

High performance long distance pipeline protection

Pinpointing the location of
TPI or illegal activities on
high risk oil, gas, chemical
and water pipelines

 **FFT
Secure Pipe**

FFT Secure Pipe™ detects and locates intrusions and Third Party Interference anywhere along thousands of kilometers of buried pipeline, in realtime, before actual pipeline damage occurs.

FFT Secure Pipe uses a fiber optic cable installed above the pipeline as the sensor, detecting and pinpointing intrusion location to within between 25 meters (80 feet) for intrusions close to the sensing cable up to 150 meters (500 feet) for intrusion activity away from the cable.

FFT's industry leading advanced signal processing minimises nuisance alarms, without compromising the sensitivity of the system.

FFT world leaders in fiber optic intrusion detection

www.fftsecurity.com



**FUTURE FIBRE
TECHNOLOGIES**

FFT Secure Pipe is the most proven early warning pipeline security monitoring system available, detecting Third Party Interference (TPI), tampering, and illegal tapping attempts to within 25 meters (80 feet) when approaching the sensor cable and 150 meters (500 feet) at the surface along buried pipelines from just a few miles to thousands of miles in length.

The simple installation, reliability and maintenance free operation delivers a low Total Cost of Ownership (TCO).

Key Benefits

- » Simple installation and virtually maintenance free operation delivers a cost effective yet flexible pipeline protection solution without compromising on performance.
- » Detect digging activities and vehicle movements occurring above the pipeline—before the pipeline is breached or damaged.
- » Know exactly where to dispatch your security and maintenance staff to ensure rapid response.
- » Each controller protects up to 40km (25 miles) of pipeline. Using FFT supplied and already installed fiber optic cable.
- » Powerful interfacing options through FFT CAMS™ to other FFT products, plus third party devices and systems.
- » Peace of mind with FFT's two year warranty backed up by a global network of offices providing support in more than 55 countries.

FFT Secure Pipe is the ultimate fiber optic pipeline intrusion detection and location system

About FFT

Future Fibre Technologies (FFT) is the world leader in fiber optic security systems, using our advanced technology solutions to detect intrusion and interference at perimeters, on oil and gas pipelines, and on sensitive data communications cables.

With more than 1,000 intrusion detection systems located around the world, including some of the most hostile environments on the planet, FFT has the proven real-world experience to deliver detection systems that are, quite simply, the world's most reliable and effective solutions for securing high value assets and critical infrastructure.

Our business is totally focused on the security industry.

Our team is absolutely committed to:

- » Improving the value we deliver to you with consistently high quality products.
- » Helping you to be successful, being easy to do business with.
- » Being dependable, diligent and responsive to your needs.
- » Conducting business ethically with high integrity.



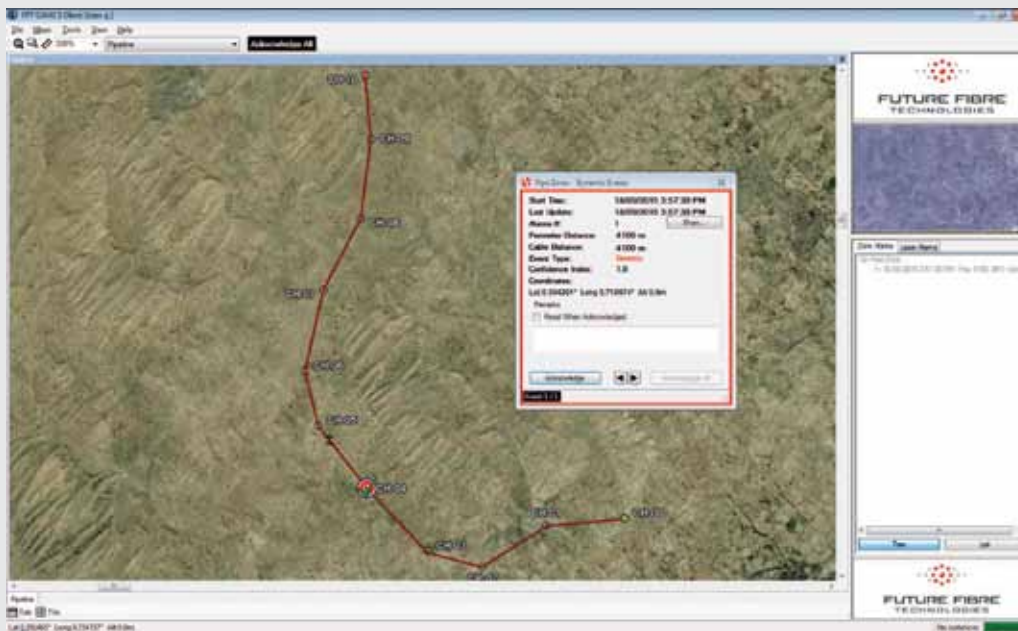
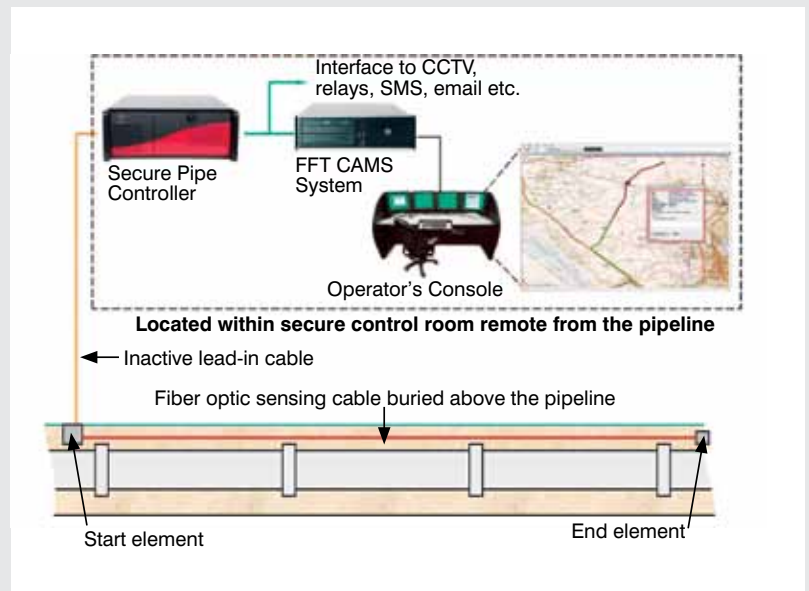
How It Works

