

MikroTik

## wAP ac

wAP ac – a small dual-band weatherproof wireless access point for mounting on a pole, wall, or the ceiling.



Two Gigabit  
Ethernet ports



Better cooling



Can be securely fixed  
to any external wall



Strong dual-chain  
dual-band wireless



Enhanced wireless  
antenna performance



Quad-core CPU,  
128 MB RAM



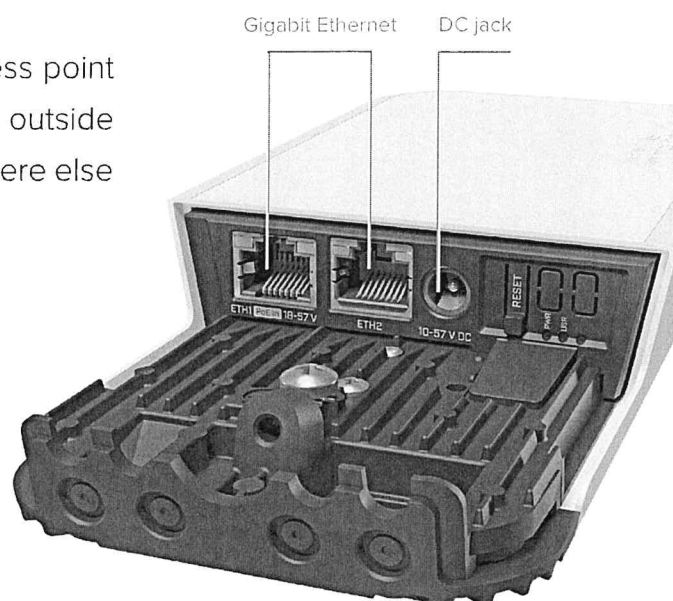
PoE-in





The wAP ac is a small weatherproof wireless access point for your mobile devices, perfect for installation outside your house, in the garden, on your porch, or anywhere else where you need a capable wireless connection.

The new revision features 2x Gigabit Ethernet ports, enhanced wireless antenna performance, more RAM, and a powerful quad-core CPU.



### Reliable connection for all your devices

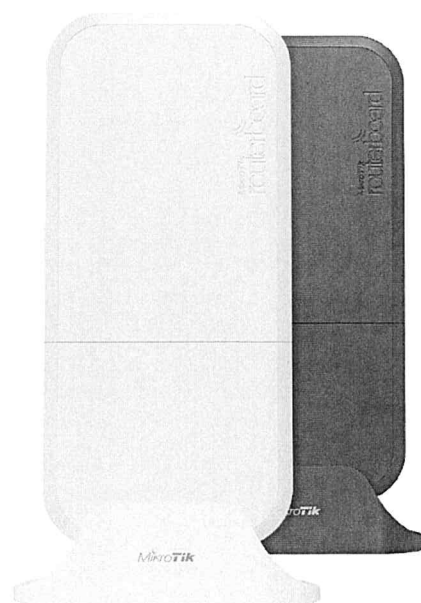
Strong dual-chain dual-band 2.4/5 GHz wireless for concurrent coverage will solve most interference issues in a crowded environment. This is a must-have these days! You can use the 2.4 GHz channel for older devices and the 5 GHz channel for everything else since this frequency is less cluttered.

### Improved enclosure - looks good, works even better

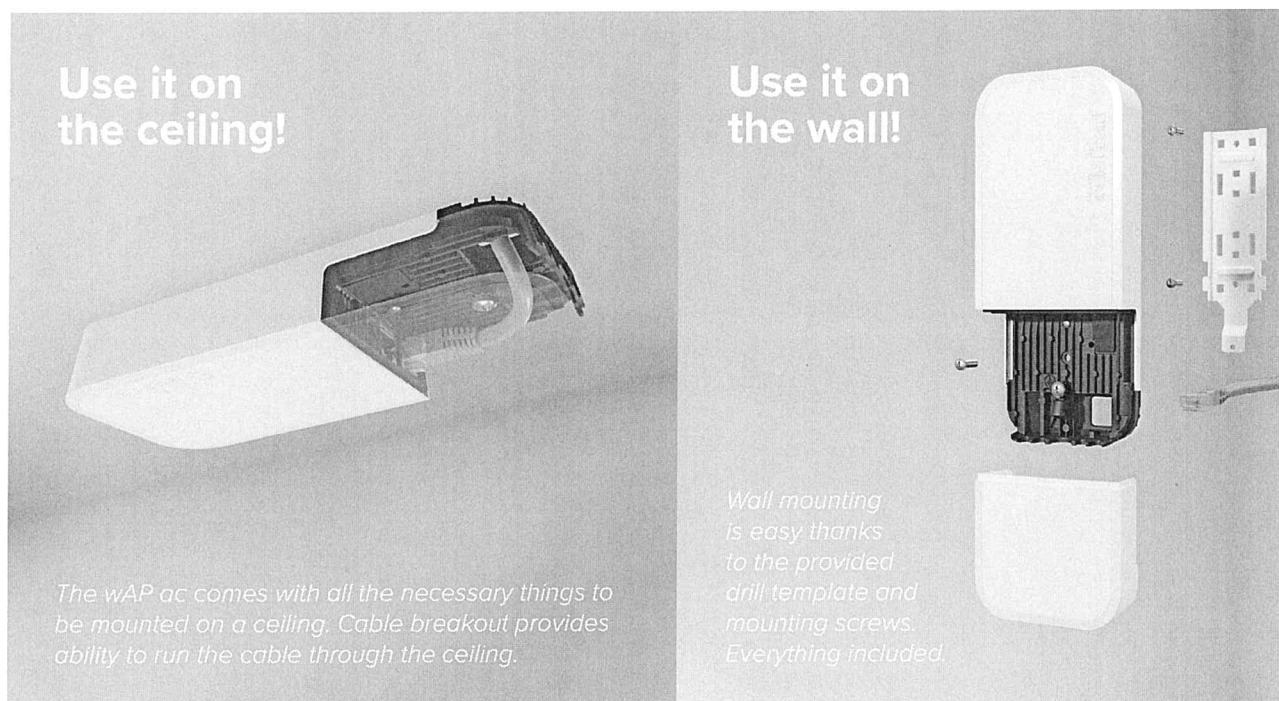
The wAP ac is weatherproof and can be fixed to any external wall from the inside of the case – for extra security and less visible attachments. The bottom part can also be secured with a special anti-vandal screw, which can only be opened by the owner.

