed to prevent excessive noise. If the coolant temperature is above 82°C (engine) the rotational speed of the fans is increased to provide additional airflow for optimal cooling.

1.3 DIRECTION OF MOUNTING

The TopCool can be mounted in the direction as shown in the pictures.

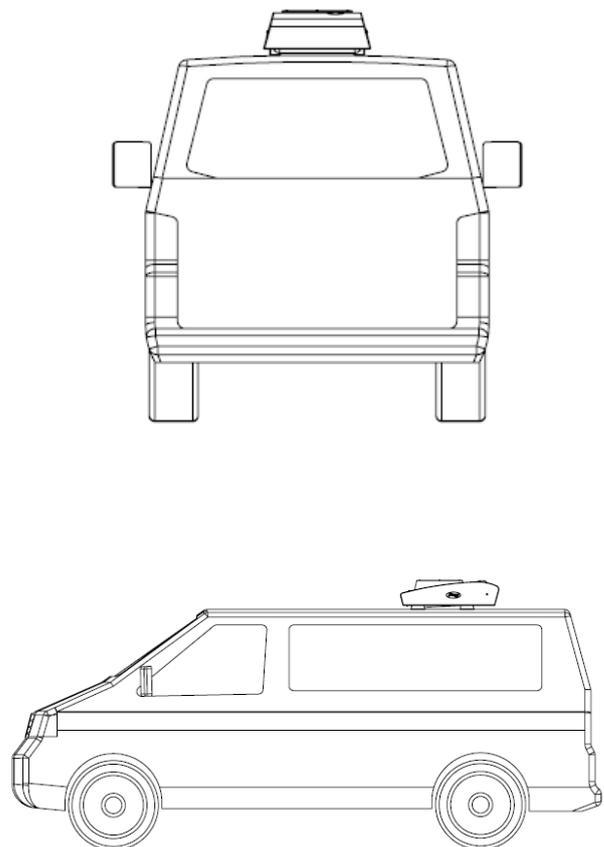


Figure 1: TopCool mounted in parallel with driving direction.

2 INSTALLATION

2.1 GENERAL

For the overall installation instructions of the generator, refer to the installation manual that comes with the generator. This document only describes the specific instructions for installing the TopCool radiator system.

The following steps are described in more detail in the following paragraphs:

1. Positioning on the roof;
2. Positioning of feed-through;
3. Fix and seal watertight;
4. Install fittings;
5. Install hoses;
6. Connect AC cable;
7. Mount cover.

2.2 LOCATION OF TOPCOOL

Locate the position of the TopCool and the feed-through plate. Pay careful attention to the routing of the hoses inside the vehicle and on the roof. In the middle of the cover the inset can be removed to allow more space for the hoses.

It is important that the mounting brackets are mounted on a flat and smooth surface. It is possible to vary the distance between the mounting brackets by using the appropriate mounting holes in the installation frame. If needed, additional holes can be drilled between the existing mounting holes.

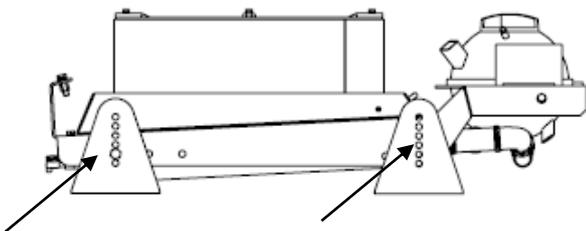


Figure 2: Bracket mounting adjustments.

It is possible to put the TopCool on a slightly bent surface, the brackets can be fixed using an angle.



It is important to assure sufficient airflow. The height 'h', at the position indicated in the figure below, should be at least 7cm.

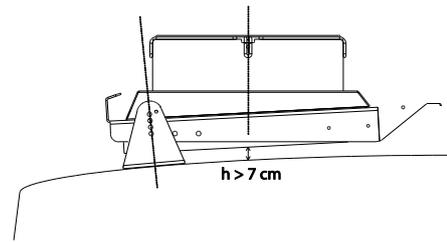


Figure 3: Bracket mounting.

For secure mounting of the installation frame, it is advised to use a second bolt per side of each bracket. The hole directly above the hole in the bracket can be used, a corresponding hole must then be drilled in the installation frame.

