



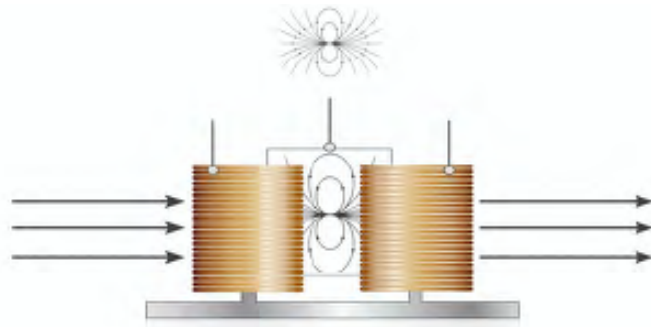
TSL
Industrial Power Solutions



Inverter Isolation Transformer

IGBT Rectifier

DSP Control



TSL Protect 3.33 T Online UPS uses the latest DSP technology, which can be programmed to suit a wide variety of electrical environments without impeding its performance. With the 3-Level topology, efficiency, reliability and functionality have been raised to maximum levels. This technology not only creates a significant increase in MTBF, but the DSP's ability to accurately process signals at very high speed allows all UPS subsystems to be controlled with greatly increased precision. Thanks to its built-in inverter isolation transformer, it guarantees safe operation and provides uninterrupted energy for local networks, communication systems, sensitive medical devices, smart engineering measurement devices and industrial automation systems.

GENERAL SPECIFICATIONS

- Inverter isolation transformer
- 3 DSP controlled modular structure
- Separate main control board advantage for rectifier and inverter
- 3-Level technology and fully digital structure
- Less electronic components and SMD technology
- Low input current total harmonic distortion (THD)
- High input power factor
- High efficiency up to 99%
- Static and maintenance by-pass switch
- High charge current capacity
- Eco Mode operation (optional)
- Split by-pass input (dual input)
- Advanced sensor TFT front panel
- Compliant with IEC EN62040 directive
- Conforms to CE and GOST standards
- 3 level battery protection
- Temperature compensated charge system
- Output current limitation
- Output DC leakage protection
- Output short circuit and overload protection
- External REPO input
- 512 events memory (46.000 alarm)
- Clock and calendar (battery supported)
- Automatic battery test, remaining battery time indicator
- 2 RS232 serial ports and 4 programmable dry contact outputs
- Dry contact outputs
- Optional SNMP, MODBUS and Remote Monitoring Panel
- Viewing device operating parameters
- Advanced remote control features
- User and central service password-protected security

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TSL Protect 3.33 T 200kVA

TECHNICAL SPECIFICATIONS

MODEL	TSL Protect 3.33 200kVA
Power (kVA)	200
INPUT	
Voltage	380/400/415 VAC 3F + N + Ground (320-460V)
Frequency	45-70 Hz
Power factor (at full load)	≥ 0.99
THDI (*)	≤ 3%
By-pass voltage	380/400 VAC 3 Phase + N, 4 Wires, ± 10%
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator
OUTPUT	
Power (kW)	180
Power factor	0.9
Voltage	380/400 VAC 3F + N, ± %1
Frequency	50Hz
Frequency tolerance	Line synchronized: ± 2% / Free running: ± 0.1%
Efficiency	up to 93%
Crest factor	3:1
Overload protection	125% load: 10 min, 150% load: 1 min
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting
Voltage THD	≤ 2% (at 100% linear load)
BATTERIES	
Type	VRLA AGM / GEL / NiCd
Nominal voltage	± 276 VDC
Number of batteries	46 batteries
Float charge voltage	± 312 VDC
End of discharge voltage	± 230 VDC
Battery cabinet	External
Battery ambient temperature	22-25°C
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)
Automatic testing	Standard every 72 hours (adjustable)
GENERAL	
Standards	EN62040-1, EN62040-2, EN62040-3
User interface	TFT sensor panel, 5 vector buttons, Buzzer
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232, operating hour meter
Communication	2xRS232 serial ports, standard DRY contact alarm relays
Inputs	EPO input, Interactive battery panel input, Genset input
Genset kit	Standard (programmable)
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)
Alarm logging	Standard: with time & date 512 events
Protections	Power module over-temperature, Over current, Temperature high alarm
Temperature range	0°C - 40°C
Protection degree	IP20
Relative humidity	90% max. (non-condensing)
Altitude	< 1000m above sea level
Acoustic noise	< 62 dBA
Weight (kg)	995 (Approx.)
Dimensions (mm)	1055x850x1900
OPTIONS	
Ecomode	Pleasy ask options
Transformer	Galvanic isolation transformer at input (optional)
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP), TCP/IP, GSM/GPRS Modem, Comport multiplexer
Parallel operation	Up to 8 units
(*) Depending on power and input/output conditions	

