FFT

Aura Ai-2

NETWORK SECURITY MONITORING

Aura Ai-2 detects and locates unauthorised interference and illegal tapping of your sensitive or secure fibre optic networks, in real-time, before data loss or damage can occur.

Existing fibre optic communications cables can self-monitor for intrusion and third party interference by connecting spare (dark) fibres inside each network cable to Aura Ai-2. Network cable disturbances, including removal of protective layers, attempted tapping or cable movement, will be detected by Aura Ai-2 and generate alarms.

Aura Ai-2 works by transmitting a laser beam along the sensing fibres and analysing return signals to detect and locate interference or intrusion disturbances. The region of active detection is defined by software zoning.

False alarms due to disturbances along the lead-in cable between the Aura Ai-2 controller and the cable to be protected are avoided by making this section of cable insensitive to vibration.

CYBERSECURITY ASSURANCE

Aura Ai-2 is tested to Cybersecurity standards based upon National Institute of Standards & Technology (NIST) cybersecurity framework combined with Underwriters Laboratories (UL) 2900 cybersecurity standards.

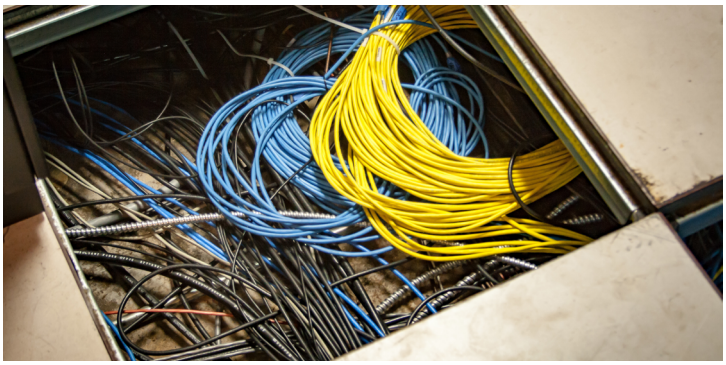
INDUSTRY LEADING PERFORMANCE

Aura Ai-2's superior signal and data processing combined with intrusion ultra-low noise high-sensitivity detection electronics means disturbance location can be pinpointed to within ± 5m (17ft) of the event regardless of the size of the cable network.

Aura Ai-2 leverages over 15 years of real world experience in fibre optic intrusion detection, and can operate in a range of environments. Advanced signal processing techniques are used to identify and eliminate environmental nuisance alarms such as building noise, vehicle traffic and weather effects.

With industry leading real-time signal processing, discrimination and classification techniques, Aura Ai-2 achieves the world's best nuisance handling capability while maintaining maximum sensitivity to intrusion events.

Aura Ai-2's decision making software intelligently analyses fibre optic laser measurements and automatically adjusts controller settings to optimize sensitivity for reduced nuisance alarms and increased probability of detection.



KEY BENEFITS

- No impact on data throughput—unlike encryption.
- Does not process or 'see' the data being transmitted, and cannot be used as a 'trojan' to redirect confidential data.
- 24/7 monitoring of illegal data tapping, unauthorised access, or physical tampering enables security personnel to quickly respond so that data loss or network downtime is minimised.
- A cost-effective solution as only one controller is required for point to point up to 55km (35 miles) long. For ring networks, up to 110km (70 miles) can be protected. Aura Ai-2 can be used on your existing network infrastructure and cable.
- Aura Ai-2 is easy to install and cost effective to maintain.
- Aura Ai-2 delivers the highest levels of detection as well as an extremely low Nuisance Alarm Rate due to the intelligent event discrimination and analysis utilised.

KEY FEATURES

- Detects unauthorised interference and illegal tapping
- High sensitivity fibre optic sensing up to 110km (70 miles)
- Fibre optic cable length up to 55km (35 miles) per channel
- Intrusion detection to within ±5m (17ft)
- Real time simultaneous detection on two channels
- Artificial intelligence algorithms
- Improved Probability Of Detection (POD)
- Reduced nuisance alarms
- No electronics or power in the field
- Immune to EMI/RFI and lightning
- Intrinsically Safe
- Compact (4RU) state-of-the-art opto-electronics
- Lower total cost of ownership versus alternative technologies

SPECIFICATIONS

Fibre Optic Cable	Single fibre for each channel (utilising existing cable where compatible) in black UV stabilized single-mode fibre optic cable
Detection Channels	Two channels of simultaneous real time independent intrusion detection
Sensing Technology	Coherent Optical Time Domain Reflectometer (COTDR)
Operating Life	>10 years (dependent on operating environment and regular maintenance)
Artificial Intelligence (Ai)	Intelligent intrusion detection algorithms optimize sensitivity and probability of detection, reducing nuisance alarms by automatically adapting to changing conditions and dynamically adjusting controller settings
Detection Resolution	0.5 m (1.6 ft) between detection points along sensing fibre (2000 measurements per km of sensing fibre)
Location Accuracy	To within ±5 m (17 ft) dependent on cable containment
Sensor Sections	Independently software configurable sensor sections (detection zones)
Operating Humidity / Temperature Range	FFT Fibre Optic Cables: -55°C to +85°C (-67°F to +185°F) for cable across complete humidity range Controller: +5°C to +45°C (+41°F to +113°F), 5% to 80% RH non-condensing
Maximum Fibre Loss	Buried: < 13.5 dB typical max distance ~ 55km /ch)
System Interface	TCP/IP (Ethernet), relay closures (via FFT CAMS connected PLC or ADAM module)
Inputs and Outputs	2 x E2000/APC single mode optical connectors (back, for sensing cables) 2 x USB2 ports (on back) 3 x USB3 ports (two on front, one on back) 1 x VGA port (on back) 2 x Ethernet ports (10/100/1000 Mbps, on back)
Data Storage	2 x 256GB internal SSD in RAID-1 configuration 1 x 3TB internal 7200 rpm HDD (hard disk drive)
Power Supply	Dual (for redundancy) power supplies. Hot swappable (one power supply can be removed/replaced while controller continues operating) 110 to 240 Vac, 47 to 63 Hz, auto ranging
Power Consumption	280 W typical, 380 W max
Dimensions / Rack Clearance / Weight	4U high in 19" rack module: 175 x 483 x 553 mm (6.9" x 19" x 21.7"), Minimum clearance - 30 mm (1.2") at controller front, 60 mm (2.4") at back, 24 kg (52.9 lb)
Laser Safety Class	Class 1 (IEC 60825-1, 21CFR1040.10), shutoff: key switch on front panel
MTBF	> 50,000 hours
Warranty	2 years, with optional per year warranty extension available
Regulatory Certification	ISO9001 accredited design and manufacturing CE certified (EN60950-1 safety, EC Low Voltage Directive 2006/95/EC, CISPR 22-EN55022 emissions, EN 50130-4 electrostatic, radiated and conduced immunity, EN61000 EMC and RoHS2 2011/65/EU); FCC Part 15B Class B compliant
Cyber Assurance	Cyber penetration tested to National Institute of Standards & Technology (NIST) cybersecurity framework and Underwriters Laboratories (UL) 2900 cybersecurity standards

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