

## LQT400-R/(PQ430RT-D)

### Rack Type Power transducer



Digital, rack mounted, fully programmable, high accuracy, Tillquist's LQT400-R multi-transducer, silver-plated plugs, self-shortening sockets for maximum safety, can be used with 50 or 60Hz rated frequencies with a wide range of AC and DC auxiliary supply and can easily replace any old models of PQ430R. This transducer can measure active and reactive powers as well as power factors, and all other electrical quantities, including voltage and current for any 3-phase system. LQT400-R can be easily programmed through its USB mini-b standard port and Tillquist's ConfigLQT free software.

## LQT400-R



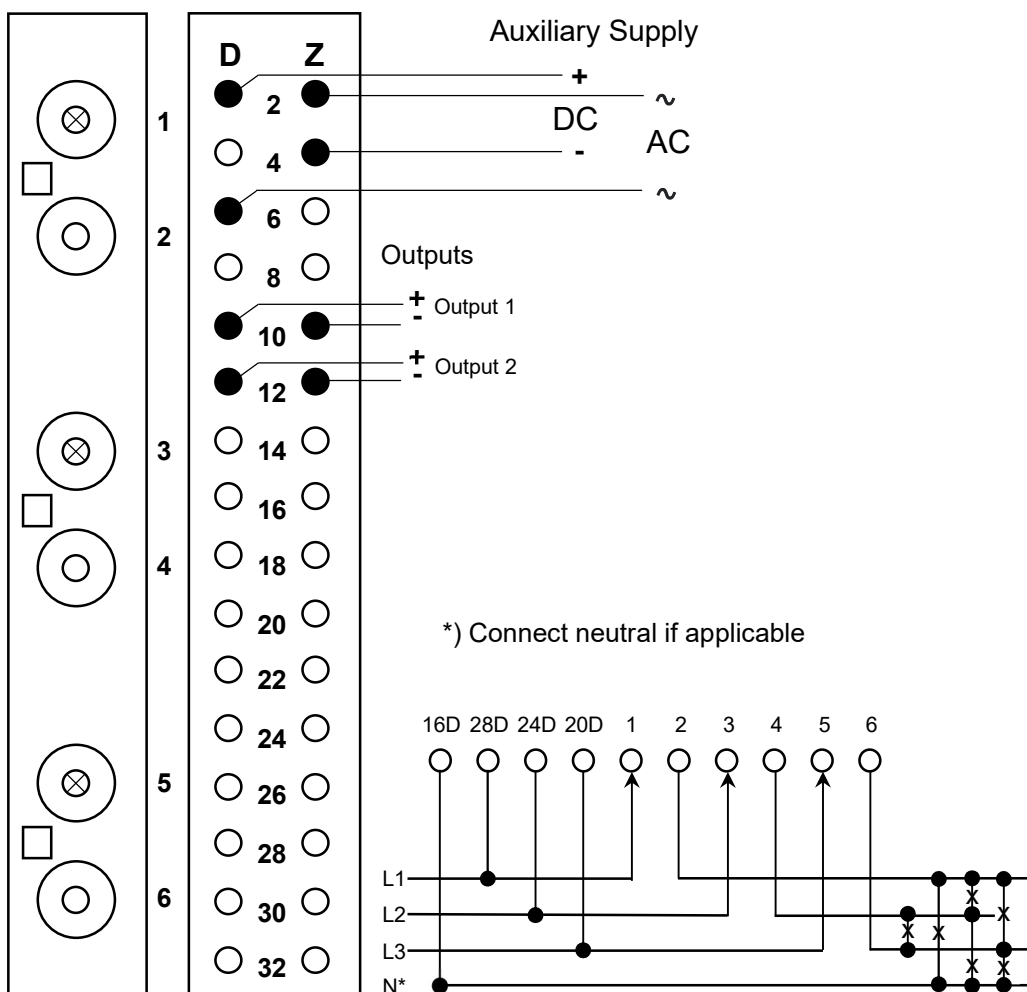
Technical Data		Installation
Input	Voltage range (Un)	100 – 400 V main voltage (nominal)
	Measuring range	3 – 500 V TRMS L-L 50/60 Hz
	Configurable measuring range	0 - 500 V L-L / 0 - 300 V L-N
	Frequency	10...40...70...120 Hz
	Overload voltage	1.5 x Un – continuously, 2 x Un – 10 s
	Consumption	U x 1 mA / phase
	Current (In)	1 – 5 A
	Measuring range	1 – 10 A TRMS
	Overload current	2 x In continuously, 10 x In 15 s, 40 x In 1 s
	Consumption	<0.05 VA / phase
Output	Auxiliary power supply	24 – 250 VDC / 80 – 250 VAC
	Burden	4.77 to 8.8 VA (AC supply) 2.72 to 3.44 W (DC supply)
	Analog outputs	2
	Programmable range	+/- 20, 0..10, 4..20, +/- 10 mA ... and more
	External resistance load	max 750 ohm (15V)
General Data	Response time	<100 msec
	Accuracy	0.2
	Galvanic isolation	Supply, in- and output are galvanically isolated
	USB	1 port USB mini-b for configuration
	Temperature	-10...+55 °C (operation) -40...+70 °C (storage) Temperature coefficient < 0.1% / 10 °C
	Test voltage	4 kV AC / min
	Inputs	overvoltage cat. III
	Pollution degree	2
	Dimension (B x H x D)	128.4 x 40.6 x 216 mm – Rack
	Weight	≈ 0.5 kg
	Standards	SS-EN 60688 Transducers SS-EN 61010-1 Safety EN 61000-6-2 / -6-4 / -6-5

