USER MANUAL LT10

Thank you for choosing LT10 från Hugo Tillquist AB!

The LT10 is a 1-channel configurable transducer for measuring AC voltage, current and frequency. The analogue output is freely configurable within the range 0–20 mA, the supply voltage for a very wide range and both inputs and outputs are galvanically isolated.

The configuration is easy and quick without needing a supply voltage using our free ConfigLQT software.

Table of contents

1   Product description

The LT10 is a configurable 1-phase transducer which comes in 2 different variants: LT10I for measuring of AC current8 and frequency and LT10-U for measuring of AC voltage and frequency. The configuration is easily done via its USB-port with use of our free software ConfigLQT.

1.1   Technical data

	Model	LT10-U
Inputs		
	Voltage	**P/N: LT10U-110000**
	Voltage range (Un)	50 – 500 V main voltage (nominal)
	Measuring range	0,15 – 600 V TRMS
	Configurable measuring range	0 – 500 V
	Frequency	10…<u>40…70</u>…120 Hz
	Voltage	**P/N: LT10U-110050**
	Voltage range (Un)	12,5 – 125 V main voltage (nominal)
	Measuring range	0,003 – 160 V TRMS
	Configurable measuring range	0 – 150 V
	Frequency	10…<u>40…70</u>…120 Hz
	Voltage	**P/N: LT10U-110053**
	Voltage range (Un)	12,5 – 125 V main voltage (nominal)
	Measuring range	0,003 – 160 V TRMS
	Configurable measuring range	0 – 150 V
	Frequency	0…<u>15…18</u>…120 Hz
	Supply voltage	
	Power supply	24 – 250 VDC
		80 – 250 VAC, 50/60 Hz
	Burden	max 6 VA
Outputs		
	Analogue	
	Analogue outputs	1 pc
	Range	+/- 20 mA (programmable)
		0…1 mA (klass 0.5), 0…5 mA, 0…10 mA, 0…20 mA, 4…20 mA
	External resistance load	max 750 ohm (15V)
	Response time	< 100 ms
	Individual characteristic	5 points
General data		
	Overload voltage	1.2 x Un – continuously, 2 x Un – 10 s
	Measuring range F	10 – 120 Hz
	Configurable measuring range	0 – 120 Hz
	Consumption	< 0,5 VA

Model   LT10-I

Inputs

	Current	**P/N: LT10I-110000**
	Current (In)	1 – 5 A
	Measuring range	0,005 – 12 A TRMS
	Configurable measuring range	0 – 10 A
	Frequency	10...<u>40...70</u>...120 Hz
	Current	**P/N: LT10I-110003**
	Current (In)	1 – 5 A
	Measuring range	0,005 – 12 A TRMS
	Configurable measuring range	0 – 10 V
	Frequency	10...<u>15...18</u>...120 Hz
	Supply voltage	
	Power supply	24 – 250 VDC
		80 – 250 VAC, 50/60 Hz
	Burden	max 6 VA

Outputs

	Analogue	
	Analogue outputs	1 pc
	Range	+/- 20 mA (programmable)
		0…1 mA (class 0.5), 0…5 mA, 0…10 mA,
		0…20 mA, 4…20 mA
	External resistance load	max 750 ohm (15V)
	Response time	< 100 ms
	Individual characteristic	5 points

General data

	Overload current	2 x In – continuously, 10 x In – 15 s, 20 x In – 1 s
	Measuring range F	10 – 120 Hz
	Configurable measuring range	0 – 120 Hz
	Consumption	< 0,5 VA

Models   LT10-I & LT10-U

General data

	Acurracy class	0.2
	Overvoltage category	CAT III
	Galvanic isolation	All coonections are galvanically isolated
	USB	1 pc for configuration
	Temperature range	-10 to +55 °C (operation), -40 to +70 °C (storage)
		Temperature coefficient less than 0.1% / 10 °C
	Humidity	< 80%
	Test voltage	5,6 kV, 50 Hz, 1 min. input
		3,7 kV, 50 Hz, 1 min. AUX
	Pollution degree	2
	IP class	Housing IP40, terminlas IP20
	Dimensions (W x H x D)	35 x 109 x 126 mm – DIN-rail
	Mounting	Indoors - Up to 2000 meters height
	Standards	SS-EN 60688 Transducers
		SS-EN 61010-1, 61010-2-030 Safety
		EN 61000-6-2, -6-4, -6-5 EMC

2 Instructions

2.1 Mounting

The transducer is mounted on a 35mm DIN rail on a wall or device cabinet for suitable protection. The enclosure shall not be accessible without tools.

