

XENA S.O ROBOT ATR / UGV



MODEL: XENA S.O ROBOT ATR

APPLICATION: TACTICAL, DEFENSE, SURVEILLANCE

BRAND MAKE: CLUB FIRST

Application Brief: Tactical Defense, Combat Operation, House cleaning drills, Surveillance , Target Detection, Tracking Engagement, Front line Engagement , Patrolling, Locating Enemy mine field etc.

Specification:

RC Control ATV robotic platform

- Heat Proof, Water Proof
- Smart Remote Operated attachments thermal camera
- Two way Audio Communication
- PTZ Thermal Remote Controlled Camera (Optional)
- Automatic Fire point detection & alarming (Optional)
- High Precise Adaptive Breaking
- Gyro based Straight line and Angular Algorithm
- LCD on remote side for Live Video Feed
- Heavy Duty Work
- 4-6 Hrs Battery Backup
- Speed Up to 8 Km/h



Key Parameter:

- The XENA ATR platform Robot Xena 5.0 have top speed 8 km/H
- Compact Design for heavy duty work
- Heavy Duty Spiral Iron Core Wire Rubber Track
- Track Belt Suspension
- BLDC Heavy duty motors
- RC 5000 Meter Range
- Heat and over load protection
- Efficiency Exhaust protection
- 520 Kg Payload capacity
- 180 Kg Drag capacity (UP to 8 Ton Vehicle)
- Climb to possible stairs and elevations
- Fast Charging system
- All-terrain Vehicle Technology

Technical Specification:

Robot Base: 1.5, MM 3 MM dual SS 316/MS powder coated base

Body Material: 1.5mm thick SS 316/MS for heavy duty work

Dimension: Xena 5.0 can fit a box of (1280 x 860 x650) L x W x H in MM (Robot Vehicle Only)

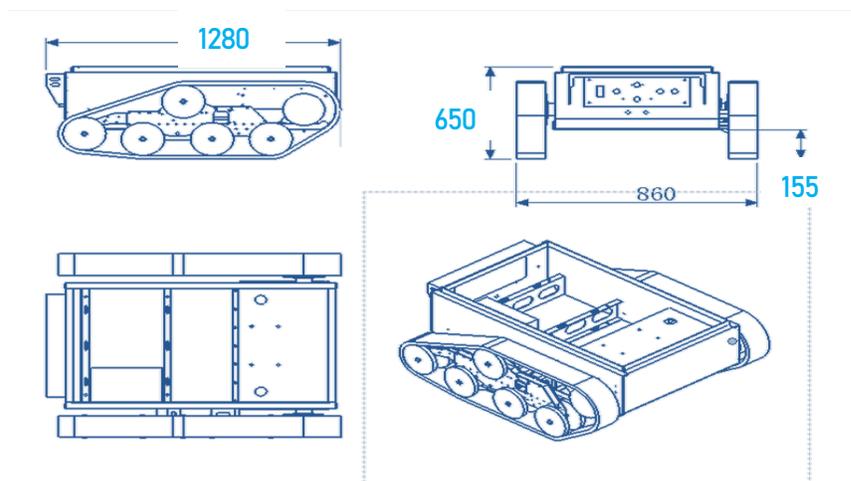
Total Weight: 120- 290 Kg (As per attachments)

Working Temperature: --20°~+95° Up to 500° in Self Cooling

Climbing Slope Angle: ≤45°

Climbing Stairs Angle: ≤30°





Sr. No.	Particular	Findings As per Actual Sample	Measurement Unit
Robot chassis Parameters MAKE: CLUB FIRST			
1.	Dimension: Length X Width X Height	1280 X 860 X 650 (MM)	Millimeter
2.	Weight	120- 240 KG	Kilo Grams
3.	Maximum Speed	8 KM/H	KM/H
4.	Payload Capacity	100-520 Kg	Kilo Grams
5.	Pulling Capacity - a vehicle at neutral gear position	4-8 Ton vehicle	Ton
6.	Slope Climbing Capacity	45 Degree	Degree
7.	Vertical Obstacle Height	350 MM	Millimeter
8.	Stairs Climbing Capacity	25 CM with 32 Degree Angle	Centimeter/ Degree
9.	Battery Type	LI-ION/LiFePO4 Battery Pack	LI-ION/LiFePO4
10.	Battery Capacity	48 Volt 45-72 AH	Volt -AH
11.	Rubber Track (Width X Thickness)	120MM X 25MM	Millimeter
12.	Motor Power Rating	800W, 48V	Watt
13.	Operational Duration Endurance	4-6 Hrs	Hours
14.	Ground Clearance of chassis	155MM	Millimeter
15.	Turning Radius	650 MM	Millimeter
16.	Fog Light	100 W led, 2 numbers	Watt
17.	Maximum back Force	250 Kg	Kilo Grams
Remote Controller Parameters			
1.	Transmission Operational Range	2000-5000 Meter	Meter
2.	Video Transmission Range	2000-3000 Meter	Meter



