FLSER Service Tool for Wireless Room Transmitters

TEFL wireless room sensors operate in 868.30MHz range. They have been designed for reliable operation in wide range of environments using the latest RF technology. The communication between the TEFL room units and the FLTA control module is two-way. The measurement readings are transmitted on change, or at least every hour.

Each FLTA control module can have up to 99 room sensors in its operating area. Up to 16 control modules can operate in the same wireless area. Total maximum of 1,584 room sensors can be connected to the system in a single system.

Each room sensor is configured at the commisioning stage with its own identification number (SID) and the control module number (MID). The addressing is done using FLSER Configuration Tool. FLREP repeaters can be used to extend and boost the range in difficult environments. It possible to use up to 8 repeaters.

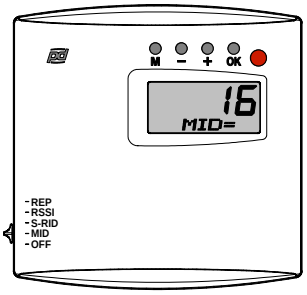
	Model	Description
Model Type	**FLSER**	Wireless Configuration Tool
Technical Data	Power supply	3V6 AA Lithium battery 2Ah FLREP - 12-24Vac/dc (24hr built-in power fail backup)
	Battery Life	Depends on usage
	Transmission Frequency	868.30 MHz
	Transmission Power	+8 dBm
	Reception Sensitivity	-109 dBm
	Modulation Technology	FSK
	Transmission Range	Line of sight: Up to 500m In buildings: 20..100m, depending on the wall materials FLREP module can be used to extend the transmission range in difficult environments.
	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)	87W x 86H x 32D mm

Operating Instructions

The FLSER commissioning tool can be used for setting the TEFL sensor network address (MID - Master ID and SID - Sensor ID). Master ID is the address of the FLTA unit (this is set through the built-in display of the FLTA). Sensor ID is the unique address for each sensor in the FLTA network.

The FLSER tool can also be used to address the FLREP repeater. Each repeater needs to be associated with the Master ID (MID) and Repeater ID (RID; 1 to 8). The Master ID is the network address of the FLTA unit associated with the repeater. Up to 8 repeaters can be used with a FLTA.

1. Commissioning of TEFL room unit with FLSER tool



a) In the switch position MID the TEFL room unit can be connected to the wanted FLTA receiver (1-16) by using the – and + buttons on the top of the display. (Picture 1)

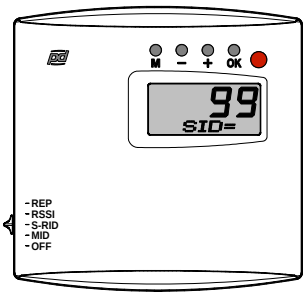
b) Choose the switch position S-RID to define the TEFL room unit's own ID (SID 1-99) (picture 2)

c) Press the "OK" button and on the display appears flashing text "WAIT"

d) Remove the battery from the chosen TEFL room unit for a moment and put it back. This must be done in 30 seconds, otherwise the FLSER tool goes back to the normal stage.

e) When the chosen TEFL room unit starts up and the programming has been successful, there appears a text OK to the display. Also the LED's of TEFL room unit and FLSER tool will flash 5 times simultaneously.

2. Commissioning of FLREP repeater with FLSER tool



a) Select switch position MID to set the repeater Master ID (ID of the FLTA). Use + and - buttons on the top of the display to set the required MID (Master ID)

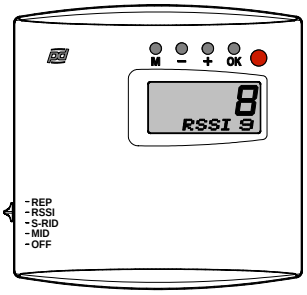
b) Choose the switch position S-RID and press button M on the top of the display. After that there appears a text RID to the display and the repeater ID 1-8 can be chosen by using the – and + buttons.

c) Press the "OK" button and on the display appears flashing text "WAIT"

d) Connect the supply voltage 24 V ac/dc to the FLREP repeater. This must be done in 30 seconds, otherwise the FLSER tool goes back to the normal stage.

e) When the chosen FLREP repeater starts up and the programming has been successful, there appears a text OK to the display. Also the LED's of FLREP repeater and FLSER tool will flash 5 times simultaneously.

3. Signal strength measuring with the FLSER tool



a) In the switch position RSSI the FLSER tool can be used for the measuring of signal strength

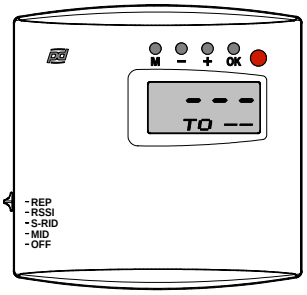
NOTE! When the switch is in the RSSI position, the FLTA receiver ends the normal service of the network. There appears also a text "ON CARE" to the FLTA receiver's display. FLTA receiver goes back to its normal stage after 30 seconds, when the RSSI position is switched off. During the "ON CARE" stage, it is possible that the TEFL room units go to the energy saving mode. The TEFL room units go back to the normal stage 5 minutes after the FLTA receiver is back on its normal stage.

b) FLSER tool shows now on its display the intensity of its own signal strength (upper reading) and the signal strength measured by the FLTA receiver (lower reading)

Adequate signal strength is reached with values 2-9, if the value is lower than 2 it is recommended to use the FLREP repeater between the room units and the receiver.

NOTE! FLSER tool shows the direct intensity of the signal strength between the FLTA receiver and the FLSER tool. FLSER tool doesn't use the possibly installed FLREP repeaters to the signal strength measuring.

4. FLSER tool in the repeater emulatio



In the switch position REP the FLSER tool can be used to emulate the FLREP repeater. During this application there shouldn't be installed any FLREP repeaters. The feature of this application is to ease up the installation of actual FLREP repeater and to find a suitable location for it.

For example, if the installation location doesn't have adequate signal strength, the FLSER tool can be used to emulate the position of FLREP repeater and the adequate intensity can be checked by using the FLTA receivers own signal strength measuring. By these measures can be assured that the signal strength is adequate (RSSI 2-9)

NOTE! The repeater emulation will deplete the battery of FLSER tool in 100h, therefore the FLREP repeaters will need 24 V ad/dc supply