

# Sterling-Power-USA

## Pro Connect - Battery Relays, for All Demands

Sterling Power Introduces three lines of IP65 waterproof relays: Ignition Feed, VSRs & CVSRs

### Pro Con IF Ignition Feed

Simplest in the range, allows the linking of as many battery banks to suit your needs.

#### Advantages over standard relay are:

- ✓ Standard relays consumes 0.5A, the **Pro Con IF** only requires 1mA of current.
- ✓ The **Pro Con IF** also overcomes the voltage drop across the ignition cable.
- ✓ Waterproof IP66, in a new, safer package.
- ✓ ANTI-spark protection, brass terminals and gold plated bolts.
- ✓ 30 second start up time delay – prevents relay turning on during engine starting.

**Limitations** – requires an ignition feed + it is not current limiting.

**Ideal** for outboard motors and simple cabin batteries where the auxiliary battery load is not in excess of the relay rating. The **Pro Con IF** connects auxiliary battery banks when the engine is running, and also prevents current from flowing back the way it came.



### Pro Con VSR Voltage Sensitive Relays

#### Advantages of the VSR over the Pro Con IF

- ✓ 12 Volt or 24 Volt automatic voltage selection.
- ✓ Totally automatic operation - *does not require ignition feed*. When the primary battery exceeds 13.3v the VSR assumes that the charging device (engine/alternator) is active and engages relay to connect mains to the auxiliary battery bank(s) to charge. When the voltage of the primary drops down to 12.9v the relay disengages and prompts the charging of the primary battery, hence 'voltage sensitive'.
- ✓ The VSR therefore '**saves the day**', when the engine is 'off' and you attempt to run a 2000W appliance (bow thruster/anchor winch) from a depleted auxiliary battery bank the relay will latch and prevent you withdrawing circa 200A of current from the primary (engine starter battery), thus engine starting is always possible.
- ✓ Bi-directional charging, this functional allows the charging from primary to auxiliary and vice versa allowing the maintenance of potentially 13.3v on all banks.
- ✓ Auto 12/24v selection, if it senses **4v to 16V = 12V & 16v to 30V = 24V**
- ✓ Very easy to install.
- ✓ Ideal for charging a secondary battery bank from a battery charger with only one output such as: a combined inverter/charger (ProCombi).



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## Pro Con CVSR Current Limiting Voltage Sensitive Relays



Our top of the line, best in class relay available.

### Advantages of the Pro CVSR line over the Pro VSR

Pro Con VSR 'saves the day' (previous page)– The ProCon VSR switches 'off' to save the primary battery, whereas, the CVSR drops the 200A surge to 6A (safe) and shall reopen circuit at a 6A load, thus protecting the relay and your installation. When the high load demand is removed then the relay re-engages.

Sterling Power IP65 rated Pro Connect Relays	IF	VSR	CVSR
0.01 volt drop	+	+	+
Ignition feed ( not always required )	+	+	+
Water proof to IP65	+	+	+
SAEJ1171 ignition protected	+	+	+
High overload surge rating	+	+	+
Back EMF spark arrester	+	+	+
1 LED information display	+		
Remote LED connection	+	+	+
No ignition feed voltage drop	+	+	+
Suppression diodes across relay to prolong life	+	+	+
Time delay to prevent engine starter damage	+	+	+
Single & Twin Starter motor disengage connections	+	+	+
12 V and 24 V automatic selection		+	+
Extremely Low Quiescent current approx 1 mA		+	+
Custom Voltage adjustment parameters available		+	+
Active progressive disconnect algorithm		+	+
Automatic voltage activation		+	+
Automatic voltage de activation		+	+
Protects primary battery from discharge		+	+
Emergency auxiliary forced activation		+	+
High battery voltage trip protection		+	+
5 LED information display		+	+
5 alarm functions and safety trips plus information		+	+
Adjustable relay trigger side operation		+	+
Short circuit protection ( prior to engagement )		+	+
Current limiting protection			+

### Pro Connect IF

Input V D/C	Amps	Unit Size (LxWxH) inch	Weight	Part #
12V	80 A	5.6 x 2.4 x 1.6	0.55 lbs	IFR1280
12V	160 A	5.6 x 2.4 x 1.6	0.65 lbs	IFR12160
12V	240 A	5.6 x 2.8 x 1.6	0.65 lbs	IFR12240
24V	50 A	5.6 x 2.4 x 1.6	0.55 lbs	IFR12240
24V	160 A	5.6 x 2.4 x 1.6	0.65 lbs	IFR2450
24V	240 A	5.6 x 2.8 x 1.6	0.65 lbs	IFR24150

### Pro Connect VSR

Input V D/C	Amps	Unit Size (LxWxH) inch	Weight	Part #
12 & 24 AUTO	80 A	5.6 x 7.6 x 1.6	0.22 lbs	VSR80
12 & 24 AUTO	160 A	5.6 x 7.2 x 1.6	0.44 lbs	VSR160
12 & 24 AUTO	240 A	5.6 x 8.0 x 1.6	0.55 lbs	VSR240

### Pro Connect CVSR

Input V D/C	Amps	Unit Size (LxWxH) inch	Weight	Part #
12 & 24 AUTO	70 A	5.6 x 5.6 x 1.6	0.1 lbs	CVSR70
12 & 24 AUTO	140 A	5.6 x 5.6 x 1.6	0.2 lbs	CVSR140
12 & 24 AUTO	210 A	5.6 x 7.2 x 1.6	0.25 lbs	CVSR210
12 & 24 AUTO	280 A	5.6 x 7.2 x 1.6	0.25 lbs	CVSR280