



Smart-Node

All-in-One Power and Communication Solution

RADWIN Smart-Node is an outdoor power and communication solution that reduces costs and accelerates the roll-out of smart-city, IoT and telecom projects. The all-in-one Smart-Node solution offers a wide variety of power and networking interfaces including fiber and an array of radio technologies to connect multiple devices such as CCTV cameras, Wi-Fi access points and IoT sensors.

Bridging the gap between broadband and IoT applications, Smart-Node enables easy integration with 3rd party devices to support multiple applications ranging from city surveillance, smart-lighting, waste management, smart-metering and more. Smart-Node is a remarkably compact, IP-67 protection grade solution that guarantees low visual impact for street level deployments and high reliability when exposed to extreme temperatures and tough environments.

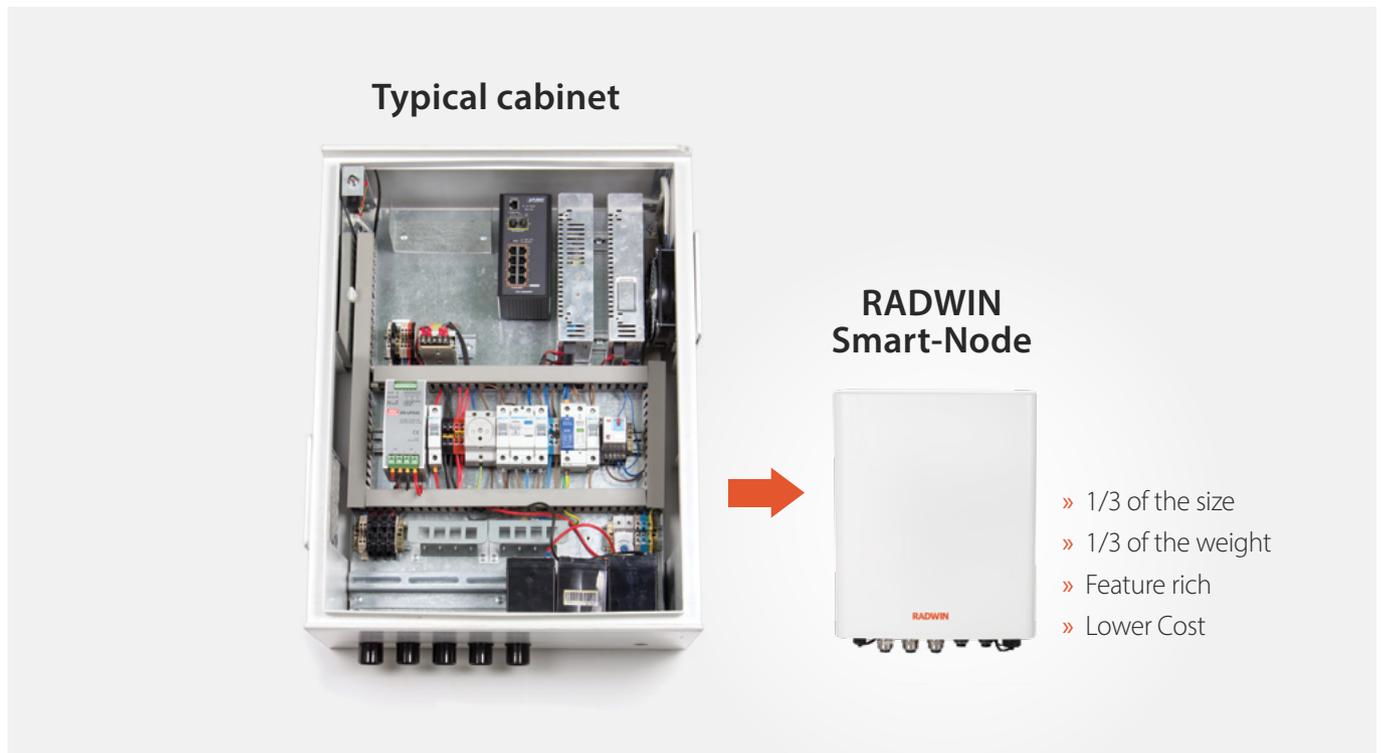
Smart-Node Overview

Smart-Node is the worlds' first all-in-one outdoor multi-power and communications managed solution.

