SHARYS & PHASYS

DC power systems from 7.5 to 3000 A
AC power systems from 1.5 to 18 kVA
for telecom and internet networks

SOCOMEC GROUP
Switchgear and UPS

SOCOMEC SICON UPS

APPLI 024A

Secure power supply, wherever it's needed...

Secure power supply, wherever irreplaceable data loss, lost production and electrical downtime are serious issues, especially as main power is subject to numerous short and long disturbances.

That's why your mission-critical applications need to be protected to prevent processing errors, data loss or corruption and costly damage to hardware.

The SOCOMEC SICON range of UPS systems provides all your sensitive IT and processing equipment with disturbance-free and reliable high quality power whatever your application; from financial institutions to Internet service providers, to Telecom and industrial processes.

The range of SOCOMEC SICON UPS gives a comprehensive rated from 250 VA to 4800 kVA, providing effective protection against electrical disturbances.

SOCOMEC SICON UPS also offers:

- **automatic transfer systems** from 16 to 1800 A,
- **harmonic compensators,**
- **400 Hz frequency converters**,
- **DC and AC power systems** for industrial and telecommunication applications.

GAMME 008 G

CORPO 025A

3 factories in France (Alsace), 2 factories in Italy.

CORPO 045D

SOCOMEC, an independent manufacturer

The company, employing 1700 people committed to the manufacture of electrical products and electronic equipment, has a turnover of more than € 190 million.

The perfect industrial command of its activities guarantees SOCOMEC's group its independence.

SOCOMEC SICON UPS: know-how

Located in France and in Italy, SOCOMEC SICON UPS extends way beyond European borders.

The company has based its strategy on two main policies:

- **total quality** of its products and services (ISO 9001),
- **adaptability** to specific customer needs.

SOCOMEC SICON UPS Uninterruptible Power Systems are designed and manufactured to the following international and European standards: IEC, EN, VDE, BS, etc., and to meet the requirements of manufacturers of sensitive electronic equipment.

UPS systems have been installed in the folllowing sectors: financial services, telecommunications, nuclear, military, robotics, hospitals, etc.

SOCOMEC manufactures also:

A range of Switching and Protection Systems.

Future growth of the Group will also be fuelled by a second industrial activity independent of its UPSs, namely **Industrial switches and Protection systems** (load break switches, changeover switches, fuse protection, energy and control management, safety enclosures…).

Suitable services

Service and maintenance

Given the power system vital importance, offering service quality is just as important as product quality.

120 maintenance engineers are strategically placed throughout Europe and the world.

A full range of services: the inspection and maintenance engineers offer a wide range of services to ensure maximum reliability:

- installing equipment,
- preventive maintenance,
- corrective maintenance with guaranteed response time,
- technical assistance, consultancy, equipment modification and updating of Power Systems installations,
- training courses.

CORPO 050A

Advantage of maintenance

Technical assistance via telephone.

Advice from specialists to adapt your high quality energy installation to site evolutions.

Manufacturer know-how: the experience of specialists, who monitor your rectifiers and power systems, with the required know-how.

Maintenance engineers are strategically placed throughout Europe and the world.

CARTE 013C

CORPO 94A

ISO 9001: stringent Quality Certification

CORPO 46A

The specialist Maintenance Certificate guarantees that SOCOMEC SICON UPS will respect the terms of the certificate for its specialist skills, compliance to security regulations, responsability, quality and contractual obligations.

DC and AC solutions

for telecom and internet networks

SHARYS range

DC power systems from 7.5 to 3000 A

SHARYS

Controller and rectifier modules: a wide range of modules to create the solution adapted to your need

see page 4

SHARYS MICRO & SHARYS MINI

Low DC power systems from 7.5 A to 200 A

see page 6

SHARYS ELITE

Medium DC power systems from 75 A to 600 A

see page 8

SHARYS DR

High DC power systems from 100 A to 3000 A

see page 10

PHASYS range

AC power systems from 1.5 to 18 kVA

PHASYS

Controller unit and inverter modules: a wide range of inverter modules to create your tailor-made solution

see page 14

PHASYS ELITE

AC power systems from 1.5 to 18 kVA

see page 16

MODULYS®

UPS from 1.5 to 9 kVA

MODULYS® TC

Especially designed UPS for the telecom sector with long back-up time

see page 18

COUNTIS®

Active-energy meter

COUNTIS® Adc

Active-energy meter for 48 V DC networks, giving direct readings in kWh

see page 20

SHARYS

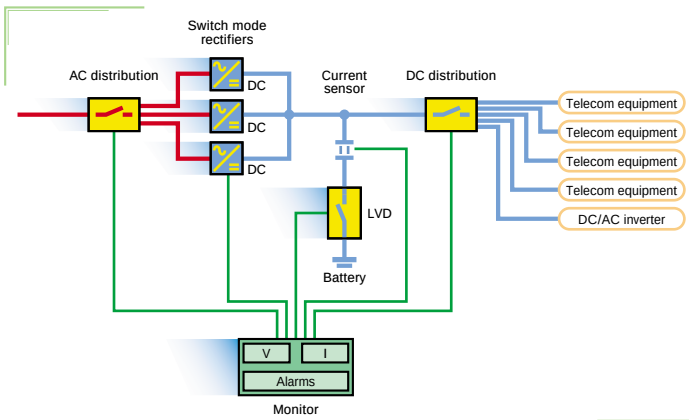
POWERING YOUR DC NEEDS

GAMME 022 A

The ***SHARYS*** series has been designed with the objective of making reliable DC products:

