



Maxius User Manual



Focusing on the Future

Scanprobe Techniques Limited



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Figure 1 - Maxius Crawler System

Introduction

The Scanprobe Techniques Limited Maxius Crawler Pipeline Inspection System is a fully integrated CCTV pipeline survey and inspection solution, purpose-built for deployment in non-hazardous environments. Designed with versatility and performance in mind, the system is fully compatible with the X-Range Tablet and mina application.



Note

The Maxius System is not suitable for use in environments with potential exposure to firedamp or any hazardous locations where explosive atmospheres may be present.



Symbols

Throughout this document, symbols have been used to highlight points to note.

**Warning:**

This symbol highlights risks where death or injury may occur.

**Caution:**

This symbol highlights risks where damage to property or to the Maxius System could occur.

**Maintenance:**

This symbol highlights maintenance and cleaning instructions.

**Note**

The symbol highlights additional information that maybe relevant to the current topic.



About This Manual

This User Manual provides essential instructions and important information that must be followed when operating the **Maxius** System. It details key user procedures, routine maintenance requirements, and guidance on the correct setup, operation, and functionality of the system during pipeline surveying and inspection activities. Following the procedures outlined in this manual is critical to ensuring the safe, effective, and reliable use of the X-Range Systems.

Please keep this document in a safe place for future reference.

 Warning:

Prior to operating the **Maxius** System, it is imperative to thoroughly read and fully understand the contents of this user manual. This manual provides critical information, safety warnings, and operational guidelines designed to mitigate risks, enhance system reliability, and prolong the lifespan of the equipment and its components. Adherence to all instructions and observance of all safety notices is essential to ensure user safety and to prevent potential damage to the system.

 Note

A digital copy of this and all other user manuals are available on the Scanprobe website (www.scanprobe.com). The product label also provides information on applicable compliance standards and power specifications.

Safety Instructions

This chapter illustrates the safety requirements that should always be adhered to when operating or maintaining any product purchased from Scanprobe Techniques Limited or one of their authorised agents. Please take the time to read and understand all the instructions within this document.

 Warning: Risk of injury due to electric shock:

When using electrical equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

 Warning: Risk of injury or damage:

Do not use or charge an X-Range Tablet with a damaged or an exposed battery pack.

 Warning: Risk of damage to eyes and eyesight:

X-Range Systems feature bright LED illumination on the camera head which may cause damage to the eyes or to eyesight when fully illuminated. Do not look directly at them or point them at other people's eyes when illuminated.

Safety Instructions for the Maxius System

To ensure safe and effective operation of the Maxius System, the following safety guidelines must be strictly observed:



- **Visual Inspection:** Prior to each use, conduct a thorough visual inspection of all system components, including cables and connectors. Do not operate the system if any parts are damaged. All damaged components must be repaired or replaced before use.
- **Manual Handling:** Always follow approved safe lifting practices when handling or transporting any part of the system to avoid personal injury or equipment damage.
- **Power/Charging:** Use only the power supply and cables provided with the system, or those supplied by Scanprobe Techniques Limited authorised distributors. The use of unapproved equipment may result in damage or pose a safety risk.
- **Mains Operation:** The mains power adaptor included with the system is designed strictly for indoor use. Do not attempt to operate or charge the unit from an outdoor mains power source.
- **Health and Safety:** When operating in foul sewer systems or similar environments, users may be exposed to biological hazards. Always wear appropriate personal protective equipment (PPE) and adhere to relevant health and safety protocols to minimise the risk of infection or contamination.
- **Maintenance:** Ensure all connectors, ports, and interface points are kept clean and free from dust, debris, and moisture to maintain optimal performance and prevent damage.
- **Cable Integrity:** Immediately replace any cables that show signs of wear, damage, or malfunction to prevent system failure or electrical hazards.

Compliance with these safety instructions is essential for protecting the operator, maintaining system integrity, and ensuring reliable operation in the field.

General Safety Precautions

Always maintain situational awareness when operating an X-Range System and always remain attentive to your surroundings. Ensure appropriate personal protective equipment (PPE) is worn, and that the correct tools, warning signs, and physical barriers are in place to safeguard both the operator and others in the vicinity.

To minimise the risk of injury or equipment damage, all operators and maintenance personnel must thoroughly read and understand this user manual prior to operating the system, replacing accessories, or conducting any maintenance procedures.

The **Maxius** System should be carefully inspected for signs of damage or wear both before and after each use. Any required cleaning, servicing, or repairs must be carried out promptly to maintain safe and effective operation. Use of the system is strictly limited to trained and competent personnel.

Always adhere to the procedures outlined in this manual and ensure the document is readily accessible for reference during operation.



Intended Use

The **Maxius Pipeline Inspection Crawler** is a CCTV inspection system built for surveying and maintaining a wide range of pipeline networks. It can be used in pipes from 150 mm lined pipework up to 600 mm in diameter as standard, making it well suited to commercial and industrial environments where a clear visual check is needed to locate blockages and assess pipe condition.

Please note that Maxius Crawlers are **not** ATEX-certified. They must not be used in hazardous areas where there is a risk of explosion from flammable gases, vapours or dust. For safe and reliable operation, the system should only be used in suitable, non-hazardous environments.

Using the equipment outside of its intended purpose is considered misuse. The manufacturer cannot accept responsibility for damage, faults or any resulting warranty or liability claims where the system has been used incorrectly or in unsuitable conditions.



Warning:

The Maxius System is not intended for use in mines susceptible to firedamp or in any environments with explosive atmospheres of any kind. Conducting surveys or inspections in such hazardous areas is considered extremely dangerous and must be strictly avoided. For alternative equipment suitable for use in explosive atmospheres, please contact Scanprobe Techniques for further guidance.

About Your System

The **Maxius Crawler System** is a modern, tablet-controlled CCTV inspection platform designed to deliver reliable, high-quality pipeline surveys in non-hazardous environments. Combining robust crawler engineering with an intuitive tablet interface, the system provides operators with a powerful and easy-to-use solution for professional pipeline inspection work across commercial and industrial networks.

The Maxius is available with either 200 m or 300 m of durable, hard-wearing cable (X200 / X300), giving operators the reach and resilience required for demanding site conditions. Each system is supplied with the MXC90 Full HD camera head, offering crisp 1080p video along with integrated laser measurement, pan-and-tilt control, zoom, focus and ultra-bright LED illumination for clear visibility in all pipe conditions.

At the heart of the system is the six-wheel-drive, steerable MX130 crawler, designed for stability and manoeuvrability across a wide range of pipe environments. The crawler features an integrated lift gantry, reverse camera for improved navigation, and a selection of interchangeable wheel options to suit different pipe materials and debris levels. As standard, the system is suitable for pipelines from 150 mm up to 600 mm in diameter, with the carrier allowing up to 1000m, making it a versatile choice for contractors and survey teams requiring dependable performance across varied inspection scenarios.

Operators interact with the system via the X-Range tablet platform, a unified control interface developed to run all X-Range inspection equipment from a single device. This allows surveyors to carry out and compile one continuous survey across multiple pipe sizes and system types, from small-diameter lines such as 38 mm sink traps and 32 mm waste



pipes through to large assets including 1000 mm brick culverts - without changing control hardware.

The tablet interface has been designed for straightforward operation in the field, enabling quick setup, intuitive control and seamless switching between systems. Survey data can be reviewed and shared directly from site using mina+ reporting or the simple LookSee mode for rapid condition checks and general assessments. Completed inspections can be distributed instantly via Dropbox, Google Drive, WhatsApp or email, helping teams deliver clear, professional reports to clients without delay and keeping workflows efficient from inspection through to reporting.