Smart-Node enables power and connectivity for fixed and PTZ cameras, wireless Point-to-Point and Point-to-Multipoint radios, IoT gateways, sensors, public announcement, Wi-Fi access points and other devices on sites with different utility power types.

Benefits:

- » Simple installation, configuration and monitoring
- » Unified management for power and communication
- » Cost of site reduction with an integrated solution
- » Ready-to-install solution – eliminate labor time (design and assembly)
- » Versatile power and communication options
- » Small size, IP-67 and aesthetic design
- » High quality reducing maintenance costs



All power and communication needs for video surveillance, telecom and IoT applications

Versatile power options

Input power options

- » RW-8019-1100 model:
 - > 100-240V AC
 - > UPS with 2.5AH lithium-ion battery (120W/h or 240W/0.5h at full load)
- » RW-8019-3200 model:
 - > 40-57V DC
 - > Supporting solar panel, street light

Output power options:

- » PoE, PoE+ (15W, 30W, 60W)
- » Passive PoE (24V/56V)
- » DC-OUT 12/24V-30W (configurable)
- » Internal power interfaces: 12V, PoE 24V/56V

Versatile communication options

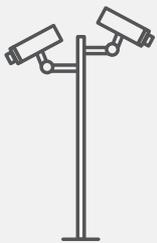
GbE switch

- » 5-Port Gigabit PoE switch
- » SFP Gigabit port

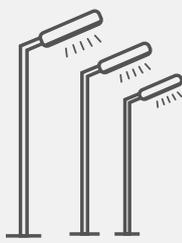
Wired and wireless connectivity options:

- » Fiber – SFP
- » Copper – LAN
- » Wireless broadband – RADWIN PtP and PtMP radios (external)

