

# Compact Secure VPN Router

## AR2010V

Allied Telesis Secure Virtual Private Network (VPN) Routers are the ideal secure gateway for smart city and smart factory network applications. Powerful VPN functionality is combined with comprehensive routing, to provide an innovative high performance solution that is easy to use and very secure.

With the advent of the Internet of Things (IoT) and the development of smart cities and smart factories, connected infrastructure that is easy to install and manage has become a critical requirement.

The Allied Telesis AR2010V is the ideal choice for applications that require reliable, high-capacity data transfer in demanding scenarios—including IP video surveillance, outdoor digital signage, kiosks, remote office VPN back-up, as well as critical Machine-to-Machine (M2M) telemetry in remote or mobile environments.

The AR2010V features comprehensive security and advanced networking capabilities, including connectivity over 3G/4G, to easily meet the high data transmission demands of today's distributed infrastructure networks.

### Easy to manage

The AR2010V runs the AlliedWare Plus™ fully featured operating system, with an industry standard CLI. The Graphical User Interface (GUI) provides a dashboard for monitoring, showing traffic throughput, security status, and application use at a glance. Configuration of security zones, networks and hosts, and rules to limit and manage traffic, provides a consistent approach to policy management.

### Wireless LAN management

The AR2010V features Allied Telesis Autonomous Wave Controller (AWC), which is an intelligent, easy-to-use Wireless LAN controller that automatically maintains the optimal wireless coverage. Vista Manager mini is part of the Device GUI, and enables easy visual setup, management, and monitoring of AWC wireless access points. A network map that includes floor maps and wireless coverage heat maps enables simplified deployment and monitoring.



### Flexible deployment

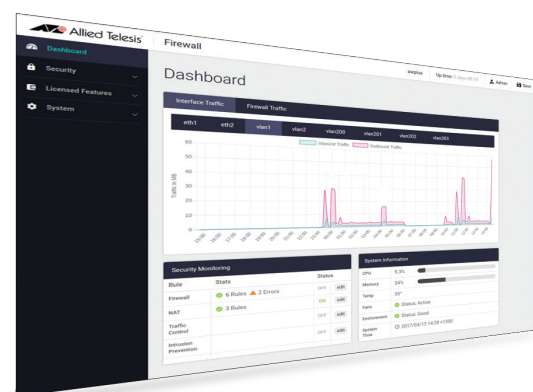
With its compact size, operation up to 50°C, and the ability to run on AC or DC power, the AR2010V is easy to deploy in all environments, including business, outdoor, surveillance, and M2M telemetry. A DIN rail mounting option supports industrial applications, and silent operation allows use in office spaces.

### Secure Remote Virtual Private Networks (VPN)

The AR2010V supports IPsec site-to-site VPN connectivity, to ensure secure data retrieval from remote locations in distributed smart city and smart factory networks that connect multiple devices. This ensures up-to-the-minute information is available, despite long distances and a variety of connected devices, and enhances the quality and interactivity of urban services.