There is an opening in the back of the case, allowing you to run the Ethernet cable directly behind the unit and through the wall. This way the wAP ac attracts less attention and blends into any environment. It looks unobtrusive and sleek, available in two colours - black (RBwAPG-5HacD2HnD-BE) and white (RBwAPG-5HacD2HnD).

*Available in two colors*



With the new revision, we have significantly improved the thermal properties of the enclosure – you don't have to worry about any overheating!



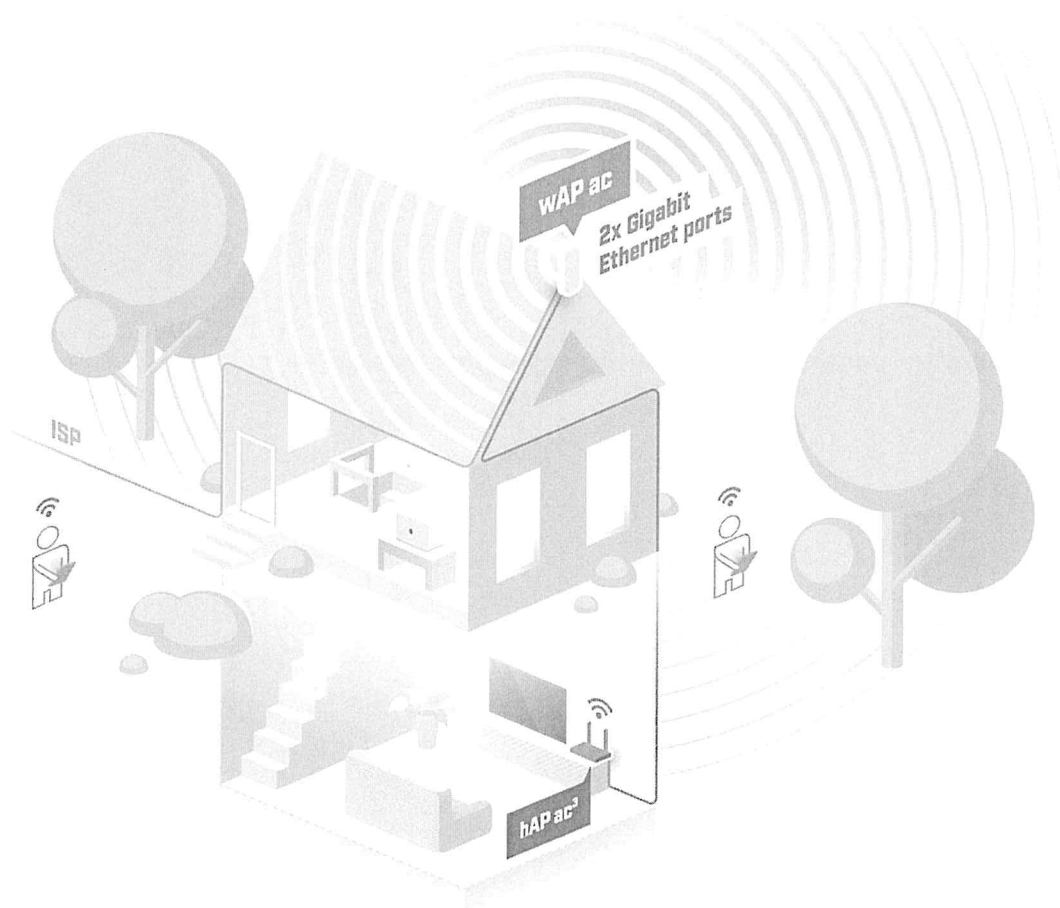
## RouterOS – extreme versatility

Run a secure VPN from the office directly to your home, enable parental control, Quality of Service (traffic prioritization for certain needs, such as streaming), specific firewall rules, IPsec hardware acceleration, VLAN, DHCP, e-mail or SMS notifications, and so on. With RouterOS scripting you can automate a lot:

- modify queues based on bandwidth usage;
- complex trigger notifications, such as “Your bandwidth has reached X for Y minutes!”;
- backups and setup of additional devices, and so much more!