- Modular and flexible range
  - expandable according to future requirements
- High efficiency
  - low energy consumption, low dissipation
- High reliability
  - reduced maintenance costs
- Intelligent cooling of the components
  - limited thermal stress and longer life of the components
- Microprocessor control
  - easy and friendly to use
- Possibility of supervising the equipment remotely
  - easy control and monitoring
- Easy and quick installation without any manual connections (hot plug-in)
  - reduced installation costs
- Replacement of faulty units without any power interruption (hot-swap)
  - reduced maintenance costs.

Electrical diagram



TLC 011 A

Typical applications

	SHARYS MICRO		SHARYS MINI		SHARYS ELITE / SHARYS DR Low-medium				SHARYS DR High power		
	15 - 30 A	60 - 100 A	38 - 75 A	150 - 200 A	75 A	120 A	270 - 450 A	450 - 600 A	800 - 1200 A	1200 - 2400 A	3000 A
Data											
Data networking	●	●	●	●							
IP routing	●	●	●	●							
Customer premises											
Ring fiber transmission systems					●	●	●	●			
Broadband voice data services					●	●	●	●			
PBX					●	●					
Local loop											
Subscriber multiplex systems	●	●									
Fiber distribution systems	●	●			●						
Wireless local loop	●	●	●		●						
Wireless											
Micro/mini cells	●	●	●		●						
Base transceiver station			●		●	●	●	●			
Base switches					●	●	●	●			
CDMA			●		●	●	●	●			
Main switches							●	●	●	●	
Transmission											
Fiber optic systems (POP)	●	●	●		●	●	●	●			
Farm										●	●
Digital microwave radio					●	●	●	●			
Satellite earth stations					●	●	●	●			
Switching											
Local access switches		●	●		●	●	●	●			
Primary exchange						●	●	●			
Central office/secondary exchange						●	●	●			
Point-of-interconnect switches						●	●	●			
International and gateway switches							●	●			
Wind application					●	●	●	●			

SHARYS PLUS
Monitoring and control module

The ***SHARYS PLUS*** enhanced monitoring & controller module provides comprehensive information on the ***SHARYS*** power system and the rectifiers.

The 32-digit LCD display and the three LEDs provide secure and simple access to all information.


SHARYS 002 A

- Digital control & monitoring of the system and the rectifiers
- Microprocessor technology with CAN-BUS system communication
- RS232/485 port for external communications
- Battery management
- Remote access via SNMP, Internet, Java (with ***NETVISION*** external optional)
- Dry contacts (via external optional dry contacts interface)
- Hot plug-in

Technical data

Controller module	***SHARYS PLUS***
Input supply	48 V DC (30 - 60 V DC), 1 A
Communication	RS232/485, J-Bus
Main indicators	alarms, measurements, parameters, commands, battery test, history log
Compliant with	EN50081-2, EN61000-4-6, EN60950
Front panel color	RAL7012
Dimensions (W x D x H) mm	70 x 355 x 262 (6U)
Weight	2.7 kg

Codification

Item Code	Description
SH-PLUS	***SHARYS PLUS***

SHARYS 400, 800, 1600, 2700
Rectifier modules

The ***SHARYS*** rectifier modules are based on soft-switching double conversion.

A sophisticated SMD digital regulation system based on a microprocessor guarantees perfect control of the power parts built using IGBT technology. The rectifier is thus assured of exceptional output performance and advanced dialog capacity with the outside.


SHARYS 001 A

- Switch mode double conversion technology
- Microprocessor control with CAN-BUS protocol communication
- Wide temperature and input mains voltage tolerances
- Power factor ≈ 1
- High efficiency
- Parallel connection with active load sharing
- Selective disconnection
- Hot-swap & hot plug-in

Technical data

Controller module	***SHARYS 400***	***SHARYS 800***	***SHARYS 1600***	***SHARYS 2700***
Input voltage	230 V AC +20% -40%*			
Input frequency	from 47.5 to 63 Hz			
Input power factor	≥ 0.99 (nominal conditions)			
Input current distortion	complies with IEC61000-3-2 (EN60555-2)			
Output voltage	48 V DC (42-58 V DC)			
Max. output power	400 W	800 W	1600 W	2700 W
Nominal output current at 53.3V	7.5 A	15 A	30 A	50 A
Efficiency (typical)	≥ 0.90	≥ 0.90	≥ 0.91	≥ 0.92
Output ripple in all conditions and without batteries	< 50 mVrms, < 100 mVpp, < 1 mVps			
EMC Emission	complies with EN50081-2			
EMC Immunity	complies with EN61000-4-6 (EN50082-2), EN61000-4-3			
Cooling	fan cooling with intelligent fan speed control			
Front panel color	RAL7012			
Dimensions (W x D x H**) mm	70 x 295	70 x 295	85 x 365	85 x 365
Weight	3.7 kg	3.7 kg	5 kg	6 kg
Working temperature				
without derating	-5 °C to +45 °C			
with derating	+45 °C to +55 °C			
Relative humidity	10% to 90%			

