



## W2002 Wireless Access Device

The W2002 supports the latest WLAN technology is designed for use in professional environments. The double radio module and four antennas give optimized coverage under heavy conditions, allowing it to meet a wide variety of requirements. The W2002 series supports WMM (Wireless Multimedia), a technique to prioritise certain data streams from different applications like video or voice in order to provide maximum of transmission quality for time critical applications. In addition to the WLAN standards 802.11b and 802.11g, the 2002 device also support 802.11a as well as its European counterpart, the 802.11h, to enable a data throughput rate of up to 54 Mbps in the 5 GHz frequency range. Particularly suited for building bridge solutions in outdoor areas. Furthermore, these products also support such modem processes as Multi SSID and VLAN, with which up to 16 virtual access points can be mapped per radio module. Access points can be secured one against the other, thus allowing guest access accounts. Different security levels and encryption processes can be assigned to each SSID. To ensure highest security, the W2002 supports the 802.1x and 802.11i (WPA2) security standards. The systems can be reliably configured using SSH, SSL or alternatively via https (in preparation) as well. When used as bridges, the W2002 supports the automatic bridge mode and is able to secure bridge connections with the help of TKIP and AES encryption.

The W2001 access points are manufactured to environment friendly standards and are compliant to the RoHS directive.

### Specifications

Feature	Description
W2002-UK	Two internal radio module, 4 external antennas, UK-variant. Article Nr: 700178



**Wireless LAN**

Feature	Description
WEP/WPA	WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
IEEE802.11i Authentication and Encryption	802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, Key Management, PSK/TKIP Encryption, AES Encryption, 802.1x/EAP
Automatic Rate Selection (ARS)	available
Transmit speed	Transmit Speed Auto fallback or selectable fixed rate
Fixed bitrate	A fixed value for TX rate can be set
Data rates	IEEE802.11 Standards: a,h (5GHz) g,b (2,4 GHz) modulation scemes: 11, 5.5, 2 and 1Mbps (DSSS) 2.4GHz; 54, 48, 36, 24, 18, 12, 9 and 6Mbps (OFDM), 2,4 and 5 GHz
Output power	Adjustable from 0dBm up to max. 14dBm / 19 dBm. Max. power varies on data rate and frequency band.
Channel sets	according to IEEE 802.11d
Delay Spread @ 2.4GHz	PER 8% : 1Mbps 250ns; 2Mbps 250ns; 5.5Mbps 100ns; 11Mbps 100ns. PER 10%: 6Mbps 1000ns; 9Mbps 540ns; 12Mbps 680ns; 18Mbps 420ns; 24Mbps 320ns; 36Mbps 210ns; 48Mbps 160ns; 54Mbps 120n
Delay Spread @ 5GHz	PER 10%: 6Mbps 1000ns; 9Mbps 540ns; 12Mbps 680ns; 18Mbps 420ns; 24Mbps 320ns; 36Mbps 210ns; 48Mbps; 160ns; 54Mbps 120ns
Receiver Sensitivity @ 2.4GHz	PER 8%: 1Mbps -98dBm; 2Mbps -93dBm; 5.5Mbps -92dBm; 11Mbps -88dBm; PER 10%: 6Mbps -92dBm; 9Mbps -90dBm; 12Mbps -88dBm; 18Mbps -86dBm; 24Mbps -82dBm; 36Mbps -78dBm; 48Mbps -73dBm; 54Mbps -71dBm
Receiver Sensitivity @ 5GHz	PER 10%: 6Mbps -90dBm; 9Mbps -88dBm; 12Mbps -86dBm; 18Mbps -84dBm; 24Mbps -79dBm; 36Mbps -76dBm; 48Mbps -71dBm; 54Mbps -69dBm
Antenna diversity	Can be switched on and off
Roaming	Artem roaming protocol.
Learn Table	High performance cache for 4099 MAC-Adresses.
WLAN Modes	IEEE 802.11 Compatibility Mode: 11a Only, 11b Only, 11g Only, Mixed, Mixed-Long Range, Mixed-Short Range
Nitro Mode	Can be switched on / off and is configurable
Repeating	Repeating can be switched on / off
Radio quality Information	Signal, noise and data rate per client
Clients table	Table of associated clients (nodes)
Broadcast	Can be switched on / off
Multi SSID	Up to 16 service sets per radio in AP mode, virtual AccessPoints with own MAC address per radio.
Country Specific settings	Operating Channels According to the regulatory domain possible.
TPC	TPC (Transmission Power Control): At 5 GHz, automatic power reduction according to EN301893
DFS	DFS (Dynamic Frequency Selection): At 2,4 and 5GHz, channels are used dynamically depending on occupation.
RTS/CTS	RTS/CTS threshold adjustable.
DTIM	DTIM period adjustable.

