



## ON Series® m UPS User Instruction Manual

### IMPORTANT SAFETY INSTRUCTIONS

#### SAVE THESE INSTRUCTIONS.

Please read and save these instructions. This manual contains important instructions for the ON Series UPS family. Follow these instructions during the unpacking, installation and maintenance of the UPS and batteries. If you have a problem with the UPS, please refer to this manual before calling the ONEAC Technical Services. The Troubleshooting section on page 24 addresses most UPS-related issues.

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## **Introduction**

Thank you for selecting this uninterruptible power supply (UPS). ONEAC's ON Series offers the most reliable protection from the harmful effects of electrical line disturbances for your computing and communications equipment. ONEAC's ISO 9001 certification represents our commitment to building world-class products. We take pride in every unit that leaves our manufacturing facility

## **Registering Your ONEAC UPS**

To ensure that your ON Series e UPS model and serial number are registered, complete and mail the enclosed postage-paid warranty card or register online at [www.oneac.com](http://www.oneac.com).

## **Technical Support**

ONEAC offers 24-hour technical support. To contact ONEAC Technical Services:

- North America: (847) 816-6000, option 3 or toll free (800) 327-8801, option 3.
- Europe: +44 (0) 2380 610311
- email: [ts@oneac.com](mailto:ts@oneac.com).

Please check with ONEAC Technical Services before attempting to repair or return any ONEAC product. If an ONEAC UPS needs repair or replacement, ONEAC Technical Services will issue a Return Material Authorization (RMA) number along with instructions on how to return the UPS.

## FCC Compliance

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### FCC Compliance



**ATTENTION:** Changes or modifications to this unit not expressly approved by the party responsible or in FCC compliance could void the user's authority to operate the equipment.

This equipment was tested and complies with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the UPS is operating in a commercial environment. The UPS generates, uses, and can radiate radio frequency energy. If installation and use is not in accordance with the instruction manual, it may cause harmful interference to radio communications.



**ATTENTION:** Operation of this equipment in a residential area may cause harmful radio communications interference. The user is responsible for correcting the interference.

Please check with ONEAC Technical Services before attempting to repair or return any ONEAC product. If an ONEAC UPS needs repair or replacement, ONEAC Technical Services will issue a Return Material Authorization (RMA) number along with instructions on how to return the UPS.

## Safety

### Class 1 equipment



EQUIPMENT not suitable for use in the presence of a **FLAMMABLE ANAESTHETIC MIXTURE WITH AIR** or **WITH OXYGEN OR NITROUS OXIDE**.



Not designed, intended or authorized for use in systems intended to support or sustain life.

For more details on life critical applications please refer to full disclaimer in Warranty on page 27 at the end of this manual.



**WARNING:** *This equipment services power from more than one source. The output receptacles may have voltages present even when the unit is unplugged.*

UPSs present a different safety issue than most electrical equipment because unplugging the UPS puts it into backup mode. Unplugging the UPS does not remove the electrical charge. To ensure that the UPS is off, turn the power switch “OFF” before unplugging the UPS from the wall outlet.



**CAUTION:** *This unit is intended to be used in a system that has a grounded neutral conductor.*



**CAUTION:** *Operating this equipment without proper grounding may present a risk of electrical shock.*

Do not use AC adaptors with only two conductors to connect the input line cord to the wall socket as this will not connect the earth ground to the equipment.



**WARNING:** *Dangerous voltages are present within this unit! There are no user-serviceable parts inside. Any repairs or modifications by the user may result in out-of-warranty repair charges, unsafe electrical conditions, or violation of electrical code.*

Do not remove the cover. All repairs should be done by qualified service personnel. Voltages inside the UPS may be lethal. Internal components are powered even when the power switch is in the “OFF” position. Even with the battery disconnected and the unit unplugged, energy is stored in high voltage capacitors and represents a severe shock hazard.

## Set-Up and Installation

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### Set-Up and Installation

When selecting a location for your UPS, be sure that the unit is near a properly wired AC electrical outlet and is easily accessible for all other connections.

**NOTE:** *When connecting the UPS, make sure that the receptacle has power available and is not controlled by a wall switch.*

### Unpacking and Inspection

Before shipment, this product was tested, inspected and found to be free of mechanical and electrical defects. Upon receipt of your UPS, carefully examine the packing containers for any sign of physical damage. Notify the carrier immediately if damage is present. After inspecting, carefully unpack the UPS. Retain the packaging materials for reuse or dispose of the materials properly. Once unpacked, inspect and test the unit for hidden damage that may have occurred in transit. If damage is evident, contact ONEAC Technical Services.

