

Energy Measurement & Management



- Countis kWh Meters
- Diris® Multifunction Meters
- Software
- Installation Solutions



IPD Industrial Products is an Australian owned leading distributor of a wide variety of low voltage electrical, lighting and industrial controls products for the Australian Industry.

IPD traces its beginnings to the General Electric Company Ltd of England, founded in 1889. Over the years, the company integrated the major electrical businesses of GEC, English Electric, Marconi, Henley and A.E.I to comprise one of the most extensive and diverse electrical engineering and manufacturing organisation in the world.

In 1956, English Electric opened its operation at Regents Park in Sydney, and has provided employment and training to thousands of people in the Australian electrical industry. Today it remains as a much changed and diverse organisation, IPD Group Limited, a 100% Australian owned, managed and operated company.

IPD Industrial Products delivers strong brand names and leading-edge developments, providing world class manufacturers a powerful presence in Australia. A customer oriented solutions based offering, influencing the specification and demand for coordinated and technically compliant products is our company's commitment.

IPD designs and manufactures a large range of products specifically suited to the local environment and our engineering team develops, tests and certifies equipment ensuring conformity to Australian and International Standards delivering the highest customer satisfaction.

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Contact us at:

Phone: 1300 556 601

or

www.ipdgroup.com.au



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kWh meters**



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Energy Management



ENERGY MANAGEMENT & NETWORK ANALYSIS

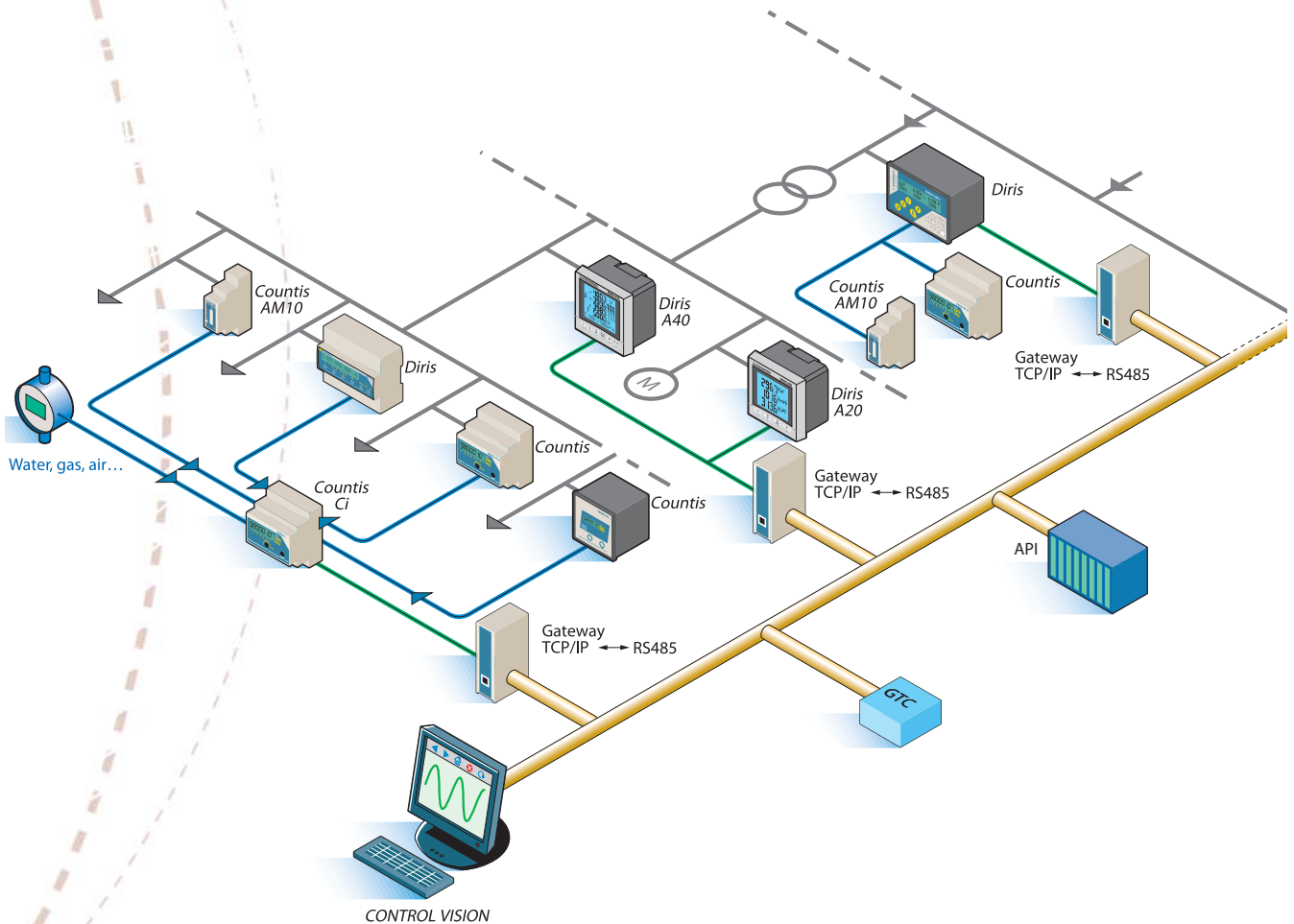
Energy Management is essential to achieve energy efficiencies via well planned procedures & methods:

- Monitoring & Tracking real-time energy consumption.
- Reporting for verification of energy data and energy use reduction targets.
- Billing to compare metered consumption against billed consumption and cost centre analysis for budget purposes.

Benefits include increases in resource efficiency, improved production and reduction in carbon emissions.

Utilisation of the Socomec energy management components allows a systems manager to:

- Set energy use limits/targets.
- Monitor electricity/water/gas usage.
- Report on usage, alarms & events.
- Undertake long term consumption analysis.
- Determine future energy usage.
- Develop performance targets for energy management programs.
- Diagnose specific areas of waste energy.



Countis Energy Metering

Function	kWh Metering
Type	Single Phase
Connection	Direct
Max Rating	63A

Features:

- Direct connect single-phase kWh meter up to 63 Amps (ph/N).
- Class 1 to IEC 62053-21.
- Pulse output.
- DIN rail mount.
- Measurement range; 184 - 276VAC.
- Cable range E10-12; 1 to 16mm².

