

MACS Monitoring

Mains Alternating Current Supply Monitoring



PROTECTING YOUR IMPORTANT ELECTRICAL ASSETS

WHY MACS MONITORING?

MACS Monitoring saves farmers, homeowners and retailers thousands of dollars each year on lost productivity, repairs and replacements to farm infrastructure (e.g. pumps on bores), whitegoods (e.g. motors on freezers, cold rooms) and other electrical items (e.g. computers) that are damaged by constant fluctuating power supply from the grid i.e. brown-outs and power surges.

Gavin Elliott, Director of MACS Monitoring, is an electrical technician with Queensland Country

Electrical, and is the driving force behind the revolutionary new product. Gavin grew up living and working on a sheep and cattle station in Winton QLD. In his adult years he has traveled around Queensland using his electrical trade and local know-how to support rural and remote clients. Since 2015, Gavin has been determined to find a solution to support farmers and minimise the hardships associated with lost time, money and productivity due to fluctuating power supply from the grid.

WHAT IS THE MACS MONITORING BOX?

MACS Monitoring is known by those who have tried the system as 'the box' – a revolutionary Australian made solution which can protect valuable electrical goods when irregular electricity supply occurs. It has been designed, tested and produced to deal with the Australian climate, extreme weather events and power reticulation in regional and remote areas. It is a full solution including measurement method, control and installation package.

There are three versions of the device based on the phase level of power required:

MACS 1-100 – With or without canopy

MACS 3-50 – With or without canopy

MACS 3-80 – With or without canopy

MACS Monitoring devices meet the relevant safety standards for use in Australia i.e. AS/NZS3820 (Essential safety requirements for electrical equipment) and AS/NZS 3100.

HOW DOES IT WORK?

The normal power supply voltage in Australia is 230 volts with an allowable range between 216.2 volts to 253 volts. When the fluctuating power supply drops below 205 volts or above 255 volts, one of the following scenarios occurs:

WITHOUT A MACS MONITORING BOX

Low voltage power supply (brown-outs) for a few minutes or hours causes electrical farm infrastructure and whitegoods to stall and therefore draw more current, working harder and resulting in large power/heat dissipation causing burn out.

Over time, electrical products wear out quicker and burn out. This results in thousands of dollars in lost productivity, repairs and replacements.

High voltage power supply swells (over voltage) last minutes, hours or days and cause more power to be discharged into electrical items resulting in them overloading.

Damaged electrical equipment results in thousands of dollars in lost productivity, repairs and replacements.

WITH A MACS MONITORING BOX

Cuts out the power in under a second to minimise damage to electrical equipment. It gives compressors and gasses time to settle and equalise before turning back on.

Monitors the voltage for up to 3 minutes.

Switches the power back on when the supply is back to a safe level between 205 and 255 volts.

Continues to keep the power off while the supply is at an unsafe level. It only switches the power back on when the supply is at safe level as specified above.

Minimises damage to critical farm infrastructure, whitegoods and other electrical equipment.



WHAT ARE OUR CLIENTS SAYING?

CHRIS ZAHL OWNER, WYCHEPROOF PASTORAL COMPANY

When it came time to put the MACS Monitoring system to the test, Mr Elliott approached one of his regular clients, Wycheproof Pastoral Company owner Chris Zahl, who was at his wit's end with his bore.

Mr Zahl runs a commercial cattle herd of about 1400 breeders from his 17,000-acre property in the Central Highlands and the bore is integral to his operation.

Before installing the MACS Monitoring system, he was having daily issues with the submersible pump. It was browning out constantly, costing him time, money, and lost productivity. It supplies water to up to 800 head of cattle at a time. So, every time it stopped working it meant his animals were going without water.

Depending on the circumstances, it could sometimes take several days to get it fixed, which can have serious impacts on your bottom line, especially when you're trying to finish off cattle.

"When our power was fluctuating, it'd drop right down to 160 to 200 volts at times, and we were just getting brown-outs. Because the pump was (consistently) not getting the right amount of power to it, it just kept burning out" Mr Zahl explained.

"It was a real bugger. Submersible pumps cost \$1600 a pop and we were going through at least one pump a year. Plus, we had (to pay for) all of the labour and our nearest pump place was in Emerald which is 160kms away," he continued.

