



**COMMANDO RoutePRO, 5GE, Router, Load Balancer,
Wireless Controller, Firewall w/ Captive portal
Data Sheet Data Sheet**

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Product Overview _

COMMANDO R100-PRO Cloud Base Multi-Functional Wired Router with 5*10/100/1000M configurable LAN/WAN Ports, with functions like Router, Wireless Controller, Multi WAN Load Balancer, Firewall with Captive portal along with Standard Wireless Roaming Mechanism (802.11r) , Authentication Server to Integrate and Simplify the Traditional Networking Mode, AC Management, Portal Authentication, Deep Packet Inspection (DPI) Seven-Layer flow Control, Supports Intelligent Networking (SD-WAN), 3200+ Application Protocol Identification.

It has excellent data processing capability and multiple powerful functions including Multi WAN Load Balance, Access Control, Bandwidth Control, Session Limit, IM/P2P Blocking, VPN server, PPPoE Server, auto WAN failover recovery and captive portal to access infrastructure from anywhere via internet. It meet the needs of small and medium enterprise, Commercial set up where no down time affordable due to network issue, hotels and communities with 100+ volumes of users demanding a efficient and always UP network with high security.It is basically 5 in 1 Multi-functional device having feature like Multi WAN load balancer with auto fail-over mechanism for recovery due fault in connected multiple WAN links, Firewall, VPN Server, Wireless Controller for COMMANDO PRO Series AP, Cloud based authentication Configuration and monitoring , Enterprise Wired Router with features like static, Default and Dynamic connected route.

Product Highlights

- 5 *10/100/1000Mbps configurable LAN/WAN Port
- Standard Wireless Roaming Mechanism (802.11r)
- DPI (Deep Packet Inspection) Seven Layer Flow Control
- Support One Click Flow Control and Manual Flow Control
- 3200+ Application Protocol Identification, for more Accurate Flow Control, Improved Bandwidth Utilization
- Multi-WAN load balance with auto failover recovery for reliable and efficient access
- Access Point Management via Easy WEB GUI, Telnet and Cloud based Portal Authentication
- Built-in High-Performance Processor Suitable for Deployment of Large Scale Commercial Scenarios
- AC Intelligent Management Function, works together with COMMANDO PRO Series Access Points, easy Access Point Management
- Support COMMANDO Platform Management, Centralized Management and Maintenance via lifetime free Cloud base account
- VPN for Encrypted Communication, Ensure Remote Access Security
- Support Multi Vendor WAN Line simultaneous Access, WAN load sharing and balancing by different ISP, Rational use, Load Balancing with failover , Reduce Bandwidth Costs
- Wireless Marketing Function, Various Authentication Methods to meet the needs of Different Users and Scenarios
- Tag based and port based VLANs to group control and relocate traffic pattern
- Fully protocol stack for both IPv4 and IPv6, afford to 100+ concurrent users and 100,00 concurrent sessions
- Supports IPsec, PPTP and L2TP VPN support up to 64 concurrent tunnels with max 2Gbps throughput (Ipsec).
- QoS and Bandwidth Management for optimal bandwidth usage.
- With Zero Touch Provisioning: Plug and play and no setup.
- High Availability for mission critical application with muti-WAN load balance
- WLAN controller can manage up to 100 APs & 100+ users, with Discovery, Configuration, and Monitoring Functions.
- User certification by X.509 and authentication by Radius/AD/LDAP server for user and

group management.

