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# i950 servo inverters

0.55 ... 110 kW



As easy as that.

**Lenze**



## Highlights

- ⌘ Shorter time-to-market
- ⌘ Reduced engineering costs
- ⌘ Increased productivity
- ⌘ Ready for the smart factory

# Powerful, compact, safe

With its innovative control procedures, the i950 sets new standards when it comes to precision and dynamics. Foresighted drive solutions consisting of geared motors and servo inverters provide time savings during engineering and flexibility in production.



## Focus on investment security

- Use of the latest information environments
- Intelligent mutual communication
- Real-time data directly for cloud-based solutions
- Effective reduction in downtime, maintenance and product change costs



## Powerful and compact, up to 110 kW

- Power spectrum of 0.55 kW – 110 kW
- Modular interfaces for fieldbus and feedback



## Easy engineering

- PLCopen, IEC 61131-3, CiA 402 and MQTT
- Initial commissioning made easy via keypad app
- User-guided dialogues for commissioning
- Vertical shaft at the push of a button



## Robust and safe servo technology

- Operation of synchronous servo motors and asynchronous servo motors
- Integrated safety functions
- One Cable Technology (OCT)
- DC-bus connection with supply and regenerative feedback mode possible

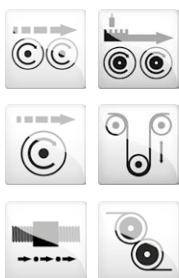
Working together with you, we develop the best solution and set your ideas in motion with enthusiasm – whether we are dealing with the optimisation of an existing machine or the development of a new one. We strive towards simplicity, through which we pursue perfection. This is anchored in our thinking, in our services, and in every single detail of our products.

As easy as that.



# i950 – the multi-talent among servo inverters

With its three operation modes, the servo drive is built for all use cases:



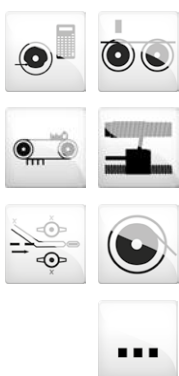
## Parameter setting

With FAST, our modular software system, we simplify a great deal for you. The preconfigured and tested technology applications (TA) can be used immediately with the i950 and adapted to the respective machine task via parameterisation alone.



## Servo actuator

Flexibility and freedom of integration are part of our philosophy. With the CiA 402, the i950 can easily be integrated and operated under a higher-level controller. This architecture is supported by a custom-developed CiA technology application.