## System Connection

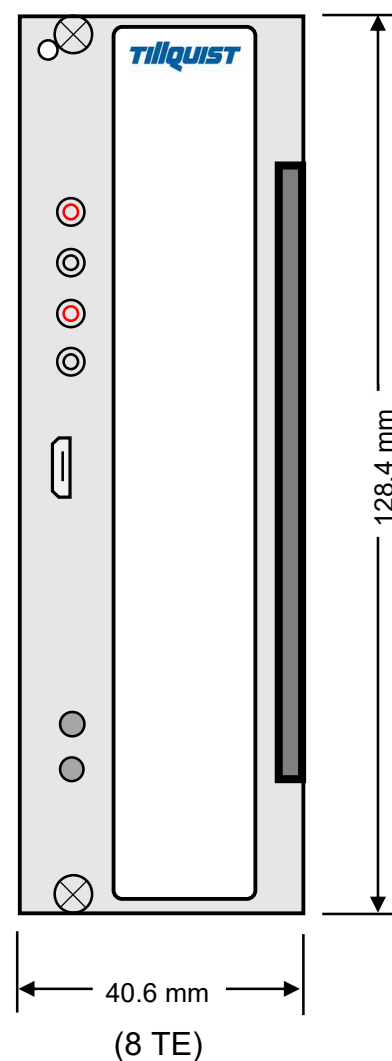
Code	Application	I1	I2	I3	N	U1	U2	U3	U12	U23	U31
00	4-wire, 3 phase symmetric load	X	-	-	X	X	-	-	-	-	-
01	1-wire, 1 phase	X	-	-	X	X	-	-	-	-	-
02	3-wire, 3 phase symmetric load	X	-	-	-	-	-	-	X	-	-
03	3-wire, 3 phase symmetric load	X	-	-	-	-	-	-	-	X	-
04	3-wire, 3 phase symmetric load	X	-	-	-	-	-	-	-	-	X
05	3-wire, 3 phase symmetric load	X	-	-	-	X	X	X	X	X	X
09	3-wire, 3 phase asymmetric load	X	-	X	-	X	X	X	X	X	X
11	4-wire, 3 phase asymmetric load	X	X	X	X	X	X	X	X	X	X
11	4-wire, 3 phase asymmetric load Open Delta	X	X	X	-	X	X	X	X	X	X

## Connection

LQT400-R / (PQ430RT-D)

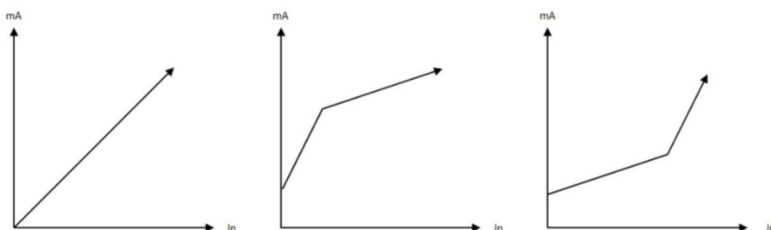


## Dimensions



## CONFIGURATION SOFTWARE ConfigLQT

Up to 5 points



LQT400-R

Offline Configuration

Type: LQT400-R

S/N:

Firmware:

Software: Version 2.0.2.117

Name of measuring point

**Primary**

U L-L 22 kV

I 500 A

**Secondary**

U L-L 110 V

I 5 A

System connection -11

Configuration using

☐ primary values

☒ secondary values

Undo

Save to file

Measured values Analog outputs

Analog output 1

☒ On ☐ Fixed output ☐ Off

Measured value Rows

P 3

Input Secondary	Output value
-952.63 W	-20 mA
0 W	0 mA
952.63 W	20 mA

Measured value	Output value [P]
Value...	Value...

Analog output 2

☒ On ☐ Fixed output ☐ Off

Measured value Rows

Q 3

Input Secondary	Output value
-952.63 var	-20 mA
0 var	0 mA
952.63 var	20 mA

Measured value	Output value [Q]
Value...	Value...

LQT400-R

Offline Configuration

Type: LQT400-R

S/N:

Firmware:

Software: Version 2.0.2.117

Name of measuring point

**Primary**

U L-L 22 kV

I 500 A

**Secondary**

U L-L 110 V

I 5 A

System connection -11

Configuration using

☐ primary values

☒ secondary values

Undo

Save to file

Measured values Analog outputs

3-phase system

System connection -11

	U12	U23	U31	F
Main voltage	109.67 V	109.6 V	109.65 V	49.995 Hz

3-phase AC-system with asymmetric load.  
Measurement of current I1, I2 and I3 with 4-wire connected voltage.

	3-phase system	L1	L2	L3
Phase voltage	U 63.31 V	63.31 V	63.31 V	63.31 V
Current	I 1 A	1.001 A	0.9 A	1.1 A
Active power	P 187 W	63.28 W	54.17 W	69.56 W
Reactive power	Q 24.66 var	3.31 var	17.67 var	3.68 var
Apparent power	S 189.99 VA	63.36 VA	56.98 VA	69.65 VA
Current with sign(P)	IS 1 A	1.001 A	0.9 A	1.1 A
sign(Q)*(1- PF )	LF 0.016	0.001	0.047	0.001
Active power factor	PF 0.983	0.999	0.951	0.999
Reactive power factor	QF 0.138	0.052	0.31	0.053
Phase angle	PA 8.036 °	3.005 °	18.07 °	3.032 °

### REVISION HISTORY

A1	211201