**Security**

Feature	Description
RADIUS	Central check of access authorization at a RADIUS server (.1x Authentication)
VLAN	Network segmentation on layer 2 possible, one VLAN ID per SSID. Static VLAN configuration according to IEEE 802.1q; Supports up to 32 VLANs.
PHS Filter	Inter traffic blocking for Public HotSpot (PHS) applications disables communication between wireless clients within a radio cell and cells of other Access Points.
Password Protection	Access control for two different user levels (admin, view).
Security Against Intruders	Telnet is protected against 'Brute Force Attacks'
Access Control List (ACL):	Via local list

**Maintenance and Service**

Feature	Description
Configuration via	Via DHCP, Telnet, SSH, HTTP, HTTPS, SNMP
SNMP	SNMP (v1, v2, v3), USM Model, VACM Views, SNMP Traps (v1, v2, v3) configurable, SNMP IP access list configurable
SNMP configuration	IP access list configurable
SNMP configuration	Complete management with MIB-II, MIB 802.11, Enterprise MIB
SSH Login	Supports SSH V1.5 and SSH V2.0. For secure connections of terminal applications
HTTP/HTTPS	Versions pre1.0, 1.0, 1.1
Setup Tool	Integrated, menu-based, intuitive setup program, Artem CPM
Documentation	Complete toolset and documentation on CD
Guarantee	2-year manufacturer's guarantee
Secure configuration	SSH supported, HTTPS in preparation
Configuration export	Loading And Saving Of Configurations
On The Fly Configuration	No restart is required after the configuration has been changed.
Configuration Access	Can be restricted to 'ethernet only' or additionally restrained by filter rules.
Discovery Function	Protocols: Madge Discovery Protocol (MDP), Artem Discovery Protocol (ADP), Works across subnet borders

## Software Features

Feature	Description
Bridging	Transparent Mode
Ethernet Blue Book	Supported by all ComPoint Variations.
Buffer Pool	For compensation of load peaks
QoS	Data Priorisation for IP-TOS evaluation, 802.11e/WMM
BLD	Broken Link Detection (BLD) per SSID possible.
Statistics	Wireless Extended Statistics, Sorted by clients and by data rate.
Console Logging	Events via Telnet and HTTP visible
Syslog	Client, with different levels of messaging.
DHCP	Client
Power Management For Clients	Number of Managed Clients per Radio: Up to 250 at the same time.
ARP	Address Resolution Protocol: Translation for wireless clients enable/disable
IAPP	Roaming with Artem Inter-Access-Point-Protocol (IAPP)
WDS	Wireless Distribution System: Interoperabel with other devices from the Funkwerk-EC Port-
Bridge: Point-To-Point /	Point-To-Point Connection Between Two ComPoints; Point-To-Multipoint Connection Be-
Point-To-Multipoint	between one ComPoint and up to six partner ComPoints
Bridge	Full Remote Configuration: Proprietary Artem protocol with encrypted transmission. RTS/CTS Threshold: Adjustable; Operating Channels: According to the regulatory domain. Transmit Speed: Auto fallback or selectable fixed rate.
Linktest	Via the linktest the quality of a bridge link can be measured.
Bridgeline encryption	With high security TKIP and AES possible

## Hardware Features

Feature	Description
Standards	Wi-Fi Certification for IEEE 802.11g Requirements; IEEE 802.11a,b,g,d,h,i; IEEE 802.3, IEEE 802.3af, IEEE 802.1q (VLAN Tagging)
Certifications	R&TTE Directive 1999/5/EG; EN 60950 (IEC60950); EN 300 328-1/2; ETSI EN 301 489-1/17, EN60601-1-2 (medical)
LAN / WAN	2 x 10/100 Mbps Ethernet twisted pair, autosensing, auto MDI/MDI-X
WLAN	W1002/W2002: IEEE 802.11b/g 1 or 2 internal radio modules, 2,4 und 5GHz Band, 2 or 4 external antennas (Antenna Diversity), max. 100mW RF output power
Antenna	Antenna connector: RTNC jack
Real time clock	Even at power loss the system time will be available for several hours.
Power supply	External AC/DC converter 12 V DC, 1 A
PoE	Power-Over-Ethernet compliant to IEEE 802.3af, the injector must support maximum power (class 0)
Status LEDs	W1002: Status+Activity for WLAN, Ethernet 1, Ethernet 2; W2002: Status+Activity for WLAN 1, WLAN 2, Ethernet 1, Ethernet 2
Wall mounting kit	Optional
Dimensions	Approx. 16.3 cm by 16.8 cm by 5 cm (w by h by d)
Weight	Approx. 200 g
Power consumption	Max. 1A at 12V
Environment	Temperature range: Operational 0°C to 40°C; Storage -10°C to 70°C; Max. rel. humidity 10 -95% (non condensing)