

Amplifier CMA 156

CMA 156 - 6 Phase Current Amplifier (6 x 25 A)

VEHV1010



Recommended for tests requiring

- higher currents/power in the current path.
- more than 3/6 current channels (e.g. for testing 3-winding transformer differential protection).

The CMA 156 contains 6 independent current channels, arranged in two isolated groups (A, B). By connecting all six current phases in parallel, for example, a power of up to 420 VA and current up to 150 A can be delivered, which allows testing a wide range of electromechanical relays.

Technical Data

Current generators/-amplifiers ¹		
Setting range	6-phase ac (L-N)	6 x 0 ... 25 A
	3-phase ac (L-N)	3 x 0 ... 50 A (Group A II B)
	1-phase ac (L-N)	1 x 0 ... 150 A (Group A II B)
	dc (L-N)	2 x 0 ... ± 25 A / 1 x 0 ... ± 50 A
Power	6-phase ac (L-N)	6 x 70 VA at 7.5 A
	3-phase ac (L-N)	3 x 140 VA at 15 A (Group A II B)
	1-phase ac (3L-N)	1 x 420 VA at 22.5 A, 1 x 420 VA at 45 A (Group A II B)
	1-phase ac (L-L)	1 x 280 VA at 7.5 A
	dc (L-N)	2 x 140 W at ±10.5 A, 1 x 280 W at ± 21 A (Group A II B)
	3/6 phase operation	
single phase operation		
Accuracy	error < 0.03 % typ. (< 0.1 % guar.)	
Distortion (THD+N) ²	< 0.1 % typ. (< 0.3 % guar.)	
Bandwidth (-3dB)	> 8 kHz	
Phase lag at 50/60 Hz	1.07°/1.28°	
Input voltage	0 ... 5 V	
Amplification	5 A / V	
Max. compliance voltage (L-N)/(L-L)	15 Vpk / 60 Vpk	

¹ For higher current/power requirements: CMA units can be switched in parallel.

² THD+N: Values at 50/60 Hz with 20 kHz bandwidth.

Technical Data (continued)

Amplifiers, general³		
Input impedance		> 40 kΩ
Galvanic isolation Input/Output		1.5 kVdc
Galvanic isolation amplifier groups		1.5 kVdc
Connection		4mm banana sockets/amplifier combination socket
Amplifiers, if controlled by a CMC		
Frequency	range sine signals	10 ... 1000 Hz
	range transient signals	dc ... 3.1 kHz
	accuracy/-drift	± 0.5 ppm / ± 1 ppm
	resolution	5 μHz
Phase	angle range	- 360° ... +360°
	resolution	0.001°
	error at 50/60 Hz	< 0.02° typ. (< 0.1° guar.)
Output current resolution		1 mA
Power supply		
Nominal input voltage		110 ... 240 Vac, 1-phase
Permissible input voltage		99 ... 264 Vac
Nominal frequency		50/60 Hz
Permissible frequency range		45 ... 65 Hz
Power consumption		< 1000 VA
Connection		Standard ac socket (IEC 60320)
Environmental conditions		
Operation temperature		0 ... +50°C (+32 ... +122°F)
Storage temperature		-25 ... +70°C (-13 ... +158°F)
Humidity range		Relative humidity 5 ... 95 %, non-condensing
Vibration		IEC 68-2-6 (20 m/s ² at 10 ... 150 Hz)
Shock		IEC 68-2-27 (15g/11ms half-sine)
EMC		CE conform (89/336/EEC)
Emission		EN 50081-2, EN 61000-3-2/3, FCC Subpart B of Part 15 Class A
Immunity		EN 50082-2, IEC 801-2/3/4
Safety		EN 61010-1, EN 60950+A1, UL 3111-1, CAN/CSA-C22.2 No 1010.1
Miscellaneous		
Weight		15.4 kg (34.0 lb.)
Dimensions (W x H x D, without handle)		450 x 145 x 390 mm (17.7 x 5.7 x 15.4")
Certifications		
		TÜV-GS, UL, CUL

³ Self diagnostics of the hardware upon each start up.
All current and voltage outputs are fully overload and short-circuit proof and protected against external high-voltage transient signals and overtemperature.

Guaranteed values valid over one year within 23°C±5°C (73°F±10°F), in the frequency range of 10 ... 100 Hz at nominal value. Specifications for three-phase systems under symmetrical conditions (0°, 120°, 240°).