

Wireless module - FL BT EPA - 2692788

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Factoryline Wireless Bluetooth Ethernet port adapter; 2.4 GHz frequency band, 1 wireless interface, WLAN black channel list, LEM, country approvals, IP65, connections: M12 connection for 9 V DC ... 30 V DC, M12 for LAN, autocrossing, compatible with PROFINET and PROFIsafe

Product Description

Our Bluetooth modules can be used to easily, reliably, and cost-effectively integrate mobile or difficult to access automation devices or I/O modules into your Ethernet automation network.

With "black channel listing" and "low emission mode", Industrial Bluetooth can also be operated parallel to WLAN networks without any interference. Quick and straightforward startup with configuration via MODE button, web interface or directly from a controller is yet another feature of this solution.

Product Features

- Integrated special antenna (EPA)
- Range* of up to 200 m
- Protocol-transparent communication on Layer 2
- IP65 protection class
- WLAN coexistence functions AFH, LEM, black channel listing



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	260.0 g
Custom tariff number	85176200
Country of origin	Sweden

Technical data

Dimensions

Width	66 mm
Height	91 mm
Depth	34 mm
Note on dimensions	Without M12 connections

Ambient conditions

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Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 90 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 90 % (non-condensing)
Air pressure (operation)	795 hPa ... 1080 hPa (up to 2000 m above mean sea level)
Degree of protection	IP65

Ethernet interface

Interface	Ethernet
Number	1
Connection method	M 12 connectors (D-coded, female)

Wireless interface

Designation	Bluetooth
Wireless standard	Bluetooth 2.1 + EDR
Antenna connection method	(Internal)
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Frequency band	2.4 GHz
Transmission power	max. 15 dBm (EIRP)
Number of wireless interfaces	1
Wireless modules that can be connected	1
Profiles supported	PAN

Wireless card

Number	1
Assembly instructions	Permanently installed

Antenna

Assembly instructions	Internal circularly polarized panel antenna
Number	1
Connection method	Permanently installed

Power supply for module electronics

Connection method	M12 connector (A-coded, male)
Supply voltage	24 V DC
Supply voltage range	9 V DC ... 30 V DC
Supply current	46 mA (at 24 V DC)
Current consumption	46 mA (at 24 V DC)
	46 mA ((at 24 V DC, typical))

Functions

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Technical data

Functions

Operating modes	Ethernet client adapter
Configuration	Web interface, MODE button, AT commands (TCP/IP), SSC
Automatic channel selection	FHSS, AFH
Quality of service (QoS)	Yes
Security	128-bit data encryption
	Authentication
	PIN
	Non-discoverable

Digital inputs

Number of inputs	1
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General

Mounting type	Wall mounting
Net weight	120 g
Wireless licences	Belgium
	Bulgaria
	Denmark
	Germany
	Estonia
	Finland
	France
	Greece
	Great Britain
	Ireland
	Iceland
	Italy
	Japan
	Canada
	Latvia
	Liechtenstein
	Lithuania
	Luxembourg
	Malta
	Netherlands
	Norway
	Austria
	Poland

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Technical data

General

	Portugal
	Romania
	Sweden
	Switzerland
	Slovakia
	Slovenia
	Spain
	Czech Republic
	Hungary
	USA
	Cyprus (rep.)
Mounting type	Wall mounting

Standards and Regulations

Conformity with EMC directives	Noise immunity test in accordance with EN 61000-6-2 EN 61000-6-4
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

Classifications

eCl@ss

eCl@ss 4.0	27240409
eCl@ss 4.1	27240409
eCl@ss 5.0	27242215
eCl@ss 5.1	27250501
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
eCl@ss 8.0	19170101

ETIM

ETIM 2.0	EC001423
ETIM 3.0	EC001423
ETIM 4.0	EC000515
ETIM 5.0	EC000515

UNSPSC

UNSPSC 6.01	20142601
UNSPSC 7.0901	20142601
UNSPSC 11	20142601

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Classifications

UNSPSC

UNSPSC 12.01	20142601
UNSPSC 13.2	20142601

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Listed 

cUL Listed 

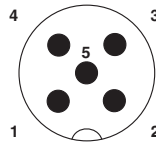
EAC

cULus Listed 

Drawings

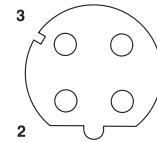
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Schematic diagram



Connection of the trigger input DI and the supply voltage
 PIN 1 Vin + (9-30 V DC)
 PIN 2 External Trigger Ground
 Pin 3 Vin GND (0 V)
 Pin 4 External Triggerr + (9-30 V DC)
 Pin 5 n.c.

