

AWIN GW120

WirelessHART Gateway® - Making Field Wireless Easy



AWIN GW120 is a gateway between WirelessHART instruments and host systems. It is specifically designed for process and condition monitoring applications. It helps to aggregate data from native WirelessHART instruments or wired instruments connected via WirelessHART adapters. As a result, you can gain better insights to your processes, assets, and facilities. Consequently, you can optimize productivity at a reduced investment cost due to the inherent benefits of going wireless.

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AWIN GW120 -
Secure,
Compact,
Low power,
Industrial-grade, Intuitive
user interface, Out-of-
box connectivity.

Description

AWIN GW120 is a WirelessHART gateway that can connect up to 100 WirelessHART devices. It creates and manages a self-organizing and secure Wireless-HART network and converts HART data to ModbusTCP data for easy integration to automation controllers and other host systems.

Benefits and Key Highlights

The use of WirelessHART networks has enabled the process industry to collect a vast amount of previously unknown data by making physical monitoring of the underlying processes practical and economically possible.

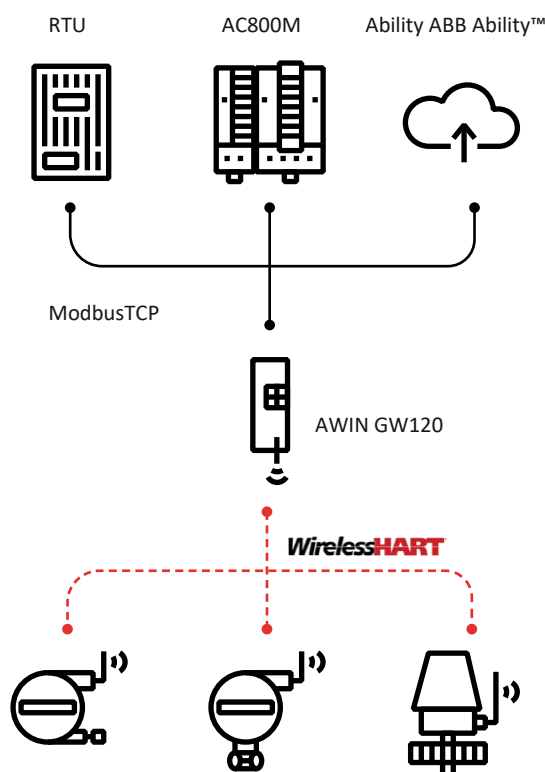
- ABB WirelessHART devices connect to AWIN GW120 straight out of box.

Technical Overview

Technical data	
Wireless protocol	WirelessHART (IEC 62591)
Host protocols	ModbusTCP, HART-IP
Number of Devices Supported	Up to 100 devices (even more under certain conditions)
WirelessHART data protection	128-bit AES encryption
Hazardous area installation	Suitable for Zone 2 areas
Degree of protection	IP20 (EN/IEC60529)
Cabinet mount	DIN rail
Supported antennas	Passive antenna
Indicators	LEDs on the gateway
Secure Network Join	Requires Join Key (hexadecimal-32 characters)
Additional security	Access list entry (requires MAC address)

- Built-in webserver with intuitive design for WirelessHART network configuration and monitoring.
- Small footprint suitable for installation inside remote cabinets and junction boxes.
- Low power consumption and can be powered through solar panels.
- Supports remote antenna.
- As built documentation functionality.
- The gateway has built-in features to track network performance that simplifies troubleshooting.
- Host integration using ModbusTCP protocol.
- Support for wireless devices integration to 800xA.
- WirelessHART devices configuration using ABB's Field Information Manager (FIM) app.
- Supports assets condition monitoring using ABB Ability™ Smart Sensor and AssetInsight™.
- Support for bulk-configuration of WirelessHART devices and Modbus mapping using MS Excel based configuration tool.