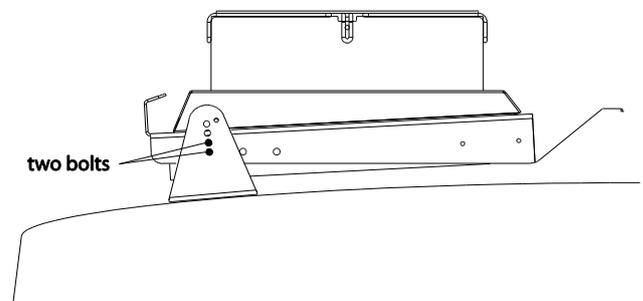


Figure 4: Bracket fixation.



Use protective spray such as 'corrosion guard' to protect any uncovered material due to drilling.

2.3 LOCATION OF FEED-THROUGH

Verify that the fittings will be accessible from the inside of the vehicle. Drilling in the reinforcement construction of the vehicle should be avoided as much as possible. Drill schematics for the feed-through plate can be found at the back of this document.

2.4 FIXATION ON ROOF

Mount the feed-through plate and TopCool mounting brackets using bolt and nut for initial fixation and an appropriate adhesive sealant such as a high quality SMP kit like Simson 007 (Bostik) for permanent fixation. Do not remove the bolts and nuts afterwards, they serve as break-away safety.

Glue the complete area of the mounting bracket and the feed-through plate with the adhesive sealant onto the roof. The feed-through plate is watertight around the fittings. Special attention should be paid to seal the fixation bolts appropriately.

2.5 FITTINGS AND HOSES

Install fittings on the radiator such that the hose connections point in the appropriate direction. It may be necessary to loosen or remove the expansion tanks temporary. When the fittings are installed, re-install the expansion tanks and connect the 1/2" hose with the present hose connection on the T-fitting.

For all connections on the feed-through plate and the TopCool, appropriate brass fittings with conical threading are included in the set. They can be mounted pointing in the correct direction. Use of appropriate thread sealant such as Loctite 577 is advised.

Install the coolant hoses between TopCool and feed-through plate and between feed-through plate and generator.



Avoid air-traps (see generator installation manual). Take care that the correct flow direction is adhered too.

Install the hose for overflow to the expansion tank through the appropriate pipe (see figure 5). Always connect the expansion tank to the outgoing hose to the engine or alternator.

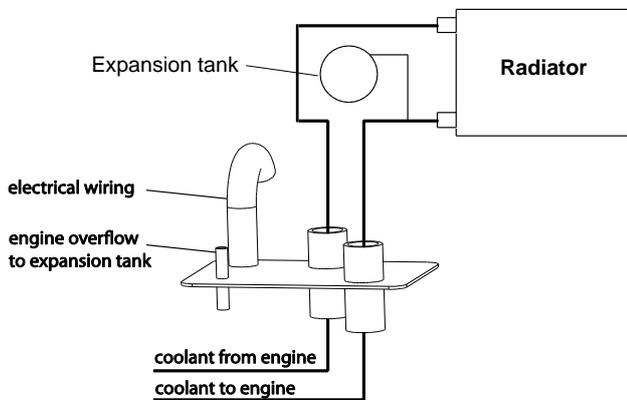


Figure 5: Cooling circuit routing.

2.6 AC WIRING

Connect the AC wiring to the TopCool powered from the generator (see wiring diagram 4.1 and generator installation manual). Secure the wire appropriately. The wire can be fed through the bent pipe in the feed-through plate. See figure 5 and 6.

2.7 COVER

Mount cover securely using the 6 fixation points as shown in the next figure.

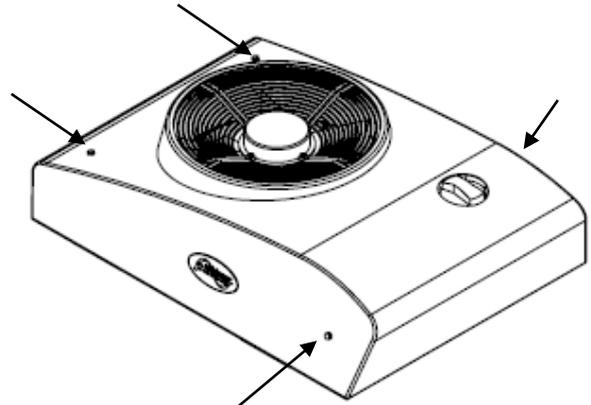


Figure 6: Cover bolt fixation

2.8 TECHNICAL SPECIFICATIONS

Dimensions (l x w x h)	820mm x 584mm x 256mm
Dry Weight	22-32 kg*
Electrical consumption	170W max.
Voltage	200 – 277 VAC
Frequency	50/60Hz.
Frame material	Aluminium
Corrosion protection	Powder coating
Exterior color	RAL 9003