### Comprehensive routing support

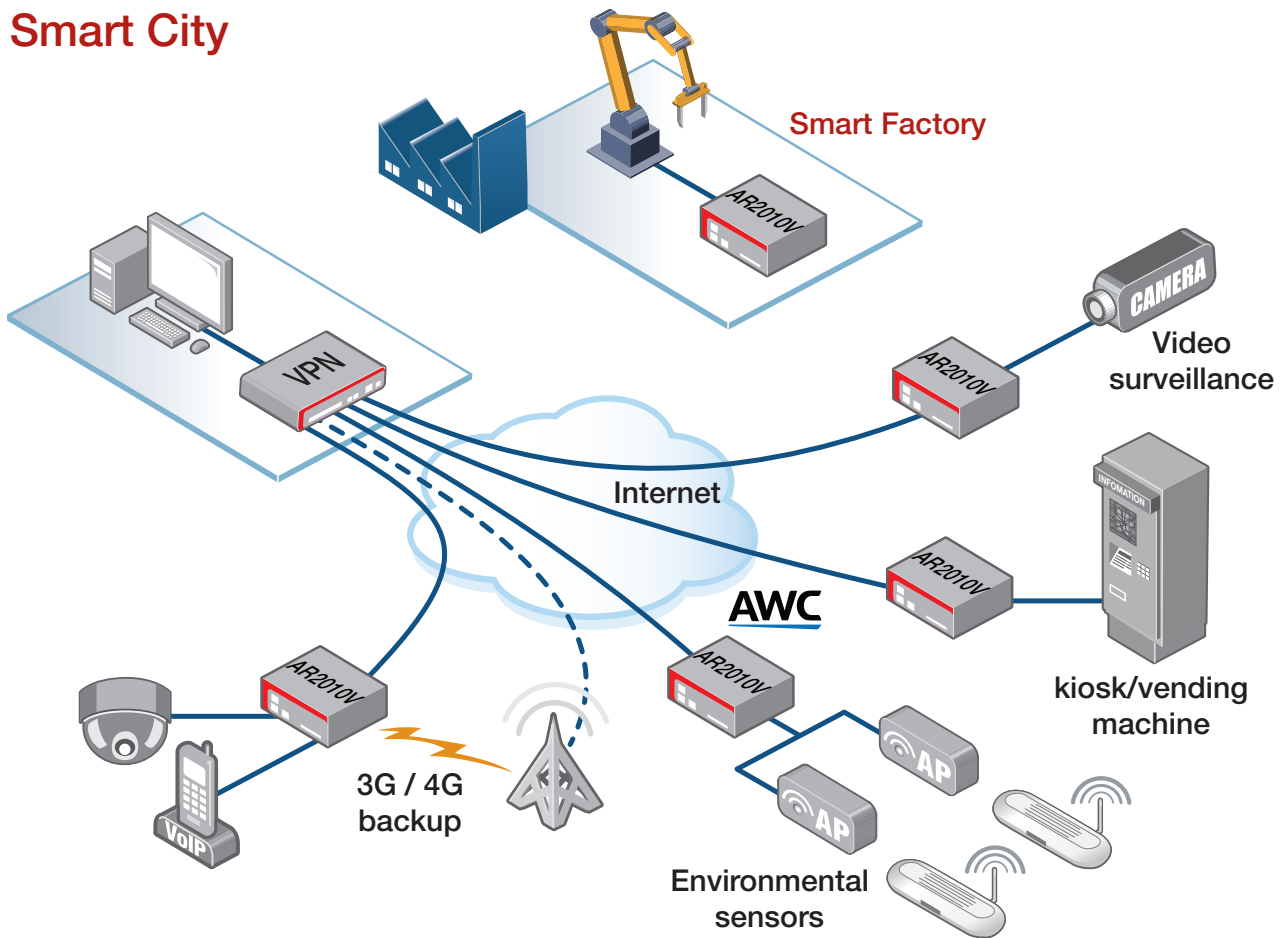
Strong security features are complemented by advanced routing capability. Full IPv6 routing and protocol implementation ensures today's networks are fully connectable, both internally and externally, with other leading edge equipment. Powerful multicasting features support streaming video, ideal for modern surveillance solutions.