3.	Transmitter Weight including Battery	600 Grams	Grams
4.	Display Size	5 Inch	Inch
5.	Dimension of Transmitter unit without antenna L X W H	217 X 106.6 X 31	Millimeter
Thermal Camera			
1.	Resolution	1280 X 720 Pixel , 1920 X 1080 Pixel	Pixel
2.	Pitch	-90° to + 90°, Horizontal 360° continuous rotation full coverage of 720°, 3D Space	degree
3.	Camera Detection Range	Vehicle: 4000M, Human: 1640 Meter, Fire: 2000 Meter	Meter
4.	Detection/Day/ Night	Vehicles:4200m, human: 1640m, Fire point (@2x2m): 2000m	
5.	Identification/Day/Night	Vehicles:4200m, Human: 1640m, Fire point (@2x2m): 2000m	
6.	Lens	50MM	
7.	Protection	IP67	
8.	Weight of Complete Robot	120-290 Kg	Kilo Grams

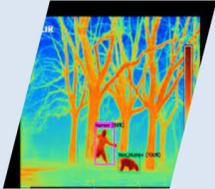
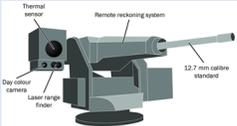
Sustainability Parameters

1.	Chassis Body Shell Material	Stainless Steel SS 316 Grade / 1.5 MM thick
2.	Track Belt Material	Rubber Track with Iron Core
3.	Siren Hooter (controlled by Remote Control)	Emergency Siren 113 DB at 1 Meter Distance
4.	Automatic Self cooling Sprinkler System that covers complete unit including track belt (controlled by Remote Control)	6MM SS Artery (For Fire Application)
5.	Motor/Drive Controller Make: Club First	50 Amp 48 Volt , 60 Amp Peak (1 Second) , MPU 6050, Gyro based Straight line following Algorithm, and on axis Angular 360 Degree Movement capability



<p>6. Remote Control Unit(with straps to carry) Functional operations in single unit (same Remote Control)</p>	<p>Robot- Forward, Backward, Angular, On axis rotation Water monitor- Up, down, on axis, fog mode, jet mode, Horizontal (+ -)180 Degree, +25 to 85 Degree Vertical Movement, LED fog Light, Siren Hooter, Sprinkler valve, camera video feedback</p>
<p>7. GCS (Ground Control Station)</p>	<p>Range up to 3000M, Bandwidth 100Mbps</p>
<p>8. Robot Operational Parameter</p>	<p>-20°-70° Celcius</p>
<p>9. Drive Controller</p>	<p>ARM 2.6 Quadrate microcontroller</p>
<p>10. RC Controller</p>	<p>2 HDMI Video Input, 4X Cortex A53, GPU: 4 Core Mali- T860 eMMC: 4 GB upto 128 Video Latency: 110MS, Frequency 2.4 Ghz</p>
<p>11. Drive Mechanism</p>	<p>Deferential drive and each drive powered with 800W BLDC Motor individually</p>
<p>12. Handles</p>	<p>4 numbers foldable type</p>



Attachment	Features		
Thermal Camera 	 Lives Detection	 Long Range Drone Detection	
Robot Arm 	<p>Robot Arm can be attached on robot for bomb disposal and diffusion from remote location camera attached with the arm help to pilot for operation and identification of surgery</p>		
Rescue Stretcher 	<p>One Rescue stretcher can be mounted on robot for Combat search and rescue (CSAR) are search and rescue operations that are carried out during war that are within or near combat zones.</p>		
Weapons 	<p>One autonomous live detection and weapon can be attached on the robot</p>		