*MID Certified EN50470
Saia® Energy Meters
Satisfy the European Union's
Measurement Instrument Directive (MID)

MID approved meters for Saia® can be
used for energy billing without
additional calibration.

COUNTIS AM10
Single Phase 32Amps



Part No.
4850AM10

COUNTIS E10
Single Phase 63Amps



Part No.
48503000

COUNTIS E11
Single Phase 63Amps
Dual Tariff



Part No.
48503001

COUNTIS E12
Single Phase 63Amps
Dual Tariff
MID Certified*



Part No.
48503002

32 Amps / 63 Amps DIRECT CONNECT

kWh meter model: Part No:	AM10 4850 AM10	E10 4850 3000	E11 4850 3001	E12 4850 3002
Single - phase direct connect	32 Amp	63 Amp	63 Amp	63 Amp
Pulse output	•	•	•	•
Aux.supply from monitoring supply	•	•	•	•
ENERGY METERING				
Total/partial kWh class 1	•/-	•/•	•/•	•/-
Dual tariff			2	2
Metrological LED	•	•	•	•
MID Certified			•	•
IEC62053-11 & IEC62053-31		•	•	•
IEC616557-12		•	•	•
DIN modules (size)	1	3	3	3
MEASUREMENTS				
Active power (ΣP)		•	•	•
Sealable cover		optional	optional	•

Sealable cover Part No: 4850303U

Countis Energy Metering

Function	kWh Metering
Type	Three Phase
Connection	Direct
Max Rating	63A

Features:

- Direct connect three-phase kWh meter up to 63 Amps (3ph; 3ph + N).
- Class 1 to IEC 62053-21.
- Pulse output.
- DIN rail mount.
- Measurement range; 184 - 480VAC.
- Wrong connection indication.
- Protection against phase/neutral reversal.
- 4 DIN modules wide.
- Cable range; 1 to 16mm².

COUNTIS E20 / E21



Pic for illustration only

63A DIRECT CONNECT

kWh meter model:	E20	E21
Part No:	4850 3003	4850 3004
Three - phase direct connect	63 Amp	63 Amp
Pulse output	•	•
Aux.supply from monitoring supply	•	•
ENERGY METERING		
Total/partial kWh (IEC 62053-21 class 1)	•/•	•/•
Dual tariff		2
Metrological LED	•	•
IEC62053-11 & IEC62053-31	•	•
IEC616557-12	•	•
MEASUREMENTS		
Active power (ΣP)	•	•
Sealable cover	optional	optional

Sealable cover Part No: 4850304U

*MID Certified EN50470
Saia® Energy Meters
Satisfy the European Union's
Measurement Instrument Directive (MID)

MID approved meters for Saia® can be
used for energy billing without additional
calibration.

Countis Energy Metering

Function	kWh Metering
Type	Three Phase
Connection	Direct
Max Rating	100A

Features:

- Direct connect three-phase kWh meter up to 100 Amps (3ph; 3ph + N).
- Class 1 to IEC 62053-21.
- Pulse output.
- DIN rail mount.
- Measurement range; 184 - 480VAC.
- Wrong connection indication.
- Protection against phase/neutral reversal.
- 7 DIN modules wide.
- Cable range; 2.5 to 35mm².

*MID Certified EN50470
Saia® Energy Meters
Satisfy the European Union's
Measurement Instrument Directive (MID)

MID approved meters for Saia® can be
used for energy billing without
additional calibration.

COUNTIS E30 / E31 / E32 / E33



100A DIRECT CONNECT

kWh meter model:	E30	E31	E32	E33 ⁽¹⁾
Part No:	4850 3005	4850 3006	4850 3007	4850 3012
Three - phase direct connect	100 Amp	100 Amp	100 Amp	100 Amp
RS485 JBUS / MODBUS communication				•
Pulse output	•	•	•	•
Aux.supply from monitoring supply	•	•	•	•
ENERGY METERING				
Total/partial kWh (IEC 62053-21 class 1)	•/•	•/•	•/-	•/-
Dual tariff		2	2	
Metrological LED	•	•	•	•
MID certified			•	
IEC62053-11 & IEC62053-31	•	•	•	•
IEC616557-12	•	•	•	•
MID EN50470 certified B+ D class B module			•	
MEASUREMENTS				
Active power (ΣP)	•	•	•	•

⁽¹⁾Available mid 2010

Sealable cover Part No: 4850307U



Countis Energy Metering

Function	kWh Metering
Type	Three Phase
Connection	CT 5A
Max Rating	6000A

Features:

- Connect via CT.../5 Amps three-phase.
- Class 1 to IEC 62053-21.
- Total/Partial kWh.
- Total/Partial kvarh.
- Active power/Reactive power.
- DIN rail mount.
- Measurement range; 184 - 480VAC.
- Wrong connection indication.
- Protection against phase/neutral reversal.
- 4 DIN modules wide.

COUNTIS E40 / E41 / E43

COUNTIS E40

Three Phase CT connect

COUNTIS E41

Three Phase CT connect
Dual Tariff

COUNTIS E43

Three Phase CT connect
Dual Tariff
RS485 JBUS/MODBUS communications



Part No. 48503008



Part No. 48503009



Part No. 48503013

CT/..5A CONNECTION

kWh meter model: Part No:	E40 48503008	E41 48503009	E43 ⁽¹⁾ 48503013
Three - phase CT connect	CT/..5A (6000A)	CT/..5A (6000A)	CT/..5A (6000A)
Pulse output	•	•	•
RS485 JBUS/MODBUS Communication			•
Aux.supply from monitoring supply	•	•	•
ENERGY METERING			
Total/partial kWh IEC62053-21 class 1	•/•	•/•	•/•
Total/partial kvarh	•/•	•/•	•/•
Dual tariff		2	2
Metrologocal LED	•	•	•
MID certified			•
IEC62053-11 & IEC62053-31	•	•	•
IEC616557-12	•	•	•
MEASUREMENTS			
Active power (ΣP) Reactive power (ΣQ)	•/•	•/•	•/•
Sealable cover	optional	optional	•

Sealable cover Part No: 4850304U.

⁽¹⁾Available Q2 2010.

