

VAR TRANSDUCERS

PRECISION AC VAR TRANSDUCER

MODEL **GV5**

ACCURATE TO 0.2% OF READING

FEATURES

- Accurate regardless of variations in voltage, current, power factor, or load.
- Available with 1, 2, or 3 element configurations. Provides bi-directional operation.
- Accuracy maintained over wide temperature range, calibration traceable to **NIST**.

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.



SINGLE PHASE MODELS-INTEGRAL SENSOR (ONE ELEMENT)

INPUTS		F.S. IN (VAR)	STANDARD OUTPUTS MODEL NUMBER GV5-							
VOLTAGE	CURRENT		+/- 1mA*	+/- 1mA	+/- 10Vdc*	+/- 10Vdc	4-20mA	4-20mA**	+/- 5Vdc*	+/- 5Vdc
0 to 150	0 to 5	500	001A	001B	001C	001D	001E	001EG	001CX5	001X5
	0 to 10	1000	010A	010B	010C	010D	010E	010EG	010CX5	010X5
	0 to 20	2000	019A	019B	019C	019D	019E	019EG	019CX5	019X5
0 to 300	0 to 5	1000	002A	002B	002C	002D	002E	002EG	002CX5	002X5
	0 to 10	2000	011A	011B	011C	011D	011E	011EG	011CX5	011X5
	0 to 20	4000	020A	020B	020C	020D	020E	020EG	020CX5	020X5
0 to 600	0 to 5	2000	003A	003B	003C	003D	003E	003EG	003CX5	003X5
	0 to 10	4000	012A	012B	012C	012D	012E	012EG	012CX5	012X5
	0 to 20	8000	021A	021B	021C	021D	021E	021EG	021CX5	021X5

Highlighted models, (5A), can be used with current transformers.

*Denotes self-powered unit, limiting input voltage ranges to:

85-135 for 150V models

200-280 for 300V models

380-550 for 600V models

All others require 85-135VAC instrument power, (60 Hz.).

Add suffix -22 for 220VAC Instrument Power (60Hz)

ORDERING INFORMATION

Example: Self-powered, single-phase, 120V, 5A input with 0-5Vdc output proportional to 0-500 Vars.

GV5-001CX5



50 HERTZ MODELS

Self-powered units-Add suffix "-50" to part number.

Units requiring external instrument power:

120V, 50Hz.-Add suffix "-51" to part number.

220V, 50Hz.-Add suffix "-52" to part number.

THREE PHASE THREE WIRE MODELS-INTEGRAL SENSOR (TWO ELEMENT)

INPUTS		F.S. IN (VAR)	STANDARD OUTPUTS MODEL NUMBER GV5-							
VOLTAGE	CURRENT		+/- 1mA*	+/- 1mA	+/- 10Vdc*	+/- 10Vdc	4-20mA	4-20mA**	+/- 5Vdc*	+/- 5Vdc
0 to 150	0 to 5	1000	004A	004B	004C	004D	004E	004EG	004CX5	004X5
	0 to 10	2000	013A	013B	013C	013D	013E	013EG	013CX5	013X5
	0 to 20	4000	022A	022B	022C	022D	022E	022EG	022CX5	022X5
0 to 300	0 to 5	2000	005A	005B	005C	005D	005E	005EG	005CX5	005X5
	0 to 10	4000	014A	014B	014C	014D	014E	014EG	014CX5	014X5
	0 to 20	8000	023A	023B	023C	023D	023E	023EG	023CX5	023X5
0 to 600	0 to 5	4000	006A	006B	006C	006D	006E	006EG	006CX5	006X5
	0 to 10	8000	015A	015B	015C	015D	015E	015EG	015CX5	015X5
	0 to 20	16000	024A	024B	024C	024D	024E	024EG	024CX5	024X5

CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON PAGES 118-119

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THREE PHASE FOUR WIRE MODELS-INTEGRAL SENSOR (THREE ELEMENT)

INPUTS		F.S. IN (VAR)	STANDARD OUTPUTS MODEL NUMBER GV5-							
VOLTAGE	CURRENT		+/- 1mA*	+/- 1mA	+/- 10Vdc*	+/- 10Vdc	4-20mA	4-20mA**	+/- 5Vdc*	+/- 5Vdc
0 to 150	0 to 5	1500	007A	007B	007C	007D	007E	007EG	007CX5	007X5
	0 to 10	3000	016A	016B	016C	016D	016E	016EG	016CX5	016X5
	0 to 20	6000	025A	025B	025C	025D	025E	025EG	025CX5	025X5
0 to 300	0 to 5	3000	008A	008B	008C	008D	008E	008EG	008CX5	008X5
	0 to 10	6000	017A	017B	017C	017D	017E	017EG	017CX5	017X5
	0 to 20	12000	026A	026B	026C	026D	026E	026EG	026CX5	026X5

Highlighted models, (5A), can be used with current transformers.