If you can imagine it – RouterOS can achieve it. You can even install RouterOS on a PC or a virtual machine for even more networking experiments! We also include a free handy tool for centralized management of all your wireless MikroTik devices – the CAPsMAN. Unlike traditional controller software, CAPsMAN doesn’t require a separate device to run, it can use any existing RouterOS device in your network. We have been making our own software since 1996. With each new version, our priority remained the same: to provide users with the freedom to explore different setups and always have the right tools for the job. Without unnecessary paywalls.





Product code	RBWAPG-5HacD2HnD (white, international) RBWAPG-5HacD2HnD-BE (black, international)	
CPU	4 core IPQ-4018 716 MHz	
Size of RAM	128 MB	
Storage	16 MB flash	
Number of 1G Ethernet ports	2	
Wireless	5 GHz	2.4 GHz
Protocols	802.11a/n/ac	802.11b/g/n
Chains	Dual-chain	Dual-chain
Wireless interface model	IPQ-4018	IPQ-4018
Antenna gain	2.5 dBi	2.5 dBi
Antenna beam width	360°	
PoE-in	802.3af/at	
Supported input voltage	10 V - 57 V (DC jack) 18 V - 57 V (PoE-in)	
Dimensions	185 x 85 x 30 mm	
Operating system	RouterOS, License level 4	
Max power consumption	10 W	



## Wireless specifications

Rate (2.4 GHz)	Tx (dBm)	Rx (dBm)
1MBit/s	25	-100
11MBit/s	25	-94
6MBit/s	25	-96
54MBit/s	19	-78
MCS0	25	-96
MCS7	18	-73

Rate (5 GHz)	Tx (dBm)	Rx (dBm)
6MBit/s	24	-96
54MBit/s	20	-80
MCS0	24	-96
MCS7	19	-75
MCS9	17	-70

