DIRIS® A
The multi-function measurement range FOR MANAGING YOUR ELECTRICAL NETWORKS

MADE TO MEASURE
A comprehensive range for measuring your energy efficiency

The new **DIRIS & COUNTIS** solutions are tailored to the requirements of industrial or tertiary environments: energy metering, quality monitoring and analysis of electrical networks.

Compliant with the new standard IEC 61557-12 specifically for multi-measurement devices (PMD), they guarantee the operator use of a product designed and tested in accordance with the functional requirements of its application, ensuring a high performance level.

The **DIRIS®** system: the reference

Measurement is the key link in managing an energy efficiency project.

With **DIRIS**, SOCOMEC has developed the most advanced multifunction measurement range on the market, dedicated to improving your energy performance.

For over 20 years, thousands of users, installers or integrators have trusted **DIRIS** innovative solutions for:
- energy metering and management
- electrical facility monitoring
- power quality analysis.

Follow the leader and run with the pioneers, by opting for the **DIRIS** solution.

**DIRIS A**: compliant with IEC 61557-12

**DIRIS A** conforms to this new standard, which has been specifically created to govern Performance Measuring and monitoring Devices (PMD). IEC 61557-12 guarantees the user that the product meets all the metrological, mechanical and environmental requirements of an electrical distribution network (EMC, temperature, etc.).

Customised upgradability

Thanks to the optional modules which you can use to upgrade the product functions at any time, **DIRIS A** has optimum adaptability to the requirements of multi-measurement applications.

SOCOMEC is once again expanding the field of application of the **DIRIS A** with new modules for:
- Ethernet communication
- Temperature measurement & monitoring.

Ethernet connectivity

The new communication modules offer direct connection to an Ethernet communication network, and the gateway function enabling Ethernet connection of a cluster of products communicating via RS 485.

The **embedded WEB server**

The new Ethernet communication modules incorporate the embedded web server function, thereby enabling remote operation and configuration of a product without specific software. Access is via your Internet browser, simply by entering the IP address of the **DIRIS**.

Expanded monitoring

The new temperature monitoring module:
- enhances energy diagnostics
- improves monitoring of facilities

Dedicated supervision

- Centralising and display
- Creating load curves
- Performing measurement campaigns

For further information: [www.socomec.com](http://www.socomec.com)
The universal multi-function solution

The new DIRIS A Power Measurement Devices with extended functionality enabling you to:

- reduce operating costs,
- reduce production costs,
- optimise maintenance costs,
- improve the efficiency of your facility.

**Metering**
energy consumed by each building or manufacturing line, in order to distribute and optimise energy costs (multi-fluid management)

**Measuring**
all electrical or analogue values (temperature, etc.) to verify that your facilities are working properly

**Monitoring**
your electrical networks via alarm management, secure monitoring of distribution parameters and remote control of electrical apparatus

**Analysing**
energy quality via detailed breakdown of harmonics and identification of troughs, outages, overvoltages and overcurrents on the electrical network

**Communicating**
all available information via a network tailored to your facility:

> ETHERNET (Modbus TCP, Jbus/Modbus RTU over TCP)
> RS485 (Jbus/Modbus, Profibus DP)
Standard functions

**DIRIS A10**
- Multi-measurement and metering
- THD voltages and currents up to level 51
- Programmable hour run
- Alarm management
- RS485 Jbus/Modbus communication
- Dual tariff function
- 4 DIN modules

**DIRIS A40/A41**
- Advanced metering and multi-measurement
- Individual harmonics up to level 63
- RS485 (Jbus/Modbus and Profibus-DP) and Ethernet communication (Modbus TCP and Jbus/Modbus over TCP)
- Optional additional modules
- Alarm management
- Predictive power indicator
- 96*96 mm unit

**DIRIS A60**
- **DIRIS A40** +
- Mean power load curves (P, Q, S)
- Sag, swell and outage detection
- Overcurrent detection
- Saving of RMS 1/2 period curves linked to events
- Tangent φ
- Voltage and current unbalance
- 96*96 mm unit

**DIRIS A20/A40/A41/A60 : Optional functions**

For your specific requirements, additional functions may be added via plug-in modules (maximum 4 for **DIRIS A40** and 3 for **DIRIS A41/A60**).