FIREWALL ENGINE	
Application-aware	All traffic flowing in and out of the firewall is inspected, so different applications can be managed in line with business policies.
DoS attack protection	Protection against Denial of Service (DoS) attacks, which are designed to consume resources and therefore deny users network and application access.
Intrusion Detection & Prevention (IDS/IPS)	An Intrusion Detection and Prevention System (IDS/IPS) provides monitoring, analysis and logging of suspicious events that occur on a network. It can also perform a variety of actions to prevent attacks.
URL filtering	Enables HTTP or HTTPS access to particular websites to be allowed or blocked with user-defined lists.
VIRTUAL PRIVATE NETWORKING (VPN)	
IPSec VPN for site-to-site and multi-site connectivity	High-performance IPSec VPN allows the Allied Telesis UTM Firewalls to act as a VPN concentrator for other large sites, branch offices or home offices. Multipoint VPN uses a single VPN to connect a head office to multiple branch offices.
SSL/TLSv1.3 for secure remote VPN access	The OpenVPN® client allows easy access to corporate digital resources when away from the office. Secure ways to login include LDAP authentication and two-factor authentication, with options to use a code, certificates, or a one time password (OTP) via email. The TLS version for OpenVPN connections can be specified to encourage use of the latest and most secure version, and TLS Crypt provides ultimate security, with symmetric encryption including the key exchange for protection against TLS DoS attacks.
VPN pass-through	Pass-through enables VPN clients to make outbound connections using L2TP, PPTP or IPsec.
Redundant VPN gateway	Primary and secondary VPNs can be configured when using multiple WAN connections, for seamless failover of all VPN sessions.
Dynamic routing through VPN tunnels	Dynamic routing over VPN links ensures no loss of connectivity, as traffic is routed through an alternate link in the event of a tunnel failure.
QUALITY OF SERVICE (QoS)	
Traffic control	Traffic control allows the amount of bandwidth to be restricted for different traffic classes. RED curves can be defined to predictably drop traffic if congestion occurs.
Bandwidth management	Protect your business-critical traffic by limiting the bandwidth available to non-essential traffic. During peak times, the non-essential traffic will be limited allowing the critical traffic through unhindered.
NETWORKING	
3G/4G/LTE USB modem <sup>1</sup>	The 3G/4G/LTE modem offers an additional secure IPv4 or IPv6 data connection for critical services that can automatically switch to a 3G network whenever a primary data connection becomes unavailable.
Layer 2 Tunnelling Protocol (L2TP)	L2TP provides site-to-site connectivity, which can also be protected by IPSec encryption.
IPv6 support	Full support for IPv6 routing, multicasting and security is provided.
IPv6 transition technologies	DS (Dual Stack) Lite, Lightweight 4over6, and MAP-E support connecting IPv4 networks over an IPv6 Internet connection.
AMF-WAN (Allied Telesis SD-WAN)	AMF-WAN enables users to measure the quality of their WAN links and send real-time and other applications over the most suitable connection. Users can also load-balance an application over multiple WAN links, prioritize the delivery of business-critical applications, and send traffic directly to Cloud-based services from the branch office.
Dual Stack	Dual Stack enables IPv4 and IPv6 traffic to be processed simultaneously.
Policy-based routing	Policy-based routing enables traffic forwarding decisions to be based on where the traffic is coming from, rather than where it is going to.
Autonomous Management Framework Plus (AMF Plus)	AMF Plus enables new devices to be pre-provisioned for zero-touch deployment. This simplifies installation and guarantees a consistent configuration reducing setup time and cost.
Flexible deployment options	The Allied Telesis AR2010V can be deployed in traditional NAT, Layer 2 Bridge, Wire Mode and Network Tap modes.
VRF-Lite	Virtual Routing and Forwarding (VRF-Lite) allows multiple routing tables. As the routing instances are independent, the same or overlapping IPv4 addresses can be used.

<sup>1</sup>For a list of supported USB modems, please refer to the Allied Telesis [USB Modem Compatibility List](#)

## Key Solution - Smart Cities



### Secure connectivity for remote infrastructure

All over the world, smart cities and smart factories are looking to increase information availability, security, and transport efficiency, while still reducing pollution and waste. Access to real-time data from a variety of sources gives cities the ability to enhance the quality of urban services, while increasing the safety of citizens.

The AR2010V is the ideal solution for applications with data sensors in remote locations, including traffic monitoring systems, video surveillance, flood and pollution sensors, and industrial telemetry systems. In addition, the compact and easy to install AR2010V is ideal for

M2M communication—such as kiosks, vending and gaming machines, and weather stations. 3G/4G connectivity supports remote systems, or can operate as a backup link ensuring a resilient network.

The above solution shows how a city-wide network of AR2010V routers can provide connectivity for a number of different types of remote devices. A compact chassis,

wide operating temperature, plus AC and DC power options, make the AR2010V easy to deploy in multiple locations.

Smart factories are also well catered for with the AR2010V able to securely connect critical machinery to ensure efficient production.

With Allied Telesis Autonomous Management Framework™ Plus (AMF Plus), private or public cloud-based management of the entire network makes keeping the environment secure and up to date simple. Centralized control, automated provisioning, back-up, upgrade and replacement all ensure simplified management for large distributed networks.

