



ANSI Switchboard Meters

High quality range of switchboard instruments with Class 1 accuracy and which complies with American ANSI-C39.1 (1981) specifications. Available in 4 1/2" case size, the rugged design characteristics meet the needs of the most demanding environmental applications. This extensive range of analog and digital/analog meters utilizes high shock and provides 1% accuracy for all RMS AC and DC ranges. The range offers various customized options and features.

Description

Our Switchboard Meter series offers two case types; models 007 and 078.

Model 078 is high shock hermetically sealed and all models have heavy gauge pressed steel cases. Mounting is by four integral studs. Model 078 has a die-cast bezel and a projecting moulded toughened glass window, which incorporates a gas tight zero adjuster.

Model 007 is a one piece flame retardant polycarbonate moulding with a black matte finished bezel area, and a specially contoured window to minimize reflection from adjacent light sources.

Scales are 240° moving iron and 250° moving coil with parallax error-free platform dials. Standard dials are white matte with black printed scales and bar knife-edge pointers.

007 Power and 078

Specifications

Performance	ANSI C39.1 (1981)
Accuracy	Class 1
Terminals	10 - 32 UNF terminals
Response time	Approximately 2.5 seconds to full scale (007 and 078)
Dielectric voltage	Withstand test 2.3 kV for 1 minute
Standard calibration	23°C
Operating temperature	0°C to +60°C. Model 078: -40°C to +70°C
Storage temperature	-10°C to +50°C
Extreme temperature range	-20°C to +65°C
Enclosure integrity	Model 007 to IP54 (NEMA 3S) splash proof, IP55 (NEMA 4) hoseproof is an optional extra Model 078 to IP67 (NEMA 6 and 6P)
Fixing on panel	4 integral 1/4 -28 UNF fixing studs
Certifications	c-UL-us, CE

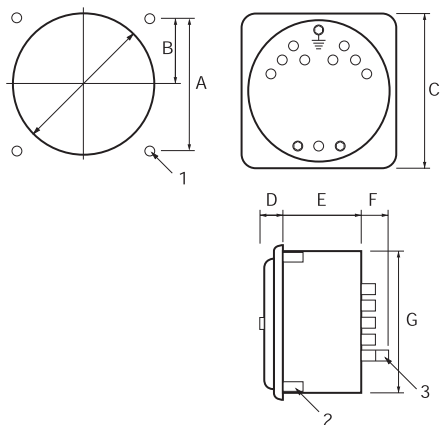
Dimensions (in inches)

Model	Panel Cutout			Rear View		Side View		
	Dia	A	B	C	D	E	F	G
007 (Amps, Volts & Freq.)	4.06	3.37	1.69	4.31	0.65	2.41	-	4.05
007 Others	4.06	3.37	1.69	4.31	0.65	-	0.91	4.05
078	4.06	3.37	1.69	4.31	0.63	-	0.91	4.05

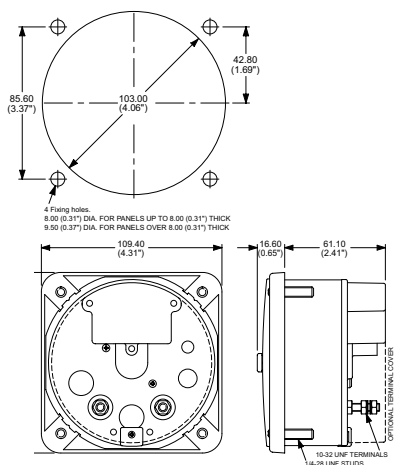
Dimension E on 007 others and 078 products varies with measured parameter. See product code on following page.

Dimension F on 078 (Amps, Volts & Freq.) products is included with dimension E.

1-4 Fixing holes Ø 8mm. 2-1/4-28 UNF fixing studs. 3-10-32 UNF terminals.



007 AMPs | Volts | Frequency Only



Features

- Rugged pivot and jewel movement
- Class 1 accuracy

Benefits

- Meets all the requirements of ANSI-C39.1 (1981)
- Parallax error-free platform dials
- Bump, shock and vibration proof
- Customized options and features

Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor control

Certifications

Type of instrument	Ranges	Dimension E		Product code
		007	078	
AC rectified ammeter	1 - 30A	56	86	007/078-05B
AC rectified voltmeter	30 - 800V	56	86	007/078-05W
AC voltmeter expanded scale	110 - 130V	86	86	007/078-05Y
AC RMS ammeter	1 - 30A	56	86	007/078-05F
AC RMS voltmeter	150 - 750V	56	86	007/078-05G
Elapsed time meter (99999.99)	50 or 60Hz / 100 - 440V* and DC	56	56	007/078-155/156/077-151
Frequency meter	50, 60	86	86	007/078-41L
AC wattmeter or VArmeter	0.2 - 10A/100 - 440V*	132	132	007/078-21 or 31
LED synchroscope only	63.5 - 480V****	86	-	077-14A
LED synchroscope and synchro check relay	63.5 - 480V****	86	-	077-14 L/G/D/U
Phase sequence indicator	100 - 150, 151 - 300, 301 - 500V	56	-	077-12P
Transducer operated indicator	1, 5, 10, 20, or 4/20mA	56	56	007/078-05
DC ammeter moving coil	200QA - 30A 56	56	56	007/078-05A
DC voltmeter moving coil	50mV - 600V 56	56	56	007/078-05V
240° phase angle power factor	1 or 5A, 100 - 400V, 50, 60	132	132	007/078-42
DIGI/Analog AC ammeter	1mA - 10A	86	-	007-DIB
DIGI/Analog AC voltmeter	200mV - 600V	86	-	007-DIW
DIGI/Analog DC ammeter	1mA - 1A	86	-	007-DIA
DIGI/Analog DC voltmeter	20mV - 600V	86	-	007-DIV
DIGI/Analog transducer indicator	DC mA	86	-	007-DIT
DIGI/Analog tachometer	AC or DC rated	86	-	007-DI2

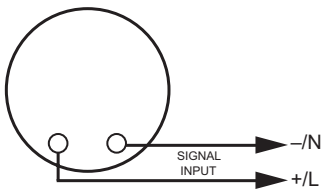
* 100-440V = (100/125, 200/250, 380/440).

**100-440V = (100/125, 200/250, 380/440). Frequencies 45/55, 55/65, 45/65, 46/54, 50/70, 58/62, 56/64.

****Nominal voltage to be specified.



Fig. AA 007-05/007-41



Frequency Meters

This range of self contained, pivot and jewel moving iron meters feature 250° linear scale. AC instruments are available with true RMS converting circuit or RMS compensated rectifier. While types of frequency meters can be damaged by transient supply voltage spike, Crompton Instruments 007-41 frequency meters can withstand, without damage, 10 successive transient spikes of 1250 volts. The range offers c-UL-us certification.

Specifications-General

Manufactured in accordance with American National Standards ANSI C39.1, (1981)

Accuracy	±1% full scale at 23°C (73°F)
Scales arc	250° full scale deflection
Scale length	007 and 078: 175.2 mm (6.9")
Scale plate	2 piece, platform type
Response time	007 and 078: Approximately 2.5 seconds to full scale
Operating temperature	0 to 40°C (32 to 104°F)
Storage temperature	-10 to +50°C (14 to 122°F)
Extreme temperature range	-20° to +65°C (-4° to 149°F)
Terminals	Standard 10-32 UNF stud. M5 screw clamp is optional
Dielectric withstand	2300V AC for 1 minute between electrical circuit and case
Overshoot	33% maximum
Enclosure code	007: IP54, optional IP55 and 078: IP67
Certification	c-UL-us

Specifications

Overload rating	Frequency meters: 1.2 x Continuous
Frequency range	AC calibration 50/60Hz ±20%

Specifications-Frequency Meters

Response time	3 seconds maximum
External temperature influence	0.6 times accuracy maximum with ±10°C from reference temperature
External field influence	2.0 times accuracy maximum with 0.5m T field
Acceptable input harmonic influence	up to 30% distortion

Maximum Frequency - Hz	Center Scale - Hz	Error in Hz
45-55	50	0.15
46-54	50	0.15
45-65	55	0.25
50-70	60	0.25
55-65	60	0.15
56-64	60	0.15



Frequency Meter

Frequency Meters

Product Codes – 120V Self Contained***

Ratings	Scaling*	4 1/2" square flange	
		Std. case catalog number	Std. case hi-shock catalog number
50Hz +/-0.15	45-55Hz	•007-41LA-PNAG-AG	078-41LJ-PNAG-AG
50Hz +/-0.15	46-54Hz	•007-41LA-PNAH-AH	078-41LJ-PNAH-AH
50Hz +/-0.25	45-65Hz	•007-41LA-PNAJ-AJ	078-41LJ-PNAJ-AJ
60Hz +/-0.25	50-70Hz	•007-41LA-PNAL-AL	078-41LJ-PNAL-AL
60Hz +/-0.15	55-65Hz	•007-41LA-PNAN-AN	078-41LJ-PNAN-AN
60Hz +/-0.15	56-64Hz	•007-41LA-PNAO-AO	078-41LJ-PNAO-AO
60Hz +/-0.08	58-62Hz	•007-41LA-PNAT-AT	078-41LJ-PNAT-AT

For alternative voltage rating 200-250V, use code RN instead of PN.

For alternative voltage rating 380-480V, case types 007/078 use code SE instead of PN.

10-32 UNF terminals.

* Other scales are available.

** Specify scale required.

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

• c-UL-us certified.