UNIVERSAL INSTALLATION GUIDE

CATIII-2 · CATIII-4 · CATIII-6 · CATIII-8

2, 4, 6 and 8 Pad Systems — For Vehicles, Trucks, Machinery, Air Conditioners and Steel Structures

WHICH SYSTEM DO I HAVE?

This guide covers all four CATIII kit sizes. The installation is identical — only the number of coupler pads and the way they are shared across the two output circuits changes.

Kit	Coupler Pads	Base 2 Pad System	2 Pad Expansion Packs	Pads per output circuit
CATIII-2	2	x1	—	1 + 1
CATIII-4	4	x1	x1	2 + 2
CATIII-6	6	x1	x2	3 + 3
CATIII-8	8	x1	x3	4 + 4

The CATIII-2 is the basic building block of every system — add 2 Pad Expansion Packs to make a 4, 6 or 8 pad system. Maximum system size is 8 coupler pads (4 per output circuit).

PACKAGE CONTENTS

2 Pad System (x1) comprising:

- CATIII Control Module (x1)
- Fused Wiring Harness (x1)
- Coupler Pads (x2)
- 2m Blue Extension Leads (x2)
- Black Cable Ties
- Alcohol Wipes
- Spare Fuse
- Fitting Instructions

2 Pad Expansion Pack (each) comprising:

- Coupler Pads (x2)
- Pad Wiring Splitters (x2)
- 2m Blue Extension Leads (x2)
- Black Cable Ties
- Alcohol Wipes
- Fitting Instructions

The CATIII-2 kit has no expansion pack and needs no pad wiring splitters — both pads plug straight into the main harness.

INTRODUCTION

The CAT Electronic Anti-Corrosion System is designed to aid in the suppression of rust in motor vehicles, trucks, buses, plant and machinery, air conditioning units and many other types of steel structure, either fixed or mobile.

The CAT System will operate from either a 12VDC or 24VDC battery or power source. The unit automatically detects the input voltage and adjusts its function and diagnostics accordingly.

The system consists of a Main Control (Generator) Module and 2 or more coupler pads, interconnected via a fused wiring harness. The Main Generator Module has 2 output circuits (blue wires). Each output circuit can supply up to 4 coupler pads linked in series — a maximum of 8 coupler pads across both circuits. Additional coupler pads can be added at any time, up to that maximum, to boost the operation of the system.

Coupler pads are wired like a daisy chain, starting at the main module and using the main harness, extension cables and pad wiring splitters supplied. Although not critical, it is best practice to have the same number of coupler pads on each output circuit, and where possible to use a separate output circuit for each side of the vehicle, machine or structure.

Two ways to power the system

Application	Power source
Vehicles, trucks, mobile plant and machinery	The existing 12VDC or 24VDC battery. The battery negative is already grounded to the vehicle chassis.
Air conditioners, fixed plant and steel structures	A mains (240VAC) voltage converter / transformer supplying 12VDC (or 24VDC) to the Control Module. The (–ve) negative output of the converter MUST be grounded to the same metalwork as the coupler pads (casing, chassis or frame). See Step 3.

We highly recommend that you familiarise yourself with the size and shape of each component and pay particular attention to the length of the wiring supplied.

Please read these instructions carefully prior to commencing installation. Please feel free to contact us if you need any assistance.

STEP 1: PRE-PLANNING

1) Remove all components from the package and extend the wiring harness. Familiarise yourself with the size and shape of each component and pay particular attention to the length of the wiring supplied, which may determine the mounting sites you choose.

2) Locate suitable mounting sites for:

a) The Control Module

Application	Recommended Control Module location
Motor vehicles & trucks	Ideally on the same side as the vehicle battery, as far away as possible from the exhaust manifold, and where the status indicator light can be seen.
Air conditioners	Within the casing, ideally visible through the inspection plate. Keep clear of the compressor, hot pipework and any moving fan components.
Fixed plant, machinery & structures	On a secure, solid surface, protected from weather and water ingress, and where the status indicator light can be seen.

b) Coupler Pads – The system's strength is directly proportional to the number of couplers used. The more couplers used, the greater the coverage, and the coverage will always be greatest close to the coupler. Couplers must be mounted on a painted, predominantly flat metal surface.