Operating Temperatures

Operating Temperature: -20°C to +50°C

⚠ Caution:

Do not attempt to operate the Maxius System outside the recommended temperature specifications. Exposing electronic components to temperatures below -20°C or above 50°C may cause system failures.

Disposal

The **Maxius** System is classed as electrical equipment and is covered by the Waste Electrical and Electronic Equipment Regulations 2013 (as amended). The system contains electrical components that can be re-cycled. **Must not** be disposed of with general landfill waste.

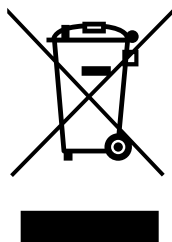


Figure 2: Waste Electrical and Electronic Equipment (WEEE)

Scanprobe Techniques Limited is registered with a WEEE Producer Compliance Scheme under Registration Number WEE/MM5507AA. As part of our commitment to responsible electronic waste management, any Scanprobe-manufactured electronic device can be returned to us at the end of its service life for environmentally compliant disposal, free of charge.



Maxius Overview

Design and Application

The Maxius consists of the following main components; all accessories for this product are listed in the Accessories section:

Qty 1 off **MXC90** Pan and Tilt Camera Head (Part number 1012-0073-0)

Qty 1 off **MX130** Crawler (Part number 1012-0048-0)

Qty 1 off **X200** Cable Reel (Part number 1012-0057-0)



Note

The system needs to be powered up before any devices can be recognised.

MXC90 Pan and Tilt Camera Head – (PN: 1012-0073-0)



Figure 3 - MXC90

The MXC90 is a high-performance Full HD pan-and-tilt camera head engineered for operation with the Maxius MX130 crawler system. As illustrated in Figure 4, this advanced, fully sealed unit is rated to IP68, enabling operation in standing water to depths of up to 3 metres. Incorporating dual-laser measurement technology and high-intensity integrated LED illumination, the MXC90 provides exceptional image clarity and precise evaluation capability in demanding inspection environments.

Designed for pipeline surveying applications across diameters from 150 mm to 1000 mm, the MXC90 delivers crisp 1080p video, smooth optical zoom, continuous 360° rotation, and accurate tilt control. This combination enables operators to obtain stable, high-definition inspection footage and detailed visual assessments within challenging underground networks.

Engineered for reliability, measurement accuracy, and sustained field deployment, the camera head features integrated rotation and tilt sensing, internal temperature and pressure monitoring, and a precision dual-laser measurement system. Together, these systems ensure consistent performance and dependable inspection data across a wide range of operational conditions and pipeline applications.



**Warning:**

Do not attempt to open the camera head at any time. The camera enclosure has no user serviceable components.

**Warning: Risk of damage to eyes and eyesight:**

X-Range system cameras are equipped with high-intensity LED illumination - which, when fully activated, may pose a risk to vision. To avoid potential eye damage, refrain from looking directly at the illuminated LEDs or directing them towards the eyes of others.

**Warning: Class 2 Laser**

Never look directly into the laser beam or point it at other people. Serious injuries could result from laser exposure. Use the laser exclusively for measuring crack widths within pipelines.

MX130 Crawler – (PN: 1012-0048-0)



Figure 5 – MX130 Crawler

The MX130 crawler has been engineered for dependable performance in demanding pipeline inspection environments. Built for agility and control, it is ideally suited to long-distance surveys where access and reliability matter most, comfortably handling runs beyond 90 metres in pipe diameters from 150 mm and above. From lined 150 mm pipes through to large-diameter networks up to 1000 mm, the MX130 delivers stable, high-quality inspection across a wide working range.

Designed with mobility in mind, the system can be deployed using portable cable reels and supplementary battery packs, allowing operators to work efficiently in remote or challenging site conditions without compromising performance. The robust six-wheel-drive crawler provides excellent traction and manoeuvrability and comes with a built-in elevator as standard, enabling quick and precise camera height adjustment to suit varying pipe diameters. An integrated inclinometer provides accurate gradient reporting, while the built-in location sonde allows for precise tracing and positioning from the surface.



A comprehensive selection of interchangeable wheel options enables the **MX130** to adapt to different pipe materials, diameters, and internal conditions, ensuring consistent progress even in difficult environments. Rugged, reliable, and built for everyday use, the Maxius crawler system is a professional solution for contractors and survey teams who require a versatile, mobile inspection platform capable of performing across multiple pipe sizes and site conditions.

X200 Cable Reel – (PN: 1012-0057-0)

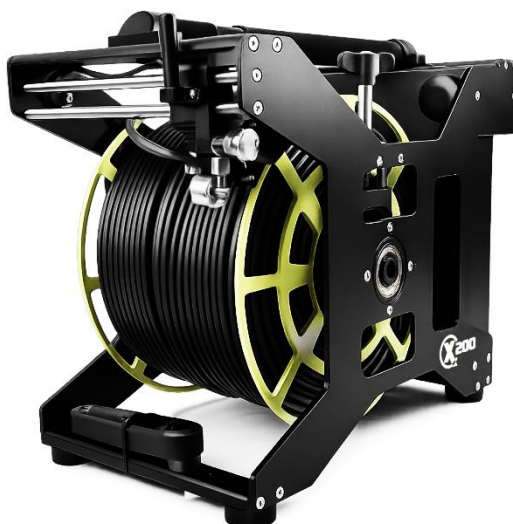


Figure 6 - X200 Cable Reel

The X200 is a professional-grade 200-metre **manual cable reel** engineered specifically for use with Scanprobe's Full HD crawler systems. Designed to provide controlled deployment and efficient retrieval, the X200 delivers dependable cable management in demanding pipeline inspection environments.

Manufactured with a heavy-duty structural frame and precision winding mechanism, the X200 ensures smooth, uniform cable distribution and reliable re-spooling after deployment. The integrated electronics hub is housed behind the drum assembly, creating a compact, self-contained unit that protects critical components while maintaining operational efficiency across municipal, industrial, and contractor applications. Despite its robust construction, the reel has been designed to remain compact and manageable, making it well suited to sites where space is limited or smaller metreage and more portable systems are preferred.

The system is supplied with a robust, Kevlar-reinforced inspection cable, providing excellent tensile strength, durability, and resistance to abrasion in harsh pipeline environments. This construction supports long service life while maintaining consistent signal integrity and reliable crawler operation over extended distances.

Operator usability is central to the X200 design, with features including:

- A stable, low-profile base engineered to sit securely on a variety of surfaces
- An integrated tablet/device holder positioned at the top of the frame for convenient system control and monitoring



- A smooth-action brake system allowing precise cable control during surveying and retrieval
- A removable winding handle to reduce snagging during transport and storage
- A compact cable guide to support consistent spooling, minimise cable wear, and maintain even distribution across the drum

Strong, compact, and engineered for reliable field performance, the **X200** provides a practical and professional cable management solution for crawler-based pipeline inspection systems, combining durability with efficient handling for everyday operational use.

Component Identification

All Scanprobe components are marked with unique serial numbers for identification. Do not erase these identification markings or tamper with these in any way.



Figure 7 – X200 Serial number identification

The cable reel assembly carries the primary product identification and technical data for the system. This includes key electrical specifications, model designation, part numbers, year of manufacture, and full manufacturer details.

All other system components are marked, as a minimum requirement, with a model name and unique serial number.

