DIRIS® A

The multi-function measurement range

FOR MANAGING YOUR ELECTRICAL NETWORKS



socomec
Innovative Power Solutions SCP

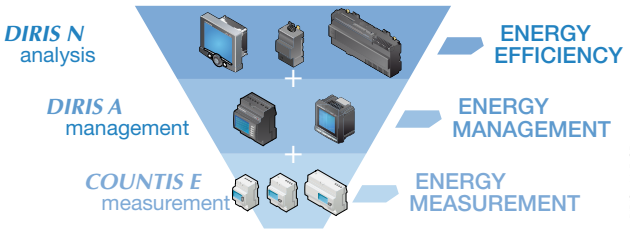
A comprehensive range for measuring your energy efficiency



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 792 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 plug-in modules the product features can be upgraded at any time. ***DIRIS A*** has optimum adaptability to the requirements of multi-measurement applications.



DIRIS 167 A

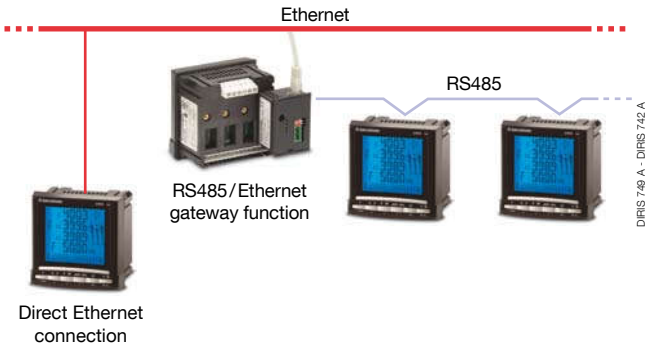
SOCOMEC is once again expanding the field of application of the ***DIRIS A*** with the addition of modules for:

- Ethernet communication
- Temperature measurement & monitoring.

Ethernet connectivity

NEW

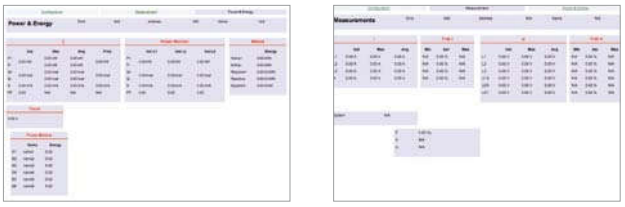
Allows direct connection to an Ethernet communication network. Module with gateway function enables devices on an RS485 bus to communicate via Ethernet.



DIRIS 749 A - DIRIS 742 A

The **embedded** WEB **server**

The new Ethernet communication modules incorporate an 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***.



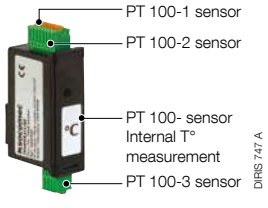
DIRIS 829 A - DIRIS 830 A

Expanded monitoring

NEW

The new temperature monitoring module:

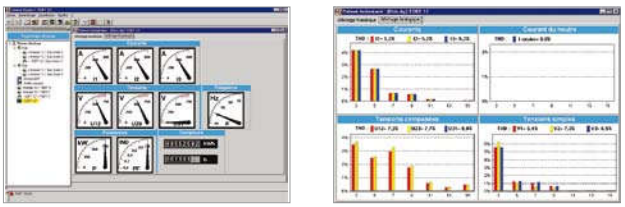
- enhances energy diagnostics
- improves monitoring of facilities



DIRIS 747 A

Dedicated supervision

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



DIRIS 507 A - DIRIS 513 A

DIRIS® A

MADE TO MEASURE

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-utility 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 meter
- 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 x 96 mm panel mount

