



## BAT300-Rail

Industrial Networking:Industrial Ethernet:Wireless LAN:Chassis

Delivery informations	
Availability	available
Document created at	22.05.2009
Product description	
Description	Dualband Industrial high performance Wireless LAN Access Point/Client with 802.11n (draft 2.0) - (available from Q2/2009)
Port type and quantity	1 x WLAN interface, up to 8 SSIDs per WLAN interface, two LAN ports 10/100BASE-TX, autosensing, Power over Ethernet according to IEEE 802.3af
Type	BAT300-Rail
Order No.	943 989-001
Radio technology	
Antenna connector	3 x RP-SMA jack antenna connectors
Range	Up to 20 km with external antenna (depending on type of antenna, frequency range and data rate)
Transmission rate	54 Mbps according to IEEE 802.11g (fallback to 48, 36 , 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection) compatible to IEEE 802.11b (11,5.5, 2, 1 Mbps, Automatic Rate Selection), 802.11 b/g compatibility mode or pure g or pure b. 54 Mbps according to 802.11a (fallback to 48, 36 , 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection), fully compatible with TPC (adjustable power output) and DFS 2 (automatic channel selection, radar detection) according to ETSI regulations. 300 Mbps according to IEEE 802.11n draft 2.0 with MSC15 (fallback to 6.5 Mbps with MSC0)
Encryption	IEEE 802.11i / WPA2 with passphrase or 802.1x and hardware-accelerated AES, user authentication by 802.1x /EAP or LEPS, IEEE 802.1x supplicant in client mode, WPA/TKIP, WEP, access-control lists, WLAN port and protocol filter, RADIUS client and server, built-in firewall with QoS, port filter, protocol filter, IDS and DoS protection, PMK caching and preauthentication for fast roaming with IEEE 802.1x
Operating system	LAN interface usable for simultaneous DSL-over-LAN, IP-Router, NAT/Reverse NAT (IP-Masquerading) DHCP-Server, DHCP-Client, DHCP-Relay-Server, DNS-Server, PPPoE-Client (incl.Multi-PPPoE), PPTP- Client und - Server, NetBIOSProxy,DynDNS-Client, NTP, Port-Mapping, Policy-based Routing on basis of Routing-Tags, Tagging cording to firewall roules, dynamic routing RIPv2, VRRP, Rapid Spanning Tree Protocol (IEEE 802.1w), ARP, Proxy ARP, BOOTP, DHCP, DNS, HTTP, HTTPS, IP, ICMP, NTP/SNTP, NetBIOS, PPPoE (Server), RADIUS, RIP- 1, RIP-2, RTP, SIP, SNMP, TCP, TFTP, UDP, VRRP, VLAN with up to 4094 VLAN IDs for WLAN connections, 32 usable simultaneously, dynamic VLAN-Tags for 802.1x-Clients, Integrated RADIUS server with IEEE 802.1x/EAP authentication
Frequency band	1 x radio module, supporting 2.4 GHz and 5 GHz: 2400-2483.5 MHz (ISM) and 5170-5850 MHz
Modulation	22M0F7D(DSSS/OFDM) @ 2.4 GHz 20M0G7D (OFDM) @ 5 GHz