This identification structure ensures full product traceability, supports quality control processes, and is essential for warranty validation, service history tracking, and ongoing technical support.



Prior to Use

Safety Precautions for Operating the Maxius System

Prior to using the Maxius System, it is essential to assess your surroundings and identify any potential hazards that could result in serious injury or fatality. To ensure safe and reliable operation, the following checks must be performed:

- **Connector and Interface Maintenance:** Ensure all connectors and interfaces are free from moisture, dust and debris, as contamination may compromise system reliability.
- **Secure Connections:** Regularly inspect all connectors to confirm they are secure, clean, and in proper working condition.
- **Cable Inspection:** Conduct a thorough visual inspection of all cables before each use to identify any potential damage or wear.

It is imperative to evaluate potential hazards before operating the system, as failure to do so may lead to severe or fatal injuries. The following major risks must always be considered prior to use.



Environmental Awareness

Operators must maintain constant awareness of their surroundings and potential hazards during CCTV inspections or surveys. This includes being vigilant of nearby plant machinery, heavy construction equipment, exposed electrical installations, earthworks, excavations, and other sources of danger.



Risk of Explosion

Explosive atmospheres may arise from the presence of flammable gases, mists, vapours, or combustible dusts. Pipelines containing such hazardous conditions should only be surveyed using appropriately certified equipment and by operators trained in the necessary safety protocols.

For pipeline inspections in potentially explosive environments, please contact Scanprobe Techniques Ltd to discuss alternative equipment specifically designed for use in such conditions.



Environmental Risk

Cross-contamination of drinking water systems can occur if equipment previously used in wastewater environments is introduced into freshwater pipelines. For this reason, wastewater inspection systems must never be used for surveys of drinking-water infrastructure.

Cleaning or rinsing inspection equipment is not sufficient to achieve the level of sanitisation required for potable water applications. To protect water quality and comply with best practice, a dedicated inspection system must always be used for freshwater pipeline surveys and should be reserved exclusively for that purpose.





Risk of Infection

Personnel whose duties involve contact with sewage or sewage-derived materials are exposed to an increased risk of work-related illness. While the majority of cases are typically mild, such as gastroenteritis, more serious and potentially life-threatening diseases (including leptospirosis (Weil's disease) and hepatitis), have been reported to the Health and Safety Executive (HSE).

Prior to undertaking any work where there is a foreseeable risk of exposure to sewage or related contaminants, a suitable and sufficient risk assessment must be completed. Personnel must be fully informed of the associated health risks, the potential routes of infection, and the control measures required to minimise exposure. Safe systems of work must be implemented at all times, and appropriate personal protective equipment (PPE) must be worn in accordance with site and regulatory requirements.

Further guidance can be obtained from the Employment Medical Advisory Service via local HSE offices within the UK, or through the HSE website at www.hse.gov.uk.



Electric Shock

Prior to operating the system, the cable should be carefully inspected to confirm its free from damage, deformation, crushing, or any signs of compromise.

If damage is identified, the system must be powered down immediately and removed from service. The equipment should not be used again until it has been fully inspected and repaired by Scanprobe Techniques Ltd. or an authorised Scanprobe service centre.

To minimise the risk of water ingress, ensure that no liquids enter the control tablet or cable reel Electronics. All rubber blanking bungs must be correctly fitted and secured, and the connector lock ring must be fully tightened before operation, particularly when working in wet or damp environments.

Upon completion of a survey, the control tablet should be wiped dry and stored in a warm, dry location to allow any residual moisture or condensation to dissipate fully.



Note

All electrical work relating to X-Range products must be undertaken solely by Scanprobe Techniques Ltd or by engineers who have been formally trained and authorised by Scanprobe.

Any unauthorised repair, modification, or intervention may invalidate the product warranty and could adversely affect the safety, compliance, and operational performance of the equipment.



Initial Set-up

X-Range Tablet

From initial purchase through to ongoing operation, the X-Range system is designed with a strong focus on build quality, usability, and attention to detail to ensure a reliable and user-friendly inspection experience.

All Maxius systems are supplied with a 10-inch control tablet as standard, please follow the steps outlined below to ensure a smooth and efficient setup and commissioning process.

X-Range Tablet Setup Instructions

1. Unpack the Equipment

Carefully remove all packaging materials from the tablet and associated components.

- 10" X-Range Tablet – (Part Number **1021-1003-0**)
- X-Range Control Unit Rugged Case, 10" Screen – (Part Number **1021-1004-0**)
- **OPTIONAL** X-Range 10" Tablet Holder (Part Number 1006-3105-0)



2. Insert Tablet into Protective Boot

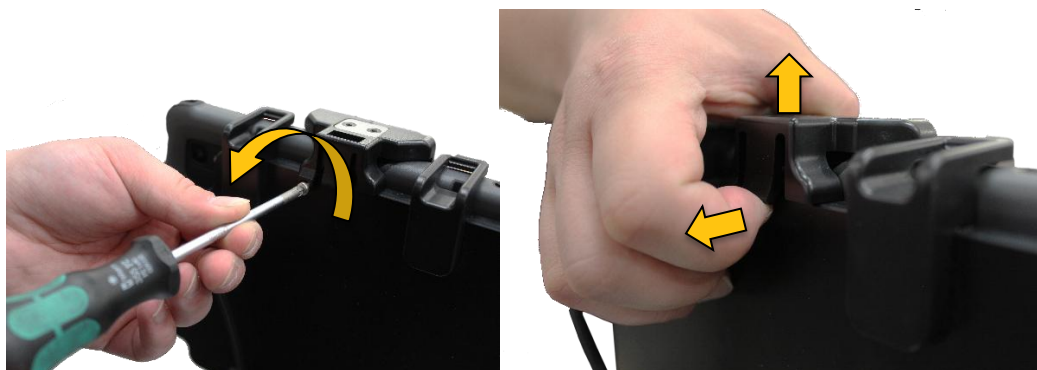
Place the tablet securely into the rubber protective boot to provide shock absorption and ensure a snug fit.



3. Remove the locking clip

Unscrew the screw from the locking clip and remove the locking clip by lifting it upwards.





4. **Mount the holder**

Gently release the adjustable clamping lever by turning it anti-clockwise and place it in your desired location. Tighten it once it's placed by turning it clockwise.



5. **Adjust viewing angle**

Loosen the ball-joint below the holder by turning it anti-clockwise, position the holder in your desired location, tighten it back up by turning the nut clockwise.



6. Mount the Tablet

Slide the base of the tablet into the lower section of the holder.



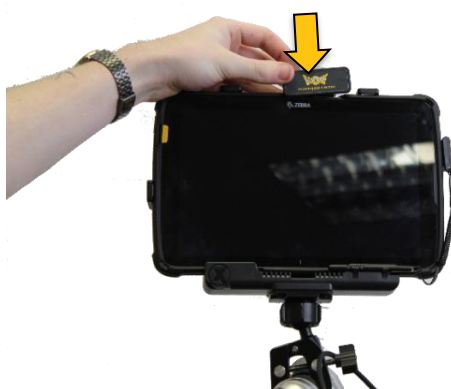
7. Secure the Tablet

Push the corners of the tablet into the holder until it sits flush against the main body of the holder.



8. Reattach the Locking Clip

Replace the locking clip to secure the tablet in position and prevent accidental removal and screw to lock the tablet in place.



Tablet Licencing

Software License Activation & Connectivity Notice

The X-Range tablet is equipped with a built-in software license designed to enhance security and enable remote updates.



Note

This license is included at no additional cost as part of the tablet package.