- Supports Multiple WANs, Failover/ Load Balance with configurable Ethernet
- Support DHCP based dynamic IP, Static IP, PPPoE, PPTP, L2TP
- IPv6 with Dual Stack, 6-in-4, 6-to-4, Dynamic, Static, PPPoE
- Supports VLAN Port Based, Tag- based
- NAT: ALG, Special AP, DMZ Host, Virtual Server/ Computer, PPTP/ L2TP/IPSec Pass-through, Up to 100,000 Sessions
- Supports Routing with Static, Default and Dynamically learn connected route
- Client & Server for DHCP, DDNS, IGMP
- Management Features with Web, Simple Telnet CLI, SNMP
- AP Auto Discovery, Monitoring & Alerting, Profile based Configuration, AP Load balance, AP Blacklisting and Whitelisting
- User Accounts, User Grouping, Bound Services
- Firewall, Access Control with Packet Filters, URL Blocking, Web Content Filters, Application Filters, MAC filter
- Support One Click Flow Control and Manual Flow Control
- 3200+ Application Protocol Identification, for more Accurate Flow Control, Improved Bandwidth Utilization
- Access Point Management with Cloud Portal Authentication, Connected LAN PC WEB GUI and Telnet.
- Built-in High-Performance Processor Suitable for Deployment of Large Scale Commercial Scenarios
- Comes with one-year default warranty – optionally extendable up to 3 years.

Features and Benefits

Easy to Use

COMMANDO R100-PRO Series routers are WEB GUI based easy to use and manage device. It requires minimal configuration, so setup is simple and hassle-free. Auto MDI/MDI-X crossover on all ports eliminate the need for crossover cables or uplink ports. Auto-Negotiation on each port senses the link speed of a network device (Either 10, 100 or 1000) and smartly adjusts for compatibility and optimal performance. Its compact size makes it ideal for desktops as well as rackmount with limited space. Dynamic LED lights

provide real-time work status display and basic fault diagnosis. Administrators to monitor the whole network status and take actions to remotely according to the recorded log information.

Cloud Base Wired Router

It is 5* 10/100/1000M configurable and interchangeable LAN/WAN Port which support 100 Users with standard Wireless Roaming Mechanism (802.11r) with DPI (Deep Packet Inspection) Seven Layer Flow Control along with Portal based web access from anyone having credential via internet from any place. Support COMMANDO Cloud Platform Management, Centralized Management and Maintenance VPN for Encrypted Communication. Ensure Remote and cloud Access with security.

Multi-WAN load balancing with auto Fail over Mechanism

Support up to 4 WAN, Multi WAN Access, Simultaneous WAN access provided by different (ISP) Operators with all used at a time via load balancing and preventing network outage automatically via fail-over mechanism , Rational use, Reduce Bandwidth Costs.

Wireless Marketing Function

High Authentication Methods via cloud based , time based, ticket based to meet the needs of different Users and Scenarios, Multi-functional Fusion. The COMMANDO Integrates Functions Such as DPI Flow Control, Load Balancing, AC Controller, VPN, and Authentication Server to Integrate and Simplify the Traditional Networking Mode. Equivalent to Integrating Multiple Devices and a Unified Network Management Platform into one Device, greatly reducing Networking and Maintenance costs

Deep Packet Inspection

It supports Multi-line, Each line is backed up with Each other. It has new Generation of DPI-based Traffic Identification Mechanism, and Fine Traffic Control with Link Balancing and Application Offloading to offload Core Applications.

Wireless Access Point Controller

It acts as Access Point Controller for COMMANDO PRO based AP, Support COMMANDO,s PRO AP Centralized Management, AP can be configured as Virtual Antenna available with this controller without any Configuration and connection to Controller. It automatically Read Wireless Configuration after accessing the Network, AP Zero-based Networking, Expansion at any time, Support Standard Wireless Roaming Mechanism (802.11r), to achieve Seamless Roaming between APs, Live streaming of Games, Video, Movies, voice,

etc. is Uninterrupted.

Network Security

Built-efficient Behavior Management Routing and Firewall Modules, Support Flexible user Access Control Policies, Network Security, Network security to meet Different Customer needs. MAC Filtering function to block the access of illegal hosts. Supporting One-Click IP-MAC Binding to avoid ARP spoofing.

