

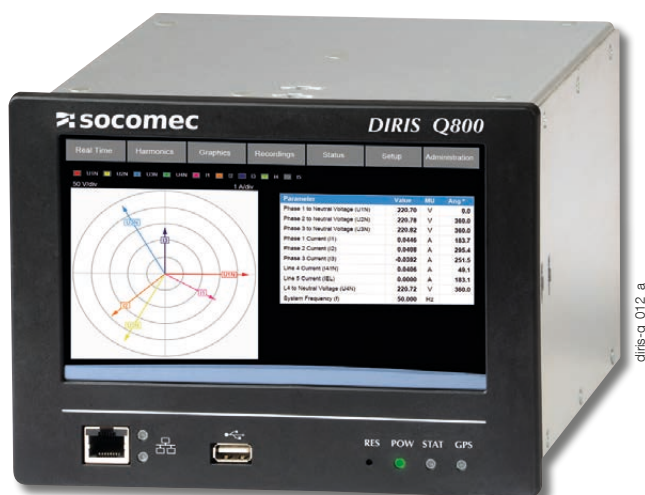


# DIRIS Q800

## Electrical network analyser

quality analysis of electrical energy and power grids

Single-circuit metering,  
measurement &  
analysis



DIRIS Q800

diris-q\_012\_a

### 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.

### Advantages

#### Large colour touchscreen

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

#### Regulatory compliance

By its compliance with 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.

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

- Measures electrical parameters 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.

#### 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 Wifi port.
- 1 RS485 port.
- 1 USB port.
- GPS synchronisation.
- Built-in Webserver.
- Protocols: HTTP, HTTPS, FTP, NTP, MODBUS, PQDIF, SMTP.

### The solution for

- Industry
- Infrastructure
- Healthcare buildings
- Data centers



### Strong points

- Large colour touchscreen
- High performance and accuracy
- Regulatory compliance
- Multiple communication channels

### Compliance with standards

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



## Functions

### Measurements

- Measures across 4 quadrants
- 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 63<sup>rd</sup> for current and voltage.
- Flicker (Pst, Plt).
- Voltage and current unbalance.
- Remote control signals.
- Current and Power Demand: average and maximum (timestamped)

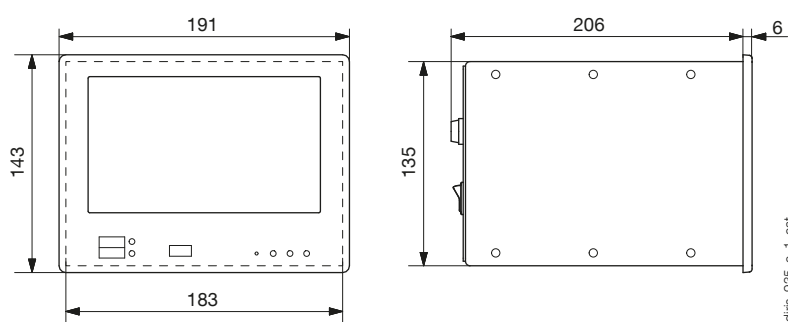
### Logging

- EN 50160 events ½ period (10 ms): voltage dips, voltage cutouts, voltage surges.
- Current events 1/2 period (10 ms): inrush
- 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 (mm)



### 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

## Specifications

Auxiliary power supply	
Voltage range	100 ... 240 VAC / 65 ... 250 VDC
Frequency	50/60 Hz
Power 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%
4 <sup>th</sup> 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 WIFI 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
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
Degree of pollution	2 (EN 61010-1)
Degree of protection	IP40 front, IP20 rear
Directive	RED §3.1a Health EN 62311 :2008 RED § 3.1b EMC

## References

Designation	Reference
DIRIS Q800 100 ... 240 VAC / 65 ... 250 VDC	4826 0100 <sup>(1)</sup>

