



AC Line Transducer

- DA Current Transducer
- DV Voltage Transducer
- DW/DVA/DVAR Power Transducer
- DH Frequency Transducer
- DPF Power Factor Transducer

Masibus manufactures high quality AC Line Transducers of various types to help you manage and conserve electricity. All electrical parameters such as Current, Voltage, Active Power, Reactive Power, Frequency and Power factor can be accurately measured. A corresponding linearized signal is then transmitted for various applications such as SCADA, S/S automation, remote indication etc. Output proportional to measured electrical parameter can be connected further to Controllers, Data-Loggers, PLC's, Analog / Digital Indicators, Recorders for display, analysis or control

AC Line transducer series offers an economical and accurate means of current & voltage measurement on systems where the waveform is a pure sine wave. Transducers are calibrated to true RMS value of the sine wave. They can also be used with distorted waveforms where high accuracy is not required.

AC line transducers are having its application to interface with RTUs. Masibus make transducers are also available with dual output option. It provides accuracy up to 0.25% FS with up to 2 KV isolation. Hardware calibration is done through trim-pot.

All transducers performs with exceptional accuracy, repeatability and reliability. In addition to being most accurate, our transducers are equally preferred by OEMs/ end users to other makes for their excellent stability over a long period of operation. This world class technology now comes to you at a very competitive price.

AC line transducers are available as current, voltage in 1 \emptyset configuration whereas power, frequency & power factor in 1 \emptyset / 3 \emptyset configuration.

Features

- High accuracy class 0.25%
- Confirms to IEC 60688
- AC Line transducers for all requirements
- Excellent long term stability
- Low burden
- Transient protected
- Good isolation & impulse resistance
- Minimum ripple at the output
- Fast response
- Full power factor range operation
- ABS DIN rail mounting
- Range Available : V / I / W / VAR / PF / F
- mA/mV/V output available
- Average / True RMS

Applications

- Generating/Transmission Distribution stations
- Building management
- Load Dispatch center
- Power Equipment's OEMs
- HT/LT Panels
- Substation Automation
- SCADA
- Local and Central monitoring systems

TECHNICAL SPECIFICATIONS: CURRENT / VOLTAGE TRANSDUCER

AC Current Transducers Specifications		AC Voltage Transducers Specifications	
Input Signal	0-5A, 0-1A, 0-2A	Input Signal	0-150V, 0-90V, 0-300V, 0-450V
Configuration	Single phase	Configuration	Single phase
Output Signal	As per output table-1	Output Signal	As per output table-1
Calibration	Zero & Span of output can be adjusted by Trim pots at the front	Calibration	Zero & Span of output can be adjusted by Trim pots at the front
Load	Refer Output Table-1	Load	Refer Output Table-1
Output Accuracy	±0.25% of full scale	Output Accuracy	±0.25% of full scale
Output Ripple	<0.5% (< 75mV peak)	Output Ripple	<0.5% (< 75mV peak)
Response Time	Up to 90%: <250ms max , Up to 99%: <400ms max	Response Time	Up to 90%: <250ms max , Up to 99%: <400ms max
Temp. Effect	Less than ±0.01% per °C	Temp. Effect	Less than ±0.01% per °C
Isolation	2.5KV AC for one minute	Isolation	2.5KV AC for one minute
Input Burden	Input burden is 0.2 VA at full scale regardless of option	Input Burden	Input burden is 0.6 VA at full scale regardless of option
Weight	400 gms	Weight	400 gms
General specification		Output Table-1	
Operating Temperature	0 to 55°C	Output	Load
Humidity	40-90% RH (non condensing)	0-1mA	(0-10,000 Ohms)
Terminations	Metal Screw can accept up to 2.5 mm ² wire	0-3mA	(0-3,300 Ohms)
Mounting	DIN rail mounting	0-5mA	(0-2,000 Ohms)
Case material	ABS, Light gray. (RAL 7035) with fireproofing finish	0-10mA	(0-1,000 Ohms)
Dimension (in mm)	70H x 60W x 112D	4-20mA**	(0-750 Ohms)
Circuit boards	Copper clad laminate FR-4 Grade epoxy glass	0-1V	(180 Ohms minimum)
Connection	Power/ Input/ Output 1/ Output 2	0-5V	(500 Ohms minimum)
Class index	0.5	0-10V	(1000 Ohms minimum)
Usage Group	III (-10°C0°C45°C+55°C)	1-5V	(500 Ohms minimum)
Pollution Degree	II		
Over voltage Category	CAT I		

** For Dual Output load is 0-550Ohms for 4-20mA output.

ORDERING CODE (CURRENT TRANSDUCER)

