



# Advanced Digital Alternator Regulators

**IP67**  
Waterproof

**STERLING**  
**POWER**



## AQUANAUTIC Waterproof range

### Pro Reg BW 12V only

#### Product rating:

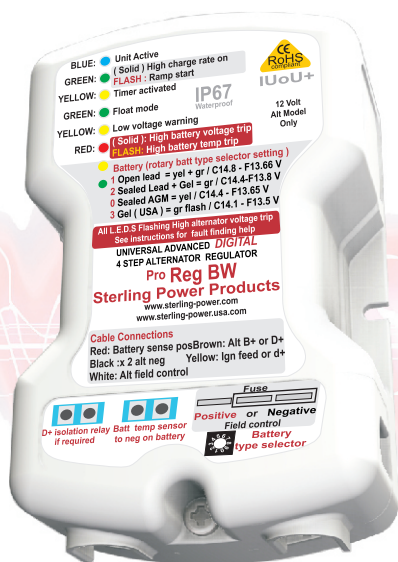
The **Pro Reg BW** shall work with an alternator which is 12V. The **Pro Reg BW** is rated for alternators of up to and including 200A rating (if a standard regulator is fitted). The rating is even higher on negative field control.

The **Pro Reg BW** shall work with 12V alternators with no standard regulator, up to about 100A. Higher if a negative field control.

#### Unit actual rating ( the actual device rating ):

Positive field control 8A max field current.  
Negative field control 13A max field.

The **Pro Reg BW** can run at 300% more field current with no heat rise



Battery Temp Sensor

Including battery temperature sensor and 1 metre of cables.  
Please check all the features on this model on next

IP 67, Waterproof  
Ignition protected

| Pro Reg BW Waterproof | Advanced alternator regulator |           |          |  |
|-----------------------|-------------------------------|-----------|----------|--|
| Voltage DC            | Size L x W x D mm             | Weight kg | Part nos |  |
| 12                    | 120 x 80 x 45                 | 0.4       | AR12W    |  |

### Pro Reg DW 12V / 24V

**Real world rating:** The Pro Reg DW shall work with 12V & 24V alternators. The Pro Reg DW shall be able to handle up to a 400 A alternator, with an existing regulator. Without a regulator the unit will work with 200A alternators. Even more if negative field control.

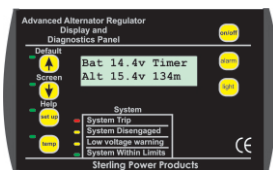
#### Unit actual rating ( the actual device rating ) for the Pro Reg D

By far the most powerful regulator around due to its fan cooling  
Positive field control 25A max field current.  
Negative field control 30A max field

The **Pro Reg DW** can run at 300% more field current with no heat rise



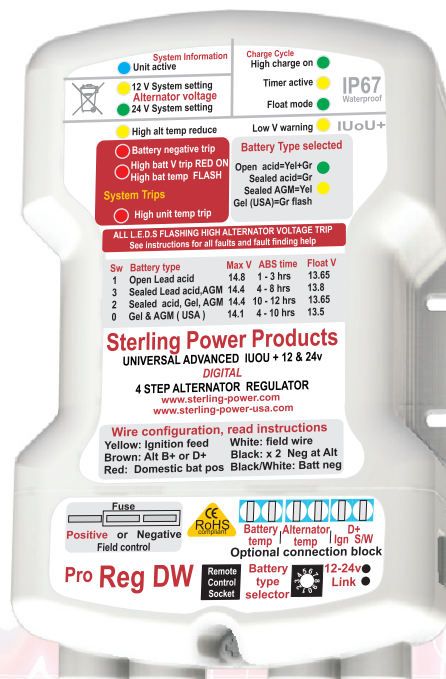
Includes two temperature sensors  
1x alternator  
1x battery



(Optional Extra)

IP 67, Waterproof  
Ignition protected

| Pro Reg DW     | Advanced alternator regulator |           |          |  |
|----------------|-------------------------------|-----------|----------|--|
| Voltage DC     | Size L x W x D mm             | Weight kg | Part nos |  |
| 12 & 24        | 160 x 96 x 55                 | 0.58      | PDARW    |  |
| Remote control | 170 x 90 x 40                 | 0.25      | PDARR    |  |



1 model 12V and 24V



# Advanced Digital Alternator regulators

**IP67**  
Waterproof



## Pro Reg BW DW

|  |   |   |
|--|---|---|
| Digital software control with slow start                         | ● | ● |
| Dynamic Progressive battery charging                             | ● | ● |
| Can be used in parallel ( recommended ) or stand alone regulator | ● | ● |
| Programable for different battery types                          | ● | ● |
| Single unit fits 99% of alternators and all battery types        | ● | ● |
| Charges to 4 step progressive constant current charging curves   | ● | ● |
| Self diagnosing fault system                                     | ● | ● |
| Totally isolates the advanced regulator in fault condition       | ● | ● |
| Information 8 LED display ( B only )                             | ● | ● |
| Battery Temperature sensing                                      | ● | ● |
| High battery temp trip   | ● | ● |
| High battery voltage trip  | ● | ● |
| High alternator voltage trip                                     | ● | ● |
| De-sulphation ability on open lead acid batteries                | ● | ● |
| In event of failure auto return to standard alternator regulator | ● | ● |
| Can be used with or without the temperature sensor               | ● | ● |
| Monitors for excessive neg voltage drop and trips                | ● | ● |
| Protects batteries if temperature sensor open circuited          | ● | ● |
| Protects batteries if split charge relay/diode fails open        | ● | ● |
| Protects batteries if advanced reg fails closed                  | ● | ● |
| Protects batteries if battery sense wire falls off               | ● | ● |
| 13 LED display   |   | ● |
| 12 or 24V operation, selectable                                  |   | ● |
| Remote control option  |   | ● |
| Alternator temperature sensor and disengage                      |   | ● |
| IP 67 waterproof & ignition protected for W options              | ● | ● |

### Advanced Regulator features explained in more depth:

#### Digital software control with slow start:

Digital control (software) uses lines of computer code, digitally burned into a memory processor in the Advanced Regulator. This means that very complex information and mathematical algorithms can be processed that would not be possible with an analogue hardware system. The unit ramps up the current over a short period of time to reduce the chance of alternator belt slip.

