

INDUSTRIE ELEKTRIK

KOSTAL

# INVEOR drive controllers

## Pumps, fans and compressors

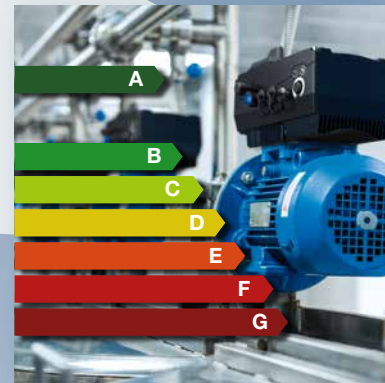
Smart  
connections.





# INVEOR – pumps, fans and compressors

## Efficient, durable and flexible ...



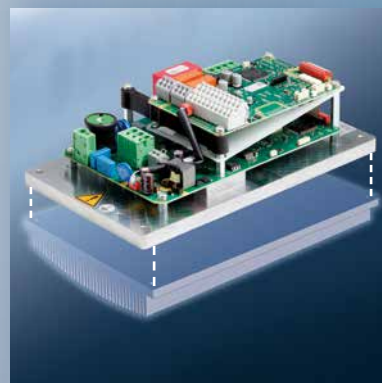
... for maximum energy efficiency and minimum costs.



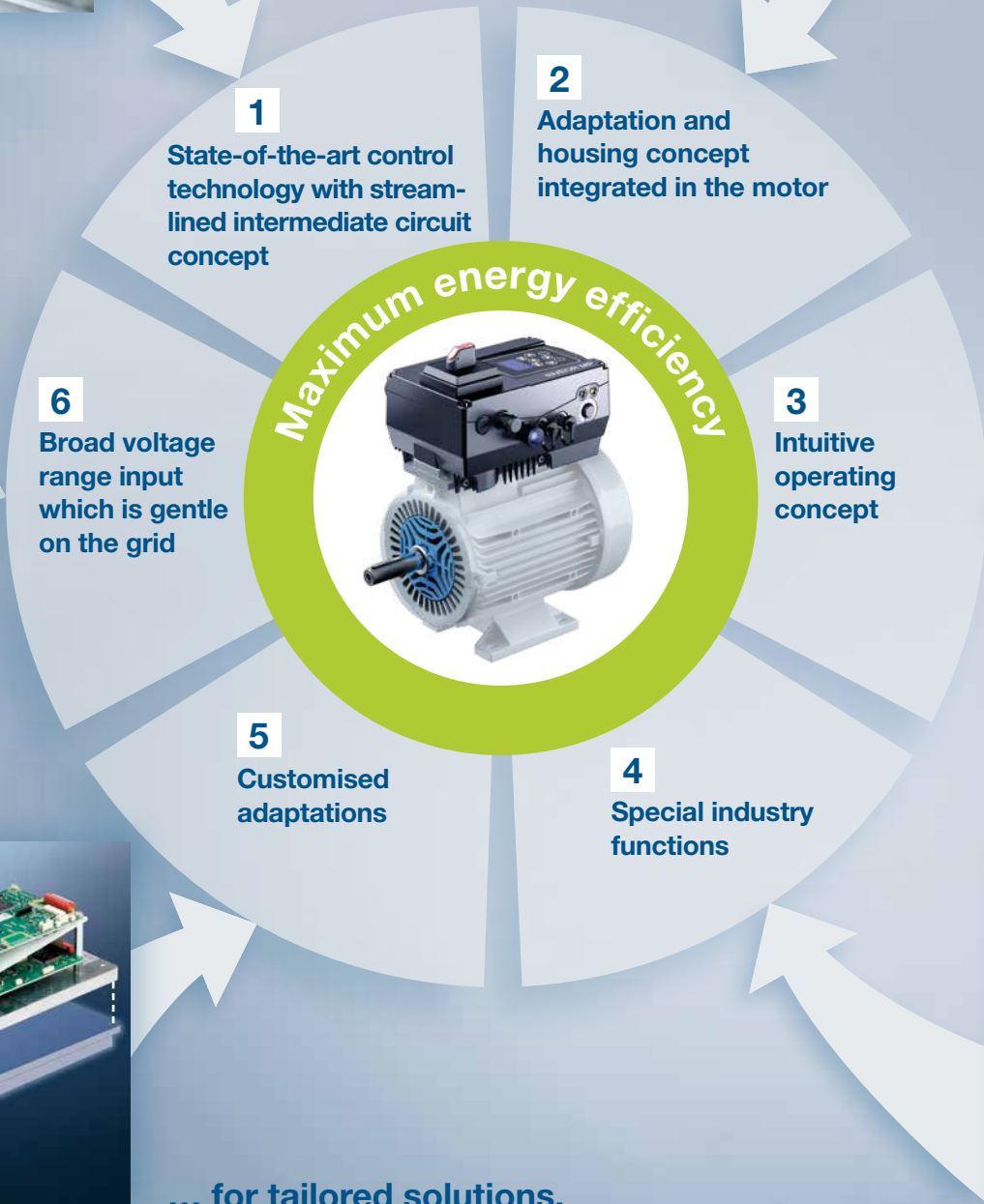
... the decentralised solution for every motor.



