DIRIS Q800

Electrical network analyser

quality analysis of electrical energy and power grids

diris-q_012_a

DIRIS Q800

The solution for

- Data centres
- Energy
- Infrastructure & Transport
- Industry
- Buildings

Strong points

- Large colour touchscreen
- Regulatory compliance
- Multiple communication channels

Conformity to standards

- IEC 61000-4-30:2015 Ed. 3 Class A
- IEC 62586-1
- IEC 62586-2
- IEC 62053-22
- IEC 62053-24
- EN 50160

Function

The **DIRIS Q800** is a multifunction network analyser for all energy efficiency projects. It helps to actively ensure the electrical system runs continuously and at optimised rates. As such, with this system you can:

- Improve the efficiency of your facility.
- Reduce production losses.
- Optimise running costs.
- Reduce maintenance costs.

To achieve these objectives, the DIRIS Q800 does the following:

- Measures electrical volumes and status (via auxiliary contacts).
- Analyses the quality of energy according to class A IEC 61000-4-30:2015 Ed.3.
- Measures differential current.
- GPS synchronisation.
- Sends an email in the event of an alarm.

Advantages

Large colour touchscreen

The 192 x 144 mm colour touchscreen is tactile, easy to operate and provides intuitive navigation.

Regulatory compliance

By its conformity to IEC 61000-4-30:2015 Ed.3 Class A for all electrical parameters and IEC 62586-2, you have the assurance of a certified and high quality product.

Multiple communication channels

With its multiple communication options, the DIRIS Q800 can be integrated into any type of communication infrastructure:

- 1 rear Ethernet port for permanent cable connection.
- 1 front Ethernet for local diagnostics.
- 1 Wi-Fi port.
- 1 RS485 port.
- 1 USB port.
- GPS synchronisation.
- Built-in Web server.
- Protocols: HTTP, HTTPS, FTP, NTP,
- MODBUS, PQDIF, SMTP.

Functions

Measurements

- 4-quadrant metering.
- Voltage by phase, current by phase, frequency.
- Neutral current, differential current.
- Neutral/earth voltage.
- Active, reactive and apparent power.
- Cos phi and power factor.
- THD and spectral analysis up to the 60th for voltage and current.
- Flicker (Pst, Plt).
- Current and voltage unbalance.
- Remote control signals.
- Current and power demand: average and maximum (timestamped)

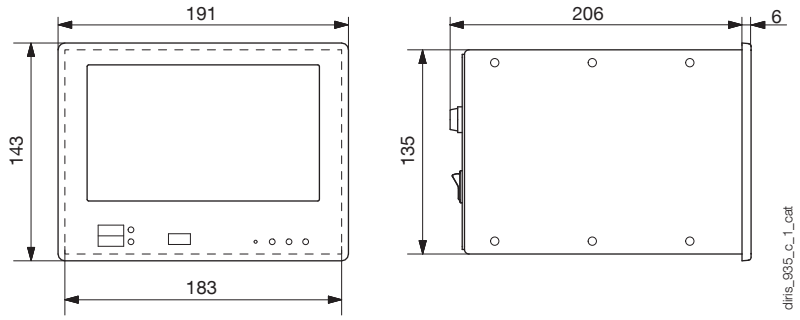
Logging

- EN 50160 events ½ period (10 ms): voltage dips, interruptions and overvoltages.
- 1/2 cycle current events (10 ms): inrush current
- Data exported automatically via FTP.
- EN 50160 reports with CBEMA / ITIC curves for PQ events.
- Transients (20 micro seconds).

Inputs/outputs

- 4 digital inputs.
- 4 digital outputs.
- 4 analogue outputs.

