TEST AND MEASUREMENT (LAB) INSTRUMENTS

MULTIFUNCTION INSTALLATION TESTERS

MODELS CA 6116N & CA 6117

Safety for your electrical installations and high performance with these unique instruments





SPECIFICATIONS

Range/Resolution/Accuracy	SPECIFICATIONS				
Rated/Range/Resolution > 200 mA / 39.99 Ω / 0.01 & 0.1 Ω / \pm (1.5 % of measurement + 2 cts); 12 mA / 39.99 Ω & 39.99 Ω / 0.01 & 0.1 Ω / \pm (1.5 % of measurement + 5 cts) with beep Range/Resolution/Accuracy 4 k\Omega / 10 \tau / \pm (1.5 % of measurement + 5 cts); (40 to 400 k\Omega / 10 to 100 \Omega / \pm (1.5 % of measurement + 2 cts)	MODELS	CA 6116N	CA 6117		
Range/Resolution/Accuracy	CONTINUITY/RESISTANCE				
Range/Resolution/Accuracy $4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 5 \text{ cis}); (40 \text{ to }400 \text{ K}\Omega)/(10 \text{ to }100 \Omega)/\pm (1.5 \text{ % of measurement} + 2 \text{ minute}) 4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 5 \text{ cis}); (40 \text{ to }400 \text{ K}\Omega)/(10 \text{ to }100 \Omega)/\pm (1.5 \text{ % of measurement} + 2 \text{ minute}) 4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 2 \text{ cis}); (40 \text{ to }400 \text{ K}\Omega)/(10 \text{ to }100 \Omega)/\pm (1.5 \text{ % of measurement} + 3 \text{ cis}) 4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 3 \text{ cis}) 4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 3 \text{ cis}) 4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 3 \text{ cis}) 4 \text{ K}\Omega/1 \Omega/\pm (1.5 \text{ % of measurement} + 3 \text{ cis}) } \\ $	I Rated/Range/Resolution	$I > 200 \text{ mA} / 39.99 \Omega / 0.01 \Omega / \pm (1.5 \% \text{ of measurement} + 2 \text{ cts});$			
INSULATION Rated Voltage 50 Voc, 100 Voc, 250 Voc, 500 Voc, 1000 Voc Range/Resolution/Accuracy 0.01 MΩ to 2 GΩ / 10 kΩ to 1 MΩ / ± (5 % of measurement + 3 cts) Short-Circuit Current GROUND RESISTANCE 3-Point Range/Resolution/Accuracy Ufk 1-Point Selective Range/Resolution/Accuracy UoP IMPEDANCE (25 (L-PE) & Zi (L-N or L-L)) / 1-POINT LIVE GROUND Installation Voltage/Frequency HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L)) / 1-POINT LIVE GROUND No TRIP Mode (Zs (L-PE) only) No TRIP Mode (Zs (L-PE) only) Calculation of Ik Short-Circuit Current PFC (2s), I Sc PSCc (Zi) Integrated Fuse Table	_				
Rated Voltage $50 \text{Voc}, 100 \text{Voc}, 250 \text{Voc}, 500 \text{Voc}, 1000 \text{Voc}$ Range/Resolution/Accuracy $0.01 \text{M}\Omega \text{to} 2 \text{G} / 10 \text{k}\Omega \text{to} \text{Im} \Omega / \pm (5 \% \text{of measurement} + 3 \text{cts})$ Short-Gircuit Current 3sm GROUND RESISTANCE 3-Point Range/Resolution/Accuracy Ufk $(5.5 \text{to} 40) \Omega / 0.01 \Omega / \pm (2 \% \text{of measurement} + 10 \text{cts}) / 40 \text{to} 15 \text{k}\Omega / (0.1 \text{to} 1) \Omega / \pm (2 \% \text{of measurement} + 2 \text{cts})$ Ufk $(5.5 \text{to} 40) \Omega / 0.01 \Omega / \pm (2 \% \text{of measurement} + 2 \text{cts})$ Ufk $(5.5 \text{to} 40) \Omega / 0.01 \Omega / \pm (10 \% \text{of measurement} + 2 \text{cts})$ Ufk $(5.5 \text{to} 40) \Omega / 0.01 \Omega / \pm (10 \% \text{of measurement} + 2 \text{cts})$ Ufk $(5.5 \text{to} 40) \Omega / 0.01 \Omega / \pm (10 \% \text{of measurement} + 2 \text{cts})$ UoP IMPEDANCE (Zs (L-PE) & Zi (L-N or L-L)) / 1-POINT LIVE GROUND Live Ground $(90 \text{to} 500) \text{V} / (15.8 \text{to} 17.5) \text{Hz} \text{and} (45 \text{to} 65) \text{Hz}$ HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L) Max. test current: 7.5A Range/Resolution/Accuracy $(0.050) (0.100 \text{to} 0.5) \Omega / 0.001 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.99 \text{to} 39.99) \Omega / 0.01 \Omega / \pm (5 \% \text{of measurement} + 2 \text{cts}) (3.9$		$4 \times 27 + 27 \pm (1.5 \%)$ of fileasurement + 5 cts), (40	to 400 kg// (10 to 100 Ω)/ \pm (1.3 % of fileasurement + 2 cts)		
Range/Resolution/Accuracy $0.01 \text{ M}\Omega$ to $2 \text{ G}\Omega/10 \text{ k}\Omega$ to $1 \text{ M}\Omega/\pm (5 \text{ %} \text{ of measurement} + 3 \text{ cts})$ Short-Circuit Current (STROUND RESISTANCE 3-Point (0.50 to 40) $\Omega/0.01 \Omega/\pm (2 \text{ %} \text{ of measurement} + 10 \text{ cts}); 40 \Omega$ to $15 \text{ k}\Omega/(0.1 \text{ to } 1) \Omega/\pm (2 \text{ %} \text{ of measurement} + 2 \text{ cts})$ Ufk (15 to 40) $\Omega/10 \Omega/\pm (10 \text{ %} \text{ of measurement} + 2 \text{ cts})$ Complies with SEV 3569 1-Point Selective Range/Resolution/Accuracy (0.20 to 39.99) Ω to (40 to 399.9) $\Omega/0.01 \text{ to } 0.1) \Omega/\pm (10 \text{ %} \text{ of measurement} + 10 \text{ cts}); (15 \text{ to } 40) \Omega/0.01 \Omega/\pm (10 \text{ %} \text{ of measurement} + 10 \text{ cts}); (15 \text{ el via clamp})$ Live Ground Installation Voltage/Frequency HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L) / 1-Point Live Ground (90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz Range/Resolution/Accuracy (3.999 to 39.99) $\Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0.5 to 3.999) \Omega/0.01 \Omega/\pm (5 \text{ %} \text{ of measurement} + 20 \text{ cts}); (0$		50 Vpc 100 Vpc 250 Vpc 500 Vpc 1000 Vpc			
Short-Circuit Current GROUND RESISTANCE 3-Point (0.50 to 40) Ω / 0.01 Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (10 % of measurement + 10 cts); 40 Ω to 10 Ω / ± (10 % of measurement + 10 cts); 40 Ω to 10 Ω / ± (10 % of measurement + 10 cts); 40 Ω to 10 Ω / ± (10 % of measurement + 10 Cts); 40 Ω to 10 Ω / ± (10 % of measurement + 10 Cts); 40 Ω (0.50); 40 Ω to 10 Ω / ± (10 % of measurement + 2 Ω Cts); 40 Ω to 10 Ω / ± (5 % of measurement + 2 Ω Cts); 40 Ω to 10 Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω					
Co.50 to 40) Ω / 0.01 Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 12 cts)					
Range/Resolution/Accuracy					
Ufk Complies with SEV 3569 1-Point Selective Range/Resolution/Accuracy (0.20 to 39.99) Ω to (40 to 399.9) Ω / (0.01 to 0.1) Ω / ± (10 % of measurement + 10 cts) (ISel via clamp) LOOP IMPEDANCE (Zs (L-PE) & Zi (L-N or L-L)) / 1-POINT LIVE GROUND (90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L) Max. test current: 7.5 A Range/Resolution/Accuracy (0.050) (0.100 to 0.5) Ω / 0.001 Ω / ± (5 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 20 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of measurement + 20 cts); (10.00 to 19.99) Ω / 0.01 Ω / ± (10 % of	3-Point	$(0.50 \text{ to } 40) \Omega / 0.01 \Omega / \pm (2 \% \text{ of measurement} + 10 \text{ cts}); 40 \Omega \text{ to } 15 \text{ k}\Omega / (0.1 \text{ to } 1) \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts});$			
