

Installation instructions: LON module for Supercal 531 and Superstatic 440/449

This manual describes the procedure for installation of the LON module in the Supercal 531 integrator either on its own or in combination with the Superstatic 440 and 449 energy meter. The technical data and specifications of the LON module are set out in this manual. The optional LON module comprises an LON FTT10 output on 2x2 terminals. Most of the variables contained in the Supercal 531 / Superstatic 440 / 449 are available in the form of nodes.

Delivery of the module

Before starting to install the LON module, make sure to check the items delivered. These comprise the LON module with a fixing clamp and the installation guide.

The internet site www.sontex.ch/downloads_e.html contains the XIF file with a description of the associated variables of the Supercal 531 and Superstatic 440 / 449, together with the application which permits installation of the files needed for the LON environment.

Safety instruction

Before manipulating the LON module, make sure to avoid electrostatic discharges during installation or handling. For this purpose, before touching the integrator or the LON module, you are advised to touch an earthed conductor (for example a water pipe or hot water pipe) to discharge electricity.

Address of the LON Module

The address (or unique identification number) of the Neuron Transceiver is displayed at the back of the LON module. This address can also be read with the Prog531 / Prog449 software supplied by Sontex.

Installing the LON Module

The LON module must be placed in one of the two connectors provided for the different communication modules in the Supercal 531 / Superstatic 440 / 449 integrator.

- Disconnect the power supply to the integrator.
- Separate the upper section from the base.
- Place the LON module in the integrator.
- Connect the mains cable, a pair of twisted wires, on the LON module (A=pin 55 et B=pin 56)
- Close the integrator again.
- Reconnect the power supply cable.

The Supercal 531 / Superstatic 440 / 449 integrator will automatically detect and recognize the inserted module. No other action is required. The Supercal 531 / Superstatic 449 is now ready to function via its LON module.

Detection of the LON module with the Prog531 / Prog449 software

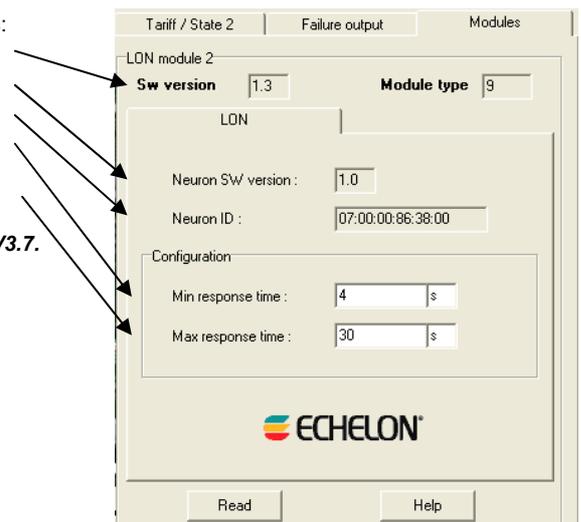
The Prog531/Prog449 software enables the LON module to be detected and indicates:

- The firmware release of the LON module.
- La firmware release of the Neuron component.
- The Neuron component identifier.

Changing the response times:

- Minimum time to refresh the variables of the integrator 531/440/449. The default time is set at 4 seconds.
- Maximum time to refresh the variables of the integrator 531/440/449. The default time is set at 30 seconds.

Note: The minimum firmware release for the Supercal 531 integrator must be \geq V3.7.



Integration of the LON module into a LON Free-Topology Transceiver FTT-10 segment

LONMARK® is a standardization agency which guarantees compatibility of the application programs of different manufacturers. The Neuron® chip is the hardware base and the LONTALK® the appropriate communication protocol, while various Transceivers (FTT-10) can be used to assure the connection to the transmission environment. NodeBuilder® and LonMaker™ are development and integration tools.

The Free-Topology Transceiver FTT-10 permits bus cabling with only a terminating resistance required. This will generally be a ring or star-shaped wiring arrangement with combinations of the user's choice. The FTT-10 transmitter uses the power supply of the mains module of the Supercal 531. The Echelon FTT-10 transmitter comprises a transformer for galvanic isolation of the Neuron chip and all the equipment from the network, protection for this equipment being assured against any electrostatic discharge, short-circuit or voltage surge on the network cable.

