



TRAX

Intelligent Pipeline
Technology

Integrity, Repair & Maintenance

Products & Services



About

Originally established as Online Electronics in 1996, IK Trax is now an independent company, part of IK Group Worldwide, an engineering powerhouse that delivers brilliant engineering for the most complex challenges in the oil & gas industry.

With over 25 years of expertise and a successful history, IK Trax has a proven track record in designing and manufacturing pipeline pig locating and signalling equipment, as well as advanced pipeline data logging and testing systems, guaranteeing our clients total assurance in their operations.

Pig Signalling

IK Trax's range of non-intrusive pig signallers accurately detect, signal and log the passage of pipeline pigs at critical points along pipelines onshore, offshore and subsea. Non-intrusive signallers can be installed quickly and easily to the pipeline. They can also be removed without difficulty if maintenance is required, eliminating the need to suspend production and avoid significant costs as a result.

Magnetic Pig Signallers

IK Trax's range of compact magnetic signallers detect pigs in any pipeline medium by detecting a change in the magnetic field as the pig passes beneath the sensor. A subsea magnetic signaller rated to 3000m is also available.

Features and benefits:

- Graphical display and high-brightness LED
- ATEX, IECEx, UL and CSA-certified models available
- Acoustic link option allowing the vessel to "listen" for pig receipt from the launch site (subsea version only)
- Multiple communication options including local indication and remote signalling
- Up to 100 logged events
- Single control button and intuitive menu system
- Main housing can be mounted remotely for use on buried pipelines or where access is limited.



Ultrasonic & Acoustic Pig Signallers

The ID5000 Active Pig Signaller is a dual functionality pig unit, integrating both signalling and location confirmation in liquid pipelines. By precisely determining the pig's location, you can minimise downtime and mitigate the risk of a valve being closed upon the pig.

The ID5001 and ID5002 Passive Signallers signal the passage of pig in any medium. Dedicated software allows you to adjust parameters from the control room and provides a comprehensive view of the sensor readings.

Features and benefits:

- No requirement for pig to be carrying magnets or transmitters
- Graphical display and high-brightness LEDs
- ATEX-certified and intrinsically safe models available
- Local indication and remote signalling options
- Up to 100 logged events
- Single control button and intuitive menu system
- Main housing can be mounted remotely from the sensor for use on buried pipelines or where access is limited





Pig Tracking & Locating

Routine pigging can present several challenges and the risk of a pig becoming lost or stuck should always be considered. Until located, lost or stuck pigs can result in considerable downtime and significant extra expense.

Electromagnetic Transmitters

Electromagnetic(EM) transmitters allow for precise validation of a stuck pig's location and as a contingency method of confirming the launch and receipt of pipeline pigs.

IK Trax provides a wide range of ATEX and IECEx-certified transmitters to suit all pipeline sizes. An EM transmitter can be located to within a few centimetres, facilitating the pig locating process a reducing downtime.

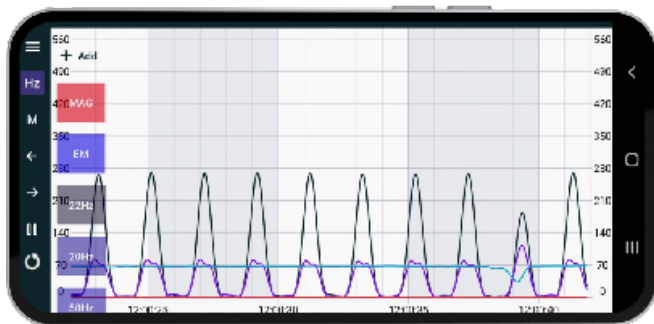
Our intuitive Config Apps allow parameters such as frequency and pulse rate to be modified on-site to suit your project requirements.



Electromagnetic Receivers

IK Trax's EMRx Multi-Frequency Receivers are used to locate and track pigs fitted with electromagnetic transmitters and/or magnets. They are designed for simple operation with one control carrying out all functions. Onshore and Subsea units are available as well as an Ex version which can be used in hazardous areas.

EMRx Receivers permit the locating of transmitters even within very heavy walled launchers and receivers, pipeline bundles or Pipe-in-Pipe.