* from -20% to -40% linear derating from 100% to 60% Pmax
** H = 262 (6U)

Codification

Item Code	Description
SH400W48	***SHARYS 400***
SH800W48	***SHARYS 800***
SH1600W48	***SHARYS 1600***
SH2700W48	***SHARYS 2700***

SHARYS MICRO

DC systems from 7.5 A to 100 A

SHARYS MICRO is a direct-current (48 V DC) power system designed for installation in 19" cabinets.

It can house the ***SHARYS PLUS*** controller and at most two ***SHARYS*** rectifier modules working in parallel. Internally the system integrates all the input and output sectioning and protecting members.

SHARYS 003 A

- 19" 6U subrack
- Protected battery output
- Four protected load outputs
- Rear connection
- Remote access via SNMP, Internet, Java (with optional ***NET VISION***)
- Dry contacts (via optional dry contacts interface)

Technical data

With rectifier model	***SHARYS 400***	***SHARYS 800***	***SHARYS 1600***	***SHARYS 2700***
Input voltage	230 V AC +20% -40%*			
Input frequency	from 47.5 to 63 Hz			
Input power factor	≥ 0,99 (nominal conditions)			
AC distribution toward rectifier	fuse (size 10 x 38) 1 pole			
Output voltage	48 V DC (42 - 58 V DC)			
Output current at 53.3V**	15 A	30 A	60 A	100 A
Max. output power**	800 W	1600 W	3200 W	5400 W
Efficiency (typical)	≥ 0.90	≥ 0.90	≥ 0.91	≥ 0.92
Options	Battery Low Voltage Disconnector, DC distribution (fuse or MCCB), dry contacts, thermal probe, voltage temperature compensation, second battery fuse, remote supervision through ***NET VISION***			
Color	RAL7012			
Dimensions (W x D x H) mm	19" x 500 x 262 (6U)			
Weight	20 kg (without modules)			
Protection degree	IP20 (with modules inserted)			
Working temperature				
without derating	-5 °C to +45 °C			
with derating	+45 °C to +55 °C			

* from -20% to -40% linear from 100% to 60% Pmax
** with two rectifier modules

Codification

Item Code	**Iout**	N° of rectifiers	Rectifier type
SH-MC15/400	**15 A**	max. 2	***SHARYS 400***
SH-MC30/800	**30 A**	max. 2	***SHARYS 800***
SH-MC60/1600	**60 A**	max. 2	***SHARYS 1600***
SH-MC100/2700	**100 A**	max. 2	***SHARYS 2700***

SHARYS MINI

DC systems from 7.5 A to 200 A

SHARYS MINI is a direct-current (48 V DC) power system designed for installation in 19" cabinets.

It can house the ***SHARYS PLUS*** controller and 4 or 5 (depending on the model) ***SHARYS*** rectifier modules working in parallel. Internally the system integrates all the input and output sectioning and protecting members.

SHARYS 004 A

- 19" 12U subrack
- Protected battery output
- Fitting for DC distribution
- Rear connection
- Remote access via SNMP, Internet, Java (with optional ***NET VISION***)
- Dry contacts (via optional dry contacts interface)

Technical data

With rectifier model	***SHARYS 400***	***SHARYS 800***	***SHARYS 1600***	***SHARYS 2700***
Input voltage	400 V AC three-phase + N or 230 V AC single-phase +20% -40%*			
Input frequency	from 47.5 to 63 Hz			
Input power factor	≥ 0.99 (nominal conditions)			
AC distribution toward rectifier	fuse (size 10 x 38) 1 pole			
Output voltage	48 V DC (42-58 V DC)			
Output current at 53.3V**	37.5 A	75 A	120 A	200 A
Max. output power**	2000 W	4000 W	6400 W	10800 W
Efficiency (typical)	≥ 0.90	≥ 0.90	≥ 0.91	≥ 0.92
Options	Battery Low Voltage Disconnector, DC distribution (fuse or MCCB), dry contacts, thermal probe, voltage temperature compensation, second battery fuse, remote supervision through ***NET VISION***			
Color	RAL7012			
Dimensions (W x D x H) mm	19" x 500 x 524 (12U)			
Weight	25 kg (without modules)			
Protection degree	IP20 (with modules inserted)			
Working temperature				
without derating	-5 °C to +45 °C			
with derating	+45 °C to +55 °C			

* from -20% to -40% linear from 100% to 60% Pmax
** with complete rectifier configuration

Codification

Item Code	**Iout**	N° of rectifiers	Rectifier type
SH-MN38/400	**37.5 A**	max. 5	***SHARYS 400***
SH-MN75/800	**75 A**	max. 5	***SHARYS 800***
SH-MN120/1600	**120 A**	max. 4	***SHARYS 1600***
SH-MN200/2700	**200 A**	max. 4	***SHARYS 2700***

DC systems from 7.5 A to 600 A

The ***SHARYS ELITE*** system can be fitted with up to 14 ***SHARYS*** rectifier modules with a maximum output of 600 A, and the ***SHARYS PLUS*** controller.

