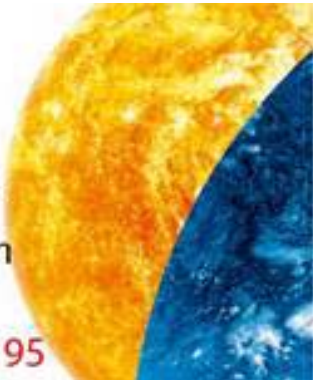# *Easy commissioning through integrated data base: Next generation Frequency Inverters for Refrigeration*

ISH
Besuchen Sie uns auf der ISH 2017!
Frankfurt am Main
14.–18.3.2017
Halle 10.2, Stand C 95

Ahmet Kitap, Applications
KIMO RHVAC Controls Ltd
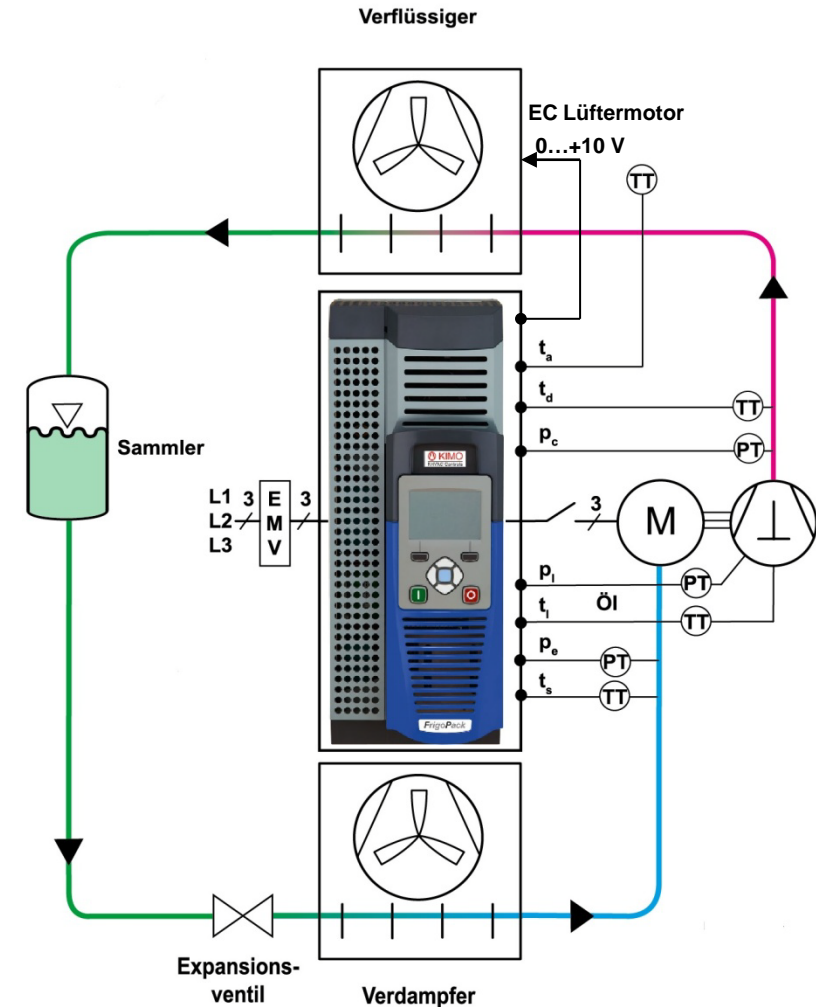ISH Frankfurt, 16.&17.03.17

Contents

- KIMO RHVAC Controls

- *FrigoPack* **FU+**

- Database

Company

- German Branch of KIMO RHVAC Controls Ltd in Erlangen

- Manufacturer of **FrigoPack** products:

- Intelligent, energy-saving Frequency Inverters for refrigeration compressors
- Compact enclosures for refrigeration systems
- FrigoSafety Safety modules
- And many other products…

Company

- Active at ASERCOM

- Application engineers for customer support!