Event analysis is used to identify different events within the detected signal, differentiating between potential intrusions and background noise, removing those nuisance events while retaining legitimate intrusion information.

FFT Secure Pipe delivers the precise information your security staff need, combined with the ability to interface with and activate CCTV camera systems, lighting, SCADA, plus a broad range of external devices and systems.

Connecting Secure Pipe to FFT CAMS, the location of an intrusion along with the GPS co-ordinates is instantly displayed onto an overlay map and the event logged to a secure database.

FFT CAMS is available in a range of languages and can be used to interface FFT Secure Pipe to security cameras, lighting, mobile devices, emails, text messages, and to more than 40 different security management systems and other security devices.



- Provides valuable real-time warning of Third Party Interference (TPI) activities
- A single system protects up to 40km (25 miles) of sensor cable
- Locate intrusions to within 25 meters to 150 meters (80 feet to 500 feet)
- Low total cost of ownership (TCO)
- No electronics or power in the field—intrinsically safe
- Two year warranty

FFT Secure Pipe Specifications

Fiber Optic Sensor	Can use existing dark single mode fibers if suitable, or FFT's custom single mode fiber optic sensor cable. Expected life > 20 years.
Sensing Configuration	Distributed sensor with up to 40km or 25 miles of sensor cable protected per controller, total power budget of 25dB. Multiple systems can be networked to protect longer pipelines—up to thousands of kilometers.
Location Accuracy	Within 25 meters (80 feet) for close activity, up to within 150 meters (500 feet) for detecting activity away from the sensor cable.
Zone Length & Number	Infinitely variable 'Virtual Zones' are created in the FFT CAMS software to suit specific site requirements.
Operating Temperature Range	FFT Sensor Cables: -55°C to +70°C (-67°F to +160°F) Controller (head end): 0°C to +45°C (32°F to +113°F)
Controller Dimensions/Weight	177mm H x 482mm W x 497mm D (7.0"H x 19.0"W x 19.6"D) 19" rack mounted, 4U high, weight 24kg (53lbs)
Electrical Specifications	Input voltage 110–240V AC, 50–60Hz, auto ranging, 148W consumption, internal redundant power supplies. Optional 48V DC available. Note: All field-installed components are passive and require no power, communications, or electronics on the pipeline.
System Interface	Interface (via TCP/IP and FFT CAMS) to more than 40 security, video and access control management systems and to a wide range of devices including security cameras, lighting, PLCs, SNMP, email and text messaging. Optional dry contacts.
Warranty	Comprehensive two year warranty with ongoing warranty extension program available for the life of the product.
Seasonal Calibration	No seasonal calibration or adjustments required.
Regulatory Certification	CE certified, FCC Part 15 subpart B Class B.

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