Countis Energy Metering

Function	Multi-Function kWh Metering
Type	Three Phase
Connection	CT 5A
Max Rating	6000A

Features:

- Multi-function.
- Connect via CT.../5 Amps.
- Class 1 to IEC 62053-21.
- Total/Partial kWh.
- Total/Partial kvarh.
- Instantaneous active/reactive power.
- Wrong connection indication.
- Full test & connection functions.
- Auxiliary supply 110...400 VAC & 120...350 VDC.
- Dimensions: 96mm x 96mm.

COUNTIS E50

Pulse module standard fitted



Part No. 48503010

COUNTIS E53

RS485 JBUS/MODBUS communications



Part No. 48503011

CT/..5A CONNECTION

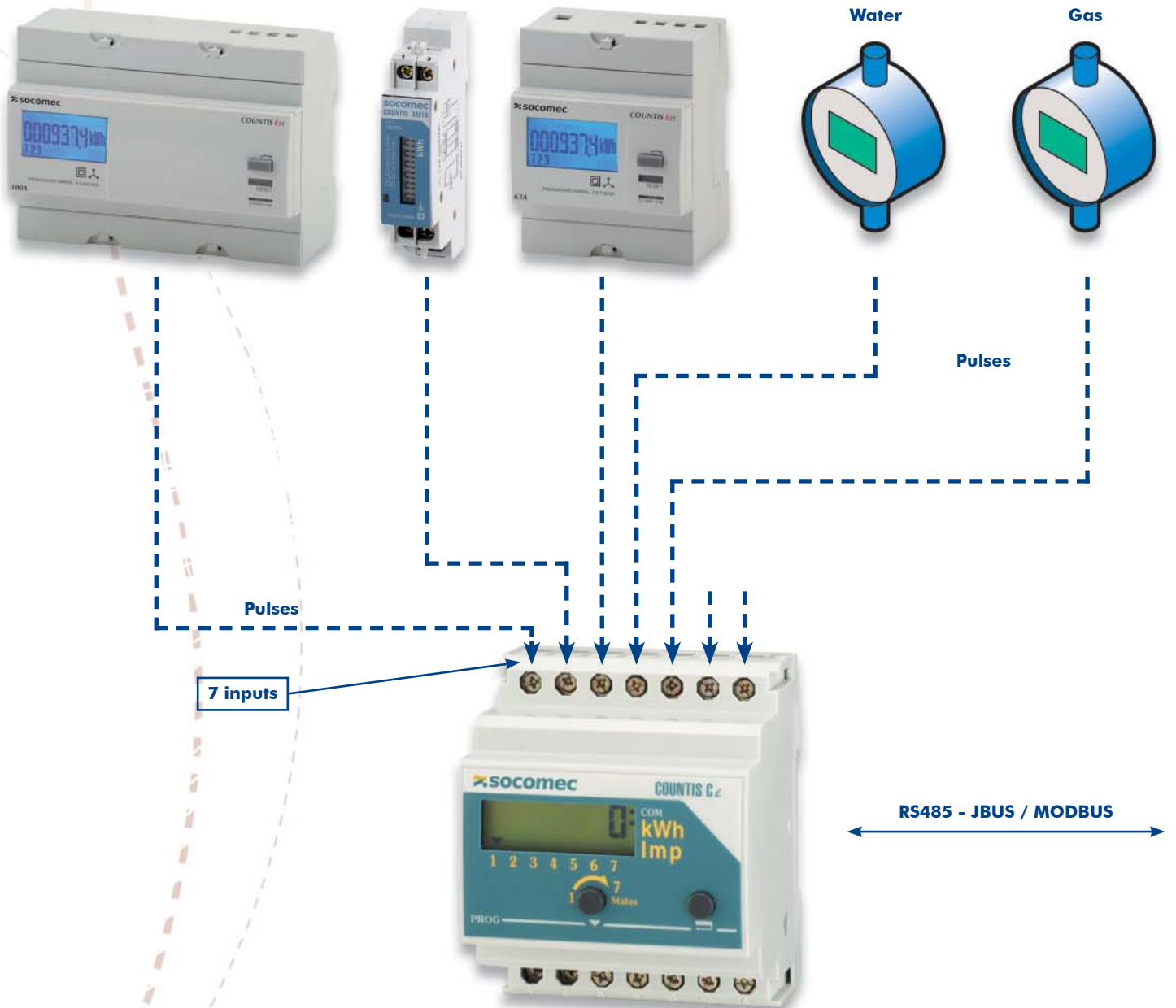
Multi-function: Part No:	E50 48503010	E53 48503011
Three - phase CT Connect	CT/..5A (6000A)	CT/..5A (6000A)
Pulse output	•	
RS485 JBUS/MODBUS Communication		•
ENERGY METERING		
Total/partial kWh class 1	•/•	•/•
Total/partial kvarh	•/•	•/•
Dual tariff		4 via RS485
IEC61557-12	•	•
MEASUREMENTS		
Active power (ΣP) Reactive power (ΣQ)	•	•
Multi-measurement (I, U, V, S, PF)	•	•

Countis Pulse Collector

PULSE COLLECTOR MODULE WITH COMMUNICATIONS

- 7 inputs: kWh or pulses (water, gas, air, ...).
- Monthly kWh consumption (12 months).
- Load curve.
- Communication: RS485 - MODBUS / JBUS.

COUNTIS Ci: Energy pulse acquisition module with communications



COUNTIS Ci (Pulse collector)
Part No. 48520000

Diris® A

Three - Phase Multi-Function Meter Range

Energy Management and Network analysing meters.

The Diris multifunction meters have a built-in electronic component (ASIC). Developed specifically by SOCOMEC for the measurement functions to achieve very high measurement accuracy.

Energy Accuracy:

- Active energy, class 0.5S to IEC 62053-22
- Reactive energy, class 2 to IEC 62053.23

The Socomec Diris A meters functions include;

- Metering
- Measuring
- Monitoring
- Analysing
- Communicating

The add-on modules can be used to upgrade the product functions at any time for measuring, reporting and communications functions.