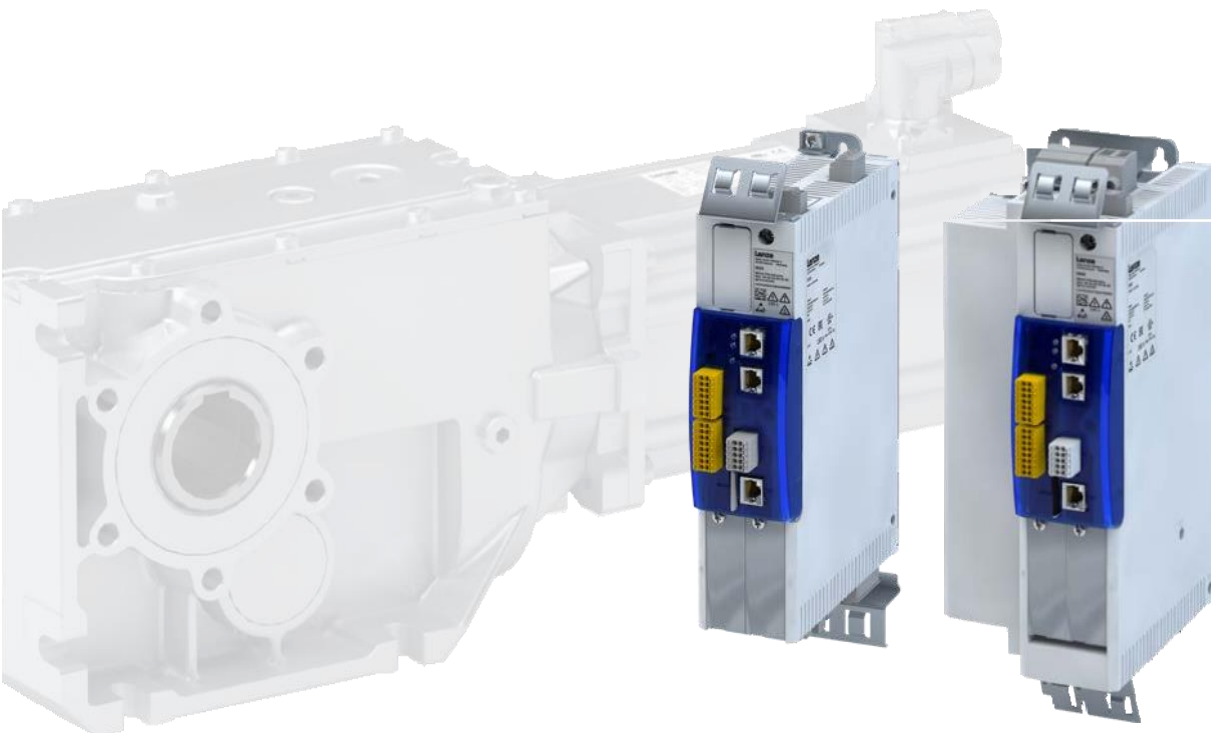
## Programming

Custom applications require custom options. That is why the i950 can also be freely programmed. The basis for this is your software, realised according to IEC 61131-3. Naturally, previously developed software modules can be re-used. Furthermore, the FAST technology modules known to the control units can also be used here.

# Control performance

Increasing the cycle rate of the machine by up to 20 % and simultaneously improving the quality of the machine process.

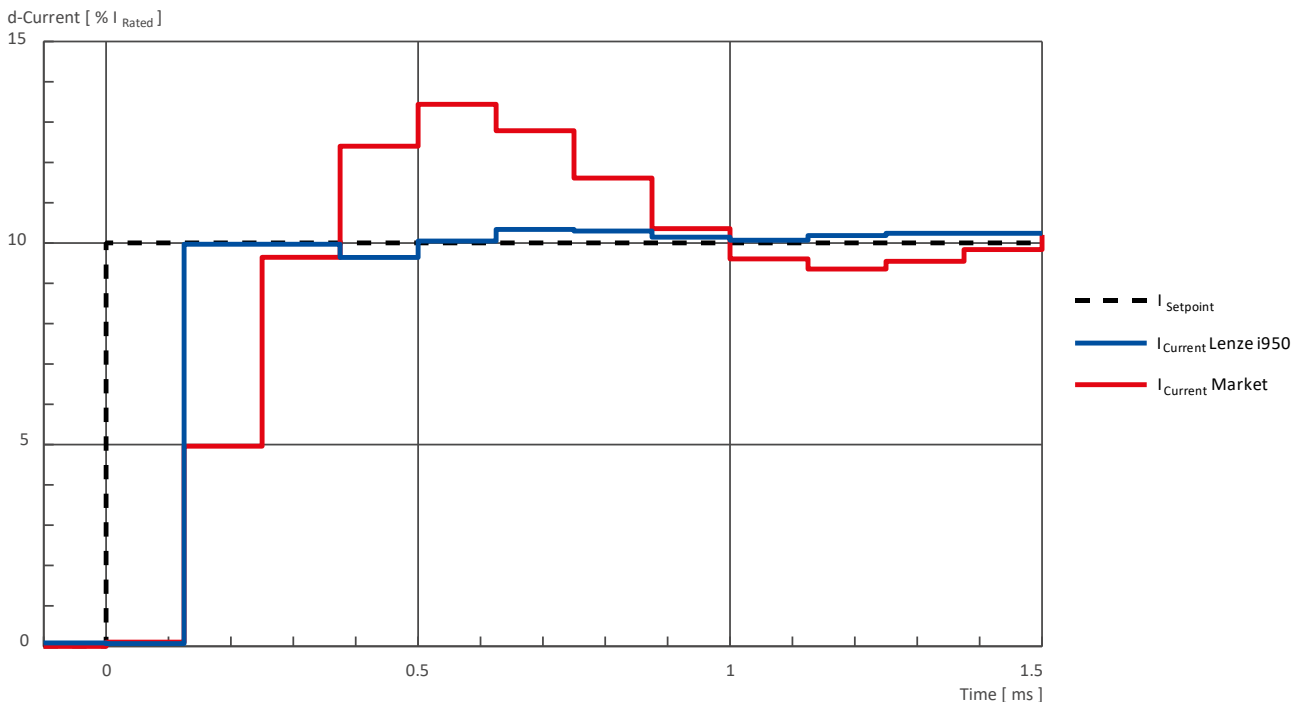
Our promise is that the best machines worldwide operate with Lenze. Due to this, we concern ourselves intensively with the machine processes and kinematics of modern machine tasks and help to optimise the management of the entire control line of the drive axis with the downstream mechanics. By doing so, we are setting new standards with the i950 where integrated control procedures are concerned.



