

BACKUP POWER SOLUTIONS FOR TELECOM AND DATA CENTER APPLICATIONS



DX2000H48 Backup Module.



Dantherm Supplied Integrated Cabinet Solution includes: DX backup module, hydrogen storage and ~40RU bay for telecom equipment, all in an outdoor rated enclosure.



Hydrogen Storage Bay holds up to 5 standard cylinders; enough for >24Hrs of runtime. As an option 8 cylinders can be stored within the room.

TECHNOLOGY

The DX-series from Dantherm Power provides Network Operators with a new option for backup power. Using the DX-modules as building blocks, complete solutions can be configured for installation in indoor or outdoor enclosures to power Telecoms Networks or Data Centers in case of an AC-power outage. The DX-modules can be configured as stand-alone backup power sources or integrated into a complete DC plant or UPS system.

DX-modules provide instant and reliable power immediately upon the loss of grid power and can replace or enhance existing conventional backup power sources or operate in hybrid with batteries. The DX-modules are air cooled and use fuel cell technology to combine hydrogen fuel with oxygen from the ambient air to create electric power cleanly and quietly.

MODES OF OPERATION

The modules operate in two modes:

- Standby mode
- Backup mode

In standby mode the DX-module monitors the mains power grid and/or the DC bus. The backup power system can optionally be supplied with AC/DC power supply providing DC power during standby.

In case of power failure the modules instantly switch from standby mode to backup mode with no interruption/delay to the load. The fuel cell starts and provides a steady DC output for as long as hydrogen fuel is supplied. Runtime is only dependent on actual load and the amount of fuel available.

FEATURES

- Immediate response to power interrupts or total power outage
- Integrated power management
- Scalable and modular configuration with precise load sharing modules in between
- Alerts/Alarms are standard
- TCP/IP remote monitoring/surveillance is standard
- No pollution and no harmful substances or emissions
- Low weight and low noise level
- Predictable and reliable performance
- Minimal maintenance
- Dantherm Power supplies high end valve block for proper gas distribution
- Added redundancy to existing backup power solutions
- Two Year Warranty

INTEGRATION

The DX-module(s) can be installed in outdoor rated cabinets or rack mounted in standard indoor racks. The fuel cell module must be supplied with fresh air providing cooling and process oxygen while exhaust air must be directed to outside ambient if the room is not properly ventilated. Dantherm Power recommends having separate ducting for air intake and exhaust. The modules can be supplied configured for either vertical or horizontal airflow.

TECHNICAL DATA

DX2000H48			
Important Note	Module can only operate with proper air interface module and hydrogen storage equipped with Dantherm Valve Block		
System capacity			
Continuous backup output	W_e	Nominal Power	1676
Voltage output	VDC	Can be fixed within (Range)	-48 (-40 – -58)
Voltage input	VAC	For standby operation	90 – 264/50-60 Hz
Fuel			
Hydrogen purity (H_2)	%	Commercial grade 3.0	Min. 99.9
Output pressure	Barg	Regulator on cylinder	5
		Valve block to module	0.4
Consumption	Nm^3/kWh	Average at max. load	0.85
Physical			
Ambient temperature	$^{\circ}C$	Operational (Std/(Opt))	-30/(-40) – +45
Internal temperature	$^{\circ}C$	Operational	-30 – +60
Storage temperature	$^{\circ}C$	Weather protected	-45 – +70
Cabinet dimensions	mm	H x W x D	355x446x628
Weight	Kg	Stand alone module	40
Ingress protection	IP-class	External to internal	55
Air flow direction		Horizontal and/or vertical	
Air flow	m^3/h	External air duct	200-600
Backup start up time	msec.	Instantly on (bridge power)	0
Lifetime	Hours	Operational hours	4000
Startup/shutdowns	Cycles	Completed cycles	1000
Communication			
Interface/system monitoring	-	Standard configuration	TCP/IP
	-	(optional)	CAN-bus
Alarms			
Voltage free signals	-	Goes open on fault	4
Visual indication	-	LED's	4
Interface:			
DC	-	On front panel	M6 studs (+ & -)
AC	-	On front panel	IEC 320
Hydrogen	-	On back side	8 mm Union