



# FLEXY

10-40 kVA

MODULAR THREEPHASE UPS

1:1

3:1

3:3

The ideal solution for:

- ✓ *SERVER*
- ✓ *CORPORATE OFFICES*
- ✓ *HOSPITALS*
- ✓ *BANKS*
- ✓ *PUBLIC ADMINISTRATION*

# OVERVIEW

**FLEXY is the innovative “All in One” modular solution** designed by GTEC for small and medium sized application: a complete, integrated and tailor-made UPS system, with the highest configurability level available.

- MODULAR UPS SYSTEM
- HOT SWAP BATTERIES & POWER MODULES
- STATE OF ART TECHNOLOGY
- TOUCH SCREEN DISPLAY
- 360° CONFIGURABILITY

## ADVANTAGES

### FLEXIBILITY

There are so many customization parameters available that allows you to create lots of configurations, depending on installation needs.

**Possibility to add both power modules and battery strings makes FLEXY a very high scalability system**, that can perfectly fit to load or autonomy increase.

### EASY TO USE

Interacting with the UPS is really fast and easy thanks to the wide Touch Screen display, accessible even with closed door, that allows to monitor all the system functional parameters and to manage many settings directly from synoptic.

### PERFORMANCE

Excellent performance is guaranteed by the use of latest generation components, such as three-level IGBT inverter technology, rectifier with Power Factor Control and DSP microprocessor.

**FLEXY also ensures the highest efficiency level** under any operating condition thanks to the ingenious Sleep Mode function.

### RELIABILITY

In addition to redundancy and Sleep Mode FLEXY offers a whole series of features so as to optimize system operation, extending all components expected life (lacquered PCBs, dust filter, variable speed fans...)

**Advanced analysis functions are also available**, such as dual-level battery tests and power components internal temperature checks.



# PRODUCT RANGE

## FLEXY 10/20 KVA

This system is built to host up to 2 power module units 10 kVA. It is an ideal solution for low/medium loads that requires redundancy.

This UPS version allows to install up to 4 battery strings.

**Maximum power:** 20 kVA, PF = 1

## FLEXY 10/40 KVA

This system is built to host up to 4 power module units 10 kVA. It is an ideal solution for medium loads that requires redundancy.

This UPS version allows to install up to 4 battery strings.

**Maximum power:** 40 kVA, PF = 1

# TECHNOLOGY

FLEXY was made using the best technology available, and taking care of every detail since the designing stage. This allows it to reach the highest efficiency level in the sector.



## RECTIFIER

- High performance **IGBT rectifier technology**, with input Power Factor >0.99
- **Full digital control** with next-gen DSP
- **Soft Start ignition** option, which allows best interface with generator sets



## INVERTER

- Three level inverter technology with IGBT, with high frequency modulation in PWM driving
- **Efficiency up to 95%**
- Maximum active power: Power Factor 1
- **Totally digital control:** thanks to the DSP a perfect sine wave is guaranteed even in case of unbalanced load



## BATTERY CHARGER

- Independent powerful **digital battery charger** inside each module
- High power (up to 20% of module's nominal power)
- **Wide range of batteries** (strings available from 32 to 44 units)
- Two battery test levels available
- Protection against polarity inversion



## STATIC BYPASS MODULE

- **Centralized static bypass** sized for full power system
- **Hot Swap technology**
- Dry contacts with 3 outputs, 4 fully programmable inputs, and 2 more inputs for temperature probes
- RS232 and RS485 cards to easy UPS setting by software

# MAXIMUM CONFIGURABILITY

FLEXY provides to users the highest configurability level in the UPS sector. Through many options available it is possible to create a wide range of combinations, all enclosed in a single standard 19" cabinet.

Once defined your setup preferences, FLEXY becomes a unique solution, tailor-made for each specific requirement.

## CONNECTION

The system is also settable in single-phase/single-phase or three-phase/single-phase

## DISTRIBUTION BRACKETS

Up to 24 poles breakers directly put on the system, without using any additional external panel

## IN/OUT SWITCHES

External maintenance bypass directly integrated inside the system: it allows the maximum safety level for maintenance operations

## SNMP

SNMP card for UPS network connection: allows you to receive notifications via email and to manage the remote protection system

## PROTECTION

Protection degree up to IP3X, with N+1 up to 40°C environmental temperature, compliant with the current IEC standard 60529

## POWER MODULES

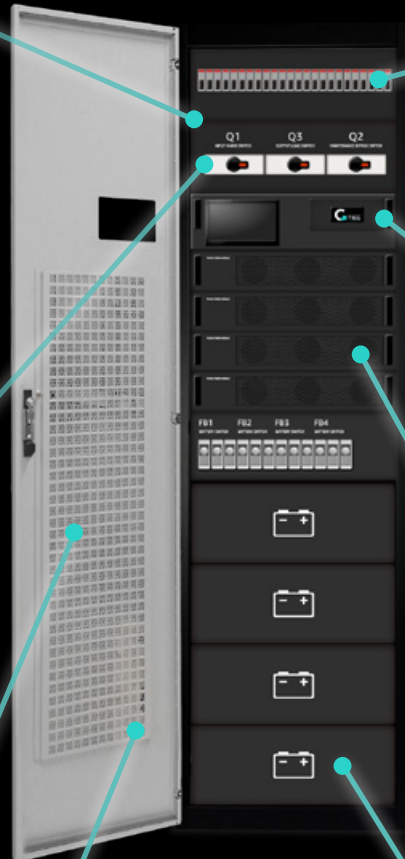
Up to 2 or 4 power modules 10 kVA can be installed according to user needs, with redundancy and scalability also available

