Electronic Fan Controller (QCO)
Fitting Instructions

QCO Kit Contents

- Fan control module (QCO) contains a sealed temperature circuit which is adjustable and monitors coolant temperature. Factory set at approx. 70°C
- Wire loom with incorporated 30 Amp relay
- Dust cap, cables ties and hose clamps.
- Temperature adjustment tool

1. Installation

Before making any alterations to your system ensure that the QSP Electronic Fan Controller (QCO) is the correct size. Choose a position for the controller in a straight section of one of the main radiator hoses, ensuring that:

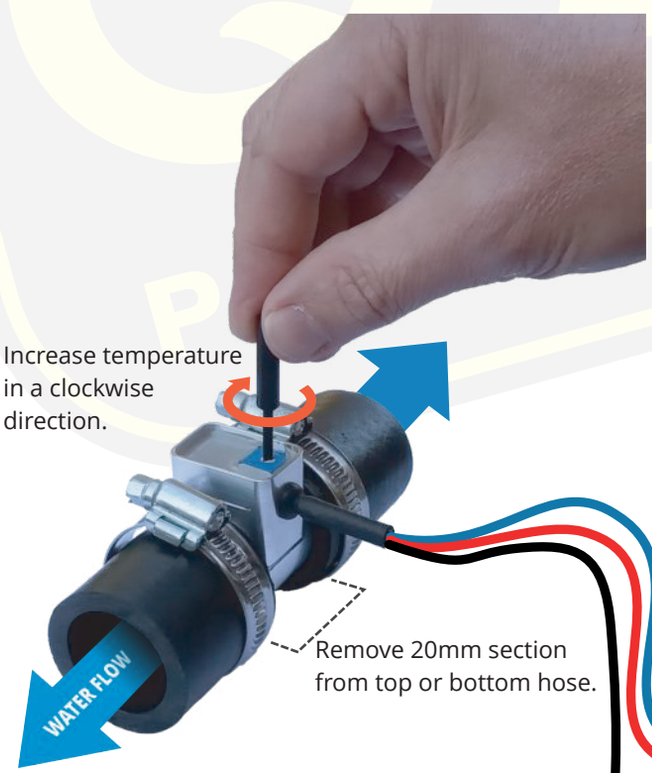
A) There is sufficient straight hose to fit the full length of the QCO and the adjustment is accessible.

B) The QCO will be in constant contact with the coolant. Partially drain the cooling system to allow you to remove the hose. It may be necessary to remove a 20mm section from the hose at the position that you want the controller.

Clamp the hose to the controller using the hose clips provided.

Top up the coolant and check for leaks.

The temperature at which the QCO switches on the fan is adjustable between 70°-120°C and will automatically switch off when the coolant temperature has reduced by 3°C.



Note: The direction of water flow through the controller is not important.

2. Electrical Connections

Before starting, disconnect the vehicle battery. Extreme care must be taken whilst making any connections including using correct crimping tools and ensuring good earth connections.

1. Mount the relay in a suitable position protected from the elements and ensuring there will be no strain on any wiring.

2. Connect the BLACK wire to a good earth point.

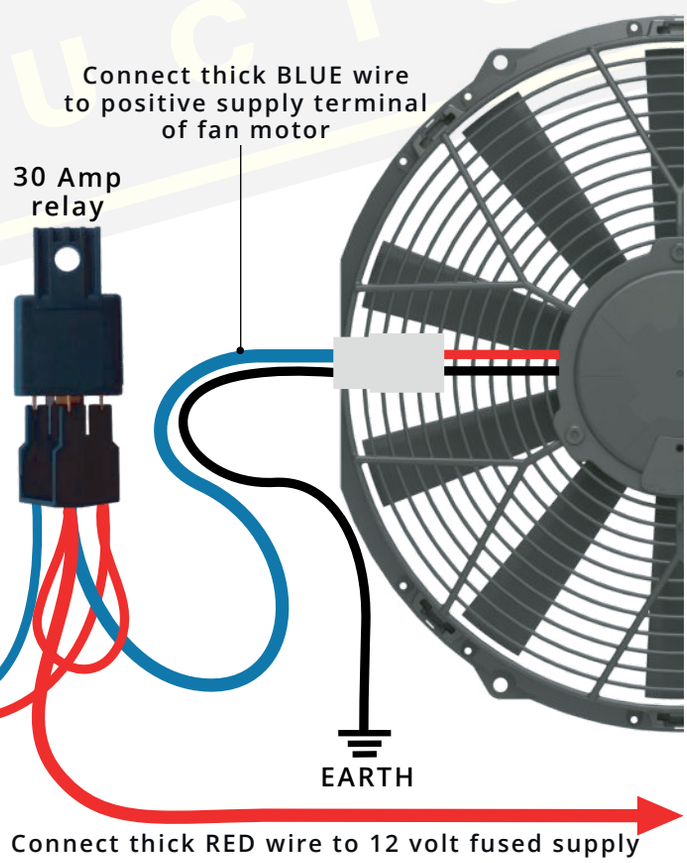
3. Connect the thick RED wire to a fused 12v supply. (It is recommended that the feed is from an ignition controlled supply such that the controller will not operate when the engine is switched off. If the supply is a permanent live the QCO may operate after the engine is switched off. This may also affect alarm/immobilizer operation or drain the battery).