For devices connected wirelessly, the AR2010V can manage up to 5 TQ or MWS Series wireless APs with Autonomous Wave Control (AWC). An auto-setup option simplifies wireless deployment, while AWC automatically optimizes performance. The built in AWC functionality integrates wireless management with secure remote connectivity, for a simplified solution.

# AR2010V | Compact Secure VPN Router

## Features

### Firewall

- ▶ Application-aware firewall with bidirectional inspection engine
- ▶ Application Layer Gateway (ALG) for FTP, TFTP and SIP
- ▶ Bandwidth limiting control
- ▶ Firewall session limiting per user or entity (zone, network, host)
- ▶ Bridging between LAN and WAN interfaces
- ▶ Intrusion Detection and Prevention System (IDS/IPS)
- ▶ User-defined URL access-control lists (block or allow HTTP and HTTPS access to specific Websites)
- ▶ DoS and DDoS attack detection and protection
- ▶ Maximum and guaranteed bandwidth control
- ▶ Per-host session limits
- ▶ Static NAT (port forwarding), double NAT and subnet-based NAT
- ▶ Masquerading (outbound NAT)
- ▶ Enhanced NAT (static and dynamic)
- ▶ Security for IPv6 traffic

### Networking

- ▶ Routing mode / bridging mode / mixed mode
- ▶ Static unicast and multicast routing for IPv4 and IPv6
- ▶ DS-Lite, Lightweight 4over6, and MAP-E for connecting IPv4 networks over IPv6
- ▶ Dynamic routing (RIP, OSPF and BGP) for IPv4 and IPv6
- ▶ Flow-based Equal Cost Multi Path (ECMP) routing
- ▶ Dynamic multicasting support by IGMP and PIM
- ▶ Route maps and route redistribution (OSPF, BGP, RIP)
- ▶ Virtual Routing and Forwarding (VRF-Lite)
- ▶ Traffic control for bandwidth shaping and congestion avoidance
- ▶ Policy-based routing
- ▶ SD-WAN: performance measure and load balance WAN links
- ▶ PPPoE client with PADT support
- ▶ DHCP client, relay and server for IPv4 and IPv6
- ▶ Dynamic DNS client
- ▶ IPv4 and IPv6 dual stack
- ▶ Device management over IPv6 networks with SNMPv6, Telnetv6 and SSHv6
- ▶ Logging to IPv6 hosts with Syslog v6
- ▶ Web redirection allows service providers to direct users to a specified web address
- ▶ URL-offload enables cloud-based traffic (e.g. Office 365) to be sent directly to the Internet

### Management

- ▶ Allied Telesis Autonomous Management Framework Plus (AMF Plus) enables powerful centralized management and zero-touch device installation and recovery
- ▶ From AW+ 5.5.2-2, an AMF Plus license operating in the network provides all standard AMF network management and automation features, and also enables the AMF Plus intent-based networking features menu in Vista Manager EX (from version 3.10.1 onwards)
- ▶ Web-based GUI for device configuration and easy monitoring, including a network map of wired and wireless devices
- ▶ Industry-standard CLI with context-sensitive help
- ▶ Role-based administration with multiple CLI security levels
- ▶ Built-in text editor and powerful CLI scripting engine

- ▶ Comprehensive SNMPv2c/v3 support for standards-based device management
- ▶ Event-based triggers allow user-defined scripts to be executed upon selected system events
- ▶ Comprehensive logging to local memory and syslog
- ▶ Console management port on the front panel for ease of access
- ▶ USB interface allows software release files, configurations and other files to be stored for backup and distribution to other devices

### Resiliency

- ▶ Policy-based storm protection

### Diagnostic tools

- ▶ Ping polling for IPv4 and IPv6
- ▶ Port mirroring
- ▶ TraceRoute for IPv4 and IPv6

### Authentication

- ▶ RADIUS authentication and accounting
- ▶ TACACS+ Authentication, Accounting and Authorization (AAA)
- ▶ Local or server-based RADIUS user database
- ▶ Strong password security and encryption
- ▶ Two-factor authentication using a code, certificates, or a one time password (OTP) via email for maximum security

