



# BAT450-F

## Industrial Wireless LAN Access Points

The new family of industrial WLAN access points offers a complete solution to deploy a reliable, customizable and versatile wireless infrastructure while maximizing cost effectiveness.



**Ruggedized and compact design** means the wireless access points can be deployed in a variety of harsh environments and mounting areas.



Secure operating **system ensures maximum network availability and data security** across wireless connections with HiLCOS software.



**Custom configurations and interfaces** for the unique needs of industrial networks to confidentially maintain connection uptime.

### Key Features

- Configurable design for maximum flexibility and modular network interfaces
- WLAN radio versions comply with the IEEE 802.11 a/b/g/n WLAN standard
- Also enables data rates up to 450 Mbit/s in both the 2.4 GHz and 5 GHz bands via 3 x MIMO antenna technology
- WAN/Cellular radio version supporting LTE, 3G, 2G and GPS/GLONASS
- Ethernet ports, including X-coded M12 connector technology (IP67 version), support 10/100/1000BASE-TX data rates
- Power input via 24 V DC and Power over Ethernet (PoE) (802.3af)
- Automatic point-to-point connections through Automatic Wireless Distribution System (AutoWDS) function
- Operates at an extended temperature range (-40 °C to +70 °C)
- Protection Class IP65/IP67



The BAT450-F family of WLAN access points features a ruggedized, compact design for industrial needs and can be customized to support a variety of wireless and wired connections.

**Be certain.  
Belden.**



## Your Benefits

### Flexible Deployment and Modular Interfaces

The BAT450-F family of industrial access points provides a complete wireless solution offering WLAN, Ethernet and Wireless Wide Area Network (WWAN) Interfaces. These wireless devices can operate as an Access Client, Access Point or managed Access Point in combination with the BAT-Controllers. Through these access points, network managers can quickly set up a wireless network infrastructure through the AutoWDS.

The BAT450-F is designed to support Industrial IoT (IIoT) and wide area network (WAN) functionality through its modular/extension interface.

The BAT450-F core access point configurations include:

- 1 x WLAN / 1 x ETH / 1 x serial interface (V.24)
- 1 x WLAN / 2 x ETH / 1 x serial interface (V.24)
- 2 x WLAN / 1 x ETH / 1 x serial interface (V.24)
- 2 x WLAN / 2 x ETH / 1 x serial interface (V.24)
- 1 x WLAN / 1 x ETH / 1 x LTE / 1 x serial interface (V.24)

### Applications

The BAT450-F access points are ideal for use by industrial engineers in transportation environments, specifically the railway industry. It can also benefit industrial applications in other industries where space and operating conditions are a primary concern.

- Simultaneous voice and data communication
- Low weight and small footprint for mounting on walls and masts or in confined spaces
- Deployable as clients, routers or bridges
- Performs well in extreme conditions in transportation, process automation and energy applications

### Markets

Ideal for use in transportation network environments as well as in the process automation area. Further possible application areas: power transmission and distribution, machine building, water and wastewater, food and beverage, mining, solar and wind power, and oil and gas.



The new BAT450-F family of WLAN access points features an industrially hardened, yet compact, design that can be customized to support a variety of wireless and wired connections.