### Long Term Storage

Improper long-term UPS storage may damage the UPS battery and invalidate the battery warranty. Unplugging a UPS from its AC utility power source for an extended period of time results in lost battery charge. Restoration of charge to maximum capacity requires 24 - 48 hours.

### Ventilation

The ventilation requirement for the ON Series mUPS is a minimum of 2 inches (50 mm) of clearance on all sides.



**CAUTION:** *Do not cover or install the UPS in a confined or enclosed space.*

### Grounding the Unit

To eliminate shock hazard, the ON Series e UPS needs to be connected to a properly grounded AC receptacle.

Before applying power, verify that the available line voltage and frequency matches those listed on the rear-panel label.



**CAUTION:** *Interruption of the protective grounding conductor or disconnection of the protective earth terminal presents a potential shock hazard that could result in personal injury and damage to the equipment.*

### Changing Frequency

This ON Series m UPS was designed to operate at frequencies of either 50 Hz or 60 Hz.

The table below shows the frequency settings as shipped from the factory.

*Table 1. Frequency Settings*

Model	From Factory	Adjustable To
ONm 300 I, ONm 600 I	50 Hz	60 Hz
ONm 300 J, ONm 600 J	60 Hz	50 Hz

If an adjustment is necessary, perform the following:



**CAUTION:** Before proceeding, be sure the UPS is “OFF” and disconnected from the utility power.

1. Lay the UPS on its right side.
2. Remove and retain the two Phillips head screws at the bottom front of the unit that secure the battery access door (fig. 1).
3. Carefully open the access door, then slide the batteries out of the unit.



**WARNING:** Do not contact the exposed battery terminals due to the presence of electrical charge.

4. The frequency selector switch, located at the top of the UPS battery access panel, can be set to the desired frequency using a small, standard screwdriver or similar tool (fig. 1).

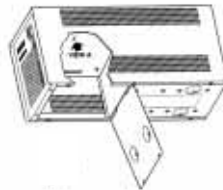


fig. 1: Frequency Selector Switch

5. Circle the selected frequency on the UPS label for later reference.
6. With the battery terminals toward the rear of the unit, slide the battery (pack) into the UPS. Make

sure the battery wires retract without binding.

7. Close the battery access door and secure with the (2) screws removed in step 2. Return the desktop UPS to the upright position.

### Connections

#### Connecting External Battery Enclosure(s)

For additional runtime, some ON Series m UPSs can use extra batteries housed in a separate enclosure. Use only ONEAC part number ONMXBC-217. The UPS power module and battery enclosure(s) are shipped separately.

1. Connect the battery cable from the closest battery enclosure to the external battery receptacle on the UPS, see fig. 2.
2. Connect the battery cable from the next external battery enclosure (if any) to the external battery receptacle on the battery enclosure connected in the previous step.

Repeat step 2 to connect additional external battery enclosures.

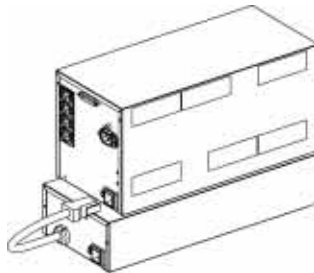



fig. 2: ON Series UPS and External Battery Connections


#### Connecting Equipment to the UPS


Before beginning, shut down and unplug the equipment to be protected. **DO NOT** make any connections or attempt to use any of the equipment until all the following connection instructions have been reviewed and completed.

### A models

Models with A in the part number come equipped with (1) IEC 320 (M) input connector and (2) 5-15R HG output receptacles for the 300 VA models and (4) 5-15R HG output receptacles for the 600 VA model.

1. Use the supplies line cord to connect the IEC 320 (M) inlet to the AC utility power source.
2. Plug the devices to be protected into the 5-15R receptacles on the UPS.
3. With the UPS connected to a properly wired AC input power source, toggle the power switch to the (  ) “ON” position.

When the power switch is toggled to the (  ) “ON” position, power is immediately supplied to the output connectors. The ON Series m UPS will perform a self-test when turned on.

Toggling the power switch to the (  ) “standby” position will turn the power to the output connectors “OFF”. The internal charger will continue to charge and maintain the battery as long as the line cord is connected to a live input AC power source.

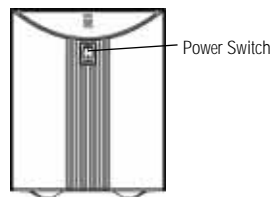


fig. 3: ON Series m UPS Front Panel

### I and J models

ON Series m UPSs with I and J in the part numbers are equipped with (1) IEC 320 (M) input connector

## Set-Up and Installation

and (4) IEC 320 (F) output connectors as shown in fig. 4.