Add-on Modules



Diris® A Multifunction Meters

Characteristics	A10	A20	A40	A41	A60
Application network (3P, 3P+N and single-phase)	LV	LV	LV/HV	LV/HV	LV/HV
Mounting	DIN rail	Panel	Panel	Panel	Panel
Current (3I, In)	•	•	•	•	•
4th CT for measuring neutral on networks with harmonics disturbances				•	
Harmonic distortion rate on current and voltage intergrate (THD 3I, 3V, 3U)	51st	51st	63rd	63rd	63rd
Accuracy: Current and Voltage	0.2%	0.2%	0.2%	0.2%	0.2%
Accuracy: Active energy Class	0.5S	0.5S	0.5S	0.5S	0.5S
Accuracy: Reactive energy Class	2	2	2	2	2
CT Secondary earthed	yes	yes	yes	yes	yes
Power factor -instantaneous 3PF, Σ PF	•	•	•	•	•
Active, reactive and apparent energy on 4 quadrants (\pm kWh, \pm kvarh, kVAh)	•	•	•	•	•
RS485 JBUS / MODBUS Protocol	•	•	•	•	•
Ethernet connection with Modbus TCP or JBUS / MODBUS over TCP protocol			•	•	•
Ethernet connection with RS485 gateway with Modbus TCP or JBUS / MODBUS RTU over TCP protocol			•	•	•
Temperature measurement internal, extrnal via 3 PT100 sensors			•	•	•
Output pulse configurable	1	1	2	2	2
Analogue outputs (plug-in module)			•	•	•
Current & Voltage imbalance displayed					•
Stores load curves (50 days) for active, reactive & apparent power.					•
Detects & stores the last 40 events for overvoltage, voltage dips, voltage outage & current					•
Auxiliary supply AC	200...277V	110...400V	110...400V	110...400V	110...400V
Dimensions W x H x D (mm)	72 x 90 x 64	96 x 96 x 60	96 x 96 x 60	96 x 96 x 60	96 x 96 x 60

Diris® A - Multifunction Meters



Features:

- Multi measurements.
- Class 0.5s accuracy IEC62053-22.
- Total harmonic distortion THD up to 51st row.
- Output: control of operation, alarm report, pulse report.
- Temperature indication - internal.

	Diris A10	Diris A20
Function	Multimeasurement	Multimeasurement
Type/Connection	Three Phase/CT 5A	Three Phase/CT 5A
Mounting	DIN Rail	Panel
Communication	RS485 included	Optional
Plug-in options	-	RS485 comms, pulse output

Vision Control and Billing Software is available for display of electrical values with consumption management via RS 485 JBUS/MODBUS communication output.

DIRIS A10
DIN Rail mount
4 modules wide



DIRIS A20
Panel mount
Dimensions 96mm x 96mm



CT/..5A CONNECTION

Multi-function meter: Part No:	Diris A10 48250011	Diris A20 48250200
Three -phase CT Connect	CT/..5A (10,000A)	CT/..5A (10,000A)
INSTANTANEOUS RMS VALUES		
Current (3I, In)	•	•
Phase-neutral and phase-phase voltage (3v, 3u)		•
Frequency (F)	•	•
Active, reactive and apparent power, per phase and total (±3p, ±3Q, 3S, ±ΣP, ±ΣQ, ΣS)	•	•
Power factor, per phase and total (3PF, ΣPF)	•	•
AVERAGE AND MAXIMUM VALUE MEASUREMENTS		
Current (3I, In)	•	•
POWER QUALITY MEASUREMENTS		
Harmonic distortion rate on current and voltage intergrated up to 51st harmonic (THD 3I, 3V, 3U)	•	•
1 Pulse OUTPUT		
Pulse configurable (type, weight, time) in kWh, or kvarh Monitoring: 4I, In, 3V, 3U, F, ΣP, ΣQ, ΣS, ΣPF, THD 3I, 3V, 3U and timer	•	•
COMMUNICATION RS485 JBUS / MODBUS protocol (A20 - add on module) (A10 - built in)	•	•
ENERGY MEASUREMENT PRECISION		
Class 0.5s - IEC 62053-22 (Active energy)	•	•
Class 2 - IEC 62053-23 (Reactive energy)	•	•
AUXILIARY POWER SUPPLY 200-277V AC	•	
AUXILIARY POWER SUPPLY 110-400V AC / 120-350V DC		•

Diris® A20 - Multifunction Meter



1. Backlit LCD display.
2. Direct access key for currents (instantaneous and max. values), current THD and set up wiring correction.
3. Direct access key for voltages, frequency and voltage THD.
4. Direct access key for active, reactive and apparent power (instantaneous and max. values) and power factor.
5. Direct access key for energies and hour meter.

DIRIS A20	
Plug-in Modules	Part No.
Digital output	48250080
RS485 JBUS/MODBUS® communication	48250082



1 Output

- 1 output assignable 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.
 - Control of apparatus.



Communication

RS485 link with JBUS / MODBUS protocol (speed up to 38400 baud).



Diris® A - Multifunction Meters



Features:

- Multi measurements.
- Class 0.5s accuracy IEC62053-22.
- Current.
- Voltage & Frequency.
- Power Factor.
- Load Curves.
- Total harmonic distortion THD analysis up to row 63.
- Events, alarms on all electrical values.
- Ethernet (modbus TCP or JBUS/MODBUS RTU or TCP and Web server).
- Inputs/outputs.
- Temperature module for temperature indication - 4 points (1 internal, 3 external).
- Dimensions: 96mm x 96mm.

	Diris A40/A41
Function	Multimeasurement & Control
Type/Connection	Three Phase/CT 1A or 5A
Mounting	Panel
Communication	optional RS485 JBUS/MODBUS PROFIBUS DP, Ethernet
Plug-in options	Pulse output, communications, analogue outputs, I/O, memory, temperature sensor

Vision Control and Billing Software is available for display of electrical values with consumption management via RS 485 JBUS/MODBUS communication output.



