

WATT/WATT HOUR TRANSDUCERS

PRECISION AC WATT/WATT HOUR TRANSDUCER *MODEL AGH*

UL LISTED, ACCURATE TO 0.2% OF READING

FEATURES

- Accurate regardless of variations in voltage, current, power factor, or load.
- Dual outputs. 0-1mA proportional to instantaneous Watts, relay closure proportional to Watt hours.
- Calibrated with standards traceable to **NIST**.

LISTED 87 X 9
Energy Management
Equipment Accessory
E134941

APPLICATIONS

- Designed for applications which require UL listed devices.
- Integration into energy management systems, or a variety of sub-metering applications.
- Measurement using direct-connection, current and/or potential transformers.



INPUTS		PHASE CONNECTION	NO. OF ELEMENTS	F.S. WATTS	STANDARD OUTPUTS MODEL AGH-			WATT HOUR COUNTS/HOUR
VOLTAGE	CURRENT				OUTPUT OPTIONS			
					+/- 1mA	+/- 10V	4-20mA	
0 to 150	0 to 5	1 phase, 2 wire	1	500	AGH-001B	AGH-001D	AGH-001E	500
0 to 300	0 to 5	1 phase, 2 wire	1	1000	AGH-002B	AGH-002D	AGH-002E	1000
0 to 600	0 to 5	1 phase, 2 wire	1	1500	AGH-003B	AGH-003D	AGH-003E	1500
0 to 150	0 to 5	3 phase, 3 wire	2	1000	AGH-004B	AGH-004D	AGH-004E	1000
0 to 300	0 to 5	3 phase, 3 wire	2	2000	AGH-005B	AGH-005D	AGH-005E	2000
0 to 600	0 to 5	3 phase, 3 wire	2	4000	AGH-006B	AGH-006D	AGH-006E	4000
0 to 150	0 to 5	3 phase, 4 wire	3	1500	AGH-007B	AGH-007D	AGH-007E	1500
0 to 300	0 to 5	3 phase, 4 wire	3	3000	AGH-008B	AGH-008D	AGH-008E	3000
0 to 150	0 to 5	3 phase, 4 wire	2 1/2	1500	AGH-007.5B	AGH-007.5D	AGH-007.5E	1500
0 to 300	0 to 5	3 phase, 4 wire	2 1/2	3000	AGH-008.5B	AGH-008.5D	AGH-008.5E	3000

To calculate full scale Watts when using potential and/or current transformers:

a = initial transducer calibration (from table above)

b = current transformer ratio (e.g. 100:5, or 20)

c = potential transformer ratio (e.g. 600:120, or 5)

F.S. WATTS = a x b x c

NOTE: UL recognized current transformers available from factory

ORDERING INFORMATION

Example: Three phase, four wire, 120V, 5A input with ±10Vdc output, proportional to ±1500 Watts.

Relay output for watthours, each closure proportional to 1.0 Wh.

AGH-007D

MODEL AGH SPECIFICATIONS

INPUT

Voltage See tables

Current 5A

Frequency Range 58 to 62 Hz.

Power Factor Any

Burden

Voltage Less than 0.1VA

Current Less than 0.25VA

Output amplifier 2 Watts

Overload

Voltage (cont.) 150V range 175V

300V range 350V

600V range 600V

Current (cont.) 2 times full scale

(transient) 50A (10 sec./hr)

250A (1 sec./hr.)

Dielectric Test (Input/Output/Case)

(150V & 300V) 1800VAC

(600V) 2200VAC

Surge Withstands IEEE SWC test

OUTPUT

WH Relay N/O SPST; 120VAC, 0.5A rated, contact closure period 200 milliSeconds

Closure Calibration (Std.) 1 Watt Hour/closure

Analog Output Ripple Less than 0.5% F.S.

Analog Output Loading (OHMS)

0-1mA 0-10K

0-10Vdc 2K min.

4-20mA 0 to 500

Response Time (99%) Less than 400 milliSeconds

ACCURACY ± 0.2% RDG., ± 0.04% F.S.

Includes combined effects of voltage, current, load and power factor.

Temperature Range -20° to 60°C

Temperature Effect ± 0.005% per degree C

Instrument Power (Std.) 90-135VAC, 60 Hz., 7.5VA

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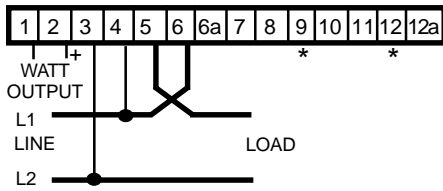
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CONNECTION DIAGRAMS

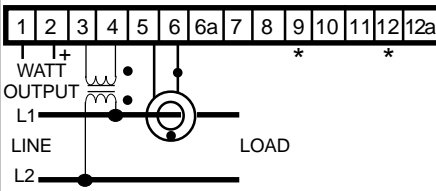
MODEL AGH

SINGLE PHASE CONNECTIONS ONE ELEMENT



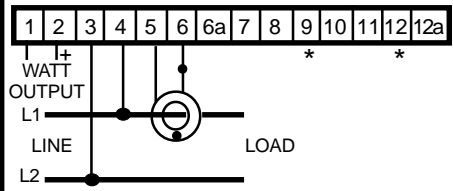
*AC instrument pwr.-term. 9, 12, if not self-powered

