

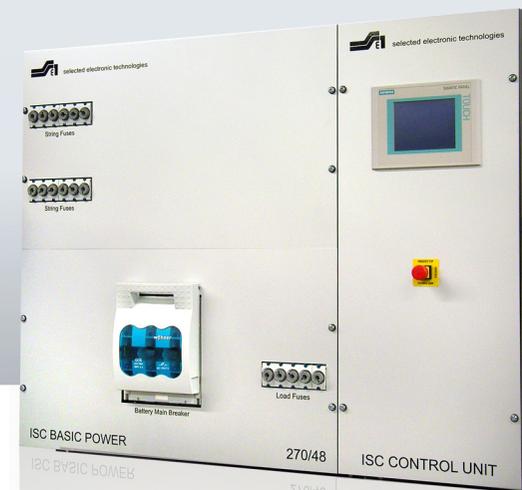
SET-ISC

Intelligent System Controller

The SET-ISC is the ideal solution for off-grid and grid back-up applications

The new generation of SET ISC charge discharge controllers has been developed to manage all power sources, different battery types and wide load range in the basic telecom stations.

The SET-ISC was designed as modular control system; it is divided in a Control Unit and a Basic Power Block. The control unit is based on an industrial computer logic control with all flexibilities to fulfill customer's requirements. The basic power block has various power modules, each of this power modules can handle a PV array and a diesel generator. Additionally it can be added a wind and a fuel cell module creating a flexible system for multiples purposes.



- Suitable for system loads up to 5500 W
- Multiple energy source; PV, Diesel Generator, Wind Turbine and Fuel Cell
- Fully automatic uninterrupted operation
- Modularly and expandable
- Multiple storage devices; Lead Acid Battery, Li-Ion battery and NiCd battery
- Robust reliable and durable

Remote operation

The integrated remote system supervision by web portal offers a complete status overview of the site and a remote operation service from any location. The ISC monitoring system records and stores all relevant operation data and sends alarms in case of failures or emergencies. This conditional monitoring reduces operation expenses and maintenance works.

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Control Unit

The Control Unit operates automatically the system optimizing the use of the energy. The integrated charge controller guarantees an optimal charge mode and prevent the deep discharge of the batteries. The unit also integrates a clima control function; a stable temperature is important to preserve the lifetime of the battery block and to protect the communication electronics.

The Control unit is easy operated through a touch screen panel with an intuitive interface, the different parameters and historical data can be monitored. The preconfigured setting can be modified at site according the real needs. Additionally the unit can be controled on the owned Internet Portal from any Smartphone or PC with internet.

		Function
Basic	Site management	System operation, energy management, clima control, security surveillance, information report
	Charge discharge controller	Flexible and adaptable battery charge and discharge system
	Data monitoring	The main variables can be checked at site by a LCD touch screen
	Data recording	System data are stored for about 3 month at site
	Integrated clima control	Advance (AC & DC) air-conditioner management and free cooling management
Optional	Data transfer	Automatic data transfer
	Remote system supervision	Status overview and system operation from any location via internet
	Acces control at site	Remote video surveillance

		Features
Sensors	Thermometer	T outside, T solar generator, T inside, T batteries
	Anemometer	Wind speed
	Solar Cell	Sun insolation mesurment

		Features
Alarms	Operation	Diesel genset on
		Free cooling on
		Aircon on
		Door open alarm
		Battery low voltage
	Battery high voltage	
	Failure alarm	Emergency stop
		SG failure
		Short circuit
		Fire
Diesel genset failure		

If an alert occurs an alert message with all necessary information is sent to the central server

Monitored parameters	
Solar Current	
Battery Voltages	
Battery Current	
Diesel Genset Current	
Load Current	
Battery Temperature	
Outside Enviormental Temparture	
Solar Irradiation	
Wind Speed	
Ah Battery /Day	
Ah Solar Generator	
Ah Load	
Ah Diesel Genset	
Operating Hours Diesel	