VPN (Virtual Private Network)

Support IPsec, PPTP, L2TP and Open VPN, Allowing Offices in Different Regions of the Enterprise to Access ERP, CRM, Internal Server and other Production Systems of the company's Local Area Network at Any Time to Improve Work Efficiency. Out-of-office Employees can Access the Company's internal Network Resources through Secure Channels anytime and anywhere via COMMANDO Cloud access.

Online Behavior Management

Access Rules can permit or deny user for applications of FTP downloading, Email, Web browsing and so on. Supporting URL Filtering to prevent potential hazards from visiting the malicious Web sites. Bandwidth Control with flexible bandwidth management to automatically control the bandwidth of the host in bi-direction to avoid bandwidth over occupation, as well as optimize bandwidth usage. Session Limit to avoid few people to access resource.

Auto MDIX Capabilities

Auto sensing 10/100/1000 ports with auto MDIX capabilities which also removes speed and duplex mismatches automatically.

Compact and Silent Performance

It comes fan less models with Small form-factor, operates quietly, making it ideal for use in virtually any room or office. Perfect for noise sensitive environments.

Support uninterrupted critical network infrastructure

It has AC input power which protect from power surges through their inline power supply automatically. With this feature protect on cost and the impact to your business by losing these network devices and thus the users/servers connected to them.

Cost Efficient

State of art quality product that can serve on real time high-speed Performance with AC input power, highly reliable, conformance to international open standards , durable, serviceable, aesthetics, perceived quality, enhanced performance leads to value to money.

Green Technology

It features the energy-efficient Ethernet that can save power. It automatically adjusts power consumption according to the link status to limit the carbon footprint of your network. It also complies with RoHS, prohibiting the use of certain hazardous materials. Besides that most of the packaging material can be recycled and reused.

Software

COMMANDO R100-PRO Cloud Base Multi-Functional Wired Router supports software functions as follows.

Monitoring

Interface, Terminal, Protocol, Policy, System, Flow Control.

System Setup

Basic Setting, Disk management, Cloud Account, Advanced Settings like ALG Set, Administration, Upgrading, Reboot.

Network

Interfaces, DHCP, DNS, IP/MAC Group, Static Routes, VLAN, VPN Client, UPNP NAT, Port Mapping, IPv6, IGMP Agent.

Flow Control

Multi-WAN features Load Balancing/Protocol/Port Forward/Domain Name/Upload/Download, Smart Flow Control, IP/MAC Limiters, Protocol Library.

Access Controller

Wireless overview, AP Configuration, AP group, AP Firmware Upgrades, Wireless black and white list, User Information.

Authentication

Captive Portal, VPN Server, Authentication Account, Push Notification.

Behavior

Behavior Audit with Mark MAC Address, MAC Control, Website Control, URL Control, Application Protocol Control, Secondary Routing, QQ, Blacklist/Whitelist.

Firewall

ACL Rules, ARP binding, Connection Limiter, Advanced Firewall.

Advanced application

Dynamic DNS, SNMP, Application across three layers, Wake on LAN, FTP Server, HTTP Server, UDPXY Set.

Services

Ping Test, Capture Packet, Trace Route, IP Subnetting, Speed Test, Diagnostics, Watchdog.

Log

User Logs, Function Logs, System Logs.

Table 1 Software functions

SOFTWARE FUNCTION	SOFTWARE FUNCTION
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Routing Function

The interface supports PPPoE, static IP, and DHCP access modes.

Support LAN/WAN customization settings, Support VLAN

Support Multi WAN and access multiple WANs at the same time to achieve bandwidth addition of multiple operators.

