Installation instruction and user guide
# LONWORKS® FTT-10A plug-in module
Order number: 68504857

This installation instruction and user guide applies to the installation and connection of the LONWORKS® FTT-10A plug-in module for heat and cold meters PolluTherm and PolluStat E.

Scope of delivery:

- LONWORKS® FTT-10A plug-in module

- Sealing material for enclosure of PolluTherm resp. PolluStat E

- CD-ROM with configuration files (*.XIF, *.APB, *.NXE)

- This installation instruction and user guide
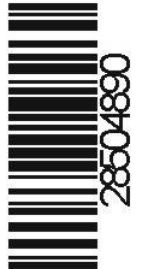
Directions:

- The installation, the electrical connection and the commissioning should only be made by an expert
- After the expiration of period of use the electrical devices have to be transferred to a suitable collecting point for professional disposal
- Please find actual information and further documentation on the subject of LONWORKS® under http://www.lonmark.de, http://www.lonmark.org and http://www.echelon.com

1. Description / technical data
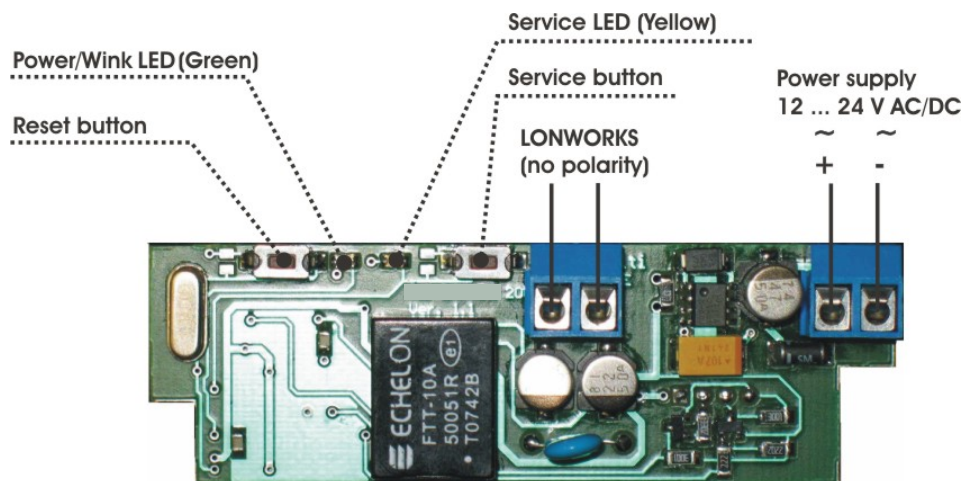
- LONWORKS® FTT-10A (Free Topology Transceiver)

- Power supply: 12 ... 24 V AC (50 / 60 Hz) or DC

- Polarity of the pair of conductors for LONWORKS®-communication has not to be noted

- Power input: approx. 0.5 VA

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1.1. Service button and service LED (activation and configuration of the LON-node)

After pushing this button the module transmits a special data telegram which contains among others the unique 12 digit identification address (Neuron®-ID). This identification address is also indicated on a label on the backside of the module and can be read with a bar code reader.

Backside of the module with barcode-label

Flash-codes of service LED

Flash-Code	Description	Meaning
LED lights up for < 1 second after start up and stays off afterwards	„Normal operation"	Node is configured and works regularly
LED lights up constantly	„Fatal error"	Problem with hardware or hardware fault
LED is blinking with a frequency of 1 Hz	„Unconfigured"	Node has to be configured
LED lights up for approx. 1 second, turns off for 2 seconds and then lights up constantly	"Applicationless"	Recognized application is not compatible with hardware
LED lights up for approx. 0.2 seconds and then turns off for approx. 1.8 seconds (sequentially)	„Watchdoging"	Reset of the internal watchdog-timer not possible, therefore an automatic rest of the Neuron®-Chip was initiated.

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1.2. Meaning of the Power/Wink LED

- When the module is connected to the power supply, it glows green.

- The reception of a WINK-commando is confirmed via a ten-time flashing of the diode.

1.3. Network topology and cable length

The permitted wiring length per segment depends on the network topology and cable type. Per segment up to 64 nodes can be connected; with a repeater a connection with up to 128 nodes is possible.

