

DIRIS[®] A

The multi-function measurement **range**
FOR **MANAGING** YOUR ELECTRICAL NETWORKS

MADE TO MEASURE



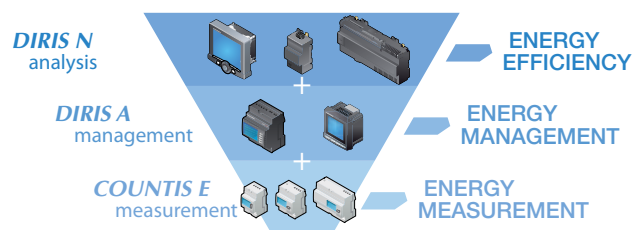
A comprehensive range for measuring your energy efficiency



GAMME 115 A GB

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.



DIRIS 762 B GB

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.).

For further information: www.socomec.com

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.

SOCOMEK is once again expanding the field of application of the **DIRIS A** with new modules for:

- Ethernet communication
- Temperature measurement & monitoring.

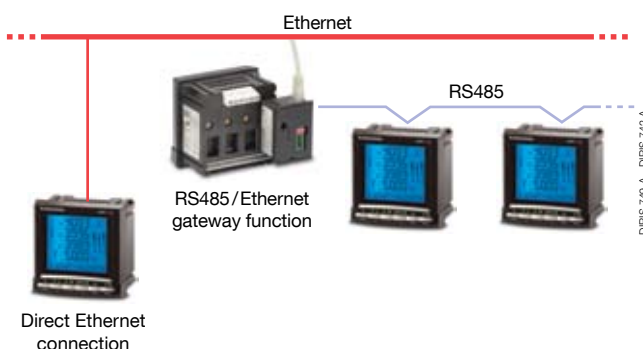


DIRIS 767 A

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.



DIRIS 749 A - DIRIS 742 A

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**.



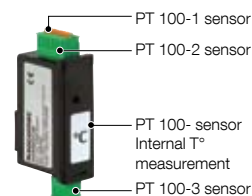
DIRIS 829 A - DIRIS 830 A

Expanded monitoring



The new temperature monitoring module:

- enhances energy diagnostics
- improves monitoring of facilities



DIRIS 747 A

Dedicated supervision

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



DIRIS 507 A - DIRIS 513 A

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 A20

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



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**).

DIRIS A20



1 OUTPUT ALLOCABLE TO

- Pulses: configurable (type, weight, time) in kWh or kvarh
- Monitoring: 3I, In, 3V, 3U, F, ΣP , ΣQ , ΣS , $\Sigma PFL/C$, THD 3I, THD 3V, THD 3U and timer

COMMUNICATION

- RS485 connection with JBUS/MODBUS protocol (speed up to 38,400 bauds): 1 module

DIRIS A20

PULSE OUTPUTS

- 2 configurable pulse outputs (type, weight and duration)

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
- A maximum of 2 modules may be connected, giving 4 analogue outputs.

2 INPUTS - 2 OUTPUTS

- 2 to 6 outputs allocated to monitoring of all values measured by DIRIS or to remote control
- 2 to 6 inputs for pulse counting

MEMORY

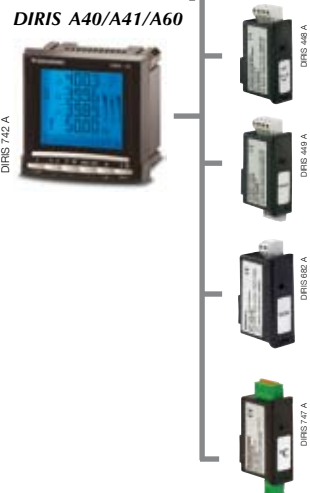
- Memorisation of P+, P-, Q+, Q- with an internal or external synchronisation signal of 5, 8, 10, 15, 20 and 30 minutes for 31 or 62 days
- Memorisation of the last 10 time-stamped alarms
- Memorisation of minimum and maximum instant values for 3U, 3V, 3I, In, F, $\pm \Sigma P$, $\pm \Sigma Q$, ΣS , THD3U, THD3V, THD3I, THDIn
- Memorisation of mean values according to the synchronisation signal for 3U, 3V and F



TEMPERATURE INPUTS (PT100 SENSOR)

- 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/A60



Selection guide

REQUIREMENTS	DIRIS A10	DIRIS A20	DIRIS A40/A41	DIRIS A60
Feeder measurement & control	•	•	•	•
Energy breakdown & allocation	•	•	•	•
Load analysis & management			•	•
Event monitoring			•	•
Detection & storage of network perturbations				•
Form factor	4 modules	panel mounted 96x96	panel mounted 96x96	panel mounted 96x96

Functions

MEASUREMENT	DIRIS A10	DIRIS A20	DIRIS A40 /A41	DIRIS A60
Currents, voltages, frequency, active, reactive and apparent power, power factor	●	●	●	●
Predictive power			●	●
Voltage/current unbalance; Tangent φ				●
Temperature(s)	●		1...4 option	1...4 option
Average currents, voltages and frequency			●	●
Average power			●	●
ENERGY MANAGEMENT				
Energy meters (cl. 0.5S IEC 62053-22; cl. 2 IEC 62053-22)	●	●	●	●
Pulse meter	1*		2...6 option	2...6 option
Load curves			●	●
QUALITY ANALYSIS AND EVENT DETECTION				
THD 3U, 3V, 3I/In	level 51	level 51	level 63	level 63
Individual harmonics 3V, 3U, 3I/In (level 63)			●	●
Sag, swell and outages, overcurrent				●
RMS 1/2 period curve backup				●
Alarm output	1*	1* option	2...6 option	2...6 option
MEASUREMENT AND EVENT HISTORY				
Load curves			in option	●
Events & Alarms			-/●	●/●
Maximum average power	kW	kW	●	●
Maximum average currents	●	●	●	●

* 1 configurable

References

➤ **DIRIS A10** ➤ Module option: **DIRIS A40/A41/A60**

DIRIS A10	4825 0010
DIRIS A10 with RS485 Jbus/Modbus communication	4825 0011

> DIRIS A20	RS485 PROFIBUS-DP communication module	4825 0205
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DIRIS A20 110 to 400 V AC and 120 to 350 V DC supply	4825 0200
Module 1 output	4825 0080
RS485 JBUS/MODBUS communication module	4825 0082

> DIRIS A40/A41	Analogue outputs module	4825 0093
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<i>DIRIS A40</i> 110 to 400 V AC and 120 to 350 V DC supply	4825 0201
<i>DIRIS A40</i> 12 to 48 V DC supply	4825 1201
<i>DIRIS A41</i> 110 to 400 VAC and 120 to 350 VDC supply	4825 0202
<i>DIRIS A41</i> 12 to 48 VDC supply	4825 1202

> **DIRIS A60**

DIRIS A60 110 to 400 V AC and 120 to 350 V DC supply	4825 0207
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> Module option: **DIRIS A40/A41/A60**

Pulse outputs module	4825 0090
RS485 JBUS/MODBUS communication module	4825 0092
RS485 PROFIBUS-DP communication module	4825 0205
Ethernet Module	4825 0203
Ethernet module with RS485 gateway	4825 0204
Temperature module	4825 0206
Analogue outputs module	4825 0093
Monitoring or control/command module	4825 0094
Memory module (<i>DIRIS A40/A41</i>)	4825 0097
Functional earth module	4825 0087

Associated current transformers

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