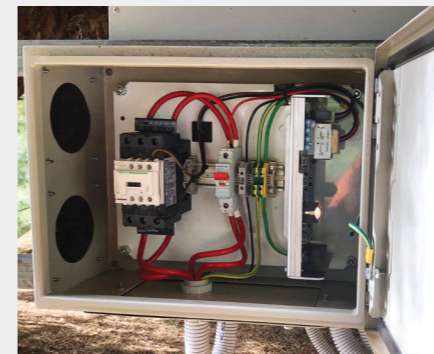
"We were having to get Gav out all the time, trying to fix it, and he said he'd just had this box (MACS Monitoring) manufactured and asked if he could trial it out here. I said, go right ahead and it has just worked! You cannot fault it! In four years, it hasn't tripped out once!"

This farmer's story appeared in Queensland Country Life, 6th March 2020.



**"You cannot fault it!
In four years it hasn't tripped out once!"**

ELSIE DILLON OWNER, SURBITON STATION ALPHA



"I think they're worth their weight in gold."

Another Central Highlands cattle farmer who had their financial woes sorted by the MACS Monitoring system is Elsie Dillon, owner of Surbiton Station Alpha.

Like Mr Zahl, Mrs Dillon also runs a large commercial herd with her two adult children, son Sean and daughter Teneille Ham.

The Dillons have incurred significant financial costs from the inconsistent flow of electricity and the constant fluctuations. So, when Mr Elliott gave her the option to install a MACS Monitoring system she jumped at the opportunity.

"We've got boxes on each of our two bores. They are very important to us for watering stock," she explained. "We were having a lot of trouble with the submersible pumps but since we had them installed 16 months ago, we haven't had any problems."

Before installing the device, the Dillons had to replace one submersible pump at great expense and pay to have another repaired. The nearest supplier was over 200kms away. When they had to wait long periods of time for parts or labourers to assist, it risked taking them "down to the wire with water".

"Since we've had the two (MACS Monitoring) boxes it eliminates the fluctuation, and it has significantly reduced our electricity bills. What we're paying now is a lot less than what we were paying before we had the installed," she said.

"I think they're worth their weight in gold. If we didn't have these boxes installed who knows how many more pumps, we would've had to replace."

This farmer's story appeared in Queensland Country Life, 6th March 2020.



THE GOODWIN FAMILY NAROUNYAH

"We sought the MACS Monitoring unit because of the number of brown outs and black outs we have at Alpha. We were consistently losing whitegoods before the life of the equipment was due. Due to seasonal changes in the rural industry the cost of replacing whitegoods was becoming a constant so we decided to give the MACS Monitoring a try.

The MACS Monitoring unit protects mostly our whitegoods in the home and tools at the shed.

Since having the MACS Monitoring unit installed at home we now know when the power is below or above the voltage that is required to run a household. We now see how often brown outs occur in a day which could be between 3-10 times per day!

The MACS Monitoring unit appears to be reducing and cost saving the longevity of items.

We would highly recommend the MACS Monitoring unit as it makes you realise how poor the electricity supply is and the damage it is doing to your equipment because of the surges and brown outs. We had an experience where the power supply was so high voltage that the MACS Monitoring system would not turn on the supply to power points and stove. Had to contact QCE to ask and electrician attended to show that the power was between 260-280 volts. The rest of the community would be very unaware of the damage it is doing to their equipment."

MICK BUSBY MANAGER, STAR DOWNS

After losing two submersibles, valued at \$6000 each, and numerous amounts of household appliances due to fluctuating power supplies, Mick Busby, decided to purchase two MACS Monitoring units to protect his submersible water pump and main house.

"Having the MACS Monitoring unit in place cuts power to the submersible motor before it can be affected by the power surges. It also protects the entire house, and we haven't lost anything since having the MACS Monitoring units in place."

"We would highly recommend the MACS Monitoring unit to other people living on single wire earth return power lines", said Mick Busby.

"...we haven't lost anything since having the MACS Monitoring units in place."