DIRIS A40

DIRIS A41
Neutral CT

Part No. 48250201

Part No. 48250202

Standard Functions	DIRIS® A20	DIRIS® A40/A41
INSTANTANEOUS, RMS VALUES		
Current (3I, In)	●	●
Neutral current sensing transformer for highly perturbed networks (harmonics)		A41
Phase to neutral and phase to phase voltage (3V, 3U)	●	●
Frequency (F)	●	●
Total active, reactive and apparent power (+ΣP, +ΣQ, ΣS)	●	
Total and per phase active, reactive and apparent power (±3P, ±3Q, 3S, ±ΣP, ±ΣQ, ΣS)		●
Total power factor (ΣPF)	●	
Total and per phase power factor (3PFL/C, ΣPFL/C)		●
AVERAGE AND MAXIMUM VALUES		
Maximum current (3I, In)		●
Total active power (P+)	●	
Total active, reactive and apparent power (±ΣP, ±ΣQ, ΣS)		●
POWER - QUALITY VALUES		
Voltage and current harmonic distortion level up to row 63 (THD 3I, In, 3V, 3U)		●
METERING		
Active and reactive energy 4 quadrants (±kWh, ±kvarh, kVAh)	●	
Active, reactive and apparent energy 4 quadrants (±kWh, ±kvarh, kVAh)		●
Active, reactive and apparent energy 4 quadrants (±kWh, ±kvarh, kVAh)		●

Diris® A40/41 - Multifunction Meters



1. Backlit LCD display.
2. Direct access key for currents and setup wiring correction.
3. Direct access key for voltages and frequency.
4. Direct access key for active, reactive and apparent power and power factor.
5. Direct access key for maximum and mean values for current and power.
6. Direct access key for harmonics values.
7. Direct access key for pulse, hours and electrical energy meters.

DIRIS A40/41 Plug-in Modules	Part No.
Pulse outputs	48250090
RS485 JBUS/MODBUS® communication	48250092
Analogue outputs	48250093
2 inputs / 2 outputs	48250094
RS485 PROFIBUS® communication	48250205
Memory module	48250097
Ethernet communication	48250203
Ethernet communication + RS485 gateway JBUS/MODBUS®	48250204
Temperature inputs	48250206



Pulse outputs

2 configurable pulse outputs (type, weight and duration) on \pm kWh, \pm kvarh and kVAh.



JBUS / MODBUS® communication

RS485 link with JBUS / MODBUS® protocol (speed up to 38400 bauds).



PROFIBUS® DP communication

RS485 link with PROFIBUS® DP protocol (speed up to 12 Mbauds).



Ethernet communication

Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.

Ethernet communication with RS485 JBUS/MODBUS gateway

Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.

Connection of 1 to 247 RS485 JBUS/MODBUS slaves.



Analogue outputs

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

2 outputs assignable to:

3I, In, 3V, 3U, F, $\pm \Sigma P$, $\pm \Sigma Q$, ΣS , $\Sigma PFL/C$, I sys, Vsys, Usys, Ppred, Q pred, Spred, internal T°C 1, T°C 2, T°C3 and to 17 VDC power supply.



2 inputs - 2 outputs

A maximum of 3 modules may be connected, giving 6 inputs

2 outputs assignable to:

- monitoring: 3I, In, 3V, 3U, F, $\pm \Sigma P$, $\pm \Sigma Q$, ΣS , $\Sigma PFL/C$, THD 3I, THD In, THD 3V, THD 3U, Ppred, Qpred, Spred, internal T°C, T°C 2, T°C3 and hour meter.
- remote control, timed remote control.



Memory

Storing up to a maximum of 62 days of P+, P-, Q+, Q- with an internal or external synchronisation signal of 5, 8, 10, 15, 20, 30 and 60 minutes.

Storing of 10 hour-dated last alarms.

Storing of the last minimum and maximum instantaneous values for 3U, 3V, 3I, In, F, $\Sigma P\pm$, $\Sigma Q\pm$, ΣS , THD 3U, THD 3V, THD 3U, THD 3V, THD 3I, THD In.

Timestamped storing of the last 10:

- voltage dips, voltage swells, voltage interruptions.

Storing of 3U, 3V and F average values based on synchronisation function (maximum 60 days).



Temperature input sensor PT 100

Temperature indication:

Internal.

External sensor PT 100 (T°C 1), External sensor PT 100 (T°C 2), External sensor PT 100 (T°C 3).



Diris® A - Multifunction Meters

Features:

- Multi measurements.
- Class 0.5s accuracy IEC62053-22.
- Current.
- Voltage & Frequency.
- Power Factor.
- Load Curves.
- Total harmonic distortion (row 63), harmonics analysis.
- Events, alarms on all electrical values.
- Ethernet (modbus TCP or JBUS/MODBUS RTU or TCP and Web server).
- Inputs/outputs.
- Dimensions: 96mm x 96mm.

In addition to the Diris A40 the Diris A60

- Shows the current and voltage imbalance.
- Shows the tangent phi ($\tan \phi = P/Q$).
- Stores the load curves (50 days) with an interval of 10 minutes for:
 - Active, reactive and apparent power.
 - Detects and stores the last 40 events:
 - Overvoltage.
 - Voltage dips.
 - Voltage outage.
 - Current.

	Diris A60
Function	Multimeasurement, Control & Analysis
Type/Connection	Three Phase/CT 1A or 5A
Mounting	Panel
Communication	optional RS485 JBUS/MODBUS PROFIBUS DP, Ethernet
Plug-in options	Pulse output, communications, analogue outputs, I/O, temperature sensor
Memory	Load curves (50 days/10 minutes), power, events (last 40)

Vision Control and Billing Software is available for display of electrical values with consumption management via RS 485 JBUS/MODBUS communication output.



DIRIS A60

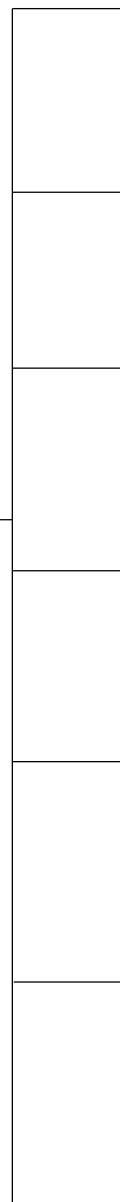
Part No. 48250207

Diris® A60 - Multifunction Meter



1. Backlit LCD screen.
2. Pushbutton for currents, temperatures and CT setup wiring correction.
3. Pushbutton for voltages and frequency.
4. Pushbutton for active, reactive, and apparent power and power factor.
5. Pushbutton for maximum and average current and power values.
6. Pushbutton for harmonics.
7. Pushbutton for energies and hour run meter.

DIRIS A60 Plug-in Modules	Part No.
Pulse outputs	48250090
RS485 JBUS/MODBUS® communication	48250092
Analogue outputs	48250093
2 inputs / 2 outputs	48250094
RS485 PROFIBUS® communication	48250205
Ethernet communication	48250203
Ethernet communication + RS485 gateway JBUS/MODBUS®	48250204
Temperature inputs	48250206



Pulse outputs

2 configurable pulse outputs (type, weight and run) on \pm kWh, \pm kvarh and kVAh.