### PULSE OUTPUTS

- 2 configurable pulse outputs (type, weight and duration)
- RS485 connection with JBUS/MODBUS protocol (speed up to 38,400 bauds): 1 module

### COMMUNICATION

- RS485 connection with JBUS/MODBUS protocol (speed up to 38,400 bauds): 1 module
- RS485 connection with PROFIBUS DP protocol (speed up to 12 Mbauds): 1 sidecar module
- Ethernet connection with Modbus TCP or JBUS/MODBUS RTU over TCP protocol: 1 sidecar module
- Ethernet connection with RS485 gateway (Modbus TCP or JBUS/MODBUS RTU over TCP protocol): 1 sidecar module

### ANALOGUE OUTPUTS

- 2 configurable outputs for all values measured by the DIRIS
- Memory: 3U, 3V, 3I, In, F, ± ∑P, ± ∑Q, ∑S, THD 3U, THD 3V, THD 3I
- Mean values according to the synchronisation signal for 3U, 3V and F

### TEMPERATURE INPUTS

- Internal temperature indication
- Temperature indication via external sensor (T°1)
- Temperature indication via external sensor (T°2)
- Temperature indication via external sensor (T°3)

**DIRIS A40/A41**
- 2 configurable pulse outputs (type, weight and duration)
- RS485 connection with JBUS/MODBUS protocol (speed up to 38,400 bauds): 1 module

**DIRIS A60**
- **DIRIS A40** +
- Mean power load curves (P, Q, S)
- Sag, swell and outage detection
- Overcurrent detection
- Saving of RMS 1/2 period curves linked to events
- Tangent φ
- Voltage and current unbalance
- 96*96 mm unit

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**DIRIS A20**
- Multi-measurement and metering
- THD voltages and currents up to level 51
- Programmable hour run
- Alarm management
- RS485 Jbus/Modbus communication
- Optional additional modules
- 96*96 mm unit

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**DIRIS A40/A41/A60**
- Advanced metering and multi-measurement
- Individual harmonics up to level 63
- RS485 (Jbus/Modbus and Profibus-DP) and Ethernet communication (Modbus TCP and Jbus/Modbus over TCP)
- Optional additional modules
- Alarm management
- Predictive power indicator
- 96*96 mm unit

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**DIRIS A60**
- **DIRIS A40** +
- Mean power load curves (P, Q, S)
- Sag, swell and outage detection
- Overcurrent detection
- Saving of RMS 1/2 period curves linked to events
- Tangent φ
- Voltage and current unbalance
- 96*96 mm unit
Selection guide

**REQUIREMENTS**

- Feeder measurement & control
- Energy breakdown & allocation
- Load analysis & management
- Event monitoring
- Detection & storage of network perturbations

**Functions**

**MEASUREMENT**

- Currents, voltages, frequency, active, reactive and apparent power, power factor
- Predictive power
- Voltage/current unbalance; Tangent ϒ
- Temperature(s)
- Average currents, voltages and frequency
- Average power

**ENERGY MANAGEMENT**

- Energy meters (ct. 0.5S IEC 62053-22; cl. 2 IEC 62053-22)
- Pulse meter
- Load curves

**QUALITY ANALYSIS AND EVENT DETECTION**

- THD 3U, 3V, 3I/n
- Individual harmonics 3V, 3U, 3I/n (level 63)
- Sag, swell and outages, overcurrent
- RMS 1/2 period curve backup

**MEASUREMENT AND EVENT HISTORY**

- Load curves
- Events & Alarms
- Maximum average power
- Maximum average currents

* 1 configurable

**References**

- **DIRIS A10**
  - 4825 0010
- **DIRIS A10 with RS485 Jbus/Modbus communication**
  - 4825 0011
- **DIRIS A20**
  - 4825 0200
- **DIRIS A29 110 to 400 V AC and 120 to 350 V DC supply**
  - 4825 0209
- **Module 1 output**
  - 4825 0809
- **RS485 JBUS/MODBUS communication module**
  - 4825 0802
- **DIRIS A40/A41**
  - 4825 0201
- **DIRIS A40 110 to 400 V AC and 120 to 350 V DC supply**
  - 4825 1201
- **DIRIS A41 12 to 48 V DC supply**
  - 4825 1202
- **DIRIS A60**
  - 4825 0207

**Module option: DIRIS A40/A41/A60**

- Pulse outputs module
- RS485 JBUS/MODBUS communication module
- RS485 PROFIBUS-DP communication module
- Ethernet Module
- Ethernet module with RS485 gateway
- Analogue outputs module
- Monitoring or control/command module
- Memory module (DIRIS A40/A41)
- Functional earth module

**Associated current transformers**

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| 0087 | 0093 | 0206 | 0092 | 0090 | 195 | 246 | 89 | 79 | Others types of transformers in our catalogue.
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