Dimensions



Dimensions	
Cutout	192 x 144 DIN / 186 x 138 mm
Front panel (W x H)	191 x 143 mm
Cases (W x H x D)	183 x 135 x 190 mm
Weight	1400 g

Technical characteristics

Auxiliary power supply	
Voltage range	100 ... 240 VAC / 65 … 250 VDC
Frequency	50/60 Hz
Consumption	Max. 15 VA
Backup battery	Li-ion 2500 mAh (>15 min autonomy)
Measurement inputs	
Direct voltage measurement input	P-N: max 580 V RMS CAT III L-L: max 1000 V RMS CAT III
U4 direct voltage measurement input	Max 580 V RMS CAT II
Voltage input crest factor	2
Current inputs	Max 7 A RMS
Current input consumption	0.04 VA
Current input crest factor	3
Voltage input impedance	› 6 MΩ
Frequency range	42.5 to 57.5 Hz/51 to 69 Hz
Voltage reference channel	U1N/U12
Sampling	51.2 kHz @50 Hz
Accuracy	
Three-phase voltage	±0.1%
4th voltage (neutral/earth)	±0.2%
Currents	±0.2%
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

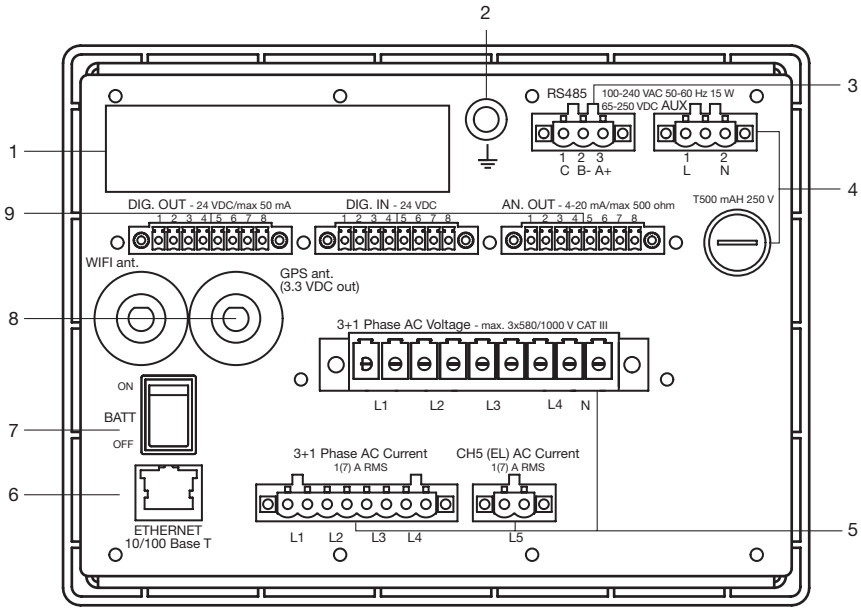
Communication	
Ethernet ports	2 Auto MDIX RJ45 10/100 Base Ethernet
RS485 opto-insulated port (slave)	0.5 UL 4800 to 115200 bps
Passive Wi-Fi antenna	RP-SMA female
Active GPS antenna	SMA female
Protocols	HTTP, HTTPS, FTP, SFTP, NTP, NMEA, Modbus RTU/TCP, SMTP
USB port	USB 2.0
Environmental conditions	
Operating temperature (max. range)	-25 … +55 °C
Storage temperature	-25 … +75 °C
Operating humidity	Max. 95%
Max. altitude	2000 m
Standards and safety	
Product conformity	IEC/EN 62586-1, IEC/EN 62586-2
Safety	EN 61010-2-030
Pollution Degree	2 (EN 61010-1)
Protection rating	IP40 front, IP20 rear
Directive	RED §3.1a Health EN 62311:2008 RED § 3.1b EMC

References

Description	Reference
DIRIS Q800 100 ... 240 VAC / 65 … 250 VDC	4826 **0100** (1)

(1) Power supply voltage 19 ... 60 VDC: please contact us.

