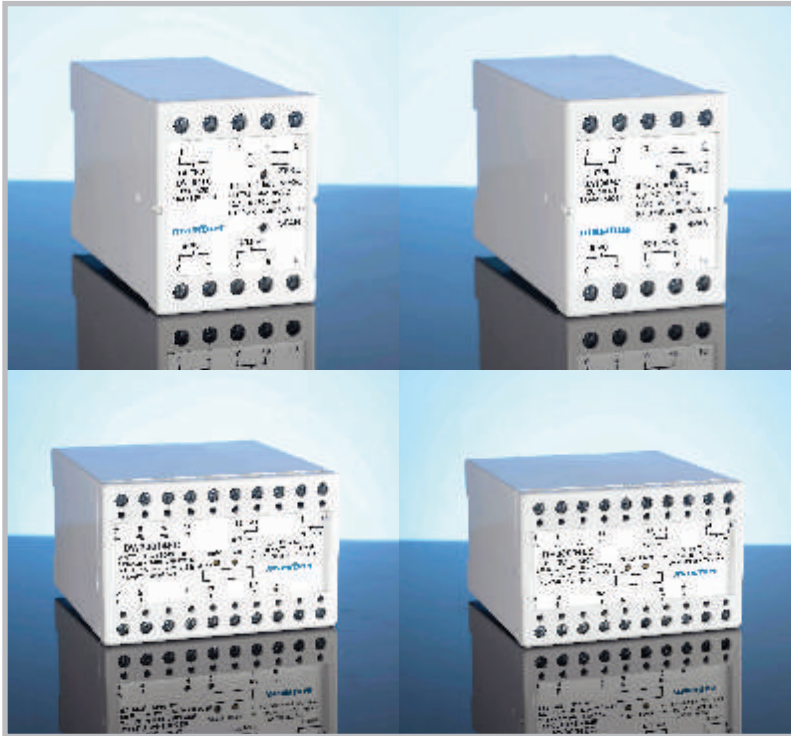


## AC Line Transducer



Masibus manufactures high quality power transducers of various types to help you manage and conserve electricity. All electrical parameters such as current, voltage, active power, reactive power, energy, frequency and power factor can be accurately measured. A corresponding linearized signal is then transmitted for various applications such as SCADA, S/S automation, energy measurement, remote indication, check metering etc.

Power 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 current & voltage transducers are also available with dual output. Transducers are available in 1 $\emptyset$  / 3 $\emptyset$  versions. It provides accuracy up to 0.25% FS with up to 2 KV isolation. Hardware calibration is done through trim-pot.

Since 1994 Masibus has supplied power transducers to hundreds of utilities, industrial plants and commercial establishments all over the world. All transducers perform 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, frequency, power, power factor and energy in 1 $\emptyset$  / 3 $\emptyset$  configuration.

## Features

- *High accuracy class 0.25%*
- *Confirms to IEC 60688*
- *Power transducers for all requirements*
- *Excellent long term stability*
- *Low burden*
- *Transient protected*
- *Both 1-ph & 3-ph versions available*
- *Good isolation & impulse resistance*
- *Minimum ripple at the output*
- *Fast response*
- *Full power factor range operation*
- *ABS DIN rail mounting*

# AC Line Current/Voltage

## TECHNICAL SPECIFICATIONS CURRENT/VOLTAGE TRANSDUCER

### General specification

Temperature	0 to 55°C
Humidity	40-90% RH (non condensing)
Terminations	Metal Screw can accept up to 2.5 square mm wire
Mounting	DIN rail mounting
Case material	ABS, Light gray. (RAL 7035) with fireproofing finish
Case Size	Width-55 mm, Height-75 mm, Depth-110 mm (1Ø)
Circuit boards	Copper clad laminate FR-4 Grade epoxy glass
Connection	Power/ Input/ Output 1/ Output 2

### AC Current Transducers Specifications

Input Signal	0-5A, 0-1A, 0-2A.
Output Signal	0-1mA, 0-3mA, 0-5mA, 0-10mA, 4-20mA, 0-1V, 0-5V, 0-10V, 1-5V
Calibration	Zero & Span of output can be adjusted by Trim pots at the front
Loading	
For Current	See OUTPUT in Model Identification
For Voltage	See OUTPUT in Model Identification
Output Accuracy	±0.25% of full scale Output Ripple < 75mV Peak
Response Time	< 400 ms
Temp. Effect	Less than ±0.01% per °C
Isolation	2.0KV AC for one minute Input/Output/Power/Case
Input Burden	Input burden is 0.2 VA at full scale regardless of option
Weight	400 gms