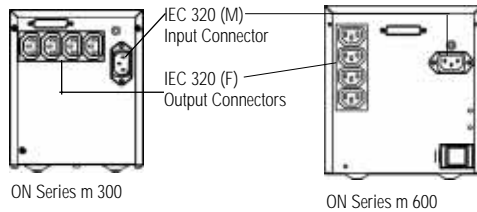


fig. 4: Input and Output Connectors for I and J Models

These connections are for common electrical equipment that have detachable IEC 320 power cords. Contact ONEAC Technical Support if your equipment does not have a detachable IEC 320 power cord.

A 6 foot IEC 320 (M/F) cord is provided the ON Series m UPS for the connection of one device to the UPS. See fig. 5.

If more than one device will be connected to the UPS, use additional IEC 320 (M/F) cords. Contact ONEAC for additional IEC 320 (M/F) cords if needed.



fig. 5: Supplied IEC 320 (M/F) Cord

1. Disconnect the input power cord(s) from the device(s) the UPS will be protecting.

**NOTE:** One of the disconnected power cords will be used later as the input power cord for the UPS.

## Set-Up and Installation

- Using the IEC 320 (M/F) cord supplied with the UPS, connect the device to the UPS IEC 320 (F) output connectors. See fig. 6.

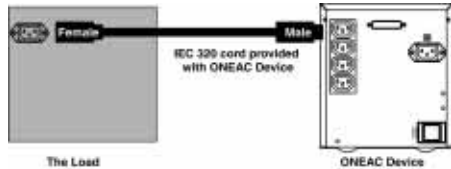


fig. 6: Connecting the ON Series m UPS to the Load

- Using the input power cord supplied with the device to be protected, connect the UPS to the AC utility power source as shown in figure fig. 7.

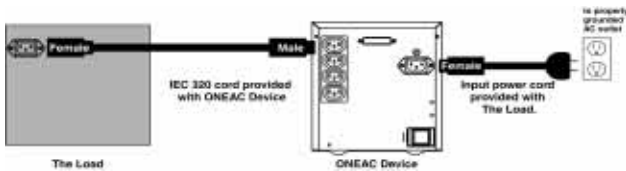


fig. 7: Connecting the ON Series UPS to AC Utility Power Source

For connecting more than one device to be protected by the same UPS, use additional IEC 320 (M/F) cords, see fig. 8.

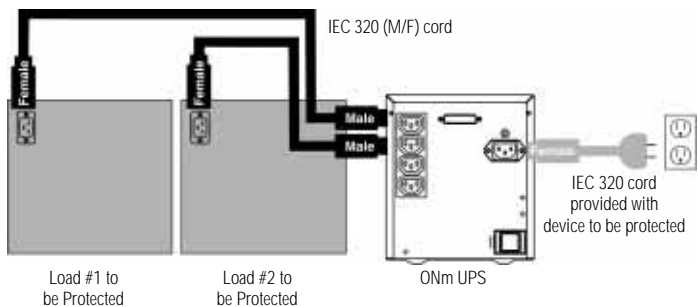


fig. 8: Connecting Multiple Devices to the UPS

- With the UPS connected to a properly wired AC input power source, toggle the power switch to the (|) “ON” position.

## *Set-Up and Installation*

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When the power switch is toggled to the ( | ) “ON” position, power is immediately supplied to the output connectors. The ON Series m UPS will perform a self-test when turned on.

Toggling the power switch to the (⏻) “standby” position will turn the power to the output connectors “OFF”. The internal charger will continue to charge and maintain the battery as long as the line cord is connected to a live input AC power source.

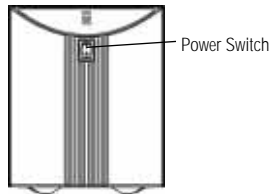


fig. 9: ON Series m UPS Front Panel

### Self Test

The UPS checks vital functions when it is first plugged in and indicates the status with the three LEDs on the front panel.

- A green LED indicates normal AC output.
- A blinking yellow LED shows the battery is being charged.

The UPS will continuously monitor the condition of the battery. If the battery cannot be charged, is disconnected or takes too long to charge, a code is represented in the LED Display.

***NOTE:** The System Code Status Chart on the back of the UPS (and on page 13 of this manual) provides a quick reference for interpretation of the system status LEDs.*

### Front Panel

#### On Battery

If the AC input power source to the UPS rises too high, too low or fails, the UPS will switch to the internal inverter to deliver power to the outlets from the battery(ies). The LEDs will indicate that the UPS is on battery. An audible alarm will also sound every minute.

#### Low Battery

When the battery voltage falls to a predetermined value, the audible alarm will sound continuously and the green and yellow LEDs will blink. If the UPS continues to operate in this mode for two minutes or more, the UPS will shutdown and remove power from the output connectors.

When power returns, the UPS will return to on-line operation and the battery(ies) will automatically recharge.