1-Point Selective Range/Resolution/Accuracy LOOP IMPEDANCE (Zs (L-PE) & Zi (L-N or L-L)) / 1-POINT LIVE GROUND Live Ground Installation Voltage/Frequency HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L) Max. test current: 7.5 A Range/Resolution/Accuracy (0.50) (0.100 to 0.5) Ω / 0.001 Ω / ± (10 % of measurement + 2 cts); (0.5 to 3.999) Ω / 0.001 Ω / ± (5 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (3.999 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.00 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.00 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (2 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (2 % of measurement + 10 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 10 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 10 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 10 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω / 0.01 Ω / ± (10 % of measurement + 2 cts); (4.000 to 3.999) Ω /	Range/Resolution/Accuracy	(15 to 40) k Ω / 10 Ω / \pm (10 % of measurement + 2 cts)			
Range/Resolution/Accuracy (0.20 to 399.9) Ω fo (40 to 399.9) Ω fo	Ufk	Complies with SEV 3569			
Live Ground Installation Voltage/Frequency HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L) Max. test current: 7.5 A (0.050) (0.100 to 0.5) Ω / 0.001 Ω / ± (10 % of measurement + 20 cts); (0.5 to 3.999) Ω / 0.10 Ω / ± (5 % of measurement + 2 cts); (39.99 to 39.99) Ω / 0.1 Ω / ± (5 % of measurement + 2 cts); (39.99 to 39.99) Ω / 0.1 Ω / ± (5 % of measurement + 2 cts); (39.99 to 39.99) Ω / 0.1 Ω / ± (5 % of measurement + 2 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (39.99 to 39.99) Ω / 0.1 Ω / ± (5 % of measurement + 2 cts); (39.99 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (10.0 to 1.99) Ω / 0.01 Ω / ± (15 % of measurement + 3 cts) (2.00 to 39.99) Ω / 0.01 Ω / ± (10 % of measurement + 3 cts); (2.00 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (5 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (5 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (5 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (5 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (5 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (10 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (10 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (10 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (2 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (2 % of measurement + 2 cts); (40.00 to 39.99) Ω / 1.0 Ω / ± (2 % of measurement + 10 cts); (40.00 to 15 to 40) to 15 to 40) to 10 Ω / ± (2 % of measurement + 10 cts); (40.00 to 15 to 40) to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (10 % of measurement + 2 cts); (40.00 to 10 Ω / ± (1		(0.20 to 39.99) Ω to (40 to 399.9) Ω / (0.01 to 0.1) Ω / \pm (10 % of measurement + 10 cts) (ISel via clamp)			
Installation Voltage/Frequency					
HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L) Range/Resolution/Accuracy (0.050) (0.100 to 0.5) $\Omega / 0.001 \Omega / \pm (10 \% \text{ of measurement} + 20 \text{ cts}; (0.5 \text{ to } 3.999) \Omega / 0.010 \Omega / \pm (5 \% \text{ of measurement} + 20 \text{ cts}; (3.9.99 \text{ to } 399.99) \Omega / 0.01 \Omega / \pm (5 \% \text{ of measurement} + 20 \text{ cts}; (39.99 \text{ to } 399.99) \Omega / 0.01 \Omega / \pm (5 \% \text{ of measurement} + 20 \text{ cts}; (39.99 \text{ to } 399.99) \Omega / 0.01 \Omega / \pm (5 \% \text{ of measurement} + 20 \text{ cts}; (39.99 \text{ to } 399.99) \Omega / 0.01 \Omega / \pm (5 \% \text{ of measurement} + 20 \text{ cts}; (39.99 \text{ to } 399.99) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 10 \text{ cts}) (1.00 to 1.99) \Omega / 0.01 \Omega / \pm (15 \% \text{ of measurement} + 3 \text{ cts}) (2.00 to 39.99) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) (400 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) (400 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (10.50 to 1.99) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (40.00 to 399.9) \Omega / 0.01 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) (50 to 40) \Omega / 0.01 \Omega / \Omega $		(90 to 500) V / (15.8	to 17.5) Hz and (45 to 65) Hz		
Range/Resolution/Accuracy Max. test current: 7.5 A (0.050) (0.100 to 0.5) Ω / 0.001 Ω / ± (10 % of measurement + 20 cts); (0.5 to 3.999) Ω / 0.001 Ω / ± (5 % of measurement + 20 cts); (0.5 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 20 cts); (0.5 to 3.999) Ω / 0.01 Ω / ± (5 % of measurement + 20 cts) No TRIP Mode (Zs (L-PE) only) Test current: (6, 9, or 12) mA (as required) (0.20 to 0.99) Ω / 0.01 Ω / ± (15 % of measurement + 3 cts) (2.00 to 39.99) Ω / 0.01 Ω / ± (15 % of measurement + 3 cts) (2.00 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts) Calculation of Ik Short-Circuit Current PFC (Zs), 1 Sc PSCC (Zi) Fault current and short-circuit current: 0.1 A to 20 kA Integrated Fuse Table - Voltage Drop ΔV % (Zi) - Others Measurement of the resistive and inductive components of the Zs and Zi impedances AC & A-TYPE RCDs Installation Voltage/Frequency Installation Voltage/Frequency (90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz IΔn (10/30/100/300/500/650/1000) mA (90 to 280) V or variable – (10/30/100/300/500) mA (280 to 550) V or variable at ½ IΔn – Duration: 1000 or 2000 ms Ramp Mode 0.2 to 0.5 x IΔn (Uf) / 0.3 x IΔn to 1.06 x IΔn in increments of 3.3 % x IΔn TRIP TIME MEASUREMENT (0.50 to 40) Ω / 0.01 Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 2 cts); (15 to 40) kΩ / 10 Ω / ± (10 % o		Zs (L-PE) & Zi (L-N or L-L)			
(3.999 to 39.99) Ω / 0.01 Ω / \pm (5 % of measurement + 2 cts); (39.99 to 399.99) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) Test current: (6, 9, or 12) mA (as required) (0.20 to 0.99) Ω / 0.01 Ω / \pm (15 % of measurement + 10 cts) (1.00 to 1.99) Ω / 0.01 Ω / \pm (15 % of measurement + 3 cts) (2.00 to 39.99) Ω / 0.01 Ω / \pm (10 % of measurement + 3 ct) (40.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (400 to 399.9) Ω / 10 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (400 to 399.9) Ω / 10 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.1 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (5 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 10 cts); (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts) (ad.00 to 399.9) Ω / 0.01 Ω / \pm (2 % of measurement + 2 cts)		Max. te			
