![SMP ROBOTICS logo]

Security Robot

S5 PTZ
S5 HD
S5 HDPTZ

NVIDIA's exclusive ISC West Robot Partner

Autonomous Unmanned Ground Vehicle

> Fully autonomous patrolling
> 12 hours without recharging
> Panoramic video surveillance system
> Automatic obstacle avoidance
> Overcome obstacles up to 7 inches
> Any weather conditions, rain, snow, gusty wind
> Temperature range from -7°F to +110°F
> Guard friendly robot
> Security operations integration
> Milestone and other VMS integration
> "Super Human" autonomous human and vehicle detection
> Two way audio. Panic button.
> Auto Tracking PTZ Camera 400 ft. zoom
> 100% ONVIF standards support
> AZURE cloud data solutions by AV5
> Open platform for special equipment, sensors integration software development

Mobile video surveillance system

The robot is designed as part of security system of large area facilities. Staying on position and optimal for video surveillance of protected areas, the panoramic video surveillance system detects movements while the PTZ camera targets in on moving objects. If the system recognizes a human in a PTZ camera image, it transmits an alarm signal to a guard station. After analyzing the video image, an operator can makes a decision to reset an alarm, turn on a siren, or a turn on a strobe on the robot and send out security personnel to deal with the intrusion. In case of alarm reset or in absence of an intruder in the camera's field of vision, the robot automatically moves to the next observation position. When using several robots within protected area, their routes are coordinated.

Remote video surveillance

An operator is able to remotely control the robot through a portable computer. The Robot Vision software displays the view from the Robot camera, the current position of the Robot, the status of its control system, and the batteries' discharge level. If required, the route of the Robot can be changed remotely. Video and data are transmitted through WiFi. Large area facilities require WiFi-enable networks to ensure reliable video coverage of patrol routes. During patrolling, mission video from all cameras is recorded by the built-in DVR. During recharging, video data is copied to a stationary NAS using Ethernet connection.

Autonomous patrolling

The robot is centered on a wheeled chassis and moves between surveillance positions, without operator's assistance, under control of its automated driving system. The patrol route is memorized during the robot's first patrol mission under the control of an operator. The automatic video driving system allows moving along the established patrol route even under conditions of unstable GPS data reception, for example, in forested parks or on heavily built-up areas. The robot is also able to bypass obstacles without operator assistance. The robot can patrol for more than 12 hours without recharging depending on terrain.

All-weather round-the-clock operation

Water resistant ability of the robot is sufficient for driving on any type of hard surface or even crossing shallow puddles and soft ground patches. In winter time, patrolling routes must be cleared of snow, as this robot moves on routes that are free of snow. At night, patrolling headlights are used (and can be switched between downward beams and upper beams). For concealed operation at night, IR LED lights can be mounted on the robot (optionally). For emergency withdrawal from the route or manual control in other situations, a manual control console is included with the supplied setup.

Security Robot

S5 PTZ
S5 HD
S5 HDPTZ

Ø17"
36"
54"
36.6"
61"

26"
32"
53"

