



HYDROGEN
FOR A GREEN PLANET

Fuel Cell Power Generator

1000W / 12V/24V/48DC & 110 or 230V/AC

Environmental Friendly & Noiseless Generator



*powered by
BALLARD

TB - 1000

TROPICAL S.A. presents its all new TB-1000 Hydrogen Fuel Cell Power System, producing 1000W nominal electric power using the Proton Exchange Membrane (PEM) technology*. The membrane on the fuel cell stack is converting hydrogen into electric power and the only "pollutant" is clean water. This power generator produces high quality electric power 110V or 230V AC & 12V, 24V or 48 DC (other voltages on request). It is designed to be used as an Uninterruptable Power System (UPS), back-up power system, as a stand alone power generator providing electricity to our homes, in grid back up, as solar hybrid, in telecommunication towers or military applications or remote applications. Its main advantages are: quite in operation, small in size & light weight, produces zero-emissions, minimal maintenance, reliable, stable & quick start operation.

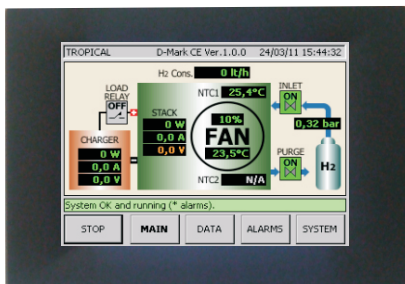


Metal Hydride Tank



H2 Leak Sensor

TOUCH SCREEN & MEASUREMENTS



The TB-1000 hydrogen fuel cell power system is being controlled by an intelligent controller which is operated by a 16-colored touch screen monitor. The management of the system is easily done through the touch screen monitor and although the system is fully automated, the user has the option to change which ever parameter likes followed by a 4-digit password. Moreover, data acquisition of the parameters can be saved on an excel file (SD memory card) and can be changed.

MEASUREMENTS

- STACK POWER (Watt)
- STACK VOLTAGE (Volt)
- STACK CURRENT (Ampere)
- BATTERY VOLTAGE (Volts)
- HYDROGEN LEAK SENSOR
- HYDROGEN INLET ON/OFF VALVE
- HYDROGEN PURGE ON/OFF VALVE
- AIR STACK TEMPERATURE (C°)
- AIR FAN FLOW (%)
- SET BUTTON (Settings Screen)
- DATA BUTTON (Parameters Screen)
- SYSTEM TOTAL OPERATING TIME
- TIME - DATE / MONTH / YEAR
- OVERLOAD SETTING (Watt)
- SD MEMORY CARD (Data Acquisition)

OPTIONAL

- HYDROGEN PRESSURE (Bar)
- HYDROGEN CONSUMPTION (lt/hr)
- HYDROGEN TANK CAPACITY
- SYSTEM SERVICE TIME
- STACK LIFETIME
- AIR HUMIDITY

FUEL CELL STACK BY BALLARD



BALLARD

Ballard Power Systems
FCGen 1020ACS
H₂ Fuel Cell Stack

Tropical's Air Cooled TB Series Fuel Cell Systems are powered by FCGen - 1020ACS H₂ Fuel Cell Stack. That stack provided from Ballard Power Systems is modern, it provides higher reliability and runtime, great environmental benefits and simplified system design.

TECHNICAL SPECIFICATIONS

FUEL CELL SYSTEM CODE : TB-1000
TYPE : PEM (Proton Exchange Membrane)
POWER OUTPUT : 1000W
RATED CURRENT : 50A
DC OUTPUT : 12V/24V/48V/DC
BATTERY CHARGER : 12V or 24V
AC OUTPUT : 110 or 230 V/AC
HYDROGEN PURITY : 99.99%
COOLING SYSTEM : Forced Air
WEIGHT : 25 Kg
DIMENSIONS (mm): L:500 x W:350 x H:550

MAIN APPLICATIONS



Telecommunication
Surveillance & Sensing



Homes &
Remote Areas



Mobile Traffic Signals
& Remote Signalling



Motor Yachts
& Boats



Recreational Vehicles
& Caravans



Army Applications

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 Hydrogen Technologies + Fuel Cells - Research & Development Center
 Renewable Energy Sources - Nanotechnology Products
 Electric & Hydrogen Vehicles - A/C & Refrigeration Units