**DIRECT CONNECTION
(SINGLE ELEMENT)**



*AC instrument pwr.-term. 9, 12, if not self-powered

**USING POTENTIAL AND CURRENT
TRANSFORMERS**



*AC instrument pwr.-term. 9, 12, if not self-powered

**USING ONLY CURRENT
TRANSFORMERS**

WATT HOUR OUTPUT CONNECTIONS FOR MODEL AGH

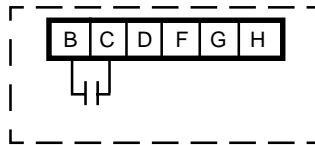
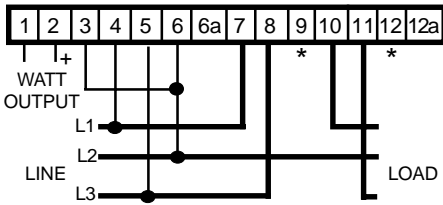


Diagram represents internal Watt Hour output relay configuration

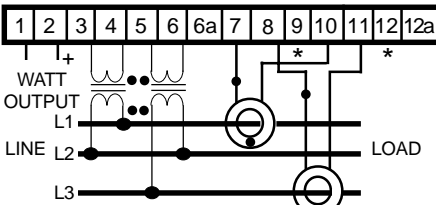
**STANDARD WH OUTPUT-
SPST RELAY CONTACT**

THREE PHASE THREE WIRE CONNECTIONS TWO ELEMENT



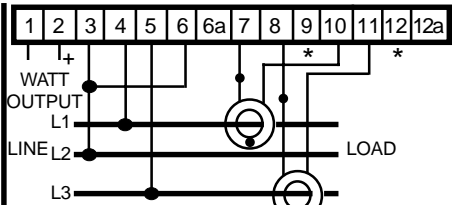
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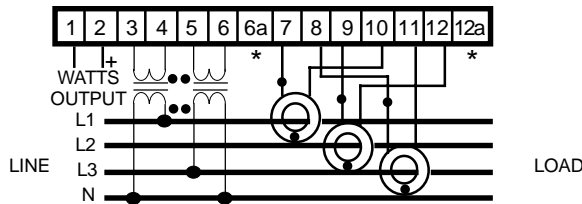
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CONNECTION DIAGRAMS

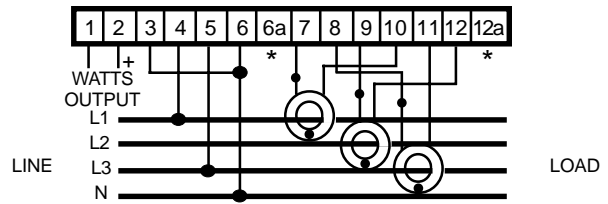
MODEL AGH

THREE PHASE FOUR WIRE CONNECTIONS 2 1/2 ELEMENT



*AC instrument power-terminals 6a, 12a, if not self-powered

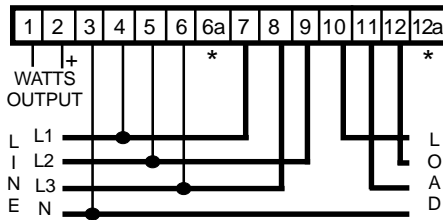
**USING POTENTIAL
AND
CURRENT TRANSFORMERS**



*AC instrument power-terminals 6a, 12a, if not self-powered

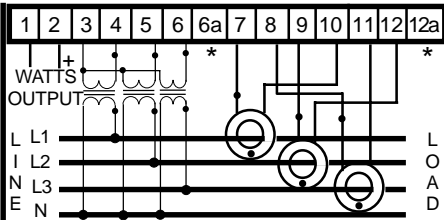
USING ONLY CURRENT TRANSFORMERS

THREE PHASE FOUR WIRE CONNECTIONS THREE ELEMENT



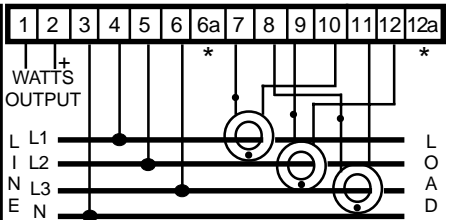
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DIRECT CONNECTION



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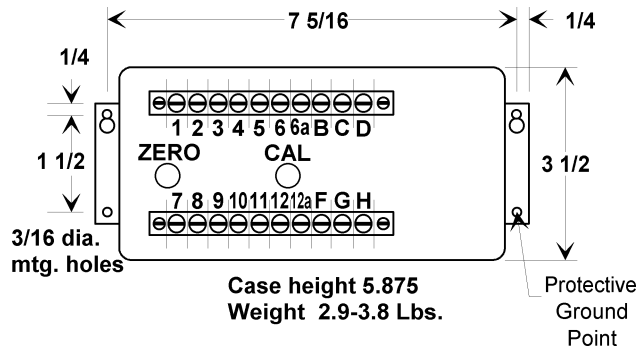
**USING POTENTIAL AND
CURRENT TRANSFORMERS**



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**USING ONLY
CURRENT TRANSFORMERS**

CASE DIMENSIONS



ALL DIMENSIONS IN INCHES

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