No TRIP Mode (Zs (L-PE) only) $ (1.00 \text{ to } 1.99) \ \Omega / 0.01 \ \Omega / \pm (15 \% \text{ of measurement} + 3 \text{ cts}) \ (2.00 \text{ to } 39.99) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 3 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (5 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.1 \ \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 399.9) \ \Omega / 0.01 \ \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 40.00 \ \Omega / 0.01 \ \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 40.00 \ \Omega / 0.01 \ \Omega / \pm (10.00 \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 40.00 \ \Omega / 0.01 \ \Omega / \pm (10.00 \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 40.00 \ \Omega / 0.01 \ \Omega / \pm (10.00 \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 40.00 \ \Omega / 0.01 \ \Omega / \pm (10.00 \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to } 40.00 \ \Omega / 0.01 \ \Omega / \pm (10.00 \text{ of measurement} + 2 \text{ cts}) \ (40.00 \text{ to }$	Range/Resolution/Accuracy	(0.050) $(0.100 \text{ to } 0.5)$ Ω / 0.001 Ω / \pm (10 % of measurement + 20 cts); $(0.5 \text{ to } 3.999)$ Ω / 0.001 Ω / \pm (5 % of measurement + 20 cts			
Current PFC (Zs), I Sc PSCC (Zi) Integrated Fuse Table Voltage Drop ΔV % (Zi) Others Measurement of the resistive and inductive components of the Zs and Zi impedances AC & A-TYPE RCDs Installation Voltage/Frequency (90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz I Δn (10/30/100/300/500/650/1000) mA (90 to 280) V or variable $-$ (10/30/100/300/500) mA (280 to 550) V or variable $-$ (10/30/100/300/500) mA	No TRIP Mode (Zs (L-PE) only)	Test current: (6, 9, or 12) mA (as required) (0.20 to 0.99) Ω / 0.01 Ω / \pm (15 % of measurement + 10 cts) (1.00 to 1.99) Ω / 0.01 Ω / \pm (15 % of measurement + 3 cts) (2.00 to 39.99) Ω / 0.01 Ω / \pm (10 % of measurement + 3 cts)			
Integrated Fuse TableYesVoltage Drop ΔV % (Zi)-(-40 to 40) %OthersMeasurement of the resistive and inductive components of the Zs and Zi impedancesAC & A-TYPE RCDs(90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) HzIΔn $(10/30/100/300/500/650/1000)$ mA (90 to 280) V or variable $-(10/30/100/300/500)$ mA (280 to 550) V or variable $-(10/30/100/300/500/500)$ mA (280 to 550) V or variable $-(10/30/100/300/500)$ mA (280 to 65) HzRamp Mode(0.50 to 0.5 x IΔn (Uf) / 0.3 x IΔn to 1.06 x IΔn in increments $+(10/30/100/300/500)$ mA (280 to 65) HzRamp Mode(0.50 to 0.5 x IΔn (Uf) / 0.01 Ω / ± (2 % of measurement $+(10/30/100/300)$ mA (280 to 65) HzRamp Mode<					
Voltage Drop ΔV % (Zi)—(-40 to 40) %OthersMeasurement of the resistive and inductive components of the Zs and Zi impedancesAC & A-TYPE RCDsInstallation Voltage/Frequency(90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) HzIΔn $(10/30/100/300/500/650/1000)$ mA (90 to 280) V or variable — $(10/30/100/300/500)$ mA (280 to 550) V or variable mamp and pulse testNo TRIP Testat ½ I Δ n — Duration: 1000 or 2000 msRamp Mode0.2 to 0.5 x I Δ n (Uf) / 0.3 x I Δ n to 1.06 x I Δ n in increments of 3.3 % x I Δ nTRIP TIME MEASUREMENT $(0.50 \text{ to } 40) \Omega / 0.01 \Omega / \pm (2 \% \text{ of measurement} + 10 \text{ cts});$ Range/Resolution/Accuracy $(0.50 \text{ to } 40) \Omega / 0.1 \text{ to } 1) \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts});$ $(15 \text{ to } 40) \text{ k}\Omega / 10 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts});$		_	Yes		