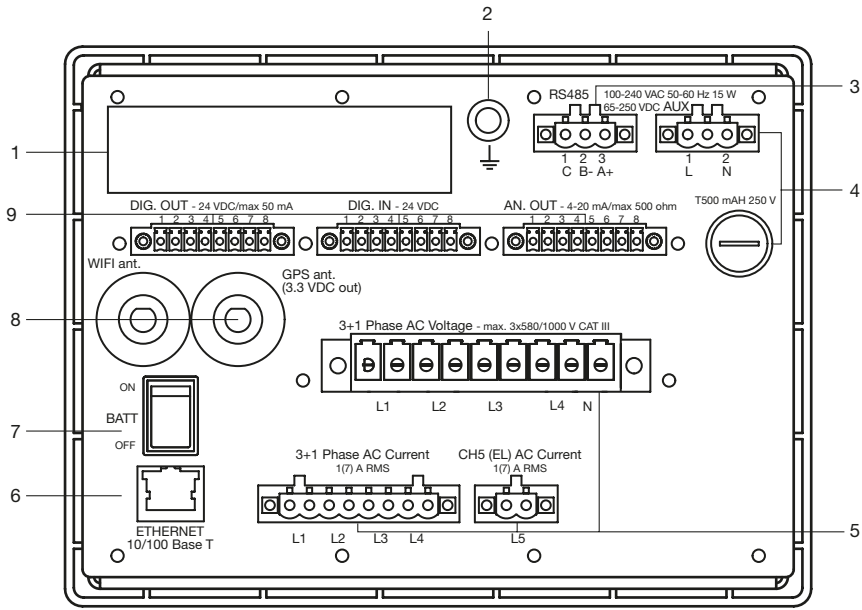
(1) Power supply 19 ... 60 VDC: please contact us.

# DIRIS Q800

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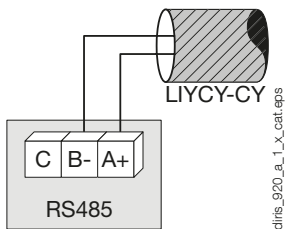
### Terminals



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 WIFI antenna
9. Logical outputs, analogue inputs/outputs

diris\_933\_a\_1\_x\_cat

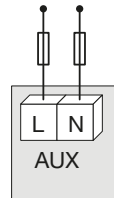
#### Communication via RS485 link



diris\_920\_a\_1\_x\_cat.eps

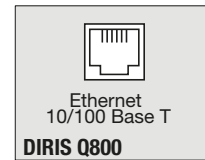
#### AC and DC auxiliary power supply

100-240 VAC  
65/250 VDC



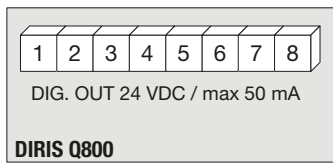
diris\_921\_b\_1\_x\_cat.eps

#### Ethernet communication



diris\_928\_a\_1\_x\_cat.eps

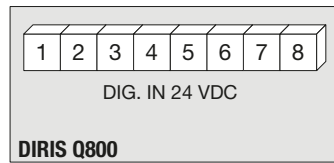
#### Digital outputs



diris\_922\_a\_1\_x\_cat.eps

- DIRIS Q800**
- 1-2: optocoupler output 1
  - 3-4: optocoupler output 2
  - 5-6: optocoupler output 3
  - 7-8: optocoupler output 4

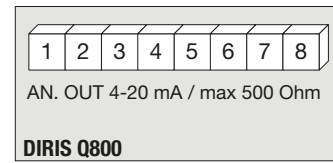
#### Digital inputs



diris\_923\_a\_1\_x\_cat.eps

- DIRIS Q800**
- 1-2: optocoupler input 1
  - 3-4: optocoupler input 2
  - 5-6: optocoupler input 3
  - 7-8: optocoupler input 4

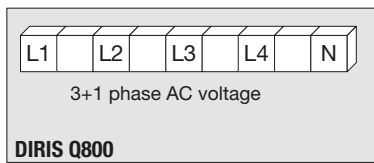
#### Analogue outputs



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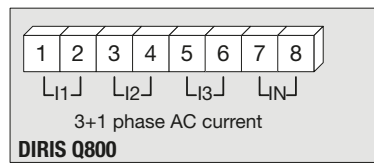
- DIRIS Q800**
- 1-2: analogue output 1
  - 3-4: analogue output 2
  - 5-6: analogue output 3
  - 7-8: analogue output 4

#### Current and voltage inputs



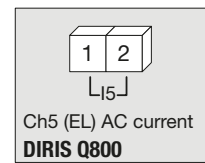
diris\_925\_a\_1\_x\_cat.eps

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



diris\_926\_a\_1\_x\_cat.eps

- DIRIS Q800**
- 1-2: current input i1
  - 3-4: current input i2
  - 5-6: current input i3
  - 7-8: current input iN

