RIDGID

Operator's Manual

SeeSnake®

microREEL™ APX™

CSx VIA™

**CSx Via shown with RIDGID 18 V Li-Ion battery, not included*

Table of Contents

*Original Instructions – English

Introduction

The warnings, cautions, and instructions discussed in this manual cannot cover all possible conditions and situations which may occur. It must be understood by the operator that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

Regulatory Statements

CE The EC Declaration of Conformity (999-995-232.10) will accompany this manual as a separate document when required.

Directive 2014/53/EU (CSx Via)		
Radio	**Operating Spectrum / Power**	
Bluetooth Low Energy (BLE)	2400 – 2483.5 MHz	5.44 dBm
Wi-Fi 802.11 b/g/n	2400 – 2483.5 MHz	15.43 dBm
Wi-Fi 802.11 a/n/ac	5470 – 5725 MHz	18.65 dBm

FC

UK CA

Contains Transmitter Modules: FCC ID: TFB-1004 / IC: 5969A-1004 and FCC ID: X8WBM832 / IC: 4100A-BM832

Safety Symbols

In this manual and on the product, safety symbols and signal words are used to communicate important safety information. This section is provided to improve understanding of these signal words and symbols.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE NOTICE indicates information that relates to the protection of property.

This symbol means read the manual carefully before using the equipment. The manual contains important information on the safe and proper operation of the equipment.

This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.

This symbol indicates the risk of electrical shock.

This symbol indicates the risk of fire.

General Safety Rules

⚠ WARNING

Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electrical shock, fire, and/or serious injury.

SAVE THESE INSTRUCTIONS!

Work Area Safety

- **Keep your work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate equipment in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Equipment can create sparks which may ignite the dust or fumes.
- **Keep children and bystanders away while operating equipment.** Distractions can cause you to lose control.
- **Avoid traffic.** Pay attention to moving vehicles when using on or near roadways. Wear high-visibility clothing or reflector vests.

Electrical Safety

- **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electrical shock if your body is earthed or grounded.
- **Do not expose equipment to rain or wet conditions.** Water entering equipment will increase the risk of electrical shock.
- **Keep all electrical connections dry and off the ground.** Touching equipment or plugs with wet hands can increase the risk of electrical shock.
- **Do not abuse the cord.** Never use the cord for carrying, pulling, or unplugging the power tool. Keep cord away from heat, extreme cold, oil, sharp edges, and moving parts. Damaged or entangled cords increase the risk of electrical shock.
- **If operating equipment in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electrical shock.

Personal Safety

- **Stay alert, watch what you are doing, and use common sense when operating equipment.** Do not use equipment while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating equipment may result in serious injury.
- **Dress properly.** Do not wear loose clothing or jewelry. Loose clothes, jewelry, and long hair can be caught in moving parts.
- **Practice good hygiene.** Use hot, soapy water to wash hands and other body parts exposed to drain contents after handling or using drain inspection equipment. To prevent contamination from toxic or infectious material, do not eat or smoke while operating or handling drain inspection equipment.
- **Always use appropriate personal protective equipment when handling and using equipment in drains.** Drains may contain chemicals, bacteria, and other substances that may be toxic, infectious, and cause burns or other issues. Appropriate personal protective equipment always includes safety glasses and may include a dust mask, hard hat, hearing protection, drain cleaning gloves or mitts, latex or rubber gloves, face shields, goggles, protective clothing, respirators, and steel toed, non-skid footwear.
- **If using drain cleaning equipment and drain inspection equipment at the same time, wear RIDGID drain cleaning gloves.** Never grasp the rotating drain cleaning cable with anything else, including other gloves or a rag which can become wrapped around the cable and cause hand injuries. Only wear latex or rubber gloves underneath RIDGID drain

cleaner gloves. Do not use damaged drain cleaning gloves.

