

FIREFIGHTING

Firefighting robot TrackReitar FFL from LeoTronics saves lives and prevents injuries for the firefighters. Created to operate in the most extreme conditions. uneven terrain, extreme heat, cold, and high humidity.

Offering flexible firefighting solutions, this robot utilizes water, emulsion, and foam, dynamically adjusting its flow from 1200 to 4800 l/min. This adaptive system conserves water while effectively combating fires ranging from small residential incidents to large-scale industrial blazes.

TerraHexen Sp. z o.o. Patent USPTO

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Title of Invention
The principle of operation of a mobile firefighting robot



SIZE

mm (L x w x h)
1300 x 1045 x 1400

DISTANCE

400 m

FLOW RATIO

max 4800 L/min

WEIGHT

225kg

Characteristic Name	Declared Characteristics by the Developer
Fire Monitor Characteristics:	
Maximum flow rate, L/min	4800
Vertical range of operation	from +30° to +90°
Horizontal range of operation	340°
Maximum fog angle	340°
Flow rate, L/min, automatic nozzle	1200-4800
Water spray range, meters	up to 85
Working pressure, bar	10-12
Connection to water source	2×2.5"
Communication range via radio channel:	
In open terrain (line of sight), km	2.0
In rough terrain (hills, forest) or in industrial development conditions, km	0.4
Power reserve (on a single battery charge or fuel reserve):	
On paved roads, km	10
Off-road, km	5
Maximum transport speed of the complex:	
On paved roads, km/h	6
Off-road, km/h	4
Available optoelectronic surveillance:	
Day video camera	720P (1280×720) @ 30 fps
Deployment and preparation time, min.	5
Roll-up time, min.	5
Technical characteristics:	
Functional purpose	Firefighting and water cooling
Base platform type (modular, light armored, frame)	Modular
Chassis type (tracked, wheeled, combined)	Tracked
Power plant type (internal combustion engine, electric, other)	Electric
Weight of the complex:	
Full, kg	225
Transport method (car trailer, container)	Car trailer
Characteristics of control and telemetry channels (frequency, protection or encryption)	2.4 GHz
Movement modes: manual (remote control)	Manual (remote control)

Characteristic Name	Declared Characteristics by the Developer
Overall chassis dimensions:	
Length, mm	1300
Width, mm	1045
Overall height, mm	1400
Ground clearance, mm	165
Obstacle crossing on dry sod ground:	
Maximum grade slope	30
Maximum side slope	20
Trench (ditch) width, m	0.5
Vertical wall height, mm	230
Maximum ford depth with solid bed, m	350
Camera (cameras) viewing angle:	
Horizontal, degrees	80
Vertical, degrees	80
Operational characteristics:	
Crew, persons	1
Warranty period, years	1
MTBF, hours	480
Resource (hours or km before write-off/repair)	5000
Number of units in a complex	1
Number of ground control stations	1
Operating range:	
Temperature, °C	-20 ... +60
Pressure, mm Hg	760
Precipitation (snow, rain, fog)	Snow, rain, fog
Wind speed, m/s	30
Maintenance and control tools	Available
Simulator	Not available
Protection against operator errors	Yes
Redundancy of main systems and ground control point	Possible
Noise level during movement:	
At maximum speed, dB	50
At medium speed, dB	60
Remote control informativeness	Informative, 7-inch display
Towing capability (tractive effort, trailer payload)	Not specified

Robot Name	Manufacturer	Link to Product Page	Size	Weight	Price	Operational Lifespan	Communication Range	Max Speed	Key Benefits	Main Disadvantages
Colossus	Shark Robotics (France)	Shark Robotics - Colossus	1600 × 780 × 760 mm	525 kg	High (Exact price not disclosed)	up to 12 hours with 6 removable batteries	1000 m	3.5 km/h	- Powerful all-terrain capability - High-pressure water/foam monitor - Long battery life	- Heavy and bulky - High cost
Rhyno Protect	Shark Robotics (France)	Shark Robotics - Rhyno Protect	1150 × 750 × 550 mm	350 kg	Medium (Exact price not disclosed)	5 hours	1000 m	5 km/h	- Compact and mobile - AI-enhanced remote control - Lightweight for easier deployment	- Limited water flow rate - Shorter operational battery life
TrackReitar	TerraHexen Robotics	TerraHexen (UK) TrackReitar	1070 × 1045 × 1400 mm	220 kg	~60 000 EUR	6-8 hours	1000 m	10 km/h	- High water flow rate (4,800 L/min) - Thermal imaging - AI for fire detection and suppression - Autonomous navigation - Lightweight for easier deployment	
RTE Robot	Rosenbauer (Austria)	Rosenbauer - RTE Robot	1200 × 1070 × 848 mm	500 kg	~ 150 000 EUR	6-8 hours	200 m	5 km/h	-Multifunctional with modular equipment	- Heavy weight for certain operations - Potentially complex operation for new users
Thermite EV2	Howe & Howe (USA)	Howe & Howe - Thermite EV2	2870 × 1540 × 1850 mm	1225 kg	High (Exact price not disclosed)	20 hours	300 m	13 km/h, moderate maneuverability	- Fully electric - High-definition video system - Optional thermal imaging	- High upfront cost
Avenger Fire	ICP NewTech (USA)	ICP NewTech - Avenger Fire	1400 × 450 × 840 mm	122 kg	Medium to High (Exact price not disclosed)	4 hours	500 m	8 km/h, high maneuverability	- Compact and lightweight - Thermal imaging and gas detection - Maneuverable	- Narrow caterpillars - Low off-road capability
Wolf R1	Magirus	Magirus	1500 × 1200 × 1300 mm	900 kg	~ 220 000 EUR	Not disclosed	150 m	15 km/h	- Powerful Performance - Flexibility - High Tractive Force - Speed	- High Cost - Weight - Complexity -Limited Terrain Adaptability
TEC 800	Angatec	TEC 800	1600 × 1790 × 1300 mm	600 kg	Medium to High (Exact price not disclosed)	4 hours	5000 m	12 km/h		

