



masibus

	Frequency Transducers	Power Factor Transducers	Phase Angle Transducers
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Specifications			
Input	Line Frequency in Hz	Nominal Voltage & Current	Nominal Voltage
Accuracy	0.05% of Center Frequency	0.25% of FS	0.25% of FS
Output	0 to 1 mA	0 to 1 mA	0 to 1 mA
(Any one)	0 to ±1 mA	0 to ±1 mA	0 to ±1 mA
	0 to ±0.5 mA	0 to ±0.5 mA	0 to ±0.5 mA
	0 to ±50 mV	0 to ±50 mV	0 to ±50 mV
	0 to ±100 mV	0 to ±100 mV	0 to ±100 mV
	0 to ±1 V	0 to ±1 V	0 to ±1 V
	0 to ±10 V	0 to ±10 V	0 to ±10 V
	1 to 5 V	1 to 5 V	1 to 5 V
	4 to 20 mA	4 to 20 mA	4 to 20 mA
	0 to ±10 mA	0 to ±10 mA	0 to ±10 mA
Temp. Co-efficient	± 0.001% per C	± 0.01% per C	± 0.01% per C
Burden	1.5 VA	3.5 VA	3.5 VA
Response Time	200 ms to 90%	200 ms to 90%	200 ms to 90%
	400 ms to 99%	400 ms to 99%	400 ms to 99%
Calibration Adjustment	± 10% standard	± 10% standard	± 10% standard
Zero Adjustment	± 2% standard	± 2% standard	± 2% standard
	Centre Frequency	Power Factor	Phase Angle
	50 Hz	± 1.0	± 90
	(Span ±1 Hz to ±10 Hz	± 0.7	± 60
	in steps of 1 Hz)	± 0.5	± 45
		± 0.3	± 30
		± 0.2	± 15
		Special	Special
Nominal Input Voltage	120 V	120 V	120 V
	230 V	240 V	240 V
Nominal Input Current	--	1.0 - 5.0 A	--
	--	0.2 - 1.0 A	--
External Power	230 V AC	230 V AC	230 V AC
	120 V AC	120 V AC	120 V AC
Operating Temp.	0 to 55 C	0 to 55 C	0 to 55 C
Operating Humidity	0 to 95% NC	0 to 95% NC	0 to 95% NC
Enclosure	ABS DIN Rail Mount	ABS DIN Rail Mount	ABS DIN Rail Mount

Other masibus Products : Indicators, Controllers, Calibrators, SCADA software, Isolators, Temperature and Humidity Transmitters, Electronic/Pneumatic Test Benches, Calibration Furnaces, Customised Panels, Large Displays and many more products from various foreign agencies.

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Represented by :

Specifications are subject to change without notice due to continuous design improvement.
 Catalogue Power Transducers, Revision No.0, 2000



POWER TRANSDUCERS AC CURRENT / AC VOLTAGE / AC POWER / AC ENERGY FREQUENCY / PF / PHASE ANGLE

Before you can control electricity you have to measure it!

Masibus-Hathaway provide you with high quality Transducers to help you to 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 linearised signal is then transmitted for various purposes such as control, energy measurement, remote indication, check metering etc.

Since 1978 Hathaway 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 preferred to other makes for their excellent stability over a long period of operation.

The transducers are now manufactured at Gandhinagar under technical collaboration with Hathaway of USA. This world class technology now comes to you at a very competitive price.

Features

AC Current & Voltage Transducers

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.

Transducers are available in single phase or three phase versions.

- High accuracy.
- Excellent stability.
- Transient protected.
- Good isolation & impulse resistance
- Minimum ripple at the output.
- Fast response.

AC Power & Energy Transducers

- Measuring active power & energy.
- Highly Accurate.
- Electronic Multipliers : Over 200 real time Multiplications of Volt times Amps per cycle for accurate conversion of even the most distorted waveforms.
- Exceptional Long term Stability.
- Low burden.
- Transient Protected.
- Full power factor range operation.

AC Current Transducers

AC Voltage Transducers

Specifications

Type	Zero based input	Zero based input
	Average Sensing	Average Sensing
Configuration	Single Phase	Single Phase
	Three Phase	Three Phase
Input	0 to 5 Amp	0 to 150 V
	0 to 1 Amp	0 to 300 V
	0 to 2 Amp	--
Accuracy	0.25% of FS for 5% to 110% input range	0.25% of FS for 5% to 110% input range
Output	<i>Any one of the below</i>	<i>Any one of the below</i>
	0 to 1 mA	0 to 1 mA
	0 to 3 mA	0 to 3 mA
	0 to 5 mA	0 to 5 mA
	0 to 10 mA	0 to 10 mA
	4 to 20 mA**	4 to 20 mA**
	0 to 100 mV	0 to 100 mV
	0 to 1 V	0 to 1 V
	0 to 5 V	0 to 5 V
	0 to 10 V	0 to 10 V
	1 to 5 V**	1 to 5 V**
Calibration	Hardware - through Trim Pot	Hardware - through Trim Pot
Stability	0.2% per year	0.2% per year
Auxiliary Power Supply	230VAC, 50Hz	230VAC, 50Hz
	110VAC, 50Hz	110VAC, 50Hz
Operating Temperature	0 to 55 C	0 to 55 C
Operating Humidity	0 to 95% non-condensing	0 to 95% non-condensing
Temperature Co-efficient	± 0.01% per C	± 0.01% per C
Case	ABS Din Rail Mount	ABS Din Rail Mount

