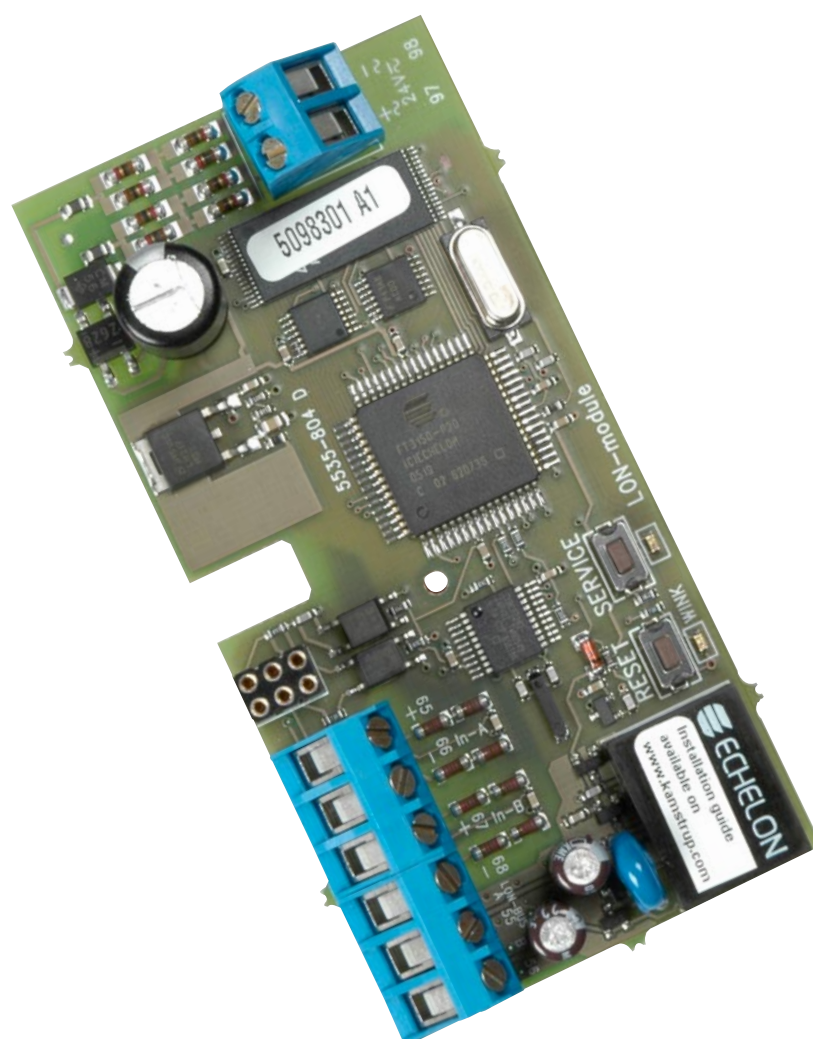


LON-module for MULTICAL® 601

Type 67-00-24-000-000



INSTALLATION

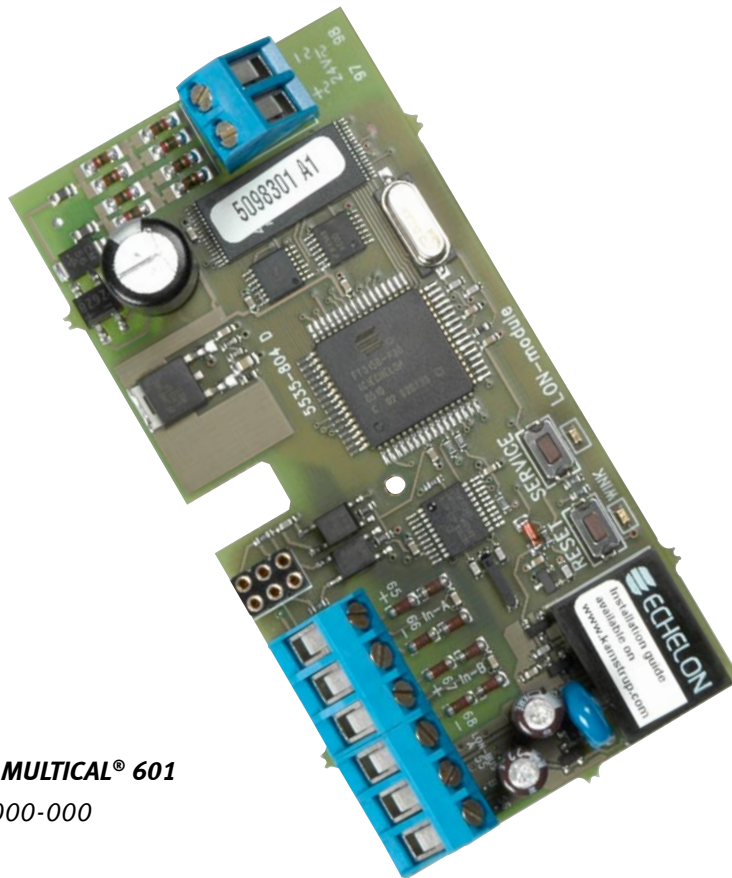


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1. General Information

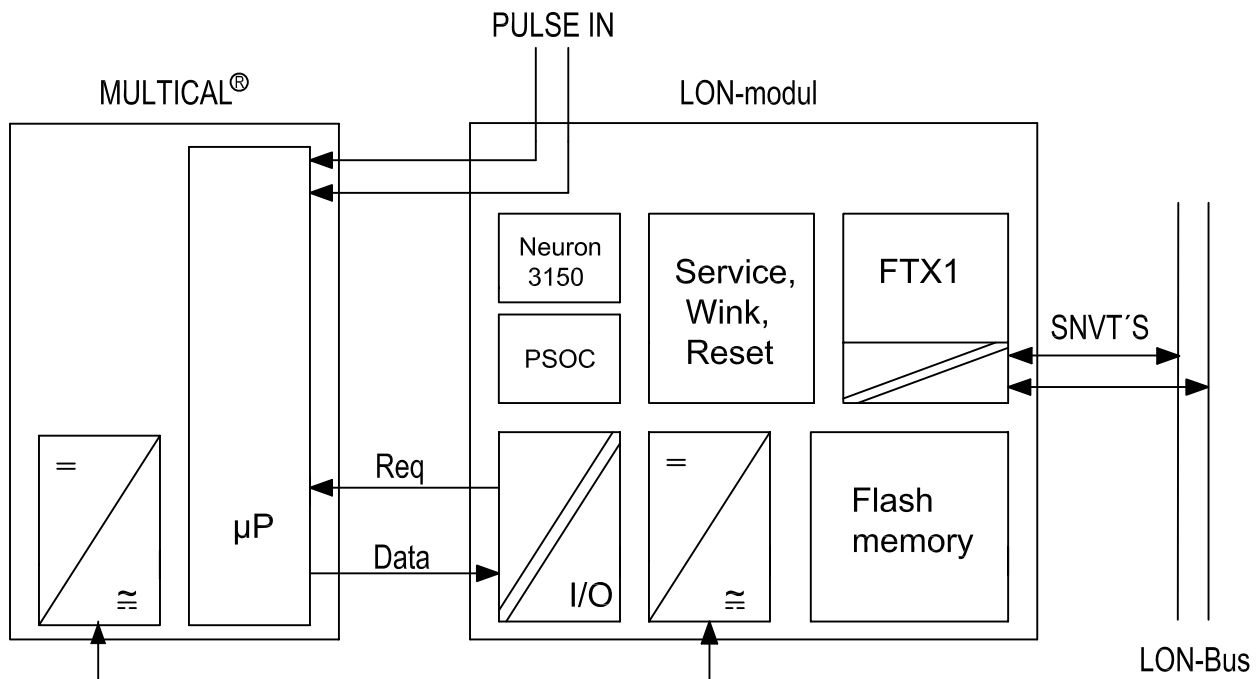
With the LON-module for MULTICAL® 601 you can integrate MULTICAL® 601 into the module's LON network via the FTT-10 A or FT-X transceiver.

This ensures an ideal data transfer for air conditioning and building automation, as the remote registration always corresponds with the local reading. When the LON-module is used together with MULTICAL® 601, data will be updated every 30 seconds. The application software is available on Kamstrup's website (www.kamstrup.com).

Temperature measurements and power calculations are updated for every energy integration in MULTICAL® 601 (20...600 sec. interval depending on the actual water flow).

Kamstrup performs a complete functional test at the factory which means that the module is configured on delivery. Therefore, the "Service" LED will turn off, when the module is supplied with voltage.

When the meter has been installed in the network, the "Service" LED is turned off as well. We refer to the Echelon Engineering Bulletin "LonWorks Custom Node Development", which describes the various indications of the "Service" LED.



The LON module can only be used in MULTICAL® 601 heat meters from Kamstrup

The module may only be uploaded with program versions intended for MULTICAL® 601, if other program versions are uploaded, e.g. with firmware for MULTICAL® 66-CDE/MP/ST, the module will stop functioning.

1.1 Further Information

Visit <http://www.kamstrup.com> for downloading:

- Xif-file, apb-file, nxe-file
- Installation Guides DK and UK
- Installation Guide, LonMaker for Windows
- Application software available

The LON-module can only be used in MULTICAL® 601 heat meters from Kamstrup.

2. Hardware Installation

Open MULTICAL® 601 by loosening the two screws on the sides of the heat meter. Remove the top cover from the base unit and insert the LON module into the base unit of MULTICAL® 601.

If MULTICAL® 601 is used for billing purposes and sealed, these seals can only be broken where agreed with the local utility that usually owns the meter.

The LON module can also be placed in an external communication unit outside MULTICAL® 601. Data between the LON module and MULTICAL® 601 is transmitted via a 3 wire cable connected to a data top/base module in MULTICAL® 601.

