



# MASTERYS IP+

from 10 to 80 kVA

high reliability in harsh industrial environments

Single-phase and three-phase UPS



## The solution for

- > Industrial processes
- > Services
- > Medical

## Certifications



The MASTERYS IP+ series is certified by TÜV SÜD with regard to product safety (EN 62040-1).

## Advantages



### Designed for the most demanding applications

- Designed to protect industrial processes.
- A compact solution with isolation transformer and integrated batteries.
- Robust enclosure (2 mm thick heavy steel structure).
- Floor anchoring (to prevent tilting).
- Standard IP31 protection degree.
- Dust and water splash resistant enclosure (IP52) with easy replaceable dust filters (option).
- Operation at temperature up to 50 °C.
- Wide input voltage tolerance from -40 % up to +20 % of nominal voltage.
- Double EMC immunity compared to UPS international standard IEC 62040-2.
- Double overvoltage protection.

### Process continuity

- Frontal access for input/output cabling, spares replacement and preventative maintenance.
- Scalable power and high availability (using redundancy), with the facility to parallel up to 6 units.

### Easy integration into industrial networks

- Input power factor > 0.99 and input current harmonic distortion < 3% thanks to IGBT rectifier.
- Compatible with Open Vented Lead Acid, Valve Regulated Lead Acid (VRLA) and Nickel Cadmium batteries.
- User-friendly multilingual interface with graphic display.
- Flexible communication boards for every industrial communication need: dry contacts, MODBUS, PROFIBUS, etc.
- Fully compatible with generator sets.
- K-rated galvanic isolation transformer embedded.
- Adaptation to typical industrial voltages (input and output).

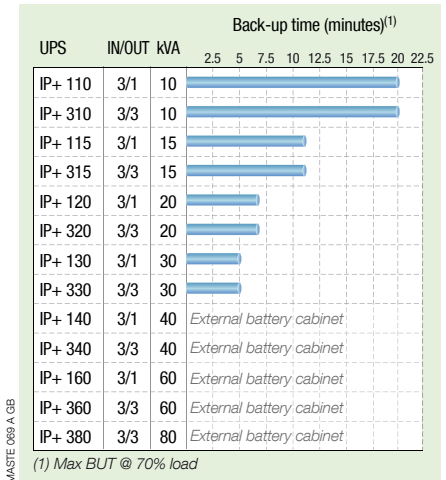
## For industrial loads

- 100 % non-linear loads.
- 100 % unbalanced loads.
- 100 % “6-pulse” loads (motor speed drivers, welding equipment, power supplies...).
- Motors, lamps, capacitive loads.

## Standard electrical features

- Dual input mains.
- Internal maintenance bypass.
- Backfeed protection: detection circuit.
- EBS (Expert Battery System) for battery management.

## UPS and batteries



## Energy storage option: ultracapacitor

Ultracapacitor could be a suitable battery replacement in special situations where a long back-up time is not required. This solution is targeted specifically to ride-through frequent voltage dips and short power outages, or simply bridge the startup of a generator, or where ambient temperatures could compromise battery lifetime. This would result in a highly reliable energy storage system that would require no maintenance.

### Advantages

- Extremely long lifetime: 15 years with virtually unlimited cycling.
- High-reliability – No maintenance.
- Wide temperature range up to 45 °C.
- Ultra rapid charging.
- Battery-free, lead-free and environment-friendly.