Schematic diagram



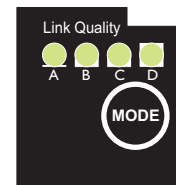
Assignment of the LAN socket
 Pin 1 Transmit +
 Pin 2 Receive +
 Pin 3 Transmit -
 Pin 4 Receive -

Schematic diagram



Status and diagnostic indicators PWR (green)
 - Supply voltage is active))) (blue/blue flashing, pink, red) Status of the Bluetooth connection (blue)
 - Data transmission (blue flashing)
 - Connection establishment (pink)
 - Error (red)
 LAN (yellow)
 - Link display (yellow)
 - Data transmission (yellow flashing)

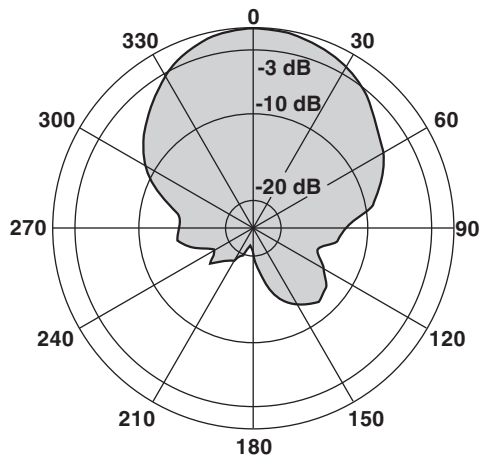
Schematic diagram



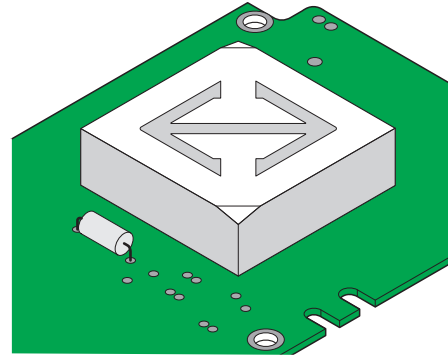
MODE button
 The mode button helps in configuration.
 Pay attention to the function in the data sheet and the manual.
 The LEDs 'A' to 'D' help in status display.
 Link Quality display (during operation)
 A = sufficient, B = good
 C = optimum, D = excellent