Application	Recommended Coupler Pad locations
Motor vehicles & trucks	Mount the first pair of pads inside the engine bay — on the firewall, inner guard or wheel arch — spaced as far apart as possible. Position the remaining pads evenly around the vehicle. Suggested sites: chassis rails, underside of the floor pan, inner guards, inner walls behind trim, rear of a utility cab, or the shock absorber towers.
Air conditioners	On a predominantly flat painted metal surface on the inside of the casing. Spread the pads as evenly as practical around the unit — for example one pair at each end of the casing, or one pair on each side wall. Avoid hot surfaces, coil fins, unpainted galvanised sheet, or panels removed regularly for service.
Fixed plant, machinery & structures	Distribute the pads evenly across the metalwork to be protected, spaced as far apart as practical while still on a common, electrically continuous metal structure.

c) Splitting the pads across the two output circuits — the Control Module has 2 blue output circuits. Divide your pads evenly between them (1+1 on a CATIII-2, 2+2 on a CATIII-4, 3+3 on a CATIII-6, 4+4 on a CATIII-8) and, where possible, put one circuit on each side of the vehicle, machine or structure.

3) When the location for each component has been identified (i.e. the Control Module and each of the Coupler Pads), we recommend the following procedure to ensure the wiring harness will interconnect safely and efficiently with each component:

a) Plug together the main connector which connects the harness to the Control Module.

b) Loosely place the Control Module into position.

c) Separate the Black (–ve) and Red (+ve) power wires and ensure they can be routed all the way to the vehicle battery, or to the 12VDC / 24VDC power source (transformer) for non-vehicular installations.

d) Likewise separate the 2 blue Coupler Pad wires in the main harness and identify a suitable route to the first 2 pads, using the 2m blue extension leads where required. *(Cutting and splicing additional cable to further extend or customise the installation is permissible, as long as a similar gauge multi-strand cable is used and all joints are soldered and well sealed.)*

e) We also recommend enclosing all wiring in plastic split tubing for additional protection and appearance.

f) CATIII-4, -6 and -8: interconnect the remaining pads on each circuit using the Pad Wiring Splitters and 2m extension leads supplied. CATIII-2: the two pads plug straight into the two blue harness wires — no splitters are needed.

g) Check that all wiring is clear of moving parts and high temperature fittings. On air conditioners and fixed plant, keep wiring clear of fan blades, belts, compressors and hot gas lines, and route it so service panels can still be removed.

NOW YOU'RE READY TO MOUNT EACH OF THE COMPONENTS

STEP 2: FINAL MOUNTING

1. Mounting and connecting the Control Module

a. Clean the mounting area using prepsol, thinners or one of the alcohol wipes provided.

b. Attach the Velcro strip provided to the rear of the Control Module.

c. Remove the self-adhesive backing, then press the Control Module squarely and firmly onto the cleaned surface. (The Velcro strip enables removal of the module later if required.)

d. Secure with an appropriate fastener. (Optional)

e. If you have not already done so, plug together the main connector which connects the wiring harness to the Control Module.

2. Mounting and connecting the Coupler Pads (repeat for each pad)

a. Clean the mounting area using prepsol, thinners or one of the alcohol wipes provided.

b. Remove the backing from the coupler pad adhesive and roll the pad into position from one edge, so as to avoid air bubbles. Press and rub firmly to ensure complete adhesion and to remove any trapped air.

c. For extra security, a bead of black automotive Sikaflex can be hand applied around the edge of each pad. This is recommended for air conditioners and outdoor structures exposed to weather.

d. Plug each pad into its associated Pad Wiring Splitter and/or blue extension lead as required.

STEP 3: CONNECTING THE POWER SUPPLY

Follow Option A for vehicles and mobile plant, or Option B for air conditioners, fixed plant and structures.

Option A — Vehicles, trucks and mobile plant (existing 12V / 24V battery)

a. Connect the black lead from the wiring harness to the (–) negative battery terminal.

b. Connect the red lead from the wiring harness to the (+) positive battery terminal.

c. The battery negative is already grounded to the vehicle chassis, which is the same metalwork the coupler pads are mounted to. No additional earth is required.

Option B — Air conditioners, fixed plant and structures (12VDC transformer)

a. Fit a mains (240VAC) voltage converter / transformer with a 12VDC (or 24VDC) output. Mount it in a dry, protected position and have it connected to mains power by a licensed electrician where required.

b. Connect the red lead from the wiring harness to the (+) positive output of the converter.

c. Connect the black lead from the wiring harness to the (–) negative output of the converter, **and run a second wire from that same negative output to the metal body, casing, chassis or frame the coupler pads are mounted on.**

d. Use a clean, paint-free, corrosion-free earth point — an existing earth stud, bolt or screw into the casing is ideal. Ensure the connection is tight and protected from moisture.

