



10 - 30 kVA

UNINTERRUPTIBLE POWER SUPPLIES

3 phase in / 1 phase out

## IGBT RECTIFIER DSP CONTROL

*The new DS Power range UPS uses the latest DSP technology to be programmed to suit a wide variety of electrical environments without impeding its performance. With the DS Power range, efficiency, reliability and functionality are enhanced to levels unattainable with the old analogue technology. This technology does not only create significant increase in MTBF, but the capability of DSP to accurately manipulate signals at very high speed permits all the UPS subsystems to be controlled with greatly increased precision.*

### GENERAL SPECIFICATIONS

- Transformerless UPS topology
- Low input current total harmonic distortion (THD)
- High input power factor
- High efficiency up to 93%
- Cold start function
- Static and maintenance by-pass switch
- Output short circuit and overload protection
- External REPO switch input
- 512 events memory (512 events 45000 alarms)
- Clock and calendar (battery supported)
- Automatic battery test, remaining battery time indicator
- Temperature compensated charge system (optional)
- 2 RS232 serial ports and 12 dry contact outputs
- 3 DSP controlled modular structure
- Optional SNMP and MODBUS adaptors
- Optional graphical panel
- Optional usb flash memory
- Full digital structure
- Small footprint
- Ecomode operation (optional)
- Fewer electronic components
- Output current limiting
- Advanced diagnostics for the input
- Selectable input/output voltage/frequency/range
- Split by-pass input (second input)
- Output DC leakage protection
- Separate DSP for inverter control
- Separate DSP for the PFC
- 3 level battery protection
- High charge current capacity
- Charge/discharge current indicator
- Advanced remote control
- Manufactured according to EC Directive; EN62040
- 10 years spare parts support
- 2 years warranty





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## TECHNICAL SPECIFICATIONS

|                                  |                                                                                                                               |      |          |     |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------|----------|-----|
|                                  |                                                                                                                               |      |          |     |
| Power (kVA)                      | 10                                                                                                                            | 15   | 20       | 30  |
| INPUT                            |                                                                                                                               |      |          |     |
| Voltage                          | 380/400 VAC 3P + N + G ± 20% (415 VAC +15%, - 25% optional)                                                                   |      |          |     |
| Frequency                        | 50Hz / 60Hz , ± 5%                                                                                                            |      |          |     |
| Power factor (at 100% load)      | > 0.98                                                                                                                        |      |          |     |
| (THDI) (*)                       | < 10-12%                                                                                                                      |      |          |     |
| By-pass voltage                  | 220/230 VAC 1 Phase + N, ± 10%                                                                                                |      |          |     |
| Voltage distortion               | ≤ 10%                                                                                                                         |      |          |     |
| Protection                       | Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequence indicator                                             |      |          |     |
| OUTPUT                           |                                                                                                                               |      |          |     |
| Power (kW)                       | 9                                                                                                                             | 13,5 | 18       | 27  |
| Power factor                     | 0,9                                                                                                                           |      |          |     |
| Voltage                          | 220/230 VAC 3P + N , ± 1% (240 VAC optional)                                                                                  |      |          |     |
| Frequency                        | 50Hz / 60Hz (adjustable)                                                                                                      |      |          |     |
| Frequency tolerance              | Line synchronized: ± 2% / Free running: ± 0,1%                                                                                |      |          |     |
| Efficiency                       | up to 93%                                                                                                                     |      |          |     |
| Crest factor                     | 3:1                                                                                                                           |      |          |     |
| Overload protection              | 100% - 125% load: 10 min, 125% - 150% load: 1 min, - > 150% load: by pass                                                     |      |          |     |
| Other protections                | Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting                                    |      |          |     |
| Voltage THD                      | < 3% (at 100% linear load)                                                                                                    |      |          |     |
| BATTERIES                        |                                                                                                                               |      |          |     |
| Type                             | VRLA AGM / GEL / NiCd                                                                                                         |      |          |     |
| Battery number                   | 2x30 ( ±30): 60                                                                                                               |      |          |     |
| Float charging voltage           | 2 x 405 VDC                                                                                                                   |      |          |     |
| End of discharge voltage         | 2 x 300 VDC                                                                                                                   |      |          |     |
| Battery cabinet                  | Internal                                                                                                                      |      |          |     |
| Battery ambient temperature      | 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                                                                                                          |      |          |     |
| User interface                   | 4 lines LCD panel, Mimic leds, 5 vector buttons, Buzzer, Optional TFT panel                                                   |      |          |     |
| 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, 4 standard and 8 optional 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                   | < 57dBA                                                                                                                       |      | < 62 dBA |     |
| Weight without batteries (kg)    | 87                                                                                                                            |      | 91       | 100 |
| Dimensions (mm) HxWxD            | 1040x400x815                                                                                                                  |      |          |     |
| OPTIONS                          |                                                                                                                               |      |          |     |
| Different input / output voltage | Please ask                                                                                                                    |      |          |     |
| Transformer                      | Galvanic isolation transformer at the input & output                                                                          |      |          |     |
| 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), USB Alarm Logger, TCP/IP, GSM/GPRS Modem, Comport multiplexer |      |          |     |
| Parallel operation               | up to 8                                                                                                                       |      |          |     |

(\*) Depending on power and input/output conditions