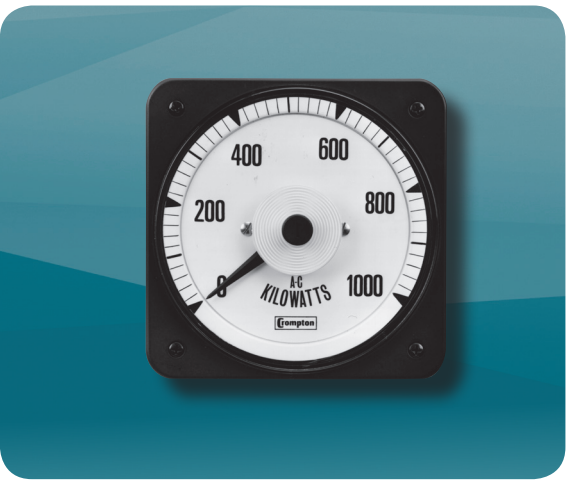


AC Wattmeters and VArmeters

The Crompton Instruments Switchboard series of AC Wattmeters and VArmeters incorporate a DC moving coil, pivot and jewel indicator with a micro-circuit watt transducer PCB to read power on single or three-phase systems. The most frequently selected wattmeter scale marking for common current and voltage transformers are listed on the following pages. In addition, these instruments may be supplied with zero-left or center-zero scale.

Scaling

Wattmeter and VArmeter current circuits should have equal carrying capacity because they are frequently connected in series. This means that the sum of the left and right end-scale values of the VArmeters should be equal to or greater than the full scale value of the Wattmeter (or have higher end-scale values if the instruments are center or offset-zero). Instruments measuring 10,000 kilowatts and over are marked in megawatts. Center-zero or offset-zero Watt and VArmeters are marked “IN” for left deflection and “OUT” for right deflection. On ordering, Wattmeter and VArmeter scales will be calculate, the nearest preferred scale will be offered from the charts on the following pages. Custom scales are available but at an extra cost.

Calibration

For full load value of Watts or VAr, assuming unity power factor:

1-phase 2-wire Watts = amps x volts

3-phase 3-wire Watts = amps x line-to-line volts x √3

3-phase 4-wire Watts = amps x line-to-neutral volts x 3

Minimum scale values are obtained by multiplying resultant Watts, using the above formula x 0.7 and selecting next higher standard scale.

For maximum scale value, multiply x 1.3 and select the next lowest standard.

If scale calculates to an exact listed value, use this value rather than the next higher or lower value.

Note: When ordering Wattmeters and VArmeters, please specify CT ratio, VT ratio and required scale.

Specifications

Burden per element	Current circuit: 2VA | Voltage Circuit: 1VA
Accuracy	Class 1.0
Ambient range	0° to ± 60° (32° to 104°F) std. calibration 20°C (68°F)
Ambient influence	0.05% per 1°C maximum
Overloads-current	10 x rating for 5 seconds, 1.2 x continuously
Voltage influence	2 x rating for 5 seconds, 1.2 x continuously voltage
	Accuracy maintained, 80 - 110% rated voltage
Power factor influence	Accuracy maintained, 0.1 lag to 0.1 lead
Enclosure code	007 IP54 optional IP55 | 078 IP67
Response time	007 and 078 approximately 2.5 seconds
Dielectric withstand	Live parts to case including panel 2600V RMS for 1 minute

DC Transducer Indicators

Product Codes

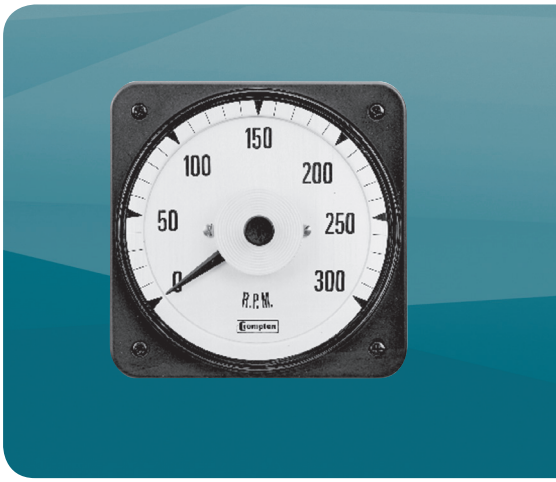
Rating	Scaling*	4 1/2" square flange	
		Std. case catalog number	Std. case hi-shock catalog number
Watts 1mA	To suit	•007-055A-FA**	078-055J-FA**
VArs 1mA	To suit	•007-056A-FA**	078-056J-FA**
Frequency 1mA	To suit	•007-053A-FA**	078-053J-FA**
Power factor 1mA	To suit	•007-054A-FA**	078-054J-FA**
AC amps 1mA	To suit	•007-05AA-FA**	078-05AJ-FA**
AC volts 1mA	To suit	•007-05VA-FA**	078-05VJ-FA**
Speed 1mA	To suit	•007-052A-FA**	078-052J-FA**
VA 1mA	To suit	•007-057A-FA**	078-057J-FA**

*Case types 007/078 use 10-32 UNF terminals.

**Specify scale. Input: 1mA DC for 4/20mA change “FA” to “HG”.

• c-UL-us certified.

For use with the following transducers: Watts, Vars, Frequency, Power Factor, AC amperes, AC volts and temperature.



DC Transducer Indicator