ACCURATE TO 0.2% OF READING

DESCRIPTION
The model GW5 Watt transducer provides power measurements to within ±0.2% of reading accuracy in single- or polyphase systems. The Model GV5 VAR transducer provides reactive power measurements to within ±0.2% of reading accuracy in single- or polyphase systems. The electrically-isolated dc output is proportional to the instantaneous power averaged over several cycles.
Currents up to 20A and voltages up to 600Vac can be directly connected to the GW5 and GV5, thus eliminating the additional cost and additive errors of current and voltage transformers for these ranges. The GW5 and GV5 can be used with OSI metering class current transformers for measurements up to 10 kiloamperes.

FEATURES
• Accurate regardless of variations in voltage, current, power factor, or load.
• Available in 1-, 1½-, 2-, 2½-, or 3-element configurations.
• Provides Leading/Lagging VAR indication.
• Accuracy maintained over wide temperature range, calibration traceable to NIST.
• For UL Listed precision Watt transducers, see AGW Series.

APPLICATIONS
• Equipment monitoring for process control.
• Integration into energy management systems, or a variety of sub-metering applications.
• Measurement using direct-connection, current transformers and/or potential transformers.

DESCRIPTION
The model GW5 Watt transducer provides power measurements to within ±0.2% of reading accuracy in single- or polyphase systems. The Model GV5 VAR transducer provides reactive power measurements to within ±0.2% of reading accuracy in single- or polyphase systems. The electrically-isolated dc output is proportional to the instantaneous power averaged over several cycles.
Currents up to 20A and voltages up to 600Vac can be directly connected to the GW5 and GV5, thus eliminating the additional cost and additive errors of current and voltage transformers for these ranges. The GW5 and GV5 can be used with OSI metering class current transformers for measurements up to 10 kiloamperes.

Specific outputs can be selected to interface with any data acquisition system from a simple recorder to a computer-, SCADA-, or PLC-based system.
The GW5 is widely used in a variety of applications, including hydroelectric generator output measurement, end-of-line appliance testing for energy consumption, building automation, energy management, and cogeneration systems.

SINGLE-PHASE, TWO-WIRE MODELS, INTERNAL SENSOR (ONE-ELEMENT)

<table>
<thead>
<tr>
<th>AC INPUTS</th>
<th>F.S. WATTS or VARS</th>
<th>STANDARD OUTPUTS MODEL GW5- OR GV5-</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTS</td>
<td>AMPS</td>
<td>0-±1mAdc*</td>
</tr>
<tr>
<td>0-150</td>
<td></td>
<td>0-±1mAdc*</td>
</tr>
<tr>
<td>0-5-25</td>
<td>100</td>
<td>103A</td>
</tr>
<tr>
<td>0-10</td>
<td>500</td>
<td>001B</td>
</tr>
<tr>
<td>0-15</td>
<td>100</td>
<td>013B</td>
</tr>
<tr>
<td>0-20</td>
<td>20</td>
<td>013B</td>
</tr>
<tr>
<td>0-25</td>
<td>200</td>
<td>104A</td>
</tr>
<tr>
<td>0-300</td>
<td>100</td>
<td>105A</td>
</tr>
<tr>
<td>0-5-25</td>
<td>500</td>
<td>107A</td>
</tr>
<tr>
<td>0-10</td>
<td>10</td>
<td>011A</td>
</tr>
<tr>
<td>0-20</td>
<td>4</td>
<td>020A</td>
</tr>
</tbody>
</table>

THREE-PHASE, THREE-WIRE MODELS, INTERNAL SENSOR (TWO-ELEMENT)

<table>
<thead>
<tr>
<th>AC INPUTS</th>
<th>F.S. WATTS or VARS</th>
<th>STANDARD OUTPUTS MODEL GW5- OR GV5-</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTS</td>
<td>AMPS</td>
<td>0-±1mAdc*</td>
</tr>
<tr>
<td>0-150</td>
<td></td>
<td>0-±1mAdc*</td>
</tr>
<tr>
<td>0-5-25</td>
<td>120</td>
<td>120B</td>
</tr>
<tr>
<td>0-10</td>
<td>50</td>
<td>120C</td>
</tr>
<tr>
<td>0-20</td>
<td>10</td>
<td>121A</td>
</tr>
<tr>
<td>0-25</td>
<td>200</td>
<td>122B</td>
</tr>
<tr>
<td>0-300</td>
<td>120</td>
<td>123A</td>
</tr>
<tr>
<td>0-5-25</td>
<td>600</td>
<td>124A</td>
</tr>
<tr>
<td>0-10</td>
<td>20</td>
<td>125A</td>
</tr>
<tr>
<td>0-20</td>
<td>8</td>
<td>126A</td>
</tr>
</tbody>
</table>

NOTE: PART NUMBER 4.5 DENOTES 1½-ELEMENT UNIT.
**Voltage specifications are line-to-neutral voltage.**

*Denotes self-powered unit, limiting input voltage ranges to:
- 85-135 for 150Vac models
- 200-280 for 300Vac models
- 380-550 for 600Vac models

All others require 85-135Vac instrument power, 60Hz.

Optional 50ms output response to 90% - Add suffix "W"
Optional 230Vac instrument power - Add suffix "E"

For UL Listed precision Watt transducers, see AGW Series.