IMPORTANT — EARTHING THE NEGATIVE OUTPUT

The (–ve) negative output from the voltage converter must be grounded to the same metal structure as the coupler pads (i.e. casing, chassis or frame).

Technical explanation: the negative (–ve) or "black" lead to the CAT Main Module completes the sensing and diagnostics return circuit via the Coupler Pads and the metal casing or structure. Without this earth the system cannot function or self-diagnose correctly.

This is exactly the same principle as a vehicle installation, where the battery negative is grounded to the vehicle chassis.

3. Final checks

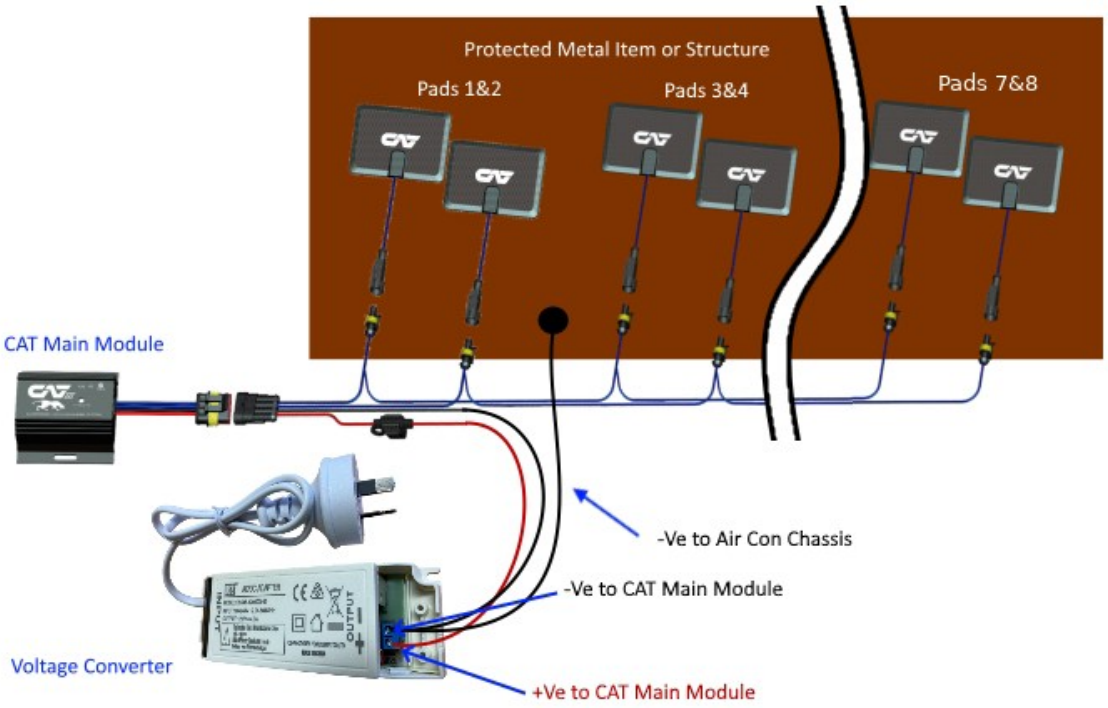
a. The Green LED on the Control Module will shine solid when first connected, then flash or show solid green, indicating normal operation.

b. Ensure all connections are secure and fix all loose wiring using the cable ties provided.

c. Refit any covers, service panels or trim removed during installation.

WIRING DIAGRAM — NON-VEHICULAR INSTALLATION

Typical air conditioner / fixed structure installation using a 240VAC to 12VDC voltage converter. Note the negative (–ve) output is connected both to the CAT Main Module and to the metal casing of the unit.



The diagram shows a system expanded to the full 8 pads. Wire your kit the same way, splitting the pads evenly between the two blue output circuits — 1+1 for the CATIII-2, 2+2 for the CATIII-4, 3+3 for the CATIII-6 and 4+4 for the CATIII-8.

TROUBLESHOOTING

Please follow this guide to resolve a fault condition.

First, determine the status of the LED light on the CATIII Control Module. A Green light (flashing or solid) is normal and indicates "No Fault".

NO LIGHT — indicates either there is no power getting to the CATIII Control Module, or the module is possibly faulty.