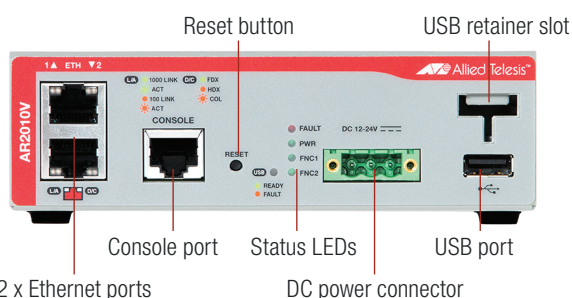
### VPN tunneling

- ▶ Diffie-Hellman key exchange
- ▶ Secure encryption algorithms: AES and 3DES
- ▶ Secure authentication: SHA-1, SHA-256, SHA-512
- ▶ IKEv2 key management
- ▶ IPsec Dead Peer Detection (DPD)
- ▶ IPsec NAT traversal
- ▶ IPsec VPN for site-to-site connectivity
- ▶ Multipoint VPN for connecting a single VPN to multiple end points
- ▶ VPN pass-through
- ▶ Dynamic routing through VPN tunnels (RIP, OSPF, BGP)
- ▶ Generic Routing Encapsulation (GRE) over IPv6
- ▶ L2TPv2 virtual tunnels
- ▶ Redundant VPN gateway
- ▶ SSL/TLSv1.3 for secure remote VPN access
- ▶ IPv6 tunneling

### Wireless Controller AWC

- ▶ Allied Telesis AWC is an intelligent WLAN controller that automatically maintains optimal wireless coverage
- ▶ Manage up to five access points (APs)
- ▶ Auto-setup simplifies wireless network deployment
- ▶ Rogue AP detection for increased WLAN security
- ▶ WEP/WPA personal or WPA enterprise, pre-shared key (WEP/WPA personal), RADIUS server (WPA enterprise)
- ▶ Wireless networks can have separate SSIDs, VLANs, security settings, etc.
- ▶ APs can belong to multiple networks each with different wireless settings, and can broadcast multiple SSIDs (Virtual AP)
- ▶ APs can be defined individually or in bulk using a common profile.
- ▶ AP radio settings can be configured automatically (default) or manually
- ▶ AP functions such as updating firmware, executing AWC calculations and applying calculation results can be run automatically based on a user-defined schedule
- ▶ AWC supports Allied Telesis TQ and MWS Series wireless access points

## AR2010V COMPACT SECURE VPN ROUTER



## Specifications

	AR2010V
<b>Processor &amp; memory</b>	
Security processor	800MHz dual-core
Memory (RAM)	512MB
Memory (Flash)	4GB
<b>Security features</b>	
Firewall	Application-aware packet inspection firewall
Application proxies	FTP, TFTP, SIP
Threat protection	DoS attacks, fragmented & malformed packets, blended threats & more
<b>Tunneling &amp; encryption</b>	
IPsec site-to-site VPN tunnels	50
SSL VPN users	100
Encrypted VPN	IPsec, SHA-1, SHA-256, SHA-512, IKEv2, SSL/TLS VPN
Encryption	3DES, AES-128, AES-192, AES-256
Key exchange	Diffie-Hellman groups 2, 5, 14, 15, 16, 18
Dynamic routed VPN	RIP, OSPF, BGP, RIPng, OSPFv3, BGP4+
Point to point	Static PPP, L2TPv2 virtual tunnels, L2TPv3 Ethernet pseudo-wires
Encapsulation	GRE for IPv4 and IPv6
<b>Management &amp; authentication</b>	
Logging & notifications	Syslog & Syslog v6, SNMPv2 & v3
User interfaces	Scriptable industry-standard CLI, Web-based GUI
Secure management	SSHv1/v2, strong passwords
Management tools	Allied Telesis Autonomous Management Framework™ Plus (AMF Plus) Autonomous Wave Control for wireless LAN APs (AWC) Vista Manager EX
User authentication	RADIUS, TACACS+, internal user database
Command authorization	TACACS+ AAA (Authentication, Accounting and Authorization)
<b>Networking</b>	
Routing (IPv4)	Static, Dynamic (BGP4, OSPF, RIPv1/v2), source-based routing, VRF-Lite, SD-WAN
Routing (IPv6)	Static, Dynamic (BGP4+, OSPFv3, RIPng), SD-WAN
Multicasting	IGMPv1/v2/v3, PIM-SM, PIM-DM, PIM-SSM, PIMv6
Resiliency	STP, RSTP
Traffic control	8 priority queues, DiffServ, HTB scheduling, RED curves
Quality of Service (QoS)	Premark and remarking, taildrop queue congestion, strict priority, weighted round robin or mixed scheduling
IP address management	Static v4/v6, DHCP v4/v6 (server, relay, client), PPPoE
NAT	Static, IPsec traversal, Dynamic NAT
<b>Reliability features</b>	
	Modular AlliedWare Plus operating system Full environmental monitoring of temperature and internal voltages. SNMP traps alert network managers in case of any failure
<b>Hardware characteristics</b>	
Rated input voltage	DC12-24V AC100-240V (with AC adapter)
Max power consumption	13 watts
LAN port	1 x 10/100/1000 RJ-45
WAN port	1 x 10/100/1000T RJ-45
Other ports	1 x USB, 1 x RJ-45 console
Product dimensions (W x D x H)	140 mm (5.51 in) x 105 mm (4.13 in) x 42.5 mm (1.67 in)
Packaged dimensions (W x D x H)	215 mm (8.46 in) x 263 mm (11.35 in) x 82 mm (3.237 in)
Product weight	556 grams (1.2 lb) unpackaged, 1.2 kg (2.65 lb) packaged
Fanless	Silent operation



