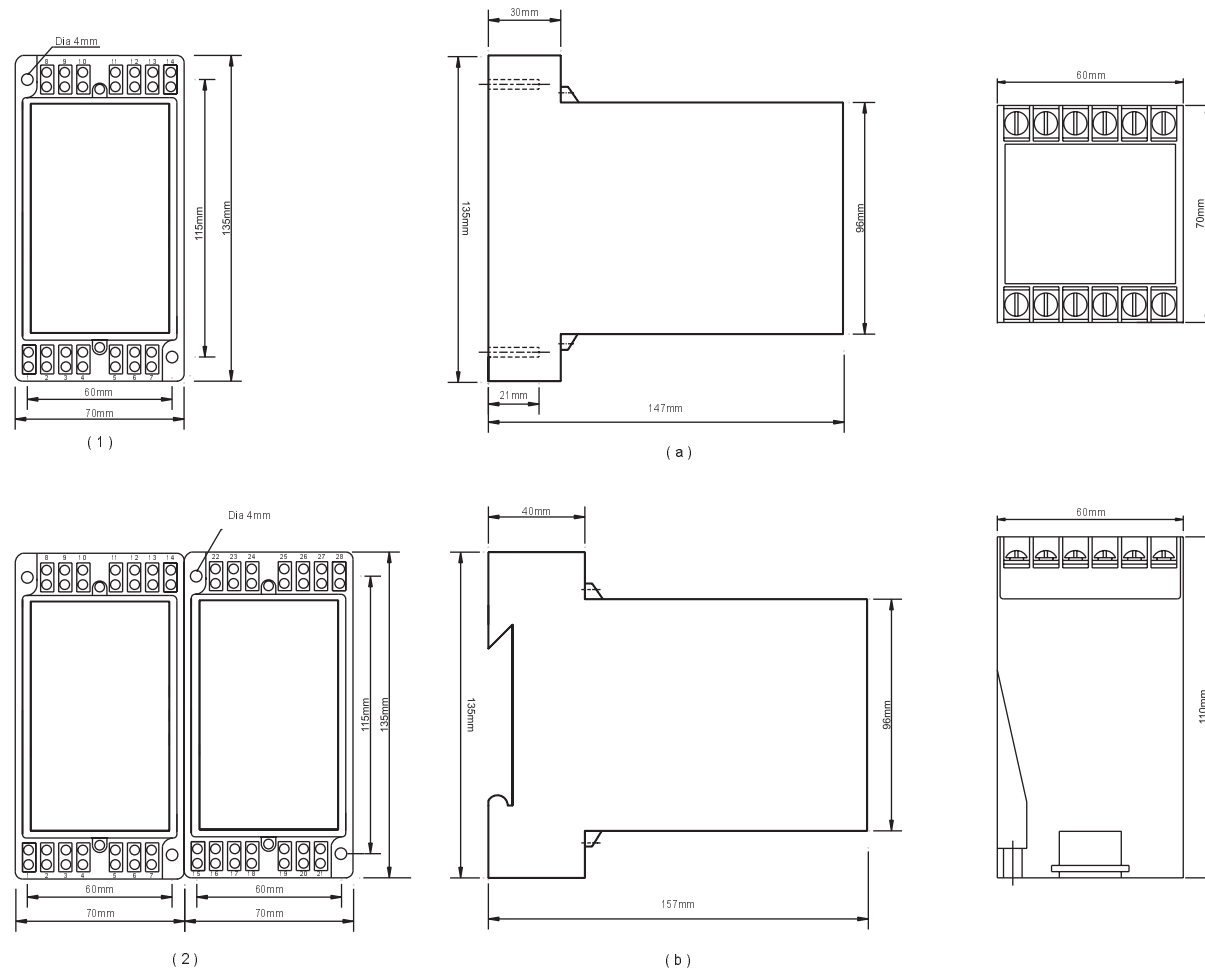


## Dimensional Drawing



## Products, Systems & Services for :

- ⇒ SCADA System - Turnkey.
- ⇒ Remote Terminal Units (RTU).
- ⇒ Micro RTU.
- ⇒ Energy Meters.
- ⇒ Custom Built-Electronics Equipment.
- ⇒ Digital Panel Meters.
- ⇒ Digital Panel Meters with PC Connectivity.
- ⇒ Battery Charge Monitors.
- ⇒ Micro Processor based Equipment.
- ⇒ Peripherals for Building Automation.
- ⇒ Embedded solutions.
- ⇒ Embedded Software.



