LA-FL Wireless Occupancy Sensors

LA-FL is a wireless occupancy sensor using 868.30MHz frequency and FSK modulation. LA-FL detects movement and occupancy from up to 12m range with wide detection angle of 140°.

LA-FL is part of the SyxthSense wireless sensor range that caters for any typical building application using the latest RF technology. The products have been designed to operate in wide range of environments and proven to operate reliably in all situations. LA-FL wireless sensors have transmission range of up to 20..100m inside buildings and up to 500m line of sight. The transmission range can be extended with upto 8 repeaters to cater most applications.

Model Type

Model	Description
LA-FL	Wireless Occupancy Sensor

Technical Data

Power Supply	3.6V AA Lithium Battery 2Ah
Battery Life	Typically 3 years
Frequency	868.30 Mhz
Modulation	FSK
Transmisison Power	+8 dBm
Reception Sensitivity	-109 dBm
Range	Line of sight: Up to 500m In buildings up to 20..100m depending on wall strcutures Range can be extended up to 8 times with FLREP repeaters
Measurement Range	Up to 12m
Measurement Angle	Up to 140°
Adjustable Delay:	0..30 mins (set on the FLTA)
Addressing	Via FLSER Service Tool
Ambient Humidity	0..100% rH Non-Condensing
Agency Approvals	Directives 72/23/EEC, 1999/5/EC, 2000/299/EC Standards EN60950, EN300220-2 and EN301480-3
Dimensions	W62 x H94 x D45mm (without mounting stand)

LA-FL Operation

LA-FL transmits to the FLTA receiver immediately once the movement or occupancy is detected. LA-FL battery lifetime is typically up to 3 years.

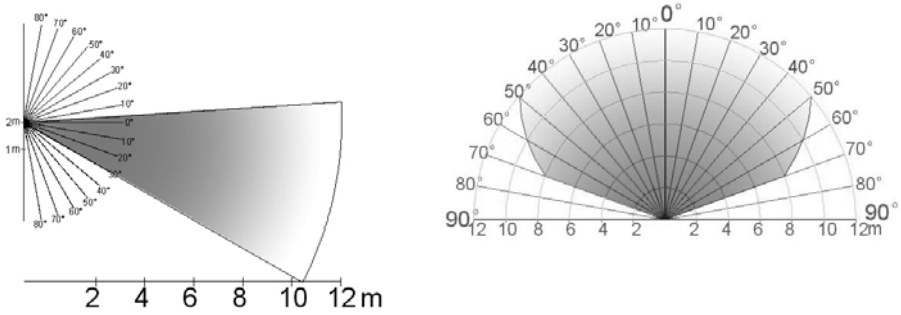
The measurement signals can be transmitted either directly or via (multiple) receiver(s). FLTA control module has 8 x 0..10Vdc analogue outputs that can be configured to output the occupancy condition (10V = occupancy, 0V = no occupancy). FLTA module acts also as a Modbus Communication interface sending occupancy signals to Modbus masters such as WebBiter web-browser interface and to BMS systems.

The FLTA control module/receiver monitors also the wireless sensors for any malfunctions and for the low battery level. If the battery level is approximately 5% the FLTA indicates on the requirement to change the battery.

Each FLTA control module/receiver can have up to 99 sensors in its operating area. Up to 63 control modules can operate in the same wireless area. Total maximum of 6,237 wireless transmitted can be used in a single area.

FLREP repeaters can be used to extend and boost the transmission range. It possible to use up to 8 repeaters for each FLTA receiver.

Measurement Range and Angle



Addressing Transmitters

Each wireless transmitter / occupancy sensor, repeater and FLTA control module/receiver needs to have unique address. Wireless transmitter address consists of two parts; SID (Sensor ID) and MID (Master ID). The transmitter address is configured using FLSER service tool. MID is the address of FLTA control module/receiver. Typically MID is set to one in a single FLTA network.

Example (single network, two transmitters):

Sensor 1: TEFL Room Transmitter Address: SID = 1, MID = 1

Sensor 2: LA-FL Address: SID = 2, MID =1

Master 1: FLTA Address: MID = 1

LA-FL and TEFL have MID address 1. This mens that they are transmitting measurements to the FLTA that has been addressed with the same MID.

Example (two networks, two transmitters):

Sensor 1: LA-FL Address: SID = 1, MID =1

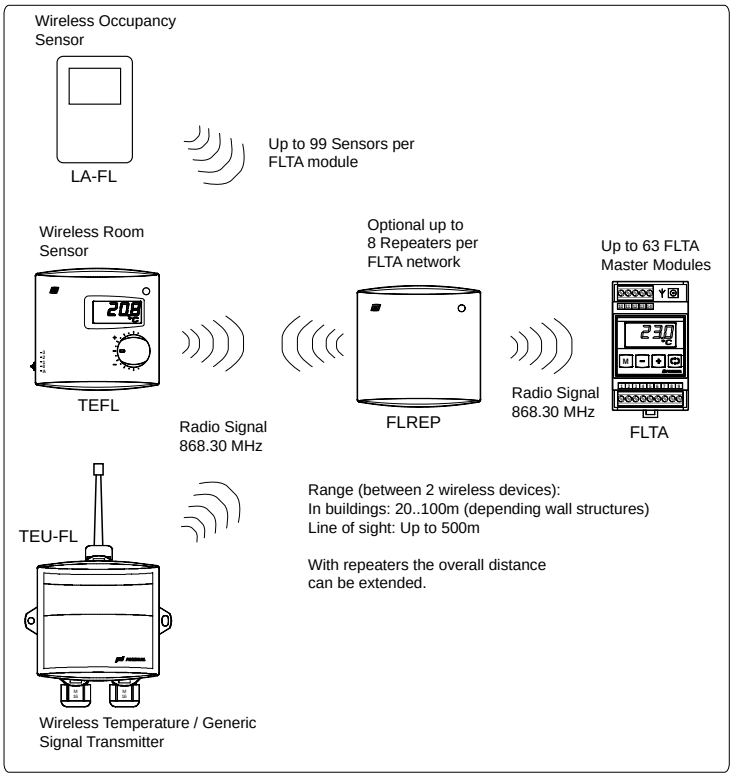
Sensor 2: LA-FL Address: SID = 1, MID =2

Master 1: FLTA Address: MID = 1

Master 2: FLTA Address: MID = 2

Sensor 1 transmits the measurements to Master 1 (FLTA), and Sensor 2 transmits the measurements to Master 2. Although the both sensors have the same SID this will not cause problems as MID is different.

Operational Diagram



Accessories for HDH

Model	Description
FLSER	Wireless Service Tool for Addressing, Signal Strength Testing and Repeater Emulation
FLTA	Wireless Control Module / Receiver Unit with Modbus and 8 Analogue Outputs
FLAN	Antennae for FLTA
FLREP	Wireless Repeater to Extend Transmission Distance