Sontex Thermal Energy Flow Metering

Supercom

Radio Central Supercom 646

Application

The radio central Supercom 646 is a remote data readout system, permanently installed, working with the bidirectional radio system Supercom of Sontex.
The radio central collects radio data supplied by radio devices that are saved in a non-volatile flash memory. With the different available interfaces of the radio central the data can be read at all times and used for the **dependent consumption measuring and billing**. The read out and the configuration of the radio central are done with the software Tools646 supplied with the radio central Supecom 646.

Functions

- Readout of all data stored in the radio central Superior 646 (heat meter, heat cost allocator, radio modules for water meters, radio pulse adapters, etc.)
- Program for different data collection dates with optional repetition.
- Memory for up to 1000 radio devices in a non-volatile flash-memory.
- Readout of the central radio by GSM/GPRS, M-Bus, USB, RS-232 interfaces.
- Data saved in xml file format with software Tools646.

Type

Versions Supercom 646		Battery			Main Power Supply			GSM		GPRS	
		USB	RS232 M-Bus	USB M-Bus	230 V USB	230 V, RS232 M-Bus	230 V, USB M-Bus	GSM, USB	GSM, RS232	GPRS USB	GPRS, RS232
Part number: 0646R..		x101	x112	x111	x201	x212	x211	x221	x222	x231	x232
Power Supply	Battery	▪	▪	▪							
	230 V				▪	▪	▪	▪	▪	▪	▪
Interface	Optical	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪
	USB	▪		▪	▪		▪	▪		▪	
	RS232		▪			▪			▪		▪
	GSM/GPRS							▪	▪	▪	▪
	M-Bus		▪	▪		▪	▪				

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Operation

The radio central Supercom 646 consists of a SMD board equipped with a radio card of 433 MHz and an external antenna. A non-volatile flash memory stores the configuration parameters of the central, the list of radio devices, the data of the last reading as well the firmware version of the radio central Supercom 646. After each radio read out the current stored data will be replaced with the new data. If during a read out a problem occurs the old data will not be removed. Always the data of the last read out will be saved in the memory.
During a radio read out, the time and date of each radio device questioned by the central is automatically synchronized with the time and date of the radio central.
The time and date of the radio central must be adjusted to winter time.
The data collected during the radio read out are ready to use for the billing.

Software Tools646

The software Tools646 supplied with the radio central allows to read and configure the radio central and to export the data to a XML or Excel file.
The configuration can be done by optical probe, USB, RS-232, M-Bus or GSM/GPRS depending of the version.
The access to the configuration of the radio central is password protected.
The following parameters can be defined and modified by the Tools646 software:

- Identification number of the radio central.
- Time and date
- Time and date of the radio read out.
- Transmission speed depending on the type of interface
- Pin code of the GSM modem and call-back number for the call-back function if used.
- Password modification
- Updating the radio central firmware

Main features

- Independent way to read different types of radio consumption meters.
- Remote readout of the central via the integrated GSM/GPR module.
- Optimized properties for reception and sending
- For all Sontex products (Supercom radio system).
- Upgrades with new Sontex Supercom radio products guaranteed.
- Ready to use software Tools646
- Program for different data collection dates with optional repetition.
- Data backup in case of power loss.
- Excellent radio range thanks to Supercom radio technology of Sontex

Radio device data collection and periods

The radio central Supercom 646 can read the radio devices 7 days a week, 365 days a year.
Usually the radio central Supercom 646 is configured to read out during the night.
During the day it is always possible to do an immediate radio read out of all radio devices during commissioning or for test purposes.

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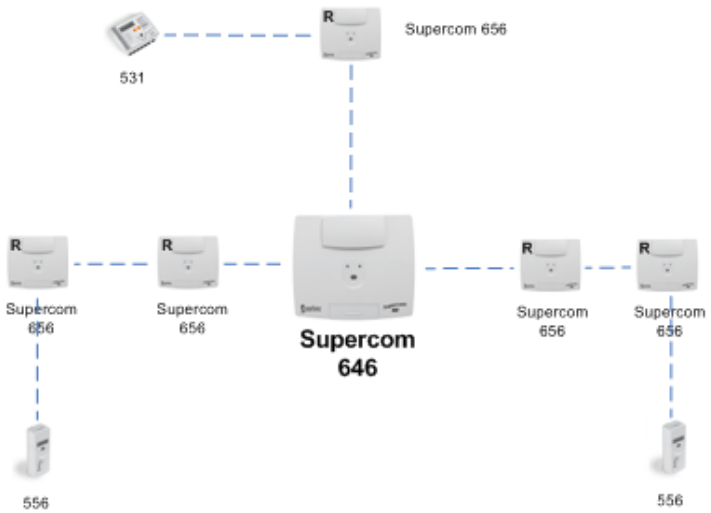
Repeater Supercom 656 R

Application

The repeater Supercom 656 R allows to expand the radio signal from the radio central Supercom 646. It is possible to cascade the repeaters to expand the remote radio signal up to the Radio central Supercom 646. The repeaters allow to read the radio remote devices farthest from the radio central

Functions

- Readout of all Sontex products who own the option remote radio
- Up to 6 repeaters can be cascaded one after the other in the same chain.
- The functionality is supported up to 6 chains.