AC & A-TYPE RCDs Installation Voltage/Frequency (90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz IΔn $(10/30/100/300/500/650/1000)$ mA (90 to 280) V or variable $-$ (10/30/100/300/500) mA (280 to 550) V or variable $-$ (10/30/100/500) mA (280 to 550) V or variable $-$ (10/30/100/500) mA (280 to 550) V or variable $-$ (10/30/100/500) mA (280 to		_	(-40 to 40) %		
Installation Voltage/Frequency (90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz IΔn (10/30/100/300/500/650/1000) mA (90 to 280) V or variable $-$ (10/30/100/300/500) mA (280 to 550) V or variable $-$ (10/30/100/500) mA (280 to 550)	Others	()			
IΔn					
Ramp and pulse test No TRIP Test at $\frac{1}{2} \ln - Duration$: 1000 or 2000 ms Ramp Mode 0.2 to $0.5 \times \ln (Uf) / 0.3 \times \ln t$ to $1.06 \times \ln t$ in increments of $3.3 \% \times \ln t$ TRIP TIME MEASUREMENT $(0.50 \text{ to } 40) \Omega / 0.01 \Omega / \pm (2 \% \text{ of measurement} + 10 \text{ cts});$ $40 \Omega \text{ to } 15 \text{ k}\Omega / (0.1 \text{ to } 1) \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts});$ $(15 \text{ to } 40) \text{ k}\Omega / 10 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts})$	Installation Voltage/Frequency				
Ramp Mode 0.2 to 0.5 x $I\Delta n$ (Uf) $/$ 0.3 x $I\Delta n$ to 1.06 x $I\Delta n$ in increments of 3.3 % x $I\Delta n$ TRIP TIME MEASUREMENT $(0.50$ to $40)$ Ω $/$ 0.01 Ω $/$ \pm $(2$ % of measurement + 10 cts);Range/Resolution/Accuracy 40 Ω to 15 k Ω $/$ $(0.1$ to $1)$ Ω $/$ \pm $(2$ % of measurement + 2 cts);(15 to $40)$ k Ω $/$ 10 Ω $/$ \pm (10 % of measurement + 2 cts)	IΔn	Ramp and pulse test			
TRIP TIME MEASUREMENT	No TRIP Test				
Range/Resolution/Accuracy $(0.50 \text{ to } 40) \Omega / 0.01 \Omega / \pm (2 \% \text{ of measurement} + 10 \text{ cts});$ $40 \Omega \text{ to } 15 \text{ k}\Omega / (0.1 \text{ to } 1) \Omega / \pm (2 \% \text{ of measurement} + 2 \text{ cts});$ $(15 \text{ to } 40) \text{ k}\Omega / 10 \Omega / \pm (10 \% \text{ of measurement} + 2 \text{ cts})$	•	0.2 to 0.5 x I Δ n (Uf) / 0.3 x I Δ n to 1.06 x I Δ n in increments of 3.3 % x I Δ n			
Range/Resolution/Accuracy 40 Ω to 15 k Ω / (0.1 to 1) Ω / \pm (2 % of measurement + 2 cts); (15 to 40) k Ω / 10 Ω / \pm (10 % of measurement + 2 cts)	TRIP TIME MEASUREMENT				
	Range/Resolution/Accuracy	$40~\Omega$ to 15 k Ω / (0.1 to 1) Ω / \pm (2 % of measurement + 2 cts);			
R-19PE RING	B-TYPE RCDs	(13 t0 40) K27 10 27 7	E (10 % of fileasurement + 2 cts)		
Installation Voltage/Frequency – (90 to 275) V / (15.8 to 17.5) Hz and (45 to 65) Hz		_	(90 to 275) V / (15.8 to 17.5) Hz and (45 to 65) Hz		
			(10/30/100/300/500) mA and (10/30/100) mA with pulse 4 I∆n		
Ramp/Pulse 2 x IΔn Pulse 4 x IΔn or 300 ms with 2 x IΔn	Ramp/Pulse 2 x I∆n Pulse 4 x I∆n	_	Duration: 150 ms with 4 x l∆n or 300 ms with 2 x l∆n		
Test in Ramp Mode − 0.2 x I∆n to 2.2 x I∆n	Test in Ramp Mode	-	0.2 x I∆n to 2.2 x I∆n		
TRIP Test: 2 x ΙΔN \leq 200 mA: 2.2 x 2 x ΙΔn 1ΔN $>$ 200 mA: 1.1 x 2 x ΙΔn 1ΔN \leq 100 mA: 2.2 x 4 x ΙΔn	11111	_	$I\Delta N > 200 \text{ mA}$: 1.1 x 2 x $I\Delta n$		



