

SPRITE™ i1600

16 Channel Data Acquisition Hardware



16 multiplexed inputs offer straight-forward online monitoring.

The WATCHMAN™ Online System is a custom, permanently installed vibration condition-based monitoring system to automatically test your high-value assets. With SPRITE™ data acquisition hardware and ExpertALERT™ automated diagnostic software, you have access to actionable information to keep your production up and running.

Each SPRITE device is accessed over a local area network to deliver setup information, collection commands, and transmit vibration and process data. Practically an unlimited number of SPRITE devices can be used simultaneously and managed through the WATCHMAN Online System throughout your plant, giving you near real-time access to the health of your machines. It can also integrate with portable TRIO, walk-around data collection to give you a robust maintenance program.

SPRITE is a custom engineered solution designed and installed by Azima DLI certified SPRITE experts.



WATCHMAN Online Systems™ Components:

HARDWARE COMPONENTS

SPRITE™ i1600 – A vibration and process data acquisition device which communicates using a standard Ethernet interface. It has 16 multiplexed analog inputs, which means it can be connected to as many as sixteen individual ICP accelerometers with data acquired one channel at a time.

SPRITE i1600s communicate via a standard 10BaseT Ethernet interface and support UDP/IP. Each is housed in an IP-66 rated NEMA 4 enclosure with a power supply.

SOFTWARE COMPONENTS

There are two key software components that make WATCHMAN Online Systems effective for monitoring your assets.

- **ExpertALERT™** is diagnostic software that analyzes machine vibration data, maintains historical records, and reports the findings to your team
- **ALERT Online Engine™** manages the data collection and communication on the network with configuration utilities (must be installed on same LAN as i1600)

OTHER REQUIRED COMPONENTS

- Single or triaxial sensors per machine location (multiplexed)
- Wired network connection
- System Server (physical or virtual) to host software and database

OPTIONAL COMPONENTS

- Server internet access for virtual database hosting
- OPC client software (scalar information)
- Can be combined with SPRITE i400, SPRITE i800 and TRIO Portable data acquisition devices

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TECHNICAL SPECIFICATIONS

Dynamic Inputs (Channels 1-16):

No of Channels:	16
Ranges:	+10mV to +10V. 7 ranges (prog.)
ICP Interface:	3.6mA @24Vdc, configurable per channel
Other Coupling:	AC or DC, configurable per channel
Voltage Protection:	Overvoltage and up to 2000V ESD
Bias Check:	Direct reading of ICP transducer bias voltage
Anti-Alias Filter:	Compound analog filter with roll-off better than 20th order filter with cut-off frequency related to sample rate
High Pass Filters:	Programmable 4th order with corner frequencies 0.5, 2, 10 and 100 Hz
Channel Crosstalk:	-75dB (typ.)
Amplitude Accuracy:	+2% typical passband
Harmonic Distortions:	-75dB (typ.)
Integration:	One level of hardware integration stop-band edge at 0.5Hz
Acquisition Modes:	As controlled by ExpertALERT and ALERT Online Engine: Continuous, established intervals, set times/day
Demodulation Function:	Azima DLI's proprietary Impact Demod

Triggers:

No of Channels:	4
Coupling:	5-24 VDC, isolated or non-isolated
Tachometer Speed Range:	0.01Hz-10kHz using once-per-rev (divide-by-N up to 255 available)

Processing:

ADC:	16 bit
Sampling Rate:	64Hz to 51.2kHz
Bandwidth Ranges:	0.15Hz-25Hz to 0.15Hz-20kHz
Dynamic Range:	96dB (theoretical)
Block Lengths:	256, 512, 1024, 2048, 4096, 8192, 16384 or 32768 (max length 16384 with pre-trigger)

Outputs:

Status:	4 LED's indicate system communication status
Interface Port:	RS232, 9600 baud for system configuration

Mechanical:

Protection:	NEMA 4, IP66
Enclosure:	• Standard: Powder coated mild steel • Optional: Stainless steel • Dimensions: 400 mm x 300 mm x 155 mm

Environmental:

Temperature:	-20 C to 70 C
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Power:

Power Supply:	7-12Vdc or 24Vdc, or 85-260V ac power supply (optional)
Power Consumption:	450mA approx. plus 20mA per transducer when powered from 7-12VDC, or 130mA plus 5mA per transducer when supplied from 24Vdc

Communications:

Network:	Ethernet
Medium:	10Base-T
Cable:	CAT5 recommended
Connectors:	Weidmuller terminal connectors
Speed:	10Mbps/sec
Isolation:	1000Vrms

Minimum Server Requirements:

Microsoft® Server 2008 or Server 2012 (English/US-Native Operating System)	
Physical server or virtual machine (VM)	
Free disk space:	100GB
Processors:	2 CPU, 1.8 GHz minimum
RAM:	4GB minimum
Microsoft Message Queuing enabled	
Microsoft .NET framework 4.5.1	

Note: Technical Specifications are subject to change.

EXPERIENCE THE POWER OF
WATCHMAN ONLINE SYSTEMS™
AZIMAGLOBAL.COM

Azima's WATCHMAN Solutions™ ensure plants receive results, not mere data. With online systems, it is important your data is managed properly. WATCHMAN Online Systems brings all data together into a centrally hosted data center and applies automated routines to identify anomalies to be further diagnosed and reported. Eliminate false alarms by putting rulebase intelligence and domain expertise into your WATCHMAN Online Systems.