To maintain activation, the license requires periodic verification via an internet connection. If the tablet is offline for an extended period i.e. not connected to the internet, a notification will appear indicating that you have **30 days remaining** before the software becomes temporarily disabled.

There is no need for concern! Simply connect the tablet to the internet at any point and the License will automatically refresh and restore full software functionality. Even if the 30-day period lapses, connecting to the internet will reactivate the system without issue or data loss.

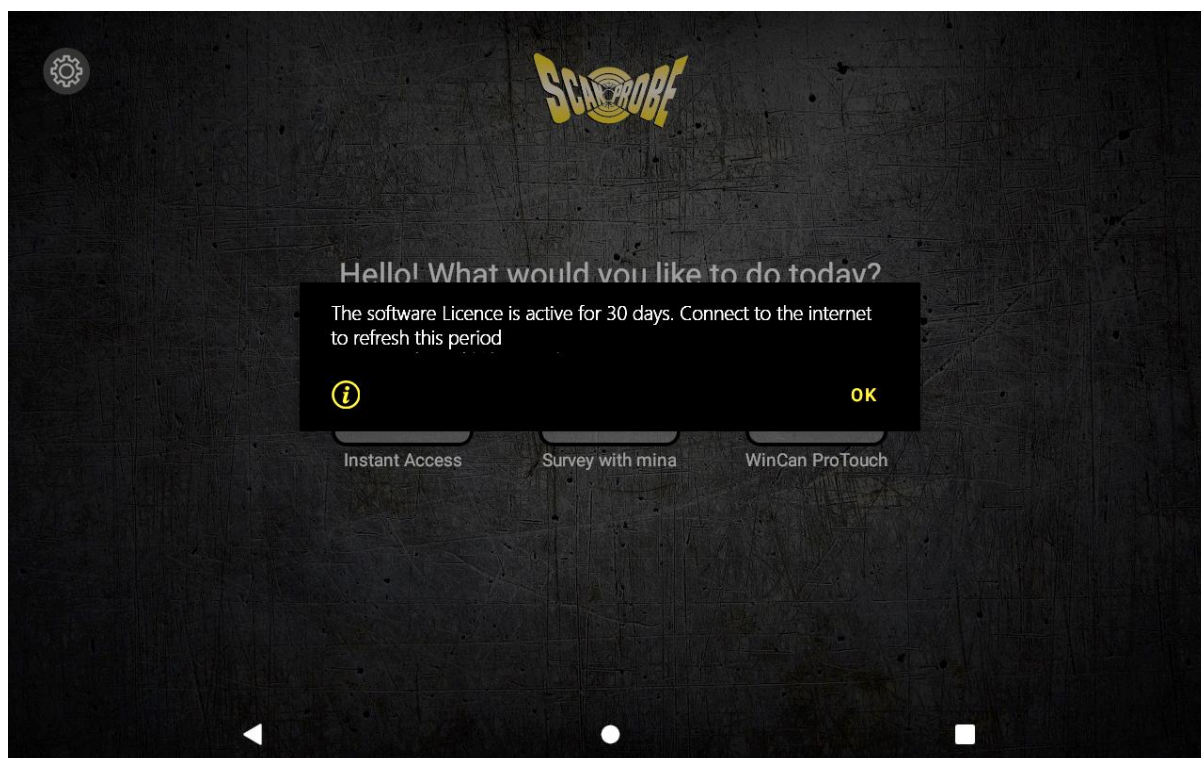


Figure 8 – Software License Activation



Note

For a comprehensive overview of the reporting software and tablet functionality, please refer to the **MAXIUS section of the mina+ User Manual**, available at: <https://scanprobe.com/user-manuals-for-scanprobe-drain-cameras/>

Connectivity

MXC90 Camera Head – Connection Procedure

1. Preparation

- Ensure the system is powered off.
- Remove the protective caps from both the crawler front connector and the MXC90 camera connector.



- Visually inspect both connectors to confirm they are clean, dry, and free from debris.

2. Alignment

- Align the keyway on the camera connector to the **12 o'clock** position.



- Carefully position the camera connector with the crawler front socket.



3. Insertion

- Gently push the camera connector into the crawler front socket.

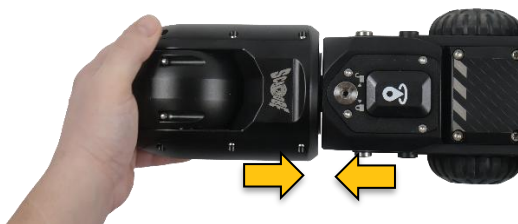




⚠ Warning - Do not force the connection.

If resistance is felt, remove the camera and lightly lubricate the connector shaft O-rings using a suitable O-ring lubricant.

- Re-attempt insertion until the connector seats fully and you feel it locate securely in position.



4. Locking

- Using the Allen key supplied with the kit, rotate the top keyway into the **locked** position to secure the camera head.



5. Removal

- To remove the camera head, repeat the above steps in reverse order:
 - Unlock the keyway using the Allen key.
 - Gently withdraw the camera from the crawler front socket.
 - Refit all protective dust caps immediately after disconnection.

MX130 Crawler – Cable Connection Procedure

1. Preparation

- Ensure the system is powered off prior to making any connections.



- Remove the protective caps from both the crawler rear connector and the cable connector.

Note

To release the cap from the crawler, press and hold the two side buttons on the crawler's female connector.



- Inspect both connectors to confirm they are clean, dry, and free from debris or damage.



2. Connection

- Align the connector keyway with the corresponding socket on the crawler connector.



- Carefully push the connectors together until fully seated.
- Tighten the locking ring by hand until secure. Do not overtighten.



3. Disconnection

- To release the connector, again - press and hold the two side buttons on the crawler's female connector.
- While holding the buttons, unscrew the locking ring.
- Gently separate the connectors.



4. After Use and Care

- Refit all protective caps immediately after disconnection.
- Keep connectors clean and dry at all times.
- Ensure O-rings are lightly lubricated with an appropriate O-ring lubricant to maintain sealing and ease of connection.



Note

Always ensure the connector contacts are clean, free from grease, and show no signs of corrosion.



Warning

Exercise care when connecting or disconnecting system connectors, as excessive force may compromise the environmental seals. Damage to these seals can lead to water ingress, potentially impacting the integrity and performance of the system. Always ensure protective caps are securely fitted when equipment is not in use.

Pressurising the system

Before operating the system, ensure all pressurised components are correctly prepared and checked in accordance with the following instructions. Correct pressurisation helps prevent water ingress, protects the internal electronics and ensures reliable operation during an inspection.

Checking the System Pressure

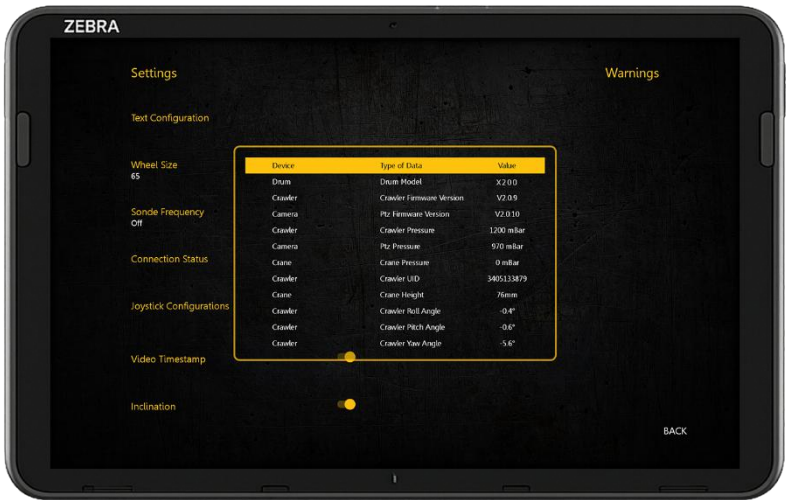
1. Open the **live screen** in **LookSee**.
2. Check the pressure status icon in the top-right corner of the screen. This indicates the current system pressure:
 - **Green** – Pressure is within the normal operating range (**500–1500 mbar**).
 - **Amber** – Pressure is outside the recommended range and should be checked (**250–499 mbar**).
 - **Red** – Pressure is at an unacceptable level and operation should not continue (**below 250 mbar or above 1500 mbar**).



