



COMING SOON

# ExR-2 INVESTIGATOR SPECIFICATIONS

## GENERAL SPECS



### Weight

100-120 kg  
Depending on accessories



### Dimensions

960 x 660 x 670mm  
(L x W x H)



### Operating time

Ops time: 3 hr  
Standby time: 8 hr



### Speed

0.6 meter/sec  
(2 km/hour)



### Ambient operating temperature

From -40°C to 60°C  
Depending on options



### ATEX/IECEx Zone 1 certified

T4 temperature classification.

## ENVIRONMENTAL CONDITIONS

*ExR-2 robot can be used in harsh environments:*

- Ambient operating temperature -40°C - +60°C *(depending on options)*
- Operation Humidity 0% - 100%
- ATEX / IECEx Zone 1 certified
- Operates in rain, snow & standing water

## MOBILITY

*Ex drive module containing motors and control electronics*

- Centipede tracks
- Motor power 360W BLDC
- Speed 2 km/hour, range 2 km
- Skid steering on the spot
- Drives up and down 35 degree slopes
- Drives up and down 10 cm ledges
- Can be used in all weather conditions
- Ground clearance 60 mm

## BATTERY PACK

*Ex battery pack with replaceable batteries*

- Ex enclosure containing three 14Ah lead crystal batteries for a combined 504Wh
- Operating time under normal operation 3 hours
- Operating time on standby 8 hours
- Battery charging time to 100% 7 hours
- Autonomous charging with docking station *(optional)*

## ELECTRONICS BOX & COMMUNICATIONS MODULE

*Ex enclosures containing a customised motherboard that integrates the robot's functions:*

- NVIDIA Xavier NX AI Accelerator
- Intel Atom 4 cores, 8 Gb, 1,04 Ghz
- Dedicated MCUs for real-time control
- Battery charger system with battery over temperature protection
- Swappable sim-card

## NAVIGATION AND LOCALIZATION

*Integrated sensors including Ex LiDAR module:*

- XSens MTI-30-2A8G4 IMU and Velodyne VLP-16 LiDAR
- Mission editor to pre-define autonomous routes
- Awareness of surrounding environment
- Obstacle and gap detection and avoidance
- Mission report with mapping of measurements

## INSPECTION MODULE

*Integrated unit of high grade aluminum with:*

- Hi-resolution 18.1 mega pixel camera point and click and high dynamic range imaging
- Integrated LED with 690 Lm
- Pan capabilities 360 degrees
- Elevating between 50cm - 160 cm height *(optional)*
- Glass window with nano coating for self cleaning
- Additional upwards facing inspection module *(optional)*

## DRIVE CAMERA MODULE

*Integrated unit of high grade aluminum with:*

- 3.1 mega pixel camera with digital zoom, point and click, aperture and exposure control
- Integrated LED with 690 Lm
- Glass window with nano coating for self cleaning

## THERMAL CAMERA MODULE *(optional)*

*Integrated unit of high grade aluminum with:*

- FLIR Boson longwave infrared (LWIR) thermal camera wavelength 7.5um – 13.5um
- 640 x 512 resolution with 12um pixel pitch
- Digital zoom to 8 times
- Can also integrate with the inspection module

## MICROPHONE & SOUND MAPPING

- Standard front facing microphone
- Det-Tronics Acoustic Analyser Module *(optional)*

## COMMUNICATION

- Dual band antennas to connect to 4G LTE / 5G public or private networks
- WiFi antennas to connect to local WiFi access points *(optional)*
- GPS antenna *(optional)*
- VPN connection between robot and cloud software
- API for data transfer to customer systems.

## ATEX / IECEx ZONE 1 CERTIFICATION

- Robot and docking station
- II 2 G Ex db eb ib mb qb IIB T4 Gb

## INDUCTION CHARGER AND DOCKING STATION *(optional)*

*60W patented induction charger with:*

- Foreign object detection system
- Inputs 110 to 240 VAC
- ATEX / IECEx zone 1 certified

## GAS SENSOR Modules *(optional)*

- Ion Science Falco 1.1 for volatile organic compounds (VOCs)
- Honeywell 3000 Mk II for toxic gases
- Crowcon IR MAX for hydrocarbon gases
- Simtronics GD10-P00 for hydrocarbon gases
- Honeywell Sensepoint XRL for toxic gases

## CONTROL & MANAGEMENT SOFTWARE

*Comes with the advance software from Energy Robotics*

- Server software available in public or private cloud
- User and access management by customer
- Remote control interface for first responder situations
- Autonomous route repetition
- Mission report for evaluation of collected data
- Notification system to report anomalies

## OPTIONAL SOFTWARE

*Comes with the advance software from Energy Robotics*

- Autonomous docking
- Autonomous full 3D navigation
- 2D gas maps in mission report

## AI Data processing *(optional)*

- For analog gauges reading
- For object recognition
- For change in thermal measuring of objects
- Sound processing to extract historical anomalies



**ENERGY ROBOTICS**

The ExR-2 Investigator is brain-powered by Energy Robotics' OS and cloud-based software solutions. These enable customers to manage robot fleets, remotely control their robots, programme and launch autonomous missions, and analyse the data their robots collect.

Our Robots create a safer working environment for your operators whilst improving your financial performance.

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## The robots of ExRobotics are distinguished by their:

- **Independence:** they are self-charging and require no human intervention when stationed on unmanned facilities.
- **Reliability:** they are designed to operate for months, or even years, without maintenance.
- **Ruggedness:** they can operate in a wide range of climates.

[WWW.EXROBOTICS.GLOBAL](http://WWW.EXROBOTICS.GLOBAL)

**EX**  
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