Equipment Use and Care

- **Do not force equipment.** Use the correct equipment for your application. The correct equipment does the job better and more safely.
- **Do not use equipment if the power switch does not turn it on and off.** Any equipment that cannot be controlled with the power switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or the battery pack from the equipment before making adjustments, changing accessories, or storing.** Preventive safety measures reduce the risk of injury.
- **Store idle equipment out of the reach of children and do not allow persons unfamiliar with the equipment or these instructions to operate the equipment.** Equipment can be dangerous in the hands of untrained users.
- **Maintain equipment.** Check for misalignment or binding of moving parts, missing parts, breakage of parts, and any other condition that may affect the equipment's operation. If damaged, have the equipment repaired before use. Many accidents are caused by poorly maintained equipment.
- **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
- **Use the equipment and accessories in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the equipment for operations different from those intended can result in hazardous situations.
- **Use only accessories that are recommended by the manufacturer for your equipment.** Accessories that may be suitable for one piece of equipment may become hazardous when used with other equipment.
- **Keep handles dry, clean, and free from oil and grease.** Clean handles give better control of the equipment.

Battery Use and Care

- **Use equipment only with specifically designed battery packs.** Use of any other battery packs may create a risk of injury and/or fire.
- **Recharge only with the charger specified by the manufacturer.** A charger suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Do not cover charger while in use.** Proper ventilation is required for correct operation. Covering charger while in use could result in fire.
- **Use and store batteries and chargers in dry, appropriate temperature areas according to their documentation.** Extreme temperatures and moisture can damage batteries and result in leakage, electrical shock, fire, or burns.
- **Do not probe the battery with conductive objects.** Shorting of battery terminals may cause sparks, burns, or electrical shock. When the battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or any other small metal object that can make a connection from one terminal to the other. Shorting the battery terminals may cause burns or a fire.
- **Under abusive conditions, liquid may eject from battery; avoid contact.** If contact occurs, flush with water. If liquid contacts eyes, seek medical help. Liquid ejected from the battery may cause irritation or burns.
- **Properly dispose of batteries.** Exposure to high temperatures can cause the batteries to explode; do not dispose of in a fire. Some countries have regulations concerning battery disposal. Follow all applicable regulations.

Pre-Operation Inspection

⚠ WARNING

To reduce the risk of serious injury from electrical shock or other causes, and to prevent damage to your equipment, inspect all equipment and correct any problems before each use.

To inspect all equipment, follow these steps:

1. Power off your equipment.
2. Disconnect and inspect all cords, cables, and connectors for damage or modification.
3. Clean any dirt, oil, or other contamination from your equipment to ease inspection and to prevent it from slipping from your grip during transportation or use.
4. Inspect your equipment for any broken, worn, missing, misaligned, or binding parts, or any other condition which might prevent safe, normal operation.
5. Refer to the instructions for all other equipment to inspect and make sure it is in good, usable condition.
6. Check your work area for adequate conditions to perform the job.
7. Examine the job to be done and determine the correct equipment for the task.
8. Observe the work area and erect barriers as necessary to keep bystanders away.

Specific Safety Information

⚠ WARNING

This section contains important safety information that is specific to the RIDGID SeeSnake microREEL APX and CSx Via. Read these precautions carefully before using the equipment to reduce the risk of electrical shock, fire, and/or serious injury.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE!

Product Safety

- **Read and understand this manual, the digital reporting monitor's manual, and the instructions for any other equipment you are using before operating the equipment.** Failure to follow all instructions may result in property damage and/or serious injury. Keep this manual with the equipment for future use.
- **Operating the equipment while in water increases the risk of electrical shock.** Do not operate the system if operator or equipment are standing in water.
- **The equipment is not designed to provide high voltage protection and isolation.** Do not use where a danger of high voltage contact is present.
- **To prevent damage to the equipment and to decrease the risk of injury, do not expose the equipment to mechanical shocks.** Exposure to mechanical shocks can damage equipment and increase the risk of serious injury.
- **Ensure the push cable is secured inside the drum to prevent the push cable from unwinding itself if the drum is removed from the case or if the case is left open with the drum inside.** If the push cable unwinds, do not manually twist or force the

push cable back into the non-rotating drum. The twisting and bending of the push cable that results from forcing it into the drum without the use of the outer case to rotate it will damage the push cable. See Appendix A for instructions on reinserting the push cable if it has unwound itself from the drum.