1. Check the condition of the power source.
   a. Vehicles: start the vehicle. If it doesn't start normally, resolve that first. If it starts normally, leave it running and re-check the LED — if it is green (flashing or solid) all is ok.
   b. Air conditioners / fixed plant: check the transformer is plugged in and switched on, and measure its DC output with a meter.
2. Check the power connections (red and black wires) at the battery or converter.
3. Check the in-line fuse (on the red wire to the CAT Module).
4. Check the vehicle isolator switch or the mains power switch is on (if fitted).
5. Check the complete power wiring harness to the CAT Module (red and black wires).
6. Check the main multi-pin connector is inserted fully.

YELLOW LIGHT (solid or flashing) — indicates the DC voltage supply to the CAT System is outside its normal operating range of 12.0V to 15.1V for 12V systems, or 23.9V to 28.1V for 24V systems.

1. Vehicles: check the condition of the battery by starting the vehicle. If it starts normally, leave it running and re-check the LED. If it turns green, the battery is likely failing and should be checked by a qualified auto electrician.
2. Air conditioners / fixed plant: measure the DC output of the transformer with a meter. If it is outside the range above, the transformer is unsuitable or failing and should be replaced.
3. Measure the supply voltage using a meter to determine the actual voltage.

RED LIGHT (solid or flashing) — indicates a possible fault condition with the CATIII Control Module, the Coupler Pads or the pad wiring (blue wires).

1. First check the power source as for "No Light" above. If the LED turns green, all is ok.
2. Non-vehicular installations: check the negative (–ve) earth wire from the converter to the metal casing or structure. **A missing or poor earth here is the most common cause of a red light on air conditioner installations.**
3. Check that each blue wire connecting the Coupler Pads to the unit has not been damaged or broken, and that each pad is securely attached — look for lifting around the edges or bubbles under the pads. (This will need to be significant to be a problem.)
4. Reset the CAT System — momentarily disconnect the power to the Control Module by removing the in-line fuse or unplugging the module for a few seconds.
   a. After restoring power, if the LED is red (solid or flashing) either immediately or soon after, this indicates a fault with the Control Module. Please contact us.
   b. If the LED is green (solid or flashing), it is recommended the system be re-calibrated using the steps below.
5. To re-calibrate the CAT System:
   a. Disconnect the power to the Control Module by removing the in-line fuse or unplugging the module — leave it unplugged.
   b. Isolate ALL coupler pads by unplugging them at the black connector closest to each pad.
   c. Restore power to the Control Module — the LED should be green (solid or flashing).
   d. Reconnect ALL coupler pads. The LED should remain green (solid or flashing).
   e. If the LED is red (solid or flashing) at any time thereafter, please contact us.

If the suspected fault does not clear, please re-check all items above before contacting us.

LED STATUS LIGHT FUNCTIONS

Function	What does this mean?	What should I do?
Green light (flashing)	Normal operation	Nothing
Green light (solid)	Normal operation — supply voltage very good	Nothing
Yellow light (flashing)	Supply voltage low or high	Follow troubleshooting guide
No light	No power to system	Follow troubleshooting guide
Red light (flashing or solid)	Fault condition detected	Follow troubleshooting guide

OPERATING SPECIFICATIONS

Input Voltage	DC 12V / 24V	**Low Voltage Cut-Out**	11.8V / 23.6V
Operating Voltage	9V – 32V	**High Voltage Cut-Out**	14.9V / 29.1V
Max Current Draw	25mA	**Cut-Out Current Draw**	9mA
Operating Temperature	–30℃ ~ 85℃	**Coupler Pads**	Up to 4 per output circuit (8 total)

Note for non-vehicular installations: the voltage converter / transformer must deliver a regulated 12VDC (or 24VDC) within the operating range above, and be rated for continuous duty.

WARRANTY DETAILS

10 YEAR
PRODUCT WARRANTY

Terms and Conditions

This CAT III product is guaranteed for 10 years from date of purchase against faults in manufacture or materials used, provided that it has been fitted in accordance with the standard installation instructions and the serial number has not been defaced.

This warranty does not apply to any defect, deterioration, loss, injury or damage caused by or as a result of the misuse or abuse of this product. Our obligation in the event of a valid claim is limited to repair or, at our discretion, replacement of the product. All claims under this warranty should be made by contacting the supplier: CAT Systems Australia.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Owner's Record

Date of Purchase		**Purchased From**	
Invoice Number		**Serial Number**	
Installed On (vehicle / unit)		**Installation Date**	

Register your warranty online — www.catsystemsaustralia.com.au/register

Failure to register your product warranty will not affect your rights under any Consumer Protection Warranty, however registration may help us deal with any warranty claim more efficiently. Thank you for choosing CAT.