- 3. To view the pressure of each component individually, swipe down on the live screen to open the Crawler Settings menu and tap **Warnings**.



- 4. The Warnings screen displays important system notices, including the individual pressure status of the crawler body and camera head.



How to Adjust the System Pressure

If the pressure reading for either the crawler body or camera head is below 1,000 mbar or above 1,500 mbar, it must be adjusted. The correct operating pressure is between 1,000 and 1,500 mbar.

- Note:** The crawler must remain connected and switched on throughout this procedure. Keep the Warnings screen open so the pressure reading can be monitored in real time.
- 1. Identify whether the camera head, crawler body, or both require pressurising using the **Warnings** menu.
- 2. Using the Allen key provided, unscrew the pressure cap from the component being adjusted.





3. Screw the pressure tool securely into the pressure port.



4. Connect a suitable bicycle pump to the pressure tool.



5. Pump slowly while monitoring the reading on the **Warnings** screen.
6. Continue pumping until the pressure reaches the **nominal operating pressure of 1 bar (1000 mbar)**. **Do not exceed 1500 mbar.**
7. Disconnect the pump and remove the pressure tool.

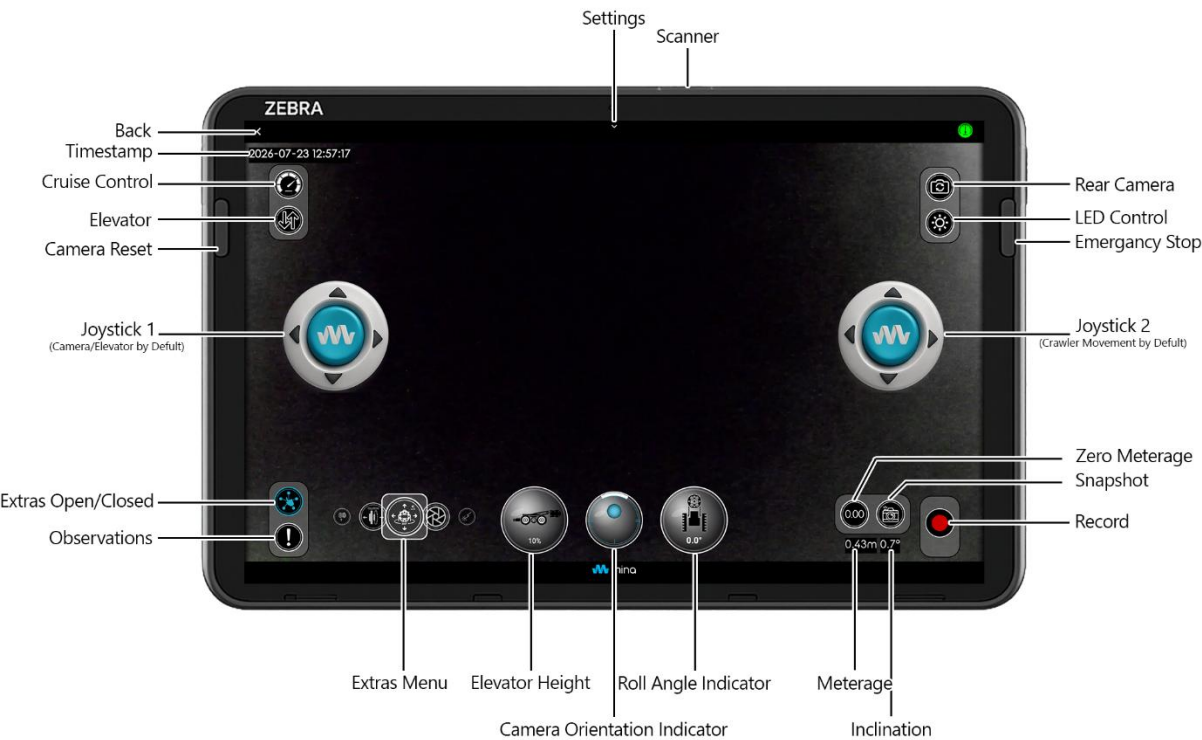


- 8. Refit and securely tighten the pressure cap.

Control/Interface Overview

The Maxius live screen provides access to all essential crawler, camera and inspection functions. The diagram below identifies each control and explains its purpose during operation.

Note: The control layout shown is based on the default settings and may be customised.



Note: When using LookSee mode, all reporting features will be removed from the control screen.

The table below lists all available controls and their functions. When active, a control’s icon will turn blue in **mina+**, or yellow in **LookSee**.

Icon	Function	Description
	LED brightness	Use the plus and minus tabs to adjust the camera LED brightness
	Rear Camera	Display the rear camera view alongside the front camera on screen.
	Counter Reset	Press this to reset the on screen distance display to zero
	Record	Press to record video. Only appears when a video is not recording.



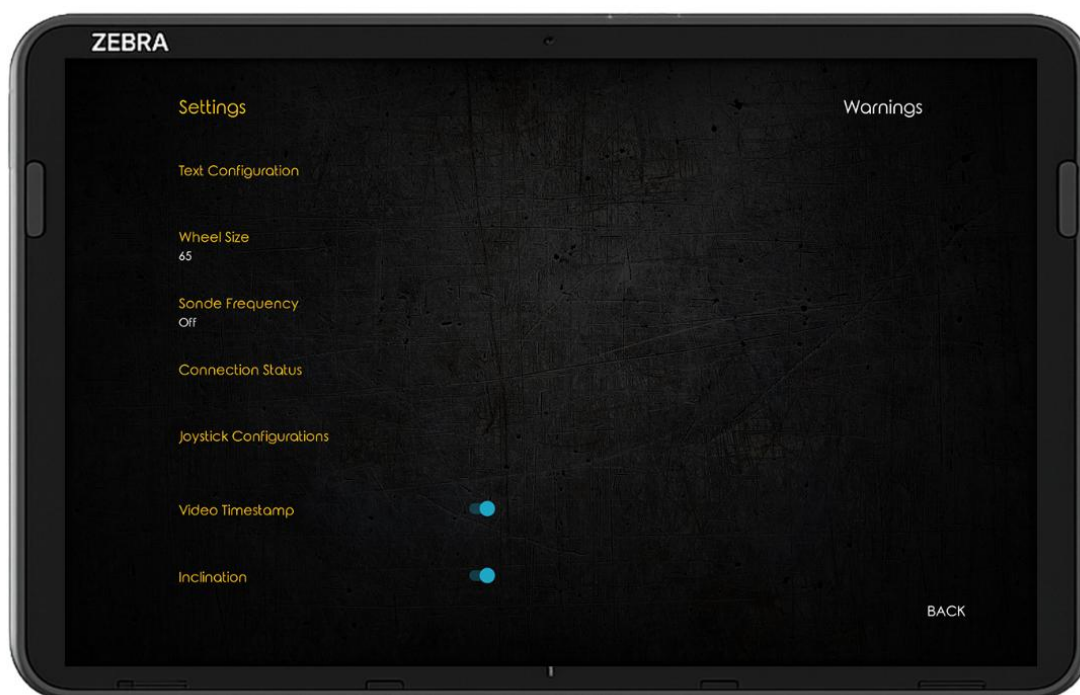
Icon	Function	Description
	Stop Recording	Press to stop video recording. Only appears when a video is being recorded.
	Snapshot	Capture an image from the live camera view.
	Observation	Press to add observation text to the video.
	Cruise Control	While holding the joystick in the required direction, reach the desired speed and press to lock it. Press again to cancel.
	Elevator	Control the camera elevator movement up or down.
	Meterage Counter	Displays the total distance the crawler has travelled.
	Back Arrow	Takes users back to X-Range home screen
	Pressure Gauge	Displays the current operating pressure of the system.
	Auto Camera Movements	Enable automatic camera positioning, allowing the camera to move left, right, up, down, or rotate 360° automatically.
	Laser	Activate the laser for measurement
	Pull Rod	Extend or retract the push/pull rod system. Available just for automatic drums.
	Zoom & Focus	Adjust camera zoom level and focus settings.
	Clutch	Engage or disengage the crawler drive clutch.
	360 Camera Rotation	Rotate the camera view a full 360 degrees.
	Camera Controller (Default Left)	Control and adjust camera movement functions.
	Crawler Controller (Default right)	Control the crawler's driving and steering functions.
	Tilt Indicator	Displays the camera's current tilt angle.