Installing the LON variables

There are two possible ways of ensuring that the LON variables of the Supercal 531/Superstatic 449 are available and visible by the LonMaker:

1. copy the **Supercal_Vx_y.XIF** file manually into the directory used by the LonMaker software (x:\..\LonWorks\import\Sontex\...)
2. by the application **Supercal_LNS_Data_Install_x_y**.

The variables x and y represent the file releases.

The file *.XIF and the application are available on the internet site www.sontex.ch/downloads_e.html

File *.xif

The XIF file contains the description of the variables associated with the Supercal 531. The LonMaker tool will ask for the XIF file to be opened for the Supercal 531 type connected to the network and will therefore determine the variables that can be exchanged. It will be sufficient to copy the XIF file into the directory used by default by the LonMaker software: x:\..\LonWorks\import\Sontex\

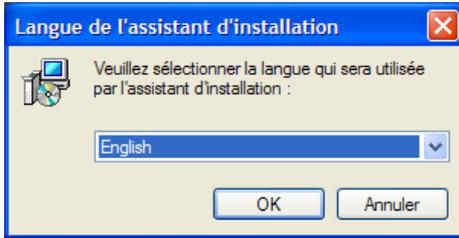
Installation of the "Supercal_LNS_Data_Install_x_y" application

This application permits installation of the files required for the LON environment (including the Supercal_Vx_y.xif file).

This application must be installed once only. Upon installation, the application will copy and install the files on the computer. These files will be taken over by the LonMaker.

Installation process

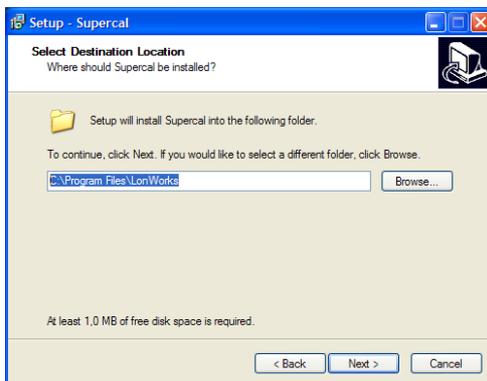
- Launch the “Supercal_LNS_Data_Install_1_1” software
- Choose the language for the installation process: English :



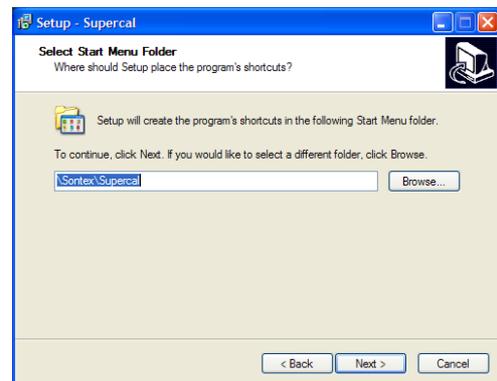
- An installation help window will now appear



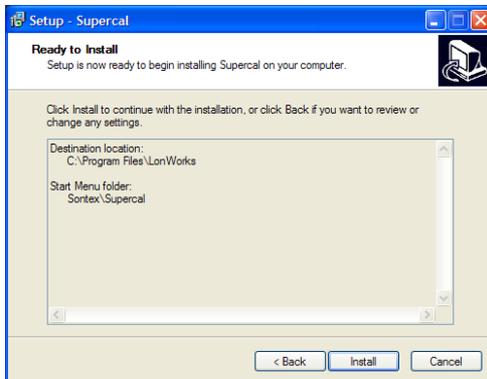
- Define the directory in which the software is to be saved (minimum space needed: 1.0 Mo) :



- Define the location of the program shortcut:



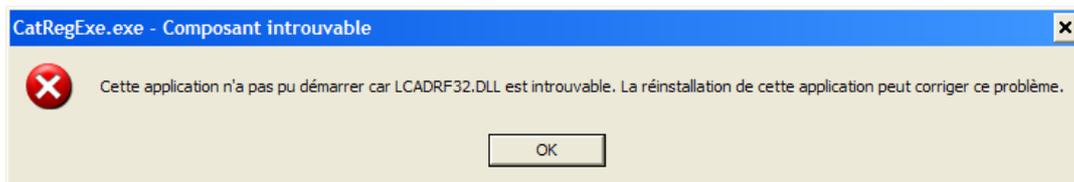
- Press the “Install” button to start program installation



