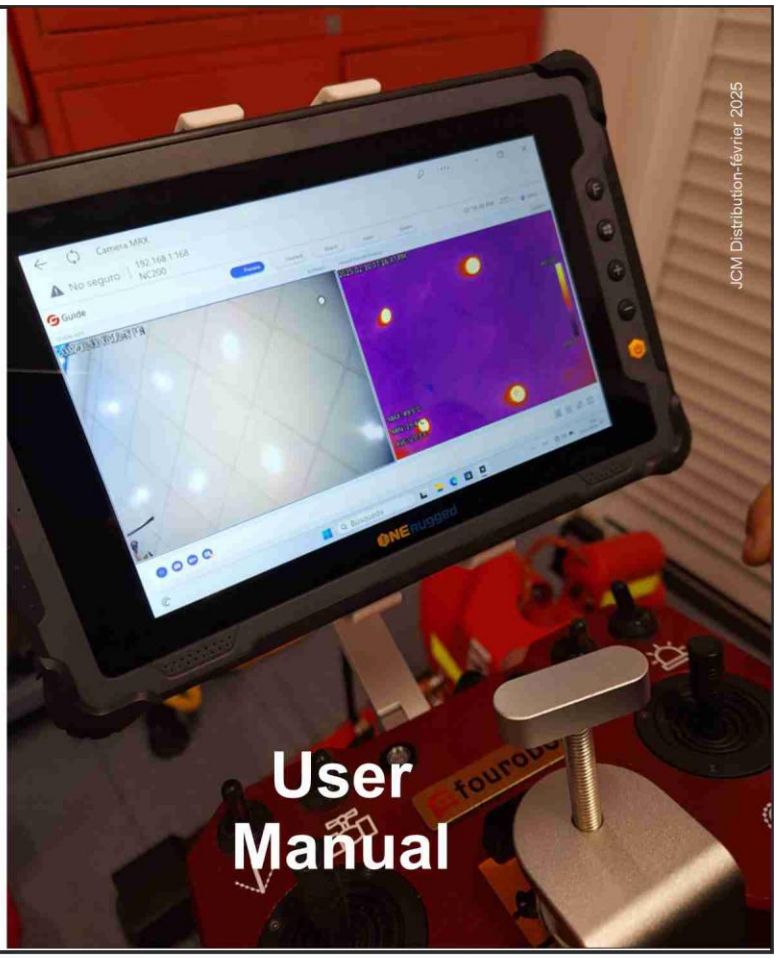
Visual & thermal camera for MRX robot

IMAGES NON CONTRACTUELLES



User Manual

JCM Distribution-février 2025

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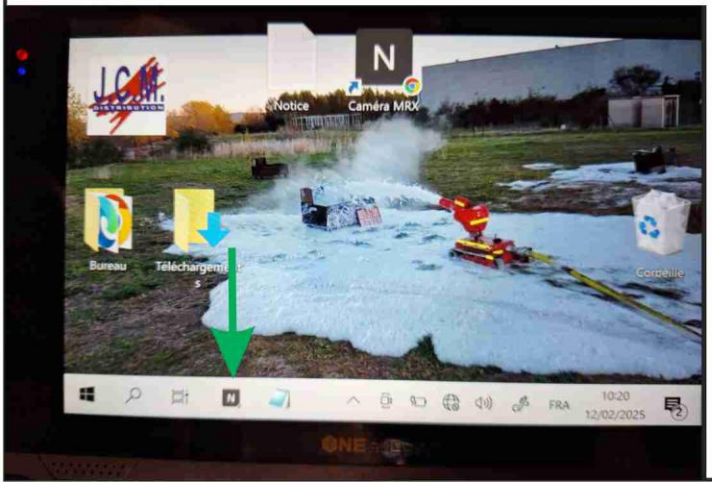
SETTING UP THE TABLET

Attach the tablet holder to the MRX remote control and position the tablet on this holder. (This tablet can also be positioned on a tripod provided.)

Power on the MRX to power the transmitter and camera.

Start the tablet by pressing the orange button at the bottom right.