## Highlights

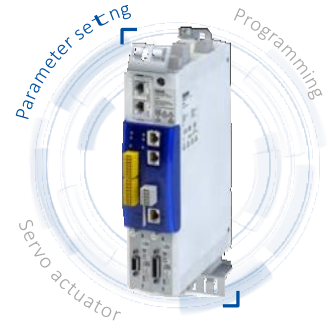
- Dead time minimisation when achieving setpoint values in the control line via the automatic comparison of controller parameters
- Automatic identification and compensation of following errors
- Extremely quick elimination of interferences within the control line
- Intelligent oscillation compensation procedures for the complete suppression of resonance points in the machine
- High dynamic performance thanks to patented current and position detection
- Improved position detection of resolver and encoder signals for smoother operation
- Highest dynamics via deadbeat control in one cycle (see figure)
- For the highest requirements: Elimination of a setpoint step-change in the current within half a PWM period
- Increased robustness and reduced following error in position control
- Current control: min. 62.5  $\mu$ s
- Position control: min. 62.5  $\mu$ s
- Speed control: min. 62.5  $\mu$ s

## Precise torque control





# Easily parameterisable



## i950 servo inverter: more than just a servo inverter

The i950 combines the latest servo technology with the requirements of future-proof installation automation. In addition to excellent servo characteristics, six technology applications (TA) have been implemented in the i950. The use of these software modules saves time and money in the implementation of machine tasks.



Technology application  
Speed control



Technology application  
Electronic gearbox



Technology application  
Table positioning



Technology application  
Synchronism with mark correction



Technology application  
Winder with dancer control



Technology application  
Winder with tension control

# Simple engineering – thanks to **FAST** technology applications

## Parameterising instead of programming

The following technology applications (TA) are adjustable via structured graphical interfaces:



### Technology application Speed control

- For conveyor and travelling drives
- Operation at constant speed with high concentricity factor
- High control performance with speed stability
- Start-up and deceleration profiles
- Process and torque control
- Speed control with and without feedback



### Technology application Electronic gearbox

- Precise speed- and position-synchronised drives in a network
- For the continuous transport of continuous materials such as paper, films, or textiles
- High concentricity of drive
- Synchronism in drive network
- Precise control technology via the master
- Speed trimming



### Technology application Table positioning

- For discontinuously running conveying, lifting, and handling drives
- Dynamic positioning processes
- Profile generation and position at target
- Profile generator and motion control
- Management of profile data sets
- Sequence profile control
- Override function
- Residual path positioning on marks



## Technology application Synchronism with mark correction

- Precise speed- and position-synchronised drives in a network
- For the continuous transport of continuous and arch-shaped materials or piece goods
- Concentricity and synchronism in drive network
- Fiducial control
- Intermittent operation
- Phase trimming



## Technology application Winder with dancer control

- Speed-controlled drives for the storage or dispensing of continuous materials such as paper, film, or textiles
- DC-bus operation as electronic gearbox
- Large speed/torque setting range
- High concentricity factor
- Good disturbance behaviour
- Operation in field weakening range
- Process control/dancer control
- Reading in of sensors



## Technology application Winder with tension control

- Tension-controlled (open loop) drives for the storage or dispensing of continuous materials such as paper, film, or textiles
- DC-bus operation as electronic gearbox
- Large speed/torque setting range
- High concentricity factor
- Good disturbance behaviour
- Operation in field weakening range
- Process control/dancer control
- Reading in of sensors

# Parameterisation with EASY Starter



## Commissioning and maintenance

By users, for users. EASY Starter assists you with the commissioning and maintenance of your machines. Via easy-to-use parameterisation and diagnostics dialogues and a structured graphical interface, you maintain the necessary overview in every situation.