Product Overview

The RIDGID® SeeSnake® microREEL™ APX™ and CSx Via™ mobile inspection device make an easy-to-use yet versatile plumbing inspection system.

microREEL APX

The microREEL™ APX™ is a portable and customizable diagnostic camera reel with enhanced imaging features.

The stiffer push cable makes the microREEL APX ideal for inspecting longer runs in pipes that are 38 mm to 102 mm [1.5 in to 4 in].

The included kickstand lets you set up the microREEL APX in the optimal position while pushing or retrieving the cable and protects the CSx Via during use.

The microREEL APX features a built-in sonde in the camera head that can be located with a utility locating receiver to find points of interest in the pipe.

APX Features

The microREEL APX is equipped with an auto image flip feature. When connected to a SeeSnake CSx series device, the microREEL APX flips your onscreen image as the camera rotates through the pipe, ensuring your image remains oriented upright.

TruSense Technology Description

The camera on the microREEL APX includes features enabled by TruSense technology. TruSense technology establishes a two-way communication link between the camera head and a connected CSx series monitor.

TiltSense™ inclinometer: measures the camera's degree of tilt and displays it on the HQx Live app or HQ, giving you a useful indicator of the camera's angle as it lays inside the pipe.

High Dynamic Range Image Sensor: expands the camera's dynamic range, allowing both bright and dark areas to be displayed in the image for superior clarity and detail.

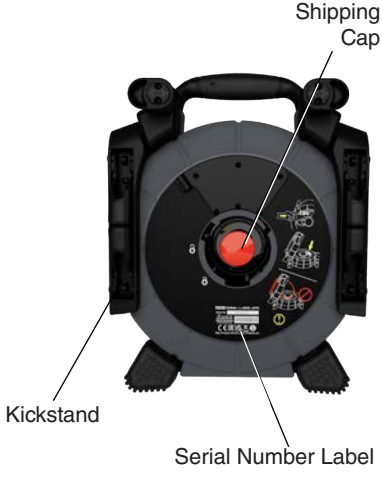
CSx Via

The RIDGID SeeSnake CSx Via is a flexible inspection solution for streaming, capturing, and sharing media using a mobile device. With its integrated Wi-Fi, the CSx Via connects to an iOS™, Android™, or Windows-powered device to enable inspections with the SeeSnake HQx Live app or SeeSnake HQ software for Windows. The CSx Via is powered by an 18 V rechargeable battery.

The CSx Via is compatible with most RIDGID SeeSnake camera reels and easily installs via the slip-ring cavity. The CSx Via Mount accessory is required for using the CSx Via with the SeeSnake Standard or Mini camera reels.

Components

microREEL APX



CSx Via

Standard Equipment

- SeeSnake microREEL APX
- SeeSnake CSx Via
- Pipe guides
- Operator's manual

microREEL APX Specifications	
Weight	5.5 kg [12 lbs]
Dimensions	
Length	337 mm [13.3 in]
Depth	224 mm [8.8 in]
Height	411 mm [16.2 in]
Drum diameter	305 mm [12 in]
TruSense Camera	
Length	26 mm [1 in]* 37 mm [1.5 in]**
Diameter	25 mm [1 in]
Resolution	640 × 480 pixels
Sonde	
Type	Integrated
Frequency	512 Hz
Distance Measurement	
Type	TruSense Counter
Data Communication	Two-Way
Push Cable	
Length	30 m [100 ft]
Diameter	6.7 mm [0.27 in]
Fiberglass core diameter	3 mm [0.12in]
Minimum bend radius	64 mm [2.5 in]
Pipe Capacity §	38 to 101 mm [1.5 to 4 in]
System Cable Length	3 m [10 ft]
Operating Environment	
Temperature ‡	0°C to 46°C [32°F to 115°F]
Storage temperature	-20°C to 70°C [-4°F to 158°F]

microREEL APX Specifications	
Ingress protection (without monitor)	IP×5
Relative humidity	5 to 95 percent
Altitude	4,000 m [13,123 ft]
Camera depth rating	Waterproof to 100 m [328.1 ft]
* Measured from lens to spring.	
** Measured from lens to end of threads.	
§ Actual pipe capacity depends on pipe conditions.	
‡ While the camera can function in extreme temperatures, some image quality changes may occur.	