Electromagnetic Receiver Applications

IK Trax's user-friendly EMRx Bluetooth and Windows Applications can be used in conjunction with any EMRx Receiver. They provide a graphical display of the signal, facilitating the pig locating and tracking process. They also allow advanced functionality such as tracking six colour-coded frequencies, audio output, data logging and the ability to mark points of interest. Screenshots and export functions allow for further analysis, reporting or sharing.

Features and benefits:

- Specialist operators are not required resulting in less costs than other tracking & location options
- Self-regulation ensures the transmitter signal strength is constant over the battery lifetime.
- The transmitter can be adapted to become the pig body by fitting pig flanges, increasing the signal considerably.
- Transmitter and receiver parameters can be modified by the user without the need to return to manufacturer.



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Blackburn Business Park, Woodburn
Road Aberdeen, AB21 0PS

Maximise pipeline performance. Minimise risks.

Ensuring the optimal efficiency of your pipeline operations is our top priority. Our range of intelligent products is perfectly tailored to suit diverse applications onshore, offshore and subsea.

We utilise a variety of technologies to assist our clients throughout the entire lifecycle of a pipeline. To find out more about the complete range of products offered by IK Trax please visit our website or contact us directly to discuss how we can assist.

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Non-Intrusive
Pig Signallers



About

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With over 25 years of expertise and a successful history, IK Trax have a proven track record in designing and manufacturing pipeline pig locating and signalling equipment, as well as advanced pipeline data logging and testing systems, guaranteeing our clients total assurance in their operations.

Our Non-Intrusive signallers offer several levels of hazardous area approvals and can be installed onshore or offshore. Our signaller certification includes Group IIC, making them hydrogen-ready.



Magnetic Non-Intrusive Signallers

Compact magnetic signallers detect magnetic pigs in any pipeline medium by detecting a change in the magnetic field as the pig passes beneath the sensor. They are designed to accommodate thick pipeline walls, along with low and high-speed pig applications.

Magnetic pig signallers have no location restrictions. They are suitable for any pipe size and can be installed on a major barrel. The magnetic sensor can be supplied on a cable up to 10m long for use on buried pipelines or where access is limited.

4001D MAGSIG®

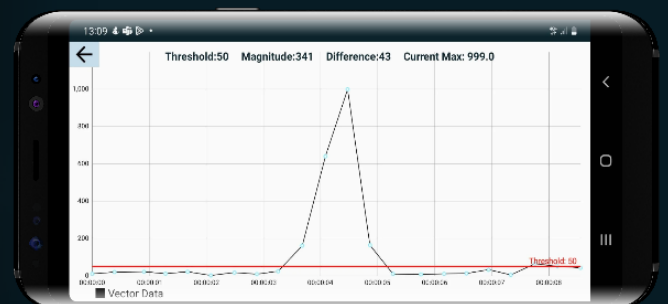
The 4001D MAGSIG® is ATEX and IECEx certified and is designed for effortless operation. It features a user-friendly interface allowing you to receive pig passage data and easily navigate and control directly from the display.

Advanced Survey Mode provides a live graphical representation of gauss readings ensuring precise monitoring and analysis.

4003 MAGSIG®

The 4003 is ATEX, IECEx, UL and CSA certified and is designed to enhance operational flexibility.

With a unique Bluetooth App, you can view real-time pig passages and modify settings directly on your phone or tablet without having to enter a potentially hazardous zone. Alternatively, you can utilise one of the many remote communication options to receive pig passage data such as via the SCADA system, LoRaWAN or by satellite.



2-Stage Detection Algorithm

IK Trax's non-intrusive magnetic signallers use a 2-stage detection algorithm which provides added assurance that a pig has safely passed a location. This can be critical to prevent a valve from being closed on a pig or to minimise the time spent identifying the pig location.

Upon reaching the pre-set threshold, the unit displays "PIG APPROACH" to show the pig approaching or within detection range. The unit signals "PIG PASSED" only when the second detection criteria is met, specifically when the flux value drops by a set amount.

The user can review all logged events and differentiate between the pig safely passing the signaller and the pig potentially stalling by reviewing the accompanying graphical data.

Onshore and Topside Remote Signalling and Communication Options

There are several available options for remote pig passage signalling:

- DPDT (VFC) dry relay
- 4-20mA
- Satellite communication
- LoRa/LoRaWAN radio transmission.
- Bluetooth and RS485 MODBUS permits two-way communication for remote programming and data download.