The 19" structure and the single modules are hot-swap and hot plug-in for simple and quick installation and maintenance.

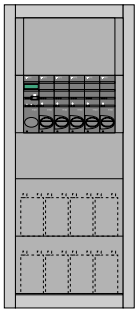
- Digital control & monitoring of the system and the rectifiers
- Protected battery output
- Connections on the top
- Possibility of installing batteries inside
- Remote access via SNMP, Internet, Java (with optional ***NET VISION***)
- Dry contacts (via optional dry contacts interface)

Technical data

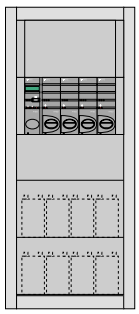
With rectifier model	***SHARYS 800***	***SHARYS 1600***	***SHARYS 2700***
Input voltage	400 V AC three-phase + N (+20% -40%*)		
	230 V AC single-phase (up to 200 A)		
Input frequency	from 47.5 to 63 Hz		
AC distribution toward rectifier	fuse (size 10 x 38) 1 pole		
Output voltage	48 V DC (42 - 58 V DC)		
Output current	see codification table		
Options	Battery Low Voltage Disconnector,		
	DC distribution (fuse or MCCB),		
	input mains general breaker, dry contacts,		
	thermal probe, batteries, second battery fuse,		
	battery voltage temperature compensation,		
	remote supervision through ***NET VISION***		
Color	RAL7012		
Dimensions (W x D x H) mm	600 x 600 x 1400 or 1800		
Protection degree	IP20 (with modules inserted)		
Working temperature			
without derating	-5 °C to +45 °C		
with derating	+45 °C to +55 °C		

* from -20 % to -40 % linear from 100 % to 60 % Pmax

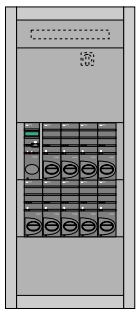
Flexible modular solutions from 7.5 A to 600 A in cabinet 1400 mm high



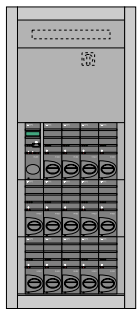
SH-LT75/800



SH-LT120/1600
SH-LT200/2700

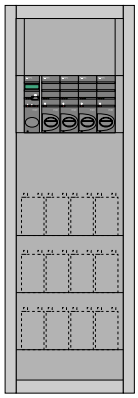


SH-LT270/1600
SH-LT450/2700

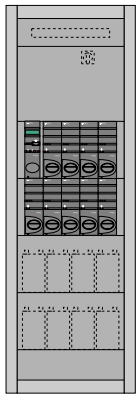


SH-LT420/1600
SH-LT600/2700

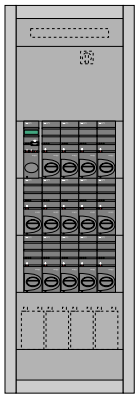
Flexible modular solutions from 7.5 A to 600 A in cabinet 1800 mm high



SH-LT120-H/1600
SH-LT200-H/2700



SH-LT270-H/1600
SH-LT450-H/2700



SH-LT420-H/1600
SH-LT600-H/2700

Codification

Item Code	**Iout**	N° of rectifiers	Rectifier type
SH-LT75/800	**75 A**	max. 5	***SHARYS 800***
SH-LT120/1600	**120 A**	max. 4	***SHARYS 1600***
SH-LT120-H/1600	**120 A**	max. 4	***SHARYS 1600***
SH-LT200/2700	**200 A**	max. 4	***SHARYS 2700***
SH-LT200-H/2700	**200 A**	max. 4	***SHARYS 2700***
SH-LT270/1600	**270 A**	max. 9	***SHARYS 1600***
SH-LT270-H/1600	**270 A**	max. 9	***SHARYS 1600***
SH-LT420/1600	**420 A**	max. 14	***SHARYS 1600***
SH-LT420-H/1600	**420 A**	max. 14	***SHARYS 1600***
SH-LT450/2700	**450 A**	max. 9	***SHARYS 2700***
SH-LT450-H/2700	**450 A**	max. 9	***SHARYS 2700***
SH-LT600/2700	**600 A**	max. 12+2*	***SHARYS 2700***
SH-LT600-H/2700	**600 A**	max. 12+2*	***SHARYS 2700***

* modules for redundancy
"SH-LTxx-H/xx" item codes refer to solutions in cabinet 1800 mm high.

DC systems from 100 A to 3000 A

The ***SHARYS DR*** power system consists of ***RD100FTR*** rectifier modules and the advanced controller module, with a maximum output of 3000 A.