#### Overload

If the load on the UPS exceeds its capacity, the red and green LEDs will blink. The audible alarm will sound once every minute.

## Set-Up and Installation

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If the UPS is heavily overloaded, the audible alarm will sound continuously and will shut down in a few seconds. The input breaker may also trip. To reset the breaker, first turn the UPS power switch to the “OFF” position, remove the load and push the breaker back into its housing. If the electronic overload has tripped, the UPS will have to be reset by toggling the power switch “OFF”, then “ON” to restore output power.

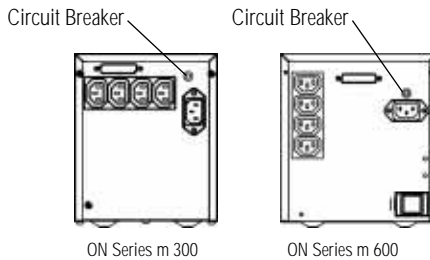


fig. 10: Circuit Breakers

### Battery Replacement

If the UPS has determined that the battery is no longer functional, the green and red LEDs will be on continuously and the yellow LED will flash. The audible alarm will sound every five minutes.

### Indicator Lights

**GREEN** - When the green LED is on, either solid or blinking, power is being supplied to the output. If blinking, it indicates the UPS is on inverter or there is an overload condition.

**YELLOW** - When the yellow LED is on solid, the UPS is on inverter. If blinking, it indicates the battery is charging when on line or low battery if running on inverter.

**RED** - When the red LED is on solid, it indicates there is a problem with the battery charger or

inverter. If blinking, it indicates no battery, overload or high line and no battery present.

*Table 2. System Code Status Chart*

Power	Battery	Fault	Unit Status
0	0	0	OFF
●	0	0	ON/AC Present
●	*	*	ON AC/No Battery
●	*	0	ON AC/Battery Charging
●	*	●	ON AC/Replace Battery
*	0	*	ON AC/Overload
*	●	0	ON Battery Power
*	*	0	ON Battery/Battery Low
0	0	*	Off/Overload
0	●	●	Off/No AC - Fault
0	0	●	Off/Unit Fault
0 = Off, ● = On, * = Blinking			

### Communications (Factory Installed Options)

The isolated Basic Interface Option will send On Battery and Low Battery signals to the host computer. It will also accept a shutdown signal to turn the inverter off to conserve battery life.

Pins 1 and 10 (simulated relay closures) are open collector transistor outputs which must be pulled up to a common reference supply no greater than +15 V DC. They are opto-isolated open collector transistors capable of a maximum noninductive load of 10 mA DC. Pin 11 is the common for all of the relay closure pins and is isolated from the UPS chassis ground.

Pins 20 and 21 are used to shut down the UPS when it is operating on battery. A positive signal (3 to 24 V DC) on pin 20 with respect to pin 21 shuts down the UPS. A signal at or below ground allows the UPS to keep running.

## Features and Specifications

The shell of the interface connector is connected to the UPS chassis ground.

Table 3. Pin Signals

Interface Pin No.	Signal
1	Low Battery - normally open
10	Line Fail - normally open
11	Output Signal Common
20	Shutdown (to UPS)
21	Shutdown (to UPS)

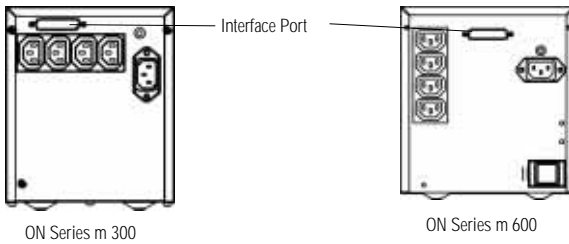


fig. 11: ON Series m Interface Port

## Features and Specifications

**Surge voltage withstand capability:** ANSI/IEEE C62.41 Category A&B, 6 kV/200 & 500 Amp, 100 kHz ringwave

**Surge voltage let-through (max):** Less than 10 V Normal mode (L-N), less than 0.5 V Common mode (N-G) when subjected to 6 kV ANSI/IEEE C62.41 Cat. A

**Normal & common mode clamping response time:** Instantaneous

**Transfer time (typical/max):** 4/6 milliseconds

**On-battery output voltage:** Pseudo sine wave

**ONBoost:** Approximately 10% voltage boost to output voltage when input voltage falls below 80% of nominal

## *Features and Specifications*

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**Load power factor range (crest factor):** UPS .65 to 1.0 (3) — will support loads rated 0.5 to 1.0 (<5)

**Batteries:** Sealed, maintenance-free lead acid with a 3-6 year typical lifetime, hot-swap replaceable

**Recharge time to 60% available capacity:** 6-10 hours

The ON Series m UPS models are listed for UL2601-1 and CSA-C22.2 compliance and carry the CE Mark for testing to the EN60601-1 standard for Medical Electrical equipment. Designs are compliant with all specification parameters for Class I, equipment (such as earth leakage and enclosure leakage currents). Units are available in 120 V and 230 V (50/60 Hz with IEC connectors to facilitate country-specific connector compatibility). An optically isolated communications interface is standard.