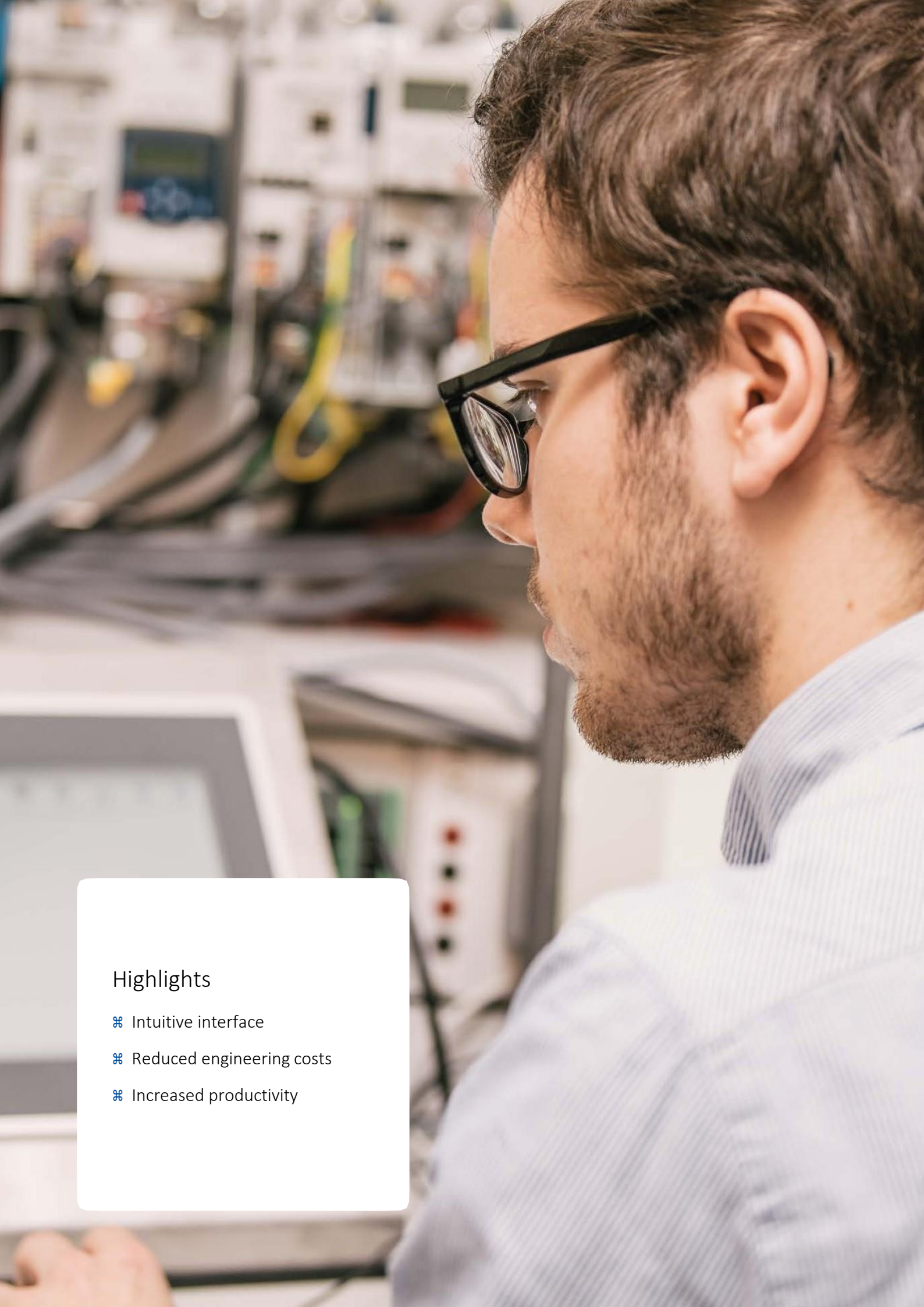
EASY Starter was designed specifically for the commissioning and maintenance of Lenze products. Within this framework, the tool allows online diagnostics and troubleshooting to be performed. In diagnostics mode, no modification of the parameters is possible, which means that there is no danger of an unintentional application change.

A user-friendly menu navigation with just a few buttons assists you with all machine adjustments.

Auto-tuning mechanisms help with the adjustment of servo inverters and motors. Intuitive graphical user interfaces facilitate parameterisation of the intelligent technology application (TA).

