

## Product data sheet

### Characteristics

# ZBRN1

Harmony XB5R, Harmony Hub wireless ethernet gateway, Zigbee green power gateway, wireless to modbus TCP, 24...240V AC DC



### Main

Range of product	Harmony
Product or component type	Harmony Hub Wireless/Ethernet gateway
Device short name	ZBRN1
Product specific application	Wireless Schneider Electric devices ecosystem
Function of module	Zigbee green power gateway
Communication port protocol	Modbus/TCP client application, with ZBRCETH module
Antenna type	Integrated
Transmission frequency	2405...2480 MHz

### Complementary

Maximum radio communication distance	100 M in free field 250 M if a relay antenna is located between the transmitter and Harmony Hub 60 M if an external antenna is connected to Harmony Hub 25 m with Harmony Hub installed in a metal housing or in a closed metal enclosure
Radio response time	< 30 ms
Radio channels utilisation	<= 60 devices
[Us] rated supply voltage	24...240 V AC/DC 50/60 Hz - 10...10 %
Immunity to microbreaks	10 ms
Maximum power consumption in W	4 W AC/DC
Control circuit frequency	50...60 Hz +/- 10 %
Short-circuit protection	16 A GB2 circuit breaker
Operating position	Any position
Mounting support	35 mm symmetrical DIN rail conforming to EN/IEC 60715 Mounting plate
Electrical connection	1 conductor cable 0.2...4 mm <sup>2</sup> - AWG 24...AWG 12 - solid - without cable end conforming to IEC 60947-1 2 conductors cable 0.2...1.5 mm <sup>2</sup> - AWG 24...AWG 16 - solid - without cable end conforming to IEC 60947-1 1 conductor cable 0.2...0.75 mm <sup>2</sup> - AWG 24...AWG 14 - flexible - with cable end conforming to IEC 60947-1 2 conductors cable 0.2...2.5 mm <sup>2</sup> - AWG 24...AWG 18 - flexible - with cable end conforming to IEC 60947-1
Tightening torque	0.35...0.4 N.m conforming to EN/IEC 60947-1 0.35...0.40 N.m conforming to EN/IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	1 LED green for power ON 1 LED yellow for communication network 5 LEDs red for function mode 1 LED green and yellow for reception signal
Rated short-duration power frequency withstand voltage	1.5 kV 50 Hz conforming to EN/IEC 60947-5-1
[Uimp] rated impulse withstand voltage	4 kV

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Surge withstand	1 kV differential mode conforming to IEC 61000-4-5 2 kV common mode conforming to IEC 61000-4-5
Width	122 mm
Height	90 mm
Depth	60 mm
Net weight	0.26 kg
Antenna gain	0 dBi
Integrated connection type	Ethernet Modbus TCP/IP RJ45 Modbus TCP network, 10/100 Mbit/s, 2 twisted pairs
Data storage equipment	SD card
Topology	Devices linked by daisy-chaining or tap junctions
Port Ethernet	10BASE-T/100BASE-T
Maximum cable distance between devices	1000 m

## Environment

Radio agreement	ANATEL, type III conforming to ETSI EN 301 489-3 FCC, category 2 conforming to ETSI EN 300 440-1 ICASA RSS, category 1 conforming to ETSI EN 300 440-1 SRRC
Product certifications	C-Tick[RETURN]CCC[RETURN]CSA[RETURN]GOST[RETURN]UL[RETURN]CE
Directives	2004/108/EC - electromagnetic compatibility 1999/5/EC - R&TTE directive 2006/95/EC - low voltage directive
Standards	ETSI EN 300 328 EN/IEC 61131-2 CSA C22.2 No 14 ETSI EN 300 440-2 UL 508 EN/IEC 60950-1 EN 62311
Ambient air temperature for storage	-40...70 °C
Relative humidity	90 % at -25...55 °C, without condensation conforming to ETSI EN 300 440-1
Operating altitude	0...2000 m
Storage altitude	0...3000 m
Vibration resistance	+/- 3.5 mm (f = 5...14 Hz) conforming to IEC 60068-2-6 1 gn (f = 5...150 Hz) on panel mounting conforming to IEC 60068-2-6 2 gn (f = 8...150 Hz) on DIN rail conforming to IEC 60068-2-6
Shock resistance	10 gn (duration = 16 ms) for 6000 shocks conforming to IEC 60068-2-27
IP degree of protection	IP20 (casing) conforming to IEC 60529 IP20 (terminals)
Pollution degree	2 conforming to IEC 60664-1
Electromagnetic compatibility	1.2/50 µs shock waves immunity test - test level: 1 kV (differential mode) conforming to IEC 61000-4-5 1.2/50 µs shock waves immunity test - test level: 2 kV (common mode) conforming to IEC 61000-4-5 Immunity to microbreaks and voltage drops - test level: 10 ms conforming to IEC 61000-4-11
Dielectric strength	3000 V between input and output AC 4250 V between input and output DC 1500 V between input and ground AC 2150 V between input and ground DC

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	7.300 cm
Package 1 Width	9.600 cm
Package 1 Length	13.000 cm
Package 1 Weight	310.000 g
Unit Type of Package 2	S02
Number of Units in Package 2	10
Package 2 Height	15.000 cm

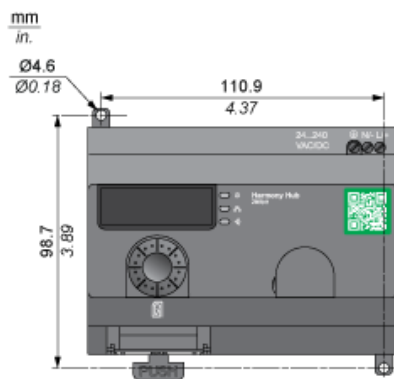
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	3.524 kg