Icon	Function	Description
	Elevator Indicator	Shows the current elevator height position.
	Emergency Stop	Immediately disables all crawler movement and controls until it is safe to resume.
	Camera Home	Return the camera to its home position. Press and hold for five seconds to set a new home position.
	Set Speed	Use the + and – buttons to adjust the crawler's cruise-control speed in 10% increments.

Settings

From the MAXIUS live screen, swipe down to open the Settings menu. This menu allows you to configure the connected crawler, review system warnings and customize the live layout. Available options may vary depending on the connected MAXIUS equipment.



Text Configuration: Adjust the size and colour of all on-screen text.

Wheel Size: Select the crawler's fitted wheel size for use with the X300 automatic reel. This setting is not required when using the X200 reel.

Sonde Frequency: Switch the sonde on and select the required frequency: 33 kHz, 512 Hz or



640 Hz.

Connection Status: View the current connection status of the camera, reel and coiler.

Joystick Configuration: Customise the position and function of the on-screen controls, including joystick inversion.

Video Timestamp: Embed the date and time permanently into recorded video footage.

Inclination: Embed the crawler's inclination reading permanently into recorded video footage.

- ☑ The MAXIUS live Settings menu is separate from the tablet's Android Settings and the Settings menu found on the X-Range home screen.

Getting a Live Picture

Follow these guidelines to turn on your Maxius system and get your first live image. Start by following the Cable Connection Procedure above.

Step-by-Step Start-Up Process

Step 1:

Connect the crawler to the reel and tighten the lock (as outlined in the Cable Connection Procedure).



Step 2:

Connect the system to a suitable power supply and flip the power switch to the ON position.



Step 3:

Press and hold the tablet power button until the device powers on.

**Step 3:**

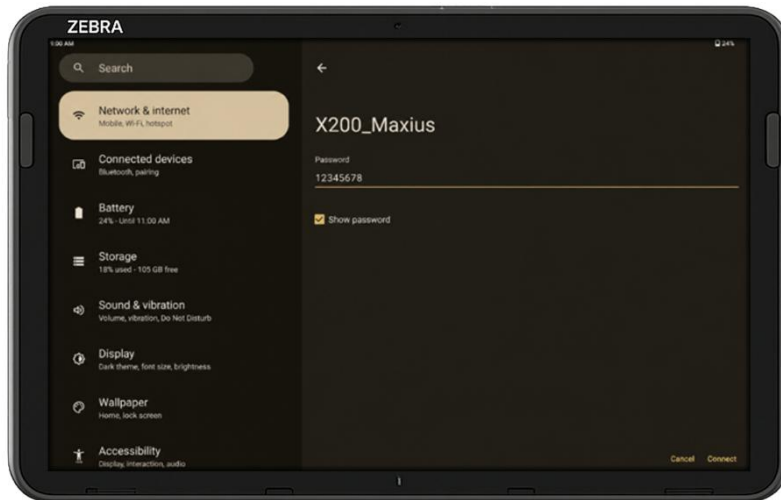
Swipe up to unlock the tablet and open Settings. Select Network & Internet then internet.

**Step 4:**

Select the appropriate cable reel for your system from the list of available Wi-Fi networks (e.g. X200_Maxius or X300_Maxius), then enter the password **12345678** to connect.



Note: The default Wi-Fi password is 12345678. If a different password is required, please contact Scanprobe. Password changes can only be carried out by Scanprobe.



Step 5:

Go back to the X-Range home screen by pressing the home button, or by using the back buttons, then, tap the X-Range logo.



Step 7:

To check you are connected to the system, open the tablet settings. The system connected will show up here.





Step 6:

If connected correctly, use the arrows to go back and select your preferred operating mode from the following options:

- 

Provides immediate access to the live camera image and lighting controls.
Ideal for quick recordings and snapshots.
- 

A user-friendly, guided inspection report tool.
Perfect for creating detailed PDF inspection reports.
- 

This feature is not presently supported by the Maxius Crawler system and is available exclusively on Scanprobe push-rod systems, including the X20, X40, X60, and X90. However, mina+ can generate an XML file that can be transferred into compatible reporting software, such as WinCan.

Wired Connection Procedure (Optional)

In the unlikely event that a wired connection is required. For any reason it is, connect a USB-C data cable to the designated USB port located on the rear of the cable drum. Connect the opposite end of the cable to the X-Range tablet.



- 👉 **Note:** For instructions on driving and controlling MAXIUS, recording surveys, adding observations, laser measurement and WRc reporting, refer to the mina+ User Manual – MAXIUS section.

Brake and coiler control

Engineered for optimal safety and operational efficiency, the X200 features a brake system that manages cable tension and retraction speed. This mechanism ensures smooth, controlled operation, reducing the risk of equipment damage and enhancing the overall reliability of inspections.



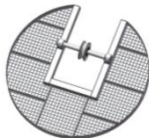
Figure 9 – Brake

Accessories

The following accessories are compatible as part of the Maxius Range. More information can be found at: <https://scanprobe.com/maxius-accessories/>.

Image	Part No.	Description
	1012-0183-0	MXC50 Camera Head Full HD (1920x1080px) for 100-300mm Pipelines. Features 4x digital zoom, -135° to 135° tilt range, endless rotation, 0.001 Lux photosensitivity, power LED illumination and laser measuring function. Pressure-tight up to 1 bar, IP68.
	1012-0179-0	MX90 Crawler for 100-300mm Pipelines. Features Full HD back eye camera and steerable 6-wheel-drive. Pressure-tight up to 1 bar, IP68, with sonde location (512/640Hz, 33kHz), tilt sensor and temperature/pressure sensor.



