



## Talk to your PEL!

One of the big benefits of the latest generation of portable energy loggers (PELs) is that they offer an extensive range of communication options which make them much more versatile and convenient to use. **Julian Grant** of **Chauvin Arnoux** explains.

When you're responsible for managing or maintaining an electrical installation, one-off instantaneous measurements of key electrical parameters such as voltage, current, power, power factor and harmonic levels can be very useful. In most cases, however, details of those parameters captured over a period of time – days, weeks, months or even years – are even more useful, as they give an accurate picture of how the installation performs at different times of day, on different days of the week and in different seasons.

Capturing this information with a modern portable energy logger is relatively easy. The best of these instruments are simple to install, often without the need to interrupt supplies, and they can be left in place for as long as required – permanently, if necessary. But capturing the information is only part of the story; it also needs to be accessible.

Arguably the simplest way of retrieving information from a PEL is to go to the instrument and download the contents of its internal memory via a USB connection. In some cases, this is in fact a perfectly satisfactory solution, but it's somewhat less attractive if the PEL is at a remote location or even on a different site altogether. It is also a time-consuming approach when multiple PELs are in use. Alternatively, some PELs have a removable memory card which provides another simple option for data retrieval. This shares many of the limitations of USB downloading, however, in that it is necessary to visit the instrument to access the card.



For these reasons, most modern PELs make provision for some form of remote communication. In many cases, this takes the form of support for a direct wired connection to the user's on-site Ethernet network using a standard network cable, typically with RJ45 connectors. Once again, this is an excellent solution in some situations, but PELs are often installed in switch-rooms or other utility areas where there may not be any local access to a wired network. And even if there is, there's another problem that's not at all unusual: the network may well be controlled by the company IT department and they may not be at all happy with the idea of having 'strange' (to them!) items of equipment connected to it.



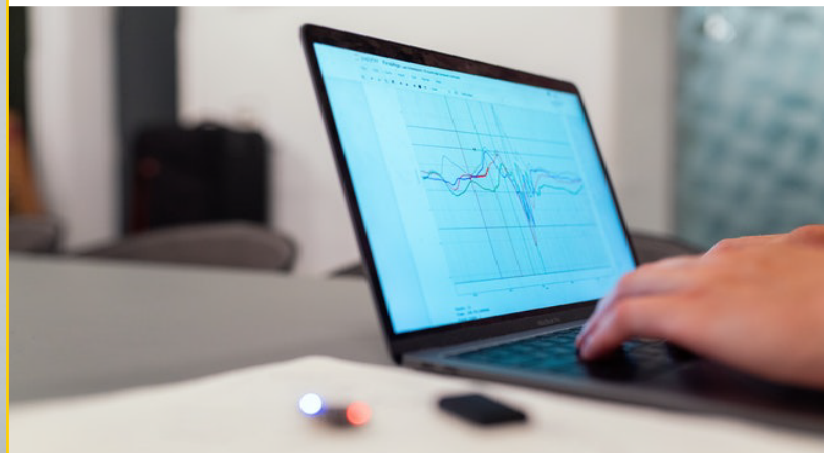
Fortunately, the manufacturers of the latest generation of PELs, such as those in the PEL104 and PEL106 ranges from Chauvin Arnoux, have taken heed of this problem and have provided their instruments with additional communications options such as wi-fi, 3G and GPRS. Wi-fi is often a convenient choice where the problem is simply that the PEL isn't close to a wired network. It's usually much easier and much less costly to set up a wireless network connection, than to install additional network cabling. Wi-fi connections with modern equipment are also secure and reliable.



Wi-fi doesn't help, however, if the nearest network is hundreds of metres or more away, or if the IT department just says 'no' to a network connection. In these instances, a 3G connection to the mobile phone network is likely to be the first option. It requires a SIM card and a subscription, of course, but it does allow the PEL to be accessed in most locations.

In the UK, 3G phone and data service is available almost everywhere but in some remote areas and in places overseas this may not be the case. In these instances, GPRS often comes to the rescue. Sometimes known as the 2G phone service this is even more widely available than 3G. Data transfer via GPRS is slower than via 3G but for PEL applications this is rarely a problem as the amount of data that needs to be transferred is very small by today's standards.

With a choice of Ethernet and USB wired connections, wi-fi connectivity and support for 3G and GPRS, it is possible to establish a remote connection to modern PELs in almost any location. This means that users can conveniently access all the information collected by their PELs without even leaving their desks and, at least with Chauvin Arnoux PELs, they can enjoy another important benefit: real time alarms. It is possible to set alarm limits for most key parameters and, if these are exceeded, the PEL will immediately alert the user via the remote connection - whatever type that may be. In addition, the PEL can be configured to email reports of selected parameters at regular intervals chosen by the user.



The latest PELs are not only excellent at measuring and recording information about key parameters in electrical installations, but they also offer a wide range of options for retrieving this information. This makes them even more convenient for optimising the performance of the installations to minimise energy usage and reduce the risk of breakdowns. So, when you are next in the market for a PEL, don't forget to take into account how easy it is to talk to one!



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