JBUS / MODBUS® communication

RS485 link with JBUS / MODBUS® protocol (speed up to 38400 bauds).



PROFIBUS® DP communication

RS485 link with PROFIBUS® DP protocol (speed up to 12 Mbauds).



Ethernet communication

Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP.



Ethernet communication with RS485 Gateway JBUS/MODBUS

Ethernet link with MODBUS/TCP or JBUS/MODBUS RTU over TCP. Connection of 1 to 247 RS485 JBUS/MODBUS slaves.



Analogue outputs

A maximum of 2 modules may be connected, giving 4 analogue outputs. 2 outputs assignable to:
 $3I$, I_n , $3V$, $3U$, F , $\pm \Sigma P$, $\pm \Sigma Q$, ΣS , $\Sigma PFL/C$, I sys, V_{sys} , U_{sys} , P_{pred} , Q pred, $Spred$, internal $T^{\circ}C$, $T^{\circ}C$ 1, $T^{\circ}C$ 2, $T^{\circ}C$ 3 and to 17 VDC power supply.



2 inputs - 2 outputs

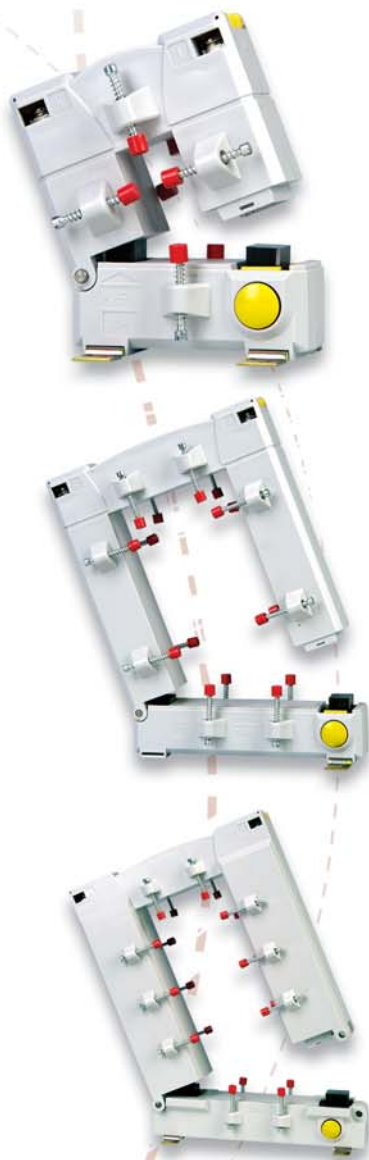
A maximum of 3 modules may be connected, giving 6 inputs. 2 outputs assignable to :
 - monitoring:
 $3I$, I_n , $3V$, $3U$, F , $\pm \Sigma P$, $\pm \Sigma Q$, ΣS , $\Sigma PFL/C$, THD $3I$, THD I_n , THD $3V$, THD $3U$, P_{pred} , Q_{pred} , $Spred$, internal $T^{\circ}C$, $T^{\circ}C$ 1, $T^{\circ}C$ 2, $T^{\circ}C$ 3 and hour meter,
 - remotely controlled, timed remote control, 2 inputs for pulses metering.

Split-Core Current Transformers

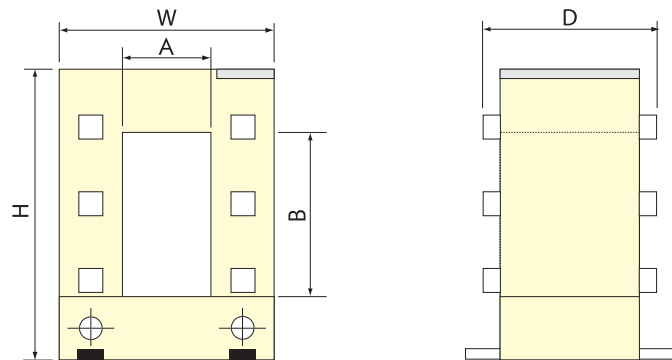


Features:

- Accuracy class: 0.5.
- Wide range of openings: 20 x 30mm to 160 x 80mm.
- Sealable terminal cover.
- Tested insulation: 3kV/1min 50Hz.



Ratio Amps	CLASS		Part No.			
	0.5 VA	1 VA	TO23	TO58	TO812	TO816
100/5		1.25	192T4601			
150/5		1.5	192T4602			
200/5		1.5	192T4603			
250/5	1	2		192T4625		
300/5	1.5	3		192T4630		
400/5	1.5	3		192T4640		
500/5	2.5	5		192T4650		
600/5	2.5	5		192T4660		
750/5	2.5	5		192T4675		
800/5	2.5	5		192T4680		
1000/5	5	10			192T4710	
1250/5	7.5	15			192T4712	
1500/5	7.5	15			192T4715	
2000/5	10	15				192T4820
2500/5	10	15				192T4825
3000/5	15	25				192T4830
4000/5	15	25				192T4840
5000/5	15	25				192T4850



Dimensions (mm)

Type	A	B	H	W	D
TO 23	20	30	106	93	58
TO 58	50	80	152	125	58
TO 812	80	120	198	155	58
TO 816	80	160	246	195	79

CTME Current Transformers

Features:

- Single Turn Primary.
- Accuracy class 0.5.
- Sealable terminal cover standard.
- Mounting brackets.