### AC Voltage Transducers Specifications

Input Signal	0-150V, 0-90V, 0-300V, 0-450V
Output Signal	0-1mA, 0-3mA, 0-5mA, 0-10mA, 4-20mA, 0-100mV 0-1V, 0-5V, 0-10V, 1-5V
Calibration	Zero & Span of output can be adjusted by Trim pots at the front
Loading	
For Current	See OUTPUT in Model Identification
For Voltage	See OUTPUT in Model Identification
Output Accuracy	±0.25% of full scale Output Ripple < 75mV Peak
Response Time	< 400 ms
Temp. Effect	Less than ±0.01% per °C
Isolation	2.0KV AC for one minute Input/Output/Power/Case
Input Burden	Input burden is 0.6 VA at full scale regardless of option
Weight	400 gms

## TECHNICAL SPECIFICATIONS CURRENT/VOLTAGE TRANSDUCER

### Enclosure ABS DIN, Rail Mount

AC Current Transducer	DA
AC Voltage Transducer	DV

### Configuration

Single Phase	1
Three Phase*	3

### Input

Current	Voltage	
0-5A	0-150V	0
0-1A	0-90V	1
0-2A	0-300V	2
	0-450V	3

### Output

0-1mA	(0-10,000 Ohms)	0
0-3mA	(0-3,300 Ohms)	1
0-5mA	(0-2,000 Ohms)	2
0-10mA	(0-1,000 Ohms)	3
4-20mA	(0-750 Ohms)	4
0-1V	(180 Ohms minimum)	6
0-5V	(500 Ohms minimum)	7
0-10V	(1000 Ohms minimum)	8
1-5V	(500 Ohms minimum)	9
Special		X

### Aux power

110 VAC Aux Power	EC
230 VAC Aux Power	FC
DC Aux Power 24VDC	K1
DC Aux Power 48VDC	K2
DC Aux Power 125VDC	K3
DC Aux Power 220VDC	K4
Special	X

\* Self power only.

### NO. of Outputs

Single	Keep Blank
Dual	D

**For Example:** DA-104-FC-D is the ordering code for 1-phase AC current transducer in a DIN rail, with a 0-5A input, a 4-20mA dual output & 230 VAC aux power.

**NOTE:**

- Output code 4 & 9 and dual output is available only with 1-phase configuration.
- Output code 4 & 9 is & dual output available only with Aux supply option.

# Power Transducer

DA/DV/DW/DVA/DH/DPF

## TECHNICAL SPECIFICATIONS POWER TRANSDUCER

<b>Type</b>	Watt,VA,VAR
<b>Configuration</b>	Three phase, 3 wire, 2 element 3 phase, 4 wire, 3 element
<b>Input Voltage</b>	208 to 240 V, 63 to 69 V 100 to 120 V, 460 to 480 V
<b>Input Current</b>	0 to 5 Amp 0 to 1 Amp
<b>Accuracy</b>	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
<b>Output</b>	0 to ± 1mA (0-10000 Ohms) 0 to ± 3 mA (0-3000 Ohms) 0 to ± 5 mA (0-2000 Ohms) 0 to ± 10 mA (0-1000 Ohms) 4 to 20 mA (0-750 Ohms)* 0 to ± 100 mV (20 Ohms - 8 ) 0 to ± 1 V (200 Ohms - 8 ) 0 to ± 5 V (1000 Ohms - 8 ) 0 to ± 10 V (2000 Ohms - 8 ) 1 to 5 V (1000 Ohms - 8 )* *Auxiliary power required for these outputs
<b>Calibration</b>	Hardware - through Trim Pot
<b>Stability</b>	0.2% per year
<b>Auxiliary Power Supply</b>	230VAC / 110VAC, 50Hz
<b>Environmental Conditions</b>	0 to 55°C, 0 to 95% non-condensing
<b>Temperature Co-efficient</b>	± 0.005% per °C
<b>Case</b>	ABS Din Rail Mount
<b>Power factor range</b>	any
<b>Operating frequency</b>	50Hz/60Hz
<b>Dielectric Test</b>	2 KV AC for 1 minute
<b>Surge Withstand</b>	EN61000-4-5
<b>Response Time</b>	To 90% : 200 ms maximum To 99% : 400 ms maximum
<b>Calibration Adjustment</b>	Full scale ±10%, Zero ±2%
<b>Operating frequency</b>	Nominal ± 10% in accordance with IEC 688
<b>Dimension</b>	106W X 70H X 110D mm
<b>Different model</b>	Self powered /externally powered