* depending on type

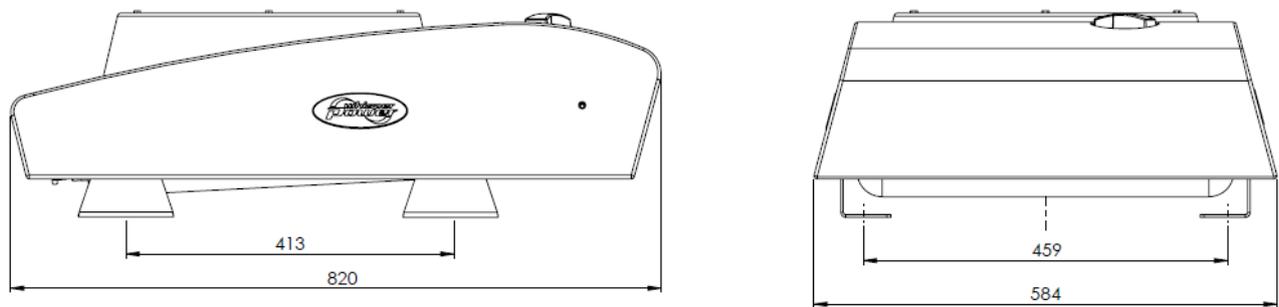
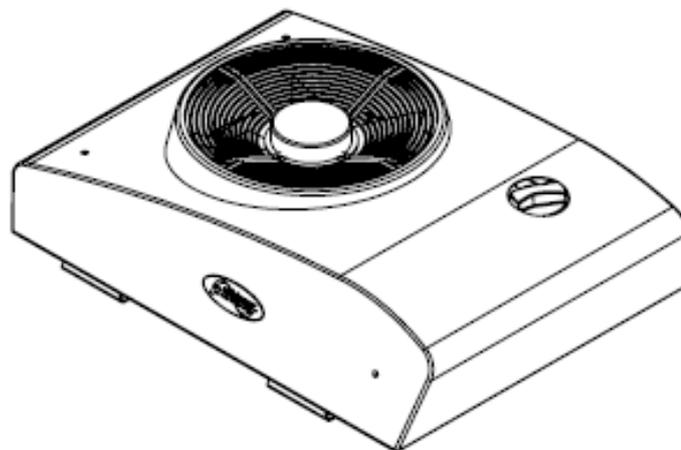


Figure 7: TopCool dimensions.