Non standard parameters can be added

Estimated lifetime	20 years
Last update:	May/2010
Type Designation	ISC CU

Basic Power

Generators	Control Unit	ISC Basic Power				ISC Power + 90/48
		90/48	180/48	270/48	360/48	
25kW	6kW	●	●			
	12kW	●		●		
	18kW	●			●	
	24kW	●				●
	30kW	●				●

Note: Optional Wind and / or Fuel Cell module

The Basic Power module is equipped with one power stage with a 3 step "3SES" Solid State Electronic Switch with all input and output fuses, the main system power breaker, with all shunts and with all power terminals for solar generator from 3 to 12 Groups, AC or DC Diesel coupling and battery and loads connection.

Remote Operation Management of Telecom Sites

The data from each site is sent by GSM, GPRS or EDGE networks to the main server. This data can be evaluated from any Computer or Smartphone with access to Internet. Furthermore there is the possibility to connect the sites via VPN to the main server.

The alarm system recognizes any system failure and automatically sends an alert message with the necessary information to the responsible staff by SMS or E-mail. If the acknowledgement is missing the system escalates the notification procedure, involving the following staff level.

User-friendly and secure access from user to site via central server



Technical data

SET-ISC

Intelligent System Controller



ISC Basic Power

	Control Unit	90/48	180/48	270/48	360/48	90/48	ISC Wind	ISC H ₂
Power Sources								
Solar Generator	●	●	●	●	●	●		
Diesel Generator	●	●	●	●	●			
Utility Grid	●	●	●	●	●			
Wind Generator							●	
Fuel Cell	●							●
Solar input								
Max Solar Power		6kW	12kW	18kW	24kW	6kW		
Max Solar Current		90A	180A	270A	360A	90A		
Number of Stages		3 step	6 step	9 step	12 step	3 step		
Nominal Voltage		48 V	48 V	48 V	48 V	48 V	120-50 V	60-40 V
Diesel Input								
Max Genset Power		25kW (three phases)						
Max Genset Current AC/DC		36A AC/ 520A DC						
Wind Turbine Input								
Max Wind Power							25 kW	
Fuel Cell Input								
Max Fuel Cell Power								20kW
Output								
Max Load			● 5,5kW / ● 10kW					
Nominal Voltage		48V	48V	48V	48V			
Max DC current peak circuit 1 / circuit 2		100A / 120A	100A / 120A	100A / 120A	100A / 120A			
Battery DC input								
Battery voltage (range)	46-60V	46-60V	46-60V	46-60V	46-60V	46-60V	46-60V	46-60V
Battery type			● Lead acid OpzV and OpzS / ● NiCd, Li-Ion					
Battery capacity (range)			300-10000 Ah					
Efficiency/Operating consumption								
Max. efficiency		99%	99%	99%	99%	99%	99%	99%
Own consumption with no load/standby	18W					2W	2W	2W
Protection Devices								
Load Fuses DC		●	●	●	●	●	●	●
String Fuses DC		●	●	●	●	●	●	●
Emergency stop button	●							
Overcharge battery protection		●	●	●	●	●	●	●
Deep discharge battery protection		●	●	●	●	●	●	●
Battery Circuit Breaker		●	●	●	●	●	●	●
General Data								
Dimensions (W/H/D) in mm	350x850x180		750x850x180				350x850x180	
Weight	10 kg	21 kg	25 kg	27 kg	28 kg	10 kg	10 kg	10 kg
Operating temperature range				from -10°C to +50°C no condensing				
Protection class				IP21				
Features/Function								
Battery cables/battery fuses		●	●	●	●			
Order numbers	ISC BP Control Unit	ISC BP 90/48	ISC BP 180/48	ISC BP 270/48	ISC BP360/48	ISC P + 90/48	ISC Wind	ISC H2

Last update:

may/2010

Lettering

● Standard ● Optional

www.setwedel.de