Your ONEAC ON Series m UPS features full output isolation and power conditioning with Virtual Kelvin Ground<sup>®</sup> output filtering. This provides the highest level of protection from power line disturbances available.

Intelligent battery management system includes:

- Five-year warranty on power control systems
- Two-year warranty on batteries
- Battery condition monitoring and status alerts
- Low battery indication
- Hot-swap, user-replaceable battery
- Battery charge indication
- ONBoost<sup>®</sup>, low line voltage compensation without battery depletion
- Controlled inverter shutdown if battery is depleted

ONEAC UPSs also feature a five-year warranty. See Warranty Section on page 27 for full warranty details.

## Features and Specifications

### Specifications and Characteristics

Table 4. Physical/Electrical Specifications and Performance Characteristics

Specification and Characteristics	ONm300	ONm600	ONm300I	ONm600I
Part Number - double battery single battery double battery	ONM300DA-SI ONM300J-SI ONM300DJ-SI	ONM600XA-SI NA ONM600XJ-SI	NA ONM300I-SI ONM300DI-SI	NA NA ONM600XI-SI
Maximum Load - VA/Watts	300/200	600/400	330/200	600/400
Load Power Factor Range	UPS .65 to 1.0 (3) - will support loads rated 0.5 to 1.0			
Crest Factor	<3			
Nominal Input Voltage (VAC)	120	120	230	230
Low Limit for On-line Operation (VAC)	85	85	185	185
High Limit for On-line Operation (VAC)	135	135	260	260
Frequency Limits (on-line)	50/60 Hz +/- 5%			
Input Connection	IEC 320 (M) inlet			
Input Over Current Protection	resettable, linked dual pole (L & N) breaker			
Boost Voltage	approximately 10% boost to output voltage when input voltage falls below 80% of nominal			
Output Voltage on Backup	110 VAC ± 15%/220 VAC ±15%			
On Battery Waveshape	amplitude stabilized stepped sine-wave			
On Battery Frequency	50/60 Hz +/- 1%			
Transfer Time	4mS, typ			
Output Connection - (A in part number) (I or J in part number)	(2) 5-15R	(4) 5-15R (4) IEC 320 (F) connectors	NA	NA
Battery Type	maintenance free, spill proof, sealed lead-acid			
Typical Battery Life	3-6 years, depending on number of discharges and ambient temperature			
Recharge Time (60% Recovery)	6-10 hours			
Communications	isolated basic signaling			
Interface Connector	25 pin male sub D style			
Output Signals	on battery (pin10) / low battery (pin 1) [TRUE condition causes "short" to RETURN signal (pin 11)]			
Input Signal	inverter shut down [pin 20 (+) to pin 21 (-)] (high shuts down inverter)			
Maximum Collector Voltage (VDC)	15			
Maximum Collector Current (mADC)	10			
Maximum Output Voltage @ 5 mADC	0.8			
<i>Table continued on next page</i>				
Output Type	opto-isolated open collector transistor			

## Features and Specifications

*Table 4. Physical/Electrical Specifications and Performance Characteristics*

Specification and Characteristics	ONm300	ONm600	ONm300I	ONm600I
Input Type	opto isolator input diode with anti-parallel diode and 500 ohms in series			
Minimum Input to Activate Shutdown (mA)	1			
Maximum Input Current (mA)	20			
Operating Temperature	0° to +40°C (32 to 104°F)			
Storage Temperature	-15 to 45°C (+5 to 113°F)			
Relative Humidity	0 to 95%, non-condensing			
Operating Elevation	0 to 3,000 m (0 to 10,000 ft)			
Storage Elevation	0 to 15,000 m (0 to 50,000 ft)			
Size (HxWxL) inches (cm)	7.4 x 6.0 x 15.5 (19 x 15 x 39)	7.75 x 7.0 x 16 (20 x 18 x 41)	7.4 x 6.0 x 15.5 (19 x 15 x 39)	7.75 x 7.0 x 16 (20 x 18 x 41)
Shipping Weights lbs (kg)	37/46 (17/21) (single/double battery)	56 (25)	37/46 (17/21) (single/double battery)	56 (25)
Surge Voltage Withstand Capability	ANSI/IEEE C62.41 Category A&B, 6 KV/200 and 500 Amp, 100 KHz Ringwave			
Surge Voltage Let-Through	Less than 10 V Normal mode (L-N), less than 0.5 V Common mode (N-G) when subjected to C62.41 6kV Cat. A pulse			
Normal and Common Mode Clamping Response Time	instantaneous			