### SETO TEKNOLOG PVT. LTD.

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Website : www.seto.co.in



ISO 9001 : 2000



# POWERLINE TRANSDUCERS

## Enterprise

Since 1971 Seto Teknolog Pvt. Ltd. has been manufacturing variety of powerline transducers confirming to International Standards. Our commitment to quality backed with unmatched service has found our products well accepted by various sectors in the power and process industry. Today, apart from servicing a large customer base with over twenty thousand field installations, our proven capability also extends to providing total turnkey solutions to problems concerning energy management. We design and manufacture large microprocessor controlled SCADA systems for power utilities. The company is now poised to introduce a range of Hi-tech value added products in the market for different applications.

## Product Application

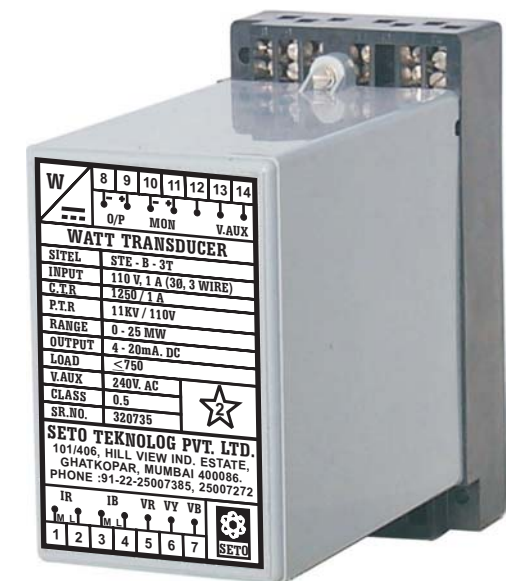
Powerline transducers are an indispensable part of any energy management data acquisition system. They convert various powerline parameters into proportionate dc signals which can be easily transmitted, recorded and indicated by conventional / electronic techniques. The transducers output are invariably load independent current / voltage signals which enable Telemetry & Supervisory Control and Data Acquisition (SCADA) for energy management or process control in various industries like power, chemicals, cement, steel, fertilizers, sugar, building automation etc.

## Types of Transducers ( For AC & DC )

- ⇒ Current
- ⇒ Voltage
- ⇒ Frequency
- ⇒ Power (Active, Apparent, Reactive)
- ⇒ Energy (Active, Apparent, Reactive)
- ⇒ Power factor
- ⇒ DC to DC converters
- ⇒ Temperature (RTD/Thermocouple)
- ⇒ Summation Amplifier

## Features.

- ⇒ Available in accuracy class Index - 0.1,0.2,0.5,&1.0
- ⇒ Withstands wide temperature variations.
- ⇒ VA burden on CT/PT very low. - < 0.5 VA
- ⇒ Low internal consumption.
- ⇒ Wide range of Input / Output to meet National / International requirements.
- ⇒ Comply to revised IEC60688-1 standards.
- ⇒ Flexibility in auxiliary power supply requirements - AC / DC.
- ⇒ Rugged and vibration resistant.
- ⇒ Withstands seismic test as per IEC 344-1974 for Nuclear Power plant applications.
- ⇒ Available in dust proof sheet plastic enclosures suitable for back panel / DIN rail mounting.
- ⇒ Also available in 19" rack mounting / eurocard format.
- ⇒ Multiple output also available - Upto 4.
- ⇒ High input / Output isolation - 4.0 KV.



