# Anybus®
BY HMS NETWORKS

Edge Smart Gateway™

The Anybus Edge Gateway family makes sure to bring data from the factory floor through the edge, properly analyzed and packaged, to the cloud. The event driven data flow makes the product not only perfect for monitoring applications, but also for enabling the IoT systems to get control. With the Edge Gateways, you have the possibility to access data remotely and securely while also allowing for full remote device management.

SYSTEM OVERVIEW
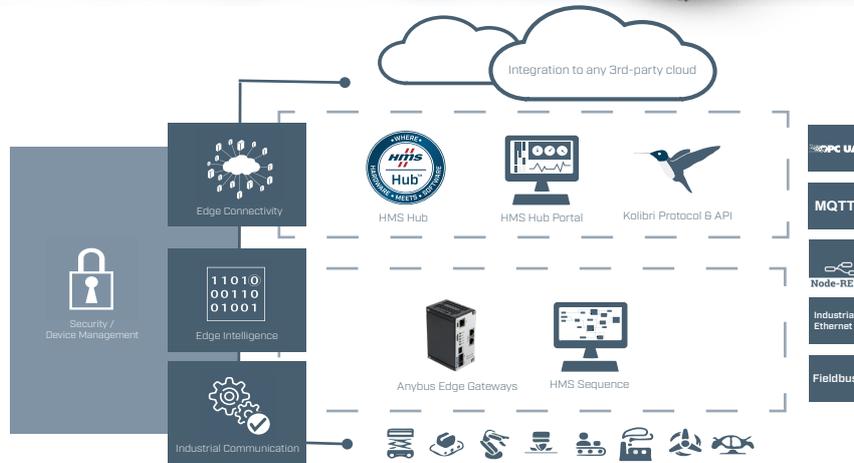
Protocols supported:

Modbus RTU Master/Slave
Modbus TCP Master/Slave
PROFIBUS Slave
PROFINET Slave
EtherNet/IP Adapter/Slave
M-Bus Master
Digital I/O
Analog/Digital I/O
Analog/Digital/RTD I/O
OPC UA Server
MQTT Client

Features and benefits

- HMS Hub connectivity
- Enable easy remote control and management
- Provide Modbus-TCP client/server and Modbus-RTU master/slave interfaces
- Enable OPC UA, MQTT, SNMP, SNTP
- Provide I/O, M-Bus, PROFIBUS, PROFINET and EtherNet/IP interfaces
- WLAN/UMTS support
- Powerful graphical edge intelligence design tool
- Simple web configuration interface
- Firewall, OpenVPN & password protection
- NAT routing
- Root user authentication
- TLS data encryption
- HTTPS port usage
- Device initiated connections
- Central or local device management
- Mass deployable updates
- Real-time status information
- Alerts and automatic responses

Ease of use

The Anybus Edge Gateways are built for ease of use. They feature HMS Sequence, a powerful graphical programming tool to build your needed edge intelligence. Configuration and deployment can be done locally or remotely via a simple web interface.

Security and device management

Security and proper device management are important cornerstones for your edge eco system. The Anybus Edge Gateways keeps your data properly encrypted and enable devices to stay updated and ready for future threats, in real time.

3 YEAR GUARANTEE

HMS provides a full 3 year product guarantee

HMS

Technical Specifications

Software

Software	
Operating System	IPC@CHIP® RTOS-LNX Real-time operating system
HMS Sequence editor and runtime	Visual programming editor running on the internal web server - I/O mapping editor - Up to 8192 I/O values - Up to 1024 portal variables

Technical Details

Technical Details		Standard
Dimensions (L•W•H)	100 series: 79 x 46 x 107 mm 140 series: 79 x 65 x 107 mm	
Protection class	IP20, NEMA rating 1	IEC 60529
Enclosure material	Continuously hot-dip aluminium-zinc coated steel	
Installation position	Vertical position	
Mounting	DIN rail (35•7,5/15)	EN 50022

Certifications

Certifications		
UL	File number: E214107	UL 61010-1 / UL 61010-2-201
CE	2014/30/EU (EMC)	IEC 61000-6-4 IEC 61000-6-2 IEC 62368-1

Electrical Characteristics

Electrical Characteristics	
Power	24 VDC, BL 3.50/03 connector +- 15%
Current consumption	< 0.2 A

Hardware Characteristics

Hardware Characteristics	
Reverse voltage protection	Yes
Short circuit protection	Yes

Environmental Characteristics

Environmental Characteristics	
Operating temp	0 to +55 °C (+32 to +131 °F)
Storage temp	-20 °C to +60 °C
Relative Humidity	5% to 85% relative humidity, non-condensing