CSx Via Specifications	
Weight (with cap)	0.38 kg [0.83 lb]
Dimensions	
Length	149 mm [5.9 in]
Depth	106 mm [4.2 in]
Height	126 mm [5 in]
Power Source	18 V Li-Ion or Lucid 18.5 V lithium polymer battery
Connectivity	
Bluetooth	Bluetooth Low Energy (BLE)
Wi-Fi	802.11 b/g/n 802.11 a/n/ac
Operating Environment	
Temperature	-10°C to 50°C [14°F to 122°F]
Storage temperature	-20°C to 60°C [-4°F to 140°F]
Relative humidity	5 to 95 percent

Operating Instructions

Opening the microREEL Case

⚠ WARNING

Make sure the camera is completely inside the drum before unlatching and opening the microREEL APX case. Do not open the microREEL APX case while the camera is stored in the camera clip. If the camera is not in the drum, the push cable can unwind and cause damage or serious injury.

Open the microREEL APX case to route the camera, replace the drum, rewind the push cable, and to maintain and clean the system.

1. Set the unit on a level surface and lay it on its back.
2. Unfasten the case latches on either side of the microREEL APX.

Case Latch

3. Carefully open the front case and locate the camera head in the push cable drum.
4. Route the camera head out through the push cable guide in the front of the case.
5. Secure the camera head in the clip.
6. Close and relatch the case.

Inspection Overview

To perform a pipe inspection, connect the CSx Via to the microREEL APX, power on the system, and connect the CSx Via to HQx Live or HQ. Push the push cable through the pipe and observe the display.

Connecting the CSx Via to the microREEL APX

The CSx Via Wi-Fi inspection device connects to the microREEL APX through the slip-ring cavity.

1. Remove the shipping cap from the microREEL APX.
2. Slide the battery into the CSx Via battery shoe.
3. Remove the shipping cap from the CSx Via connector.
4. Align the arrow on the connector with the unlock symbol 🔓 on the frame and insert the CSx Via into the slip-ring cavity.
5. Turn the CSx Via so that it locks into place 🔒.

NOTICE **When the CSx Via is not connected to the microREEL APX, keep the shipping cap over the slip-ring cavity to protect the electronics inside.**

Connecting to a Mobile Device

The CSx Via can be used to perform an inspection using HQx Live, available on iOS and Android devices, or SeeSnake HQ software for Windows devices.

To connect the CSx Via to your device, enable your device's Wi-Fi and Bluetooth, open the app, and connect to the CSx Via. Once connected, you can live stream inspection footage and capture, view, and share media.

Visit the HQx Live and HQ support pages on SeeSnake Support for additional instructions, including detailed connection instructions and media capturing and sharing.

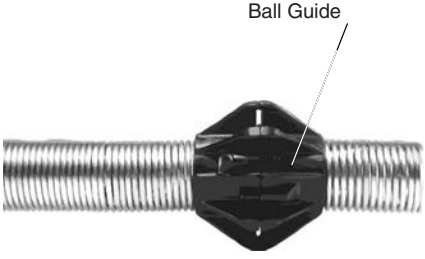
- HQx Live: **support.seesnake.com/hqx-live/**
- HQ: **support.seesnake.com/hq**

Placement

Set up your microREEL APX on a level surface near the pipe entrance so you can manipulate the push cable while viewing the display. Use the kickstand to position the microREEL APX so that it does not tip during use. The kickstand protects the CSx Via mobile device when connected to the microREEL.

Pipe Guides

Pipe guides center the camera in the pipe, improve picture quality, and help keep the lens clear. Use pipe guides when possible to reduce wear and tear on the camera system.



Retrieving the Camera

Pull the push cable back out of the pipe with slow, steady force and feed small lengths back into the drum. Wipe the push cable with a paper towel or rag as you retrieve it.