Please contact IK Trax to discuss your specific remote signalling and communication needs.

Ultrasonic and Acoustic Signallers

Ultrasonic and Acoustic signallers confirm the passage of any pig without the need for magnets or transmitters. Active Ultrasonic Signallers send a pulse through the pipe wall and detect a reflection when the pipeline is liquid filled. A pig passage is signalled when the signal path is disturbed. Passive Acoustic Signallers utilise advanced sensors to detect the distinctive sound of the pig within the pipeline.

ID5000A (Liquid Lines)

The ID5000A is ATEX certified and is a dual functionality unit, integrating both pig signalling and location confirmation. By precisely determining the pig's location, you can minimise downtime and mitigate the risk of a valve being closed upon the pig. The ID5000A can also be configured to ignore debris and small objects, reducing the risk of false detections.



ID5001P and ID5002P (Gas, Multiphase and Liquid Lines)

The ID5001P is ATEX and IECEx certified and provides detection across all pipeline mediums. Pig passages can be viewed in real-time on the graphical display or you can monitor remotely. Our dedicated software allows you to adjust parameters from the control room and provides a comprehensive view of the sensor readings, offering a deeper understanding of the principle of operation.

The ID5002P shares the same features as the ID5001P and is Intrinsically Safe for use in Zone 0 environments.





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Pre-Commissioning
Assurance
Products & Services



About

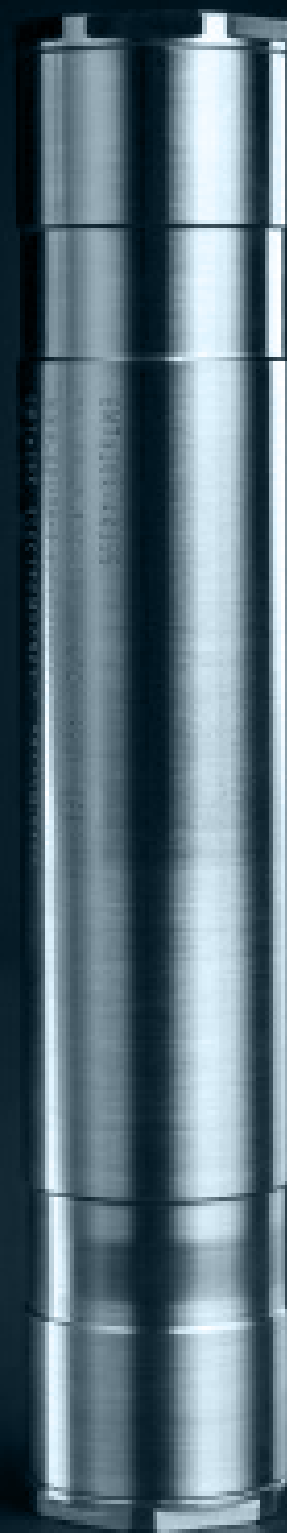
With over 25 years of expertise and a successful history, IK Trax have a proven track record in designing and manufacturing pipeline pig locating and signalling equipment, as well as advanced pipeline data logging and testing systems, guaranteeing our clients total assurance in their operations.

Efficiently transitioning from cleaning and gauging to hydrotesting and dewatering during pipeline pre-commissioning is crucial for minimising costs and keeping projects on schedule.

Accurate pig tracking and locating is essential for ensuring smooth and efficient pigging operations, particularly in subsea pipelines. Without it, locating a stalled pig can be time-consuming, leading to unplanned downtime and increased project costs. It can also provide operational confidence by quickly confirming that a pig has reached its expected location, such as the pig receiver.

Alongside pig tracking and signalling, our data logging and testing solutions play a crucial role in streamlining the pipeline pre-commissioning process. They provide live data, assuring operators that they can proceed to the next stage. These solutions include pipeline gauging data systems, monitoring of key parameters during the hydrotest and pipeline conditioning assurance in real-time.