- A window will indicate when the installation has been completed:



If the LonMaker application has not been installed on the computer, an error message will appear at the end of the installation process. The files will be installed in any case. Simply disregard this message by pressing the “OK” button:



Technical data for the LON module
General

Service temperature 5° to 55°C
 Storage temperature -10 to 55°C (dry environment)

Dimensions

Housing dimensions 66x30 mm
 Mounting The module can be plugged into the 531 / 449 integrator

Electrical data:

Mains supply for 531 / 449: 230 VAC 50Hz / 24 VAC / 12-24 VDC

Network transmission and technical details

Transmission speed 78 Kbits per second
 Number of nodes per segment 64 max.
 Type of transmission/reception FFT-10A
 Recommended cable¹⁾ 24..16 AWG, twisted pair¹⁾
 Network length 500..2700 m depending on the type of cable used
 Data update 4..30 seconds, parameterizable
 Transmission When a change of value occurs in the Supercal 531 / Superstatic 440 / 449. In addition, all the variables can be read on demand.

¹⁾ For the LON network cabling, see specifications in LonWorks FFT-10A Free Topology Transceiver User's Guide, "Network Cabling" section (<http://www.echelon.com/support/documentation/manuals/transceivers/>)

Supercal 531 integrator release

The minimum release for the Supercal 531 integrator firmware must be ≥ V3.7

Precaution

General notes: the LON module works with the specific characteristics described in this document. The manufacturer declines all liability if you fail to take account of these instructions. The manufacturer is not responsible if the LON module is incorrectly installed or used.

The electrical connection must be established by an authorized person acting in compliance with the international and national standards in force and in conformity with local safety regulations.

On the installation side, the main power supply must be protected by a 1A circuit-breaker device. The power supply cable for the Supercal 531 integrator must be installed in such a way that no hot part (pipes, conduits at over 70°C) comes into contact with the cable, failing which the cable insulation may be damaged. The power supply connection terminals are designed for the connection of wires with a cross-section of between 0.75 mm² and 1.5 mm².