If inserted into an external communication unit, the pulse inputs of the module are not supported.

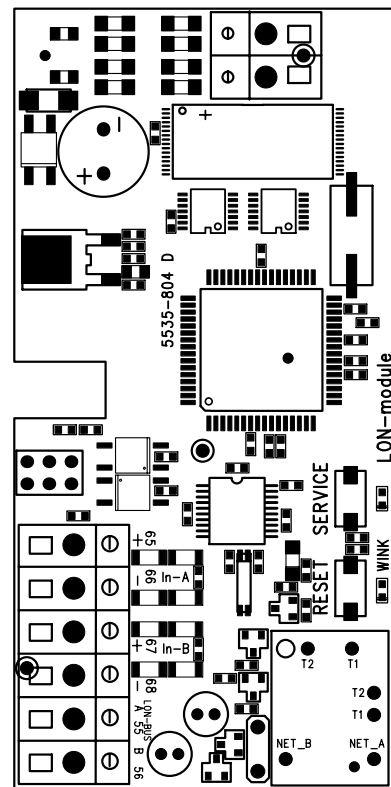
Connect supply voltage 24 VAC or 24 VDC to terminals 97 and 98 on the LON module. Usually, the LON module uses 40 mA, but to ensure correct start-up and initialization min. 75 mA must be available (total starting current for the LON module including MULTICAL® 601).

Obtain a simple and optimal solution by selecting MULTICAL® 601 with a 24 VAC voltage module. In this way an overloop can be made from the calculator's supply terminals to terminals 97 and 98 of the LON module. Kamstrup's DIN rail transformer 230/24 V, type 66-99-403, can supply voltage for 2 MULTICAL® 601's including LON modules.

Then connect the twisted 2-wire data cable to terminals 55 and 56. The polarity on the data cable is not important, as the data output is transformer-coupled. If using ring-topology you must use the same polarity for all connections. The LON module transceiver is of the type FT X1 ("Free Topology Transceiver"). The module can then be used in all topologies (bus, ring, star) with a total cable length of up to 500 m and a stub length of up to 0.3 m. By using pure bus topology a cable length of up to 2,700 m can be used.

Insert the calculator top when the software installation of the LON module has been completed.

NB:The LON module does not contain network termination. It is therefore important that correct bus termination is used as regards impedance cf. "LonMark, Layers 1–6, Interoperability Guidelines" which also contains useful information e.g. on cable types.



2.1 Reset

The LON module can be reset in different ways: Either by connecting the 24 VAC supply voltage to the LON module (Power-On Reset) or by activating the "Reset" push button on the LON module. In addition, a reset can be initiated via LonMaker for Windows. The application software of the LON module will then be initialized and restarted.

Please note: If MULTICAL® 601 is replaced or reprogrammed the LON module must be reset.

3. MULTICAL® 601 Pulse Inputs

The LON module is equipped with 2 I/O input that can be used as pulse inputs.

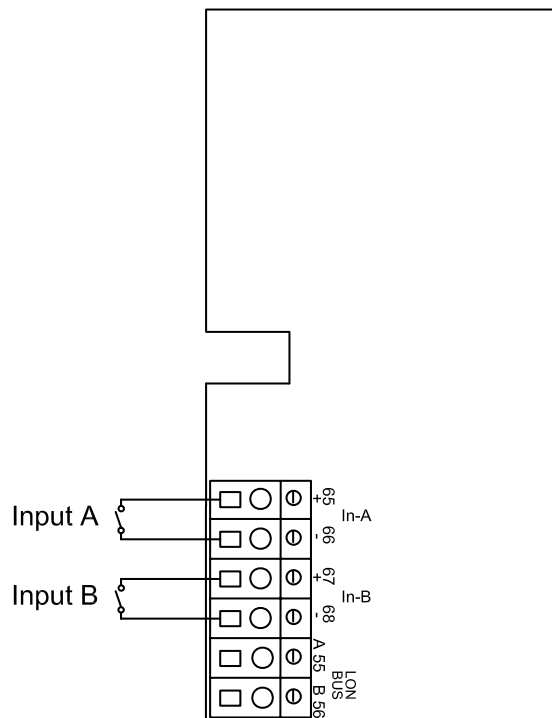
The pulse resolution is dependent on the MULTICAL® 601 configuration (FF and GG coding).

If the module is inserted into an external communication unit, the pulse inputs are not supported.

If MULTICAL® 601 is reconfigured the module must be reset to implement the changes in the LON module.

The 2 pulse inputs can e.g. be connected to a water meter with Reed switch or an electricity meter.

Remember to use correct polarity and configuration of the pulse inputs (– see *Technical Description for MULTICAL® 601*).



4. Final Assembly

Mount the calculator top and tighten the two screws on the sides. Sealing, if any, must be made by the local utility.

Make a test by pressing the right front key, until display readings for temperatures, heat power and water flow appear.