2.9 INSTALLATION MATERIALS

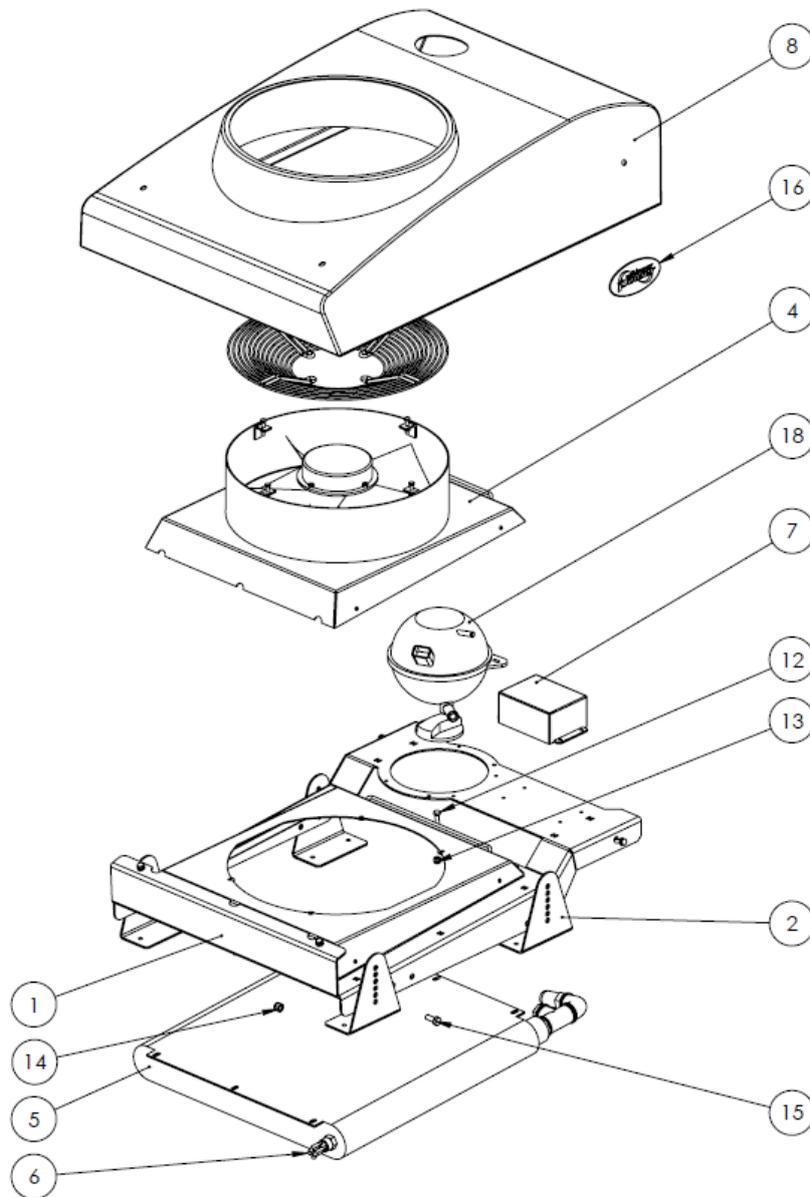
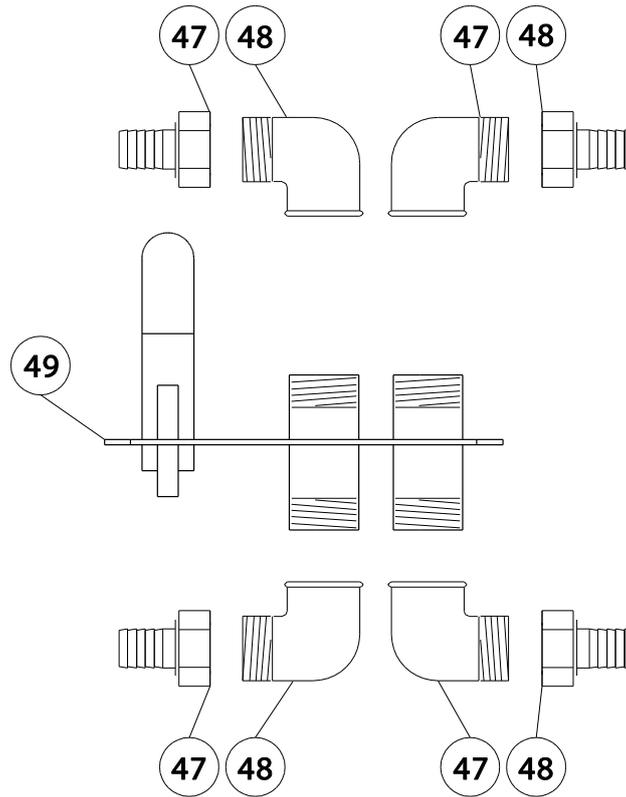


Figure 9: TopCool exploded view with spare parts.

TOP COOL RADIATOR KIT 40230670

no	qty	article no.	description
1	1	40230681	Top Cool radiator mounting bracket
2	2	40230640	Top Cool support brackets
4	1	40230683	Fan housing
5	1	50230312	Cooling element
6	1	50209219	Temperature sensor
7	1	40230641	Top Cool radiator control box
8	1	40230684	Cover
16	1	40200952	WhisperPower label
18	1	50230562	Expansion tank including cap CN


TOP COOL RADIATOR KIT 40230670

no	qty	article no.	description
47	4	50221025	FEMALE HOSE CONNECTION 1"x25
48	4	50221084	ELBOW 90 GR M/F 1"
49	1	40230646	Feed through housing

Figure 10: Feed-through fittings.