Examples for free wiring scheme (tree structure, star structure, …) with single-sided ending:

Cable type	Maximum length from node to node (m)	Maximum length of whole network without repeater * (m)
J Y(St)Y 2x2x0.8	320	500
Belden 8471	400	500
LON-CNP EN 14908-2	450	450

* Values double with repeater

Examples for Bus-shaped wiring scheme with double-sided Bus-ending:

Cable type	Maximum length of whole network without repeater * (m)
J Y(St)Y 2x2x0.8	900
Belden 8471	2,700
LON-CNP EN 14908-2	2,700

* Values double with repeater

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1.4. Overview of variables

Variable name	Variable type	Unit	Description
Node object variables			
nviRequest	SNVT_obj_request	-	not used
nvoStatus	SNVT_obj_status	-	not used
Configuration parameters			
nciReadTime	SNVT_time_min	min	Time between consecutive readouts of the heat resp. cold meter by the LONWORKS® interface. Available range: 1 to 65534 minutes / resolution: 1 minute When variable is set to zero, reading of heat resp. cold meter is stopped. The setting of this value depends on the energy supply of the meter. In case of battery supply this value shouldn't be below 15 minutes* (these meters have a limit concerning the daily amount of external data transmissions in order to avoid exhaustion of the meter battery during its calibration period). In case of mains supply 230 V AC or 24 V AC there are no limitations.
nciModeHrtBt	SNVT_time_sec	sec	Heart beat time period for automatic transmission of nvoFabNumber into the LON network. Available range: 0 to 6553.4 seconds / resolution: 0.1 seconds When nciModeHrtBt is set to zero, the heart beat propagation is disabled.
nciPollMode	SNVT_switch	-	Setting {0;0} Polling mode is switched-off; interface reads automatically heat resp. cold meter and transmits new values into the LON network according to the choosen nciReadTime period. Setting {100;1} Polling mode is switched-on; interface reads automatically heat resp. cold meter according to the choosen nciReadTime period but does not transmit automatically new values into the LON network; values are only transmitted in response to externally generated poll request.
Network variables			
nvoCustomerNo	SNVT_str_asc	-	Customer number
nvoEnergy	SNVT_elec_whr_f	Wh	Energy
nvoErrorCode	SNVT_state	-	Error code
nvoFabNumer	SNVT_str_asc	-	Fabrication number
nvoFlow	SNVT_flow_f	l/sec	Flow rate of heating resp. cooling liquid
nvoPower	SNVT_power_f	W	Heating resp. cooling power
nvoSupTemp	SNVT_temp_p	ºC	Temperature in warmer pipe (supply pipe in case of heating, return pipe in case of cooling)
nvoRetTemp	SNVT_temp_p	ºC	Temperature in colder pipe (return pipe in case of heating, supply pipe in case of cooling)
nvoTempDiff	SNVT_temp_p	ºC	Temperature difference
nvoVolume	SNVT_vol_f	l	Volume

* In case you need an interval below 15 minutes, please contact our service department

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2. CD-ROM with configuration files

The plug unit is suitable for the ultrasonic meter PolluStat E and the calculator PolluTherm. The delivered CD-ROM contains three corresponding configuration files (*.XIF, *.APB, *.NXE):

PolluMulti_0_6_0.APB   PolluMulti_0_6_0.NXE   PolluMulti_0_6_0.XIF

The previous model of the actual PolluTherm (approx. until August 2007) can also be equipped with the plug unit.

3. Opening of the calculator

- Removing of customer seal from enclosure of calculator

- Opening of enclosure

  Calculator PolluTherm: Press both closing clips on the lower edges of the enclosure cover and open cover upwards

  Ultrasonic meter PolluStat E (and previous model PolluTherm): Fold away the black locking latch and open enclosure cover

4. Installation and connection of plug-in module

4.1. Calculator PolluTherm

Rear socket, usage of the four right contacts

The module has to be plugged in carefully in the rear socket with the six contacts.

**Please make sure that the four pins of the module are plugged in the four right contacts of the socket.**

The two left contacts remain unused.

For connection of cables first take the particular rubber form part from the calculator enclosure and pierce the round lead through with a small screw driver. Then take the respective cable, put it through the hole at the rubber form part and cause a strain relief with a cable strap (contained in the scope of supply of PolluTherm). Connect the wires with the related clamps and insert the rubber form part again.

Close calculator enclosure afterwards and seal it with the enclosed selflock-seal.

4.2. Ultrasonic meter PolluStat E (and previous model PolluTherm)

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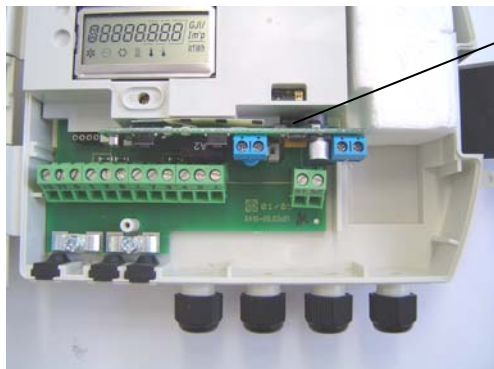
Rear socket

The module has to be plugged in carefully in the rear socket with the four contacts.

Each cable has to be put through a free cable screw connection and connected with the related connection clamps of the module.

Close calculator enclosure afterwards and seal it with the enclosed selflock-seal.

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