## Certification & Approvals

Certification

CE, FCC, IC

## Included parts



24 V 0.8 A  
power adapter



K-52  
fastening set



PoE  
injector



Desktop stand



wAP mount



wAP ceiling mount  
bracket

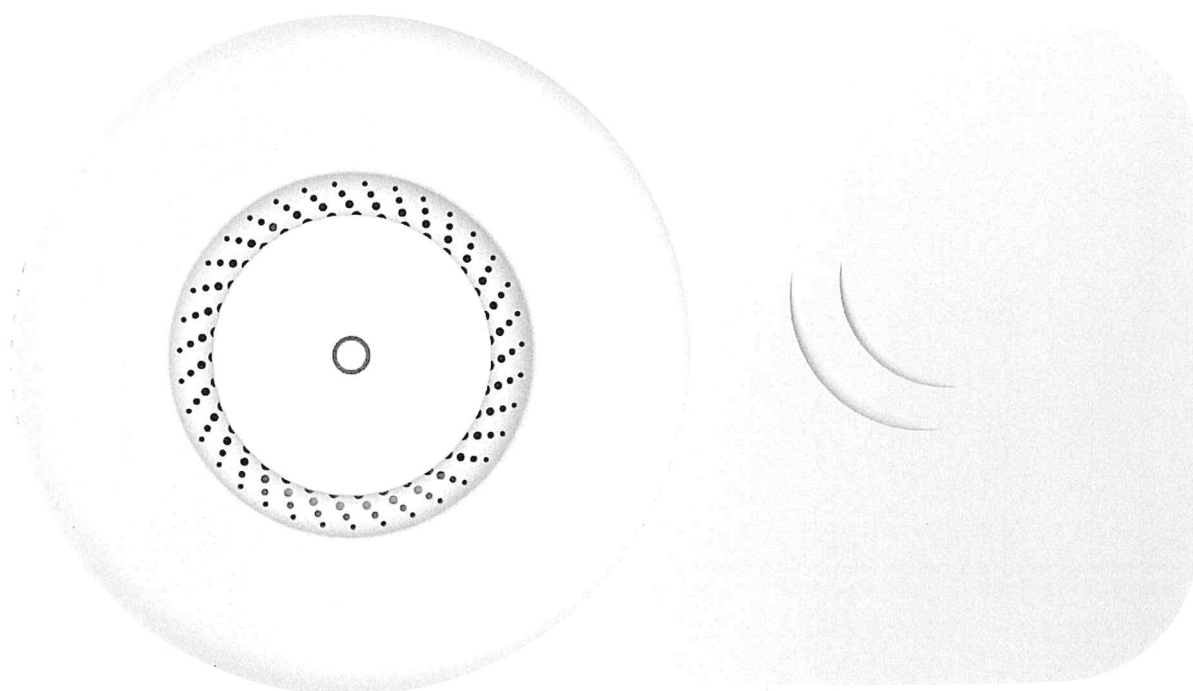


Metal ring

## cAP ac

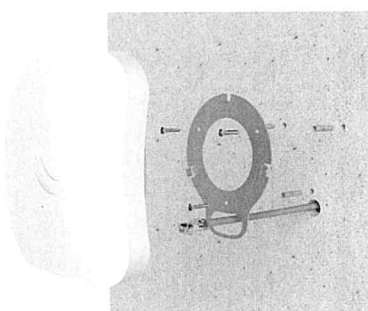
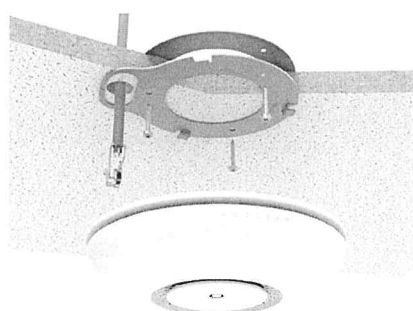
The cAP ac is a very capable and powerful wireless access point that looks beautiful on both walls and ceilings. The concurrent dual band wireless radio supports dual chain 2 GHz and 5 GHz in 802.11ac and legacy standards, and will provide coverage in 360 degrees around it.

Even though the radio supports repeater mode, the two Ethernet ports give you the ability to extend your network with cables, even if PoE power is required, since the cAP ac supports 802.3af/at PoE input on the first port, and passive PoE output (up to 57V) on the second port.



The cAP ac is a feature packed device with a sleek enclosure, that can become inconspicuous with the push of a button - the customizable mode button in the device center will turn off all lights and sounds at it's default configuration, but can be reconfigured to launch any RouterOS script.

The device comes bundled with two enclosures, so you can choose the design you like best.