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 x 96 mm panel mount

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 x 96 mm panel mount

DIRIS 791 B - DIRIS 742 A - DIRIS 743 A - DIRIS 824 A

DIRIS A20/A40/A41/A60 : Optional functions

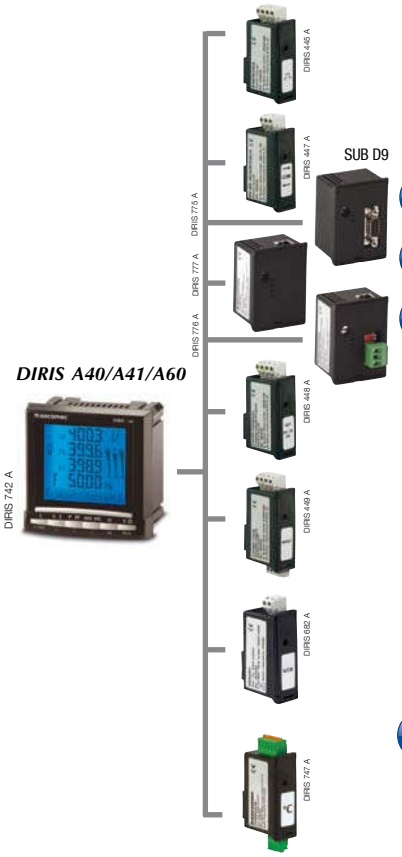
For your specific requirements, additional functions may be added via plug-in modules (maximum 4 for ***DIRIS A40*** and 3 for ***DIRIS A41/A60***).

DIRIS A20



	DIRIS A20
1 OUTPUT ALLOCABLE TO	
• Pulses: configurable (type, weight, time) in kWh or kvarh	●
• Monitoring: 3I, In, 3V, 3U, F, ΣP, ΣQ, ΣS, ΣPFL/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 A40/A41/A60



	DIRIS A40/A41	*DIRIS A60*
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	●	●
NEW • RS485 connection with PROFIBUS DP protocol (speed up to 12 Mbauds): 1 sidecar module	●	●
NEW • Ethernet connection with Modbus TCP or JBUS/MODBUS RTU over TCP protocol: 1 sidecar module	●	●
NEW • 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	●	as standard + event history
• Memorisation of the last 10 time-stamped alarms	●	
• Memorisation of minimum and maximum instant values for 3U, 3V, 3I, In, F, ±ΣP, ±ΣQ, ΣS, THD3U, THD3V, THD3I, THDIn	●	
• Memorisation of mean values according to the synchronisation signal for 3U, 3V and F	●	
NEW 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)	●	●

Selection guide

	DIRIS A10	*DIRIS A20*	*DIRIS A40/A41*	*DIRIS A60*
REQUIREMENTS				
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

	DIRIS A10	*DIRIS A20*	*DIRIS A40/A41*	*DIRIS A60*
MEASUREMENT				
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***

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

> ***DIRIS A20***

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***

DIRIS A40 110 to 400 V AC and 120 to 350 V DC supply	4825 **0201**
DIRIS A40 12 to 48 V DC supply	4825 **1201**
DIRIS A41 110 to 400 VAC and 120 to 350 VDC supply	4825 **0202**
DIRIS A41 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**

> 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 (***DIRIS A40/A41***)	4825 **0097**
Functional earth module	4825 **0087**

Associated current transformers

	Primary wound CT		Through cable CT		Three phase		Bar or cable-through CT								Split-core CT			
	TRB 70	T2RB 115	TCA 21	T2CA 225	TCB3 18-20	TCB3 22-30	TCB 17-20	TCB 26-30	TCB 28-30	TCB 32-40	TCB 44-50	TCB 44-63	TCB 85-100	TCB 100-125	TO 23	TO 58	TO 812	TO 816
Accuracy	0,5		0,5-1		1	1	1	0,5-1	0,5-1	0,5-1	0,5-1	0,5-1	0,5	0,5	0,5-1	0,5	0,5	0,5
0,2s version		•		•				•		•		•						
H (mm)	88.5	115	65	78,5	115	150	65	78,5	70	88.5	101.5	108.5	187.5	187.5	106	152	198	246
W (mm)	71	100	45	61	65	75	49.5	61	49.9	71	86	96	172	172	93	125	155	195
D (mm)	45	70	30	35	37	37	50	48	68	58	58	58	52	52	58	58	58	79
cable d (mm)			21	22,5	18	22	17.5	26	28	32	44	44	85	100	20	50	80	80
bar x 1 (mm)					20x5	30x10	20x5	30x10	30x10	40x10	50x12	63x10		123x30	20x30	50x80	80x120	80x160
bar x 2 (mm)								20x10		30x5	40x10	50x10	100x10					
bar x 3 (mm)													80x10	100x10				
																		
Primary (A)	5 ... 40	25 ... 150	50 ... 300	150 ... 600	100 ... 250	250 ... 600	60 ... 400	50 ... 750	50 ... 600	50 ... 1000	100 ... 1250	200 ... 1600	750 ... 3000	1000 ... 4000	100 ... 400	250 ... 1000	250 ... 1500	1000 ... 5000
Secondary (A)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Others types of transformers in our catalogue.

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