

CommScope 5kW Fuel Cell



The environmentally friendly CommScope Fuel Cell Cabinet offers significant operational cost savings over the life of the cabinet.

The CommScope Fuel Cell Cabinet provides an environmentally friendly dc backup power solution for wireless and wireline networks with a cabinet design that is modular and flexible to meet the most stringent backup power needs.

The cabinet's proton exchange membrane (PEM) hydrogen fuel cells, housed in a secure, weather resistant cabinet for outdoor deployment, offer a smaller footprint and more dense power backup than what is available in the market.

The CommScope Fuel Cell Cabinet is the highest capacity integrated fuel cell system available. With power supplied by one or two 5kW fuel cells, the CommScope Fuel Cell Cabinet can backup +24 Vdc and/or -48 Vdc network equipment from one cabinet. In addition, electronics such as BTS, microwave, or fiber backhaul equipment can be accommodated in the same cabinet. An optional hydrogen storage section is available, which integrates with this cabinet and accommodates four or eight standard hydrogen cylinders.

- Superior eco-friendly power supply offers significant operational cost savings over the life of the cabinet
- High reliability—well-suited for telecom applications
- Addresses the suggested 8 hours of power backup at cell sites
- Reduces power consumption as fuel cells do not require trickle charging
- Greater power density of a fuel cell reduces the amount of pad space
- A single fuel cell can simultaneously backup multiple BTS
- Eliminates expensive generator and battery maintenance
- Field proven, environmentally rugged powder coat paint virtually eliminates cabinet maintenance costs
- Eliminates lead acid battery disposal
- Superior environmental protection reduces costs to replace equipment
- Fully integrated cabinets reduce installation time at the site
- Designed to conform to thermal, seismic, salt fog, and heavy rain requirements, thus reducing testing costs
- Lower total cost of ownership—no static degradation over time as compared to batteries and diesel generators



CommScope 5kW Fuel Cell

Dimensions

Depth	970.3 mm 38.2 in
Height	1831.3 mm 72.1 in
Width	1155.7 mm 45.5 in
Weight, one fuel cell (estimate)	355.62 kg 784.00 lb
Weight, two fuel cells (estimate)	442.00 kg 990.00 lb

General Specifications

Access	Front door Rear door Side door
Alarm Interface	Ethernet J45 Wire-wrap pins
Alarm Output	Dry contacts LEDs (visual) Ethernet
Battery Strings, quantity	1 @ -48 Vdc 2 @ 24 Vdc
Cabinet Type	Fuel cell cabinet Hydrogen storage wing, optional
Cooling Options	Deionized water ≥ 200 K Ω cm

Electrical Specifications

Output Current at Voltage	0-105 A @ -48 Vdc, one fuel cell 0-210 A @ -48 Vdc, two fuel cells
Output Current at Voltage	0-209 A @ +24 Vdc, one fuel cell 0-418 A @ +24 Vdc, two fuel cells
Output Power, one fuel cell	5kW
Output Power, two fuel cells	10kW
Peak Operating Efficiency	51% (stack efficiency)
Voltage	-48 Vdc or +24 Vdc
Voltage Range -48 Vdc	-42 Vdc to -56 Vdc
Voltage Range +24 Vdc	+22 Vdc to +29 Vdc

Battery Compartment Dimensions

Depth	878.8 mm 34.6 in
Height	287.0 mm 11.3 in
Width	515.6 mm 20.3 in



Product Specifications

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Mechanical Specifications

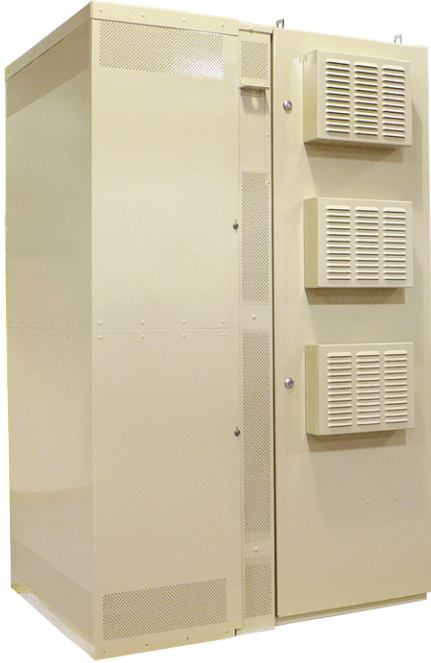
Air Consumption, per fuel cell, maximum	530 SLPM
Fuel Consumption, per fuel cell maximum	61 SLPM
Fuel Supply Pressure, absolute maximum	690 kPa
Fuel Supply Pressure, absolute minimum	515 kPa
Gaseous Hydrogen Purity, minimum	99.95 %
Mount Type	Pad
Noise Emission, maximum	65 dBA @ 1.5 m
Water Emission, maximum	28 mL/min

Environmental Specifications

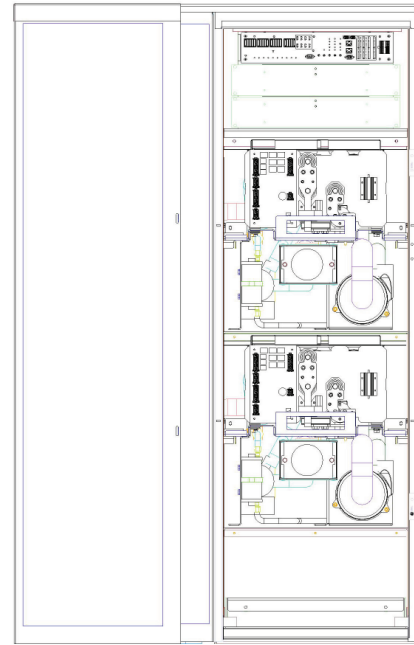
Operating Temperature	-40°C to +46°C (-40°F to +115°F)
Qualification Standards	Telecordia GR-1089 Telecordia GR-487, Zone 4 Telecordia GR-63
Relative Humidity	Up to 95%, no-condensing

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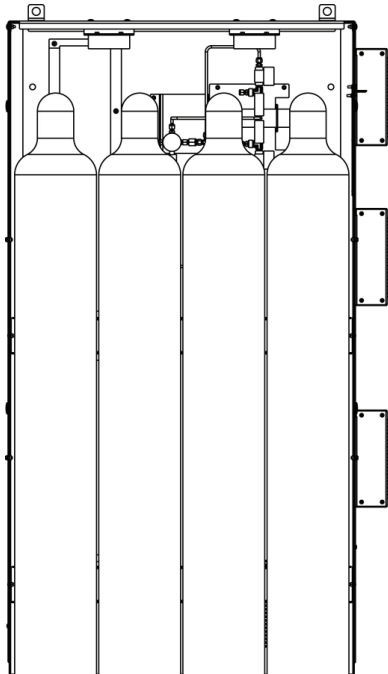
Closed Fuel Cell Cabinet with Hydrogen Cylinder Storage on Left



Open Front View of Two 5kW Fuel Cells and Closed Hydrogen Cylinder Storage



Open Side View (two rows of four hydrogen cylinders)



Open Front View of One 5kW Fuel Cell and Closed Hydrogen Cylinder Storage

