50/60Hz OR 60/50Hz FREQUENCY CONVERTERS

CF RANGE

CFMM, CFTM, CFTT

The CF range of converters ensures the frequency and voltage conversion for AC networks.

This new range of frequency converters, designed to work in severe environments, are the result of years of experience in designing on-board electronic systems.

MAIN APPLICATIONS

- **Industrial version**: Supplies all types of electrical equipment, frequency tests, motors…
- **Marine version**: On-board network supply in 50 or 60Hz depending on shore supply.

STANDARD RANGE

CFMM		CFTM		CFTT	
Input supply single phase 50/60 Hz Output supply single phase 50/60 Hz		**Input supply 3 phase 50/60 Hz Output supply single phase 50/60Hz**		**Input supply 3 phase 50/60 Hz Uutput supply three phase 50/60Hz**	
Power range	700 VA to 20 KVA	Power range	6.5 à 100 KVA	Power range	10 à 300 KVA
Input voltage	230 VAC*	Input voltage	400 VAC*	Input voltage	400 VAC*
Output user voltage	230 VAC*	Output user voltage	230 VAC*	Output user voltage	400 VAC* + Neutral*

** Other characteristics on request*

ADVANTAGES

The technology used in CF converters has the following advantages:

INPUT POWER: UPSTREAM	OUTPUT: DOWNSTREAM
▪ Large input voltage tolerance ▪ 50 or 60Hz networks accepted without switching ▪ High efficiency ▪ Galvanic Isolation (depending on model) ▪ In-rush current limited ▪ Functions with distorted networks	▪ All voltages from 115 V to 440V single phase or 3 phase using a transformer or auto transformer ▪ Accepts unbalanced loads ▪ « Neutral » - choice ▪ Can be coupled with two input networks (option) ▪ Instant power ≥ 150%

ENAG
creative energy from a manufacturer

31 Rue Marcel Paul
ZI Kerdroniou Est
29000 QUIMPER
FRANCE

tel +33 2 98 55 51 99
fax +33 2 98 55 51 67
mail contact@enag.fr
web www.enag.fr

CF – MAIN TECHNICAL SPECIFICATIONS

INPUT

- Single-phase 230 VCA* ± 10%
- Three-phase 400VCA* ± 20%
- Frequency: 47 Hz à 63 Hz

OUTPUT

- Single phase: 230 VCA*
- Three phase: 400 VCA*
- Frequency: 50 or 60 Hz
- Static voltage regulation ± 1%
- Frequency stability ± 0.1 Hz
- Sine wave. Global level of harmonic distortion < 1% at nominal power and linear load
- Max. overload from 1,25 PN to 1.68 PN depending on model
- Power factor: 0,8
- Typical efficiency ≥ 90%
- Power: 700 VA to 20 KVA single phase
  10 KVA to 300 KVA three phase

DISPLAY

Alpha-numeric display and keypad for the following functions:

- Operating conditions – alarms – on / off
- Display of voltage, current, frequency, power

MECHANICAL CHARACTERISTICS

- Metal cabinet
- Shock absorbers/dampers - on option
- RAL 7016*
- IP20*
- Cables accessible on terminal blocks
- Dimensions and weight: please consult us
- Low noise level: < 62 dB

TECHNOLOGY

- On line double conversion frequency converters

CLIMATIC CONDITIONS

- Ambient temperature (standard): 0°C à 45°C
- Humidity: 0% to 95% no condensation
- Cooling : forced ventilation

ENVIRONMENTAL CONDITIONS

Designed to work in rugged environments (marine range)

- Circuit boards protected by water repellent varnish
- Transformer/choke topicalization
- Manufactured to withstand vibration
- Low susceptibility to local distortion (HF and VHF emitters…)
- Special filters to attenuate conducted and radiated emissions (EMC)

OPTIONS

- Nonstandard input /user voltages.
- Special cabinets
- Specific IP
- Ventilation using extraction ducts.
- Permanent insulation monitoring

RULES AND STANDARDS

- LV 2006/95/EC _2004/108/EC directive
- EMC IEC: EN 62040-2 & EN 62040-3 standards
- Security: IEC EN 62040-1
- BV, Llyod's, DNV... on request

** Other characteristics on request*