## POTENTIAL TABLE

<b>Nominal input</b>	<b>100-120v</b>	<b>63-69V</b>
Potential range with accuracy(self-powered)	85-150V	50-90 V
Potential range with accuracy(external-powered)	10-150V	10-90 V
Maximum burden at nominal input	0.1 VA*	0.1 VA*
Potential overload continuous	180V	100V
<b>Nominal input</b>	<b>208-240v</b>	<b>460-480V</b>
Potential range with accuracy(self-powered)	170-300V	325-575 V
Potential range with accuracy(external-powered)	20-300V	30-575 V
Maximum burden at nominal input	0.1 VA*	0.1 VA*
Potential overload continuous	350V	700V

\* self powered units have a burden of < 3 VA across either ΦA-N, or ΦA- ΦB

## CURRENT TABLE

<b>Input</b>	<b>0-5A</b>
Over range with accuracy	10A
Maximum burden	0.5 VA
Overload continuous	15A
Overload 10 s/h	30A
Overload 1 s/h	200A

<b>Input</b>	<b>0-1A</b>
Over range with accuracy	2A
Maximum burden	0.5 VA
Overload continuous	3A
Overload 10 s/h	6A
Overload 1 s/h	100A

## OUTPUT TABLE

Range full Scale	Output loading	Compliance or maximum current
0 to ±1 mA	0-10000 Ohms	± 11 V
0 to ±3 mA	0-3000 Ohms	± 11 V
0 to ±5 mA	0-2000 Ohms	± 11 V
0 to ±10 mA	0-1000 Ohms	± 11 V
4 to 20 mA Unidirectional	0-750 Ohms	15 V
0 to ±100 mV	20 Ohms - 8	5 mA
0 to ±1 V	200 Ohms - 8	5 mA
0 to ±5 V	1000 Ohms - 8	5 mA
0 to ±10 V	2000 Ohms - 8	5 mA
1 to 5 V	1000 Ohms - 8	1000 Ohms - 8

## Standard Calibration of watts,VAR,VA per element

A/V	100-120V	208-240V
0-5A	500	1000
0-1A	100	200

## ORDERING INFORMATION

<b>Enclosure Model</b>	ABS DIN rail mount Watt VA VAR	D W VA R
<b>Configuration</b>	3-element (3-ph, 4 wire) 2 element ( 3ph, 3 wire)	30 20
<b>Input nominal voltage</b>	100 to 120 V 63 to 69 V 208 to 240 V 415 to 480 V	0 1 2 3
<b>Input current</b>	0 to 5 A 0 to 1 A	0 1
<b>Output</b>	0 to ±1 mA 0 to ±3 mA 0 to ±5 mA 0 to ±10 mA 4 to 20 mA Unidirectional 0 to ±100 mV 0 to ±1 V 0 to ±5 V 0 to ±10 V 1 to 5 V Special	0 1 2 3 4 5 6 7 8 9 X
<b>Auxiliary Power Supply</b>	120VAC 230VAC DC Aux 24VDC DC Aux Power 48VDC DC Aux Power 125VDC DC Aux Power 220VDC Special	EC FC K1 K2 K3 K4 X
<b>No. of output</b>	single Dual	Keep blank D

## SPECIAL CALIBRATION INSTRUCTIONS

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

**masibus**  
Advanced Automation - Sure Solutions

# AC Line Frequency & Power Factor Transducer

Specifications	
Accuracy	0.05% of Center Frequency
Temperature Range	-20 °C to +70 °C
Temp. Co-efficient	± 0.001% per°C, 10ppm typical
Operating Humidity	0-95% non-condensing
Power factor range	Any
operating Voltage Range	-30% +25% of Nominal
Dielectric Test	2kv for 1 minute
Burden	1.5 VA(most options)
Surge Withstand	ANSI C37.90a(IEEE 472); BEAMA 219;special 5 KV
Response Time	200 ms to 90% 400 ms to 99%
Calibration Adjustment	± 10% standard
Zero Adjustment	± 2% standard