	1012-0056-0	X100 Cable Drum, Motorized 100m cable drum with high-precision meter counter for Maxius Full HD crawler systems. Automatic cable retraction, IP54 protection, 110-240V AC voltage.
	1012-0058-0	X300 Cable Drum 300m motorized, Motorized 300m cable drum with high-precision meter counter and touch display for Maxius Full HD crawler systems. Automatic cable extraction/retraction, IP54 protection, 110-240V AC.
	1012-0055-0	MX130 carrier for Maxius Crawler. Enables MX130 crawler to operate up to 1000mm Pipelines. Steerable 4-wheel drive with x4 175mm wheels included.
	1012-0090-0	Flexible manhole pulley, Guide pulley at the top edge of the manhole for Maxius inspection systems.
	1012-0092-0	Deflection pulley manhole for Maxius systems, Flexible cable guide pulley.
	1012-0093-0	Manhole cover
	1012-0075-0	Lowering device set, Lowering device for a safe and easy lowering and retrieval of the MX130 crawler from up to 10m deep manholes.
	1012-0047-0	MX90 rubber wheel 55mm for 100mm+ Pipelines. (max. 6 wheels).
	1012-0184-0	MX90 rubber wheel 88mm for 140mm+ Pipelines. (max. 4 wheels).



	1012-0185-0	MX90 rubber wheel 125mm for 190mm+ Pipelines. (max. 4 wheels).
	1012-0186-0	MX90 rubber wheel 140mm for 240mm+ Pipelines. (max. 4 wheels).
	1012-0187-0	MX90 corundum wheel 55mm for 100mm+ Pipelines. (max. 6 wheels).
	1012-0188-0	MX90 corundum wheel 88mm for 140mm+ Pipelines. (max. 4 wheels).
	1012-0202-0	MX90 carbide wheel 55mm for 100mm+ Pipelines. (max. 6 wheels).
	1012-0076-0	MX130 rubber wheel 65mm for 150mm+ Pipelines. (max. 6 wheels).
	1012-0096-0	MX130 climbing wheel 88mm, Rubber climbing wheel for Maxius crawler with 88mm diameter (max. 2 wheels). The climbing wheel will be mounted in between the two bigger wheels to support the crawler to overcome joint displacements.
	1012-0189-0	MX130 rubber wheel 88mm for 190mm+ Pipelines. (max. 4 wheels).
	1012-0190-0	MX130 rubber wheel 125mm for 200mm+ Pipelines. (max. 4 wheels).
	1012-0191-0	MX130 rubber wheel 175mm for 250mm+ Pipelines. (max. 4 wheels).



	1012-0192-0	MX130 rubber wheel 125mm WIDE for 250mm+ Pipelines. Extra wide design for excellent stability. (max. 4 wheels).
	1012-0193-0	MX130 rubber wheel 175mm WIDE for 300mm+ Pipelines. Extra wide design for excellent stability. (max. 4 wheels).
	1012-0194-0	MX130 corundum wheel 65mm for 150mm+ Pipelines. (max. 6 wheels).
	1012-0195-0	MX130 corundum wheel 88mm for 190mm+ Pipelines. (max. 4 wheels).
	1012-0196-0	MX130 corundum wheel 125mm for 200mm+ Pipelines. (max. 4 wheels).
	1012-0197-0	MX130 corundum wheel 175mm for 250mm+ Pipelines. (max. 4 wheels).
	1012-0198-0	MX130 carbide wheel 65mm for 150mm+ Pipelines. (max. 6 wheels).
	1012-0199-0	MX130 carbide wheel 88mm for 190mm+ Pipelines. (max. 4 wheels).
	1012-0200-0	MX130 carbide wheel 125mm for 200mm+ Pipelines. (max. 4 wheels).
	1012-0201-0	MX130 carbide wheel 175mm for 250mm+ Pipelines. (max. 4 wheels).
	1006-3105-0	X-Range 10" Tablet Holder Complete



	1021-3991-0	X-Range Control Unit Weather Visor
	1007-3007-0	X-Range Battery Charger UK Plug Adaptor
	1007-3008-0	X-Range Battery Charger EU Plug Adaptor
	1007-3009-0	X-Range Battery Charger US Plug Adaptor
	1007-3010-0	X-Range Battery Charger AU Plug Adaptor

Spare Parts and Repairs

If individual components become damaged or fail to operate correctly, please contact Customer Support for further assistance.

Genuine spare parts are supplied exclusively through Scanprobe Techniques Ltd and authorised dealers to ensure compatibility and maintain system integrity.

All repair work must be carried out by suitably trained and qualified personnel. Defective components may be returned to Scanprobe Techniques or a designated service centre for inspection, testing, and repair.

Contact for service requests:

Scanprobe Techniques Ltd
Unit 11 Kenley Trade Park
Old Barn Lane
Kenley, Surrey
CR8 5AU

Tel.: +44 (0)203 253 2001

E-mail: service@scanprobe.com



Planning and Organisation

The **Maxius Crawler Inspection System** has been designed and manufactured in accordance with applicable EU safety regulations. However, accidents may still occur during pipeline inspection work. These incidents could result in serious injury or danger to the operator or third parties, as well as damage to the inspection system, other equipment or surrounding property.

The operator is responsible for ensuring that the **Maxius** system is used safely and correctly at all times. This should be achieved through the following measures:

- Ensure that this user manual is always available to the operator.
- Make sure that all operators have read, understood and are familiar with the instructions contained within this manual.
- Maintain accurate records of all servicing, maintenance and repair work.
- Remain informed of the latest applicable regulations and provide ongoing training to maintain operational safety and compliance.
- Regularly review staff working practices, safety awareness and risk-management procedures.

Personnel responsible for operating, maintaining, repairing or modifying the Maxius system must be suitably trained or instructed by someone with the appropriate specialist knowledge.

Through their professional training and experience, competent personnel should have sufficient knowledge of crawler inspection systems, their components and accessories. They must also be familiar with the relevant health and safety requirements, accident-prevention regulations, industry standards and accepted working practices. This knowledge must be sufficient for them to determine whether the inspection system is safe to operate.

All personnel must:

- Identify, read and follow the operating instructions applicable to the workplace.
- Comply with all relevant accident-prevention regulations.
- Obtain appropriate advice and instruction before handling hazardous substances.
- Follow all safety instructions contained within this user manual.

As the operator of the **Maxius Crawler Inspection System**, it is your responsibility to ensure that:

- The system is used only for the applications described within the **Intended Use** section of this manual.



- All limitations, requirements and operating conditions stated within the **Intended Use** section are followed.
- The system and its components are kept clean, organised and in safe working condition.
- All cleaning, inspection and maintenance procedures are completed in accordance with the **Aftercare and Maintenance** section of this manual.

Cleaning and Care

Crawler

- Remove dirt using clean water and a soft brush.
- Dry the device completely before storing it.

Camera head

- Clean the lens with a lint-free cloth and optical cleaning solution.
- Check the protective cover for cracks or scratches.

Cable Drum

- Always wind up the cable properly to prevent damage.
- Use a damp cloth to clean the drum mechanism.



Maintenance

General maintenance instructions

To ensure long-term and reliable operation of the **Maxius inspection system**, regular maintenance work is required. Please observe the following points:

- Clean the system after each inspection to prevent deposits and damage.
- Regularly check all electrical connections and cables for damage.
- Use only spare parts and lubricants recommended by Scanprobe Techniques or authorised Scanprobe distributors.

