



Circuit description:

This module is an electronic switch which switches the connection to the solar cells if the battery is low and switches off again when the battery is fully charged. A power MOS transistor that switches almost loss free is used as circuit element.

Intended use:

Charge control for 12 V batteries by means of solar cells up to maximum 6 A.

Mounting instructions:

The module is to be mounted as close as possible to the battery to be charged (ideal: max. 50 cm). The cross section of the cable between the charging controller and battery should be low voltage cable and have a cross section of at least 3.0 mm.

Reasons: If the cable is longer or has a smaller cross section the result of the battery voltage measurement will be changed due to the higher internal resistance of the cable. This will neither damage the battery nor the charging controller, but it causes a frequent charging interruption because a higher voltage is measured due to the additional line resistances and the charging controller switches off earlier.

The cable towards the solar cell/s may be of any length. The following applies here: The longer the cable, the higher the line loss. The energy yield will be reduced in this way. So you should lead the cable to the charging controller over the shortest possible distance and use cable which is low voltage and has a cross section of at least 3.0 mm.

Important: Only connect solar cells up to a power of 60 W as a current source! Do not use stronger current sources and/or transformers, battery chargers, accumulators, wind turbines, etc.

Important: Connect a safety fuse 10 A in the lead between the battery and charging controller (not enclosed)!

Setting into operation:

After wiring everything according to the drawing and description, the device is ready for operation. When the battery is being charged the LED "Charging" lights up. If the battery is fully charged, the LED "Accu full" lights up. If the battery is discharged (< 13.4 V) and is not being charged (the solar cell does not work, perhaps no solar radiation), no LED will light up.

Technical data:

Input voltage: solar cell panels: 14 - 30 V/DC open circuit voltage, nominal voltage: 12 V/DC | Max. input current: 6 A, short-time till 5 min: 10 A | Inrush voltage: battery voltage < approx. 13,4 V | Interrupting voltage: battery voltage > approx. 14,4 V | Displays: 1 LED for "Charging", 1 LED for "Accu full" | Own power consumption: < 2,5 mA (LED switched on) | Dimensions: approx. 72 x 50 x 42 mm (without fixing straps)

SELF INSTALL - NEED TECHNICAL ASSISTANCE?

OPTION 1: DIRECT WITH THE SERVICE DESK – QUICKEST AND MOST EFFECTIVE METHOD

Submit your enquiry direct with the service desk at – service@automaticsolutions.com.au

The service desk has the most experienced staff in Australia to help with your problem but they need your help.

- Describe your problem in detail and as clearly as possible. Don't forget to include a telephone number.
- Be certain to detail which model or models of you are working with.
- Send photos of the installation – they love photos. The people at the service desk are good but they are even better when they can see the installation. Send photos of the overall scene so they can see the entire installation. Also send photos of the wiring to the control board and any other part of the installation you think is relevant.
- Send video if appropriate. Smartphone's these days take remarkably good video in small file sizes which can be emailed in a moment. If your problem needs a video to show the issue please feel free to send it.

**NOTE: THIS IS BY FAR THE FASTEST AND MOST SUCCESSFUL WAY TO SOLVE YOUR PROBLEM
PHOTOS AND VIDEOS ARE THE NEXT BEST THING TO BEING THERE**

OPTION 2: LODGE YOUR ENQUIRY LOCALLY - SLOWER BUT CAN STILL BE EFFECTIVE

Make contact with the store of purchase. Branch staffs are typically not technicians and dependent on their length of service will have varying degrees of technical knowledge. If they cannot help however they will certainly either source help locally from their technicians or make contact with the service technicians on your behalf.

OPTION 3: SERVICE CALL WITH AUTOMATIC SOLUTIONS TECHNICIAN – SLOWEST METHOD

If you fall within the local branch service area it may be possible to book a local technician to look at your installation. Wait times will vary dependent on local workloads. The cost is a service fee which includes the first half hour and the hourly rate thereafter. If any Automatic Solutions provided parts are found to be defective and within warranty these will be provided free of charge.

(NOTE: If you suspect that any parts are defective and within warranty you may wish to consider option 4)

A note on this option: If you decide on this option you will be asked to sign an "authorisation to proceed" which will provide legal authority and payment security. This form has three options available of which only the first two are available to you. The third option is for warranty repairs only for full install customers. Self install customers requiring warranty only service need to refer to option four below.

IMPORTANT: IN SHORT THIS OPTION WILL INCUR CHARGES

OPTION 4: RETURN THE PRODUCT IF BELIEVED TO BE FAULTY

As a self install customer who has purchased product if you believe the product to be faulty rather than an installation or site problem you have the option of returning the product for evaluation and to exercise your right to a replacement, repair or refund as applicable. All returned product is forwarded immediately to the service technicians for evaluation and response. There are two main methods available to return product –

- Direct to the service centre – this is the quickest method as it cuts out the branch delay
- Via the branch of purchase – slower because of the delay at the branch

When choosing this option you need to complete a product return form. This form gives you all the information on procedure involved and where to send to. These are available at the branch of purchase, can be emailed to you (contact your branch), or available here - <http://automaticsolutions.com.au/page/warranty.php>