4. Connect the thick BLUE wire to the positive supply of the fan motor.

5. Connect the BLACK wire of the fan to a good earth point.

6. Secure all wires and loom with the ties provided and reconnect vehicle battery.

This unit is only for use on a negative earth vehicle. It cannot be installed on a positive earth vehicle. Attempts to reverse wire can lead to permanent damage of the QCO.



3. Set Up

The temperature at which the fan is switched on by the QCO is set by turning the small control inside teh body of the QCO. The adjustment range is only ¾ of a turn (270°) total rotation. Do not force past the stop or permanent damage will be done and all warranty is void.
Only adjust using the adjustment tool supplied.

The temperature range is 70°C-120°C (150°F-250°F).
1. Set the unit to its minimum (fully anti clockwise).

2. Start the engine and allow the engine to get warm, The fan should operate when the coolant temperature reaches approximately 70°C (150°F).

3. Continue to increase the setting until the fan remains off when the engine is at normal running temperature. The fan will then operate if the engine temperature exceeds normal.

4. When adjustments are finished fit the dust cap.

Important Information

A) The QSP QCO cannot compensate for cooling related problems that may lead to overheating. If the temperature of the coolant exceeds 125°C damage to the QCO may occur.

B) Any modifications to the loom or use of different relay will invalidate warranty.

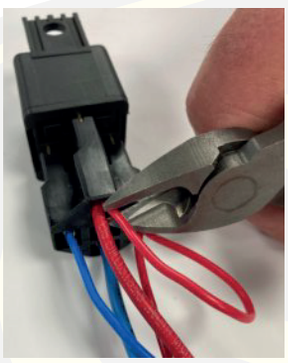
C) The QCO body is aluminium it is imperative that a suitable corrosion inhibitor is used in the cooling system.

D) The QCO utilizes a ground or earth switching circuit.

E) If connected to a permanent live the QCO will consume approximately 1.0 milliamp of power equivalent to approximately 1/10, the power feeding a clock.

F) In some cases mounting the QCO in close proximity to HT leads can affect correct operation.
(see trouble shooting for solution)

Separating The 12 Volt Feeds



The QCO electronics AND the supply for the fan are connected together such that a single connection to a 12volt supply will power both.

In some cases it may be preferable to separate the two feeds, if for instance the ignition switch is not of sufficient rating to operate the fan.

Separating the two feeds is quite straightforward. At the bottom of the relay housing there is a red link wire that links the FAN and QCO supply, simply cut this at the end next to the thick red wire, leaving the link connected to the thin red. Now connect the thin red to the ignition 12 volt supply. The thick red can then be connected to a suitable fused supply.

Troubleshooting Guide

Symptom	Possible Cause	Solution
QCO does not operate at all	Incorrect polarity compatibility	Check QCO & vehicle specification
	Lack of 12v supply	Check 12v supply
	Unreliable earth connection	Check earth connection
	No hot water in system or air pocket	Check QCO is in contact with hot water eg above 70°C minimum QCO setting
Fan on constantly	Incorrect wiring	Check connections
	Interference from ignition	Move QCO to bottom hose
		Move QCO wires away from HT leads
		Change HT leads to suppressed type
Fan pulsing/buzzing	Poor connection in 12 volt supply	Check all connectors in the 12 volt supply, especially any crimps
	Suppy voltage drops when fan energises (fan takes a high current when it switches on)	Check alternator or dynamo
		Check battery voltage
Interference from ignition	QCO is close to the HT leads or interference is due to high power electronic ignition systems	See above