BROCHURE

Network analyser to monitor the power quality of your electrical installation

DIRIS Q800

When **energy** matters

socomec
Innovative Power Solutions

Take the necessary measures: improve the performance of your electrical installation

The average cost of a power outage in a data centre is over 700,000 euros.

Source: Ponemon Institute report.

In May 2017, the power supply to the British Airways air traffic control system was down for 15 minutes at a cost of around €100 million.

Source: Network World.

What is high quality energy?

Perfect network power quality could be described as an uninterruptible power supply - always within the voltage and frequency tolerances, with a pure and noise-free sine wave.

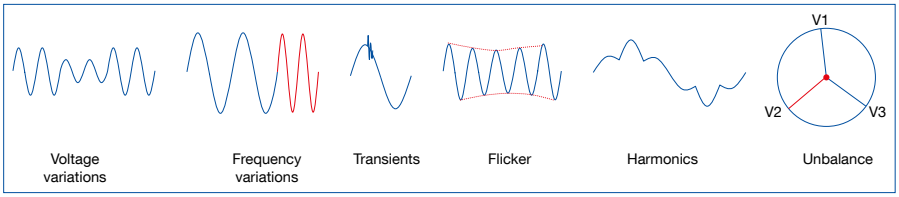
Why monitor the quality of your energy?

Monitoring the quality of your power grid provides total transparency in terms of the quality of power delivered - as well as its **compliance with the relevant standards** (including EN 50160). Power quality is essential for the user as well as for the energy supplier.

The supplier is responsible for the energy it makes available to its customers. In the case of contractual commitments, it must prove that the quality of its energy corresponds to the terms defined in these contracts.

The user must monitor whether the quality of its network is sufficient to guarantee the proper functioning of its installations and electrical equipment.

In an electrical installation, various disturbances can occur. A disturbance is said to occur when a change in power (voltage, current or frequency) interferes with the normal operation of electrical equipment. Here are the main phenomena you may encounter:



What are the consequences of poor quality energy?

Poor power quality can have a significant impact on equipment perfomance and can result in malfunction, deterioration or breakdown. In turn, this can result in harmful consequences in terms of processes - particularly in sensitive environments such as data centres, industrial applications and healthcare facilities. The costs incurred as a result of these malfunctions can be significant. The early identification of disturbances and events is essential - enabling the anticipation of drifts and failures and the timely application of corrective measures.

Data center: secure your IT equipment


SITE 1016

Many inverters are used in offline mode for energy efficiency and cost reasons. This offline mode does not isolate voltage loads from the power supply and can bring pollutants into the grid.
The network analyser will allow you to monitor computer equipment that may be damaged or have a limited lifespan so that you can take action before malfunctions occur.

Healthcare: limit the impact of medical imaging and preserve sensitive loads


SITE 926

Medical imaging causes many disturbances to the electrical installation which is often composed of several sensitive loads requiring optimal network quality. The network analyser will check whether the quality of the network is sufficient to supply the state-of-the-art electrical equipment and will enable the operator to limit the impact on the installation.

Industry : reduce pollution on the network and identify neighbouring pollution


SITE 909

The amount of non-linear loads in use can pollute the network.
Some problems even originate from neighbouring plants, but cannot always be identified. The network analyser will record what is happening both inside and outside the plant, will detect disturbances and help identify the source of the pollution by time stamping events superimposed on neighbouring cycles.

Does your supplier provide you with a quality network?

The EN 50160 standard characterises the quality of the voltage provided by your supplier. Check whether your power supply complies with this standard with a network analyser. If this is not the case, you can ask to adjust your contract.

More details

Discover the technical note on power quality.

How should you monitor energy quality?

The best way to ensure total transparency when it comes to the quality of your energy is to install network analysers that will enable you to:

- create regular reports and anticipate any possible deviations,
- determine the origin of a disturbance on the network.

Discover the Socomec network analyser: DIRIS Q800.

The next generation network analyser. Even greater

Improve the performance of your electrical

DIRIS Q 011

Ergonomic interface

Intuitive and easy to use, the large touch screen means that you can view waveform capture, power quality disturbances and real-time measurements for your installation.

EN 50160 reports creation

The DIRIS Q800 analysis software allows you to edit energy quality reports to check the compliance of the quality of the energy delivered with your initial contract. **The ITIC curves are integrated** into the report for a complete analysis.