Available LON variables

M-Bus data	Data Dir	Object	Name	Type
Group (A) : settings (write)				
1x New date & time	LON - 531	Node	nviTimeSet	SNVT_time_stamp
1x New Set day1 date	LON - 531	Node	nciStichDate_1	UCPT_stich_date
1x New Set day2 date	LON - 531	Node	nciStichDate_2	UCPT_stich_date
Group (B) : information (read)				
1x Fabrication Number MET	531 -> LON	Node	ncoFabrNumber	UCPT_fabr_nr
1x Model MET	531 -> LON	Node	ncoModelMet	UCPT_mod_str
1x Detailed errors	531 -> LON	Node	nvoDevErr	UNVT_dev_err
1x Running hours	531 -> LON	Node	nvoRunHours	SNVT_time_passed
Group (C) : actual values (read)				
1x Current date & time	531 -> LON	Node	nvoTime	SNVT_time_stamp
1x Energy totalizer heating	531 -> LON	EnergyMeter	nvoEnergyVal	SNVT_reg_val_ts
1x Energy totalizer tarif 1	531 -> LON	EnergyMeter	nvoEnergyValT1	SNVT_reg_val_ts
1x Energy totalizer tarif 2	531 -> LON	EnergyMeter	nvoEnergyValT2	SNVT_reg_val_ts
1x Volume totalizer	531 -> LON	VolumeMeter	nvoVolumeVal	SNVT_reg_val_ts
1x Volume totalizer tarif 1	531 -> LON	VolumeMeter	nvoVolumeValT1	SNVT_reg_val_ts
1x Volume totalizer tarif 2	531 -> LON	VolumeMeter	nvoVolumeValT2	SNVT_reg_val_ts
1x Complementary counter 1 totalizer	531 -> LON	Ut. Meter	nvoCntrVal_1	SNVT_reg_val_ts
1x Complementary counter 2 totalizer	531 -> LON	Ut. Meter	nvoCntrVal_2	SNVT_reg_val_ts
1x High temperature	531 -> LON	Sensor	nvoTempHigh	SNVT_temp_p
1x Low temperature	531 -> LON	Sensor	nvoTempLow	SNVT_temp_p
1x Flow	531 -> LON	Sensor	nvoFlow	SNVT_flow
1x Power	531 -> LON	Sensor	nvoPower	SNVT_power
Group (D) : ST1 values (read)				
1x Set day1 date	531 -> LON	Logger_s1	nvoHistTime	SNVT_time_stamp
1x Energy totalizer stored at ST1	531 -> LON	EnergyLogger_s1	nvoEnergyVal	SNVT_reg_val_ts
1x Energy totalizer 1 stored at ST1	531 -> LON	EnergyLogger_s1	nvoEnergyValT1	SNVT_reg_val_ts
1x Energy totalizer 2 stored at ST1	531 -> LON	EnergyLogger_s1	nvoEnergyValT2	SNVT_reg_val_ts
1x Volume totalizer stored at ST1	531 -> LON	VolumeLogger_s1	nvoVolumeVal	SNVT_reg_val_ts
1x Volume totalizer 1 stored at ST1	531 -> LON	VolumeLogger_s1	nvoVolumeValT1	SNVT_reg_val_ts
1x Volume totalizer 2 stored at ST1	531 -> LON	VolumeLogger_s1	nvoVolumeValT2	SNVT_reg_val_ts
1x Complementary counter 1 totalizer stored at ST1	531 -> LON	DataLogger_s1	nvoCntrVal_1	SNVT_reg_val_ts
1x Complementary counter 2 totalizer stored at ST1	531 -> LON	DataLogger_s1	nvoCntrVal_2	SNVT_reg_val_ts
Group (E) : ST2 values (read)				
1x Set day2 date	531 -> LON	Logger_s2	nvoHistTime	SNVT_time_stamp
1x Energy totalizer stored as ST2	531 -> LON	EnergyLogger_s2	nvoEnergyVal	SNVT_reg_val_ts
1x Energy totalizer 1 stored as ST2	531 -> LON	EnergyLogger_s2	nvoEnergyValT1	SNVT_reg_val_ts
1x Energy totalizer 2 stored as ST2	531 -> LON	EnergyLogger_s2	nvoEnergyValT2	SNVT_reg_val_ts
1x Volume totalizer stored as ST2	531 -> LON	VolumeLogger_s2	nvoVolumeVal	SNVT_reg_val_ts
1x Volume totalizer 1 stored as ST2	531 -> LON	VolumeLogger_s2	nvoVolumeValT1	SNVT_reg_val_ts
1x Volume totalizer 2 stored as ST2	531 -> LON	VolumeLogger_s2	nvoVolumeValT2	SNVT_reg_val_ts
1x Complementary counter 1 totalizer stored at ST2	531 -> LON	DataLogger_s2	nvoCntrVal_1	SNVT_reg_val_ts
1x Complementary counter 2 totalizer stored at ST2	531 -> LON	DataLogger_s2	nvoCntrVal_2	SNVT_reg_val_ts
Group (F) : monthly values (read)				
15x Day for monthly storage	531 -> LON	Ut. Meter[*]	nvo*HistVal*	reg_val_ts.time.*
15x MS_Energy totalizer heating	531 -> LON	EnergyMeter	nvoEnHistVal	SNVT_reg_val_ts
15x MS_Energy totalizer tarif 1	531 -> LON	EnergyMeter	nvoEnHistValT1	SNVT_reg_val_ts
15x MS_Energy totalizer tarif 2	531 -> LON	EnergyMeter	nvoEnHistValT2	SNVT_reg_val_ts
15x MS_Volume totalizer	531 -> LON	VolumeMeter	nvoVolHistVal	SNVT_reg_val_ts
15x MS_Volume totalizer tarif 1	531 -> LON	VolumeMeter	nvoVolHistValT1	SNVT_reg_val_ts
15x MS_Volume totalizer tarif 2	531 -> LON	VolumeMeter	nvoVolHistValT2	SNVT_reg_val_ts
15x MS_Complementary counter 1 totalizer	531 -> LON	Ut. Meter	nvoCntrHistVal_1	SNVT_reg_val_ts
15x MS_Complementary counter 2 totalizer	531 -> LON	Ut. Meter	nvoCntrHistVal_2	SNVT_reg_val_ts



R&TTE 1999/5/CE declaration of conformity

0531P206