3 DIAGRAMS AND DRAWINGS

3.1 ELECTRICAL DIAGRAM TOPCOOL WITH 230VAC FAN

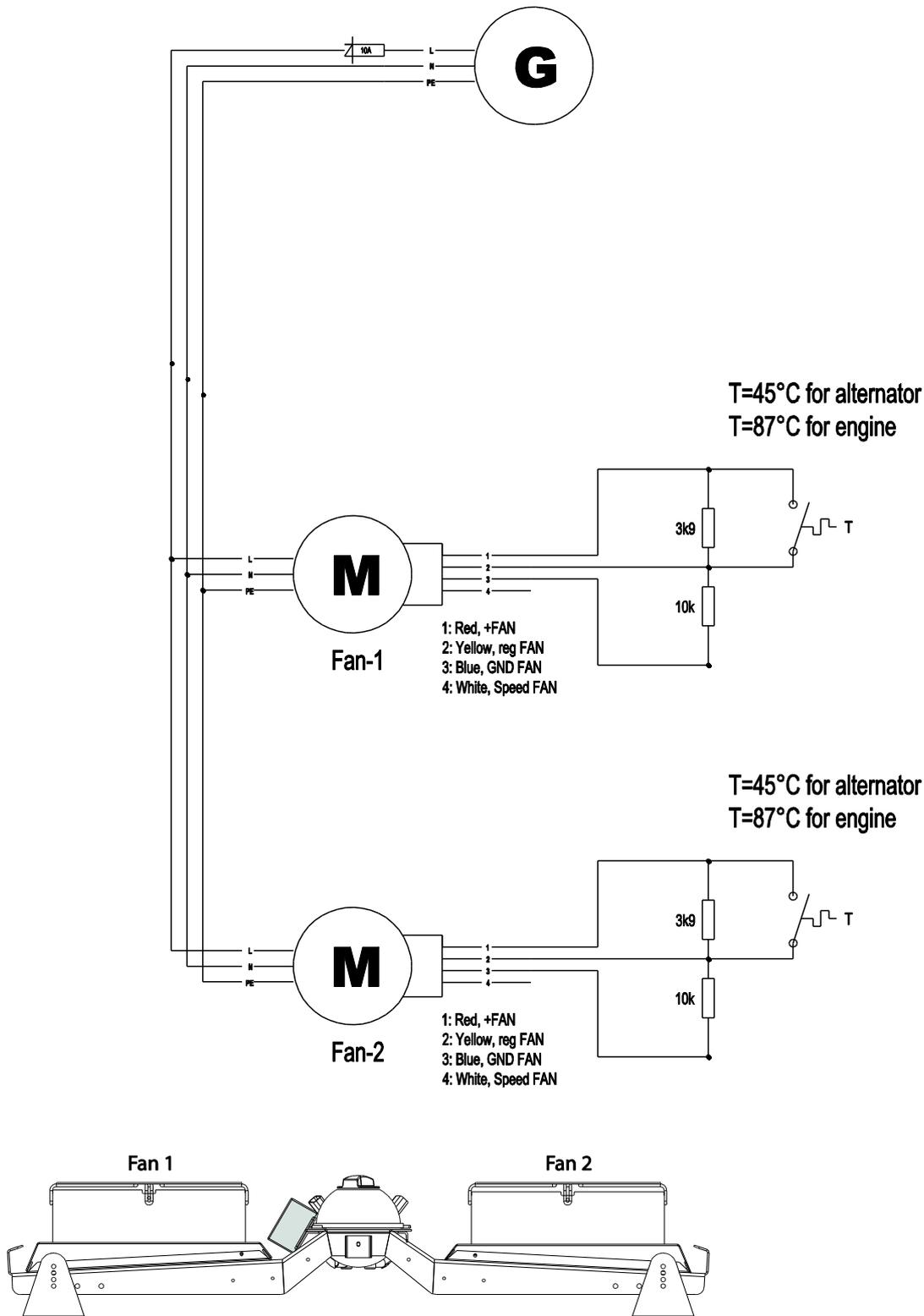


Figure 11: Electrical diagram TopCool with 230VAC fan (For the single TopCool radiator 40230670 is only 1 fan).

