

# SPIDER-NAS

## HARDWARE SPECIFICATIONS (VERSION 1.0)



## INTRODUCTION

The Spider-NAS (Network Attached Storage) is a dedicated storage device that works with front-end modules from Crystal Instruments, including the Spider-80X, Spider-81, and Spider-DAQ. Eight high-speed data buses interface directly with each Spider front-end module. An Ethernet port is used to configure and control the Spider-NAS.

A high-performance removable Serial ATA (SATA) 2.5-inch hard disk is used as storage media. When recorded, data will be written in NTFS file format. Data is extracted from the Spider-NAS using Crystal Instruments software to transfer data to the PC. Alternatively, the SATA hard disk can be physically removed and connected to extract data to the PC.

A second SATA hard-disk can be attached to Spider-NAS. This disk can serve the same purpose as the first disk. The user can plug-in his own 2.5-inch hard-drive for use.

When the Spider-NAS is shipped from the factory, a solid state hard-drive with a capacity of 250GB is installed internally. The solid state drive performs very well in the high shock and vibration environment.

Each dedicated data port can reach a theoretical speed of 480 Mbits/second. In practice, the system can store the data simultaneously for all dynamic measurement channels at 100 kHz sampling rate enabled.

A special error-checking algorithm developed by Crystal Instruments detects and avoids any errors that may occur in the data transfer and storage.

## PRODUCT DATA

MECHANICAL PARAMETERS		
Ports	Data Ports	<ul style="list-style-type: none"> <li>8 ports</li> <li>480 Mbits/second per port</li> </ul>
	Ethernet	<ul style="list-style-type: none"> <li>1 port RJ45</li> <li>Ethernet port that supports 10, 100, and 1000 Mbit/s line speed full or half duplex and autosensing</li> </ul>
	SATA	<ul style="list-style-type: none"> <li>2 ports, one internal one external In default a 250GB SATA solid state hard-drive is installed internally</li> <li>SATA connectors that support data transfer speeds up to 3 Gbps</li> </ul>
Storage Media		<ul style="list-style-type: none"> <li>Two 2.5-inch SATA hard-drives</li> </ul>
Power		<ul style="list-style-type: none"> <li>110 – 250 VAC Input, 15 VDC output, Max Amps 3 A, Lemo connector</li> </ul>
Size (H x W x D)		<ul style="list-style-type: none"> <li>35 x 243 x 177 mm (1.38 x 9.57 x 6.97 inches)</li> </ul>
System Weight		<ul style="list-style-type: none"> <li>1.30 kg</li> </ul>
ENVIRONMENTAL RANGES		
Humidity		<ul style="list-style-type: none"> <li>Operating humidity: 0% to 95% relative humidity, non-condensing</li> </ul>
Temperature		<ul style="list-style-type: none"> <li>Operating: 0 to 60°C (32 to 140°F)</li> <li>Non-operating: -10 to 70°C (14 to 158°F)</li> </ul>
Shock		<ul style="list-style-type: none"> <li>Operating: 20 g, 6 ms half-sine</li> <li>Non-operating: 33 g, 11 ms, Half sine</li> </ul>
Vibration		<ul style="list-style-type: none"> <li>Operating: 0.5 g sine,</li> <li>0.4 grms random, 5 to 500 Hz</li> <li>Non-operating: 2.0 g sine,</li> <li>1.1 grms random, 5 to 500 Hz</li> </ul>
POWER CONSUMPTION		
System power consumption		<ul style="list-style-type: none"> <li>Average: 10.5 Watts</li> <li>Peak: 17.8 Watts</li> </ul>
Input voltage range		<ul style="list-style-type: none"> <li>10.8 – 18 VDC</li> </ul>
SAFETY CERTIFICATIONS		
Complies with the following safety certifications:		<ul style="list-style-type: none"> <li>Nemko EN60950:2000</li> <li>TUV EN60950:2000 / IEC60950:1999</li> <li>Low Voltage Directive (73/23/EEC) for CE Marking in European Union</li> </ul>
DATA STORAGE FUNCTIONS		
General Functions		<ul style="list-style-type: none"> <li>NTFS file system: Support single large data file (2 TB max)</li> <li>Data format: ASAM ODS data format</li> <li>Data point is in 32 bit single precision floating point</li> <li>Data file access: EDM, FTP, Removable disk</li> <li>Configuration Tool: EDM software from Crystal Instruments</li> </ul>
Storage Speed		<ul style="list-style-type: none"> <li>With 64 channels, each channel can reach 100 kHz sampling speed with 32 bits single precision floating point format.</li> <li>Aggregated speed is larger than 26 MB/second</li> </ul>
Management		<ul style="list-style-type: none"> <li>Wake-on LAN, Keyboard Power-on, Timer Power-on</li> <li>System power management, AC power failure recovery</li> <li>Watch Dog Timer</li> </ul>

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