Recommended maintenance intervals:

Component	Maintenance Frequency	Maintenance Measure
Crawler	After each inspection	Clean the wheels and drives, perform a visual inspection for damage
Camera system	Weekly	Clean the optics, check the seals
Cable Drum	Monthly	Check for cable breaks, lubricate moving parts
Control unit	Quarterly	Check for software updates, inspect buttons and ports



Maintenance:

High-pressure water jets (e.g., pressure washers) must not be used to clean any part of the Maxius System, with the exception of removed wheel components where applicable. The use of high-pressure cleaning equipment may compromise seals and lead to water ingress, potentially resulting in damage to internal electronic components, including printed circuit boards.

For routine cleaning, use a standard low-pressure hose and a damp cloth. During cleaning, ensure that the camera head and all electrical connectors remain securely fitted and properly sealed. Care should be taken to prevent water from entering any connectors or exposed interfaces at all times.



Repairs

Due to the specialised knowledge, equipment, and verification procedures required for the repair and resealing of certain Scanprobe-manufactured components, all such work must be carried out exclusively by Scanprobe Techniques Limited, by agents expressly authorised by Scanprobe Techniques Limited.

If a customer experiences an issue with an X-Range System during the warranty period, they should contact Scanprobe Techniques Limited immediately to discuss the problem.

Scanprobe may request that the equipment be returned for further assessment. Please note that the warranty provided is a back-to-base warranty, meaning it is the owner's responsibility to return the system to Scanprobe for evaluation and repair.

**Warning:**

The X-Range Tablet and Maxius System contain no user-serviceable components. Opening any of these enclosures may pose safety risks and is likely to compromise or irreparably damage the protective seals that safeguard the integrity of the equipment.

**Warning:**

Any repair or modification an X-Range System carried out without the prior consent and authorisation of Scanprobe Techniques Limited is strictly prohibited. Unauthorised repairs or modifications will result in the immediate invalidation of the product warranty.



[illegible]

Data Sheet



MXc90 Camera
Datasheet

The MXc90 is a high-performance Full HD pipeline inspection camera head designed for detailed CCTV surveys in 135mm to 1000mm pipelines. Engineered for mainline inspections, it delivers exceptional clarity with 1080p resolution, upright image stabilisation, and 10x optical zoom. With endless rotation, high-intensity lighting, and integrated laser measurement, the MXc90 enables precise defect identification and accurate dimensional analysis in demanding environments. Fully compatible with the X-Range Tablet and WRC-approved mina reporting software, the MXc90 forms an integral part of any crawler inspection system - supporting efficient, professional reporting directly from site.



Part Number	1012-0073-0
Pipe Use	135mm - 1000mm
Weight	1.5 kg
Camera Diameter	90mm
Rotation Limit	Endless
Measurements	2 Point Laser
Resolution	1080P - FULL HD
Photosensitivity	0.05 Lux
Tilt Range	-135° to 135°
Zoom	x10 Optical
Operating Temp	0°C - 40°C
Storage Temp.	-20°C - 70°C
Stabilisation Function	Integrated
IP Rating	IP68
Max. Pressure	1 Bar
Illumination	High-intensity LED's



Accessories Included:
Pressure Filling Adaptor



INFORMATION / ONLINE

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Web. www.scanprobe.com

D1/March26/Rev1/DS





MX130 Crawler Datasheet

The MX130 is a robust six-wheel-drive crawler unit engineered for demanding pipeline inspection environments. Designed to operate across 135mm to 1000mm pipelines, it delivers precise control and reliable performance through complex networks. A Full HD back-eye camera with picture-in-picture capability provides enhanced visibility and operator awareness during inspections. Constructed with a durable stainless steel body, the MX130 combines strength with manoeuvrability, supported by stabilisation control and an integrated electric lifter for adaptable operation across varying pipe diameters. With integrated sonde detection, tilt and roll sensing, and temperature and pressure monitoring, the MX130 delivers accurate, real-time data - making it a dependable core component of the Maxius crawler system.



Part Number	1012-0048-0
Pipe Use	150mm (lined) - 600mm Up-to 1000mm with Carrier (sold separately)
Weight	10.45 kg
Dimensions	430 x 106 x 99mm
Sonde Locator	512Hz/640Hz/33kHz
Steerable	3x3 Drive
Measurements	Tilt Sensor / Inclination Measurement
Rear Camera	1080P - FULL HD Back Eye (Picture in Picture)
Operating Temp	0°C - 40°C
Storage Temp.	-20°C - 60°C
Elevator	Electrical Lifter Adjustment
Sensors	Temperature and Pressure
Stabilisation Function	Integrated
IP Rating	IP68
Pressure	Tight Up To 1 Bar

Accessories Included:

65mm Rubber Screw-On Wheel Set

Pressure Filling Adaptor

Note: Camera Not Included



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D1/March26/Rev1/DS



Version 1.a
Dd mmm yyyy



X200 Cable Reel Datasheet

The X200 is a portable manual cable drum designed for reliable and flexible pipeline inspection operations. Supplied with an integrated 200 metre cable, it provides extended reach while remaining practical for on-site transport and deployment. Featuring hand-operated cable retraction, the X200 offers simple, dependable operation without the need for powered systems, making it ideal for mobile use and remote locations. Its high-precision meter counter ensures accurate tracking of cable length during inspections. Built with an IP54-rated weather-resistant design, the X200 is suitable for both indoor and outdoor use. Its compact dimensions and balanced weight allow for easy handling, transport, and storage, even in confined working environments. Fully compatible with the X-Range Tablet and WRC-approved mina reporting software, the X200 supports efficient, professional inspections wherever they are required.



Part Number	1012-0057-0
Cable Retraction	Manual
Cable Length	200meters
Dimensions	492 x 281 x 408mm
Weight	24.0kg
Voltage	110 - 240V AC 50Hz
Measurements	High Precision Meter Counter
Operating Temp	0°C - 40°C
Storage Temp.	-20°C - 60°C
IP Rating	IP54
Emergency Stop	No

Accessories Included:

Cable Connector Protective Cap

Note: Cable reel Only



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D1/March25/Rev1/DS



Version 1.a
Dd mmm yyyy



X-Range Tablet Datasheet

The X-Range pipeline inspection tablet is designed and built for business from the inside out, delivering a reliable operation you can count on. Drop it on tile or concrete floors. Use it inside and outside, even in the heat or subzero temperatures. Hose it off. It still works, and if you're working in even more demanding environments, no problem the rugged boot offers more durability.

Packed with Pipeline inspection software, including mina + and WinCan ProTouch, you create the reports that suit your needs. Add maps, site images and edit existing reports then share them via Dropbox, WhatsApp or email, it's that simple. Explore the benefits of tablet technology and pipeline inspection with the X-Range Tablet, site made simple.



Screen Size	8 / 10.1 inch
Weight	480 / 680 g
Display	1920 x 1200 600 nits WUXGA
CPU	Qualcomm Dragonwing Q-6690 Processor, up to 2.0 GHz
Sim Slots	Dual SIM (Nano SIM + eSIM)
Operating System	Android
Memory	6 GB RAM / 64 GB Flash 8 GB / 128 GB option, MicroSD up to 2TB
Keyboard Options	Virtual, Bluetooth, USB
Operating Temp	-20°C to 50°C
Sealing	IP68
Drop Specifications	1.2 m to concrete; 1.5 m to concrete with optional rugged frame
Warranty	1 Year Zebra warranty
Battery	6100 / 7600 mAh, 3.91 V Li-Ion Polymer
Reporting Software	mina + - WinCan ProTouch



Share inspection reports
via:



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D1/Sep21/Rev1/BG



Version 1.a
Dd mmm yyyy



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