SHARYS 018 A

- Digital control & monitoring of the system and the rectifiers
- Protected battery output
- Connections on the top
- Management of two batteries
- Remote access via SNMP, Internet, Java (with optional ***NET VISION***)
- Dry contacts

Technical data

With rectifier model	***RD100FTR***
Input voltage	400 V AC three-phase + N (-20/+15%)
Input frequency	50/60 Hz(± 5%)
General breaker/protection	breaker + fuse
AC distribution toward rectifier	fuse (size 10 x 38) 3 pole
Output voltage	48 V DC (48 - 58 V DC)
Output current	see codification table
Options	Battery Low Voltage Disconnector,
	DC distribution (fuse or MCCB), dry contacts,
	remote supervision though ***NET VISION***,
	battery voltage temperature compensation
Color	RAL7012
Dimensions/cabinet (W x D x H) mm	600 x 600 x 2200*
Protection degree	IP20 (with modules inserted)
Working temperature	0 °C to +45 °C

* + eventual power bus bar

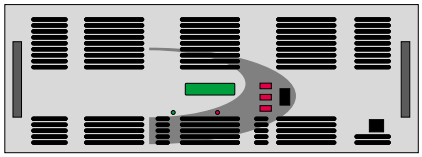
SHARYS DR controller


SHARYS 019 A

- Digital control & monitoring of the system and the single rectifiers
- Microprocessor technology
- RS485 serial port with J-Bus protocol (optional) for external communications
- Battery management
- Remote access via SNMP, Internet, Java (with optional ***NET VISION***)
- Dry contacts

RD100FTR rectifier module

The ***RD100FTR*** rectifier modules are hot-swap and hot plug-in for simple and quick installation and maintenance.


SHARYS 020 A

- Constant current
- Switch mode double conversion technology
- Microprocessor control
- Power factor ≈ 1
- High efficiency
- Parallel connection with active load sharing
- Selective disconnection
- Hot-swap & hot plug-in

Technical data

Rectifier model	***RD100FTR***
Input voltage	400 V AC three-phase + N (-20/+15%)
	230 V single-phase (-20/+15%)
	230 V three-phase on request
Input frequency	50/60 Hz (± 5%)
Input power factor	≥ 0.99 (nominal conditions)
Input current distortion	complies with IEC61000-3-2 (EN60555-2)
Nominal output voltage	48 V DC (48 - 58 V DC)
Nominal output current	100 A
Efficiency (typical)	≥ 0.91
Output ripple in all conditions and	
without batteries	< 50 mVrms, < 100 mVpp, < 1 mVps
EMC emission	complies with EN50081-2
EMC Immunity	complies with EN61000-4-6 (EN50082-2),
	EN61000-4-3
Cooling	fan cooling
Dimensions (W x D x H) mm	482 x 459 x 176 (4U)
Weight	21 kg
Working temperature	0 °C to +45 °C

Codification

Item Code	**Iout**	N° of cabinets	N° of rectifiers	Rectifier type
SH-DR48V800	**800 A**	1	max. 8	***RD100FTR48***
SH-DR48V1200	**1200 A**	2	max. 12	***RD100FTR48***
SH-DR48V1600	**1600 A**	2	max. 16	***RD100FTR48***
SH-DR48V2400	**2400 A**	3	max. 24	***RD100FTR48***
On request	**3000 A**	4	max. 30	***RD100FTR48***

PHASYS

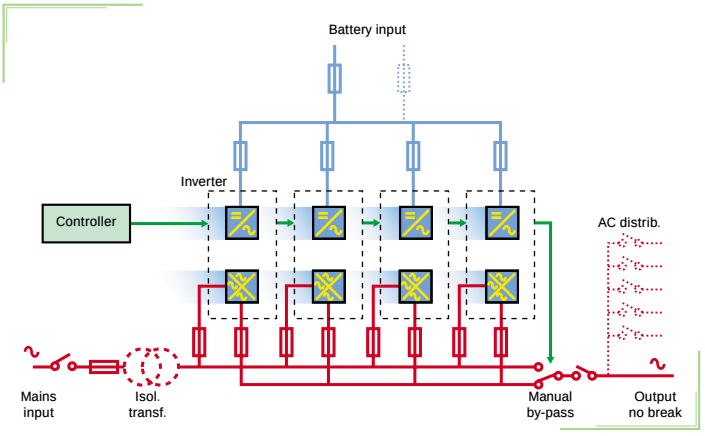
POWERING YOUR AC NEEDS

GAMME 023 A

The ***PHASYS*** series has been designed with the objective of making reliable AC products:

- Modular and flexible range
  - expandable according to future requirements
- Distributed by-pass architecture
  - high reliability thanks to redundancy
- High reliability
  - reduced maintenance costs
- Intelligent cooling with fan monitoring
  - limited thermal stress and longer life of the components
- Microprocessor control
  - easy and friendly to use
- Possibility of supervising the equipment remotely
  - easy control and monitoring
- Easy and quick installation without any manual connections (hot plug-in)
  - reduced installation costs
- Replacement of faulty units without any power interruption (hot-swap)
  - reduced maintenance costs

Electrical diagram



PHASYS 008 A

Typical applications

	PHASYS Inverter 3 kVA	4.5 - 9 kVA	13.5 - 18 kVA
Data			
Modem	●	●	●
PC	●	●	●
Router	●	●	●
Transmission			
Fiber optic systems (POP)	●	●	●
Wind application	●	●	●
Solar application	●	●	●

PHASYS STAR
Monitoring and control unit


PHASYS 001 A

The ***PHASYS STAR*** enhanced monitoring & controller unit provides comprehensive information on the ***PHASYS*** power system and the single inverters.