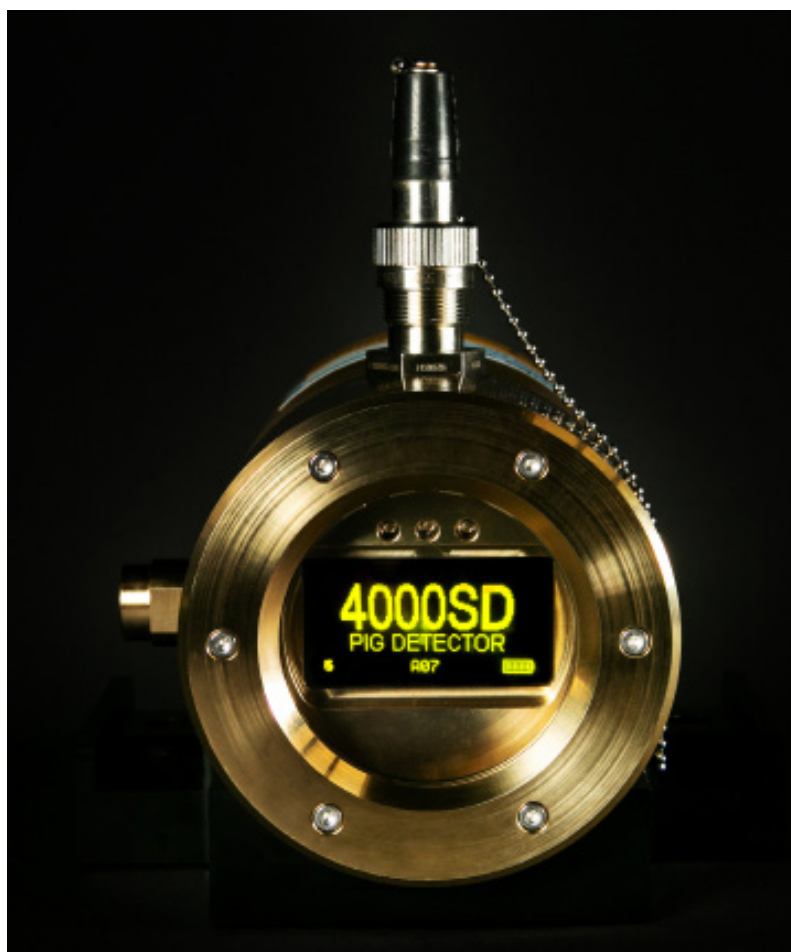
By integrating pig locating, signalling and pipeline data logging systems, IK Trax offers a comprehensive solution that significantly enhances the efficiency and accuracy of pipeline pre-commissioning operations. Our solutions are designed to meet the unique challenges of the pipeline industry, ensuring that your projects are completed on time, within budget and with the highest level of assurance.



Intelligent Pipeline
Technology

Magnetic Non-Intrusive Signallers

Magnetic Non-Intrusive Signallers confirm the successful launch and receipt of magnetic pigs and confirm pig passage at critical points along the pipeline. They can be installed quickly and easily to the pipeline and require minimal setup. All signallers provide local indication of pig passage via a graphical display and high-brightness LEDs. Magnetic signallers can be installed on pipelines of any size and carrying any medium.



Designed for Temporary Installation

4001D MAGSIG® TOPSIDE

The 4001D MAGSIG® is ATEX and IECEx certified meaning it can be installed in hazardous areas, for example on platforms. The 4001D is a user-friendly device with an intuitive display that communicates pig passage data. The user can easily navigate and control the unit directly from the display.

4000SD SUBSEA

The 4000SD is a compact, self-contained, magnetic pig signaller which is suitable for harsh subsea applications and has an operating depth of 3,000m. The 4000SD can be deployed by a diver or an ROV and remote signalling can be provided with the addition of an Acoustic Link or Strobe.

Features and benefits:

- Up to 99 logged events
- Graphical display and high-brightness LED
- Events can be viewed locally and reviewed later via the display
- Single control button and intuitive menu system
- Quick and easy setup
- Versatile

Designed for Permanent Installation

4004S SUBSEA

Unlike traditional subsea signallers, the 4004S is designed for permanent installation on subsea pipelines and can be externally powered through a subsea cable connected to a topside control system. The 4004S can be easily installed and removed by divers with a bespoke clamp system. All metal components, including the clamp assembly, are made from super duplex stainless steel – highly resistant to corrosion in subsea environments – ensuring durability and reliability for long-term operation.