50 Hertz Models:
Add suffix "-50" to part number.

### ORDERING INFORMATION
For 300Vac
- GW5-007A
- GW5-125CX5
- GW5-125X5

For 600Vac
- GW5-007CX5
- GW5-125X5

**F flesh**

**ORDERING INFORMATION**

Example: Self-Powered, Three-Phase, Four-Wire, 120V, 5A Input with 0±5Vdc Output, Proportional to 0±1500Watts.

GW5-007CX5

### ORDERING INFORMATION

Example: Self-Powered, Three-Phase, Four-Wire, 120V, 5A Input with 0±1mAdc Output, Proportional to 0±1500Watts.

**GW5 & GV5**

**SPECIFICATIONS**

#### INPUT
- **Voltage**
- **Current**
- **Frequency Range**
- **Power Factor**
- **Burden**
- **Overload**

#### OUTPUT
- **GV5**
- **Loadings**
- **Response**
- **Field Adjustable Cal.**

#### DIELECTRIC TEST
- Input/Output/Case
- Surge

#### TEMPERATURE & PHYSICAL
- **Operating Range**
- **Temperature Effect**
- **Storage Range**
- **Operating Humidity**

#### ACCURACY
- **Includes combined effects of voltage, current, load and power factor.**
- **Output Ripple**

### INSTRUMENT POWER
- "B", "D", "E", "EM", "X5" models
- "22" option
- "A", "C", "CX5", "EG" or "EMG" models

### THREE-PHASE, FOUR-WIRE MODELS, INTERNAL SENSOR (THREE-ELEMENT)

<table>
<thead>
<tr>
<th>Volts</th>
<th>Standard Outputs Model</th>
<th>GW5- or GV5-</th>
<th>0-150 L-N**</th>
<th>0-300 L-N**</th>
</tr>
</thead>
<tbody>
<tr>
<td>{}</td>
<td>{}</td>
<td>{}</td>
<td>{}</td>
<td>{}</td>
</tr>
</tbody>
</table>

### NOTATION
- **PART NUMBERS 7.5 & 8.5 DENOTE 2½-ELEMENT UNITS.**
- **NOTE:** PART NUMBERS 7.5 & 8.5 DENOTE 2½-ELEMENT UNITS.

### PAGE 2 OF 4
SINGLE-PHASE CONNECTIONS
(1 ELEMENT)

```
1  2  3  4  5  6  7  8  9  10  11  12

OUTPUT

**INST PWR

LINE (L1)

LOAD

DIRECT CONNECTION

OUTPUT

**INST PWR

LINE (L1)

LOAD

USING POTENTIAL AND CURRENT TRANSFORMERS
```

THREE-PHASE, THREE-WIRE CONNECTIONS
(1-1/2 ELEMENT)

```
1  2  3  4  5  6  7  8  9  10  11  12

OUTPUT

**INST PWR

LINE (L1)

LOAD

DIRECT CONNECTION

OUTPUT

**INST PWR

LINE (L1)

LOAD

USING POTENTIAL AND CURRENT TRANSFORMERS
```

THREE-PHASE, THREE-WIRE CONNECTIONS
(2 ELEMENT)

```
1  2  3  4  5  6  7  8  9  10  11  12

OUTPUT

**INST PWR

LINE (L1)

LOAD

DIRECT CONNECTION

OUTPUT

**INST PWR

LINE (L1)

LOAD

USING POTENTIAL AND CURRENT TRANSFORMERS

* 115Vac on models with B, D, E, EM or X5 suffix.
* 230Vac on models with -22 suffix.
* Not required on models with A, C, CX5, EG or EMG suffix.
CONNECTIONS & DIMENSIONS

MODELS GW5- & GV5-

THREE-PHASE, FOUR-WIRE CONNECTIONS
(2-1/2 ELEMENT)

1 2 3 4 5 6 6a 7 8 9 10 11 12 12a

LINE

LOAD

DIRECT CONNECTION

INST PWR

OUTPUT

L1

L2

L3

N

USING POTENTIAL AND CURRENT TRANSFORMERS

INST PWR

OUTPUT

L1

L2

L3

N

THREE-PHASE, FOUR-WIRE CONNECTIONS
(3 ELEMENT)

1 2 3 4 5 6 6a 7 8 9 10 11 12 12a

LINE

LOAD

DIRECT CONNECTION

INST PWR

OUTPUT

L1

L2

L3

N

USING POTENTIAL AND CURRENT TRANSFORMERS

INST PWR

OUTPUT

L1

L2

L3

N

* 115Vac ON MODELS WITH B, D, E, EM OR X5 SUFFIX.
* 230Vac ON MODELS WITH -22 SUFFIX.
* NOT REQUIRED ON MODELS WITH A, C, CX5, EG OR EMG SUFFIX.

Dwg# 0902-00873-B Rev A

CASE DIMENSIONS

MODELS WITH 1mA, 5V OR 10V OUTPUTS

CASE HEIGHT 5.38"
1PH 2W 2.3 LBS
3PH 3W 2.7 LBS
3PH 4W 3.1 LBS

MODELS WITH 4-20mA OUTPUTS

CASE HEIGHT 5.88"
1PH 2W 2.4 LBS
3PH 3W 3.3 LBS
3PH 4W 4.4 LBS

ALL DIMENSIONS IN INCHES.

Dwg# 0902-00873-B Rev A

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WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

GW5 & GV5 Rev H.indd

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