The 32-digit LCD display and the four LEDs provide secure and simple access to all information.

- Digital control & monitoring of the system and the single inverters
- Microprocessor technology with CAN-BUS system communication
- RS232/485 port for external communications
- Remote access via SNMP, Internet, Java (with external optional ***NET VISION***)
- Dry contacts (via external optional dry contacts interface)

Technical data

Controller unit	***PHASYS STAR***
Input supply	48 V DC (30 - 60 V DC), 1 A
Communication	RS232/485, J-Bus
Main indicators	alarms, measurements, parameters, commands, configuration, history log
Compliant with	EN50081-2, EN61000-4-6, EN60950, ETS30019-2-2
Dimensions (W x D x H) mm	19" x 460 x 133 (3U)
Weight	3 kg

Codification

Item Code	Description
PH-STAR	***PHASYS STAR***

PHASYS 1500, 3000, 4500
Inverter modules


PHASYS 002 A


PHASYS 003 A

The ***PHASYS*** inverter modules have been designed to be used either in parallel operation or as a stand-alone solution.

The built-in static by-pass provides additional reliability of the module in case of disturbance or failure.

The LEDs provide immediate diagnostics on the inverter status, measurements and alarms. Stand-alone modules are also provided with LCD display.

- Switch mode technology
- Parallel operation with internal static by-pass
- ***ECO-MODE*** function
- Microprocessor control with CAN-BUS system communication
- Pure sine wave output
- Hot-swap & hot plug-in

Technical data

With inverter model	***PHASYS 1500***	***PHASYS 3000***	***PHASYS 4500***
Input voltage	48 V DC (40 - 58 V DC)		
Output voltage	208* - 220 - 230 - 240 V AC single-phase (settable)		
Output frequency	50/60 Hz (± 0.05%)		
Output power	1500 VA	3000 VA	4500 VA
Total Harmonic Distortion	< 5% (linear load)		
Static output voltage tolerance	± 4% Vout		
Crest factor	3:1		
Efficiency (typical)	≥ 86%		
Overload	105% Pout nom. permanent, 120% Pout nom for 20 sec short circuit for ≥ 200 ms		
EMC Emission	complies with EN50081-2		
EMC Immunity	complies with EN61000-4-6 (EN50082-2), EN61000-4-3		
Cooling	fan cooling with intelligent fan speed control		
Static by-pass	integrated		
Dimensions (W x D x H) mm	19" x 460 x 133 (3U)		
Weight	13 kg	16 kg	19 kg
Working temperature			
without derating	0 °C to +40 °C		
with derating	+40 °C to +50 °C		
Relative humidity	10% to 90%		

* with Pout derating

Codification

Item Code	Description
PH1500/48	***PHASYS 1500***
PH3000/48	***PHASYS 3000***
PH4500/48	***PHASYS 4500***
PH-SA1500/48	***PHASYS 1500*** stand alone
PH-SA3000/48	***PHASYS 3000*** stand alone
PH-SA4500/48	***PHASYS 4500*** stand alone

AC systems from 1.5 to 18 kVA

The ***PHASYS ELITE*** system can be fitted with up to 4 ***PHASYS*** inverter modules with a maximum output of 18 kVA, the ***PHASYS STAR*** controller module, internal batteries and AC distribution.

The 19" modules are hot-swap and hot plug-in for simple and quick installation and maintenance.

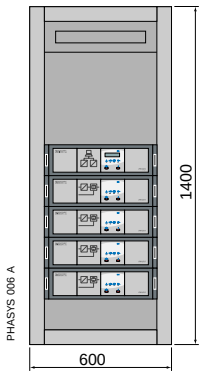
- Digital control & monitoring of the system and the single inverters
- Protected battery and auxiliary mains inputs
- Connections on the top
- No-break manual by-pass (optional)
- Fitting for optional ***NET VISION*** for remote supervision or for the dry contacts boards

