

Zigbee

Zigbee is a low-power, short-range wireless mesh networking protocol commonly used for sensors and actuators.

Purpose in AOFS

- Soil moisture sensors
- Tank level sensors
- Flow meters
- Relay modules and valve actuators
- Local environmental monitoring devices

Layer Mapping

- Sensor/Actuator → Field Controller
- Optional Field → Farm Controller bridging

Strengths

- Low energy consumption
- Mesh networking increases range
- Suitable for battery-powered sensors
- Mature ecosystem

AOFS Compliance Notes

- Mesh instability must not compromise safety-critical logic
- Field Controller must handle sensor timeout and fallback logic
- Sensor failures must trigger safe fallback states
- All readings must be timestamped and logged

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