- Assistance for complex refrigeration control tasks

- More than 20 years experience and know-how of inverter technology

- Cooperation with important compressor manufacturers in Europe
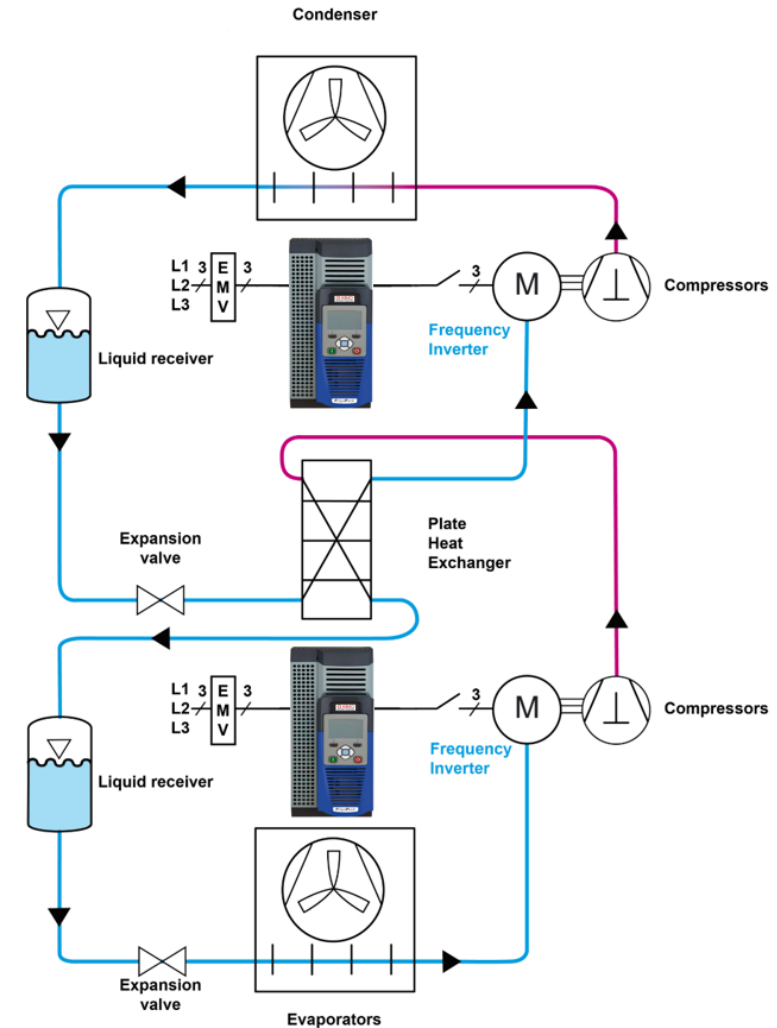
Company

Control of modern refrigeration systems in…

Hotels

Food processing

Food storage

Supermarkets

Restaurants

FrigoPack FU+

*Next generation of refrigeration Frequency Inverters – **FrigoPack FU+***

Removable Mounting Plates

Removable Fan Cassette

Power Module

Ethernet

Control Module

Basic Module BM-1

Control Module Cover

Keypad

SD Card Slot

SD Card

Control Terminals

Lower Terminal Cover (Power Terminals)