NOTICE **Do not exert excessive force or pull at sharp angles. Feeding longer lengths or forcing the push cable may cause it to loop, kink, or break.**

Removal

To remove the CSx Via, turn it so that the arrow is aligned with the unlock symbol 🔓 and pull straight out.

CSx Via Key Functions

	Power	Power on and off. Press to wake up while in Standby Mode.
	Zero	Press and hold to set the system measurement to zero. Press to start and stop temporary segment measurements.
	Sonde	Enable and disable the sonde.

LED Behaviors

The CSx Via uses its LEDs to communicate booting and Wi-Fi connectivity status.

Power and Booting LEDs	
Status	**LED**
Booting	Both LEDs alternate flashing
Restarting/ powering off	Both LEDs flash simultaneously
Recovery mode: The CSx Via will refresh its firmware and restart in the event it does not power on	Both LEDs flash simultaneously

Wi-Fi Connectivity LEDs	
Status	**LED**
Wi-Fi booting	Wi-Fi LED flashes rapidly
Wi-Fi ready	Wi-Fi LED flashes steadily
Wi-Fi connected	Wi-Fi LED solid

Power States

The CSx Via has three power states: on, off, and Standby Mode, a low power state that turns off the camera and its LEDs to conserve energy. The CSx Via enters Standby Mode after a period of inactivity, or when closing the app or exiting live view. To wake up the CSx Via from Standby Mode, press the Power key or open the app's live view.

The CSx Via beeps to communicate different power states.

Power State Sounds	
Power State	**Sound**
Power on	Single beep
Power off	Long beep
Entering Standby Mode	Two beeps
Wake up from Standby Mode	Single beep

Replacing the Drum

The microREEL APX case gives you the ability to swap out the drum when the job requires a different push cable and camera combination. Ether drums on the SeeSnake microDRAIN™ APX and NANOreel™ systems can be installed into the microREEL APX case.

To install the drum, follow these steps:

1. Open the microREEL APX case and remove the drum.
2. Place the drum you want to use in the microREEL APX case.
3. Make sure the product name label faces up.
4. Spin the drum to make sure it rotates freely.
5. Close and lock the case.

Maintenance and Support

Cleaning the microREEL APX

Clean your system with rags and a soft nylon brush. If desired, a mild detergent or disinfectant can be used. Do not use solvents or high pressure water to clean any part of the system.

Maintaining Components

Camera Head

Scratches on the camera have a minimal effect on its performance. Do not use scraping tools or sand the camera to remove scratches.

Push Cable

Run a rag over the push cable and visually inspect it for cuts and abrasions while pushing it back into the drum. Replace or repair the push cable if the outer jacket is cut or abraded.

Appendix

Appendix A: Reinserting the Push Cable

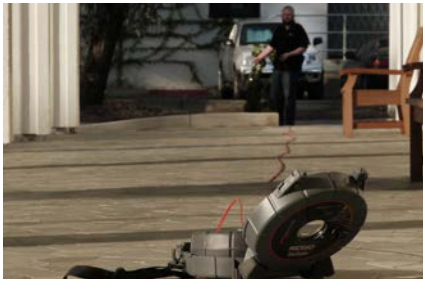
NOTICE

Do not use excessive force when attempting to rewind the push cable into the drum. Feeding longer lengths or forcing the push cable may cause it to loop, kink, or break.

Follow these instructions to reinsert the push cable if it has unwound from the drum.

1. Seat the drum in the case before reinserting the push cable.

2. If space permits, uncoil and straighten the entire length of push cable on the ground.



3. Using both hands, begin to rewind the push cable into the drum. If the push cable cannot be laid out straight, use extreme care when rewinding the push cable. Ensure the push cable does not bend or get caught on or underobjects. If the push cable becomes twisted or bent, stop rewinding and untwist it before continuing.
4. Ensure the drum rotates in the case as the push cable rewinds. To avoid damaging the push cable, keep one hand close to the drum when rewinding the push cable to ensure that the drum rotates freely.

5. Gently route the camera head through the push cable guide.

If replacing the camera head, only pull up on the portion of the cable that contains the spring to avoid bending or breaking the push cable.