Simplified Connectivity

In order to be compatible across all installations, the DIRIS Q800 integrates numerous digital and analogue **inputs/outputs** and several **communication interfaces** (WiFi, Ethernet, RS485, USB, GPS) as well as various **protocols**: Modbus TCP, Modbus RTU, SNTP, HTTP, HTTPS, FTP, PQDIF, SMTP, NMEA.

Secure data storage

The DIRIS Q800 can hold up to **16 GB of data**: the equivalent of 5 years of storage.
In addition, it is equipped with an **internal battery** with 15 minutes autonomy that allows you to safeguard the operation of your device - even in the event of a power cut.

Ready to use

The product includes a complete package to support the performance of analyses at no extra cost, even remotely, thanks to **the embedded web server and integrated softwares.**

precision, even simpler to use.

installation **simply and efficiently**

High level of accuracy

Accuracy of **class A** for voltage and current and **class 0,2S** for energy.

- Certified according to IEC 61000-4-30:2015 Ed. 3 and designed and tested according to IEC 62586-1 and IEC 62586-2.
- Certified according to IEC 62053-22.

Real-time alarms

The DIRIS Q800 is equipped with an **alarm system to monitor the status and activity** of your equipment and thus reduce the risk of downtime.
Receipt of e-mail linked to:

- voltage and current events,
- functionality events,
- configuration changes.

Embedded web server

Directly **integrated and identical** to the DIRIS Q800 screen, the web server will enable you to analyse the quality of your network in real-time from an Internet browser.

- Display waveforms.
- View the curves of recorded events.
- View measurements in real-time.
- Configure your product.

Associated softwares

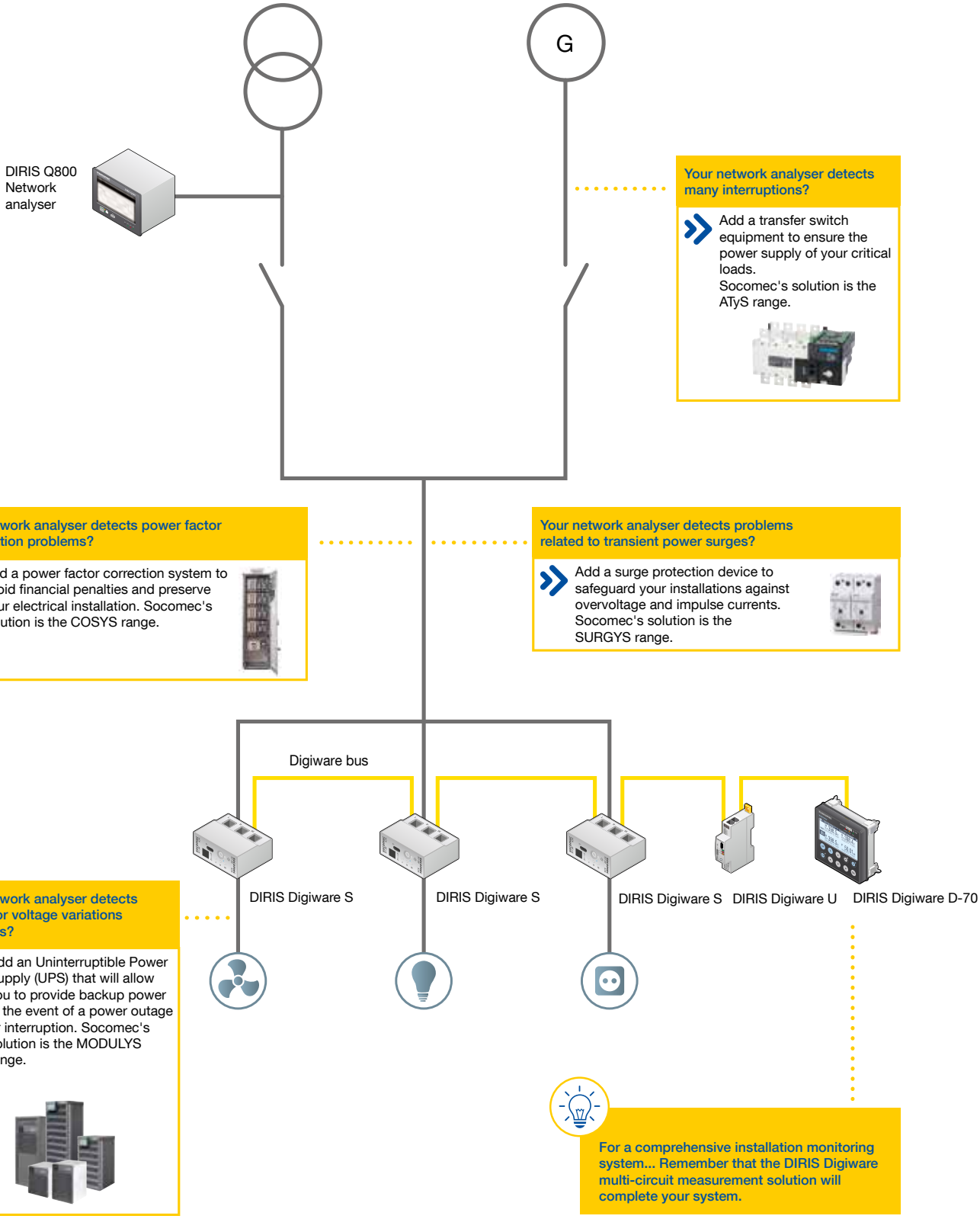
Q800 Analyzer
Create EN 50160 compliance reports with all measurements recorded in DIRIS Q800 including ITIC curves.