## Features and Specifications

Table 5. Physical/Electrical Specifications and Performance Characteristics for ONMXBC-217 External Battery

Specifications and Characteristics	ONMXBC-217
Voltage	2 x 12 V
Current	40 A
Batteries	two at 12 V, 17 AH
Operating Temperature	0° to +40°C (32 to 104°F)
Storage Temperature	-15 to 45°C (+5 to 113°F)
Relative Humidity	0 to 95%, non-condensing
Operating Elevation	0 to 3,000 m (0 to 10,000 ft)
Storage Elevation	0 to 15,000 m (0 to 50,000 ft)
Size (HxWxL) inches (cm)	3.75 x 7.0 x 17 (9.5 x 18 x 43)
Shipping Weights lbs. (kg)	38 (17)

## Safety & Approvals

Table 6. Emissions Test Regulations

Emissions Test Regulations	
United States	47 CFR Part 15 Subpart B:1999
Canada	Interference-Causing Equipment Standard (ICES-003 Issue 2, Rev.1)
Europe	EMC-Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC
	EN 50091-2 / 09.95 (UPS Equipment)
	EN 50081-1 / 01.92 (Generic Emission - Residential, Commercial and Light Industrial)
	EN 60601-1-2 / 05.93 (Medical equipment)
	EN 55011 / (ISM Equipment)
	EN 55022 / 08.94 (ITE Equipment)
	EN 61000-3-2 / 04.95
	EN 61000-3-3 / 01.95

## Typical Runtime

*Table 7. Typical Runtime by System Load*

Typical Runtime by System Load	ONm300 I and J Models One 12 V, 7 AH Battery	ONm300D I and J Models Two 12 V, 7 AH Batteries
VA LOAD	RUNTIME (HOURS:MINUTES)	
75 VA	0:41	1:32
100 VA	0:21	1:09
150 VA	0:16	0:40
200 VA	0:10	0:30
250 VA	0:07	0:20
300 VA	0:05	0:15
<b>NOTE:</b> Due to application specific conditions, your actual run time may be different.		

*Table 8. ON Series m 600 VA Extendable Runtimes*

Typical Runtime by System Load	ONm600X Two 12 V, 7 AH Batteries	Plus1 External Battery	Plus2 External Batteries	Plus 3 External Batteries	Plus 4 External Batteries	Plus 5 External Batteries
VA LOAD	RUNTIME (HOURS:MINUTES)					
100 VA	1:05	4:40	8:50*	10:30*	13:30*	16:40*
200 VA	0:35	2:40	5:00*	7:00*	9:00*	11:10*
400 VA	0:15	1:20	2:20*	3:30*	4:30*	5:30*
600 VA	0:05	0:30	1:10*	2:20*	3:00*	3:45
<b>NOTE:</b> Due to application specific conditions, your actual run time may be different.						
<b>NOTE:</b> External Battery - Two 12 V, 17 AH per battery enclosure.						
* Values shown are calculated.						

## Features and Specifications

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Table 9. Immunity Test Regulations

Immunity Test Regulations	
Europe	EMC-Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC
	EN 50091-2 / 09.95 (UPS Equipment)
	EN 50082-1/08.97 (Generic Immunity - Residential, Commercial and Light Industrial)
	EN 60601-1-2 / 05.93 (Medical equipment)
	EN 61000-4-2 / 03.95 (IEC 1000-4-2 / 01.95)
	EN 61000-4-3 / 1995 (IEC 1000-4-3 / 02.95)
	ENV 50204 / 03.95
	EN 61000-4-4 / 03.95 (IEC 1000-4-4/01.95)
	EN 61000-4-5 / 03.95 (IEC 1000-4-5 / 02.95)
	EN 61000-4-6 / 07.96 (IEC 1000-4-6 / 03.96)
	EN 61000-4-11 / 08.94 (IEC 1000-4-11 / 06.94)
	IEC 1000-2-2 / 09.95

Table 9. Safety Regulations

Safety Regulations	
United States	UL1778 (Uninterruptible Power Supply Equipment)
	UL2601-1 (Medical Electrical Equipment, Part 1 General Requirements for Safety)
Canada	CSA 22.2
Europe	EN 60601-1 Medical Electrical Equipment
	EN60950 Information Technology Equipment as amended by EN 50091-1 Standard for Uninterruptible Power Systems

### Battery Consideration

#### Replacing Battery(ies)

***NOTE:** To obtain new battery(ies), contact ONEAC Technical Services at (847) 816-6000, or toll free at (800)-327-8801, opt. 3. In Europe, dial +44 (0) 2380 610311.*

Battery replacement is a safe procedure that is isolated from electrical hazards. You can leave the UPS and attached loads powered “ON” during the procedure. If the unit is “ON,” the audible alarm will sound when the battery is disconnected and the yellow and red LEDs will blink.

