

KEOR T EVO 10-15-20-30 kVA

311020 - 311021 - 311022 - 311023 - 311024 - 311025 -
311026 - 311027 - 311028 - 311029 - 311030 - 311031 -
311032 - 311033 - 311034 - 311035 - 311050 - 311051 -
311052 - 311053



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1. GENERAL SPECIFICATIONS

Legrand UPS model KEOR T EVO is an uninterruptible power supply:

- Double Conversion Online Transformer Free;
- Power Factor 1
- Passing Solid Neutral;
- 3Level IGBT switching high frequency PWM technology,
- N+X Parallel redundancy up to total 6 units,

Batteries are lead acid, sealed, free maintenance, valve regulated, and arranged, inside the UPS in dedicated Drawers or external battery cabinet

KEOR T has the UE/CE Mark accordingly with the EU Directives 73/23, 93/68, 89/336, 92/31, 93/68 and it complies with following standards:

- EN62040-1 "General rules for electric safety"
- EN62040-2 "Electromagnetic compatibility and immunity (EMC)"
- EN62040-3 "Performances and testing rules"

1. Architecture

Legrand UPS KEOR T EVO has standalone architecture composed by

- IGBT Rectifier/PFC
- Inverter 3Level IGBT
- Logic Control Unit
- 3.5" TFT Touch Panel
- Dedicated Input for Bypass
- Embedded Static and Manual Bypass
- Standard Internal Back Feed Protection
- Internal Battery Drawer Shelves.

2. Control and monitoring

A multicolor LED bar shows the status of the UPS:

- GREEN: Normal or ECO Mode Operation
- ORANGE: Bypass or Battery Operation
- RED: Critical alarm

A touch screen graphic TFT display provides information, measurements, statuses and alarms in different languages. The information available are:

| | |
|---|--|
| RECTIFIER (INPUT) Voltage (Vac), per phase Current (Aac), per phase DC BUS Voltage (\pm Vdc) | INVERTER (OUTPUT) Voltage (Vac), per phase Current (Aac), per phase Power (kVA), per phase Active Power (kW), per phase Power Factor (load), per phase Bypass Voltage, per phase Load (%), per phase |
| FREQUENCY Input Frequency (Hz) Output Frequency (Hz) | BATTERY Voltage (\pm Vdc) Current (\pm Adc) Temperature Autonomy (minute) |

The UPS allows also the following settings by **display**:

| | |
|--|---|
| OUTPUT Voltage (380/400/415) Frequency (50Hz/60Hz) | BATTERY Battery String Battery Capacity |
| PARALLEL MODE Parallel Mode (Enable/Disable(Single)) | UPS ID Redundancy (+1, +2, ..., +5) Power Increase |
| Hystory Event Log to 500 last events. Events are stored in EEPROM using FIFO method. | |

KEOR T EVO is equipped also with communication ports and interfaces for remote monitoring and control:

- RS232 Serial Communication Port
- Emergency Power Off (UPS OFF)
- Generator Contact (GEN ON)
- Two contact relays for Bypass and Battery
- ModBus (over RS485, with 2400 Baud Rate)
- Four programmable Dry Contacts

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2. TECHNICAL SPECIFICATIONS

1. General specifications

| Model | 10 | 15 | 20 | 30 |
|---------------------------------------|---|----|----|----|
| UPS Topology | On line double conversion VFI SS 111 | | | |
| Architecture of the UPS | Stand alone, transformerless, OnSite Paralleling | | | |
| In/Out phase Configuration | Three phase Three phase | | | |
| Neutral | Neutral Passing through | | | |
| Switching Technology | 3Level IGBT | | | |
| Backfeed Protection | Internal, standard | | | |
| Output wave form on mains operation | Sinusoidal | | | |
| Output wave form on battery operation | Sinusoidal | | | |
| Standards | EN 620401, EN 620402, EN 620403 | | | |