Applications



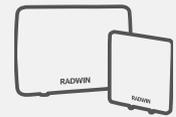
Video Surveillance



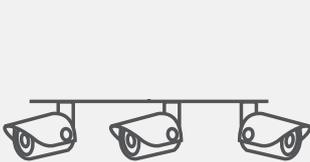
Smart Lighting



Municipal Wi-Fi



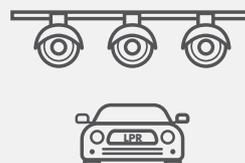
Broadband Connectivity



Traffic Control



Smart Parking

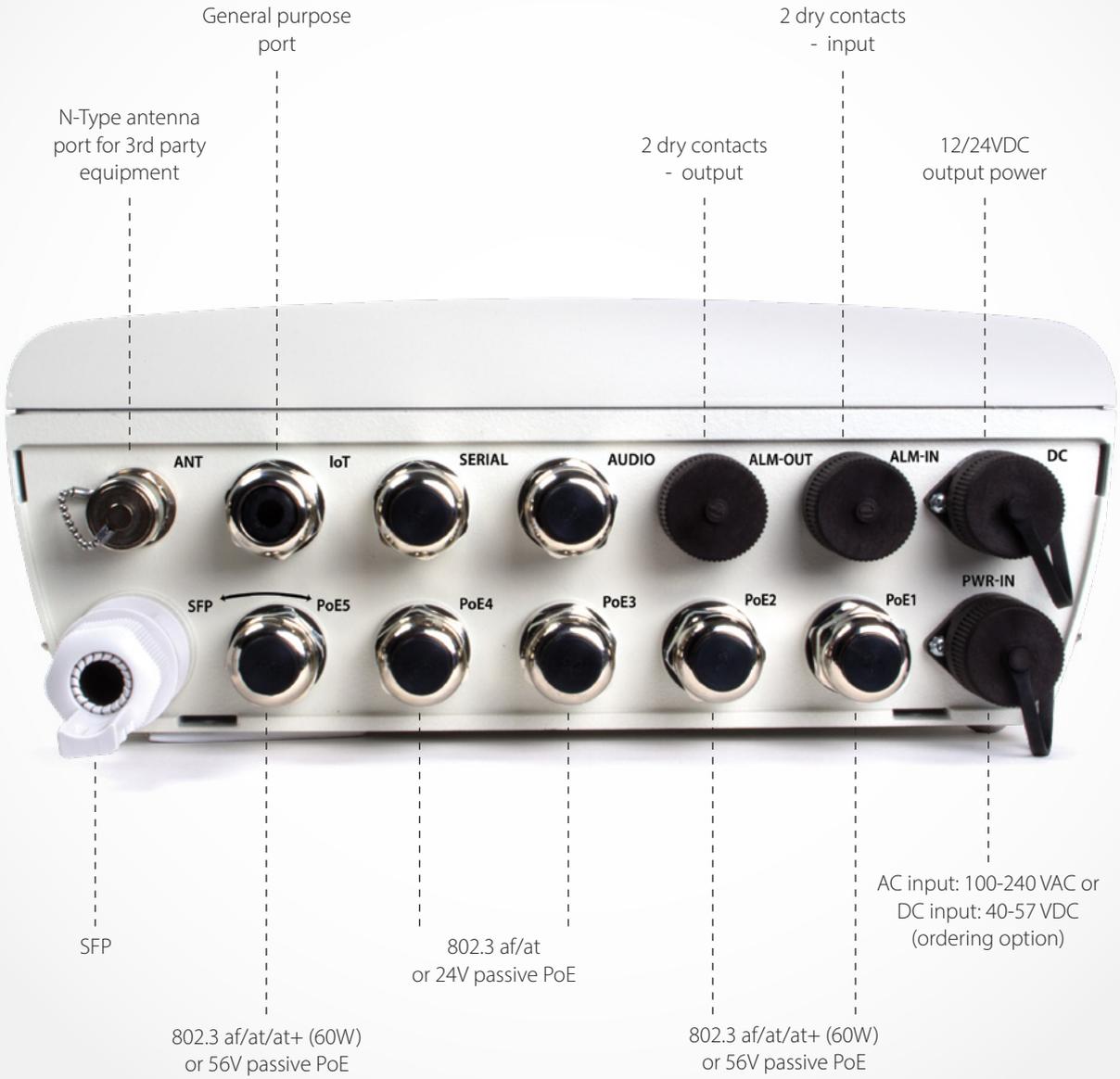


LPR



Metering

All-in-one power and communications solution

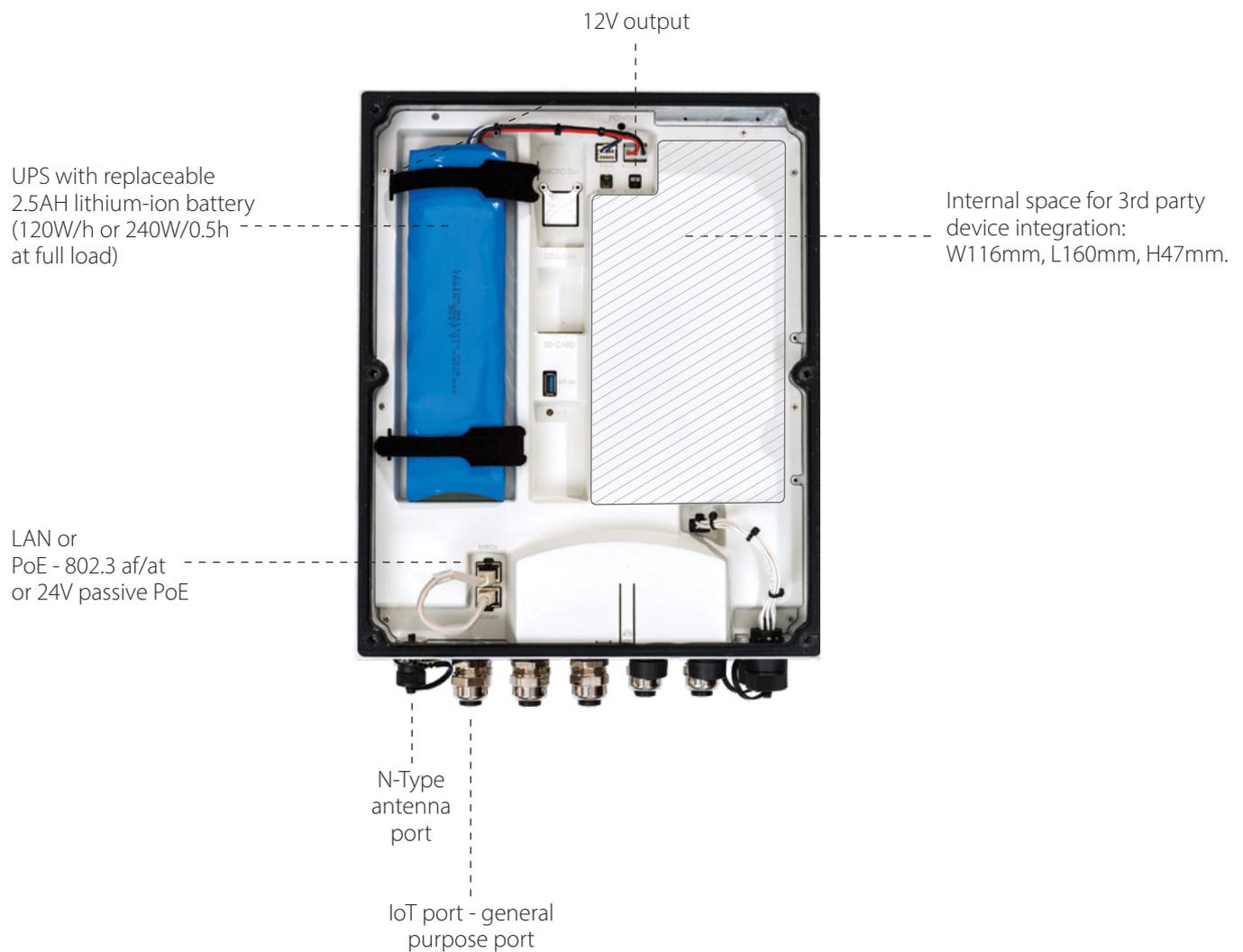


Bridging the gap between broadband and IoT applications

System integrators and solution providers can easily extend Smart Node capabilities via simple integration with 3rd party devices, to shorten time to market of applications such as smart-lighting, waste management metering etc.

3rd party devices include IoT gateways (e.g. LoRa, ZigBee, Wi-Fi, Bluetooth), computing systems for analytics, storage, cyber security gateways and more.

Hosting 3rd Party Devices



Innovative Site and Remote Management

RADWIN Smart-Node features a unified management system for monitoring, configuring and controlling all power, networking and alarms. The system enables local and remote management and troubleshooting of internal and external devices. This eliminates the need for periodic maintenance and costly truck rolls while lowering operational expenses.