Support load balancing based on IP, port, number of connections, and traffic

WAN backup with one main line and other as spare line

Support for multi-line failover and load balancing with wan expansion

Support port mapping, DMZ, UPnP

Support PPTP/L2TP/IPSec VPN /Open VPN function

Support for gateway and bypass deployment

Support DNS acceleration mode, greatly improve routing and forwarding performance

WAN link assignment to users based on source IP, destination IP, source port, destination port, domain name, and application protocol

<p>Flow Control</p>	<p>Supports flow control based on source IP, port, domain name, and time for line time. Flow control module can accurately identify more than 3200 application protocols, assign priorities and line orientations to various application protocols, and the database. Supports real-time online update to achieve precise flow control based on application protocols.</p> <p>With captive portal can select the flow control scenario and set the device.</p>
<p>Behavior Management</p>	<p>Support network share control, such as secondary routing.</p> <p>Support behavior management log viewing, including URL logs, IM software online and offline records, terminal online and offline records</p> <p>Supports time and packet based PC and mobile APP application management policies,</p> <p>Support for domain name black and white lists, URL jumps, URL keywords and parameter substitution.</p>

Authentication and Billing	<p>Support multiple device authentication roaming</p> <p>Support for authentication-free settings based on mac, IP, and domain name</p> <p>Supports local PPPoE Server and supports docking third-party authentication servers</p> <p>Support multiple authentication template selections, support custom scrolling images and logos</p> <p>Support batch import and export, support custom packages, support coupon management, support account password self-modification password.</p> <p>Support cloud platform authentication, support 10 kinds of authentication methods, including WeChat, mobile phone, QQ, Microblog, user, password, countdown, coupon, trial, one-click authentication.</p>
Authentication and Billing	Supports defense against ARP attacks and improves intranet security.
	Support global connection limit and can be set separately based on time and IP
	Supports ACL rules based on IP, protocol, port, time period, data direction, and interface

	<p>Support DDOS defense and traffic attack defense</p>
	<p>Support internal and external network to ban ping, prohibit intranet client Tracert, remote logging and telnet.</p>
Cloud Management	<p>Support for configuring cloud backup</p> <p>Unified configuration and delivery of managed gateway devices and APs through cloud configuration and management</p> <p>View information such as device name, device online status, user data, online duration, and number of terminals under the device through the cloud.</p> <p>Supports batch delivery of wireless rules in the cloud, including SSID, SSID hiding and isolation, AP equalization mode, and wireless security settings.</p>

<p>AC Management</p>	<p>Support for setting AP isolation, SSID isolation</p> <p>Support wireless black and white list</p> <p>Support for viewing the online/offline status of the AP</p> <p>Supports upgrade, restart, and factory reset for APs, supports RF timing shutdown, and AP scheduled restart</p> <p>Automatically discover wireless devices in the network, and manage the network through the wireless controller.</p>
<p>Tool</p>	<p>Support network wake up</p> <p>Support dynamic domain names, including 3322, oray, dnspod, aliyun and can make a customized domain name also.</p> <p>Support line test, route check, health monitoring, subnet conversion</p> <p>Support cross-layer applications, support cross-layer authentication, mac address filtering, etc.</p>
<p>System Management</p>	<p>Support for scheduled restart ,Support Ping, Tracert</p> <p>Support SNMP, Telnet, http, https management</p> <p>Support user logs, function logs, system log records</p>

Hardware

Solid performance with non-blocking architecture

- CPU Dual Core having frequency 500 MHz.
- All ports capable of Gigabit Ethernet speed. Full speed of data transferring with (Auto-Negotiation/Auto MDI/MDIX).
- Solid performance with non-blocking architecture.

Physical Ports and Networking Interfaces

- Up to 5 x 10/100/1000 Mbps Rj45 Ethernet Ports with separate ports 4 GE(RJ-45)LAN/WAN and 1 LAN port
- LED Indicators :Power, Link/Act, SYS,NET,USB

Extra Long operational life

- High Quality PCB Circuit Board and PCB Surface Treatment Using Gold Sinking Process.
- Support temperature range 0° C to 50° C
- Desktop, Rack and Wall mount design that enables to mounts in an EIA - Standard 19-inch telco rack or equipment cabinet along with Rack-mounting kit available with device. Which enables horizontal surface mounting, wall mounting and also having durable robust metal body.

