

## Frequency converter

**EAC-F-3**  
**3 Phase**



Frequency converter 50,0kVA  
Input 3x 400/230V 50Hz  
Output 3x 208/120V 400Hz  
Output U/F controllable

### Frequency converter 3,0kVA to 50,0kVA 3-phase

#### Technical Data:

Input voltage	200V, 230V, 380V, 400V, 460V, 500V 3-phase (Other values on request)
Input frequency	50Hz, 60Hz, 400Hz (Other values on request)
Efficiency	84 bis 93% depending on power and input voltage
Operating temperature	-5°C to +45°C (Standard)
Output voltage	115V, 200V, 230V, 400V, 460V, 520V, 600V controllable 3-phase (Other values on request)
Tolerance static	+/- 1,5 (0,5% possible) in the entire power range
Tolerance dynamic	-/+ 5% Load jump 10%-100%-10%
Settling time	2-3ms
Frequency	16.7Hz, 50Hz, 60Hz, 400Hz, bis 800Hz controllable or fixed sine (other frequencies possible)
Tolerance	+/-0,01% (alternatively also controllable)
Power	3,0kVA to 50,0kVA 3-phase
Load range	100% Nominal load time 120% Nominal load for 2-3 minutes
Short circuit	1,5 - 2,5x I nominal current for 20-30ms
Power factor	cos. phi 0,5-1,0 ind. kap. depending on power
THD-U	<3% in the entire power range (ohmic load)
Crest factor	2,0-2,5 (SMPS)
Sound level	42dBA to 48dBA
Galvanic isolation	>3,0kV AC AC input/AC output
Interference suppression	EN 50091-2 / EN 55022
Security	EN 50091-1 (BGV A2)

## Unit design:

Analogue / digital control and monitoring system with grid monitoring, inrush current limiter, grid input transformer, 6-pulse choke, DC filter, AC filter, internal DC filter, power full bridge per phase (IGBT or MOS-FET), output transformer, AC output filter. 3 phase systems Output side in star connection with single phase control. System with effective value control. Depending on the version, with controller control.

- Visual messages /LED
- Operation ok.
  - Fault
  - Input undervoltage
  - Input overvoltage
  - Overtemperature
  - Output undervoltage
  - Output overvoltage
  - Output overload
- Potential-free signalling contact (collective fault)
  - On/off switch and signalling LED in the front. (Housing version)
  - Short circuit proof
  - High short circuit currents
  - Supply also of critical consumer loads with  $\cos \phi$  0.5-1.0 and high starting currents

The system can be further expanded with the following modules.

- Output 1-phase with 50kVA
- Emergency stop circuit with on and off button
- AC monitoring module undervoltage / overvoltage
- AC overload / load current detection
- AC-ISO guard
- Regulation of the output voltage via poti e.g. 20-100%.
- Control of the output frequency via poti e.g. 45Hz-65Hz or 45Hz to 400Hz according to your specifications
- External setpoint input analogue (0-10V) and/or digital
- Actual value feedback analogue (0-10V) and/or digital for voltage / frequency / current
- Possible interface RS232, RS485 or LAN(Ethernet)
- Sensor cable L-sens/N-sens to compensate for line losses (for 1-/3-phase output)

### 3.5 digit LCD instruments

- AC voltmeter
- AC ammeter
- AC frequency meter

Design as a combination system with switchover for output-side 3-phase / 1-phase operation. E.g. 3x 10kVA 3-phase to 1x 30kVA 1-phase output.



Standard operating front  
EAC-F-3 3-phase

### Mechanical design depending on power

Construction as mounting plate version IP00, table-top housing e.g. Schroff COMPACT, 19" full plug-in IP20, wall-mounted housing, stand-alone housing / floor-standing cabinet IP20 e.g. Rittal "TS", Schneider Electric "SF", other protection classes e.g. IP40 on request. Floor-standing cabinets are also available in mobile versions.

- Internal thermostatically controlled fan (ball bearing)
- Internal AC fuses and inrush current limiters
- Galvanic isolation between AC input and AC output
- AC clamps (screw clamp)
- Remote on/off

The system can be optimised for your specific applications such as

- Mobile system with wheels (for use indoors)
- Increase of overload capacity (motors / high consumer inrush currents, etc.)
- Extended temperature range -20 to +55°C (vehicle use, military applications, etc.)
- Protection classes up to IP54 depending on output (e.g. for outdoor installation)