- » Web-Manager: Unified power & networking management
- » SNMP MIBs for integration with customer management systems

Power Management

- » Remote power management
- » Graceful power degradation by priority
- » Lithium-ion battery backup (UPS) monitoring
- » Configurable DC-OUT port (12V/24V)

The screenshot displays the 'Power Management' interface. At the top, it shows the power source as 'External', battery level at '100%', and 'Up Time' as '03h:08m:06s'. Below this, a table lists hardware details: Part number (RW-9924-SN75), MAC (cccccccccc), Serial Number (N/A), SW Version (1.0.00_b0016_Oct 29 2017), and HW Version (UNDEFINED). The main section is divided into two panels: 'System' and 'Battery'. The 'System' panel contains a table with fields like Name (SN_PM), Location (PM_Lab), IP Address (10.104.70.200), Subnet Mask (255.255.255.0), Default Gateway (10.104.70.100), MAC Address (cc:cc:cc:cc:cc:cc), Latitude (0), and Longitude (0). The 'Battery' panel shows 'Time Remaining' (N/A), 'Temperature' (35°C), 'Supplied Voltage(V)' (65.5 V), 'Supplied Current (A)' (0.0 A), 'Serial Number' (65535), 'Device Model/Name' (N/A / N/A), and 'Battery Status' (Stand-By).