... for use in a wide range of different grids.



... for tailored solutions.



... for easy commissioning and operation.



... for your specific application.



### Product benefits at a glance

#### 1 State-of-the-art control technology with streamlined intermediate circuit concept

- Supports all synchronous, synchronous reluctance and asynchronous motors with maximum energy efficiency
- 200 % overload
- Use of film capacitors means long product lifetime and suitability for long-term storage
- IE2 class in accordance with ecodesign guideline EN 50598-2
- Maintenance-free up to 7.5 kW due to fan-free design

#### 2 Adaptation and housing concept integrated in the motor

- No control cabinet needed
- Connections can be plugged in
- Universal motor adapter concept compatible with all commercially available motors
- High protection class: IP65, even for outdoor use
- Can be motor- and wall-mounted

#### 3 Intuitive operating concept

- Simple commissioning using Bluetooth app, PC software or MMI
- All common field buses available
- Automatic, rapid motor identification

#### 4 Special industry functions

- Blocking detection
- Dry run protection
- PID controller with stand-by function
- Multiple pump operation\*
- Quadratic characteristic curve
- Low-noise function

#### 5 Customised adaptations

- Individual programming of integrated soft PLC
- Extensive I/O interfaces
- Customer branding possible
- Variant without housing for complete system integration
- Technical support from KOSTAL application team
- Customer's own circuit boards can be integrated

#### 6 Broad voltage range input which is gentle on the grid

- Flexible use in single- and 3-phase power grids as well as DC grids
- Low system perturbation (THD) thanks to integrated mains choke, no external filters required
- Low discharge and touch currents
- Integrated class C1 EMC filter

\* In combination with touch operating terminal.  
This document does not replace the data sheet.

# KOSTAL competence – smart connections



## **The KOSTAL brand promise – “Smart connections.”**

The “Smart connections.” philosophy is the KOSTAL brand promise and is based on the KOSTAL Group’s vast experience.

KOSTAL is a global family-owned company, now in the fourth generation, with over 100 years of experience and comprehensive know-how in the development of high-quality electronic, electro-mechanical and mechatronic solutions for a wide range of automotive and industrial applications. Leading automotive manufacturers and numerous major industrial companies all over the world rely on the KOSTAL Group with its global workforce of 18 000 people.

For all KOSTAL partners, “Smart connections.” means a partnership with a down-to-earth and sound company, guaranteeing long-term trusting business relationships at all levels.

## **INVEOR – “Smart connections.” on all levels**

The “Smart connections.” claim is not only the brand claim of KOSTAL Industrie Elektrik. It also stands for the philosophy behind the development of the INVEOR line of drive controllers.

With its modular structure, the INVEOR is designed to allow custom requirements to be easily met even with small or medium-sized quantities – without sacrificing the advantages of volume production. The principle we apply is “as much customisation as necessary, as much standardisation as possible”.

As a result, the INVEOR is universally usable and offers numerous ways of increasing efficiency in a wide range of industries.

At a more detailed level, it enables ideal adaptation to all interfaces in the application environment. In the areas of communication, operation and observation, motor adaptation, and control process, the KOSTAL drive controller can be customised to suit virtually all requirements. That’s what we call “Smart connections.”





# INVEOR – “Smart connections.” on five levels

## 1 The INVEOR

- IP65 protection class
- Integrated soft PLC
- Pre-fitted cable glands
- Design without a fan
- Cover level and internal space for e.g. the customer to mount a switch
- 100 % of connections can be plugged in (Harting plug / Quiconk)
- Optional slots
- Robust and vibration-resistant housing concept
- STO functional safety
- Internal PTC brake resistor
- Pump- and fan-specific functions

## 3 Operation and observation

- Potentiometer
- M12 RS485 service interface
- Main switch
- Integrated foil keypad
- MMI handheld controller
- MMI cover option
- Touch operating terminal
- PC software: KOSTAL INVERTERpc  
[www.kostal-industrie-elektrik.com/KOSTAL\\_INVERTERpc](http://www.kostal-industrie-elektrik.com/KOSTAL_INVERTERpc)
- App: KOSTAL INVERTERapp



## 2 Communication

CANopen

PROFINET

EtherCAT

PROFINET

MODBUS RTU

SERCOS  
the automation bus

Bluetooth

## 4 Motor adaptations

- Robust and vibration-resistant adapter concept
- Motor adapter concept compatible with all commercially available motors

## 5 Control process

- Supports all synchronous reluctance, synchronous and asynchronous motors with maximum energy efficiency

## Overview of INVEOR M sizes



α

A

B

C

D



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