SMP
R O B O T I C S
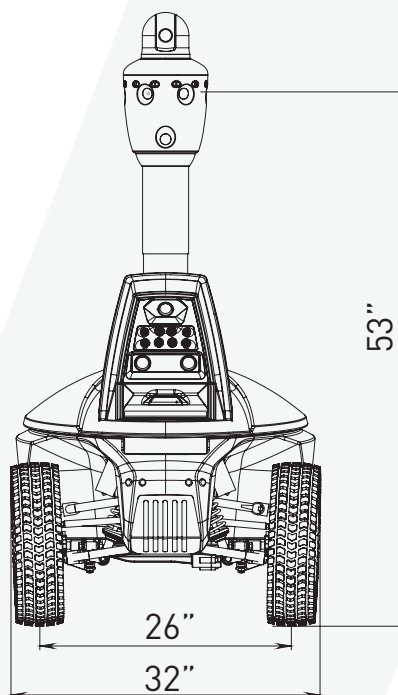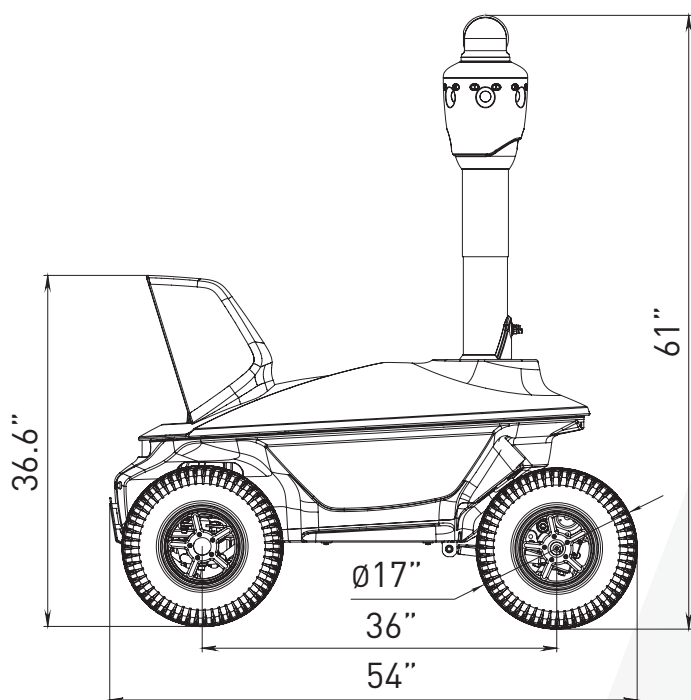
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Security surveillance system

	S5PTZ	S5HD	S5HD PTZ
Human detection distance	160 ft (50 m)	no detection	no detection
PTZ camera Image Sensor	1/4" EX-View HAD CCD	not equipped	1/ 2.8" CMOS 2.13MP
Resolution	550 TVL 704x576	not equipped	1080P 1920x1080
Minimum illumination	0.0015 lx Color	not equipped	0.0013 lx Color
Optical zoom	x28	not equipped	x30
Panoramic cameras image sensor	1/3" EX-View HAD CCD	1/3" CMOS 1.37MP	1/3" CMOS 1.37MP
Resolution	700 TVL 976x582	720P 1305x733	720P 1305x733
Minimum illumination	0.05 lx	0.02 lx	0.02 lx
Angle of view	72°	72°	72°
Frame rate	30 FPS PTZ	12 FPS panoramic	25 FPS PTZ
Compression / protocol	H.264 MSN	H.264 RTSP	H.264 RTSP
Edge Recording	48 hour	24 hour	18 hour
Power consumption	25 W	16 W	28 W

Technical characteristics

Cruising range at +5°C (41oF) , up to	24 km	15 miles
Accuracy of check-point drive-through		
in visual navigation mode circle radius	0.8 m	2.5'
when using night markers circle radius	0.4 m	1.3'
when using GPS only circle radius	2.2 m	7.0'
Minimum illumination for visual navigation	10 lux	10 lux
Motion control system power consumption	300W	300 W
Speed at autonomous driving	2 km/h	2.5-4 mph
Width of patrolling route path	0.9 m	3.0'
Turning radius, optimal	5.2 m	7.1'
Max. gradeability	18°	18°
Vertical wall climb	0.14 m	5.51"
Unladen weight (with batteries)	110 kg	240 lb
Nominal operating temperature range	-20~+45°C	-4~113°F

Rechargeable battery

Capacity 2 x 12V, Lead-acid 100 A/h or Lithium iron phosphate 120 A/h

Single battery dimensions, maximum	13.8 x 7.1 x 9.8 in
Battery weight	2 x 70 pounds
Typical charging time	4 hours
Charger power	0.6 kW, 110 - 250 V AC

Data link

Wi-Fi protocol IEEE	802.11a/b/g/n	
Operating frequencies	2.4 GHz	
Standard Wi-Fi reach	0.5 mile	1/2 Mile