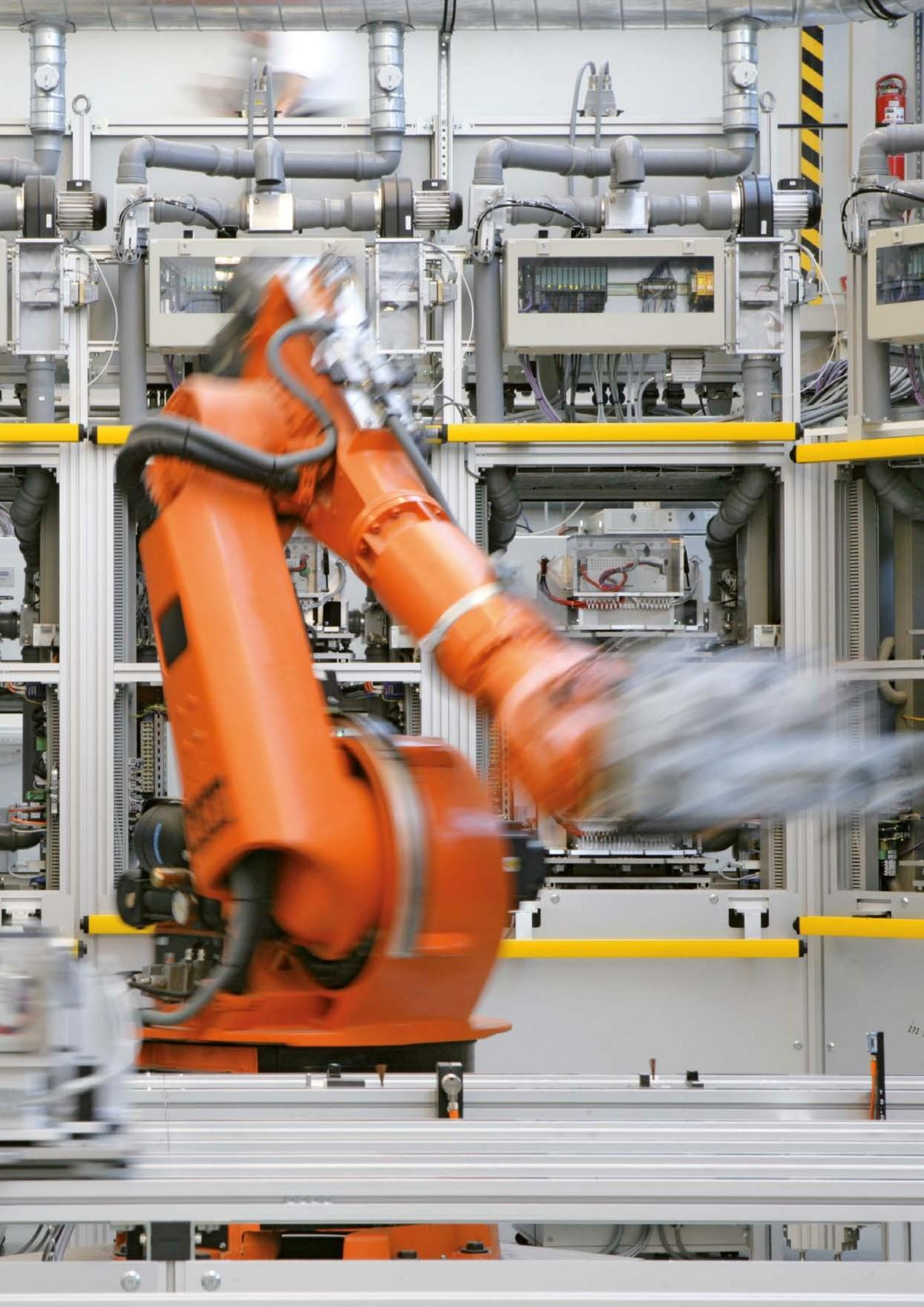
The screenshot displays the EASY Starter software interface, which is divided into several functional areas:

- Guided commissioning:** A central window titled "2.14.0.21563 (InterneFast - Manufacturer - Serial - 950 (Safety STO) FW MS.D.2 - TA Table Positioning - 950 TA Table Positioning" provides a step-by-step guide through various configuration steps like "Grundstellung", "Sichte", "Speisenerzeugung", "LD-Messung", "Modbus", "Motor", "Schwiel", "Motoranlauf", "System", "Kommunikation", "Feldbus", "PROFINET", "Subnetze", and "Zugbeeinträchtigung".
- Easy parameterisation:** A window on the right titled "Der Parameter hat folgende Assoziationspostionen" lists various parameters such as "Geräteart", "Verbundene Mod.-ID", "Produktcode", "Produkt ID", "Anrede Applikation", and "Lastgeber/Lastgeber".
- Real-time monitoring:** A bottom status bar displays real-time data for "rpm", "rpm", "Nm", "A", and two percentage values, both of which are currently at "100,0".

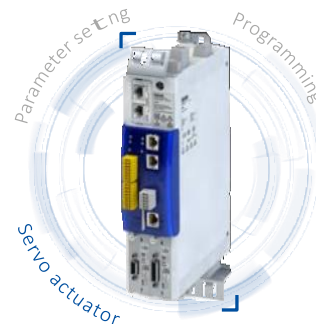


## Highlights

- ⌘ Intuitive interface
- ⌘ Reduced engineering costs
- ⌘ Increased productivity



# Servo actuator



## Servo actuators up to 110 kW

Actuating drives are widely used in servo technology. The i700 servo inverter with single and double axes forms the basis for this in our product portfolio. This portfolio is rounded off in the higher power range by the i950 with a power of up to 110 kW.



### CiA 402

The device profile CiA 402 represents standardised drive behaviour with the corresponding operating modes and objects. This device profile contains e.g. the following operating modes: Homing Mode, Interpolated Position Mode, and special synchronisation modes commonly used for servo actuators.