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**Technical data :**

Particulars / Type	Current AC	Voltage AC	Frequency	Power (Apparent, Active, Reactive)			Energy (Apparent, Active, Reactive)			Power factor (Linear to Phase Angle / Linear to power factor)	Curren / Voltage (DC)	Summation Amplifier	Temperature RTD T/C																													
Measuring Range	0-1.2 In	0-0.8-1.2Vn,0-1.2Vn	50Hz +/-10%	0-0.8-1.2Vn x In			0-0.8-1.2 Vn x ;n			0.5 lag - 0 - 0.5 lead / 60-60	1.2In & 1.2Vn	Sums upto six In or Vn	50°C-450°C 0°C-1200°C																													
Rated Input In or Vn	1/5 Amp AC	110/415 V AC	110/415V AC	110/415V AC, 1/5A AC			110/415V AC, 1/5A AC			110/415 VAC, 1/5 A AC	Upto20mA / 500V DC	Upto 20mA or 10V DC (max)	100-260 Ohms 0-50 mV																													
Input Frequency	50Hz +/-10%	50Hz +/-10%	50Hz +/-10%	50Hz +/-10%			50Hz +/-10%			50Hz +/-10%	-----	-----	-----																													
Internal Consumption	<0.5VA	<0.5VA	<0.5VA	<0.5VA for each Input			<0.5VA for each Input			<0.5VA for each Input	<.01mA for 0-10V DC	<.01mA for 0-10V DC	<.01mA for T/C																													
	1VA for Self Powered	2.5VA for Self Powered	4VA for self powered	<4VA for ry voltage for self powered			<4VA for ry Voltage for self Powered			<4VA or Self Powered	<1mA for 10-500V DC <1.2 V for 0-20 mA	<1.2V for 0-20 mA																														
Auxiliary power supply	110 / 240 V AC or 12/ 24 / 48 V DC or 110 / 220 V DC or Self Powered (Not for DC/ RTD / TC, Summation Amplifier and Transducers with 4 - 20 mA Output)																																									
Nominal output (Unipolar / Bipolar)	0-5 / 10 mA DC	0-1-5/0-5 mA DC	0-5/10 mA DC	0-2-5-5.0 mA DC			Pulse output (Potential free contact or Open collector transistor)			0-2-5-5.0 mA DC	0-5/10 mA DC	0-5/10 mA DC	0-5/10 mA DC																													
	4-20 mA DC	0-2-10/0-10 mA DC	4-20 mA DC	0-5mA DC./4-20mA						0-5mA DC / 4-20mA DC	4-20mA DC	4-20mA DC	4-20mA DC																													
	0-10 V DC	4-6-20/4-20mA DC	0-10V DC	10-0-10 mA DC						10-0-10 mA DC	0-10V DC	0-10V DC	0-10V DC																													
		0-10V DC																																								
Load Range (Ohms)																																										
a) Current output	Max 15V/ Iout	Max 15V/ Iout	Max 15V/ Iout	Max 15V/ Iout			Contact/Transducer rating 10mA. 28 V DC			Max 15V / Iout	Max 15V / but	Max 15V / but	Max 15V / but																													
b) Voltage output	MIn 5K Ohms	Min 5KOhms	Min 5KOhms	Min 5 K Ohms						Min 5KOhms	Mm 5KOhms	Min 5KOhms	MIn 5K Ohms																													
Residual a-c. ripple	<1% (P-P)	<1% (P-P)	<1% (P-P)	<1% (P-P)						<1% (P-P)	<1%(P-P)	<1%(P-P)	«<% (P-P)																													
Overload capacity																																										
a) Continuous	2.0 In	1.2 Vn	1.2 Vn	1.2 Vn, 2.0 In			1.2 Vn, 2.0 In			1.2Vn, 2.0 In	2.0In / 1.2 Vn	2.0 In / 1.2Vn	-----																													
b) Momentary	20 In for 1 sec.	2.0 Vn for 1 sec.	2.0 Vn for 1 sec.	2.0 Vn or 1 sec.20 In for 1.0 Sec.			2.0 Vn for 1sec. 20 In for 1.0 sec.			2.0Vn or 1 sec, 20 Infor sec.	20 In / 2Vn for 1sec	20 In / 2Vn for 1sec																														
Accuracy class	0.5	0.5	0.2 / 0.5	0.3 / 0.5 / 1.0			0.5 / 1.0 / 2.0			1	0.1 / 0.2 / 0.5	0.5	0.5																													
Response time	< 0.5 sec.	< 0.5 sec.	< 0.5 sec.	<0.5 sec.			<0.5 sec.			< 1sec.	< 0.1 sec.	< 0.1 sec.	< 0.1 sec.																													
Input - Output Isolation	4 KV	4 KV	4 KV	4 KV			4 KV			4 KV	4 KV	4 KV	4 KV																													
Operating temperature	0 - 50°C	0 - 50°C	0 - 50°C	0 - 50°C			0 - 50°C			0 - 50°C	0 - 50°C	0 - 50°C	0 - 50°C																													
Impulse voltage test	Confirms to IEC 521 - 5KV having waveform of 1.2/ 50 microseconds.																																									
HF Interference	Confirms to IEC 255-4	Confirms to IEC 255-4	Confirms to IEC 255-4	Confirms to IEC 255-4			Confirms to IEC 255-4			Confirms to IEC 255-4	Confirms to IEC 255-4	Confirms to IEC 255-4	Confirms to IEC 255-4																													
Environment condition as per IEC 60688	User group II	User group II	User group II	User group II			User group II			User group II	User group II	User group II	User group II																													
Configuration	1 Phase			1 Phase			1 Phase			1 Phase			3 Phase 3 Wire			3 Phase 4 Wire			1 Phase			3 Phase 3 Wire			3 Phase 4 Wire			-----			-----			-----								
Number of outputs	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Dimension diagrams																																										
a) Backplane	1,a	1,a	1,a	1,a	1,a	1,a	1,a	2,a	2,a	1,a	2,a	2,a	1,a	2,a	2,a	1,a	2,a	2,a	1,a	1,a	1,a	1,a	1,a	1,a	2,a	2,a	2,a	1,a	2,a	2,a	1,a	2,a	2,a	1,a	2,a	2,a	1,a	2,a	2,a			
b) DIN rail	1,b	1,b	1,b	1,b	1,b	1,b	1,b	2,b	2,b	1,b	2,b	2,b	1,b	2,b	2,b	1,b	2,b	2,b	1,b	1,b	1,b	1,b	1,b	1,b	2,b	2,b	2,b	1,b	2,b	2,b	1,b	2,b	2,b	1,b	2,b	2,b	1,b	2,b	2,b			

