BEAM i series

Bus and automotive Wi-Fi routers

powered by

BEAMOS

BEAM i series

WiFi   4G   GPS   powered by BEAMOS

The onboard Wi-Fi system to connect everything

- Passenger Wi-Fi
- Real-time passenger info
- Infotainment & CCTV
- Live vehicle tracking
- Smart ticket machines
- Smart ticketing & contactless payments

Onboard connectivity and Wi-Fi for any vehicle requires a router that is designed for the job. This is where the BEAM iSeries Wi-Fi systems excel in delivering powerful and reliable connectivity for onboard systems and passengers.

Powered by the beamOS operating system, the BEAM iSeries offers an open system for total flexilibilty and configurability. Whatever your requirements, the BEAM 5i and BEAM 8i models can be set up to work the way you need them to.

Market to your passengers and monetise your passenger Wi-Fi

The BEAM iSeries is compatible with major RADIUS server providers, allowing you to easily and securely collect data from your passenger Wi-Fi. You can then use the data to market directly to your customers through channels such as email and social. You can also monetise your passenger Wi-Fi based on password access, data limits and time limits.

BEAM 5i

WiFi 4G powered by BEAM OS

50 Device Connections
SIM Slot x1
Content filtering
Data management
Remote management
RADIUS server compatible
Built-in application server
Up to 24GB storage

Connectors

USB x1
HDMI x1
AV Out x1
Ethernet x1
4G Mobile Antenna x2
Wi-Fi Antenna x1

BEAM 8i

WiFi 4G GPS powered by BEAM OS

80 Device Connections
SIM Slot x2
Content filtering
Data management
Remote management
RADIUS server compatible
Built-in application server
Up to 24GB storage
Live vehicle tracking

Connectors

USB x1
HDMI x1
AV Out x1
GPS Antenna x1
Ethernet x2
4G Mobile Antenna x2
Wi-Fi Antenna x2

BEAM i series

SPEC

VEHICLES	BEAM 5i	BEAM 8i
Suitable For	Buses, coaches, vans, trucks etc…	

WIRELESS	BEAM 5i	BEAM 8i
Wi-Fi Users (recommended simultaneous connections)	Up to 50	Up to 80
WPA2-Enterprise (with external/internal Radius server), WPA2-PSK, WPA-PSK, WEP, MAC Filter	yes	yes
Supports Wireless 802.11b/g/n, Access Point (AP), Station (STA)	yes	yes
2.4GHz Band	yes	yes
Channels	1-13	1-13
Public SSID and access control based on MAC address	yes	yes
Accessory SSID (stealth) and access control based on MAC address	yes	yes
Captive portal (Hotspot), internal/external Radius server, built in customizable landing page	yes	yes
Wireless Transmission Power	Up to 20dBm	Up to 20dBm
Chipset	Atheros Hornet, MIPS 24Kc, 400 MHz	Atheros Wasp, MIPS 74Kc, 550 MHz
RAM	64 MB, DDR2	128 MB, DDR2
FLASH Memory	16 MB SPI Flash	16 MB SPI Flash
Maximum Power	100mW	100mW
Wi-Fi Frequency	2.400 - 2.483 Ghz	

WI-FI SECURITY	BEAM 5i	BEAM 8i
WPA2-Enterprise - PEAP, TLS, TTLS, AES-CCMP, TKIP, Auto Cipher modes, Client separation	yes	yes

MOBILE INTERNET	BEAM 5i	BEAM 8i
Mobile Module - 4G (LTE) − Cat 4 up to 150 Mbps, 3G − Up to 42 Mbps, 2G − Up to 236.8 kbps	yes	yes
Bridge - Direct connection (bridge) between mobile ISP and device on LAN	yes	yes
Black/White list	yes (optional)	yes
Built-in Firewall (fixed configuration)	yes	yes

ETHERNET	BEAM 5i	BEAM 8i
WAN - 1 x WAN port (can be configured to LAN) 10/100 Mbps, comply IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX	yes	yes
LAN - 10/100 Mbps, comply IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX	1 port	2 ports

NETWORK	BEAM 5i	BEAM 8i
Routing - Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2)DIX	yes BGP, OSPF v2, RIP v1/v2 optional	yes
Network protocols - TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSL v3, TLS, ARP, VRRP, PPP, PPPoE, UPNP, SSH, DHCP, Telnet, SMNP, MQTT, Wake On Lan (WOL)	yes	yes
Connection monitoring - Ping Reboot, Periodic Reboot, LCP and ICMP for link inspection	yes	yes
Firewall - Port forward, traffic rules, custom rules	yes	yes

SECURITY	BEAM 5i	BEAM 8i
Authentication - Pre-shared key, digital certificates, X.509 certificates	yes	yes
Firewall - Pre-configured firewall rules can be enabled via web-ui, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T	yes	yes
Attack prevention - DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), port scan prevention (SYN-FIN, SYN-RST, X-mas, NULL flags, FIN scan attacks)	yes	yes
VLAN - VLAN separation	Tag based	Port based & Tag based
Mobile quota control - Set up custom data limits for SIM cards	yes	yes
WEB filter - Blacklist for blocking out unwanted websites, whitelist for specifying allowed sites only	yes	yes
Access control - Flexible access control of TCP, UDP, ICMP packets, MAC address filter	yes	yes

VPN	BEAM 5i	BEAM 8i
OpenVPN - Multiple clients and server can be running simultaneously, 12 encryption methods	yes	yes
OpenVPN Encryption - DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC	yes	yes
IPsec - IKEv1, IKEv2, supports up to 4 x VPN IPsec tunnels (instances), with 5 encryption methods (DES, 3DES, AES128, AES192, AES256)	yes	yes
GRE - GRE tunnel	yes	yes
PPTP, L2TP - Client/Server services can run simultaneously	yes	yes
Stunnel - Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the programs' code	yes	yes
SSTP - SSTP client instance support	yes	yes