In addition to the standard device profile, additional standardised commands can be selected for modern servo drives. For this purpose, the manufacturer spanning operating mode CiA 402 Cyclic Sync Position Mode (csp) will need to be set. It includes the following functions:

- Interpolation between communication cycle and control cycle
- Position control
- Speed control
- Torque control
- Updating of actual values for position, speed and torque



### Technology application CiA 402 Advanced

The technology application "CiA 402 Advanced" expands the CiA 402 functions of the i950 servo inverter. The following additional functions are implemented in the technology application CiA 402 Advanced:

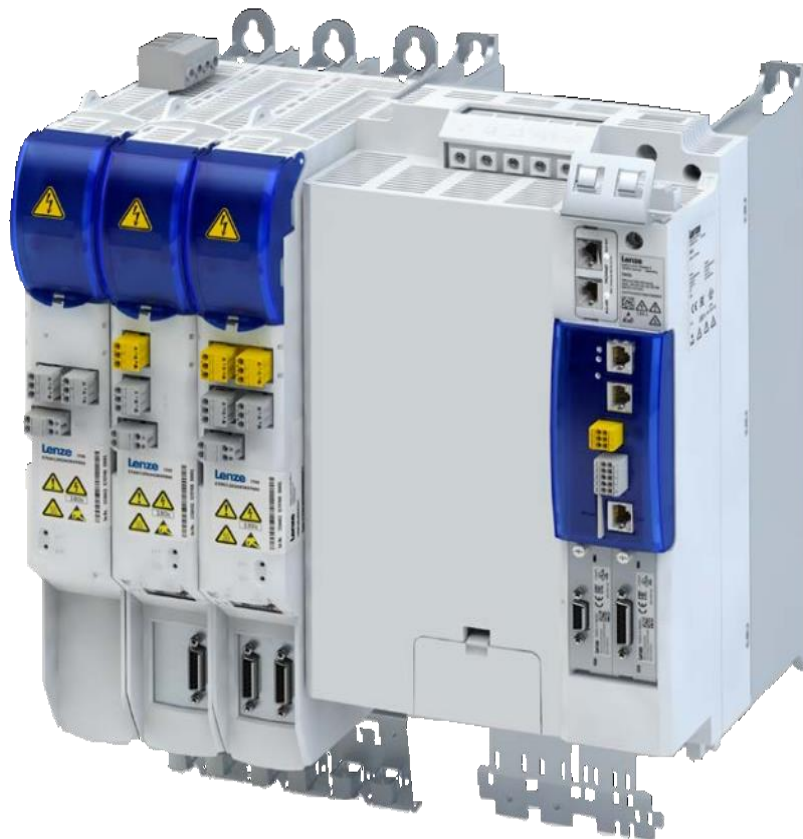
- Homing for CiA 402
- Position control for application encoder Slot B
- Quickstop Application
- Interface to fieldbus

Hence, with this technology application (TA), the i950 can be used as a CiA device with PROFI-safe.

# Operation with i700

## Easy supply

The two power supply modules of the i700 are designed for a rated power of 15.4 kW and 30.9 kW respectively. Both i700 and i950 axes can be connected directly via the DC bus connection of the axes. The i950 has an additional DC connection for this DC-bus operation, which can be accessed directly from the top.



## Conceived for dynamic servo technology

Modern servo applications for positioning, synchronism, or cam applications – the appropriate actuating drives and the associated motors can be found in the Lenze portfolio.

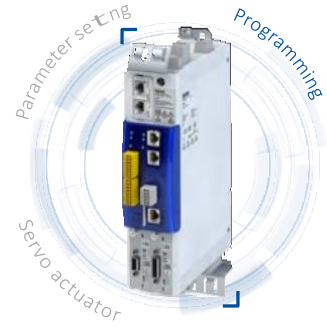
The i700 with single and double axes up to 15 kW and the i950 with compact single axes up to 110 kW provide the highest precision with regard to torque behaviour in the servo actuator operating mode.

The m850 asynchronous servo motor and the MCS synchronous servo motors as drives with and without a gearbox implement the specifications of the controller with high concentricity in the resulting installation.





# Programmable



The same architecture, same engineering, as well as the use of the same application software eliminate the distinctions between centralised and decentralised intelligence. Our FAST Application Software Toolbox can be used consistently.



Via IEC 61131-3 in accordance with PLCopen, you as the OEM have the option of creating entirely freely programmable applications with the i950.



In particular, the flexible design of production processes, with individually adaptable product features, poses a challenge. This can only be operated economically when production adjusts itself automatically and manual retooling is avoided. Hence, you as the OEM are faced with the task of implementing modular manufacturing concepts. This is also reflected in software creation.



Your development can take place particularly effectively when you can repeatedly re-use individual modules – this also applies to software.



The i950 servo inverter makes this approach possible: it can already process older inverter and controller software. Future models will form a shared platform on which previously created software can be reused without requiring significant adaptation.





