



## EDGE

### Rough Duty UPS



For harsh electrical environments and critical systems, Federal Signal offers the Edge rough duty UPS. Designed to meet the rigorous demands of offshore drilling, military and industrial applications, the Edge UPS provides clean regulated power in extremely harsh electrical environments where a commercial grade UPS would fail. This robust hybrid topology is ideal for applications where a loss of power threatens safety, equipment or production uptime.

An efficient ferro-resonant transformer, microprocessor controlled solid-state pulse-width modulated inverter and a long-life battery pack provide immunity to all line disturbances and power interruptions with no break in AC output power. Even when the reflected harmonic spectrum exceeds 25% voltage distortion, the Edge UPS supplies power without resorting to the use of battery support. To correct severe voltage fluctuations, wave shape faults, and frequency changes, Edge employs a power purifying isolation transformer, active input filtering, and extended input voltage and frequency ranges. Fuzzy logic is incorporated to automatically broaden the input operating range to -40% as a function of the load. This delivers continuous power during brownout conditions, ensuring adequate battery capacity in the event of a full power outage.

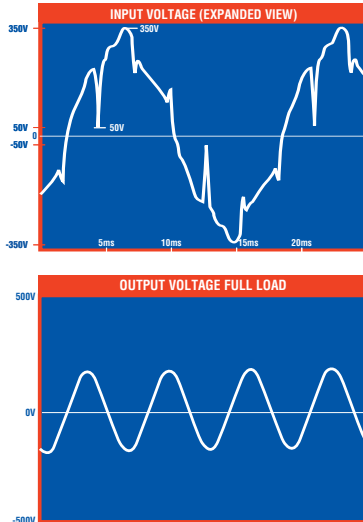
Edge has a full complement of diagnostic indicators. Metering includes: Battery Voltage, Input Voltage, Output Voltage and Percent Load. Status LEDs include System On, On Battery, Low Battery and Alarm.

### MEETS THE DEMANDS OF OFFSHORE DRILLING

- **Steady voltage to +/-3%**
- **100% power conditioning**
- **Seamless switching to battery**
- **Status monitoring and display**
- **Built-in isolation**
- **Input power factor correction**
- **Custom models available upon quotation**
- **LAN/WAN interface**
- **MTBF:**  
**Total System-100,000 hours**  
**Transformer-200,000 hours**  
**(mil spec 217E)**
- **UL listed, CSA Certified, FCC approved**



## OFFSHORE DRILLING RIG APPLICATION: ACTUAL WAVE FORM MEASURED ON OFFSHORE PLATFORM



The EDGE is an industrial grade single phase, continuous duty, line interactive, single conversion UPS designed to supply reliable, clean regulated power for critical loads. An efficient ferro-resonant transformer, micro-processor controlled, solid state PWM inverter and long lasting battery pack provide immunity to all line disturbances and power interruptions with no break in AC output power. In addition the UPS is designed and proven to operate in a harsh electrical environment such as seen with off shore drilling platforms. This environment contains a combination of diesel generators supplying power to large (greater than 500HP) VFD & VSD drives that are under constant 100% step load changes. The reflected harmonic spectrum of these six pulse SCR controlled drives exceeds 25% VTHD. The UPS has the ability to tolerate these extreme voltage and wave shape faults without resorting to the use of batteries to support the load. Furthermore, the UPS is designed to survive in this harsh electrical environment without derating the load capabilities of the system.

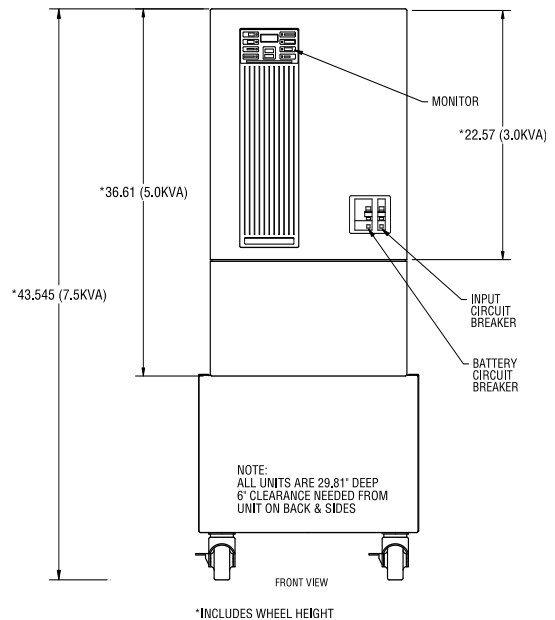
### SPECIFICATIONS

#### INPUT

Operating Range:	+10 to -30
Frequency Range:	57 - 63Hz or 47 - 53Hz
Spike Attenuation:	3000:1
Power Factor:	Self correcting to >.95 (approaching unity)

#### OUTPUT

Sine Wave Output:	3% max harmonic distortion
Crest Factor:	3.5:1
K Factor:	30 or better
Harmonic Attenuation:	400%
Line Regulation:	Better than +/-5%
Load Regulation:	Better than +/-3%
Output THD:	With large six-pulse SCR, FVD, or VSD containing a 25% or greater, the output of the system remains within 3% VTHD for any single harmonic



### STANDARD MODELS AVAILABLE (CUSTOM UPON REQUEST)

KVA OPTIONS	RUNTIME OPTION	VOLTAGE OPTIONS	FREQUENCY OPTIONS
35 = 3.5KVA	20 = 20 min. @ 2.45kw	120VAC	50Hz
50 = 5.0KVA	30 = 30 min. @ 3.5kw	208VAC	or
75 = 7.5KVA	60 = 60 min. @ 4.0kw	240VAC	60Hz

Building a UPS Model Number - E+(KVA) - (Runtime) - (Voltage) - (Frequency)

*Example* - E75-60-240-50

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