Technical data

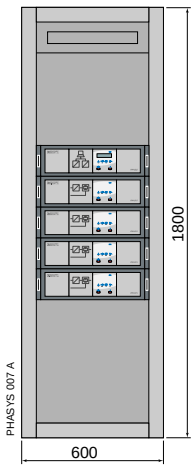
With inverter model	***PHASYS 1500***	***PHASYS 3000***	***PHASYS 4500***
Input DC voltage	48 V DC (40 - 58 V DC)		
Input AC voltage	208 - 220 - 230 - 240 V AC single-phase		
Output voltage	208* - 220 - 230 - 240 V AC (settable)		
	single-phase		
Output frequency	50/60 Hz (± 0.05%)		
Output power	see codification table		
Options	second protected battery input,		
	no-break manual by-pass,		
	protection against power back-feed,		
	isolating transformer on the stand-by mains,		
	AC distribution,		
	remote mimic panel,		
	remote supervision through ***NET VISION***		
Color	RAL7012		
Dimensions (W x D x H) mm	600 x 600 x 1400 or 1800		
Protection degree	IP20 (with modules inserted)		
Working temperature			
without derating	0 °C to +40 °C		
with derating	+40 °C to +50 °C		

* with Pout derating

Flexible modular solutions from 1.5 kVA to 18 kVA in cabinet 1400 mm high



Flexible modular solutions from 1.5 kVA to 18 kVA in cabinet 1800 mm high



Codification

Item Code	**Output power**	N° of inverters
PH-LT3000/48	**3 kVA**	max. 3 (+1*)
PH-LT3000-H/48	**3 kVA**	max. 3 (+1*)
PH-LT4500/48	**4.5 kVA**	max. 3 (+1*)
PH-LT4500-H/48	**4.5 kVA**	max. 3 (+1*)
PH-LT6000/48	**6 kVA**	max. 3 (+1*)
PH-LT6000-H/48	**6 kVA**	max. 3 (+1*)
PH-LT9000/48	**9 kVA**	max. 3 (+1*)
PH-LT9000-H/48	**9 kVA**	max. 3 (+1*)
PH-LT13500/48	**13.5 kVA**	max. 4
PH-LT13500-H/48	**13.5 kVA**	max. 4
PH-LT18000/48	**18 kVA**	max. 4
PH-LT18000-H/48	**18 kVA**	max. 4

* with optional shelf
"PH-LTxx-H/48" item codes refer to solutions in cabinet 1800 mm high.

Long back-up time
UPS from 1500 to 9000 VA

With its special architecture, specifically designed for the telecommunications sector, and the long back-up time guaranteed by its standard "Long Life" batteries, the ***MOD-TC*** series are the ideal solution for installations in remote unmanned places such as radio links, radio mobile stations for cellular phone networks, and G S M - G P R S - U M T S repeaters.

- On line double conversion technology (VFI) UPS
- Power Share output (load management)
- Separate input for auxiliary mains (by-pass line). No TC 215
- Powerful Battery Charger up to 30A (48 V)
- 10 years battery (AGM-VRLA technology)
- Battery front access (easy maintenance)
- Single battery string protection (fuses)
- Complete communication solutions
- Direct LAN (Ethernet) connection SNMP – TCP / IP
- RS232 / 485 Interface and dry contacts relay card
- e-Service: automatic diagnostic function via e-mail / Internet
- Mod-TC 2xx, up to 2 indipendent UPS output
- Mod-TC 3xx, configurable as N +1 redundant UPS

Technical data

UPS model	***MOD-***	***TC 215***	***TC 245***	***TC 360***	***TC 390***
Input phases		1ph	1ph/3ph	1ph	1ph/3ph
Input voltage		230 V (1ph) or 400 V (3ph + N) ± 20%			
Input frequency		from 45 to 65 Hz			
Input power factor		> 0.98			
Input current distortion		sinusoidal absorption (THDi < 6%)			
Output voltage		230 V (1 ph) ± 3% (settable for 208*/220/240V)			
Nominal output power (VA)		1500	4500	6000	9000
Nominal output power (W)		1050	3150	4200	6300
Redundant N +1 up to (VA)**		/	/	6000	9000
Two independent UPS**		1500+1500	4500+4500	/	/
AC/AC efficiency		90%			
Battery Type		Long Life battery (sealed, maintenance-free)			
Back-up time		1 to 8 hours			
Battery shelf (100 Ah 48V)***		1	1	2	2
Recharge period		< 8 hours			
Safety/EMC standards		EN50091-1-1/EN50091-2			
Color		RAL 7012			
Dimensions (W x D x H) mm		600 x 600 x 1425			
Protection degree		IP 20			
Working temperature		0 +40 °C (32 - 104 °F)			
Relative humidity		0 - 90% non-condensing			
Altitude above sea level		1000 mt. (3.300 ft) without derating			
		(max 3000 mt - 10.000 ft)			

* Pout = 90% Pnom
** with addition of an extra UPS module
*** expandable internally or externally (additional cabinet with battery charger)

Active-energy meter

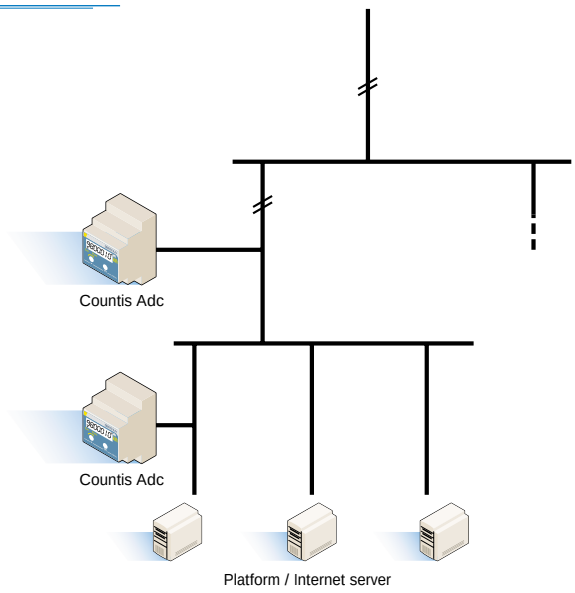
The ***COUNTIS*** system consists of several products for the metering of active energy.