Lenze  
FAST

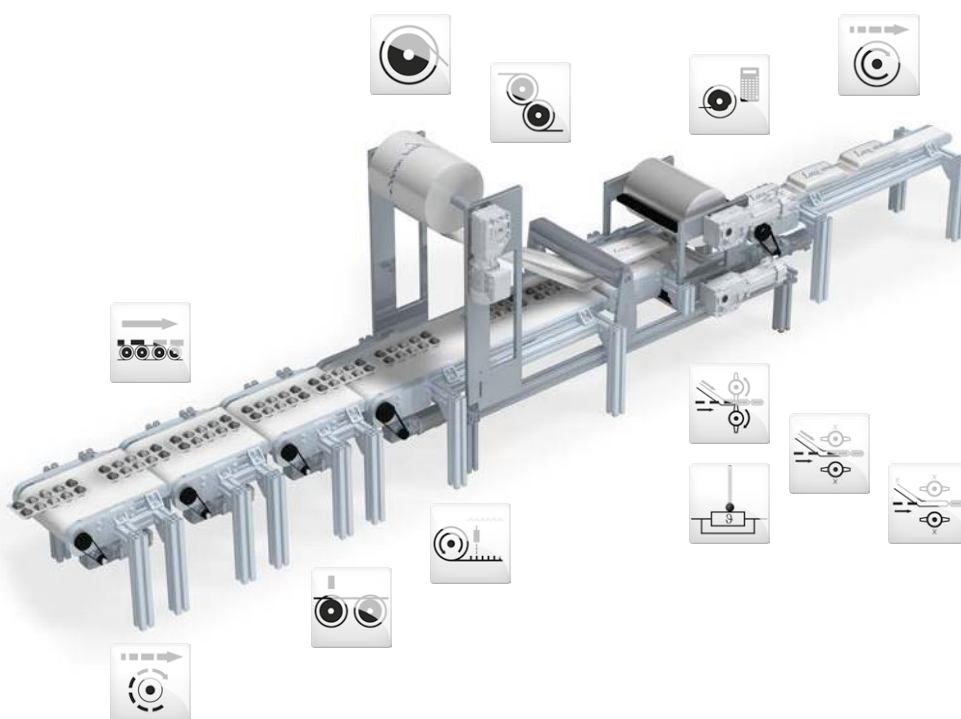
# Accelerating engineering – with Lenze **FAST**

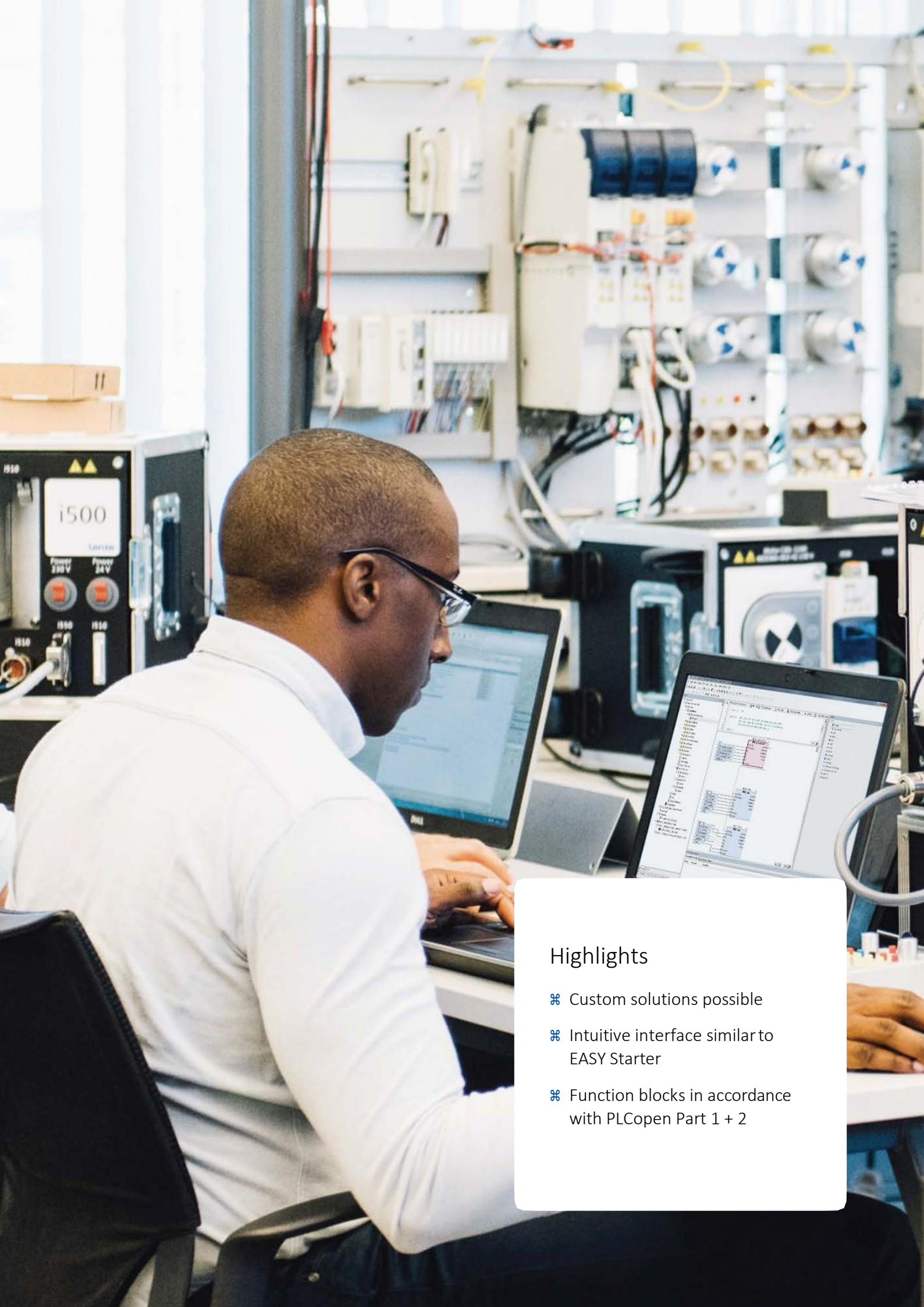
## Standardised and reusable software modules for important servo applications