Receiver sensitivity	2.4 GHz 802.11b: - 91 dBm @ 11 MBit/s, -96 dBm @ 1 MBit/s; 802.11g: -96 dBm @ 6 MBit/s, -83 dBm @ 54 MBit/s; 802.11n: -96 dBm @ 6.5 MBit/s (MCS0, 20 MHz), -79 dBm @ 65 MBit/s (MCS 7, 20 MHz); -95 dBm @ 13 MBit/s (MCS8, 20 MHz), -75 dBm @ 130 MBit/s (MCS15, 20 MHz); -90 dBm @ 15 MBit/s (MCS0, 40 MHz), -75 dBm @ 150 MBit/s (MCS7, 40 MHz); -90 dBm @ 30 MBit/s (MCS8, 40 MHz), -71 dBm @ 300 MBit/s (MCS15, 40 MHz) Empfangsempfindlichkeit 5 GHz 802.11a/h: -95 dBm @ 6 MBit/s, -82 dBm @ 54 MBit/s; 802.11n: -95 dBm @ 6.5 MBit/s (MCS0, 20 MHz), -77 dBm @ 65 MBit/s (MCS7, 20 MHz); -94 dBm @ 13 MBit/s (MCS8, 20 MHz), -74 dBm @ 130 MBit/s (MCS15, 20 MHz); -91 dBm @ 15 MBit/s (MCS0, 40 MHz), -74 dBm @ 150 MBit/s (MCS7, 40 MHz); -91 dBm @ 30 MBit/s (MCS8, 40 MHz), -70 dBm @ 300 MBit/s (MCS15, 40 MHz)
Radio topology	WLAN access point, bridge, router, point-to-point, client, client-bridge mode, fixed mesh with RSTP
Roaming	seamless handover between radio cells, IAPP support, IEEE 802.11d support, background scanning for rogue AP detection and fast roaming, support of IEEE 802.11e (WME), preauthentication and PMK caching with IEEE 802.1x
Radio Power	max. 2.4 GHz 802.11b: +19 dBm @ 1 und 2 MBit/s, +19 dBm @ 5.5 and 11 MBit/s (output power at antenna connector); max. 2.4 GHz output power at antenna connector 802.11g: +18 dBm @ 6 to 36 MBit/s, +17 dBm @ 48 MBit/s, +16 dBm @ 54 MBit/s; 802.11n: +19 dBm @ 6.5/13 MBit/s (MCS0/8, 20 MHz), +10 dBm @ 65/130 MBit/s (MCS7/15, 20 MHz), +17 dBm @ 15/30 MBit/s (MCS0/8, 40 MHz), +10 dBm @ 150/300 MBit/s (MCS7/15, 40 MHz); max. 5 GHz output power at antenna connector 802.11a/h: +18 dBm @ 6 to 24 MBit/s, +17 dBm @ 36 MBit/s, +16 dBm @ 48 MBit/s, +15 dBm @ 54 MBit/s; 802.11n: +18 dBm @ 6.5/13 MBit/s (MCS0/8, 20 MHz), +10 dBm @ 65/130 MBit/s (MCS7/15, 20 MHz), +17 dBm @ 15/30 MBit/s (MCS0/8, 40 MHz), +10 dBm @ 150/300 MBit/s (MCS7/15, 40 MHz); min. power reduction in 1 dB steps down to 0.5 dBm minimum
<b>Power requirements</b>	
Operating voltage	2 x DC 24 V; DC 12 V external power supply (230 V) 2 x Power over Ethernet according to IEEE802.3af; all power supplies redundant to each other
Current consumption at 24 V DC	417 mA
Current consumption	DC 12 V: 625 mA; DC 24 V: 417 mA; PoE (48 V DC): 167 mA
<b>Service</b>	
Diagnostics	Extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, LANmonitor status display, internal logging buffer for SYSLOG and firewall events, monitor mode for Ethernet ports, WLANmonitor for WLAN network overview and Rogue AP detection
Management	SNMP management via SNMP V2, private MIB exportable by WEBconfig, MIB II; Remote configuration with Telnet/SSL, SSH, browser (HTTP/HTTPS), TFTP or SNMP, firmware upload via HTTP/HTTPS or TFTP; Support of up to 4094 VLAN IDs for WLAN connections, 256 simultaneously usable VLAN tags for 802.11 clients
Other services	Warning via e-mail, SNMP-Traps and SYSLOG; Remote management and configuration by modem support via LAN (DSL) or serial port
<b>Ambient conditions</b>	
Operation temperature	-30 °C to +50 °C
Storage/transport temperature	-40 °C to +70 °C
Relative humidity (non-condensing)	max. 95%
MTBF	43.3 years
<b>Mechanical construction</b>	
Dimensions (W x H x D)	80 mm x 100 mm x 135 mm
Mounting	for wall and Din Rail mounting
Protection class	IP 40
<b>Approvals</b>	
Safety of information technology equipment	EN 60950
Radio	EN 300328, EN 301893, notified in all countries of EU. For other notifications or certifications please refer to INET-Sales@hirschmann.de
Environmental	EN 61131 for operation in automation environment
<b>Scope of delivery and accessories</b>	
Scope of delivery	device, CD, serial cable, Ethernet cable (3 m), 3 x 3-dBi-dipol - dualband antennas, rail mount material, 2 x 50 Ohm terminator
Accessories to order separately	external antennas for industrial applications, indoor and outdoor; adapter cable and surge arrester