**Dynamic progressive battery charging:** this is a term used to explain that the internal software calculates a different charging regime every time it is used as the battery state etc. is never the same. Older systems simply used fixed trimmers which were not able to distinguish different battery types or sizes.

**Can be used in parallel or a stand alone regulator:** This unit can be used as a stand-alone regulator as well as in parallel with the original regulator. Sterling believes that, where possible, to leave the existing regulator in place this offers the Sterling Regulator a fall back safety position in the event of it failing.

#### Programmable for different battery types:

Most other manufacturers fail to recognize the fact that the world has more than one type of battery. There are now four main groups, open lead acid/traction, sealed/gel, gel (Europe) and AGM. To optimise charging for each of these battery types there are four totally different charging curves, temperature curves and safety criteria with each battery type.

#### Single unit fits 99% of alternators:

The reason for this is very simple, if you check other makes, you can find 12-15 different models to cover what the Sterling will do with 1. The problem with this is the public must supply correct information about their alternator and batteries to ensure they receive the correct Advanced Regulator.

#### Charges to 4 step constant current progressive charging curves:

All good battery chargers are constant current with 3 - 4 step charging curves. This method is recognized as the best charging type so why expect anything less from your alternator - in most cases the primary battery charging source. The Sterling Advanced Regulator converts your basic constant voltage alternator into a modern 4 step constant current battery charger, it's that simple.

#### Self diagnosing fault findings:

The performance and benefits of an Advanced Regulator are beyond dispute, however, an Advanced Regulator which has been incorrectly installed or fails, can have devastating effects on a boat. It will destroy the batteries and could easily set fire to cables. Sterling takes all this into account and recognizes that some boats on which these regulators are used have poor wiring and other faults. Because of this we scan the system every two seconds and if all the parameters are not within our pre-set values then the unit will switch 'off' and signal a fault. This, in my opinion, is the most important aspect of this type of device, a point not shared by our competitors.

#### Totally isolates the regulator in a fault condition:

This is very important and not fully understood by the public. All regulators can fail for different reasons. If an Advanced Regulator fails closed then the alternator will work at full power and destroy everything around itself. Simply turning the regulator 'off' will have no effect, so, in the event of a Sterling system failing or tripping, for whatever reason, we physically break the field wire guaranteeing that the Advanced Regulator will stop working.

#### Information LED display:

Most Advanced Regulators have no real information being transmitted to the operator and as a result one has no idea what is going on. Depending on the model we give the operator as much information as possible as to what is happening with the product and the installation system in general.

#### Battery temperature sensing:

One battery temperature sensor is supplied with the unit. This will adjust the output charging curves with the ambient battery temperature.

#### High battery temperature trip:

Most Advanced Regulators monitor the battery temperature to perform the task as explained above, but what is the point of monitoring the temperature if in the event of a battery going over temperature you do nothing about it? Sterling software will pick up the high temperature and in the worst case of a battery exceeding 50 deg C, will switch 'off' the regulator and display a warning.

#### High battery voltage trip:

In the event of the battery voltage going too high the unit will switch the regulator 'off' and display a warning.

#### High alternator voltage trip:

This is the most common trip used. In the event of poor wiring, incorrect installation, or any fault in the system, the alternator voltage will rise too high; the unit will trip out and display a warning.

#### De-sulphation ability on open lead acid batteries:

In order to prevent and even de-sulphate lead acid batteries a regular charge cycle exceeding 14.4V ( x 2 for 24V ) will remove the sulphate from a battery bank and so prolong its life expectancy.

#### In event of failure auto return to standard regulator:

There are many good reasons to leave the standard regulator in place, one of them being that, in the event of a Sterling failure or any trip condition of the advanced regulator, your standard regulator will automatically take over and allow the journey to continue but at a lower charge rate. If your Advanced Regulators does not offer this feature then you will lose the use of the boat during any failure.

#### Can be used with or without temperature sensing:

Some people don't want to fit temperature sensors, the choice is yours, the software will pick up if you use it or not and control accordingly. Most other makes insist a temperature sensor be fitted.

#### Protects batteries if temperature sensor open circuited:

A big problem with temperature sensors (why people don't like fitting them) is that they are on a battery. If someone changes the batteries and breaks or open circuits the temperature sensor wire, most Advanced Regulators will destroy your batteries by over charging them. Not so with a Sterling. In the event of a failure of a cable break the Sterling software will pick it up within 2 seconds and return to the default settings and carry on safely. It will also protect batteries if split charge relay/diode fails open circuit.

A common fault when fitting an Advanced Regulator is the old split charge diode or relay that is not up to handling the new performance, resulting in a regulator to fail. This will result in the destruction of the other battery bank, as the battery sense wire will be isolated from the alternator (but not with a Sterling, again our software jumps in and saves the day).

#### Protects batteries if advanced regulator fails:

In the unlikely event of the Advanced Regulator failing then most regulators will fail closed and destroy all your batteries (would it surprise you to know that the Sterling software will jump in and save the day again?).

#### Alternator temp monitoring and disengagement:

This unit can monitor the alternator temperature and switch off the control unit in the event of high alternator temperature. The Advanced Regulator will automatically re-engage when the alternator cools down.

**STERLING  
POWER**

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