

# PoE Thread Border Router

Secure, Industrial-Grade Wireless Gateway for TankNET® System

**BR-1**



## Applications

- ✓ Secure wireless controller gateway for TankNET® fermentation management systems
- ✓ Easy expansion of TankNET® into new or retrofit facilities
- ✓ Enables non-disruptive expansion alongside legacy power line infrastructure

## Overview

The TankNET® BR-1 is a hardened Thread Border Router designed to connect TankNET® wireless mesh controllers to Ethernet/IP networks and cloud services. Built for challenging industrial environments, it enables secure, reliable communication between wireless tank-mount devices and TankNET® fermentation management software.

## Key Features

### Seamless Thread-to-IP Bridging

Bridges 802.15.4-based Thread mesh with Ethernet networks for real-time control and monitoring.

### PoE-Powered

Single-cable installation using 802.3af Power over Ethernet – no external power supply required.

### IP-68 Rated Housing

Fully sealed, water-tight, and dust proof enclosure for harsh cellar and outdoor environments.

### Pole-Mountable

Optional stainless mounting bracket for pipe diameters from 2" to 12".

### Industrial-Grade RJ-45 Port

Features IP-68 rated Amphenol field-attachable Ethernet connector for reliable, sealed connection

### Bi-Color Status LED

At-a-glance diagnostics for power, connectivity, and mesh health.

## IT Security Highlights

### Encrypted Mesh Communications

Uses AES-128 encryption per the Thread standard for all wireless traffic.

### Outbound-Only IP Access

Publishes telemetry using outbound MQTT/CoAP, no inbound ports or firewall exceptions needed.

### No Data Storage or Control Logic

Stateless forwarding of mesh data; no user data, credentials, or logic stored or executed.

### Hardened Firmware

Runs dedicated application with digitally signed firmware and no general-purpose OS services.

### Network Isolation

Ensures strict separation between wireless mesh and Ethernet/IP domains.

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## \* Suggested Mating Part

Required for IP-67 protection,  
field installable over RJ-45M end



**Amphenol LTW** RCP-00AMMA-SLM7001

## Specifications

Model  
BR-1

Power  
IEEE 802.3af PoE (48V)

Dimensions  
140mm x 90mm x 50mm  
5.5" x 3.5" x 2.0"

Enclosure  
IP-68 rated polycarbonate

Indicators  
Bi-color LED (green/red)

Temperature  
-10°C to +60°C

Connectors  
IP-68 rated RJ-45 (Amphenol RCP series)

Network Interfaces  
Thread (IEEE 802.15.4), 10/100 Mbps LAN

Mounting  
Stainless pole clamp (2"-12" diameter)

\* Specifications subject to change without notice

DESIGNED TO SCALE WITH  
TANKNET ECOSYSTEM