***NOTE:** The UPS cannot protect against power outages while the batteries are disconnected.*

1. Lay the UPS on its right side.
2. Open the battery access door on the bottom by removing the two (2) Phillips head screws at the front. Retain the screws for use in step 8 later.
3. Carefully open the battery access door and slide the batteries out of the unit.
4. **ONm Series 200 and 300 VA UPSs:** disconnect the black wire, then the red wire from the battery pack.

**ONm Series 400 and 600 VA UPSs:** remove the battery connector by squeezing the two “ears” on the sides of the connector and pulling straight out.



***WARNING:** Once the wires are removed from the battery(ies), use caution to not contact the exposed battery terminals due to the presence of electrical charge.*

5. **ONm Series 300 VA UPSs:** using the new battery(ies), connect the red wire to the red positive (+) terminal on the battery.

***NOTE:** In the next step be aware that a small arc may occur while connecting the black wire to the battery terminal.*

6. Connect the black wire to the (-) terminal on the

## Battery Consideration

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battery.

**ONm Series 600 VA UPSs:** insert the battery connector into the plug in the battery compartment.

**NOTE:** *The plug is polarized and connector will only fit in one way.*

7. With the battery terminals toward the rear of the unit, slide the battery (pack) into the UPS. Make sure the battery wires retract without binding.
8. Close the battery access door and secure with the (2) screws removed in step 2. Return the desktop UPS to the upright position.
9. Dispose of the old battery pack according to current environmental regulations. See Battery Disposal on page 23, if you would like ONEAC to dispose of battery.

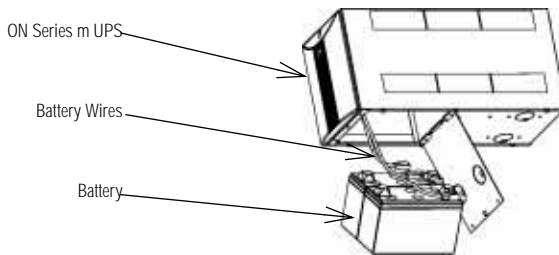


fig. 12: ON Series m UPS Battery Replacement

### Replacing External Battery Enclosure(s)

For additional runtime, the ON Series m 600 VA UPS supports extra batteries housed in a separate enclosure. The UPS power module and battery enclosure(s) are shipped separately.

**NOTE:** *The UPS and attached loads may remain powered ON during the battery enclosure(s) replacement procedures.*

The batteries inside the external battery enclosure(s) are not user-replaceable. The entire battery enclosure must be replaced or the enclosure may be returned to ONEAC for battery replacement.

To disconnect the battery cable coming from an external battery to the UPS or another external battery, squeeze the two locking “ears” on the sides of the battery connector and pull straight out (see fig. 13).

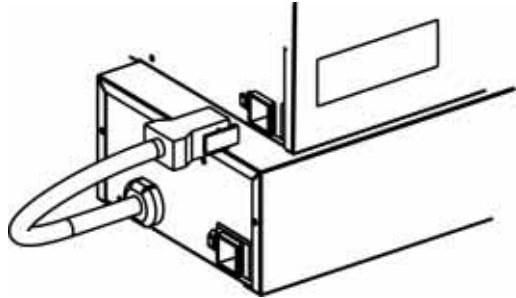


fig. 13: Battery Connector

Connect the battery cable from the closest battery enclosure to the external battery receptacle on the UPS, see fig. 13.

Connect the battery cable from the next external battery enclosure (if any) to the external battery receptacle on the battery enclosure connected in the previous step.

Repeat to connect additional external battery enclosures.

## Battery Disposal

UPS batteries contain toxic and acidic materials. Disposal method must adhere to local/national recycling laws. Dispose of the battery in one of three ways:

1. Return batteries prepaid to ONEAC for proper recycling. Contact ONEAC Technical Services at (847) 816-6000, toll free at (800) 327-8801 option 3 or in Europe at +44 (0) 2380 610311 for an RMA number. Mark the RMA number on the packing slip and shipping carton.
2. Phone ONEAC Corporation for the number of a local battery collection site (US only).

## UPS Disposal

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3. Make arrangements with a local auto shop that collects automotive batteries for reprocessing.