The Web-Manager displays detailed power management information about power source, battery status and time remaining, supplied current and voltage, and temperature

The screenshot shows the 'Ports: PoE1' configuration page. It includes a 'RESET' button in the top right. The 'Network' section has 'Mode' set to 'Auto detect' and 'Current mode' set to '1000Mbps/FULL duplex'. It also has fields for 'Connected Device IP' (0.0.0.0), 'Connected Device Name', and 'Watchdog' (OFF). The 'Power' section has a toggle switch set to 'OFF'. The 'VLAN' section has 'VLAN Mode' set to 'Access' and 'VLAN ID' set to '1'. The 'Traffic' section shows 'LAN TX' (6.1 Kbps), 'LAN RX' (8.0 Kbps), and 'CRC Errors' (0). At the bottom, there is a hardware diagram of the Smart-Node with various ports labeled: ANT, IsT, SERIAL, AUDIO, ALM OUT, ALM IN, DC, SFP, PoE5, PoE4, PoE3, PoE2, PoE1, and PWR IN. The PoE1 port is highlighted with a red circle. Below the diagram are buttons for 'SAVE FOR PORT', 'CANCEL', and 'Recenter smartNode image'.

The Port management screen displays detailed power information per port: PoE On/Off, power consumption, voltage (56V, 24V) and priority

Switch and Ports Management

- » Switch PoE assignment / port (802.3 af / at, PoE+, 24V/ 56V)
- » Networking management
- » VLAN (Transparent/Aware, Port VLAN mode: Access / Trunk, port VLAN ID)
- » Trap destinations
- » Remote reset and watchdog for Auto-Reset of PoE ports (to reset external devices: radios, cameras, etc.)
- » Alarms management (Input and output dry contacts)

Ports LEGEND ● ● ● ●

#	NETWORK			POWER			TRAFFIC		
	VLAN Type	Allowed VLANs	Consumption	Priority	Status	RX	TX	CRC	
● PoE 1	Access	1	0.0	1	100Mbps/FULL duplex	9.5 Kbps	9.6 Kbps	0	
● PoE 2	Access	1	13.9	2	100Mbps/FULL duplex	0.4 Kbps	3.3 Kbps	0	
● PoE 3	Access	1	3.1	3	100Mbps/FULL duplex	0.0 Kbps	1.5 Kbps	0	
● PoE 4	Access	1	3.4	4	100Mbps/FULL duplex	3.1 Kbps	1.2 Kbps	0	
● PoE 5	Access	1	6.8	1	100Mbps/FULL duplex	0.4 Kbps	2.3 Kbps	0	

Events LEGEND ○ ○ ○ ○

#	Date & Time	Description
○ 1	01/09/2017 01:36:35	Port 2 Device Disconnected
○ 2	01/09/2017 01:36:44	Port 2 Device Connected
○ 3	01/09/2017 01:37:30	Port 2 Ping Loss To Device
○ 4	01/09/2017 01:37:30	Port 2 Device Disconnected

The Web-Manager displays detailed port management information: connected ports, VLAN type, power consumption, power priority and status, TX/ RX traffic and CRC

Ports: SFP RESET

To choose a port, select it from the Smart-Node image

Network

Mode: Current mode:

Connected Device IP: Connected Device Name: Watchdog:

VLAN

VLAN Mode:

Allowed VLANs:

Traffic

LAN TX: LAN RX: CRC Errors:

Open/Close

SAVE FOR PORT CANCEL Recenter smartNode image

The SFP/PoE5 screen displays detailed port management information: SFP/ PoE5 active port, network mode, connected device IP and name, Watchdog, VLAN and traffic

Smart-Node Mechanical Overview



- » Small-size: 379(h) x 309(w) x 115(d) mm
- » Weight: 7.4Kg (AC), 5.6Kg (DC)
- » Outdoor IP-67 (NEMA 6 equivalent)
- » Operating temperatures:
-40°C to 60°C / -40°F to 140°F (model specific)
- » Aesthetic design
- » Cast aluminum enclosure
- » Stainless steel mounting-kit
- » Optional cable cover for safe/hidden cable installation
- » Installation: Pole mount and wall mount

cable cover - - - - -



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