R3 Solutions

DATA SHEET

Bridge E

Features

- Wireless Ethernet bridge device
- Ultra low-latency and high-reliability modes
- Five freely configurable QoS classes
- Optimized control and safety data support
- Guaranteed seamless roaming
- UDP-based runtime control interface
- Config tools for Linux and Windows

Wireless Interfaces

Antenna	2x external SMA connectors
Max. RF Output Power [1]	Limited to 14 dBm e.i.r.p. USA/CA: up to 30 dBm e.i.r.p.

Wired Interfaces

M12, 4-pole, d-coded	Ethernet with PoE
M12, 5-pole, a-coded	24 V DC and digital input

Communication Properties

Channel Bandwidth	20 MHz	
Data Throughput	Up to 14 Mbit/s	
Latency [2]	Down to 2 ms	
Reliability (packet loss rate, PLR) (down to)	Short distance: Prioritized traffic: Best effort:	10^{-9} 10^{-7} 10^{-5}
Bridging Traffic	Packet-oriented protocols, such as UDP, TCP/IP, etc.	
Industrial Protocol Support	PROFINET (PROFIsafe), EtherNet/IP (CIP SAFETY), EtherCAT (FSoE), AS-Interface (ASi), SafetyNet p, PowerLink, CC-Link	
Participants per subnet (ring)	Maximum 20 (scalable via roaming and channel management)	

Typical Cycle Time Configurations

CIP Safety PtP [3]	6 Safe I/Os with RPI: 20 ms
PROFIsafe	Controller & 16 devices: 64 ms

General Properties

Dimensions [4]	84 × 82 × 55 mm
Weight [4]	189 g
IP Protection Class	IP65
Mounting Accessories [5]	Wall mount DIN rail mount
Operating Temperature	-20 °C to +65 °C
Range [6]	Up to 200 m
Power Supply	24 V DC +/-10 % or PoE (48 V DC 802.3at Type 1)
Power Consuption	Max. 3.5 W; typ. 1 W
Boot up Duration	~ 5 s

Conformance

EU (CE) / India (ETA) / China (SRRC) / Australia (ACMA)	7 certified channels 5725–5875 MHz
USA (FCC) / Canada (ISED)	9 certified channels 5150–5250 MHz 5725–5850 MHz
Other Certification	RoHS 3, WEEE, RED, NDAA (UL, Atex on request)

[1] depending on antenna
[2] application to application (Ethernet interface)
[3] PtP: point-to-point
[4] without antenna
[5] included
[6] depending on antenna, TX power and environment

R3 Solutions GmbH · Kurfürstendamm 21 · 10719 Berlin · Germany · contact@r3.group