Immunity and Emission for Industrial Environment

Immunity and Emission for Industrial Environment		
Electrostatic discharge	+-4kV contact, +-8kV air	EN 61000-4-2
Electromagnetic RF fields	10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz	EN 61000-4-3
Fast Transients	+-2KV DC, +- 1KV signal	EN 61000-4-4
Surge protection	+- 0.5kV CM / +-1kV DM on DC, +-1kV signal	EN 61000-4-5
RF conducted interference	10 V/rms	EN 61000-4-6
Radiated emission (at 3m, Class A)	50dBµV/m (qp) 30-230MHz 57dBµV/m (qp) 230-1000MHz 76dBµV/m (peak) / 56dBµV/m (avg) 1000-3000MHz 80dBµV/m (peak) / 60dBµV/m (avg) 3000-6000MHz	EN 55032
Conducted emission (telecom, Class A)	53-43dBµA (qp) / 40-30dBµA (avg) 0,15-0,5MHz 43dBµA (qp) / 30dBµA (avg) 0,5-30MHz	EN 55032
Conducted emission (mains, Class A)	79dBµV (qp) / 66dBµV (avg) 0,15-0,5MHz 73dBµV (qp) / 60dBµV (avg) 0,5-30MHz	EN 55032

Single Pack Accessories

Single Pack Accessories	
• Installation sheet	

INTERFACE FEATURES

1 = Network connector, 2 = Speed,
3 = I/O data, 4 = Other, 5 = Amount of slaves / adapters

Basic Communication

Ethernet Port	**1** = RJ45 **2** = 10/100 Mbit/s
Modbus TCP	**3** = 4096 values (up to 8192 values including array members) **4** = Modbus TCP client/server
OPC UA Server	**3** = 4096 values (up to 8192 values including array members)
MQTT Client	**4** = MQTT Client Publisher/Subscriber

COM Serial Port	**1** = BL 3.50/08 connector **2** = 300bps-187,5kbps **4** = COM server specification according to RFC 2217
Modbus RTU	**3** = 4096 values (up to 8192 values including array members) **4** = Modbus RTU master/slave **5** = Up to 128 devices

Extra OT communication variations

PROFIBUS Slave	**1** = D-Sub9 **2** = Up to 12 Mbit/s **3** = Max 244 bytes IN/OUT **4** = Profibus DP (IEC 61158)
PROFINET I/O Slave **PROFINET IRT Slave**	**1** = 2 x RJ45 **2** = 100 Mbit/s fixed **3** = Max 1440 byte IN/OUT **4** = RT Communication and integrated IRT switch functionality. Support for MRP (Media Redundancy Protocol). RT Communication and integrated IRT switch functionality. Support for MRP (Media Redundancy Protocol)
EtherNet/IP Slave	**1** = 2 x RJ45 **2** = 10/100 Mbit/s **3** = Max 1448 byte IN/OUT **4** = Support for DLR (Device Level Ring Beacon-based)
M-Bus Master	**1** = BL 3.50/10 connector **2** = 300 - 9600 bit/s **3** = 4096 values **5** = Up to 64 devices
Digital I/O (DIO8)	**1** = BL 3.50/10 connector **3** = 4 x digital inputs/4 x digital outputs
Analog/Digital I/O (MIO16)	**1** = BL 3.50/10 connector **4** = Digital input/output: 8 x digital inputs/outputs Analogue input: 8 x analogue inputs (voltage or current)
Analog/Digital/RTD I/O (MIO12)	**1** = BL 3.50/10 connector **4** = Digital input/output: 4 x digital inputs/outputs Analogue input/output: 4 x analogue inputs (voltage or current), 2 x analogue outputs (0 – 10 V, 10 mA (nom)) RTP input/output: 2 x resistance thermometers inputs (2-wire), PT100 / PT500 / PT1000

Wireless Connection

LTE	**1** = SMA Female **4** = LTE Cat.4/Cat.1, EU Version (B1,B3,B7,B8,B20,B28A), NA Version (B4,B2,B12,B14,B66), AP Version (B1,B3,B5,B8,B9,B18,B19,B28)
UMTS	**1** = SMA Female **4** = GSM/GPRS Quad band 850/900/1800/1900 MHz, UMTS Seven band: 800/850/900/AWS 1700/1900/2100 MHz, MiniSIM (2FF)
WLAN	**1** = SMA Female **4** = IEEE 802.11 a/b/g/n, Dual band (2.4GHz, 5GHz), WPA/WPA2-PSK

- Ethernet port (ETH0)
- Ethernet switch (ETH1)
- Multi-port (Industrial Network/Digital IO/Analog IO Option Cards)
- Optional antenna-connection
- Power
- COM port
- CAN port
- 140-series with extra OT communication
- 100-series with extra OT communication
- 140-series
- 100-series

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