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Type

Types Supercom 656 R		Battery		Power network	
		USB	RS232	230 V USB	230 V RS232
Part number: 0656R..		x101	x112	x201	x212
Power	Battery	▪	▪	▪	▪
	230 V				
Interface	USB	▪		▪	
	RS232		▪		▪

Operation

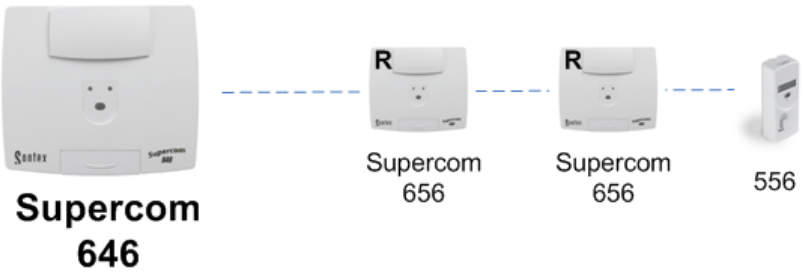
The repeater Supercom 656 R consists of a SMD board equipped with a radio card of 433 MHz and an external antenna. A non-volatile flash memory stores the functional parameters of the repeater as well as the firmware version.
The Supercom 656 R doesn't save data of radio devices read. All the data are saved in the non-volatile flash memory of the Supercom 646 Radio Central.
The Supercom 646 Radio Central must know all the repeaters.

Software Tools656

The software Tools656 supplied with the repeater allows configuring the firmware trough the interface USB or RS232.

Main features

- Independent way to read different types of radio remote consumption meters.
- Optimized properties for reception and sending
- For all Sontex products (Supercom radio remote system).
- Upgrades with new Sontex Supercom radio remote products guaranteed.
- Easy upgrades from the firmware with the software Tools 656.
- Excellent radio range thanks to Supercom radio technology of Sontex
- The main function of the repeater is to retransmit the received data. If the repeater is the last device of the string, it will read the last radio device and return the data.



Radio device data collection and periods

The repeater Supercom 656 R can read the radio remote devices 24 hours a day, 7 days a week and 365 days a year. It is accessible at every time from the radio central Supercom 646.

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Technical data of the radio central Supercom 646 and of the repeater Supercom 656 R

General	
Operating temperature	5 - 55°C
Storage temperature	-10 - 60°C (dry environment)
Weight	0.340 Kg
Cable holes	2 holes in the bottom of the lower part
External connector	Seal to lock the removable cover
Mounting of the central	
Wall mounted	4 holes in the bottom of the lower part.
DIN rail	Plastic clip for a DIN rail.
Housing	
Protection class	IP 40 (except the bottom for the passage of cables)
Dimensions	
Housing dimensions	180x154x46 mm
Interface Radio Central Supercom 646	
Optical	By default
RS232 DCE	
USB	
M-Bus	
GSM/*GPRS (*under way)	
Interface Repeater Supercom 656 R	
RS232 DCE	
USB	
Radio communication	
Communication	Bi-directional
Modulation	FSK
Frequency	433.82 MHz
Radio protocol	Radian 0
Data transmission	EN 60870-5 (M-Bus)
PER	10 mW
Range on free field	ca. 300 m
Range in buildings	approx. 30 m* (3-5 floors)

* Value depends on the structure of buildings. Due to physical conditions, the transmission and reception ranges may vary.

Electronic characteristics	
Mains power supply	110–230 VAC 50-60 Hz +back up: 3V Lithium Manganese Dioxide (Li-MnO2) $^{2}/_{3}$ A (soldered on the mother board)
Battery	3,6V Lithium Thionyl Chloride (Li-SOCI2) D cell + back up: 2 x 3V A cell (soldered on the mother board)

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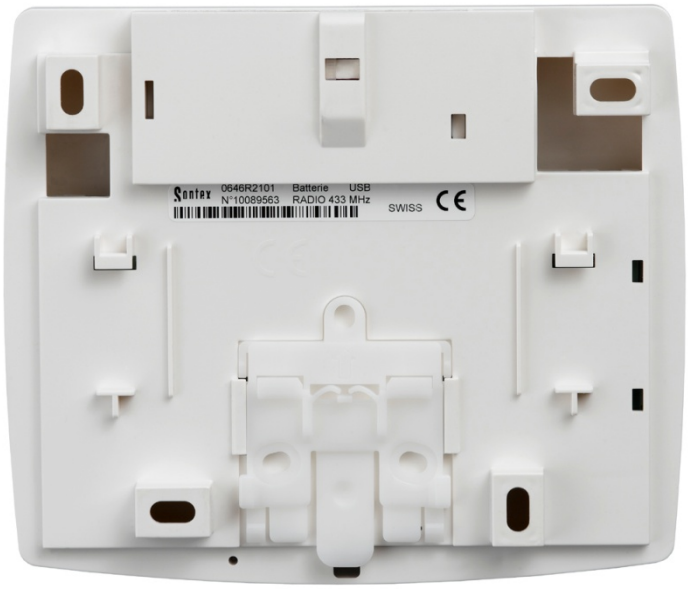
Radio central Supercom 646 and Repeater Supercom 656 R



View from below with clip DIN rail

Front view with open access to wired interface

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