Ordering Information

Enclosure	ABS Din Rail Mount	DA	ABS Din Rail Mount	DV
Configuration	Single Phase	1	Single Phase	1
	Three Phase	3	Three Phase	3
Input	0 to 5 Amp	0	0 to 150 V	0
	0 to 1 Amp	1	0 to 300 V	2
	0 to 2 Amp	2	--	
Output	0 to 1 mA	0	0 to 1 mA	0
	0 to 3 mA	1	0 to 3 mA	1
	0 to 5 mA	2	0 to 5 mA	2
	0 to 10 mA	3	0 to 10 mA	3
	4 to 20 mA**	4	4 to 20 mA**	4
	0 to 100 mV	5	0 to 100 mV	5
	0 to 1 V	6	0 to 1 V	6
	0 to 5 V	7	0 to 5 V	7
	0 to 10 V	8	0 to 10 V	8
	1 to 5 V**	9	1 to 5 V**	9
Auxiliary Power	50 Hz	C	50 Hz	C
(if applicable)	120VAC Power	E	120VAC Power	E
	230VAC Power	F	230VAC Power	F

** Auxiliary Power required for these outputs.

AC Power Transducers

AC Energy Transducers

Specifications

Type	Watt	Watt/Watt-Hour
Configuration	Three Phase, 4 Wire, 3-Element	Three Phase, 4 Wire, 3-Element
Input Voltage	208 to 240 V	230VAC
	100 to 120 V	120VAC
Input Current	0 to 5 Amp	0 to 5 Amp
	0 to 1 Amp	0 to 1 Amp
	0 to 2 Amp	0 to 2 Amp
Accuracy	0.19% of Rdg/Cos ±0.01% of FS	0.19% of Rdg/Cos ±0.01% of FS
Output	0 to ±1 mA	0 to ±1 mA
(Any one)	0 to ±3 mA	0 to ±3 mA
	0 to ±5 mA	0 to ±5 mA
	0 to ±10 mA	0 to ±10 mA
	4 to 20 mA Unidirectional	4 to 20 mA Unidirectional
	0 to ±100 mV	0 to ±100 mV
	0 to ±1 V	0 to ±1 V
	0 to ±5 V	0 to ±5 V
	0 to ±10 V	0 to ±10 V
	1 to 5 V	1 to 5 V
Pulse Output	-	Solid State Unidirectional
Calibration	Hardware - through Trim Pot	Hardware - through Trim Pot
Stability	0.2% per year	-
Auxiliary Power Supply	230VAC / 110VAC, 50Hz	230VAC / 110VAC, 50Hz
Environmental Conditions	0 to 55 C, 0 to 95% non-condensing	0 to 55 C, 0 to 95% non-condensing
Temperature Co-efficient	± 0.005% per C	± 0.005% per C
Case	ABS Din Rail Mount	Metal Surface Mount

Ordering Information

Enclosure	ABS Din Rail Mount	D	Metal Surface Mount	-
Model	Watt	W	Watt/Watt-Hour	WH
Configuration	3-Element	30	3-Element	30
Input Nominal Voltage	100 to 120 V	0	120 V	0
	208 to 240 V	2	230 V	2
Input Current	0 to 5 Amp	0	0 to 5 Amp	0
	0 to 1 Amp	1	0 to 1 Amp	1
	0 to 2 Amp	2	0 to 2 Amp	2
Output	0 to ±1 mA	0	0 to ±1 mA	0
	0 to ±3 mA	1	0 to ±3 mA	1
	0 to ±5 mA	2	0 to ±5 mA	2
	0 to ±10 mA	3	0 to ±10 mA	3
	4 to 20 mA Unidirectional	4	4 to 20 mA Unidirectional	4
	0 to ±100 mV	5	0 to ±100 mV	5
	0 to ±1 V	6	0 to ±1 V	6
	0 to ±5 V	7	0 to ±5 V	7
	0 to ±10 V	8	0 to ±10 V	8
	1 to 5 V	9	1 to 5 V	9
Pulse Output	-	-	Solid State Unidirectional	0
	-	-		
Auxiliary Power Supply	50 Hz	C	50 Hz	C
(if applicable)	120VAC Power	E	120VAC Power	E
	230VAC Power	F	230VAC Power	F