

## FLREP Repeater for Wireless Room Transmitters

FLREP wireless repeaters operate in 868.30MHz range. They have been designed for reliable operation in wide range of environments using the latest RF technology. FLREP repeaters can be used to extend and boost the range in difficult environments. It possible to use up to 8 repeaters. FLREP are powered locally from 8-24Vdc or 24Vac supply.

Each repeater is configured at the commissioning stage with its own repeater identification number (RID) and the FLTA master device number (MID). The addressing is done wirelessly using FLSER Configuration Tool.

Each repeater transmits only messages that are relevant for it. Multiple repeaters can be installed in series to extend the wireless signal range significantly. If the environment changes, the wireless transmitters are repeaters automatically search for the most route to the FLTA master module.

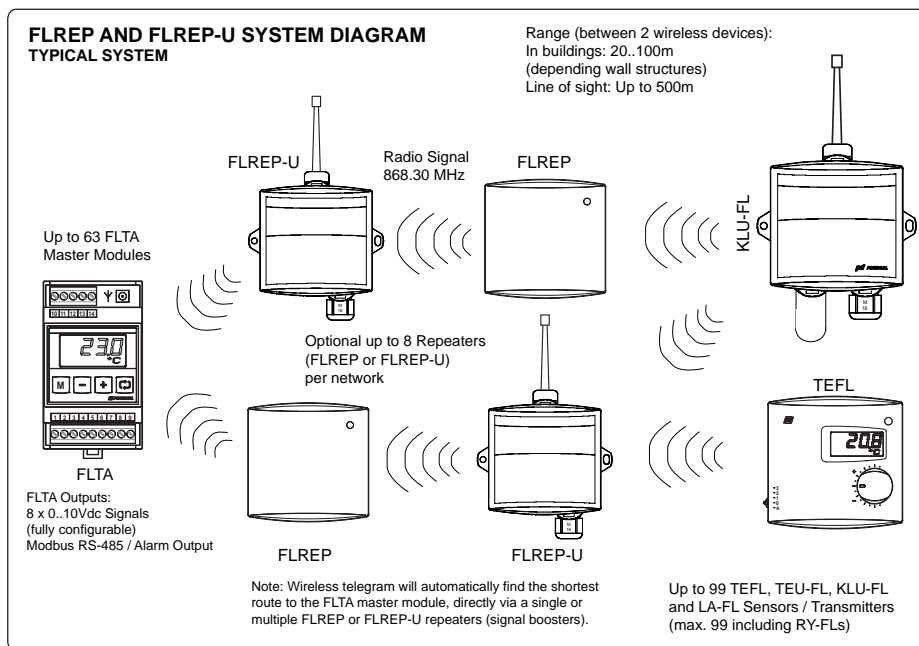


Model Type	Model	Description
	<b>FLREP</b>	Wireless Repeater Module, Room Sensor Enclosure
	<b>FLREP-U</b>	Wireless Repeater Module, High Power in Outdoor Enclosure
<b>Technical Data</b>	Power supply	FLREP: 8..28Vac/dc < 1VA FLREP-U: 12-24Vac/dc
	Transmission Frequency	868.30 MHz
	Transmission Power	+8 dBm
	Reception Sensitivity	-109 dBm
	Modulation Technology	FSK
	Transmission Range	Line of sight: Up to 500m In buildings: 20..100m, depending on the wall materials Multiple FLREP modules are used to extend the transmission range as required. Up to 8 can be used in a single network.
	Agency Approvals	EU Directive 2004/108 EMC Emissions EN61000-6-3: 2001 EMC Immunity EN61000-6-2: 2001
	Operating temperature	0°C...+50°C
	Ambient humidity	5...95%rh (non-cond.)
Dimensions (Sensors)	FLREP: 87W x 86H x 32D mm	

**Data Transmission Frequency** TEFL room transmitters send information to the FLTA via FLREP repeater when:-  
 -Temperature changes more than +/-0.2°C compared to the previous transmission  
 -Setpoint adjustment changes more than +/-0.1°C compared to the previous transmission  
 -RH% relative humidity reading changes more than +/-1% compared to the previous transmission  
 -Battery Capacity is less than 10%  
 -5-position switch position is changed

However if none of the above transmissions has been made, then the TEFL transmits its information every one hour.

**Communication Diagram**



**FLREP Commissioning**

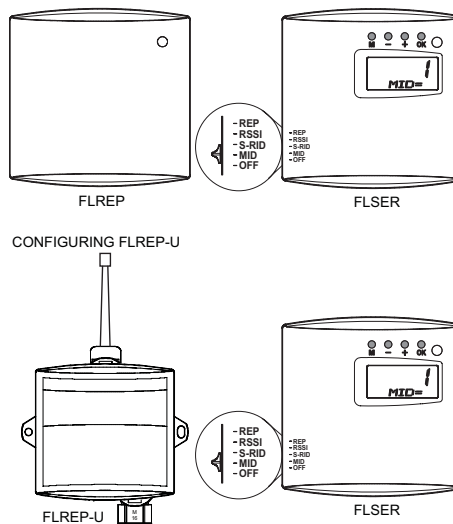
FLREP(-U) wireless repeaters operate at 868.30Mhz frequency providing wireless signal boosting for TEFL/TEU-FL/KLU-FL/LA-FL/RY-FL wireless products. Each FLREP module is required to be commissioned to operate in the FLTA network. Up to 8 FLREP(-U) modules can operate in a single FLTA network.

Note. When RY-FL IO-modules are used the maximum number of the FLREP repeater modules is limited to 2.

**CONFIGURING FLREP**

1. Select MID position on the FLSER service tool. Select using +/- buttons the required Master ID (MID 1..63).

**Note:** Typically the master ID is set as 1 if only one wireless FLTA network exists in the building.



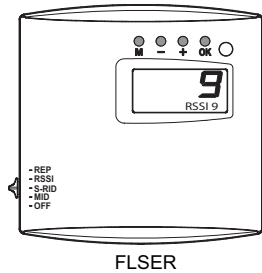
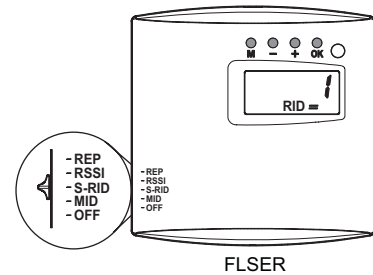
2. Please select S-RID on the FLSER service tool switch. Press M button on the FLSER service tool once to display RID on the screen. This screen is used to configure the repeater RID address.

- Select repeater RID address by pressing + and - buttons.

- Press OK button after which the "WAIT" text starts to flash for 30 seconds on the FLSER service tool. Bring the FLSER service tool close to the FLREP and power the repeater up..

4. FLSER service tool set the address of the FLREP (-U) repeater. Once the FLREP(-U) has been successfully addressed the LEDs on the FLREP and FLSER flash in sequence for 5 times, and the FLSER display shows OK. The FLREP is now operational.

5. The FLSER service tool now shows the signal strength from the FLREP to the service tool and back. Signal strength RSSI 1-2 = low signal quality, RSSI 3-5 = acceptable, RSSI 6-9 = good signal strength. The large number illustrates the FLSER service tool signal strength and the small number the FLREP signal strength.



6. Finally switch the FLSER switch to OFF position. Now the FLREP returns to normal mode and starts to communicate to the FLTA receiver.