Noise-free Operation

- The ports support reduced power modes so that ports not in use can move into a lower power utilization state. Small form-factor, fanless for silent operation. Perfect for noise sensitive environments.

Table 2 Hardware Specifications

HARDWARE SPECIFICATION	
RAM	512M
Flash	512M
Interface	5* 10/100/1000M Port

Reset	Hardware and Software Reset button
Power	AC 220V
Max Power Consumption	15W
Throughput	10GBbps
Protection Level	IP30
User Capacity	100+
Dimension	330*230*45mm
Working Temperature	0°C to +50°C
Working Humidity	5%~95%RH(Non-condensing)
Warranty Period	1 Year
Indicator light	Power, SYS, USB,NET, Link/ACT

Specifications -

It supports IEEE Standards like IEEE 802.3, IEEE 802.3u, IEEE 802.3x along with TCP/ IP, DHCP Server, ICMP, NAT, PPPoE, SNTP, HTTP, DNS with acceleration, Multi DNS DDNS, UPnP NTP protocols. It has five 10/100/1000M Auto-Negotiation LAN/WAN RJ45 port with Auto MDI/MDIX with four adjustable 10/100/1000M Auto-Negotiation WAN/LAN RJ45 ports.

Table 3. Specification

Specification	Information
Interface	5 * 10/100/1000Mbps Port
Throughput	10GBbps
RAM	512MB
Flash	512MB
Power	AC 220V
Max Power Consumption	15W
User Capacity	100
Protection Level	IP30
Material	13 inch 1U Iron Shell
Indicator light	Power, SYS, USB, NET, Link/ACT

Routing Function

The interface supports PPPoE, static IP, and DHCP access modes.

Support LAN/WAN customization settings, support VLAN

Support bandwidth overlay and access multiple WANs at the same time to achieve bandwidth overlay

Support load balancing based on IP, port, number of connections, and traffic

WAN backup with one main line and other WAN spare line

Support for multi-WAN and WAN expansion

Support port mapping, DMZ, UPnP

Support PPTP/L2TP/IPSec VPN/Open VPN function

Support for gateway and bypass deployment

>>Data offload: line assignment based on source IP, destination IP, source port, destination port, domain name, and application protocol

<p>Flow Control</p>	<p>Supports flow control based on source IP, port, domain name, and time for line time.</p> <p>Flow control module: It can accurately identify more than 3200 application protocols, assign priorities and line orientations to various application protocols, and the database supports real-time online update to achieve precise flow control based on application protocols.</p> <p>One-button intelligent flow control: only need to select the flow control scenario and set the WAN bandwidth.</p>
<p>Behavior Management</p>	<p>Support network share control, such as secondary routing</p> <p>Support behavior management log viewing, including URL logs, IM software online and offline records, terminal online and offline records</p> <p>Supports time and packet based PC and mobile APP application management policies, support for domain name black and white lists, URL jumps, URL keywords and parameter substitution.</p>
<p>Authentication and Billing</p>	<p>Support multiple device authentication roaming</p>

<p>Authentication and Billing</p>	<p>Supports defense against ARP attacks and improves intranet security.</p> <p>Support global connection limit and can be set separately based on time and IP</p> <p>Supports ACL rules based on IP, protocol, port, time period, data direction, and interface</p> <p>Support DDOS defense and traffic attack defense, support internal and external network ban ping, prohibit intranet client Tracert.</p>
<p>Account Management</p>	<p>Support for setting AP isolation, SSID isolation</p> <p>Support wireless black and white list</p> <p>Support for viewing the online/offline status of the AP</p> <p>Supports upgrade, restart, and factory reset for APs, supports RF timing shutdown, and AP scheduled restart</p> <p>Automatically discover wireless devices in the network, and manage the network through the wireless controller.</p>