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Diagram



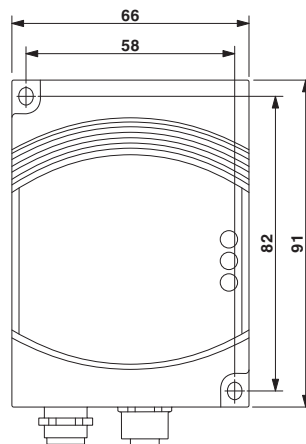
Functional drawing



Circular polarized antenna

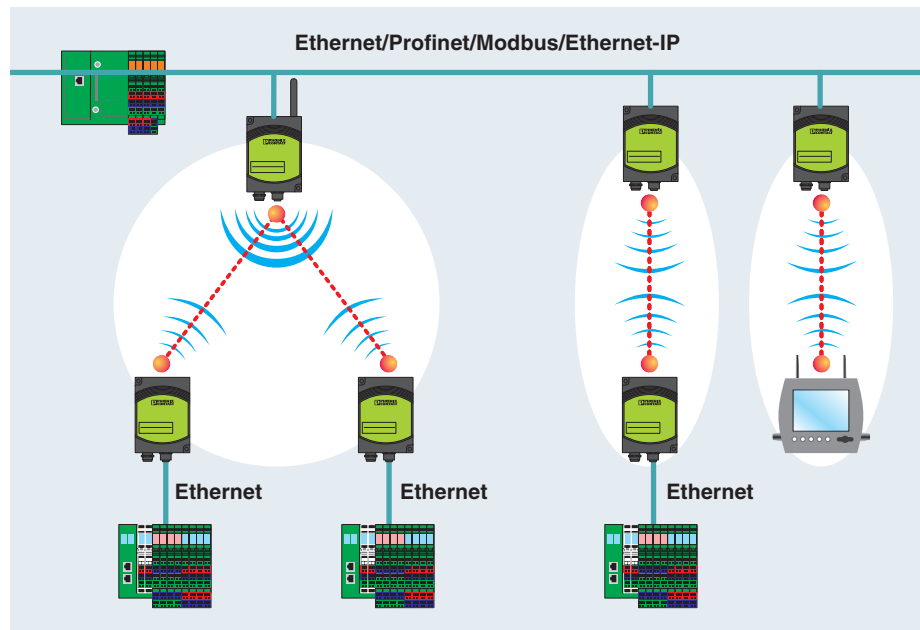
Antenna adjustment diagram
HP - Horizontal polarization
VP - Vertical polarization

Dimensional drawing



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Application drawing

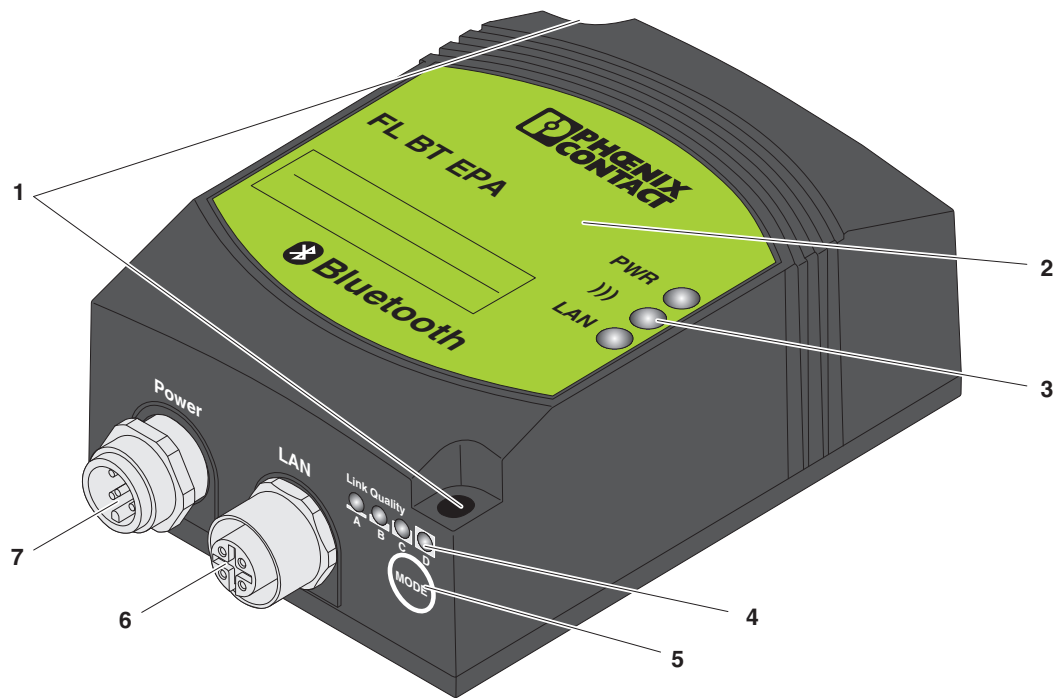


FL BT EPA devices help you to transmit industrial Ethernet protocols from one automation device to another via Bluetooth: for Modbus TCP, Ethernet/IP, TCP/IP or demanding PROFINET or PROFI-safe applications.

The FL BT EPA AIR SET is a "ready to use" package. Unpack, connect, press the mode button and the wireless path is ready to work in just a few seconds! The FL BT EPA AIR SET can be used to set up an extremely solid and reliable wireless transmission path.

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Product drawing



- 1 Fixing holes
- 2 Internal circular polarized antenna
- 3 Status and diagnostic indicators
- 4 Link quality and configuration / status indicator
- 5 Mode configuration button
- 6 LAN interface
- 7 Supply voltage connection