## DUST FILTER

Projected to be really easy to remove and install, in order to simplify cleaning and maintenance operations

## BATTERIES

Up to 4 battery strings (7/9 Ah) can be mounted inside the cabinet, with totally Hot Swap technology



## STANDARD EQUIPMENT

/ **Cabinet 19"**, 42U: standard for server rooms and small/medium data centers / **Coated PCBs**: offer higher protection even for harsh environments / **RS232, RS485 and dry contacts**: for easy, complete and fast monitoring / **Internal manual Bypass**: higher security for maintenance operations / **7" color LCD display**: accessible even with closed door / **Side panels with clip fixing**: they allow immediate operations directly inside the cabinet / **"Smart Pallet"**: allows to get off the UPS from pallet without using forklift / **Swivel wheels**: to simplify UPS moving and placement /



# EASY MAINTENANCE

FLEXY's structure has also been designed to facilitate preventive ordinary maintenance, in order to guarantee the best user experience.



## DOUBLE CONVERSION MAINTENANCE

FLEXY is designed to guarantee N + 1 redundancy even if it's a small/medium power sized system. So it is possible to carry out maintenance operations in double conversion mode, without having to transfer the load to the mains supply.



## QUICK ACCESS

All preventive ordinary maintenance operations can be performed directly from the front (even switches and protection devices are accessible from UPS front side).

Side panels with clip fixing also allow to speed up extraordinary maintenance operations.



## FAST OPERATION

All system's main components are hot-swappable: not only power modules, but also bypass module and batteries, which have a dedicated fuse for each string.



## ADVANCED MONITORING

FLEXY provides two different battery test levels: a fast status check test and a deep discharge test (also programmable).

A specific temperature check is then available for each power component (IGBT) and for each single phase, both on the rectifier and inverter side.



### COMPACT

10 kVA for just 2U

### POWERFUL

Power Factor = 1

### EFFICIENT

Up to 98.4% efficiency

### PRACTICAL

Hot Swap technology


## CUTTING-EDGE POWER MODULE



# CUSTOMIZED SOLUTION


So many customization options available make FLEXY a unique of its kind solution: this system can always fit to any user's needs, providing a specific and unique configuration.

**EXAMPLE 1**



**CONFIGURATOR**  
**POWER**  
20 kVA  
40 kVA  
2 x 10 kVA power modules installed.  
**LANGUAGES**  
EN - DE - PL  
EN - FR - RU  
EN - IT - ES  
OTHER LANGUAGES  
Display set with english, italian and spanish languages available.  
**BATTERIES**  
EXTERNAL  
1 BATTERY STRING  
2 BATTERY STRINGS  
3 BATTERY STRINGS  
4 BATTERY STRINGS  
2 battery strings installed with 4 shelves each. Every shelf contains 10 batteries.  
**SWITCHES**  
MANUAL BYPASS  
INPUT / OUTPUT / BYPASS  
Emergency manual Bypass switch installed.  
**DUST FILTER**  
INSTALLED  
NOT INSTALLED  
Dust Filter placed on the front door.  
**OTHER OPTIONS**  
SNMP  
SDP  
IP3X PROTECTION  
DISTRIBUTION  
3/1 CONNECTION  
1/1 CONNECTION  
SNMP card for UPS network connection.  
**ORDER SUMMARY**  
> 24 minutes autonomy  
> 10 kW load  
> N+1 redundancy  
> 17 free rack units  
**BUY**

**EXAMPLE 2**



**CONFIGURATOR**  
**POWER**  
20 kVA  
40 kVA  
4 x 10 kVA power modules installed.  
**LANGUAGES**  
EN - DE - PL  
EN - FR - RU  
EN - IT - ES  
OTHER LANGUAGES  
Display set with english, french and russian languages available.  
**BATTERIES**  
EXTERNAL  
1 BATTERY STRING  
2 BATTERY STRINGS  
3 BATTERY STRINGS  
4 BATTERY STRINGS  
4 battery strings installed with 4 shelves each. Every shelf contains 10 batteries.  
**SWITCHES**  
MANUAL BYPASS  
INPUT / OUTPUT / BYPASS  
In/Out switches for maintenance Bypass.  
**DUST FILTER**  
INSTALLED  
NOT INSTALLED  
Dust Filter placed on the front door.  
**OTHER OPTIONS**  
SNMP  
SDP  
IP3X PROTECTION  
DISTRIBUTION  
3/1 CONNECTION  
1/1 CONNECTION  
Distribution brackets directly put on the cabinet. System set with 3-phase input and 1-phase output.  
**ORDER SUMMARY**  
> 13 minutes autonomy  
> 30 kW load  
> N+1 redundancy  
> Full cabinet  
**BUY**

## NEW EXCLUSIVE BATTERY KIT

### SAFETY OPERATIONS

Battery shelves are composed by 4 removable trays, and each of them contains 10 batteries in series. **Each string is equipped with a dedicated protection fuse** that allows to switch batteries. In this way replacement or maintenance operations can be performed at any time, with no interruption of the UPS double conversion operation.