<p>Cloud Management</p>	<p>Support for configuring cloud backup</p> <p>Unified configuration and delivery of managed gateway devices and APs through cloud configuration and management</p> <p>View information such as device name, device online status, user data, online duration, and number of terminals under the device through the cloud.</p> <p>Supports batch delivery of wireless rules in the cloud, including SSID, SSID hiding and isolation, AP equalization mode, and wireless security settings.</p>
<p>Tool</p>	<p>Support network wake up</p> <p>Support dynamic domain names, including 3322, oray, dnspod, aliyun</p> <p>Support line test, route check, health monitoring, subnet conversion</p> <p>Support cross-layer applications, support cross-layer authentication, mac address filtering, etc.</p>
<p>System Management</p>	<p>Support for scheduled restart ,Support Ping, Tracert</p> <p>Support SNMP, Telnet, http, https management</p> <p>Support user logs, function logs, system log records</p>
<p>Working Temperature</p>	<p>0 to +50</p>

Working Humidity	5% 95%RH Non-condensing
Dimension	330 x 230 x 45 mm

Table 4. LED Indication

LED Indication	LED Status
Power	Green OFF: No power on the switch. Green ON: The switch powered on
Link/Act	LINK/ACT bi-color LED: OFF: Port disconnected or link fail. Green ON: 1000Mbps connected. Amber ON: 10/100Mbps connected. Green Flashing: 1000Mbps connected and Data in transit Amber Flashing: 10/100Mbps connected and Data in transit
System	Green OFF: The system is starting, please wait Green ON: The system is up and running
NET	OFF: Internet is not provided on port Green ON: Internet is provided on port
USB	OFF: USB not connected Green ON: USB connected

Included in the bundle/box

All COMMANDO R100-PRO are made available for use globally along with accessories in the bundle to facilitate for enhance operations.

The switch box comes included with the following accessories:

- 1x COMMANDO RoutePRO, 5GE, Router, Wireless Controller, Firewall, Load Balancer w/ Cloud Captive portal 1x Power cable
- 1x Console cable

- 1x Rack/Wall mountable kit

Support and Warranty -

- Same-day assistance
- Comprehensive 24-hour support using common communication/chat platforms, Email and Telephone.
- Provide FAQs and troubleshooting help online (self-service) through cloud-based solutions.
- Highly technical and trained representatives to resolve issues.
- One-year default warranty with option of warranty extension up to 3 years

Table 6.Support and Warranty

Warranty and Support	
Products covered	COMMANDO RoutePRO, 5GE, Router, Wireless Controller, Load Balancer, Firewall w/ Captive portal
Warranty duration	One Year RTB (Return To Base) replacement warranty – optionally extendable up to 3 years.
Hardware replacement	COMMANDO, its resellers or its service center will use commercially reasonable efforts to replace the product subject to stock availability. Otherwise, a replacement will be arranged within 15 working days after receipt of the Return Materials Authorization (RMA) request.

End-of-life policy	In case of discontinuation of the product, support is limited to 3 years from announcement date.
Effective date	Hardware warranty commences from the date of shipment to customer (and in case of resale by a COMMANDO reseller, not more than 90 days after original shipment by COMMANDO).
Support duration	Lifetime support.
COMMANDO Care	COMMANDO will provide 24x7 support for basic configuration, diagnosis, and troubleshooting of device-level problems for up to one year from the date of shipment of the originally purchased product. This support does not include solution or network-level support beyond the specific device under consideration.
Online Portal Access	Warranty allows guest access to commandonetworks.com for all available technical queries.

Ordering Information -

Ordering information for the COMMANDO R-100 PRO. To place an order, please contact your local reseller/distributor or COMMANDO Sales Representative at www.commandonetworks.com/ordering

Table 7. COMMANDO R-100 PRO series Ordering Information

Product Code	Product Description
R100-PRO	COMMANDO RoutePRO, 5GE, Router, Load Balancer, Wireless Controller, Firewall w/ Captive portal

Document History -

Release	New or Revision	Described in	Date
Release 1	First Release	First Release	January 4, 2021