## Offer Sustainability

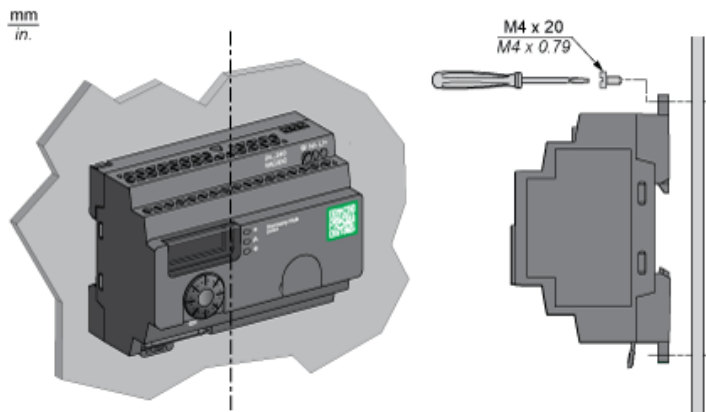
Sustainable offer status	Green Premium product
REACH Regulation	 <a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	 <a href="#">China RoHS Declaration</a>
RoHS exemption information	 <a href="#">Yes</a>
Environmental Disclosure	 <a href="#">Product Environmental Profile</a>
Circularity Profile	 <a href="#">End Of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Dimensions

For your information existing access point product is now named "Harmony Hub"

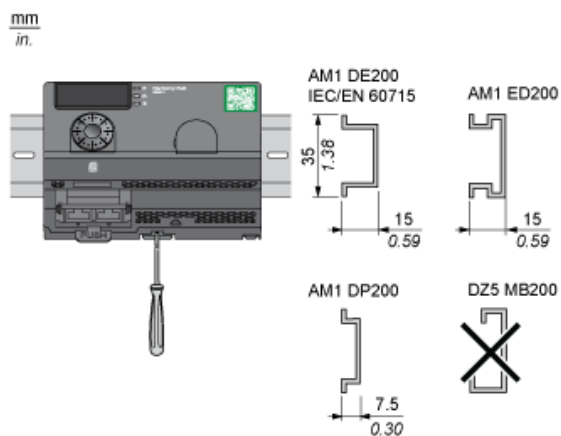


## Harmony Hub on a Mounting Panel



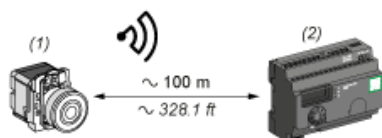
Harmony Hub is installed according to its vertical axis

## Harmony Hub on DIN Rail Mounting



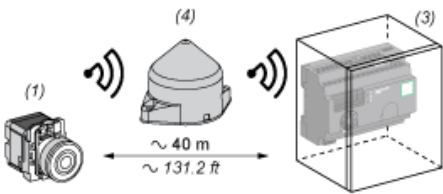
## Clearances

### Maximum Distance between Transmitter and Harmony Hub in Free Field Unobstructed



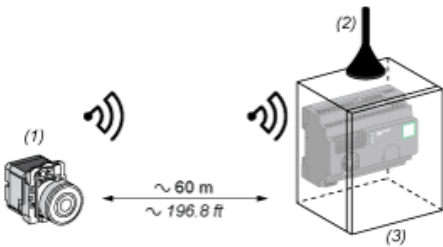
- (1) Transmitter
- (2) Harmony Hub

Maximum Distance between Transmitter and Harmony Hub in a Metal Enclosure with a Relay Antenna



- (1) Transmitter
- (3) Harmony Hub in a metal enclosure
- (4) Relay antenna

Maximum Distance between Transmitter and Harmony Hub in a Metal Enclosure with a Passive Antenna

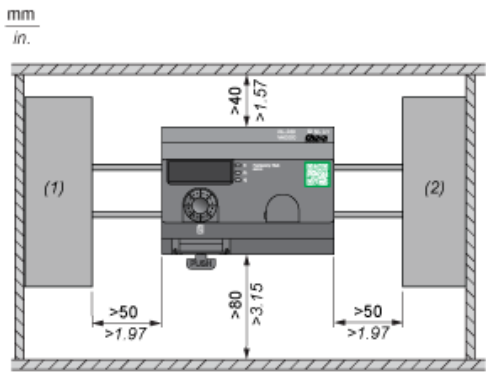


- (1) Transmitter
- (2) External antenna
- (3) Harmony Hub in a metal enclosure

The range is reduced if the transmitter is placed in a metal enclosure (reduction factor : approx 10%)

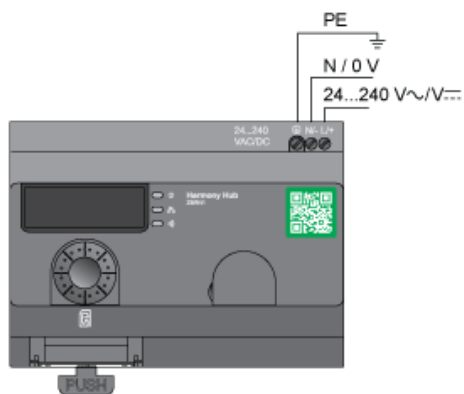
Glass window	10...20 %
Plaster wall	30...45 %
Brick wall	60 %
Concrete wall	70...80 %
Metal structure	50...100 %

Harmony Hub Clearances

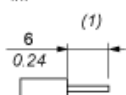


- (1) PLC or other devices
- (2) Power supply or other devices

## Harmony Hub Wiring Diagram



mm  
in.



(1) Wire sizes for Power Supply terminals (L/+, N/-)