

Product datasheet

Characteristics

ZBRN1

Harmony HubWireless to Modbus/TCP Ethernet Gateway



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
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
Breaking capacity	15 W
Breaking capacity	750 VA
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 ² - AWG 24...AWG 12 - solid - without cable end conforming to IEC 60947-1 2 conductors cable 0.2...1.5 mm ² - AWG 24...AWG 16 - solid - without cable end conforming to IEC 60947-1

	1 conductor cable 0.2...0.75 mm ² - AWG 24...AWG 14 - flexible - with cable end conforming to IEC 60947-1 2 conductors cable 0.2...2.5 mm ² - 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 3.09...3.54 lbf.in 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
[Uiimp] rated impulse withstand voltage	4 kV
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
Product 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 CCC CSA GOST UL 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

Offer Sustainability

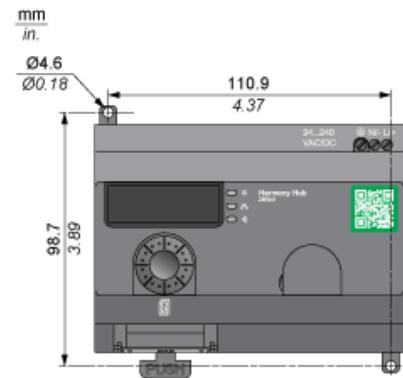
Sustainable offer status	Green Premium product
REACH free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental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

Contractual warranty

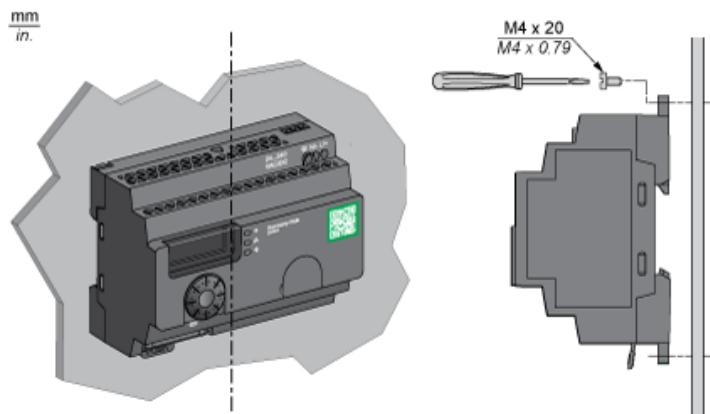
Warranty	18 months
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Dimensions

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

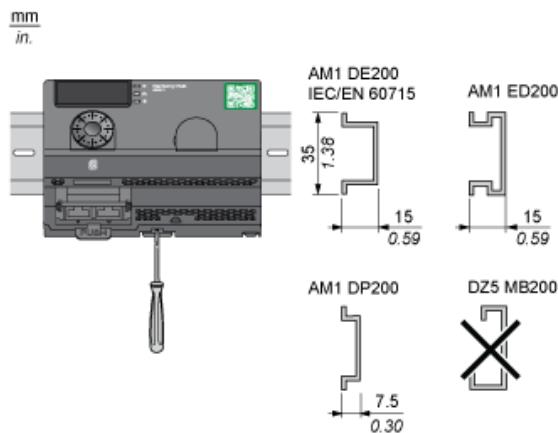


Harmony Hub on a Mounting Panel



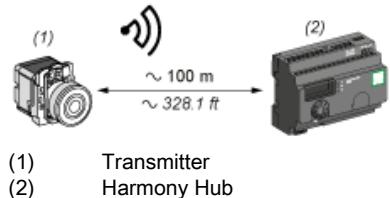
Harmony Hub is installed according to its vertical axis

Harmony Hub on DIN Rail Mounting

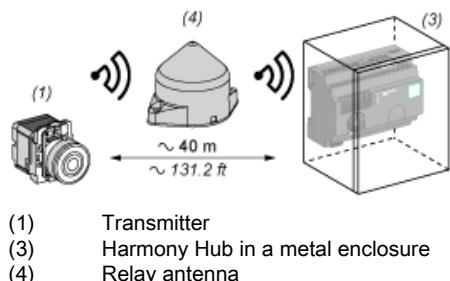


Clearances

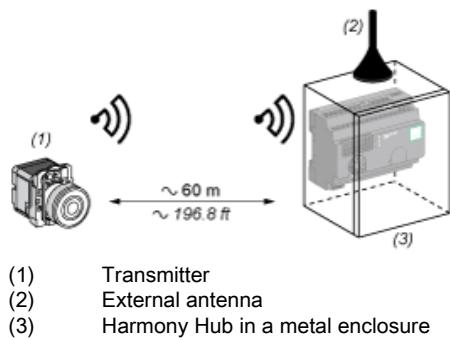
Maximum Distance between Transmitter and Harmony Hub in Free Field Unobstructed



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



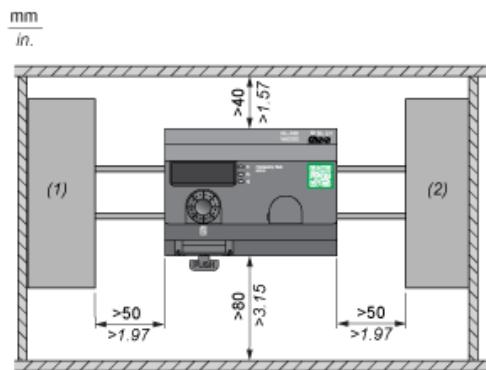
Maximum Distance between Transmitter and Harmony Hub in a Metal Enclosure with a Passive Antenna



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

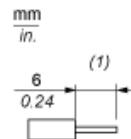
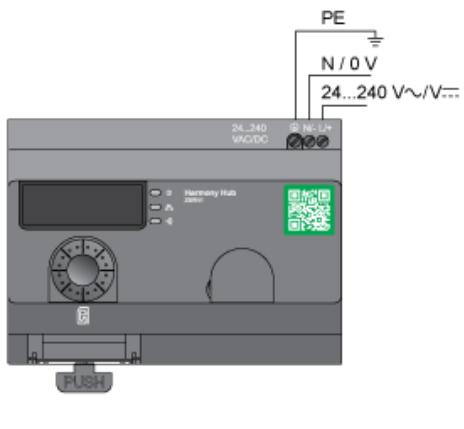
Glass window	10...20 %
Plaster wall	30...45 %
Brick wall	60 %
Concrete wall	70...80 %
Metal structure	50...100 %

Harmony Hub Clearances



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

Harmony Hub Wiring Diagram



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