AR2010V	
<b>Environmental specifications</b>	
Operating temperature range	0°C to 50°C (32°F to 122°F). Derated by 1°C per 305 meters (1,000 ft)
Storage temperature range	-20°C to 60°C (-4°F to 140°F)
Operating relative humidity range	5% to 80% non-condensing
Storage relative humidity range	5% to 95% non-condensing
Operating altitude	2,000 meters maximum (6,600 ft)
<b>Regulations and compliances</b>	
EMC	EN55032 class A, FCC class A, VCCI class A
Immunity	EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker)
Safety Standards	UL60950-1, CAN/CSA-C22.2 No. 60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1
Safety Certifications	UL, cUL, TuV
Reduction of Hazardous Substances (RoHS)	EU RoHS6 compliant, China RoHS compliant
IPv6 Ready	Phase 2 (Gold) Logo

### High performance

By harnessing the power of multi-core processors and hardware acceleration engines, the AR2010V guarantees high performance, dramatically increases throughput, and enables sustained low latency traffic inspection. You can enjoy maximum throughput, while still protecting your important data and business information.

Performance	
Firewall throughput	750 Mbps
Concurrent sessions	100,000
New sessions per second	3,600
IPS throughput	200 Mbps
VPN throughput	400 Mbps

### Ordering information



**AT-AR2010V-xx**  
2 x 10/100/1000T RJ-45

**AT-DRMT-J02**  
Din rail mount kit

Where xx = 10 for US power cord  
30 for UK power cord  
40 for Australian power cord  
50 for European power cord

### Related Products

**AT-TQm1402**  
Enterprise-Class 802.11ac Wave 2 Wireless Access Point with 2 radios and embedded antenna

**AT-TQ1402**  
Enterprise-Class Advanced 802.11ac Wave 2 Wireless Access Point with 2 radios and embedded antenna

**AT-TQ6602**  
Enterprise-Class Wi-Fi 6 Wireless Access Point with 2 radios and embedded antenna

**AT-TQm6602 GEN2**  
Enterprise-Class Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 4x4 5GHz) and embedded antenna

**AT-TQm6702 GEN2**  
Enterprise-Class Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 8x8 5GHz) and embedded antenna

**AT-TQ6602 GEN2**  
Enterprise-Class hybrid Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 4x4 5GHz) and embedded antenna

**AT-TQ6702 GEN2**  
Enterprise-Class hybrid Wi-Fi 6 AP with 2 radios (4x4 2.4GHz and 8x8 5GHz) and embedded antenna

**AT-TQ6702e GEN2-xx**  
Outdoor Wi-Fi 6 hybrid AP with 2 radios (4x4 2.4GHz and 8x8 5GHz) and embedded antenna

**3G/4G USB Modems**  
For a list of supported USB modems visit [alliedtelesis.com](http://alliedtelesis.com)