

Bridge E

The classic
for wireless control and safety

**EchoRing powered
WLAN Bridge for
ultra-reliable and
deterministic wireless
control and safety data
transmission**

Key Features

- ▶ Wireless Ethernet bridge device
- ▶ Optimized control and safety data support
- ▶ Supports common standard protocols:
 - PROFINET (PROFIsafe),
 - EtherNet/IP (CIP SAFETY),
 - CC-Link (CC-Link Safety),
 - EtherCAT (FSoE),
 - AS-Interface (ASi),
 - SafetyNet p,
 - PowerLink
- ▶ Ultra low-latency and high-reliability modes
- ▶ Five freely configurable QoS classes
- ▶ Guaranteed seamless roaming
- ▶ Encrypted TCP-based configuration and runtime control interface
- ▶ Config tools for Linux and Windows
- ▶ Minimal power consumption
- ▶ IP65 housing



Bridge E Monitoring Solution

The Monitoring Solution provides a real-time overview of the network status and signal quality of Bridge E via intuitive map, list and heatmap views, thereby enabling faster troubleshooting and simpler plant-wide diagnostics.

Bridge E Starter Kit

The Starter Kit is a comprehensive set of tools to commission, operate and monitor an EchoRing network within an application. It includes three Bridge E devices, support by our Application Engineering team and all cables and necessary accessories.



Data Sheet Bridge E



Interfaces

Radio	EchoRing
Ethernet with PoE	M12, 4-pole, d-coded
Power supply and digital input	M12, 5-pole, a-coded
Antenna connector	2x external SMA connectors Limited to 14 dBm e.i.r.p., USA/CA: up to 30 dBm e.i.r.p.

Communication properties

Channel bandwidth	20 MHz
Data throughput	Up to 14 Mbit/s
Latency ^[1]	Down to 2 ms
Reliability (packet loss rate, PLR (down to))	Short distance: 10 ⁻⁹ Prioritized traffic: 10 ⁻⁷ Best effort: 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	Max 700 (20 per sub-net/ring)
Security	Traffic encryption, Password protected config

Typical cycle time configurations

CIP Safety PtP ^[2]	6 Safe I/Os with RPI: 20 ms
PROFIsafe	Controller & 16 devices: 64 ms

General properties

Dimensions ^[3]	84 × 82 × 55 mm
Weight ^[3]	189 g
IP protection class	IP65
Mounting Accessories ^[4]	Wall mount, DIN rail mount
Operating temperature	-20 °C to +65 °C
Range ^[5]	Up to 200 m
Power supply	24 V DC +/-10%, PoE (48 V DC 802.3at Type 1)
Power consumption	Max 3.5 W; typ. 1 W
Max RF Output power ^[6]	Limited to 14 dBm e.i.r.p., USA/CA: up to 30 dBm e.i.r.p.
Boot up duration	~ 5 s

Approvals

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, NDAA, RED incl. EN 18031-1 (UL, Atex on request)

[1] application-to-application (Ethernet interface)

[2] PtP: point-to-point

[3] without antenna

[4] included

[5] depending on antenna, TX power and environment

[6] depending on antenna