2.2 Installation

The installation is to be made by competent personnel and in accordance with applicable regulations. Before installation please check that the transducer has the correct type and complies with the installation needs. The connection to the transducer is done through the terminals that are designed for a maximum of 6 mm² cable in accordance with connection diagram. An external switch shall be used so that the unit can be deenergized during disassembly. It shall be appropriately positioned, easy to reach and marked as a switch for the transducer. The measuring circuits from the current transformers must be short-circuited before disconnection. The unit must be protected against possible overcurrent by automatic circuit breaker.

2.3 Operation

The transducer is intended for operation at an altitude not exceeding 2000m and in an environment that is not considered as wet location.

2.4 ⚠ Warning!

Connection must comply with current regulations for systems with rated voltage up to 1000 V.

Before switching on or off and if the housing is removed, all voltages to the appliance must be switched off.

2.5 Maintenance

The transducer requires no maintenance. Any repairs shall be performed by trained personnel or the appliance shall be returned to the supplier for repair.

Function and safety are only guaranteed if the instructions in this manual are followed.

2.6   Inputs - Outputs
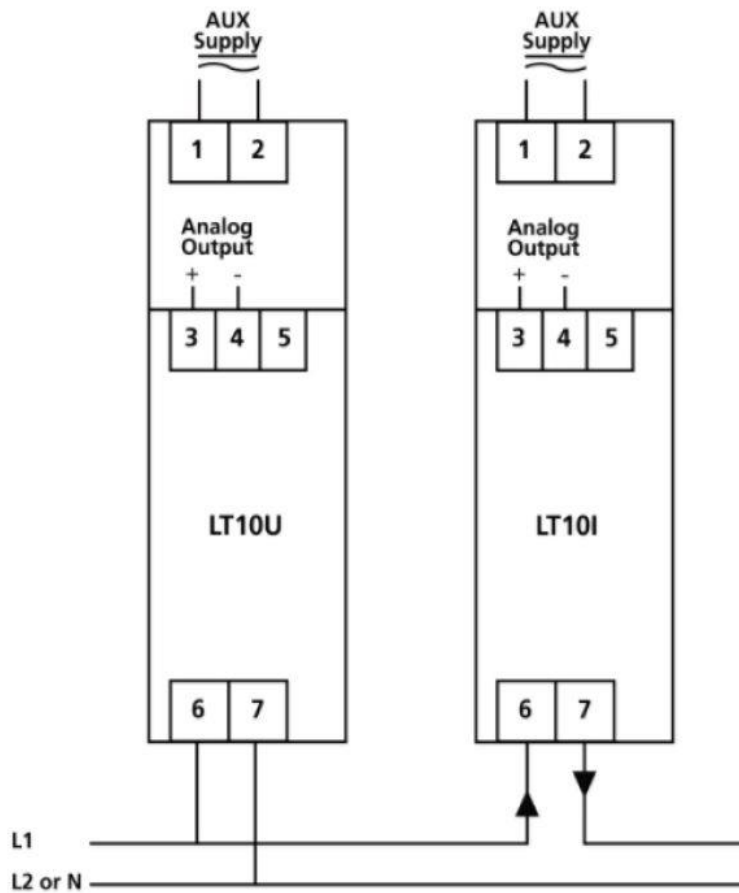
2.7   Symbols on the appliance

	Double insulated device
	Warning for life-threatening or hazardous for properties situations

2.8   ConfigLQT software

ConfigLQT is our free software which is used to configure our transducers. If you want to read more about it, check our ConfigLQT manual. There you can find detailed info regarding installation, configuration and firmware upgrade as well as connection diagrams, examples of settings etc.