Terminal blocks



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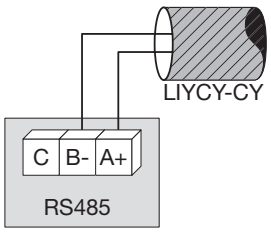
1. Product label
2. Earth connection
3. RS485 MODBUS RTU communication
4. Auxiliary power supply and fuse
5. Voltage and current inputs
6. Auto MDIX ETHERNET port
7. Battery switch
8. GPS and Wi-Fi antenna
9. Logical outputs, analogue inputs/outputs

Communication via RS485 link



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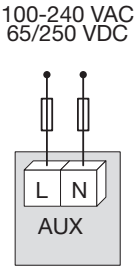
AC & DC auxiliary power supply



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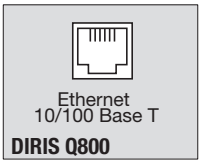
Ethernet communication



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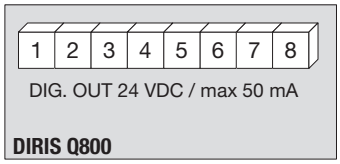
Digital outputs



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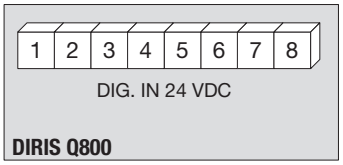
1-2: optocoupler output 1
3-4: optocoupler output 2
5-6: optocoupler output 3
7-8: optocoupler output 4

Digital inputs



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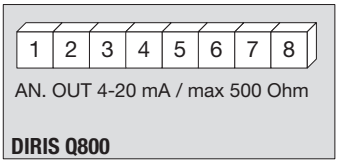
1-2: optocoupler input 1
3-4: optocoupler input 2
5-6: optocoupler input 3
7-8: optocoupler input 4

Analogue outputs



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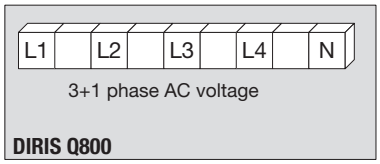
1-2: analogue output 1
3-4: analogue output 2
5-6: analogue output 3
7-8: analogue output 4

Current and voltage inputs



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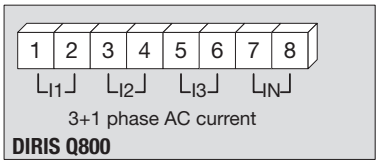
L1, L2, L3, L4, N: voltage inputs



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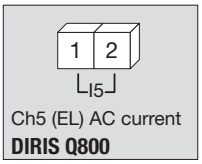
1-2: current input i1
3-4: current input i2
5-6: current input i3
7-8: current input iN



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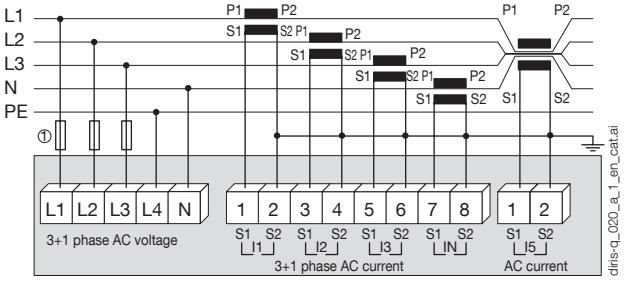
1-2: residual CT connection

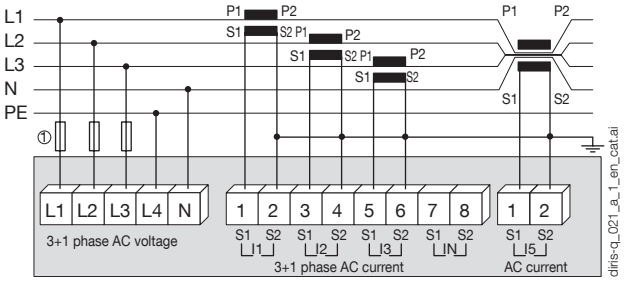
Connections

Three-phase + neutral, 4 CT + differential measurements (1/5 A)