MONITORING & MANAGEMENT	BEAM 5i	BEAM 8i
WEB UI - HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log	yes	yes
SSH - SSH (v1, v2)	yes	yes

FIRMWARE / CONFIGURATION	BEAM 5i	BEAM 8i
WEB UI - Update FW from file, check FW on server, configuration profiles, configuration backup, restore point	yes	yes
Keep settings - Update FW without loosing current configuration	yes	yes

BEAM i series

PHYSICAL INTERFACES & EXPANSION	BEAM 5i	BEAM 8i
Power Connector - 3 Pin industrial power socket	1	1
Ethernet Port *(10/100Mbps DHCP LAN or WAN modes)*	1	2
GPS Module	-	yes
SIM Slots	1	2
USB 2.0 Interface (Type A Connector)	1	1
A/V Out (3.5mm Jack)	1	1
HDMI Out	1	1
Built-in Application Sever	yes	yes
Maximum User Storage Available *(Class 10 Flash Memory)*	24GB	24GB
Wi-Fi Antenna Connector	1	2
SMA 4G/LTE Antenna Connector	2	2
RP-SMA Wi-Fi Antenna Connector	1	2
GPS Antenna Connector *(RP-SMA)*	-	1
Reset/restore to default button	yes	yes

OTHER FEATURES	BEAM 5i	BEAM 8i
Operating System - Application Server - beamOS-i (based on Debian Linux)	yes	yes
Operating System - Router - beamOS-r (based on openWRT)		
Status LCD screen	yes	yes
Wi-Fi Admin Panel	yes	yes
System Admin Panel	yes	yes
Standard Landing Page	yes	yes
Remote Updates	yes	yes
Portable	yes	yes
RADIUS Server Compatible	yes	yes

OPERATING CONDITIONS	BEAM 5i	BEAM 8i
Voltage *(with Automotive Power Module)*	+11V to +27V	
Power Consumption	9W Typical	9W Typical
Reverse Polarity Protection	yes	yes
Available Power Adapters	Fly Lead, 12V* and Mains*	
Temperature	0 to 40 C	
Humidity	10-90% non-condensation	

PHYSICAL	BEAM 5i	BEAM 8i
Unit Dimensions (mm)	187W x 269L x 46H	
Typical Weight (approx)	902g	1010g
Case Material	black ABS	black ABS
Mounting Points	4	4
Fanless Operation	yes	yes
Electronics - Modular Solid State	yes	yes

SUPPORT	BEAM 5i	BEAM 8i
Standard	12 Month Return-to-Base Warranty	
BEAMplus	Lifetime Warranty**/Engineer Support**	

OPTIONS	BEAM 5i	BEAM 8i
Custom Hotspot Page	yes*	yes*
Remote Management	yes*	yes*
Content Server	yes*	yes*

REGULATORY & TYPE APPROVALS	BEAM 5i	BEAM 8i
Regulatory - CE/RED, FCC, IC/ISED, EAC, RCM, PTCRB, RoHS, WEEE, Wi-Fi Alliance	yes	yes

EMI IMMUNITY	BEAM 5i	BEAM 8i
STANDARDS - Draft EN 301 489-1 V2.2.0, Draft EN 301 489-17 V3.2.0, Draft EN 301 489-52 V1.1.0 FCC 47 CFR Part 15B (2017), ANSI C63.4 (2014)	yes	-
STANDARDS - Draft EN 301 489-1 V2.2.0, Draft EN 301 489-17 V3.2.0, Draft EN 301 489-52 V1.1.0	-	yes
ESD - EN61000-4-2:2009	yes	yes
RS - EN 61000-4-3:2006 + A1:2008 + A2:2010	yes	yes
EFT - EN 61000-4-4:2012	yes	yes
Surge immunity (AC Power Line) - EN 61000-4-5:2006	yes	yes
Surge immunity (Ethernet ports) - EN 61000-4-5:2014, clause 7.1 of ITU-T K21	yes	yes
Transient and surges - ISO 7632-2:2004	-	yes
CS - EN 61000-4-6:2009	yes	yes
DIP - EN 61000-4-11:2004	yes	yes

RF	BEAM 5i	BEAM 8i
STANDARDS - EN 300 328 V2.1.1, EN 301 511 V12.5.1, EN 301 908-1 V11.1.1, EN 301 908-2 V11.1.1, EN 301 908-13 V11.1.1 FCC 47 CFR Part 15C (2017), FCC 47 CFR Part 2 (2017), FCC 47 CFR Part 22H (2017), FCC 47 CFR Part 24E (2017), FCC 47 CFR Part 27C (2017) RSS-Gen Issue 4 (2014), RSS-247 Issue 2 (2017), RSS-132 Issue 3 (2013), RSS-133 Issue 6 (2013), RSS-139 Issue 3, RSS-130 Issue 1 AS/CA S042.1:2018, AS/ACIF S042.3:2005, AS/CA S042.4:2018, AS/NZS 4268:2017	yes	yes

SAFETY	BEAM 5i	BEAM 8i
STANDARDS - IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 AS/NZS 60950.1:2015 EN 50665:2017, EN 62311:2008 FCC 47 CFR Part 1 1.1310 RSS-102 Issue 5 (2015)	yes	-
STANDARDS -IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 AS/NZS 60950.1:2015 EN 50665:2017, EN 62311:2008	-	yes

* Available as an optional extra

** Available with BEAMplus monthly subscription

All specifications are subject to change at anytime. E&OE

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