Compliance to EN 60068-2-6 (Vibration), EN 60068-2-27 (Shock), EN 60068-2-31 (Drop and Topples), and IEC 681000 (Electromagnetic compatibility) available as an option

**Ordering details (Select the option from table below)**

Parameter	I in	Vin	O/P	Aux. Supply	Accuracy	I/O Isolation	Isolation between Outputs	Configuration	No of O/P	Mounting	CT Ratio	PT Ratio
A Voltage	A 1 Amp. AC.	A 110 Volt AC	A 0-5mA DC	A 110V AC	A 0.1	A 2KV	A 2KV	A 1 phase	A 1	A Normal back panel	Specify as	Specify as
B Current	B 5 Amp. AC.	B 415Volt AC	B 0-10mA DC	B 240V AC	B 0.2	B 4KV	B 4KV	B 3phase,3wire	B 2	B DIN rail	Primary / Secondary	Primary / Secondary
C Frequency	C 10 Amp. AC.	C 220Volt AC.	C 4-20mA DC	C 12V DC	C 0.5		C None	balanced	C 3	(Available for Current & Voltage transducers)		
D DC Current	D 0-20mA DC	D 0-500V DC.	D 0-10V DC	D 24V DC	D 1.0			C 3phase,3wire				
E DC Voltage	(Specify range)	(Specify range)	E 0-1-5mA DC	E 48V DC	E 2.0			Unbalanced				
F Apparent Power	E Others (Specify)	E Others (Specify)	F 0-2-10mA DC	F 110V DC				D 3phase,4wire				
G Active Power	E Others	E Others	G 4-6-20 mA DC	G 220V DC				balanced				
H Reactive Power	(Specify)	(Specify)	H 0-2.5-5mA AC	H Self Powered				E 3phase,4wire				
I Apparent Energy			I 10-0-10 mA DC	(110V AC or 240VA only)				Unbalanced				
J Active Energy			J 0-20 mA DC					F Others (Specify)				
K Reactive Energy			K 1-5V DC									
L Power Factor			L Others (Specify)									
M RTD/mV			(Available in Unipolar/Bipolar)									
N Summ. Amplifier												
O Act. & Reac. Power												
P Phase Angle												

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