Ratio Amps	CLASS		Part No.				
	0.5 VA	1 VA	CTME-2	CTME-3	CTME-4	CTME-5	CTME-6
Single Turn Primary							
75/5			CTME275				
100/5			CTME2100				
150/5		3	CTME2150				
200/5		5	CTME2200				
250/5		5	CTME2250				
300/5		7.5	CTME2300				
400/5		10	CTME2400				
150/5				CTME3150			
200/5		5		CTME3200			
300/5		7.5		CTME3300			
400/5		10		CTME3400			
500/5		15		CTME3500			
600/5	10			CTME3600			
800/5	15			CTME3800			
1000/5	15			CTME31000			
1200/5	15			CTME31200			
400/5		7.5			CTME4400		
600/5		10			CTME4600		
630/5		10			CTME4630		
800/5	7.5				CTME4800		
1000/5	15				CTME41000		
1200/5	15				CTME41200		
1250/5	15				CTME41250		
1500/5	15				CTME41500		
1600/5	15				CTME41600		
2000/5	15				CTME42000		
1200/5	15					CTME51200	
1500/5	15					CTME51500	
1600/5	15					CTME51600	
2000/5	15					CTME52000	
2500/5	15					CTME52500	
1500/5	15						CTME61500
1600/5	15						CTME61600
2000/5	15						CTME62000
2500/5	15						CTME62500
3000/5	15						CTME63000
4000/5	15						CTME64000

Software

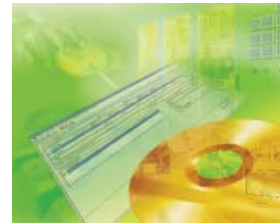
Control Vision metering and monitoring software for Socomec energy meters. It operates under Windows NT4 (PACK 6) or XP with minimal PC requirement: - Pentium III, 512 Mb RAM, 500Mb of available hard disk space, one or more (RS232 or RS485) series ports or USB ports.

Vision Control Software



Part No. 48050000

Billing Application



Part No. 48050002

Function

CONTROL VISION software

CONTROL VISION is a metering and monitoring software and operates under a Windows® NT4 (pack 6) or XP environment.

The CONTROL VISION software allows:

- Remote configuration of DIRIS and COUNTIS devices.
- Display all electrical parameters measured, energies, alarms, harmonics and the configuration of all the devices.

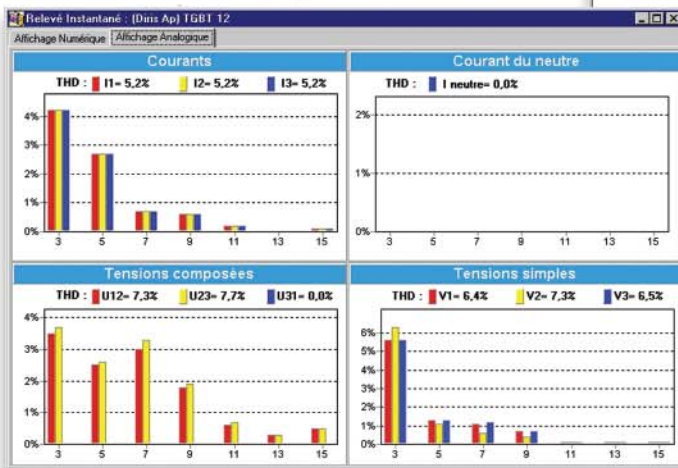
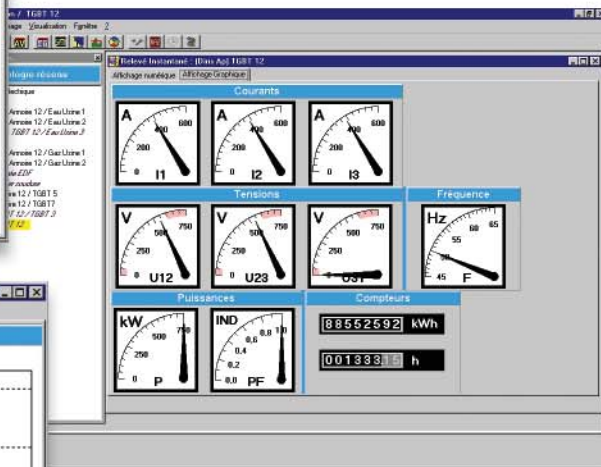
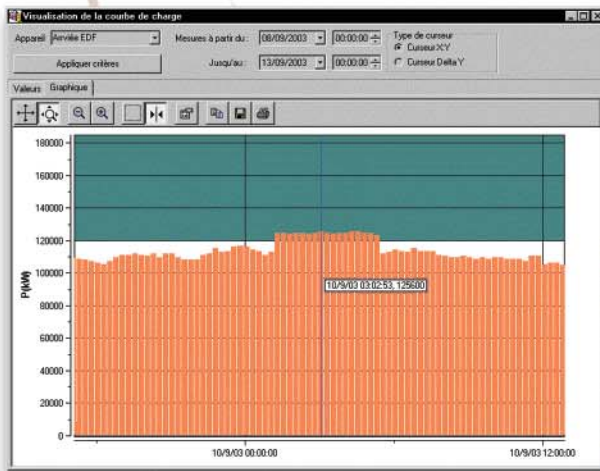
Function