General data	
Material	Anodized aluminum
Degree of protection	IP20
Mounting	NS 35
Mounting Position	Vertical
Dimensions	45 x 109.5 x 140.27 mm (end to end including connectors)
Weight (without antenna)	384g
Operating Temperature	-40 to 70 °C
Storage Temperature	-40 to 85 °C
Humidity, Non-Condensing	5 to 95 %
Power connector type	8-position COMBICON MSTB plug/header
Hard reset button (restore to default factory settings)	In front of the unit
Electrical Data	
Nominal voltage	24 VDC
Supply voltage	10.8...30 VDC
Current draw, typical	130mA
Current draw, maximum	290mA
Conductor size (solid, stranded, AWG)	(0.2 - 2.5 mm ² , 0.2 - 2.5 mm ² , 24 - 12 AWG)
Redundant power connector	Yes
Earth connector	Yes (on top)
Ethernet Interface	
Port connection	4 x RJ45 female (autocross)
Transmission rate	10/100/1000 Mbps (auto negotiate)
WirelessHART Radio Interface	
Frequency range	2.4000 - 2.4835 GHz
Channel separation	5 MHz
Channel bandwidth	2 MHz
Number of channels	15
Transmission power	0 - 10 dBm
Receiver sensitivity	-90 dBm
Antenna connection	RP-SMA female
LED Indicators	
ST (multi color)	STATUS Flashing (green) - device initializing Flashing (red) - device rebooting or error recovery (green) - power/device active
MESH (green color)	DEVICE(S) CONNECTIVITY ON - WirelessHART device(s) connected OFF - No WirelessHART devices found/connected
ERR (red)	ERROR OFF - no errors ON - internal error
RED	OFF - not in use
PRI	OFF - not in use
P1, P2 (green color)	1000Mbps LAN NETWORK (Top LED) ON – 1000Mbps LAN connected OFF – 1000Mbps LAN not connected 10/100Mbps LAN NETWORK (Bottom LED) ON – 10/100Mbps LAN connected OFF – 10/100Mbps LAN not connected Flashing (green) - Transmission/Reception ongoing
S1, S2 (green color)	OFF - not in use
Approvals/Conformance	
Conformance	CE
Conformance with RED directive	2014/53/EU
Conformance with ATEX directive	2014/34/EU
ROHS	2011/65/EU
UL, USA	Class Division 2 Groups ABCD T4
cUL, Canada	Class I, Zone 2 Group IIC T4
ATEX marking	 II 3 G Ex ec nC IIC T4 Gc (UL 21 ATEX 2558X)
IECEx marking	Ex ec nC IIC T4 Gc (IECEx UL 21.0127X)
WEEE	European Directive 2012/19/EU



System Components

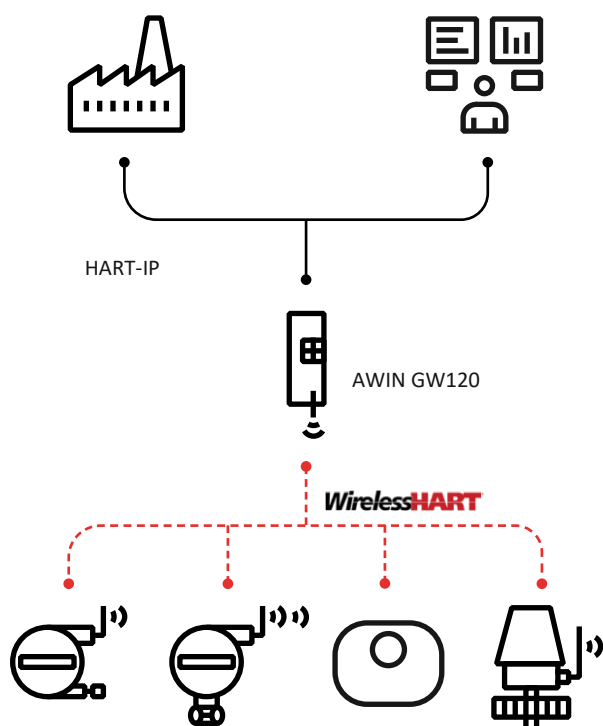
AWIN GW120 gateway establishes a WirelessHART network. It creates and manages network security and connectivity. It provides a mesh grid capability that ensures pervasive network coverage for every type of industrial floor, including the busiest of sites. Standard WirelessHART instruments, such as, ABB's WirelessHART pressure and temperature instruments connect to ABB's automation systems, Totalflow RTU and Ability™ platform effortlessly.

AWIN GW120 supports condition monitoring of rotating machines using ABB Ability™ Smart Sensor. The data from the Smart Sensor is connected to ABB Ability™ AssetInsight, which is a condition monitoring application for rotating equipment.

AWIN GW120 also enables remote configuration of field devices using ABB's Field Information Manager (FIM) app. This allows the end user to centrally manage and configure field wireless devices.

AWIN GW120 supports connectivity of multiple host systems simultaneously.

Note. Connectivity to ABB Ability™ platform will require an additional edge gateway.



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