3.2 CONTROL BOX CONNECTIONS

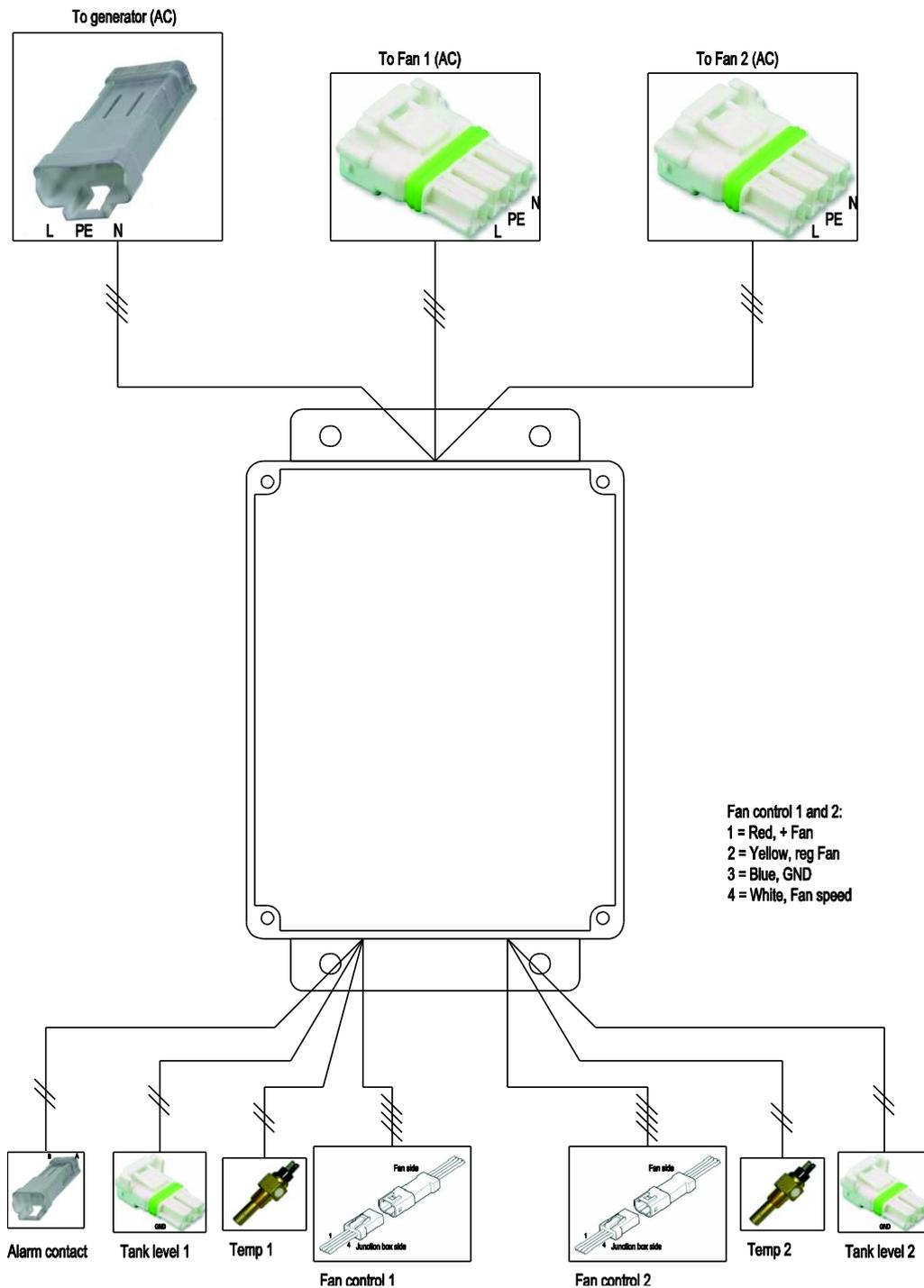


Figure 12: Control box connections.