Voltage specifications are **line-to-neutral voltage**.

*Denotes self-powered unit, limiting input voltage ranges to:

85-135 for 150V models

200-280 for 300V models

380-550 for 600V models

All others require 85-135VAC instrument power, (60 Hz.).

Add suffix -22 for 220VAC Instrument Power (60Hz)

ORDERING INFORMATION

Example: Self-powered, three-phase, 120V, 5A input with 0-5Vdc output, proportional to 0-1500 Vars.

GV5-007CX5

50 HERTZ MODELS

Self-powered units-Add suffix "-50" to part number.

Units requiring external instrument power:

120V, 50Hz.-Add suffix "-51" to part number.

220V, 50Hz.-Add suffix "-52" to part number.

MODEL GV5 SPECIFICATIONS

INPUT

Voltage See tables

Current See tables

Frequency 60 Hz. std.; 50 Hz. opt.

Power Factor Any

Burden

Voltage Less than 0.1VA

Current Less than 0.28VA per element

Output amplifier 2 Watts

Overload

Voltage (cont.) 150V range 175V

300V range 350V

600V range 600V

Current (cont.) 5A range 2 times full scale

10A range 2 times full scale

20A range Full scale

(transient) All ranges

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

..... 250A (1 sec./hr.)

Dielectric Test....(Input/Output/Case) 1800VAC

Surge Withstands IEEE SWC test

OUTPUT

Output Ripple < 0.5% F.S.

Output Loading (OHMS)

± 1mA 0-10K

± 10Vdc 2K min.

4-20mA 0-500

± 5Vdc 2K min.

Response Time (99%) < 400 milliSeconds

Field Adjustable Cal. ± 2% min.

Compliance Voltage 12Vdc min.

Open circuit Voltage ± 15Vdc

models with 4-20mA output + 15Vdc

ACCURACY ± 0.2% RDG.; ± 0.05% F.S.

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

Temperature Effect (-20° to 60°C)

..... ± 0.005% per degree C

Operating Humidity 0-95% non-condensing

Instrument Power (Std.) 85-135VAC, 60 Hz., 7VA

CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON PAGES 118-119

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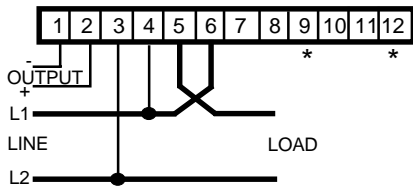
VAR TRANSDUCERS

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CONNECTION DIAGRAMS

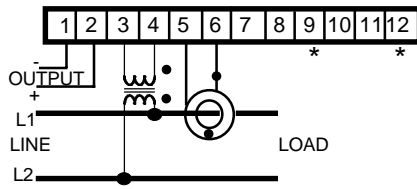
MODEL GV5

SINGLE PHASE CONNECTIONS ONE ELEMENT



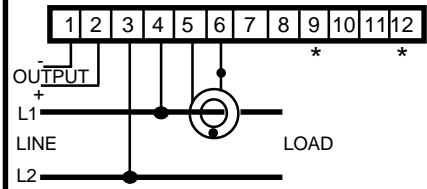
*AC instrument pwr.-term. 9, 12, if not self-powered

DIRECT CONNECTION



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

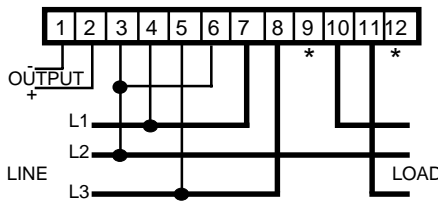
USING POTENTIAL AND CURRENT TRANSFORMERS