2. Input

| | |
|-----------------|---|
| Nominal Voltage | 400V 3ph+N+PE |
| Voltage Range | 312 - 467 Ph-Ph full load 208 - 467 Ph-Ph half load" |
| Frequency | 45 65Hz |
| THDin | < 5% at full load |
| Power Factor | > 0.99 |

3. Bypass

| | |
|-----------------|---------------------------------------|
| Nominal Voltage | 400V 3ph+N+PE |
| Voltage Range | 380/400/415 -18% +15% (adjustable) |
| Frequency | 47-53Hz or 57-63Hz (adjustable) |
| Bypass Type | Static and Electromechanic |
| Transfer Time | Zero |
| Manual Bypass | Built in |

4. Output with mains (AC-AC)

| Model | 10 | 15 | 20 | 30 |
|--|--|----|----|----|
| Nominal Voltage | 380/400/415V 3ph+N+PE | | | |
| Nominal Power (KVA) | 10 | 15 | 20 | 30 |
| Active Power (KW) | 10 | 15 | 20 | 30 |
| Voltage variation (static) | ± 1% | | | |
| THDv on nominal power (linear load) | < 2% | | | |
| THDv on nominal power (nonlinear load) | < 4% | | | |
| Frequency | 50 Hz or 60 Hz (selectable) | | | |
| Frequency tolerance | ± 0,1% Synchronized with input frequency | | | |
| Current Crest Factor | up to 3:1 | | | |
| Overload capability: | | | | |
| 10 min | 125% load with no bypass | | | |
| 60 sec | 150% load with no bypass | | | |

5. Output on battery (DC-AC)

| Model | 10 | 15 | 20 | 30 |
|--|-----------------------------|----|----|----|
| Nominal Voltage | 380/400/415V 3ph+N+PE | | | |
| Nominal Power (KVA) | 10 | 15 | 20 | 30 |
| Active Power (KW) | 10 | 15 | 20 | 30 |
| Voltage variation (static) | ± 1% | | | |
| THDv on nominal power (linear load) | < 2% | | | |
| THDv on nominal power (nonlinear load) | < 4% | | | |
| Frequency | 50 Hz or 60 Hz (selectable) | | | |
| Frequency tolerance | ± 0,01% free run | | | |
| Current Crest Factor | up to 3:1 | | | |
| Overload capability: | | | | |
| 10 min | 125% load with no Bypass | | | |
| 60 sec | 150% load with no Bypass | | | |

6. Battery

| | | | | |
|---------------------------------------|---|------|----|-------|
| Type | Lead Acid, sealed, free maintenance VRLA | | | |
| Nominal UPS Battery Voltage | ±360 Volt DC | | | |
| No. of Batteries in Series | 30+30 | | | |
| Charging Method | boost - advanced management temperature control | | | |
| Max Charging Current without derating | 1.2A | 1.2A | 2A | 3A |
| Max Charging Current at <75%load | 4.4A | 6A | 8A | 12.5A |

7. Environmental specs

| | |
|-----------------------------|-----------------------|
| Noise level @ 1m (50% load) | < 58dBA |
| Operating temperature range | from 0°C to +40°C |
| Stock temperature range | from 20°C to +50°C |
| Humidity range | 20-95% not condensing |
| Protection degree | IP20 |

8. Mechanical and miscellaneous

| | | | | |
|------------------------------|---|-------|-------|-------|
| Net Weight without batteries | 121Kg | 132Kg | 144Kg | 148Kg |
| Dimensions (HxW xD) | 1345/1650 x 400 x 800mm | | | |
| Colour | Enclosure: RAL 7016 Front Door Metal: RAL 9005 | | | |
| Communication Interface | 1 serial port RS232, 1 RS485, 1 smart port for internal SNMP, 4 Dry Contacts, 1 EPO, 1 GENSET | | | |
| Input/Output connections | 3Ph + N + PE | | | |
| Miscellaneous | Wheels and adjustable feet | | | |