The ***COUNTIS Adc*** is an active-energy meter for 48 V DC networks, giving direct readings in kWh.

This product is entirely configurable (shunt primary and secondary up to 600 A and pulse lengths of 60 to 900 ms). Moreover, it also provides a partial meter that can be reset in the configuration menu.

COUNT 117 A

- Direct readings for total and partial consumption via LCD display
- Detects incorrect connection (incorrect shunt connection on display panel)
- Compact enclosure (3 modules)
- Programmable shunt connection with primary (up to 600 A) and secondary (70 or 100 mV)
- Voltage measurements from 40.5 to 57 V
- Terminal block for 1 - 10 mm² cabling
- 1 pulse output with programmable duration from 60 to 900 ms



COUNT 132 A

Technical data

Case	
Connection	via terminals from 1 to 10 mm²
Weight	300 g
Dimensions	3 x 17.5 mm modules
Display	
Green LCD with 6 + 1 digits (999 999.9 kWh)	
Size of digits	8 x 4 mm
Accuracy	± 1 digit
Protection index	IP40
Inputs	
Current	
From a current transformer with a	
• configurable primary	1,4, 6, 10, 15, 25, 40, 60, 100, 150, 200, 250, 300, 400 and 600 A
• non-insulated secondary on shunt	70 mV or 100 mV
Consumption of the input	≤ 1 mW
Minimum current measured	5 mV
Overload	20 Imax over 500 ms
Voltage	
Range of measurement	40.5 to 57 V DC
Permanent load	60 V DC
Consumption	≤ 1.5 W
Accuracy	
Active energy	5% of 10 mV to 100 mV
Pulse output	
Reed relays (100 V DC - 0.5 A - 12 VA)	
Length of pulses	60 to 900 ms
Maximum number of operations	5 x 10^7 at 10 V DC/10 mA
Weight of pulses fixed at 100 Wh	
Operating conditions	
Operating temperature	-5 °C to +45 °C
Storage temperature	-20 °C to +70 °C
Relative humidity	85%
Standards	
EC Marking	CEI 61000-4/2-3-4-5-6-8-11
	EN 50081-1
	EN 50081-2
Environment	CEI 60068-2-11/30

Integrated DC and AC solutions

With its own manufactured products, SOCOMEC SICON UPS provides a range of integrated DC and AC solutions.

A variety of mixed solutions consisting of with ***SHARYS*** and ***PHASYS*** series products can be supplied in the same structure in order to satisfy the most disparate needs in the sector of telecommunications requiring both DC and AC power.

SHARYS 009 A

The decision to develop standard 19" units such as the controller units, battery modules, DC or AC distribution modules, not to mention the rectifier and inverter container modules, has allowed SOCOMEC SICON UPS, thanks to the flexibility and ease of installation, to produce a wide range of configurations in the shortest possible time.

SHARYS & PHASYS

Remote supervision

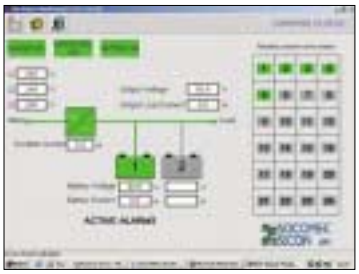
SOCOMEC SICON UPS has developed a range of tools for efficient remote supervision of the DC and AC power systems.

JBUS / MODBUS® interface

An RS232 / 485 serial port with JBUS / MODBUS® protocol is available for ***SHARYS*** and ***PHASYS*** power systems (optional for DR power systems). Alarm and measurement reports are transmitted via this port. They can be viewed with ***NET VISION*** Smart Card or ***NET VISION Box***.

NET VISION for DC and AC power systems

With ***NET VISION*** Smart Card or ***NET VISION Box***, the DC and AC power systems are monitored and controlled by using a standard Internet Web Browser or by using an NMS (Network Management Station) to handle the data via SNMP.



VISIO 027 A

▸ Supervision

VISIO 025 A

▸ E-reporting

VISIO 026 A

▸ Events log

▸ Local supervision through direct connection

The power system is connected to a local PC through a telephone cable.

▸ Remote supervision via dedicated line

The power system is connected to remote PC via a dedicated telephone/GSM line through HUB modem.

▸ Remote supervision through the net

The power system is connected to a local (intranet) or global (Internet) network and communicates with SNMP.

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