BILLING APPLICATION software

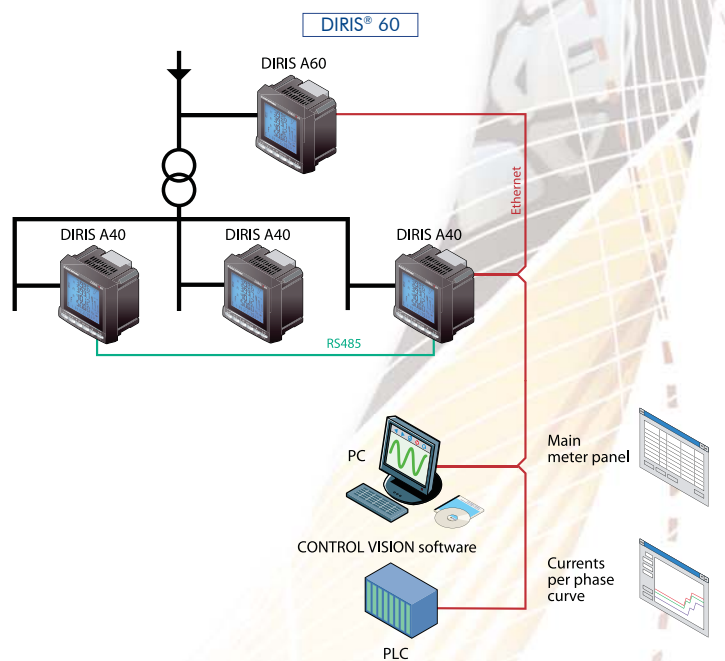
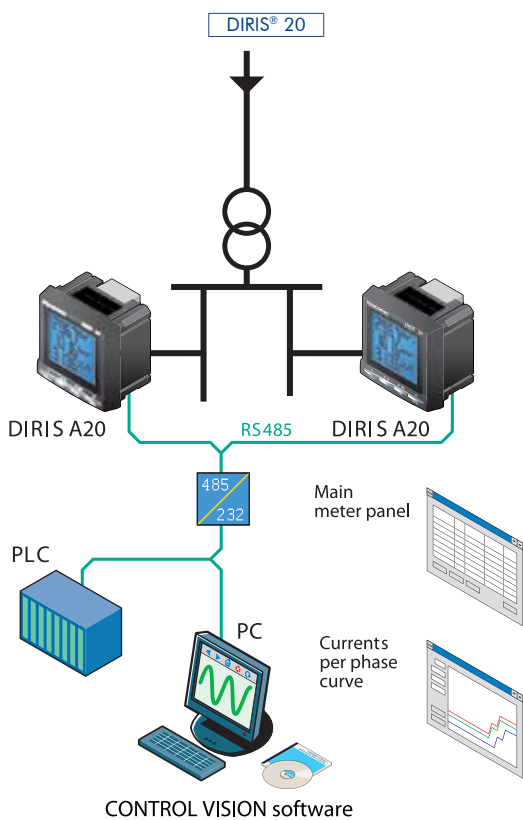
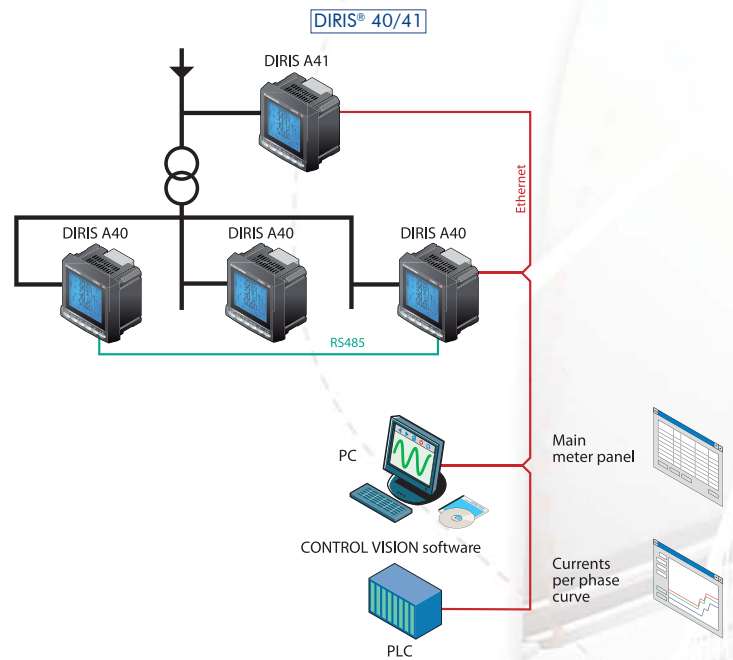
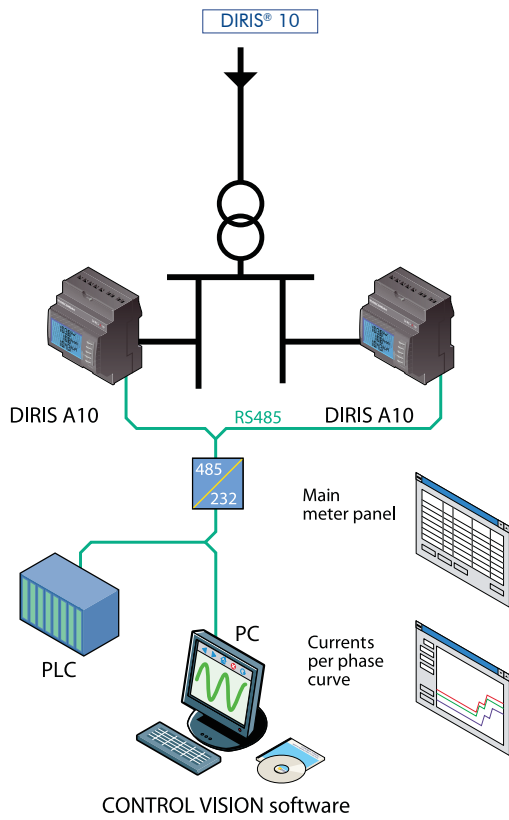
BILLING APPLICATION is a power consumption management software related to tariffs. It allows pricing simulation for agreed supply quota optimisation and operates under Windows® NT4 or XP environment.

The BILLING APPLICATION software allows:

- Calendar management (peak and off peak).
- Price creation (periods, cost, fixed premium).
- Price calculation management, device group creation.
- Load curve visualisation.



Installation Solutions





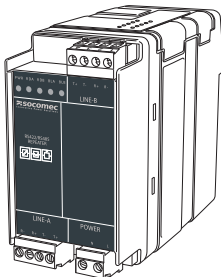
Installation Solutions



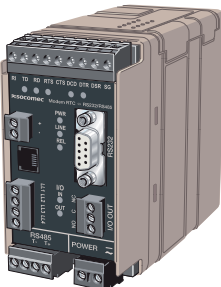
48990100



48990110



48990120



48990200



48990300

CONNECTING RS485 LINKS

Function	Part No.
RS232 / RS485 interface Signal conversion from PC RS232 port into RS485 Up to 31 devices can be connected over a distance of 1200m at 9600 baud.	48990100

Function	Part No.
USB / RS485 interface If the PC is not equipped with a serial port, the interface will connect via the USB port to obtain an RS485 communication port. Recommended for local use and not for permanent installation.	48990110

Function	Part No.
RS422 / RS485 repeater In some applications the maximum distance and/or maximum number of devices can be exceeded. Solution is to install an interface which amplifies the signal over a further 1200m (at 9600 baud) for 31 devices.	48990120

CONNECTING TELEPHONE NETWORKS

Function	Part No.
RTC / RS232 - RS485 modem The modem can be configured as a master (RS232: connected directly to PC) or slave (RS485: connected to slave device), via network.	48990200

Function	Part No.
Ethernet / RS232 - RS485 interface Allow the connection onto an Ethernet network with the master on one side and the RS485 slave network on the other side. The interface can be configured as a master (RS232: connected directly to PC) or slave (RS485: connected to slave device), via network.	48990300



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