Model	Input	Output	Auxiliary Power Supply	No. of output
DA	X	X	X	X
	0 0-5A	0 0-1mA	K1 24VDC	S Single
	1 0-1A	1 0-3mA	K2 48VDC	D Dual
	2 0-2A	2 0-5mA	KU 90-270VAC / 110-370VDC	
		3 0-10mA		
		4 4-20mA		
		6 0-1V		
		7 0-5V		
		8 0-10V		
		9 1-5V		
		S Special		

ORDERING CODE (VOLTAGE TRANSDUCER)

Model	Input	Output	Auxiliary Power Supply	No. of output
DV	X	X	X	X
	0 0-150V	0 0-1mA	K1 24VDC	S Single
	1 0-90V	1 0-3mA	K2 48VDC	D Dual
	2 0-300V	2 0-5mA	KU 90-270VAC / 110-370VDC	
	3 0-450V	3 0-10mA		
		4 4-20mA		
		6 0-1V		
		7 0-5V		
		8 0-10V		
		9 1-5V		
		S Special		

TECHNICAL SPECIFICATIONS: POWER TRANSDUCER

Technical Specifications		Potential Table				
Type	Watt, VA, VAR	Nominal input	100-120V	63-69V	208-240V	415-480V
Configuration	Three phase, 3 wire, 2 element 3 phase, 4 wire, 3 element	Potential range with accuracy	10-150V	10-90 V	20-300V	30-575 V
Input Voltage	208 to 240 V, 63 to 69 V 100 to 120 V, 415 to 480 V	Maximum burden at nominal input	0.1 VA	0.1 VA	0.1 VA	0.1 VA
Input Current	0 to 5 Amp 0 to 1 Amp	Potential overload continuous	180V	100V	350V	700V
Accuracy	Watt:0.19% of Rdg/Cosφ ±0.01% of FS VAR:0.19% of Rdg/sinφ ±0.01% of FS VA:0.19% of Rdg ±0.01% of FS	Current Table				
Output	Refer Output Table	Input (0-5A)		Input (0-1A)		
Calibration	Hardware - through Trim Pot	Over range with accuracy	10A	2A		
Stability	0.2% per year	Maximum burden	0.5 VA	0.5 VA		
Operating temperature	0 to 55°C	Overload continuous	15A	3A		
Humidity	30% to 95% RH	Overload 10 s/h	30A	6A		
Temperature Co-efficient	± 0.005% per °C	Overload 1 s/h	200A	100A		
Operating frequency	50Hz/60Hz	Output Table				
Dielectric Test	2 KV AC for 1 minute	Range full Scale	Output load			
Surge Withstand	EN61000-4-5	0 to ±1 mA	0-10000 Ohms			
Response Time	Up to 90%: <250ms max , Up to 99%: <400ms max	0 to ±3 mA	0- 3000 Ohms			
Calibration	Zero & Span of output can be adjusted by Trim pots at the front	0 to ±5 mA	0- 2000 Ohms			
Operating frequency	Nominal ± 10% in accordance with IEC 688	0 to ±10 mA	0- 1000 Ohms			
Case	ABS Din Rail Mount	4 to 20 mA Unidirectional	0- 750 Ohms**			
Dimension (in mm)	70H x 100W x 112D	0 to ±100 mV	>20 Ohms			
		0 to ±1 V	>200 Ohms			
		0 to ±5 V	>1000 Ohms			
		0 to ±10 V	>2000 Ohms			
		1 to 5 V	>1000 Ohms			
		Standard Calibration of watts,VAR,VA per element				
		A\V	100-120V	208-240V		
		0-5A	500	1000		
		0-1A	100	200		
		**For Dual Output Load is 0-550 Ohms for 4-20mA output				

Ordering code

Model		Configuration		Input nominal Voltage		Input Current		Output		Auxiliary Power Supply		No. of output	
X	X	X	X	X	X	X	X	X	X	X	X	X	X
DW	Watt	30	3-element (3-ph, 4 wire)	0	100 to 120 V	0	0 to 5 A	0	0 to ±1 mA	K1	24VDC	S	Single
DVA	VA	20	2 element (3ph, 3 wire)	1	63 to 69 V	1	0 to 1 A	1	0 to ±3 mA	K2	48VDC	D	Dual
DR	VAR			2	208 to 240 V			2	0 to ±5 mA	KU	90-270VAC / 110-370VDC		
				3	415 to 480 V			3	0 to ±10 mA				
								4	4 to 20 mA				
								5	0 to ±100 mV				
								6	0 to ±1 V				
								7	0 to ±5 V				
								8	0 to ±10 V				
								9	1 to 5 V				
								X	Special				