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

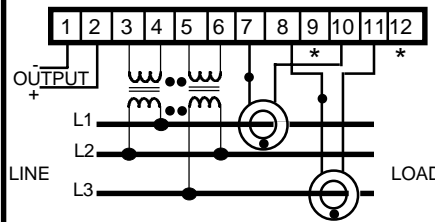
USING ONLY CURRENT TRANSFORMERS

THREE PHASE THREE WIRE CONNECTIONS TWO ELEMENT



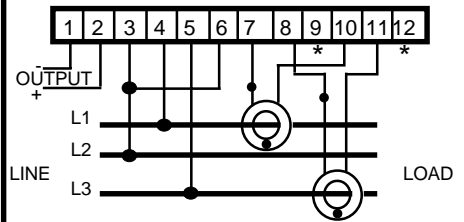
*AC instrument pwr.-term. 9, 12, if not self-powered

DIRECT CONNECTION



*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

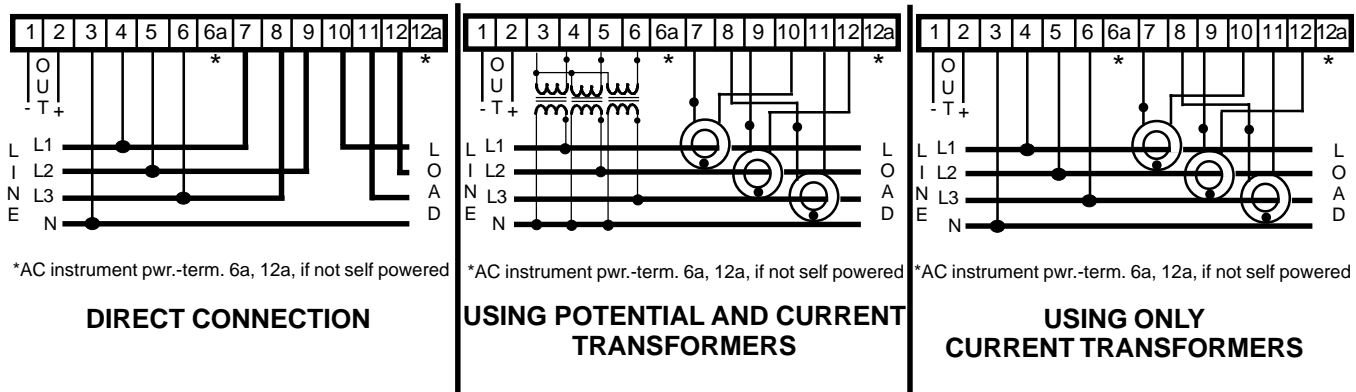
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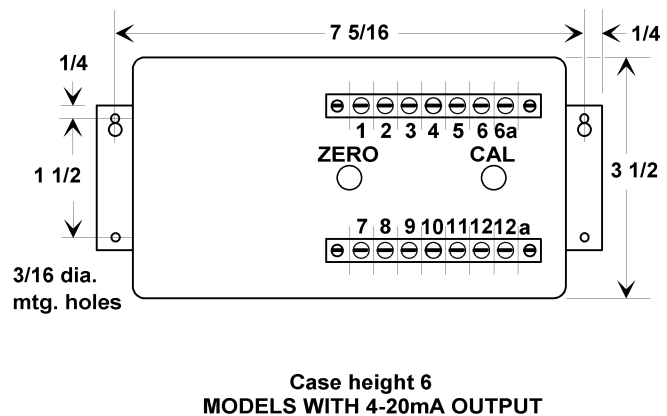
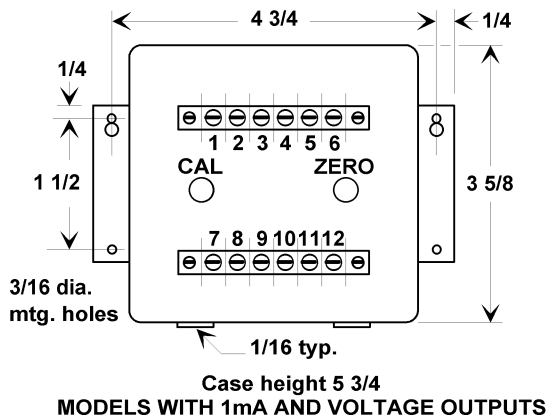
CONNECTION DIAGRAMS

MODEL GV5

THREE PHASE FOUR WIRE CONNECTIONS THREE ELEMENT



CASE DIMENSIONS



ALL DIMENSIONS IN INCHES

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