After about thirty seconds the touch screen opposite appears: press once on the square tab “N” at the bottom left.

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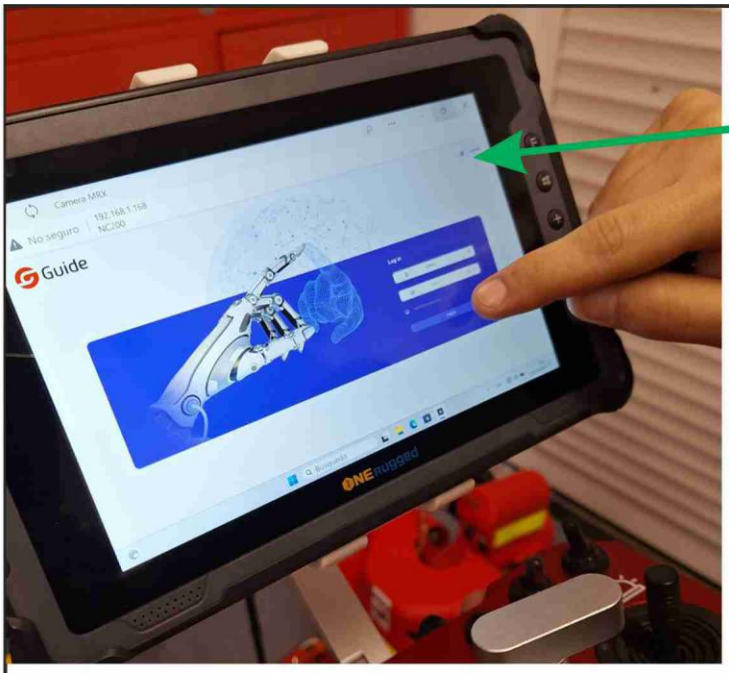
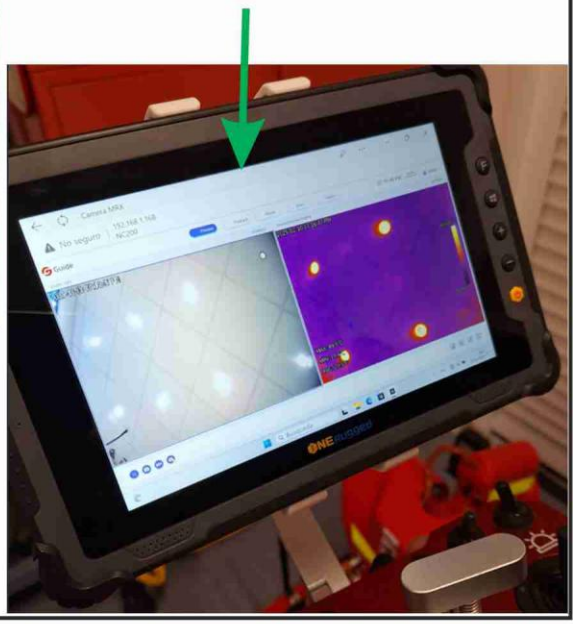


On this new display, a touch on the “Log In” tab should bring up the visual image and the thermal image.



You will notice that since the two lenses cannot technically be similar, the viewing angles are different: the closer the target is, the more the difference is noticeable.

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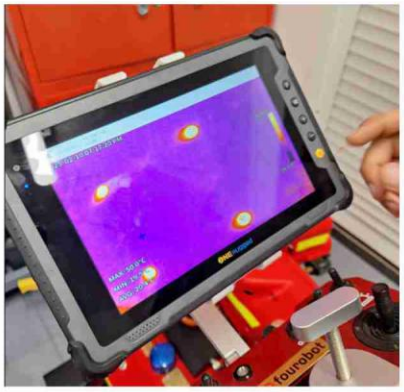
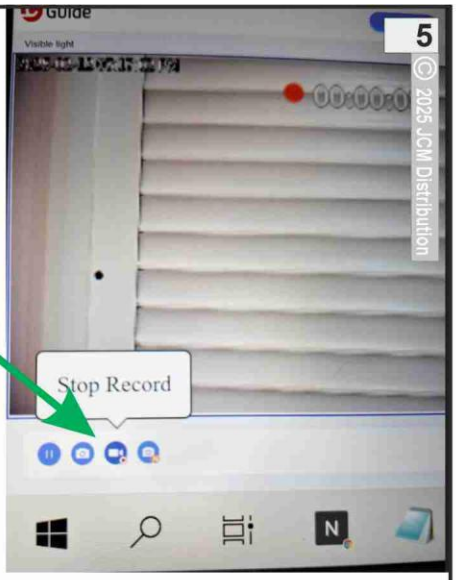


Two short, successive presses on the screen allow full-screen display of one or the other camera.