IN THE NEWS



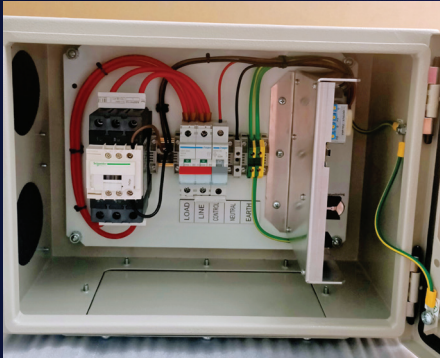
Rural Queensland Today
@RuralQNToday - Radio Station

For more information go to macsmonitoring.com.au/media

PRODUCTS AND PRICES



Mains Alternating Current Supply Monitoring



MACS 1-100

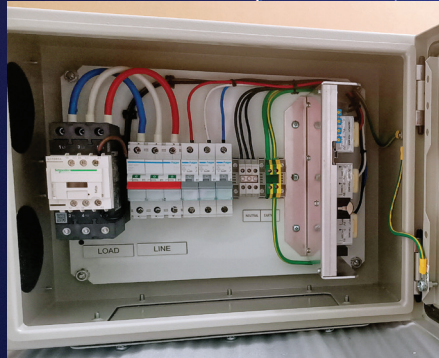
\$2,200 inc GST (box only)
\$2,420 inc GST (box + canopy)

The MACS 1-100 is suitable for applications up to 100 amps single phase only.

Suitable locations for the MACS 1-100 include houses, sheds, pumps, bores, offices and generators for site locations.

Our Colorbond canopies are designed with a 50mm air gap to minimise the heat inside of the MACS unit, keeping temperatures below 70 degrees. The hood must be purchased so as not to void warranty if the MACS unit is placed in direct sunlight and high to extreme weather conditions, unless you make your own to the standards specified below.

The canopy structure must have a minimum of 50mm air gap clearance and be constructed from suitable sun and heat reflective material, for example Colorbond. Please note that normal corrugated iron must not be installed without at least a 500mm air gap clearance to allow adequate air flow.



MACS 3-50

\$2,585 inc GST (box only)
\$2,810 inc GST (box + canopy)

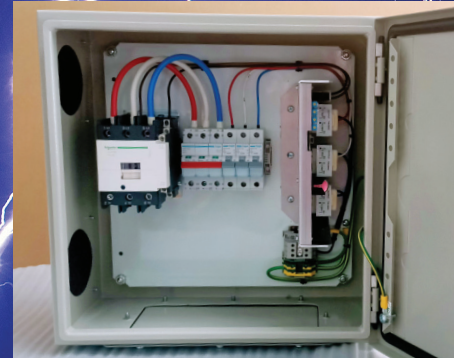
The MACS 3-50 is suitable for applications up to 50 amps a phase, 3 phase only.

Suitable locations for the MACS 3-50 include houses, sheds, shops, pumps, bores, offices and generators for site locations.

The MACS unit can also be installed to protect your most valuable product/s that is most vulnerable to under and over voltages like cold rooms, pumps, or workshop machinery.

Our Colorbond canopies are designed with a 50mm air gap to minimise the heat inside of the MACS unit, keeping temperatures below 70 degrees. The hood must be purchased so as not to void warranty if the MACS unit is placed in direct sunlight and high to extreme weather conditions, unless you make your own to the standards specified below.

The canopy structure must have a minimum of 50mm air gap clearance and be constructed from suitable sun and heat reflective material, for example Colorbond. Please note that normal corrugated iron must not be installed without at least a 500mm air gap clearance to allow adequate air flow.



MACS 3-80

\$2,959 inc GST (box only)
\$3,179 inc GST (box + canopy)

The MACS 3-80 is suitable for applications up to 80 amps a phase, 3 phase only.

Suitable locations for the MACS 3-80 include houses, sheds, shops, pumps, bores, offices and generators for site locations.

The MACS unit can also be installed to protect your most valuable product/s that is most vulnerable to under and over voltages like cold rooms, pumps, or workshop machinery.

Our Colorbond canopies are designed with a 50mm air gap to minimise the heat inside of the MACS unit, keeping temperatures below 70 degrees. The hood must be purchased so as not to void warranty if the MACS unit is placed in direct sunlight and high to extreme weather conditions, unless you make your own to the standards specified below.

The canopy structure must have a minimum of 50mm air gap clearance and be constructed from suitable sun and heat reflective material, for example Colorbond. Please note that normal corrugated iron must not be installed without at least a 500mm air gap clearance to allow adequate air flow.

Discount applies if you purchase two or more MACS boxes. Enquire now.