Specifications continued on next page.

TEST AND MEASUREMENT (LAB) INSTRUMENTS

MULTIFUNCTION INSTALLATION TESTERS

SPECIFICATIONS - CONTINUED

MODELS	CA 6116N	CA 6117		
OTHER MEASUREMENTS				
Current by Clamps C177	5.0 mA to 199.9 A			
Current by Clamp MN77	(1 mA*) 5.0 mA to 19.99 A			
Voltage	(0 to 550) Vac/dc and (15.8 to 500) Hz			
Frequency	(10 to 500) Hz			
Phase Rotation	(20 to 500) Vac			
Active Power	(0 to 110) kW single-phase – (0 to 330) kW three-phase Simultaneous display of voltage and current waveforms			
Harmonics	Voltage and current/up to 50th order / THD-F / THD-R			
GENERAL SPECIFICATIONS				
Display	Large 5.7 in backlit graphic color, LCD screen, 320 x 240 points			
Storage/Communication	Via USB for data transfer and report creation			
Power Supply (rechargeable battery)	Li-ion 10.8 V rated 5.8 A·h			
Battery Life	Up :	to 30 h		
Dimensions/Weight	(11.02 x 7.48 x 5.04) in (280 x 190 x 128) mm / 4.85 lb (2.2 kg)			
SAFETY				
Safety Rating	IEC 61010 -1/600 V CAT III & 300 V CAT IV/IEC 61557			
Ingress Protection	IP53 / IK04			
EMC	IEC 61326-1			

^{*}If a voltage is connected to the instrument

FEATURES

- Testing according to the international standards: IEC 60364-6, NF C 15-100, VDE 100, XP C 16-600, etc.
- Simple, reliable connection supported by contextual help for each function, including all the connection diagrams
- Suitable for all neutral systems (TT, TN, IT)
- Type-B RCD testing available (Model CA 6117)
- · Li-ion battery for a longer battery life
- · Measurements: voltage, current via clamp, power, waveforms and harmonics
- · Measurement of voltage drop for correct sizing of conductor diameters
- Loop measurement with 1 m Ω resolution
- · 3-level storage
- Includes DataView® analysis software for programming, downloading, storing and report generation of test data
- Integrated fuse table for quick reading of the results on the instrument









PRODUCT INCLUDES

Carrying bag, US power cord and charger, Li-ion battery pack, USB A/B cable, set of (3) 3-prong color-coded (red, blue, green) safety voltage leads, set of (3) color-coded (red, blue, green) test probes, set of (3) color-coded (red/blue/green) alligator clips, set of (2) color-coded (red/black) safety leads 4 mm

straight plug, 3-prong US measurement cord, remote test probe, wrist strap, hands-free strap. multilingual safety card, and a USB drive with DataView® software and user manual.



SPECIAL ORDERS ONLY

CATALOG NO.	DESCRIPTION
2138.06	Multi-Function Installation Tester Model CA 6116N (US) (includes DataView® Software) - SPECIAL ORDER ONLY
2138.07	Multi-Function Installation Tester Model CA 6117 (US) (includes DataView® Software) - SPECIAL ORDER ONLY
2138.10	Multi-Function Installation Tester Model CA 6116N Kit (US) (includes C177A, DataView® Software) - SPECIAL ORDER ONLY
2138.11	Multi-Function Installation Tester Model CA 6117 Kit (US) (includes C177A, DataView® Software) - SPECIAL ORDER ONLY