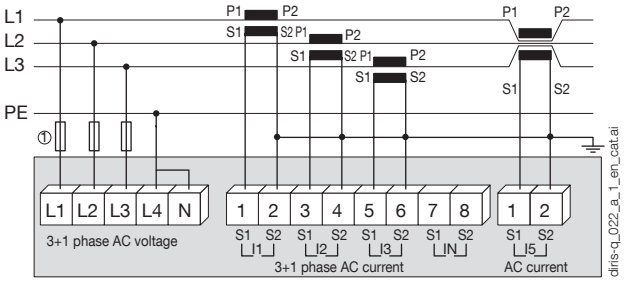
1. 0.5 A gG / 0.5 A class CC fuses.

Three-phase + neutral, 3 CT + differential measurements (1/5 A)



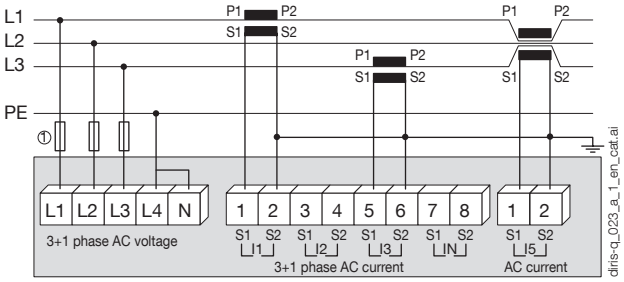
1. 0.5 A gG / 0.5 A class CC fuses.

Three-phase + neutral, 3 CT + differential measurements (1/5 A)



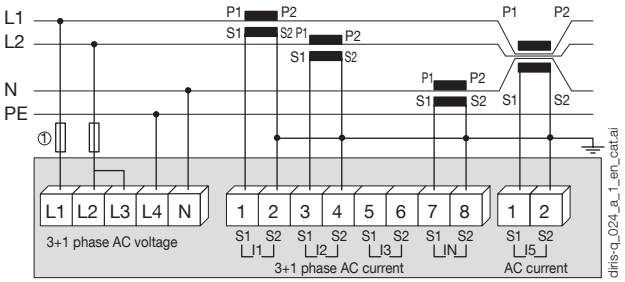
1. 0.5 A gG / 0.5 A class CC fuses.

Three-phase + neutral, 2 CT + differential measurements (1/5 A)



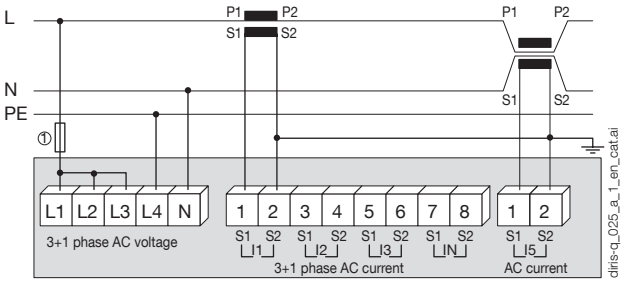
1. 0.5 A gG / 0.5 A class CC fuses.

Two-phase + neutral, 3 CT + differential measurements (1/5 A)



1. 0.5 A gG / 0.5 A class CC fuses.

Single-phase + neutral, 1 CT + differential measurements (1/5 A)



1. 0.5 A gG / 0.5 A class CC fuses.

Expert Services

EXPERT SERVICES

Socomec offers a wide range of services:

- Commissioning, training, configuration and operation of the DIRIS Q800.
- Electrical power quality training.
- Study of logged data (PQDIF files) with analysis, report, maintenance plan, manufacturer's recommendation.

Carrying out audits of the energy quality of your electrical installations (nuisance tripping, process disruptions, equipment breakage):

- Study of your installation: telephone interview with our consulting engineers.
- Audit of your installation (EMC studies, harmonic studies, neutral regime, earthing plan, differential protections).

For further information, please talk to your Socomec contact.