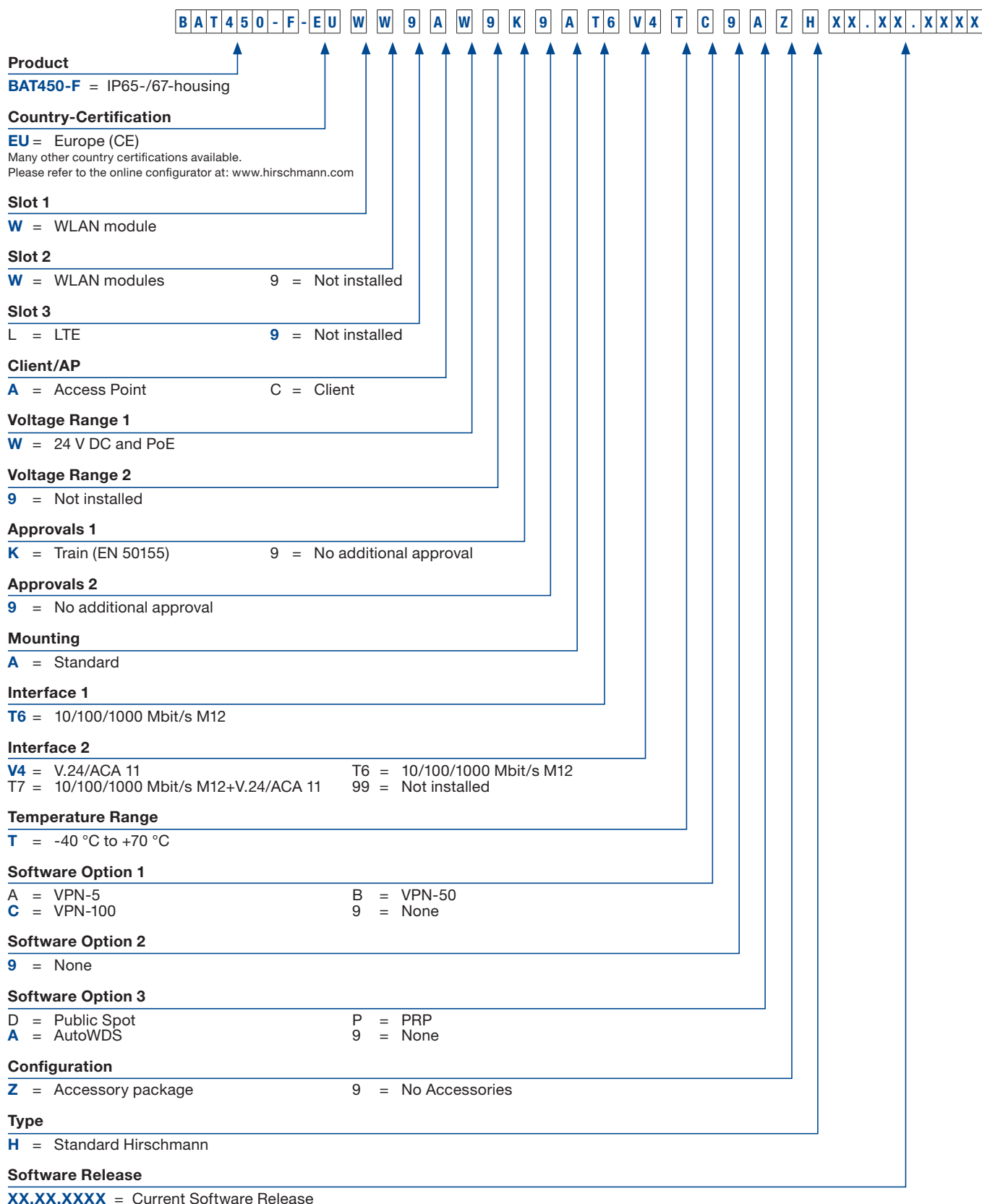
## Technical Information

<b>Product Description</b>	
Type	BAT450-F
Description	Dual Band Ruggedized Industrial Wireless LAN Access Point/Client with IEEE 802.11n for installation in harsh environment.
Port Type and Quantity	Up to 2 x Radio interfaces, up to 2 x LAN ports 10/100/1000BASE-TX, Power over Ethernet according to IEEE 802.3af, 1 x V.24/ACA11
<b>Radio Technology (WLAN)</b>	
Radio Standard	IEEE 802.11a/b/g/h/n WLAN interface as per IEEE 802.11n, 3 x 3 MIMO up to 450 Mbit/s gross bandwidth.
Antenna Connector	For each WLAN module: 3 x N socket
Range	Depending on type of antenna, frequency range and data rate
Frequency Band	Supporting 2.4 GHz and 5 GHz: 2400 to 2483.5 MHz (ISM) and 5170 to 5850 MHz
Modulation	20M0F7D (DSSS/OFDM) @ 2.4 GHz, 20M0G7D (OFDM) @ 5 GHz, MCS 0 - MCS23
Radio Topology	WLAN access point, bridge, router, point-to-point, client, client-bridge mode, AutoWDS, fixed mesh with RSTP
Encryption	IEEE 802.11i/WPA2 with passphrase or 802.1x and hardware-accelerated AES, closed network, WEP64, WEP128, WEP152, user authentication, 802.1x/EAP, LEPS, WPA1/TKIP, fast roaming with Opportunistic Key Caching. Please refer to the HiLCOS data sheet for further information.
<b>Radio Technology (Cellular)</b>	
Antenna Connector	3 x N socket
Antenna Configuration	Main + Aux (Div. for 2G/3G and MIMO 2x2 for LTE) + GNSS
Frequency Band	Quad Band EDGE /GSM/GPRS (2G): 1900 /1800/900/850 MHz Quad Band UMTS/HSPA (3G): 2100/1900/850/900 MHz FDD-Band (1, 2, 5, 8) Penta Band LTE (4G): 2100/1800/2600/900/800 MHz FDD-Band (1, 3, 7, 8, 20)
Transfer Rate (max) / Data Speed	LTE Cat.3: 100 Mbit/s Download, 50 Mbit/s Upload
SIM-cards/Slots	Two SIM card holders/slots, Dual-SIM fail over functionality • Switch SIM on disconnect • Switch SIM on remaining data volume
GNSS/Location Solution	Satellite Systems : GPS, GLONASS
<b>Interfaces</b>	
Ethernet	M12, X-coded, 10/100/1000 Mbit/s
V.24/ACA11	M12, A-coded, configuration interface or for automatic P2P connections verified over V.24 (train carriage coupling)
<b>Power Requirements</b>	
Operating Voltage	1 x 24 V DC and 1 x Power over Ethernet according to IEEE 802.3af
Power Consumption	Up to 12.95 W, depending on number of radio modules
<b>Ambient Conditions</b>	
Operation Temperature	-40 °C to +70 °C
Storage/Transport Temperature	-40 °C to +85 °C
Relative Humidity (non-condensing)	10 % to 95 %
<b>Mechanical Construction</b>	
Dimensions (W x H x D)	261 x 189 x 55 mm
Mounting	Wall and mast
Protection Class	IP65/IP67
<b>Approvals</b>	
Safety of Industrial Control Equipment	EN 60950
Radio	EN 300328, EN 301893, UL60950
Environmental	EN 61000-6-2, EN 61131, E1 and EN 50155

**NOTE:** These are the prominent technical specifications. For complete technical specifications visit: [www.hirschmann.com](http://www.hirschmann.com)



## Configurations



**NOTE:** The part number categories (**Configuration** and **Software Release**) are optional.

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