## Technical data

| MASTERYS IP+ 10-80                                |   |          |          |                      |          |          |          |
|---|---|----------|----------|----------------------|----------|----------|----------|
| Sn [kVA]  | 10  | 15       | 20       | 30                   | 40       | 60       | 80       |
| Pn [kW] - 3/1                                     | 9   | 13.5     | 18       | 27                   | 32       | 48       | -        |
| Pn [kW] - 3/3                                     | 9   | 13.5     | 18       | 27                   | 36       | 48       | 64       |
| Parallel configuration <sup>(1)</sup>             | up to 6 units   |          |          |                      |          |          |          |
| <b>INPUT</b>                                      |   |          |          |                      |          |          |          |
| Rated voltage                                     | 400 V   |          |          |                      |          |          |          |
| Voltage tolerance                                 | ± 20% <sup>(2)</sup> (up to -40% @ 50% of rated power)                                  |          |          |                      |          |          |          |
| Rated frequency                                   | 50/60 Hz  |          |          |                      |          |          |          |
| Frequency tolerance                               | ± 10%   |          |          |                      |          |          |          |
| Power factor / THDI <sup>(3)</sup>                | 0.99 / < 3%   |          |          |                      |          |          |          |
| <b>OUTPUT</b>                                     |   |          |          |                      |          |          |          |
| Rated voltage                                     | 1ph + N: 230 V (can be configured 220/240 V)<br>3ph + N: 400 V (380/415 V configurable) |          |          |                      |          |          |          |
| Voltage tolerance                                 | ± 1%  |          |          |                      |          |          |          |
| Rated frequency                                   | 50/60 Hz  |          |          |                      |          |          |          |
| Frequency tolerance                               | ± 2% (configurable from 1% to 8% with generating set)                                   |          |          |                      |          |          |          |
| Total output voltage distortion - linear load     | < 1%  |          |          |                      |          |          |          |
| Total output voltage distortion - non-linear load | < 5%  |          |          |                      |          |          |          |
| Overload  | 125% for 10 minutes, 150% for 1 minute <sup>(2)</sup>                                   |          |          |                      |          |          |          |
| Crest factor                                      | 3:1 (complying with IEC 62040-3)  |          |          |                      |          |          |          |
| <b>BYPASS</b>                                     |   |          |          |                      |          |          |          |
| Rated voltage                                     | 1ph + N: 230 V, 3ph + N: 400 V  |          |          |                      |          |          |          |
| Voltage tolerance                                 | ± 15% (configurable from 10% to 20% with generating set)                                |          |          |                      |          |          |          |
| Rated frequency                                   | 50/60 Hz  |          |          |                      |          |          |          |
| Frequency tolerance                               | ± 2% (configurable from 1% to 8% with generating set)                                   |          |          |                      |          |          |          |
| <b>ENVIRONMENT</b>                                |   |          |          |                      |          |          |          |
| Operating ambient temperature                     | from 0 °C up to +50 °C <sup>(2)</sup> (from 15 °C to 25 °C for maximum battery life)    |          |          |                      |          |          |          |
| Relative humidity                                 | 0% - 95% without condensation   |          |          |                      |          |          |          |
| Maximum altitude                                  | 1000 m without derating (max. 3000 m)   |          |          |                      |          |          |          |
| Acoustic level at 1 m (ISO 3746)                  | < 52 dBA  | < 55 dBA | < 55 dBA | < 55 dBA             | < 55 dBA | < 65 dBA | < 65 dBA |
| <b>UPS CABINET</b>                                |   |          |          |                      |          |          |          |
| Dimensions (3/1) W x D x H                        | 600 x 800 x 1400 mm   |          |          | 1000 x 835 x 1400 mm |          |          | -        |
| Dimensions (3/3) W x D x H                        | 600 x 800 x 1400 mm   |          |          | 1000 x 835 x 1400 mm |          |          | -        |
| Weight (3/1)                                      | 230 kg  | 250 kg   | 270 kg   | 330 kg               | 490 kg   | 540 kg   | -        |
| Weight (3/3)                                      | 230 kg  | 250 kg   | 270 kg   | 320 kg               | 370 kg   | 500 kg   | 550 kg   |
| Degree of protection                              | IP31 and IP52 (according to IEC 60529)  |          |          |                      |          |          |          |
| Colours   | RAL 7012  |          |          |                      |          |          |          |
| <b>STANDARDS</b>                                  |   |          |          |                      |          |          |          |
| Safety  | EN 62040-1 (TÜV SÜD certified), EN 60950-1  |          |          |                      |          |          |          |
| EMC   | EN 62040-2 (2nd Edition)  |          |          |                      |          |          |          |
| Performance                                       | EN 62040-3 [VFI-SS-111]   |          |          |                      |          |          |          |
| Product declaration                               | CE  |          |          |                      |          |          |          |

(1) With transformer on input/bypass side. - (2) Conditions apply.  
(3) At source THDV < 2% and nominal load.

## Electrical options

- Long-life batteries.
- External battery cabinet (degree of protection up to IP32).
- External temperature sensor.
- Additional battery chargers.
- Additional transformer.
- Parallel kit.
- Cold start.
- ACS synchronization system.
- Neutral creation kit for mains without neutral.
- Tropicalization and anti-corrosion protection for electrical boards.

## Standard communication features

- Multilanguage graphic display.
- Dry contact interface.
- MODBUS/JBUS RTU.
- Embedded LAN interface (web pages, email).
- 2 slots for communication options.

## Communication options

- Remote mimic panel.
- PROFIBUS.
- MODBUS TCP.
- NET VISION: professional WEB/SNMP interface for UPS monitoring and shutdown management of several operating systems.

## Remote monitoring service

- Remote mobile and web-based surveillance service connected 24/7 to your local Socomec Service Centre.