Above images visible with the monitor in straight jet.
Note that the projection of water on the lenses inevitably degrades the quality of the image.

ENREGISTREMENT

A single press on the icon at the bottom left starts video recording.
A further press on the same icon stops recording.



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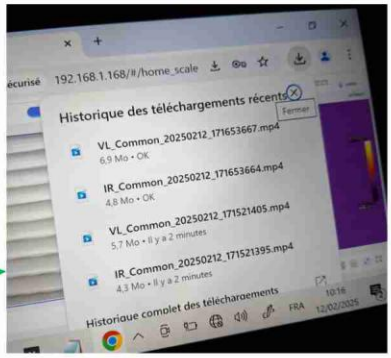
Open this file to access the recordings.
Videos from both cameras are recorded simultaneously.



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TEMPERATURES

Timestamp

The thermal camera can measure temperatures from -20 to 550°C. The highest temperature of the targeted scene is displayed at the top of the cursor on the right and the lowest at the bottom of the cursor.

The red cross indicates the hottest point (here 96.7°C for electric heating) and 12.9°C for the coldest point

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The transmission distance between the tablet and the camera with its transmitter has been tested at more than 150 meters in open space.This means that if an obstacle comes between the transmitter and the tablet, it is highly likely that the image will freeze on the screen and this without the pilot simultaneously losing control of the movement of the robot (which can receive commands from more than 200 m away in open space).
As a result, it is not recommended to pilot by relying on the image received on the tablet but always keeping the robot "in sight".

The camera of a land drone does not have the same field of vision as that of an aerial drone which - most of the time - can stay away from the multiple close obstacles that surround a land drone. Another difference between the aerial drone and the land drone : obstacles on the ground may not be identified by the pilot on his screen: ditch, sidewalk, significant slope, various reliefs. So if the MRX ends up straddling a 70 pipe or a protruding rock it will lose its grip.

WIFI TRANSMISSION

The purpose of the camera and especially the thermal camera is to identify the target to be cooled and to control its cooling by the monitor jet without exposing the pilot to heat or to the risks of explosion or collapse. By following the robot a few dozen meters away without losing sight of it, the pilot operates safely and the camera attached to the monitor allows him to target the areas to be cooled as precisely as possible.
There are military solutions so that the Wifi signal "crosses" obstacles over very long distances. But in addition to the substantial budgets that this technology requires, piloting a land drone via the screen in an unknown area (often strewn with obstacles that are difficult to identify by the camera) is very random.

The robot does not replace the firefighter or the firefighter's eyes. It provides the safety of distance, a saving of stress and physical energy.

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TECHNICAL DATA SHEET
Thermal and visual camera

Thermographic Detector type	Uncooled WLP VOx
	Resolution 256 X 192
	Wavelength range : 8 to 14µm
	Pixel size : 12µm
	NETD : <45mK@30°C
	Lens : 3,2 mm.
	FOV : 56 ° X 42°
	Temperature range :-20°C to +550°C
	Measurement accuracy : : ±2°,±2%
Visible light sensor	HD 1/2.7'
	Resolution 1920 X 1080
	Lens 2,8 mm.
	Minimum illuminance: 0,005lux
	FOV : 65,5° X 49°
Hardware interface	Web-side control, No need other APP or software to set the parameters
Encapsulation	IP67
Working temperature	-40°C à +60°C
Dimensions	105 X 71 X 30 mm
Weight	300 Gr
Power supply	12V
Image coding formats	JPEG

Votre distributeur

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