

FREQUENCY INVERTER FOR INTERFERENCE-FREE, QUIET AND DEPENDABLE MOTOR CONTROL

NFO Sinus[®] G2



DATA SHEET

NFO Sinus[®] are unique, Intrinsic EMC frequency inverters for controlling electric induction motors for fans, pumps and other equipment. These inverters are based on two Swedish patents, one giving a pure sinusoidal output voltage, the other for high-precision motor speed control.

The pure sinusoidal output voltage enables absolutely smooth motor speed control, with no shielded cables or external interference suppression filters required. This means existing unshielded cables can be used in total re-build projects, making new powered equipment both easy and cheap to install. NFO Sinus[®] models can handle long cable runs to motors. Cable length is only limited by its resistance. These inverters meet the most demanding standards of the EMC directive, and are the only ones on the market which complies with the EMC-part of the medical products directive.

NFO Sinus[®] models do not generate any ball bearing currents, so service life time of motor bearings is not affected, making for operational dependability. Nor do they emit any earth currents, so RCDs can be used, making them extremely safe in electrical terms. Nor does the motor generate any switching noise, making for a totally silent environment.

Natural field orientation (NFO) means electric motor speeds can be controlled with extremely high precision, which would otherwise require a speed sensor and additional electronics. With NFO, motors run at full torque right from the start, even at low speeds. Motors run gently and softly, therefore smaller, cheaper motors can be used in many applications.

Thanks to the two patents, the pure sine wave and natural field orientation, NFO Sinus[®] frequency inverters can handle electric motors with maximum precision, quietly, dependably and interference-free.

3-PHASE, 230V

For 3 phase, 380 - 400 V,
see separate datasheet.

NFO
DRIVES

OUTPUT RATING (kW)

Motor output

Continuous rating (A)

Maximum rating (A)

Dimensions (H x D x W)

Weight

0.37 0.75 1.1 1.5 2.2 3.0 4.0 5.5 7.5

2.1 3.5 4.8 6.1 8.7 11.7 15.2 19.3 26.3

2.5 4.2 5.8 8.0 10.5 13.3 17.7 25.8 32.0

365 (+47) x 265 x 70 mm 365 (+47) x 265 x 123 mm 365 (+47) x 265 x 203

4.9 kg 6.5 kg 14 kg

Output voltage wave form
Output frequency
Operating mode

Inverter input

Supply voltage

Frequency

Control inputs

Set points

Actual values

Local mode

Acceleration time

Retardation time

Signal outputs

Voltage *

Frequency *

Relays

Control modes

Frequency control

Speed control

Torque control

Process control

Motor safety

Thermistor input

Power monitor

Ambient conditions

Ambient temperature

Storage temperature

Humidity

Protection class

Earth currents

EMC directive

EMC class

No filters

Standard cabling

Cabling length

(motor/inverter)

Ball bearing warranty

Noise level

Sinus

0 – 150 Hz

4 quadrant (with external brake resistance, as required)

3 x 230V ±10 % (3 x 380 – 440 V, see separate datasheet)

50/60 Hz (±10 %)

0 – 10V, 2 – 10V ±10V, 0 – 20 mA, 4 – 20 mA ±20 mA,
potentiometer 10 kΩ, 7 set frequencies, selectable from terminal
with positive or negative logic

0 – 10V, 2 – 10V ±10 %

Keyboard: Forward, Reverse, Stop

0.2 – 500 s

0.2 – 500 s

0 – 10V

0 – 32 kHz, open collector

Fault relay, operating relay, function relay (*)

0 – 150 Hz

0 – 9000 rpm

1 – 200 % of nominal motor torque, depending on inverter capacity

PI with feedback

PT1000 temperature sensor for recording temperature at constant pressure
control in ventilation system (*), 24V supply to external sensors (*)

PTC or Klixon

Switch off if motor is loaded over rated power for a long time

-10 to +40 °C

-20 to +60 °C

0 – 90%, non-condensing

IP20

< 2 mA. RCDs (Residual Current Device) can be used

NFO Sinus[®] is Intrinsic EMC and complies with the EMC directive 2004/108/EC

Approved for use in residential, commercial and light-industry environment
(EN 61000-6-3) and in industrial environment (EN 61000-6-2). Also approved
for use in hospitals (EMC-part of EN 60601-1-2, the medical directive)

No interference suppression filters, chokes etc. needed to achieve full
interference suppression as per EMC directive

No shielded cables required for full interference suppression as per
EMC directive

No limits other than cabling's own inherent resistance

No ball bearing currents, making for operational reliability.

Five-year ball bearing warranty when connecting to new motor

No switching noise from motor, making for silent running

Functions marked

(*) Only available together with I/O card.

** Supply voltage 3 x 380 – 440V, see separate datasheet



NFO DRIVES

NFO Drives AB

Box 35

SE-376 23 Svängsta

Sweden

Tel: +46 (0)454 = 370 29

Fax: +46 (0)454 = 32 24 14

E-mail: info@nfodrives.se

www.nfodrives.se