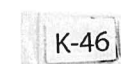
24 V 1.2 A  
power adapter



Covering mount



Gigabit PoE injector



K-46 screw x 1

## Specifications

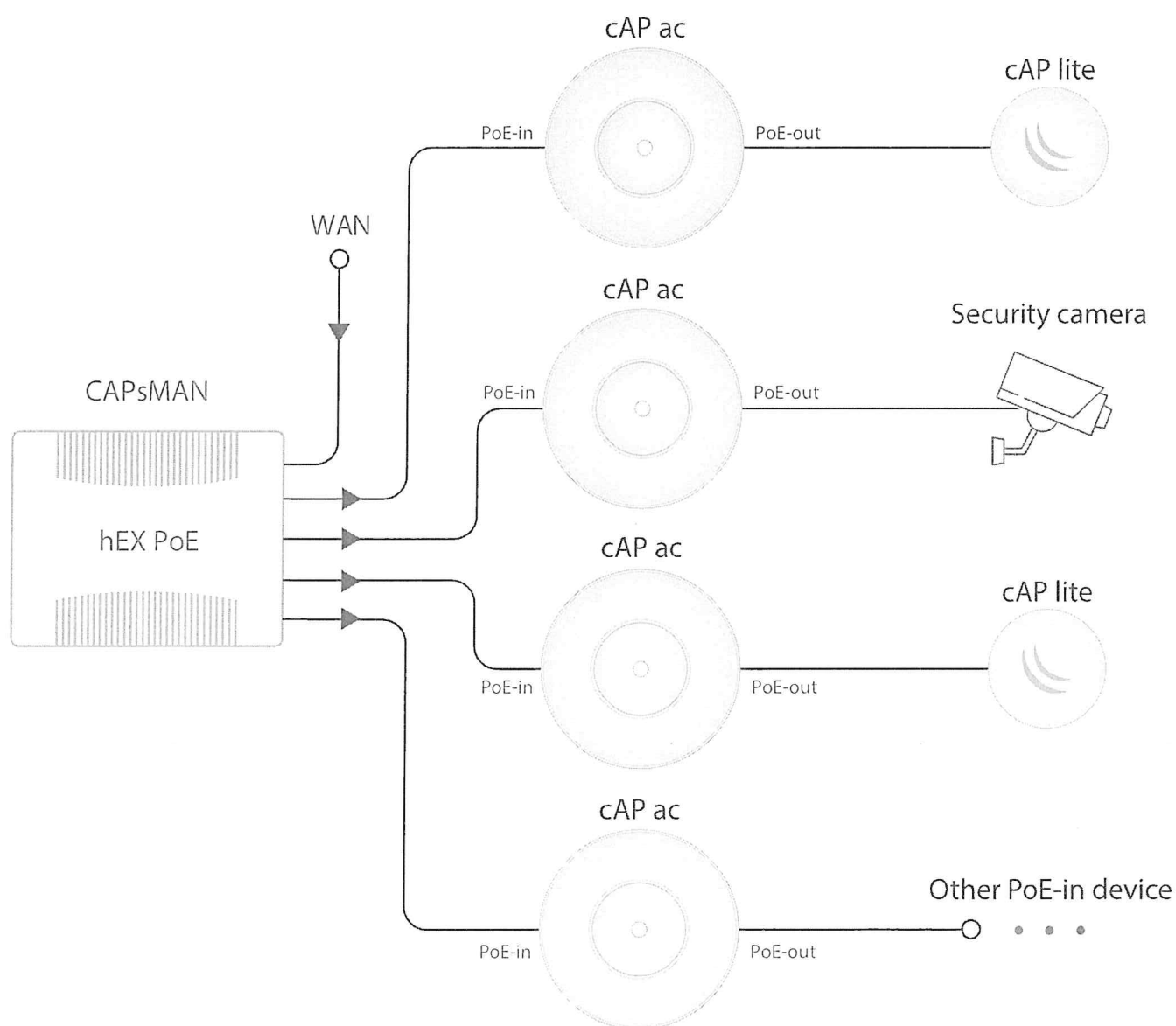
Product code	RBcAPGi-5acD2nD (International) RBcAPGi-5acD2nD-US (USA)			
CPU	4 cores, IPQ-4018			
CPU nominal frequency	716 MHz			
Memory	128 MB			
Storage type	Flash			
Storage size	16 MB			
10/100/1000 Ethernet ports	2			
Wireless	2.4 GHz		5 GHz	
Wireless regulations	Specific frequency range may be limited by country regulations			
Operating frequency	International	2412 - 2484 MHz	International	5150 - 5875 MHz
	USA	2412 - 2462 MHz	USA	5170 - 5250 MHz 5725 - 5835 MHz
Protocols	802.11b/g/n		802.11ac	
Number of chains	2		2	
Antenna gain	2 dBi		2.5 dBi	
Wireless regulations	Specific frequency range may be limited by country regulations			
Power options	PoE-in 802.3af/at, PoE-out (Passive, Ethernet port 2), 17-57 V			
Consumption	13 W			
Dimensions	Round case: $\varnothing$ 136 mm, height: 30 mm; Square case: 145 mm x 145 mm x 30 mm			
Operating temperature	-40°C ... +50°C tested			
LEDs	7x LEDs (1x user LED)			
License level	4			
Operating system	RouterOS			

## Wireless specifications

Rate (2.4 GHz)	Tx	Rx	Rate (5 GHz)	Tx	Rx
1MBit/s	26	-100	6MBit/s	26	-96
11MBit/s	26	-94	54MBit/s	21	-80
6MBit/s	26	-96	MCS0	26	-96
54MBit/s	23	-78	MCS7	20	-75
MCS0	26	-96	MCS9	18	-70
MCS7	22	-73			



## Network example



The cAP ac is equipped with two Ethernet ports, allowing you to connect another device, to further extend your network. What's more, the second Ethernet port supports passive PoE output (up to 57 V), so it can power a wide variety of RouterBOARDS and other devices, like IP cameras. In the following scenario, you can use a central hEX PoE device to power all your cAP ac units, and then have cAP lite units connected to provide even better coverage. The hEX PoE can even be used as a CAPsMAN server, so you can easily manage all your access points, and control all their settings in a single device.



# THE 4011 SERIES

FUEL YOUR NETWORK



The RB4011 uses the amazingly powerful quad core Cortex A15 chip from Annapurna labs, an Amazon company, same as in our carrier grade RB1100AHx4 unit. The CPU supports IPsec hardware acceleration, there is 1GB of RAM, so this device will easily handle any task you have configured RouterOS to perform. All of this power, in a compact, fanless and professional looking solid metal enclosure in matte black.



1.4GHZ CPU

X4

QUAD CORE ARM



IPSEC ACCELERATED





## RB4011iGS+RM

In addition to the ten 1 Gbps ethernet ports, an SFP+ port provides optional 10 Gbps connectivity through an SFP+ module (not included). All of this power, in a compact and professional looking solid metal enclosure in matte black.

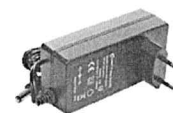
The ethernet model includes two rackmount ears, that will securely fasten the unit in standard 1U rack space.