Electromagnetic Pig Locating

Electromagnetic transmitter and receiver systems enable quick and accurate locating of a pipeline pig in a topside or subsea pipeline carrying any medium. They can also be used as a contingency method of confirming launch and receipt. Electromagnetic technology is suitable not only for standard unburied pipelines but also for buried or trenched pipelines, pipeline bundles, and pipe-in-pipe systems.

Electromagnetic Transmitters

Pipeline pigs can be fitted with electromagnetic transmitters, enabling accurate verification of their location. IK Trax provides a wide range of ATEX and IECEx-certified transmitters to suit all pipeline sizes.

An electromagnetic transmitter can be located to within a few centimetres. This reduces vessel and operational downtime by facilitating the process of locating a stalled pig or confirming if a pig has left the launcher or been successfully received.

Battery life can be conserved by using a Pressure Switch, Water or Magnetic Activation Endcap. This means that pigs can be loaded in advance of the pig run without depleting battery life.



Electromagnetic Config App

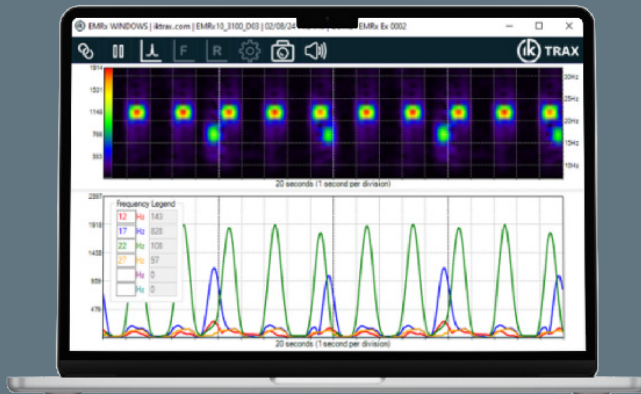
Our IK Trax Config Bluetooth and Windows Apps allow parameters such as frequency and pulse rate to be modified on-site to suit your project requirements. The app will also provide an estimated battery life under ambient temperature conditions based on your selected pulse rates and transmit power level. This enables you to configure these parameters to achieve the optimal balance between power and battery life.

Electromagnetic Receivers

IK Trax's EMRx Multi-Frequency Receivers are used to locate and track pigs fitted with electromagnetic transmitters and/or magnets. They are designed for simple operation with one control carrying out all functions.

Both Onshore and Subsea options are offered, along with an ATEX and IECEx Zone 0 certified Receiver. The EMRx Subsea includes the option to relay the received signal back to the surface via ROV umbilical using RS485 allowing it to be interpreted topside.

EMRx Receivers permit the locating of transmitters even within very heavy walled launchers and receivers, pipeline bundles or Pipe-in-Pipe.



Electromagnetic Receiver Applications

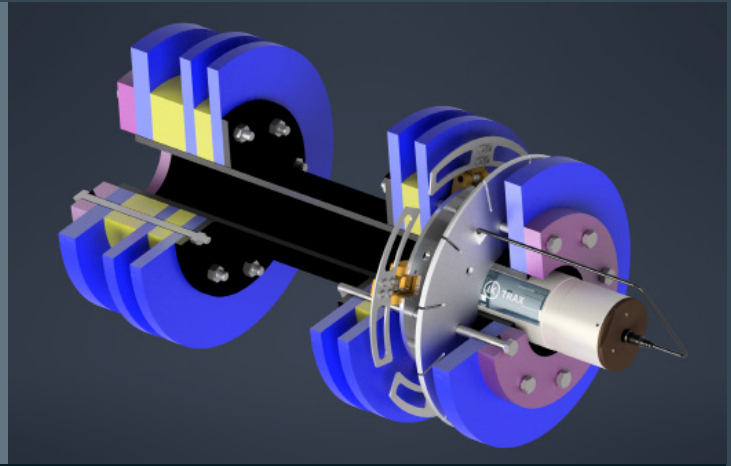
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Features and benefits

- EM transmitters have a detectable null spot, providing precise detection
- Full range of units to fit all pipeline sizes
- Self-regulation ensures the transmitter signal strength is constant over the battery lifetime
- Several advantages over Radioactive Isotopes:
 - Significantly less expensive than using Radioactive Isotopes
 - ATEX certification eliminates the need for special permits
 - No shipping restrictions associated with hazardous radioactive materials
 - Does not require specialised operators or equipment, making deployment simpler and more efficient
- Transmitter and receiver parameters can be modified by the user without the need to return to the manufacturer
- Titanium transmitter housings designed for high-pressure applications are available

Datalogging & Testing

IK Trax's data logging and testing equipment remotely records and communicates data at different phases of the pipeline pre-commissioning process. This allows the support vessel to be available for other tasks.