Specifications	
Accuracy	0.25% of FS ( @25°C + 2 °C)
Temperature Range	-20 °C to +70 °C
Temp. Co-efficient	± 0.001% per°C, 10ppm typical
Operating Humidity	0-95% non-condensing
Power factor range	Any,PF as selected by part no.
Output ripple peak	<0.5% of full scale
Burden	current :0.5 VA(most options) Voltage:3.5 VA nominal
Overload	current:3xFS cont.,250 A for 1 s/hr. Voltage:1.2 x F.S cont
Surge Withstand	ANSI C37.90a(IEEE 472); BEAMA 219;special 5 KV
Response Time	200 ms to 90% 400 ms to 99%
Calibration Adjustment	± 10% standard
Zero Adjustment	± 2% standard

ORDERING CODE		
Enclosure	ABS ,Din Rail mount	D
Model	Frequency	H
Center frequency	50 Hz	5
	60 Hz	6
	Special	X
Frequency Span	<b>50/60Hz</b>	
	± 1 Hz	1
	± 2 Hz	2
	± 3 Hz	3
	± 4 Hz	4
	± 5 Hz	5
	± 6 Hz	6
	± 7 Hz	7
	± 8 Hz	8
	± 9 Hz	9
	± 10 Hz	0
	special	X
Nominal Input volatge	120 VAC	0
	69 VAC	1
	240 VAC	2
	Special	X
Output	0 to 1 mA(0-10000 Ohms)	0
	0 to ±1 mA(0-10000 Ohms)	1
	0 to ±0.5 mA(0-20000 Ohms)	2
	0 to ±50 mV(10 Ohms min.)	3
	0 to ±100 mV(20 Ohms min)	4
	0 to ±1 V(200 Ohms min.)	5
	0 to ±10 V(2000 Ohms min.)	6
	1 to 5 V(1000 Ohms min)*	7
	4 to 20 mA(0-750 Ohms)*	8
	0 to ±10 mA(0-1000 Ohms)	9
	special	X
	*with aux power only	
Auxiliary Power Supply	Self power	keep blank
	120VAC	E
	230VAC	F
	Dc Aux Power 24 VDC	K1
	Dc Aux Power 48 VDC	K2
	Dc Aux Power 125 VDC	K3
	Dc Aux Power 220 VDC	K4
No of output	Single	keep blank
	Dual	D

ORDERING CODE		
Enclosure	ABS, Din Rail mount	D
Model	Power factor	PF
Nominal Input volatge	120V	0
	240V	2
	Special	X
Nominal Input Current	1-5A	0
	0.2-1A	1
	Special	X
Power factor code	± 1.0	0
	± 0.7	1
	± 0.5	2
	± 0.3	3
	± 0.2	4
	Special	x
Output	0 to 1 mA(0-10000 Ohms)	0
	0 to ±1 mA(0-10000 Ohms)	1
	0 to ±0.5 mA(0-20000 Ohms)	2
	0 to ±50 mV(10 Ohms min.)	3
	0 to ±100 mV(20 Ohms min)	4
	0 to ±1 V(200 Ohms min.)	5
	0 to ±10 V(2000 Ohms min.)	6
	1 to 5 V(1000 Ohms min)*	7
	4 to 20 mA(0-750 Ohms)*	8
	0 to ±10 mA(0-1000 Ohms)	9
	special	X
	*with aux power only	
Auxiliary Power Supply	Self power	keep blank
	120VAC	E
	230VAC	F
	Dc Aux Power 24 VDC	K1
	Dc Aux Power 48 VDC	K2
	Dc Aux Power 125 VDC	K3
	Dc Aux Power 220 VDC	K4
No of Output	Single	keep blank
	Dual	D
Note:	When you select PF + 0.3,output 4 mA comes at PF -0.7,12mA comes at PF 1 & 20 mA comes at PF +0.7	
	When you select PF + 0.7,output 4 mA comes at PF -0.3,12mA comes at PF 1 & 20 mA comes at PF +0.3	