## Specifications

Product code	RB4011iGS+RM
CPU	4 core AL21400 1.4 GHz
Size of RAM	1 GB
Storage	NAND 512 MB
10/100/1000 Ethernet ports	10
SFP+ port	1
Switch chip model	RTL8367SB
Power Jack	1
PoE in	Yes (port 1), passive, 18 - 57 V
PoE out	Yes (port 10), passive, up to 57 V
Max power consumption	18 W without PoE out, 33 W with PoE out
Supported input voltage	12 V - 57 V (jack)
Voltage Monitor	Yes
PCB temperature monitor	Yes
Operating temperature	-40 C .. +70 C
Dimensions	228 x 120 x 30 mm
Serial port	RJ45
License level	5
Operating System	RouterOS

## Included



24 V 1.5 A  
power adapter



Rack mount



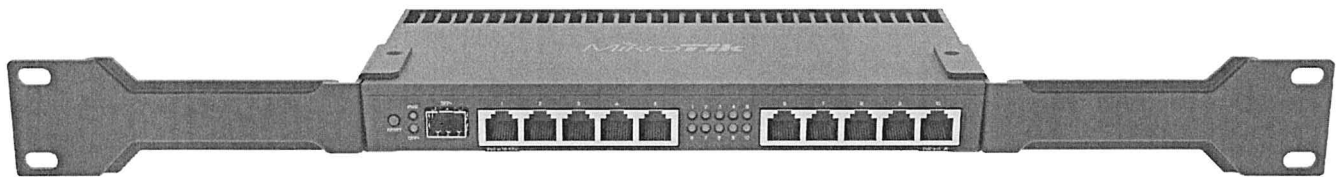
Screw set

## Ethernet test results

RB4011iGS+RM		Max possible throughput					
Mode	Configuration	1518 byte		512 byte		64 byte	
		kpps	Mbps	kpps	Mbps	kpps	Mbps
Bridging	none (fast path)	806.4	9,792.9	2,312.9	9,473.6	5,509.7	2,821.0
Bridging	25 bridge filter rules	806.4	9,792.9	1,037.4	4,249.2	1,153.2	590.4
Routing	none (fast path)	806.4	9,792.9	1,923.3	7,877.8	5,092.3	2,607.3
Routing	25 simple queues	806.4	9,792.9	1,046.6	4,286.9	960.3	491.7
Routing	25 ip filter rules	593.7	7,209.9	625.2	2,560.8	564.6	289.1

## IPsec test results

RB4011iGS+RM		RB4011iGS+RM IPsec throughput					
Mode	Configuration	1400 byte		512 byte		64 byte	
		kpps	Mbps	kpps	Mbps	kpps	Mbps
Single tunnel	AES-128-CBC + SHA1	140.8	1577	141.2	578.4	139.9	71.6
256 tunnels	AES-128-CBC + SHA1	192.7	2158.2	200.5	821.2	203.4	104.1
256 tunnels	AES-128-CBC + SHA256	192.4	2154.9	200.5	821.2	203.4	104.1
256 tunnels	AES-256-CBC + SHA1	180.0	2016.0	188.2	770.9	190.3	97.4
256 tunnels	AES-256-CBC + SHA256	180.0	2016.0	188.2	770.9	190.3	97.4
256 tunnels	AES-128-GCM	192.7	2158.2	202.2	828.2	203.4	104.1







CRS326-24G-2S+RM

## CRS326-24G-2S+RM

We are announcing a special version of the CRS326-24G-2S+RM switch, with added RouterOS as a second boot option, the new CRS326-24G-2S+RM.

This is a SwOS/RouterOS powered 24 port Gigabit Ethernet switch with two SFP+ ports, wire speed connectivity with several new switching features!

The "Dual boot" feature that allows you to choose which operating system you prefer to use, RouterOS or SwOS. If you prefer to have a simplified switch only OS with more switch specific features, use SwOS. If you are used to Winbox and would like the ability to use routing and other Layer 3 features on some ports in your CRS, boot and use RouterOS. You can select the desired operating system from RouterOS, from SwOS or from the RouterBOOT loader settings.

It gives you all the basic functionality for a managed switch, plus more: allows to manage port-to-port forwarding, apply MAC filter, configure VLANs, mirror traffic, apply bandwidth limitation and even adjust some MAC and IP header fields. SFP cage supports both 1.25 Gb SFP and 10 Gb SFP+ modules.

## Specifications

Product code	CRS326-24G-2S+RM
CPU	98DX3236A1 800 MHz
RAM	512 MB
Storage type	Flash, 16 MB
Switch chip model	98DX3236A1
10/100/1000 Ethernet ports	24
SFP+ cages	2
Operating system	SwOS /RouterOS (Dual boot)
Supported input voltage	9 - 30 V (jack or passive PoE)
Dimensions	443 x 144 x 44 mm
Operating temperature	-40°C .. +60°C tested
Max power consumption	24 W
Serial port	RJ45

## Features

- Non-blocking Layer 2 switching capacity
- 16K host table
- IEEE 802.1Q VLAN
- Supports up to 4K VLANs
- Port isolation
- Port security
- Broadcast storm control
- Port mirroring of ingress/egress traffic
- Rapid Spanning Tree Protocol
- Access Control List
- MikroTik neighbor discovery
- SNMP v1
- Web-based GUI