Communication Module CM-1

FrigoPack FU+

KIMO
RHVAC Controls
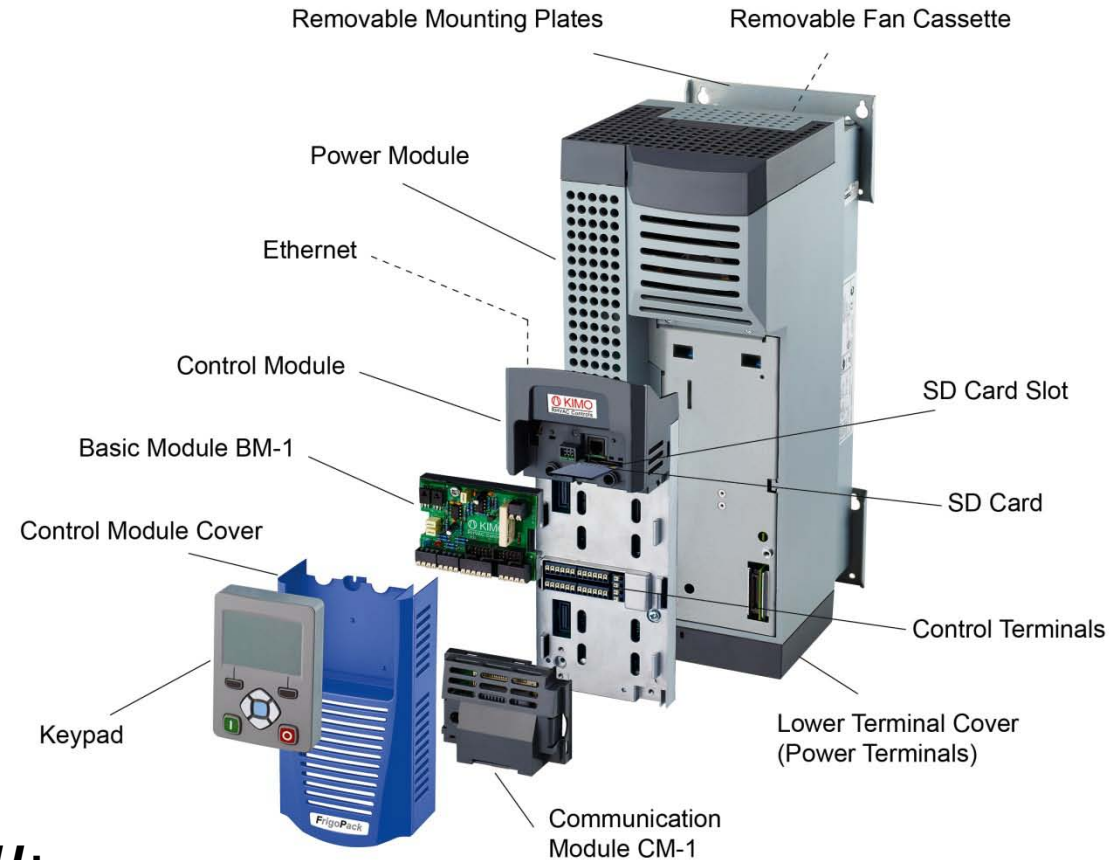
Frequency Inverter commissioning in refrigeration systems – possible problems:

- Compressor data have to be integrated
  → Minimum and maximum frequencies, current, etc.

- Input of setpoints via pressure values:
  → Different refrigerants result in differing suction pressures and evaporating pressures
  → Calculation of pressures from temperatures with the help of refrigerant slides or apps
  → Processing of dew point and bubble temperatures concerning refrigerants with glide

Possible sources of error

E R R O R

Data base

Our concept: Frequency Inverter commissioning should be as easy as possible for the user !

Our solution:
Use of a database!

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Data base

Extensive compressor database

⟶ Manual input of compressor-related data like minimum and maximum frequencies, rated current etc.) not necessary – compressor can be selected from a list

Selection of the refrigerant in use from a
List of latest refrigerants (42)

⟶ No calculation of temperatures via pressures – simple input of temperature setpoints

⟶ Refrigerant glide integrated

Database

On-site updates possible – if necessary
(for new compressors, new refrigerants,
software upgrades etc.)

⟶ **No need to deinstall the inverter**

German and English menus, other
languages may be added

Database

Commissioning in 4 steps

1. Refrigerant selection
   (from a list of 42 latest refrigerants)

2. Selection of the compressor in use from a list of important manufacturers (e.g. BITZER, DORIN, GEA-Bock…)

3. Setting of number and priorities of fixed-speed compressors

4. If necessary: adjustment of temperature setpoints
   (Default: te = -10°C; tc = 30°C)

Further advantages of *FrigoPack* **FU+:**

- Monitoring of suction gas temperature and superheat (with frequency limiting, if needed)

- Control of condensing temperature depending on ambient temperature
  ⟶ (energy-saving, public funding by environmental authorities in Germany (BMUB*)

- Monitoring of refrigeration processes via webbrowser: Inverter with internal IP
- Many other advantages

* Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit

MANY THANKS FOR YOUR KIND ATTENTION!

Get more information on the many advantages of
***FrigoPack* FU+** Refrigeration Inverters on stand
C95 (VDKF) in hall 10.2