FIRST ELEMENT ENERGY®

*Powering your process. Protecting your business.*

# Liquid Methanol Fueled Fuel Cell Power System

## The First Element Advantage

Off grid, prime power or backup installations

**Cost savings over diesel generators & batteries;** easy installation, low maintenance, clean & quiet

Flexible enclosure options, 2 & 4 door cabinets

Fast-Deploy cabinet option, no pad required

Available with air or liquid-cooled fuel cells to cost effectively match your service application

Systems available for harsh environments

## Applications

Telecommunications, railroads, utilities and critical business IT operations

Ground, roof top and indoor rack mount installations

Optional AC power UPS system with an integrated solid state transfer switch

Distributed electric vehicle charging

***Total Cost of Ownership analysis is easily available for your application, call to see how much you can save***

| Specifications for Integrated Fuel Cell & Methanol Reformer | | | | | |
|---|---|---|---|---|---|
| ***Standard Models, kW*** | ***2.5 / 3*** | ***5*** | ***7.5*** | ***10*** | ***15*** |
| ***Physical*** | | | | | |
| 2-Door Cabinet Dimensions (W x D x H) | 36 x 38 x 86 in | | | | |
| | Integral 35 gallon tank included | | | | |
| 4-Door Cabinet Dimensions (W x D x H) | 75 x 38 x 46 in | | 75 x 38 x 57 in | | 85 in, Height |
| Fuel Storage Tank, 4-door cabinet | Standard base tank sizes: 58 / 130 / 260 gal. | | | | |
| ***Operation, Backup or Off-Grid*** | | | | | |
| ***Power Output*** DC | DC/DC converter, +/- 48-56 V, load following, remote-real time controllable output | | | | |
| AC | 50 / 60 Hz, single or 3-phase power, with integrated solid state transfer switch and UPS | | | | |
| ***Fuel*** | Mixture of Methanol & Pure Water. Mix ratio: 62-63% methanol by weight | | | | |
| ***Environment*** | | | | | |
| Ambient Temperature, (deg. F) | Liquid-cooled rated power maintained from: -22° to 105° (High temp kit available) | | | | |
| | Air-cooled fuel cell rated power maintained from: 14° to 114° | | | | |
| Air Quality | For operation in areas with air polution, special filters are available | | | | |
| ***Controls & Remote Commuincations*** | Dry contact and full system alarms, FULL remote command & monitoring via internet | | | | |
| ***Emissions*** | | | | | |
| Water (from liquid-cooled fuel cell only) | Approximately 0.1 gal. / kWh, condenser kit available | | | | |
| Noise | All models are less than 62 dB at a distnce of 3 feet from any direction | | | | |
| CO, $CO_2$, NOx, SOx (Reformer ONLY) | CO: <20 ppm, no particulates, no SOx. | | | | |

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