TS-DC UPS SYSTEM
TS-DC: COMPACT, FLEXIBLE AND MODULAR DC POWER SUPPLY SYSTEMS

APPLICATIONS: REDUNDANT PROTECTION FOR CRITICAL APPLICATIONS

TS-DC power energy systems provide a high-level power supply to always critical telecommunications systems, ensuring excellent operation without unexpected outages. Because of its modular nature, it can also be expanded according to needs, thereby optimizing the investment. Typical applications include fixed and mobile communications networks, broadband access networks and data and telecommunications networks.

PERFORMANCES

- Maximum power per system up to 81 Kw.
- Flexible, scalable and N+n redundant systems, configurable for current demand and future expansion.
- High power density in the modules, up to 20 w/in^3.
- High efficiency, up to 95% even with low load.
- Option of single or three-phase power supply.
- DC systems with output voltages of 24, 48, 110, 125 or 220 Vdc.
- Wide operating temperature ranges from -20º C to +55º C.
- Wide input voltage ranges from 90 Vac to 290 Vac.
- Input power factor 1 for better performance.
- Modular design of the rectifiers and control system.
- Output current sharing between rectifiers.
- Front access for easy installation and maintenance.
- Hot-swap and hot-plug functions with automatic adjustment for module connection/disconnection.
- LLVD and BLVD - disconnection of non-priority loads and for low battery voltage.
- Full local control and monitoring system with LCD backlit (4x4 characters).
- Communication unit for remote monitoring.
- Monitoring software via Ethernet/SNMP. (Optional)
- Smart mode to maximize MTBF (Mean Time Between Failures).

TECHNICAL SPECIFICATION

MODEL		TS-DC
INPUT	AC voltage	120 / 127 / 220 / 230 /240 V 3x208 / 220 / 380 / 400 / 415 V (3Ph+N)
	Range (phase-neutral)	90 ÷ 290 Vac
	Frequency	50/60 Hz
	Power factor	>0.99 (PFC)
	THDi	<5%
	Efficiency	Up to 95.5%
OUTPUT	DC voltage	24, 48, 110, 125, 220 V
	Voltage adjustment range	-15% +25% (1)
	Accuracy	±1%
	Psophometric noise	<2 mV
	Load sharing between modules	Active parallel
	Rectifier module power	1000 / 2000 / 2700 W
	Maximum number of parallel modules	30
	Maximum system power (depending on module)	30 / 60 / 81 kW
BATTERIES	Type	PbCa or NiCd
	Charge type	Constant I/U in accordance with DIN 41773
	Charging current	0.1C to 0.3C adjustable
	Recharge time	Up to 80% in 4 hours (0.2C)
	Protection	Against overvoltage, undervoltage and overload
	Voltage/temperature compensation	Yes, customisable (mV/°C)
	Electrolyte level detection (NiCd battery)	Optional
PROTECTION	Input and output	Circuit breakers
	Battery	Fuses + switch
GENERAL	Dielectric strength (Input - Output)	2000 V @1 minute to 24, 48 Vdc / 4000 V @ 1 minute to 110, 125, 220 Vdc
	Degree of protection	IP20
	Ventilation	Forced
	Acoustic noise at 1 metre	<55 dB(A)
	Operating temperature	-20°C ÷ +55°C (2)
	Storage temperature	-40°C ÷ +70°C (3)
	Relative humidity	Up to 95%, non-condensing
	Maximum operating altitude	3,000 masl
	Mean time between failures (MTBF)	250,000 hours
	Mean time to repair (MTTR)	15 minutes
SYNOPTIC	Backlit LCD display	Yes (4x40 characters)
	Indicators (LED)	5
COMMUNICATION	Ports	RS-232/485
	Dry contacts	3 relays (expandable to 9)
	SNMP	Optional
	Slot	Yes, one
STANDARDS	Safety	IEC/EN 61204-7, IEC/EN 60950-1
	Electromagnetic compatibility (EMC)	IEC/EN 61204-3
	Quality and environmental management	ISO 9001 and ISO 14001

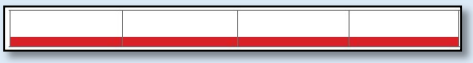
OUTPUT VOLTAGE (Vdc)	MODULE			CURRENT PER SYSTEM (A)	POWER PER SYSTEM (kw)
	MODEL	POWER (W)	CURRENT (A)		
TS -24	TS-DC-36-S	1000	36	Between 36 and 1080	Between 1 and 30
	TS-DC-70-S	2000	70	Between 70 and 2100	Between 2 and 60
TS -48	TS-DC-18-S	1000	18	Between 18 and 540	Between 1and 30
	TS-DC-36-S	2000	36	Between 36 and 1080	Between 2 and 60
	TS-DC-50-S	2700	50	Between 50 and 1500	Between 2.7 and 81
TS - 110	TS-DC-8-S	1000	8	Between 8 and 240	Between 1 and 30
	TS-DC-16-S	2000	16	Between 16 and 480	Between 2 and 60
	TS-DC-22-S	2700	22	Between 22 and 660	Between 2.7 and 81
TS - 125	TS-DC-7-S	1000	7	Between 7 and 210	Between 1 and 30
	TS-DC-15-S	2000	15	Between 15 and 450	Between 2 and 60
	TS-DC-20-S	2700	20	Between 20 and 600	Between 2.7 and 81
TS - 220	TS-DC-4-S	1000	4	Between 4 and 120	Between 1 and 30
	TS-DC-8-S	2000	8	Between 8 and 240	Between 2 and 60
	TS-DC-11-S	2700	11	Between 11 and 330	Between 2.7 and 81

RECTIFIER DISPLAY MODULE

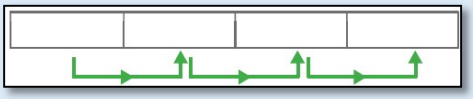
SCAN HERE FOR MORE DETAIL
Thytron Energy Sdn Bhd
(formerly known as Thytron Power Products Sdn Bhd)
199701021679 (437176-X)
For enquiries: sales2@thytron.com

1. Rectifier Module
2. Centralized Control
3. Input Protection
4. Output Protection
5. Batteries Protection
6. Batteries
7. Extended Communication
8. Surge Protector
9. Input Terminals
10. Output Terminals

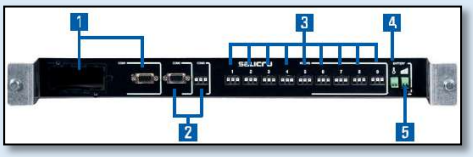
SMART MODE
Load sharing in normal operation.



Load Sharing & cycling of rectifier in Smart-mode operation.



Extended communications



1. Slot for remote management or RS-232 interface
2. RS-232 or RS-485 serial ports. MODBUS
3. General Alarm & programmable (X8) dry contact interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input.

OPTIONS
1. Surge protector
2. Output voltage dropping diodes.
3. Positive, negative or isolated output voltage.
4. Sealed or open PbCa batteries, NiCd etc.
5. Extend communications module.
6. Other degrees of IP protection.
7. Wireless link communication.
8. Nonpriority load disconnector.