Gauging Run Integrity Data (GRID®)

The GRID® system offers a cost-effective solution for identifying the presence of defects in subsea pipelines. This eliminates the need for pig recovery after a successful gauging run.

A pig fitted with a GRID® transmitter and gauge plate is run through the line. The transmitter monitors the condition of the gauge plate and reports status remotely via a Pass or Fail pulse rate.

Single-Hit System

The single-hit GRID® system features a standard gauge plate and reports the status of the first event.

Multi-Hit System

The multi-hit GRID® system includes a gauge plate with resettable paddles for multiple activations. It can also be reused on future gauging runs if required.

Features and benefits:

- Avoid the added expense and lengthy process of calliper pig runs
- Transmitters can be configured with a pressure switch that activates the system once the pipeline pressure exceeds a set threshold. This allows the system to be installed inside a wet pipeline at atmospheric pressure ahead of the required activation date
- The system is designed to be compatible with pipelines 6 inches in diameter and larger, making it a versatile solution for a wide range of pipeline sizes

MEG ARTS®

MEG ARTS® is a system with a proven track record in providing highly reliable information on the composition of MEG and other chemicals received subsea during pipeline conditioning operations.

The flowing MEG is analysed for conformity with project purity, dryness or hydrate suppression requirements. Values of density, pressure and temperature are logged and displayed on a high-visibility OLED display. Up to 7 samples are captured for recovery to the surface to confirm composition.



Features and benefits

- Pipeline conditioning assured through real-time and logged data and physical sampling
- Can provide a graphical summary of pipeline conditioning operation from downloaded data
- Automatic sampling eliminates the need for a vessel at, or transit to, receipt location resulting in significant savings in vessel time and costs
- Automatic samples can be based on density value or on each selected pig passage when used with a subsea pig signaller
- Optional ROV sampling allows for multiple samples from a single switch meaning the ROV does not need to relocate to different valves
- Samples can be captured from specified train positions
- Removal of industry reliance on theoretical calculations
- Rated to 3000m



LOOP

The Versatile Subsea Data Hub

Sensor Options

- Pressure
- Differential Pressure
- Temperature
- Shock/Vibration
- Chemical Tank Level
- Flow
- Conductivity
- Salinity

Loop is a compact, self-contained subsea data hub designed to provide real-time insights into subsea operations. Capable of integrating up to 12 external sensors, it logs and displays key parameters such as pressure, temperature and flow.

With an optical modem, Loop enables efficient, non-intrusive data retrieval. Collected data is transmitted to the surface, where it is presented in clear, graphical formats for detailed analysis.

Designed for ease of installation, Loop features minimal cabling and connections, reducing operational risk and ensuring dependable performance in subsea environments. Its versatility makes it suitable for a wide range of applications, offering users the flexibility to tailor its capabilities to specific operational needs.

6001SD

The 6001SD Temperature and Pressure Subsea Logger is a compact, self-contained, unit which logs and displays readings from internal digital pressure and temperature sensors during the hydrotest. Users can input their own testing parameters and upon meeting your criteria, the unit instantly displays a "PASS" confirmation. This enables operators to make informed decisions without having to recover the unit.



Features and benefits

- Enables ROV, vessel or diver to perform associated tasks in parallel resulting in accelerated completion of work
- High visibility OLED display
- Can be interfaced with an acoustic alarm, data transducer or strobe for remote confirmation when specific data points are met
- Compact, self-contained with minimal connections and cabling resulting in easy installation
- All functions can be carried out using a single control button and intuitive menu system
- Rated to 3000m



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We benefit from an in-house R&D team with many years of experience in various disciplines. This gives us the capability to undertake projects incorporating custom designs and the flexibility to modify existing products to suit client and project-specific requirements. To find out more about the complete range of products offered by IK Trax please visit our website or contact us directly to discuss how we can assist.

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