

## Dantherm Instant Backup - DIB2000

### TECHNOLOGY

Dantherm Power systems are power generating solutions designed and configured to be installed in both in- or outdoor hybrid applications for telecom and related networks. The solutions can be configured as both integrated and stand-alone.



(The DBX2000 with controller)



(The PM60 for Instant Backup)

The DIB2000 uses hydrogen fuel cell technologies with fully integrated power management and various configurations possible.

The DIB2000 consists of a DBX2000 together with a Power Module (PM) that is used for starting up the Fuel cell system instead of batteries.

### WHERE TO USE INSTANT BACKUP SOLUTIONS?

The Dantherm Instant Backup (DIB) is ideal in environments with stable mains (grid), but where equipment must be protected from power outages and where business continuity demands reliable backup power. In case of mains power outage, the Power module will provide backup instantly and the fuel cell module provides support when the DC bus voltage drops.

### FEATURES

- ✦ Very low maintenance cost (site visits only required every 5 years)
- ✦ Prevents batteries from deep discharge, thereby extending life
- ✦ Very low noise, can be installed almost anywhere
- ✦ No lead pollution and no harmful substances or emissions
- ✦ Backup duration related to hydrogen availability
- ✦ Compact, modular and scalable systems for network growth
- ✦ Programmable Self-test ensures system readiness
- ✦ Floating GND – can work in both -48VDC and +48VDC
- ✦ Light weight. One module weighs less than one battery
- ✦ Fuel storage in up to three strings for hot-swap and easy monitoring

### CONFIGURATIONS

- ✦ Mounts in 19" and 23" racks, 2 or 4 post cabinets/racks
- ✦ Parallel with batteries and other modules for redundancy and higher capacity
- ✦ Can be mounted in outdoor cabinets, shelters or similar
- ✦ Easy to install on existing shelter sites

### PRODUCT CODE – DIB2000H48-B-HH

- ✦ DIB: Dantherm Instant Backup
- ✦ 2000: Nominal stack output power – End of Life
- ✦ H: Hydrogen fuelled
- ✦ 48: 48 VDC range (configurable)
  - ✦ 48 VDC DC input for standby operation
- ✦ AC input
  - ✦ A: 110 VAC
  - ✦ B: 230 VAC
- ✦ Air-flow: (Please clarify on order)
  - ✦ HH: Horizontal in – Horizontal out
  - ✦ VV: Vertical in – Vertical out
  - ✦ HV: Horizontal in – Vertical out (Optional at higher volumes)
  - ✦ VH: Vertical in – Horizontal out (Optional at higher volumes)
- ✦ Inlet filter
  - ✦ F7A



### OPTIONS

- ✦ Fuel Regulators with fittings for local thread types
- ✦ Hoses and tubing, fuel manifolds
- ✦ Hydrogen storage cabinets in various sizes
- ✦ Cold climate kit (for operation below -20°C and/or low load)

# DATA SHEET: DIB2000



## TECHNICAL DATA:

<b>DIB2000</b>			
<b>Important Note</b>	DIB requires fresh air supply and ducting of exhaust air to outside ambient. DIB can only work when equipped with Dantherm Power Valve Block and a fuel regulator supplied by or approved by Dantherm Power		
<b>System capacity</b>			
Power output	$W_e$	Continuous	1676
Voltage output	VDC	Fixed within	45 - 57
Voltage input	VAC	For Standby operation	90 - 264 / 50-60 Hz
<b>Fuel</b>			
Hydrogen purity (H <sub>2</sub> )	%	Commercial grade 3.5	Min. 99,95
Inlet Pressure	Barg	Nominal to Valve Block	5
Consumption	Nm <sup>3</sup> /kWh	Average at max. load	0,87
<b>Physical</b>			
Ambient temp.	°C	Operational (optional)	-20 (-40) - +40 (+45)
Integration cabinet temp.	°C	Operational	0 - +60
Storage temp.	°C	Weather protected	-45 - +70
Unit dimensions (DBX2000)	mm	H x W x D	355 x 446 x 628 (8U)
Weight (DBX2000)	kg	Each module	40
Ingress protection	IP-class	External to internal	55
Air flow direction		Horizontal or vertical (In-Out)	HH - VV - HV - VH
Air flow	m <sup>3</sup> /h	Exhaust to outside	200-600
<b>Backup start up time</b>	Sec.	Depends on batteries	Customer dependent
<b>Communication</b>			
Interface/System Monitoring	- -	Standard	RJ45 with TCP/IP and CAN-bus
<b>Alarms</b>			
Voltage free outputs	-	Open on fault	DB15 with 4 channels
Visual indication	-	LED's	4
<b>Interface</b>			
DC	Plug	On front panel	Anderson sbs50 blue
PM connector	Plug	On front Panel	Anderson SB50 black
AC	Plug	On front panel	IEC 320 C14
Hydrogen	Fitting	Back- (H) or under- (V) side	8 mm Tube