* Tank level 1 and 2 and Alarm contacts are optional. Kit 40230670 is equipped with 1 fan

DRILL SCHEMATICS

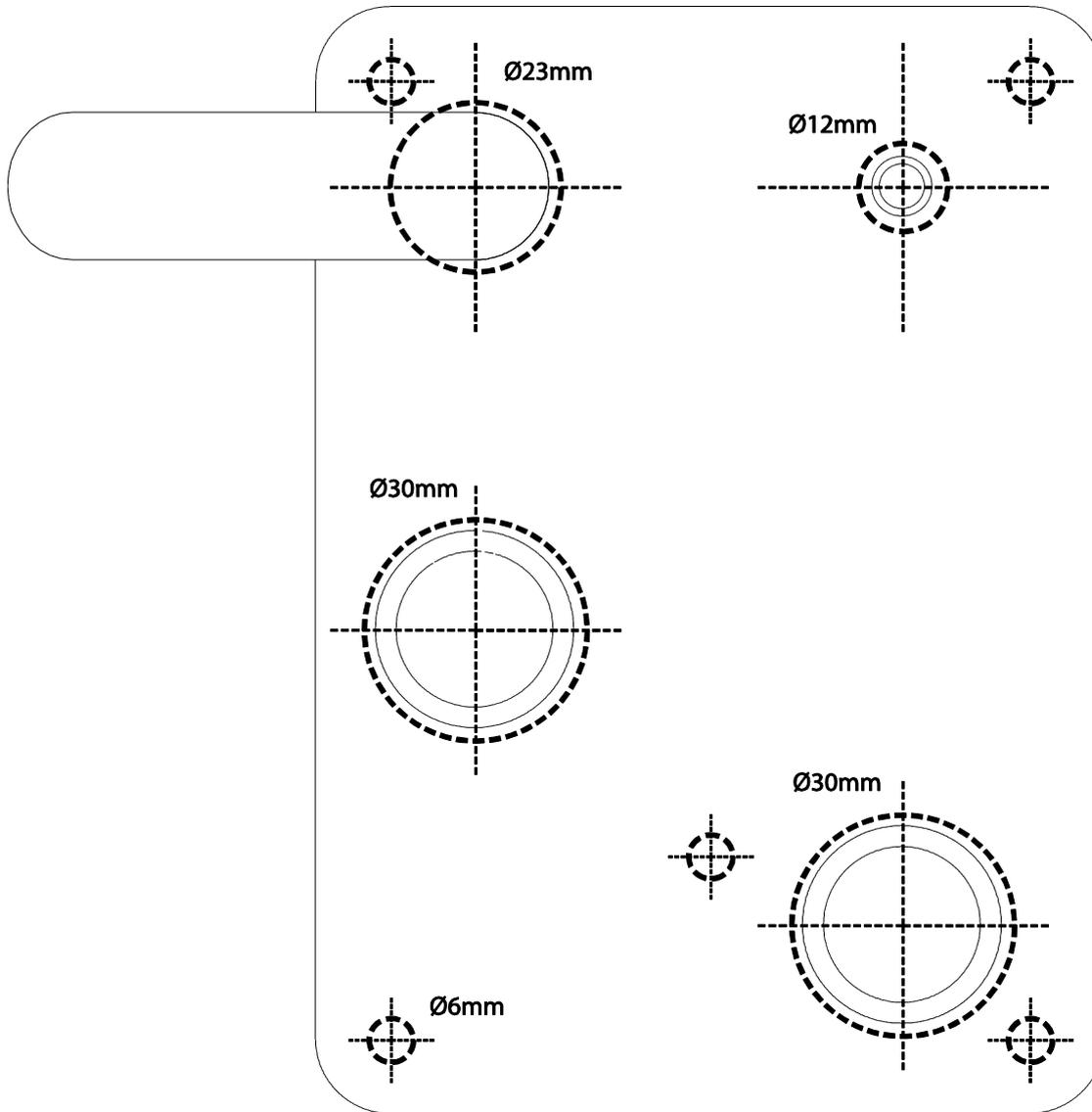


Figure 13: Drill schematic feed through plate

CONTENT TOP COOL RADIATOR KIT 40230670

qty	article no.	description
1	40230670	Top Cool radiator
5m	50220012	Cooling water hose smooth (1") 25x34 m
4	50221503	Hose clamp stainless 25-35 mm
2m	50220005	Hose hydraulic 7,5x15mm
2	502221522	Hose clamp stainless 10-16 mm
4	50221025	FEMALE HOSE CONNECTION 1"x25
4	50221084	ELBOW 90 GR M/F 1"
1	40230646	Feed through housing
4	50221025	FEMALE HOSE CONNECTION 1"x25


OPTIONAL ACCESSORIES

qty	article no.	description
1	40222214	WhisperPower Coolant 4ltr



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