

Programmable Ratio AC Current Meters

UMAF



Feature

True power system design complaints
 ANSI-IEEE, IEC & VDE standards
 High over capability to assure reliable operation
 Ration programmable with field re-range ability
 High accuracy of 0.2% fs
 4-1/2 digits maximum of 19999 counts
 Super rate display of 0.56"

Applied rules and standards

Measuring & conversion	IEC 688
Dielectric strength	IEC 688
Impulse & Surge test	ANSI C37.90.1/1989 IEC 255-3 (1989)
Adaptability-power system	IEC 0110
Measuring reliability	VDE 3540

Description

The model UMAF series, are designed under micro base, and it also specially designed to solve the complicated ratio problem in CT variables, directly accept a secondary signals from CT & scale to a primary reading display. The designed specifications of the units, truly a real power system design, compliant ANSI-IEEE & IEC, VDE those standards providing full protection for surge intrusion & unusual over input to assure reliable operation.

Specification

Accuracy (23±3°C)	0.2% fs
Stability	Temperature coefficient < 50 ppm per degree C. Long term draft < 0.2% per year
Digits / counts / display	Maximum 19999 counts of 4-1/2 digits. 0.56" super rate LED
Configuration	Ratio settable : CT ration for UMAF
Response time	Sample rate 1 of per sec typically
Input burden	0.25VA maximum
Input over	Current input : 3 x rating-continuous, 10 x rating - 30 sec, 25 x rating - 3 sec
Frequency	48 - 400 Hz
Dielectric strength	2.5KV rms / 1 minute, all terminals to reference ground (case) 2KV rms / 1 minute, input terminals to power terminals
Surge test	ANSI C37.90.1/1989, IEC 255-3 (1989)
Impulse voltage	Impulse voltage 1.2 x 50 us 4KV Oscillation wave 0.5us - 100KHz 3KV & 1MHz - 0.25ms 2.5KV
Operation condition	Temperature range -10 to 55°C, 0 to 99% RH non-condensed Storage -25 to 70°C, 20-99% RH non-condensed
Auxiliary power	AC / DC version < 3.5VA, DC option version ±20% < 5 watts



HSIANG CHENG ELECTRIC CORP.

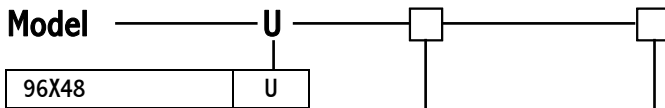
4F., No.11, Ln. 235, Baoqiao Rd., Xindian Dist., New Taipei City 231, Taiwan
 TEL : 886-2-29175865~9 FAX : 886-2-29173946 E-mail : expo.sales@hc.com.tw

Programmable Ratio AC Current Meters

Order from

Function	Model	Digits
CT ration programmable	UMAF	4-1/2

Frame (in mm)



Auxiliary power

AC / DC 30-250V	★	S
DC option 24V		1

★ : This segment was originally used in the circuit of traditional transformer, and new model uses switching power circuit where in the wide range power system

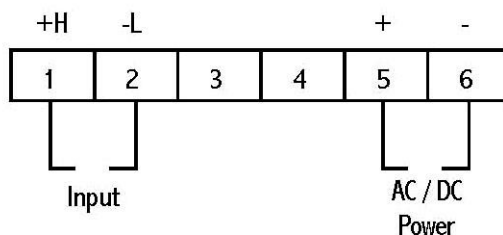
Input range

(Either standard calibration or customer calibration)

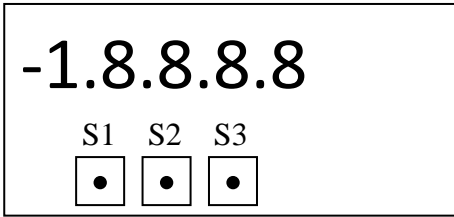
Standard calibration

CT ratio 100 / 5 P / S = 20			AS		
Customer specified pre-calibration			AS		
CT ratio = P / S					
P / S	P/5A	P/1A	P / S	P/5A	P/1A
20A / S	A5	A1	400A / S	N5	N1
25A / S	B5	B1	500A / S	O5	O1
30A / S	C5	C1	600A / S	P5	P1
40A / S	D5	D1	750A / S	Q5	Q1
50A / S	E5	E1	800A / S	R5	R1
60A / S	F5	F1	1000A / S	S5	S1
75A / S	G5	G1	1200A / S	T5	T1
80A / S	H5	H1	1500A / S	U5	U1
100A / S	I5	I1	1600A / S	V5	V1
150A / S	J5	J1	2000A / S	W5	W1
200A / S	K5	K1	2500A / S	X5	X1
250A / S	L5	L1	3000A / S	Y5	Y1
300A / S	M5	M1	3600A / S	Z5	Z1
The other range				AY	