**CAUTION:** *DO NOT dispose of battery in a fire. The battery may explode. Do not open or mutilate the battery or battery enclosure. Released electrolyte is harmful to the skin and eyes and is toxic.*

## UPS Disposal

Once your UPS has reached the end of its useful life and it is necessary to dispose of the unit:

1. Remove the batteries as instructed in Replacing Battery(ies) on page 21.
2. Dispose of the batteries as instructed in Battery Disposal on page 23.
3. Dispose of the unit in accordance with local/national recycling or disposal ordinances.

## Troubleshooting

ONEAC offers 24-hour technical support. If you have questions or problems regarding your ON Series m UPS:

1. Refer to the Trouble Shooting table on page 26 for corrective or recommended action.
2. If you are unable to troubleshoot the problem, contact Technical Services. Refer to page 1, Technical Support, for the correct telephone number in your area. Technical Services will ask you to describe the problem. They will help solve the problem over the telephone or issue a Return Material Authorization (RMA) number along with instructions on how to return the UPS.

**NOTE:** *You will need to supply the service representative with the UPS part number and serial number. You can access these numbers on the back panel of the unit on a label located near the receptacles.*

Always check with ONEAC Technical Services before attempting to repair or return any ONEAC product.

## Troubleshooting

If you have questions or problems regarding you ON Series m UPS, refer to the troubleshooting table below.

*Table 10. Troubleshooting*

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
UPS will not turn ON	Front Panel Switch not "ON".	Switch the Power Switch to (I)
	UPS's input circuit breaker tripped.	Reduce the load on the UPS by unplugging the load and press the circuit breaker in on the rear panel.
	Unit not plugged in.	Plug unit into wall outlet.
UPS operates on battery even with line voltage present.	UPS's input circuit breaker tripped.	Reduce the load on the UPS by unplugging the load and press the circuit breaker in on the rear panel.
	High or low line.	Contact qualified electrician.
	Out of frequency range.	Check for UPS compatibility with power source.
Fault LED is ON	If yellow LED is blinking, the battery needs to be replaced.	Allow batteries to charge for 4 hours. If the problem continues, replace the battery(ies).
	If yellow LED is off or on solid, there is an internal UPS fault.	Do not attempt to use the UPS. Turn the UPS off, unplug from the power line and call Technical Service: (800)-327-8801, opt. 3 immediately.
Fault LED is blinking	If yellow LED is blinking, there is no battery connected or detected.	Connect install or replace the battery(ies).
	If green LED is blinking or off, the output is overloaded.	Reduce the load on the UPS until the LED goes out. If green LED is off, recycle power switch to reset.

### **Warranty**

ONEAC products are warranted free from defects in materials and workmanship for five years. This warranty is limited to repairing or replacing, at ONEAC's option, any defective component, circuit board, or module contained within the product only when it is returned with an ONEAC Return Material Authorization (RMA) number to ONEAC or to an ONEAC-designated repair facility. In all cases, the customer is responsible for shipping charges to and from ONEAC or the ONEAC-designated repair facility.

### **Batteries**

Certain modules or peripherals included with the product, but not manufactured by ONEAC, including but not limited to batteries or battery enclosures, are warranted for two years or the extent of the manufacturer's warranty, whichever is longer.

### **Life Critical Applications**

While ONEAC believes it designs and manufactures very reliable products, many of the vendors that ONEAC sources components from do not recommend or endorse the use of their products in life critical applications. By extension, ONEAC must adhere to the same business policy and does not recommend the use of our products in life critical applications.

### **Disclaimer**

ONEAC products are not designed, intended or authorized for use in systems intended to support or sustain life, or for any other application in which the failure of the ONEAC product could create a situation where personal injury or death may occur. Should the Buyer purchase or use ONEAC product for any such unintended or unauthorized application, the Buyer shall indemnify and hold ONEAC and its officers, employees, subsidiaries, affiliates and distributors harmless against all claims, costs, damages and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim or personal injury or death associated with such unintended or unauthorized use, even if such claim

## Warranty

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alleges that ONEAC was negligent regarding the design or manufacture of the part.

### **Limitations of Warranty**

This limited warranty does not cover any losses or damage resulting from shipment to or from the customer, or from improper installation, inappropriate environment, abuse, modifications, adjustments, or unauthorized repair.

For full details of the warranty, see ONEAC Warranty, Policy and Procedures (part number 955-053).

### **Exclusive Remedies**

Except as set forth herein and except as to title, there are no warranties, express or implied, or any affirmations of fact or promises by ONEAC for the products, their merchantability, or fitness for any particular purpose. In no event shall ONEAC be liable for lost profits, goodwill or any other special or consequential damages.

### **Return Procedure**

To return a UPS, contact ONEAC Technical Support for a Return Material Authorization (RMA) number. This number must be marked on the shipping carton and packing slip of the unit returned. The customer is responsible for repair charges for damages incurred in shipment that result from inadequate or improper packing of the product.