Q800 Tool
View and download all measurements required by class A.

In addition

PQDIF files
In order to compare and understand your events, download your PQDIF files and analyse data with the appropriate software.

Follow the advice of your network analyser…



DIRIS Q 019 A GB

Information and features

Multimeasures	
Instantaneous, minimum, maximum and avarage values	I, U, V, P, Q, S, F and PF
Ground, neutral, phase unbalance values and Fresnell diagram	I, U
Energy Logging	Ea, Er, Eap
Power Quality Analysis	
%Thd	I,U
Individual Harmonics Magnitude and Spectrum view	I, U (Up to 63rd order)
K-Factor, Flicker and Transients	•
Functions	
Waveform Capture and recording	Instantaneous values and PQ events (voltage and frequency variations)
Standard IEEE file format/PQDIF	•
Memory	16 GB
Alarming	LED indication and Email
Programable Inputs and Outputs	Digital and Analogue
Communications	
Native Communications ports	Ethernet, RS485, USB, Wifi
Multi protocols	Modbus TCP/RTU, SMTP, SNTP, HTTPS, FTP, PQDIF, NMEA
Accuracy	
Three-phase voltage	±0.1%
4th voltage (neutral / earth); Currents and Power	±0.2%
Frequency	±10 MHz
Harmonics	Class 1 IEC/EN 61000-4-7
Active Energy	Class 0,2S IEC/EN 62053-22
Reactive Energy	Class 1 IEC/EN 62053-24
Internal clock (RTC)	< 1 s for 24h period without synchronisation < 5 ms with GPS synchronisation < 500 ms with NTP synchronisation
Dimensions	
Cutout	192 x 144 DIN / 186 x 138 mm
Front panel (W x H)	191 x 143 mm
Enclosures (W x H x D)	183 x 135 x 190 mm
Weight	1400 g
Auxiliary Power supply	
Voltage range	100 … 240 VAC / 65 … 250 VDC*
Frequency	50 / 60 Hz
Power consumption Max.	15 W
Back-up battery	Li-ion 2500 mAh (> 15 min autonomy)
Reference	
DIRIS Q800	4826 **0100**

** For the 19 ... 60 VDC version, please consult us.*

Socomec services

APPLI 898 A

Socomec offers a wide range of services:
- commissioning, training, configuring and operating the DIRIS Q800,
- training on electrical energy quality,
- assessment of the data readings (PQDIF files) including analyses, statistical reports, maintenance schedules, manufacturer recommendations.

Quality audits on the energy of your electrical facilities (nuisance tripping, process interruptions, equipment failure):
- facility inspection: telephone follow-up with our helpline engineers,
- facility auditing (EMI, harmonics, neutral system, earthing, differential protection devices).

Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,600 employees worldwide

10 % of sales revenue dedicated to R&D

400 experts dedicated to service provision

Your power management expert

POWER SWITCHING

POWER MONITORING

POWER CONVERSION

ENERGY STORAGE

EXPERT SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

12 **production sites**
- France (x3)
- Italy (x2)
- Tunisia
- India
- China (x2)
- USA (x3)

28 **subsidiaries and commercial locations**
- Algeria • Australia • Belgium • China • Canada
- Dubai (United Arab Emirates) • France • Germany
- India • Indonesia • Italy • Ivory Coast • Netherlands
- Poland • Portugal • Romania • Serbia • Singapore
- Slovenia • South Africa • Spain • Switzerland
- Thailand • Tunisia • Turkey • UK • USA

80 **countries**
where our brand is distributed

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