## Included



24 V 12 A power adapter

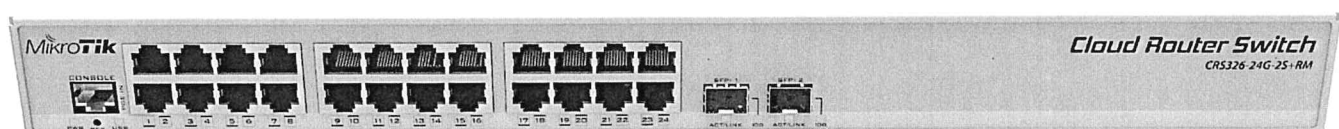


Rack ears

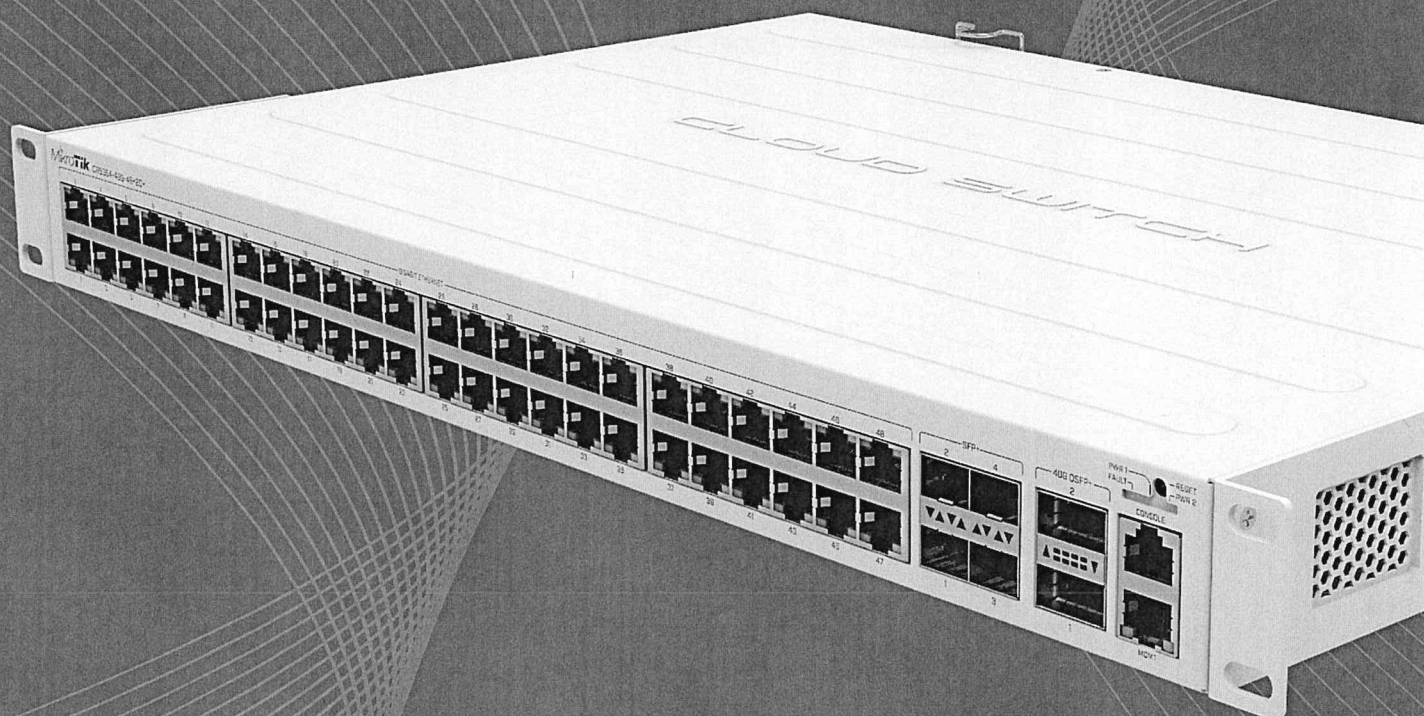


Screw set

MikroTik CLOUD SWITCH SERIES



MikroTik



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## CRS354-48G-4S+2Q+RM

Best price and best performance on the market – this 48 port switch  
will rock any setup, including 40 Gbps devices!