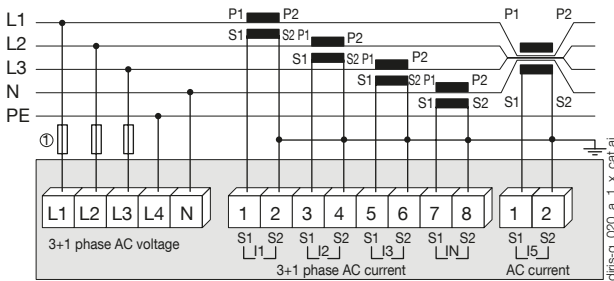


diris\_927\_a\_1\_x\_cat.eps

1-2: differential core connections

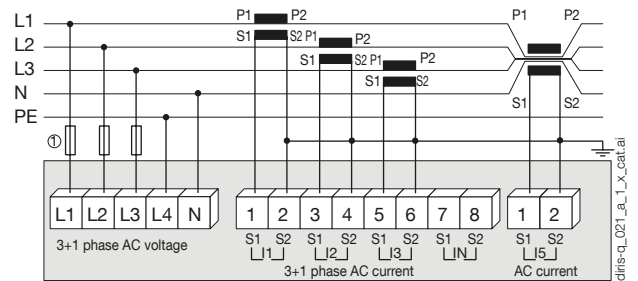
## Connections

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



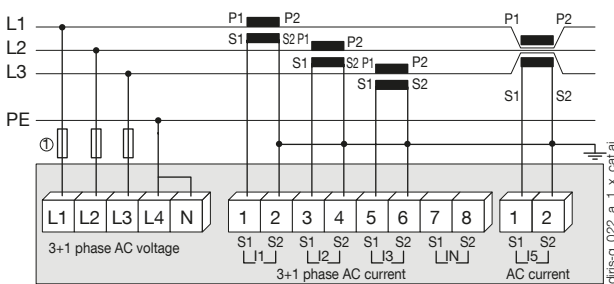
1. 0.5 A gG / 0.5 A class CC fuses.

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



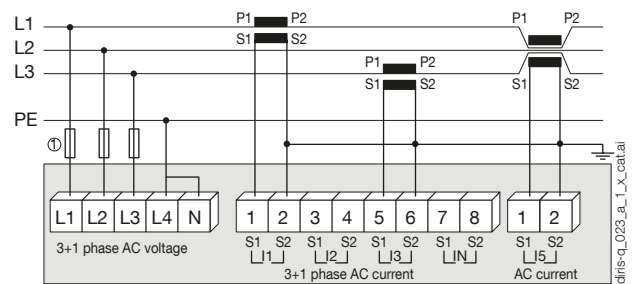
1. 0.5 A gG / 0.5 A class CC fuses.

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



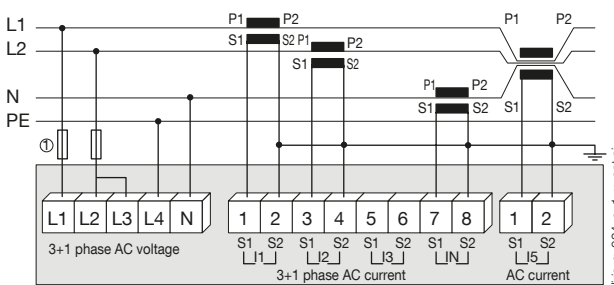
1. 0.5 A gG / 0.5 A class CC fuses.

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



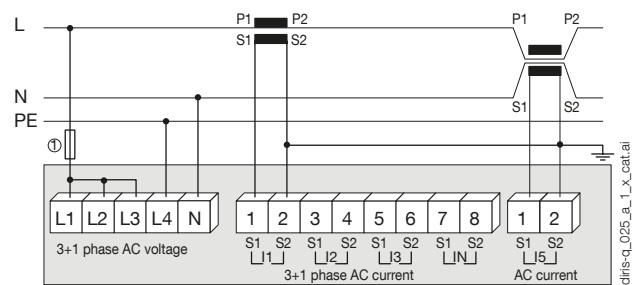
1. 0.5 A gG / 0.5 A class CC fuses.

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



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

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



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

## Expert Services

- Study, definition, advice, implementation, maintenance and training... Our experts "Expert Services" offer complete support for the success of your project.

