

Horizon Distributed Acoustic Sensor

DETECTOR UNIT



FRONT PANEL VIEW



REAR PANEL VIEW

PROCESSOR UNIT



FRONT PANEL VIEW



REAR PANEL VIEW

PROCESSOR UNIT SPECIFICATIONS

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Main Processor	AIMB-701G2-00A1E CPU 96MPI7-3.4-8M11T1
Processor	Intel i7 3.4 GHz
BIOS	AMI 64 Mbit SPI
Memory: RAM	8GB
Memory	2 TB (5 & 10 km) & 8 TB (20 & 50 km models) - Solid State Drive (enquire for additional memory requirements)

GRAPHICS

Graphics Card	GeForce GTX1050TI 4G 128BIT GDDR5 PCI-E3.0
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INTERFACES

USB	Front: 2 , Rear: 4
Serial	Rear: 1
PS/2	Front: 1 (keyboard) / Rear: 2 (1 x keyboard and 1 x mouse)
HDMI / DVI / Displayport	Yes
VGA	No
Ethernet	2x connection to Horizon DU, 1x user connection (network switch / SCADA etc.) 1x reserved (remote login / maintenance)

ELECTRICAL

Input Voltage	AC 100 - 240 V
Power Consumption	300W
Power Supply Safety	UL / TUV / CB / CCC
Power Supply MTBF	100,000 hours @ 25 °C

PHYSICAL

Dimensions (W * H * D)	482 x 177 x 450 mm (19" standard rack, 4U height)
Weight	13.75 kg (19kg Shipping weight)
Shipping dimensions	600 x 330 x 565 mm
IP Rating	4
System Fan details	1 (12 cm / 77 CFM)

ENVIRONMENTAL

Temperature rating	Operating: 0° to +40 °C Storage: -20 ° to 60°C
Humidity	Operating 10 ~ 85% @ 40°C, non-condensing / Storage 10 ~ 95% @ 40°C, non-condensing
Storage Temperature	-20° to +60°C
Shock	Operating: 1Grms / Non-Operating: 2 G
Vibration (5 ~ 500 Hz)	Operating: 10 G (with 11 ms duration, half sine wave) / Non-Operating: 30 G

OPERATING SYSTEM AND SOFTWARE

Operating System	Windows Enterprise
Software	DASCM

DETECTOR UNIT SPECIFICATIONS

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Product	Horizon 5	Horizon 10	Horizon 20	Horizon 50
Range per channel	5km	10km	20km	50km
Number of channels	1 or 2 channels possible			
Ordering Part Numbers	DAS-HZ-02-05-1CH DAS-HZ-02-05-2CH	DAS-HZ-02-10-1CH DAS-HZ-02-10-2CH	DAS-HZ-02-20-1CH DAS-HZ-02-20-2CH	DAS-HZ-02-50-1CH DAS-HZ-02-50-2CH

DATA ACQUISITION

Acquisition Frequency	2kHz default - 1kHz / 2kHz / 4kHz available as standard. 10kHz / 20kHz by special request (for select Horizon Units)			
Event accuracy resolution***	1-5m	1-10m	2-10 m	5m - 10m

OPTICAL

Laser Wavelength	1550 nm
Optical Budget	12 dB @ 1550 nm
Connector Type	FC / APC
Cable type	G.652 / G.654
Laser Safety Classification	Class 1M

ELECTRICAL AND HARDWARE INTERFACES

Supply Voltage	220V AC (110V-240V AC), 50/60 Hz
Power Consumption	< 70W
Alert & Communications Protocols	MODBUS (MaxView), Email (MaxView), IEC 60870-5-104 (MaxView)
Camera Integration	Yes - camera feed integration into SSOS - ONVIF as standard - enquire for other
PSIM / SCADA Integration	Ethernet TCP/IP - Software adapter module

PHYSICAL

Rack height	3U
Dimensions (W * H * D)	487 x 405 x 131 mm
Net Weight	14 kg
IP Rating	IP40

ENVIRONMENTAL

Operating Temperature	0° to +45°C (-10° to 55°C available on request)
Operating Humidity	0 to 95% RH, Non-condensing
Storage Temperature	-45°C-80°C
Storage Humidity	0-90%

SAFETY AND COMPLIANCE

Laser Safety	IEC60825-1
CE - EMC	EMC 2014/30/EU - EN 61000-6-3:2007+A1:2011, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 61000-6-1:2007
CE - LVD	LVD 2014/35/EU - IEC 61010-1:2010, EN 61010-1:2010
CE - RoHS	Yes
FDA	FDA Ascension number 1820671-000
FCC	47CFR Part 15:2017, ANSI C63.4:2014
Safety Integrity Level	SIL1 (1oo1) SIL2 (1oo2)

*Range is dependent on the optical quality of the sensing cable route. This can be confirmed upon reviewing an OTDR trace vs the planned optical budget.

**Event classification is for buried cable mode. Using the DNN the system can be configured to adapt specific algorithms according to the environments. More information available on request

***Event detection resolution is a combination of spatial resolution and sampling resolution

Security Sensing Operating Software (SSOS)

Map view with example of alert

Alert table

Acoustic energy histogram

Waterfall display

Integration of CCTV camera

Sample Screenshot of DASC (installed on Horizon PU)

System Integration Overview