### FAST MAINTENANCE

The strings are fully accessible from front side and equipped with Molex quick-connect clip terminals, in order to minimize intervention times on the trays. Rear side is also directly accessible, so wiring operations are really easy, with no need to move the UPS.

### EXPORTABLE SOLUTION

This special GTEC battery kit can also be purchased separately, with all mechanical and electrical components included, as well as brackets and fuse holders.

**Each user can easily install the kit system, for as many strings as he wants**, on any standard 19" rack cabinet he already owns.



MODEL	FLEXY-20	FLEXY-40
Maximum system power	20 kVA / 20 kW	40 kVA / 40 kW
Module power	10 kVA / 10 kW	
MAIN INPUT		
Grid system	3 Phases + Neutral + Ground standard (1P+N+G optional)	
Rated voltage / Frequency	380/400/415 VAC (Phase-Phase), 50/60 Hz	
Voltage range	304~478 VAC (Phase-Phase), full load 228V~304VAC (Phase-Phase), load decreases linearly according to the min phase voltage	
Frequency range	40~70Hz (rectifier operating range)	
Power factor	>0.99	
Current THDi	4%	
BYPASS INPUT		
Grid system	3 Phases + Neutral + Ground standard (1P+N+G optional)	
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz	
Voltage range	Default: -20% ~ +15% Selectable: -40% ~ +25%	
Frequency range	Selectable, ±1Hz, ±3Hz, ±5Hz	
Bypass overload	125%, long term operation 125%<load<130%, 10 minutes 130%<load<150%, 1 minute load>150%, 300 milliseconds	
OUTPUT		
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz	
Power factor	1	
Voltage THDv	<1% (from 0% to 100% linear load); <5.5% (full non-linear load according to IEC/EN62040-3)	
Voltage precision	±1% (0-100% linear load)	
Transient response	<5% for step load (20-80%; 100-20%)	
Transient recovery	<30ms for step load (0-100%; 100-0%)	
Inverter overload	110%, 60 minutes 125%, 10 minutes 150%, 1 minute >150%, 200 milliseconds	
Frequency regulation	50/60Hz±0.1%	
Synchronized range	Selectable, ±1Hz ~ ±5Hz, default ±2Hz	
Synchronized slew rate	Selectable, 0.1Hz/S ~ 5Hz/S, default 0.5Hz/S	
Crest factor	3:1	
BATTERIES		
Battery rate voltage	±240 VDC (selectable)	
Number of batteries*	Standard: 40 (20+20) batteries 12V Selectable: 32-44, without derating	
Charger voltage precision	1%	
Batteries arrangement	Internal and/or external**	
Battery type	Pb / Ni-Cd	
SYSTEM		
Efficiency	Normal operation: 95% Eco Mode operation: 98.4% Battery operation: 94.5%	
Display	LED + LCD + Touch screen	
Protection degree	IP20***	
Interface	Standard equipment: RS232, RS485, dry contacts Optional: SNMP, dust filter	
ENVIRONMENT		
Operating temperature	0 ~ 40°C	
Storage temperature	-20 ~ 70°C	
Relative humidity	0 ~ 95% (no condensing)	
Noise (dBA at 1 meter far)	56dB maximum (power module)	
Altitude	<1000m; load derated 1% per 100m, from 1000 ~ 2000m	
MECHANICAL DATA		
Power module dimensions W*D*H (mm)	590*436*85	
Power module weight (Kg)	15	
Cabinet dimensions W*D*H (mm)	600*1000*2100	
Cabinet weight (Kg)	180	
Color	Cabinet: RAL 9005 (dark grey) - Door: RAL 9006 (light grey)	

Note: technical specifications and data could be changed without notification

\* Our standard battery cabinets are 20+20 batteries

\*\* It's possible to install up to 4 internal battery strings. For the 10-20 kVA version it's possible to install up to 5 internal battery strings, only upon specific request

\*\*\* IP30 protection available upon request

# GTEC SERVICE

GTEC supports its customers throughout the whole product life cycle, providing technical assistance and after-sales service at the highest professional standards, so to produce the best partnership experience.



**MAINTENANCE** is an essential activity in order to guarantee a safe and stable load protection. GTEC shows maximum care about this topic, providing the best service in terms of experience, instrumentation and safety level.



The **TECHNICAL SUPPORT** service, delivered through the dedicated Help Desk platform, guarantees prompt answers to customers' requests and allows them to directly schedule maintenance activities.



The partnership between GTEC and its customers gets consolidated through the **TRAINING SESSIONS** proposal for technical staff, so that each user can operate on the UPSs with maximum consciousness and safety.



Also, in the GTEC Service offers, a **PROJECT CONSULTING** team is available, in order to provide the best solution according to the designer's needs.

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