Terminal connection



Programmable Ratio AC Current Meters



Function Key

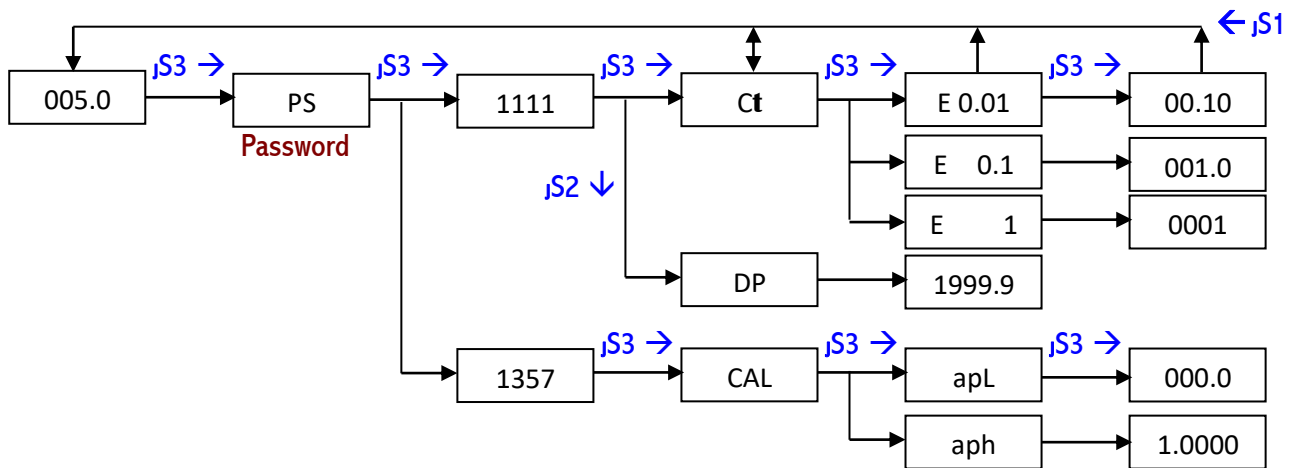
S1 : Exit the setting and return to mode of measurement

S2 : Increasing value or Select Type

S3 : Enter the setting or next figures

↓ : Keying Sx (S1 、 S2 、 S3)

UMAF function block :



Programmable Ratio AC Current Meters

Function Setting 1 :

1. Enter Password

⌋S3 → → ⌋S3 →

2. Write Password (1111)

⌋S2 → ⌋S3 ⌋S2 → ⌋S3 ⌋S2 → ⌋S3 ⌋S2 → ⌋S3

3. CT ratio setting (Ct)

Example : Ct ratio = 1.0 → 2.0

→ ⌋S3 → → ⌋S3 → → ⌋S2/⌋S3 → → ⌋S3 → Repeat

4. Decimal point setting (DP)

→ ⌋S3 → → ⌋S2 → → ⌋S2 → → ⌋S2 → → ⌋S2 → → ⌋S2 → Repeat

5. Escape Setting and Save

⌋S1

Programmable Ratio AC Current Meters

Function Setting 2 :

1. Enter Password

⌋S3 → → ⌋S3 →

2. Write Password (1357)

⌋S2 → ⌋S3 ⌋S2 → ⌋S3 ⌋S2 → ⌋S3 ⌋S2 → ⌋S3

3. Calibration setting (Cal)

Zero calibration (APL)

⌋S3 → → ⌋S3 → → ⌋S3 →

Span calibration (APH)

⌋S3 → → ⌋S3 → → ⌋S2 → → ⌋S3 →

Example :

100% standard current = 300.0A, 10% standard current = 30.0A

100% meter read = 301.0A, 10% meter read = 30.1A

Zero set	10% meter read = 30.1A	<input type="text" value=""/>	.
APL setting	= -0.1A	<input type="text" value="-"/>	.
Span set	100% meter read = 301.0A	<input type="text" value=""/>	.
APH setting	= 0.9970	<input type="text" value="."/>	

$$\begin{aligned}
 \text{APH} &= \text{standard current} / (100\% \text{ meter read} - \text{APL}) \\
 &= 300.0\text{A} / (301.0 - 0.1) \\
 &= 0.9970
 \end{aligned}$$

4. Escape Setting and Save

⌋S1

Programmable Ratio AC Current Meters

Dimension

U TYPE