SPECIAL CALIBRATION INSTRUCTIONS

Please specify: 1. CT Ratio 2. PT Ratio 3. Desired Full Scale Calibration in kW, kVAR, kVA

TECHNICAL SPECIFICATIONS: FREQUENCY & POWER FACTOR TRANSDUCER

Frequency Transducer		Power Factor Transducer	
Accuracy	0.05% of Center Frequency	Accuracy	0.25% of FS (@25°C + 2 °C)
Operating Temperature	0 to 55 °C	Operating Temperature	0 to 55 °C
Temp. Co-efficient	200ppm typical	Temp. Co-efficient	200ppm typical
Operating Humidity	30% to 95% RH	Operating Humidity	30% to 95% RH
Power factor range	Any	Power factor range	Any,PF as selected by part no.
Operating Voltage Range	-30% +25% of Nominal	Output ripple peak	<0.5% of full scale
Dielectric Test	2KV for 1 minute	Burden	Current :0.5 VA(most options) Voltage:3.5 VA nominal
Burden	1.5 VA(most options)	Dielectric test	2kv for 1 minute
Surge Withstand	ANSI C37.90a (IEEE 472); BEAMA 219; Special 5 KV	Overload	Current:3x F.S cont.,250 A for 1 s/hr. Voltage:1.2 x F.S cont
Response Time	Up to 90%: <250ms max , Up to 99%: <400ms max	Surge Withstand	ANSI C37.90 a(IEEE 472); BEAMA 219; Special 5 KV
Calibration	Zero & Span of output can be adjusted by Trim pots at the front	Response Time	Up to 90%: <250ms max , Up to 99%: <400ms max
Case	ABS Din Rail mount	Calibration	Zero & Span of output can be adjusted by Trim pots at the front
Dimension (in mm)	70H x 100W x 112D	Case	ABS Din Rail mount
		Dimension (in mm)	70H x 100W x 112D

Output Table

Output	Load
0 to 1 mA	(0-10000 Ohms)
0 to ±1 mA	(0-10000 Ohms)
0 to ±0.5 mA	(0-20000 Ohms)
0 to ±50 mV	(10 Ohms min.)
0 to ±100 mV	(20 Ohms min)
0 to ±1 V	(200 Ohms min.)
0 to ±10 V	(2000 Ohms min.)
1 to 5 V	(1000 Ohms min)
4 to 20 mA	(0-750 Ohms)
0 to ±10 mA	(0-1000 Ohms)

ORDERING CODE (FREQUENCY TRANSDUCER)

Model	Center frequency		Frequency Span		Nominal Input Voltage	Output		Auxiliary Power Supply		No of output			
			(50/60Hz)	(400 Hz)									
DH	X		X		X	X	X	X		X			
	4	400 Hz	1	± 1 Hz	± 10 Hz	0	120 VAC	0	0 to 1 mA	K1	24VDC	S	Single
	5	50 Hz	2	± 2 Hz	± 20 Hz	1	69 VAC	1	0 to ±1 mA	K2	48VDC	D	Dual
	6	60 Hz	3	± 3 Hz	± 30 Hz	2	240 VAC	2	0 to ±0.5 mA	KU	90-270VAC / 110-370VDC		
	X	Special	4	± 4 Hz	± 40 Hz	X	Special	3	0 to ±50 mV				
			5	± 5 Hz	± 50 Hz			4	0 to ±100 mV				
			6	± 6 Hz	± 60 Hz			5	0 to ±1 V				
			7	± 7 Hz	± 70 Hz			6	0 to ±10 V				
			8	± 8 Hz	± 80 Hz			7	1 to 5 V				
			9	± 9 Hz	± 90 Hz			8	4 to 20 mA				
			0	± 10 Hz	± 100 Hz			9	0 to ±10 mA				
			X	Special	Special			X	Special				

ORDERING CODE (POWER FACTOR TRANSDUCER)

Model	Nominal Input Voltage		Nominal Input Current		Power factor code	Output		Auxiliary Power Supply		No of output		
DPF	X		X		X	X	X	X		X		
	0	120V	0	1-5A	0	± 1.0	0	0 to 1 mA	K1	24VDC	S	Single
	2	240V	1	0.2-1A	1	± 0.7	1	0 to ±1 mA	K2	48VDC	D	Dual
	X	Special	X	Special	2	± 0.5	2	0 to ±0.5 mA	KU	90-270VAC / 110-370VDC		
					3	± 0.3	3	0 to ±50 mV				
					4	± 0.2	4	0 to ±100 mV				
					X	Special	5	0 to ±1 V				
							6	0 to ±10 V				
							7	1 to 5 V				
							8	4 to 20 mA				
							9	0 to ±10 mA				
							X	Special				