~ELECTRONIC DESIGN & MANUFACTURE ~

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Announcing Auto-Sync™ 21 February 2011

OVERVIEW

Auto-Sync™ is a patent pending new method of synchronising electric fence energisers designed by Pakton Technologies of Queensland, Australia. Auto-Sync™ detects when something, or someone, touches the wires from two different electric fences and synchronises the output pulses so that the potentially dangerous condition of receiving more than one pulse per second is avoided.

Although international safety standards require a 2.5 metre gap between live wires powered from two different unsynchronised energisers, through neglect or ignorance, this is often not adhered to. For example live wires running down both sides of farm dividing fences are a common sight in rural Australia.

Where electric fences are used for perimeter security this problem can also occur at the corner between two or more neighbouring fences.

Through intelligent design, Auto-Sync™ is able to detect a significant cross coupled signal on the fence live wire and determine if the signal was caused by another energiser. If so it will synchronise its own high voltage pulse to match the timing of the other fence. An Auto-Sync™ energiser can synchronise with any other brand of energiser provided that energiser conforms to international standards regarding pulse timing.

WHY ARE SYNCHRONISED ELECTRIC FENCES IMPORTANT?

The magnitude and frequency of the electric pulse is restricted by safety standards such as IEC60335.2.76. This limitation is specifically intended to ensure that the shock received from the energiser (and hence the fence) is safe for humans. An important part of the safety requirement is that the person receives no more than one shock per second.

When the pulses are one second or more apart the human body treats them as separate events and the heart is unaffected. Receiving more than one pulse per second, especially for a prolonged time, can interrupt the natural rhythm of the heart.

While it is very unlikely that someone would voluntarily touch an electric fence for a prolonged time, it is possible, especially if they were to become entangled in the fence.

If a person were to touch with a live wire on the fence with one hand and another live wire on another fence with the other hand they would receive a shock from both fences and if the energisers powering those fences are not pulsing at the same time (synchronised) the person will receive more than one shock per second. If however the two energisers were synchronised

so that the pulses occur at the same time (or at least within 10 milliseconds of each other) the person will only receive one shock per second and be in less danger.

APPLICATIONS FOR AUTO-SYNC

Auto-Sync™ will be applied progressively to Pakton products from 2011 onwards. The owner will notice that the Auto-Sync™ energiser will tick in synchronous time with any other energiser whose signal is "picked up" on the live wire. This could lead to the energiser seeming to miss a beat every now and again as it detects and synchronises to another unit.

Auto–Sync™ will also be applied to Pakton's security electric fence energisers as a "fall back" synchronisation method. For larger multi-energiser systems, Pakton security energisers are already able to be synchronised using Pakton's patented Group Synchronous Pulse technology. Auto-Sync™ will be particularly effective where smaller premises are protected by single energisers and where neighbouring properties also have security electric fences.

The added safety of the Auto-Sync™ energiser will be particularly useful on farms where neighbours also use electric fences on the dividing fence. It will also be helpful on large properties where several energisers are used for different parts of the same farm.

Many farmers choose to use more than one energiser for the following reasons.

- It reduces the area which a fault will affect.
- Medium powered energisers, say up to 12 Joules, are less expensive to buy or repair and it is easier to afford a spare.
- Using multiple smaller energisers is increasingly being seen as a safer alternative to high powered units. The safety of the highest powered units has been questioned. As a result in Europe the very large energisers have now been banned.

For more information contact sales@pakton.com.au or see www.pakton.com.au