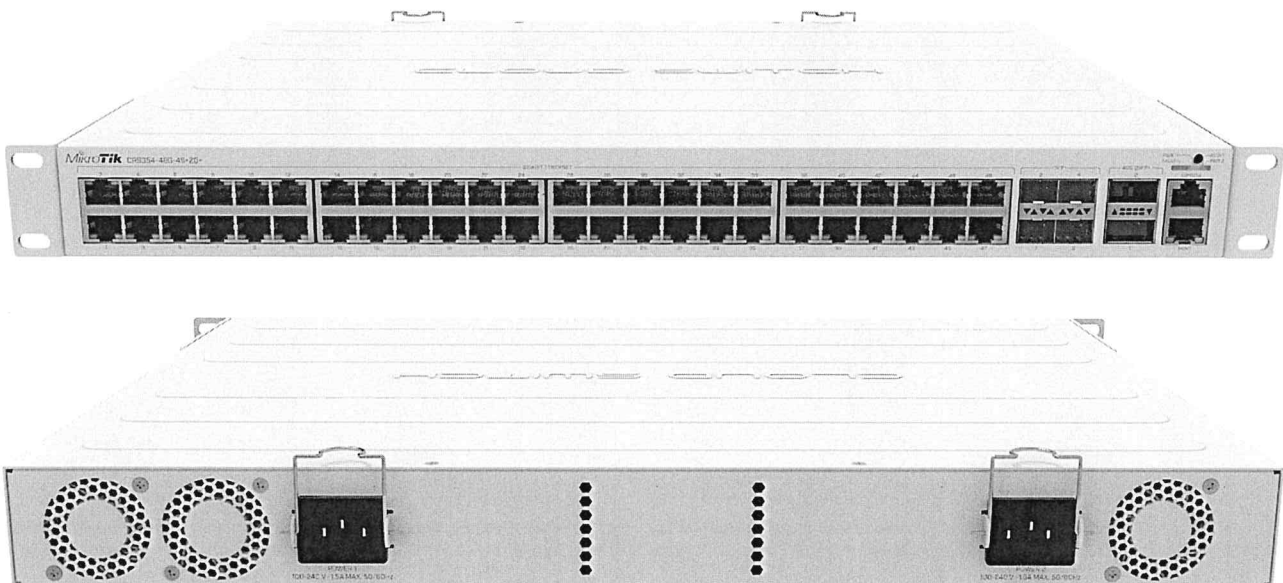


MikroTik

CRS354-48G-4S+2Q+RM

If you are looking for a single switch that will put your network setup ahead of the curve without costing a fortune, look no further. The new CRS354-48G-4S+2Q+RM is an effective and adaptable rackmount solution for managing networks in demanding and busy environments. With this product we aim to set a new price-performance bar – get more features while spending way less!

High-end performance for the masses: more 10G ports and even 40G ports, because **speed matters**



The 48 port champion you've been waiting for  
– the bargain of the decade!

This powerful switch has 48 x 1G RJ45 ports and 4 x 10G SFP+ ports. There are also 2 x 40G QSFP+ ports for extremely fast fiber connections or linking with other 40 Gbps devices.

The total non-blocking throughput is 168 Gbps, switching capacity is 336 Gbps and the forwarding rate reaches 235 Mpps.



CRS354-48G-4S+2Q+RM

## Specifications

Product code	CRS354-48G-4S+2Q+RM
CPU	QCA9531, 650 MHz
Size of RAM	64 MB
Storage	16 MB flash
Number of 100 Mbps Ethernet ports	1
Number of 1 GbE Ethernet ports	48
10G SFP+ ports	4
40G QSFP+ ports	2
Operating system	RouterOS (License level 5)
Supported input voltage	AC power supply 100 - 240 V
Redundant supply	Yes
Serial port	RJ45
Dimensions	297 x 443 x 44 mm
Operating temperature	-20°C to +60°C
Max power consumption	60 W

## Included parts



2 IEC cords



K-18 screw kit



Rackmount ears

Cable managment  
brackets





CRS354-48G-4S+2Q+RM

## Switching test results

QCA9531 CRS354-48G-4S+2Q+ RouterOS v6.45.7

Mode	Configuration	1518 byte		512 byte		64 byte	
		kpps	Gbps	kpps	Gbps	kpps	Gbps
Switching	Non blocking Layer 2 throughput	13329	161,867	38533,8	157,834	235114,7	120,379
Switching	Non blocking Layer 2 capacity	13329	323,735	38533,8	315,669	235114,7	240,758
Switching	Non blocking Layer 1 throughput	13329	168	38533,8	168	235114,7	120,379
Switching	Non blocking Layer 1 capacity	13329	336	38533,8	336	235114,7	240,758

Like other CRS products, **CRS354-48G-4S+2Q+RM** comes with a decent built-in CPU, that can utilize all RouterOS features, but with some performance restrictions (indicated in table below).

## CPU Layer 3 performance results

QCA9531 CRS354-48G-4S+2Q+ RouterOS v6.45.7

Mode	Configuration	1518 byte		512 byte		64 byte	
		kpps	Mbps	kpps	Mbps	kpps	Mbps
Bridging	none (fast path)	34,9	423,8	58,5	239,6	119,8	61,3
Bridging	25 bridge filter rules	26,5	321,8	42,9	175,7	44,9	23
Routing	none (fast path)	35,4	429,9	61,8	253,1	116,8	59,8
Routing	25 simple queues	33,7	409,3	46,8	191,7	57,5	29,4
Routing	25 ip filter rules	23,7	287,8	30,1	123,3	31,4	16,1