Software is becoming increasingly important in the development of machines, as mechanical engineers are focusing more attention on efficient processes for creating the applications they need. Lenze's standard software modules make it easy to develop modular mechanical control systems by simply adding the modules using the application template.

Your advantages:

- Up to 80% of software engineering requirements are covered by Lenze FAST
- Significant reduction in development times for basic functions
- The time saved can be invested in further developing the machine's special features
- Intelligent, tested software modules which are easy to re-use
- Structured programming layout via the Application Template
- Error reduction thanks to tested software





## Highlights

- ⌘ Custom solutions possible
- ⌘ Intuitive interface similar to EASY Starter
- ⌘ Function blocks in accordance with PLCopen Part 1 + 2

# PLC Designer



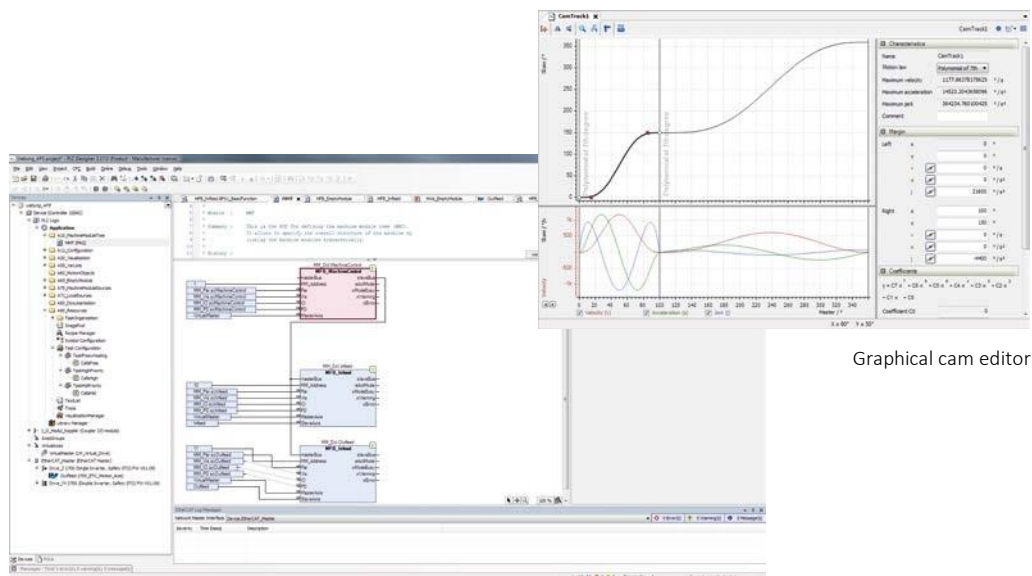
## Program creation and commissioning

The PLC Designer is the tool for creating your programs and for commissioning our PLC products. The programming of the PLC products corresponds to the IEC 61131-3 standard.

The PLC Designer offers you all functions for the convenient engineering of controller-based solutions. In addition, we offer you comprehensive support with the implementation of your projects from our application engineers in every project phase.

The software is based on CODESYS V3 and designed for project planning engineers of machine builders.

A comprehensive library of functional modules from a wide variety of task fields is also part of the PLC Designer's range of functions. The PLC Designer can be used for easy commissioning in combination with the EASY Starter.



Graphical cam editor

Machine Module Tree



# Integrated safety

In day-to-day production, safety-relevant events often lead to machine downtime, production shutdowns, and unnecessary costs. Due to this, it pays to take into account safety functions that meet the requirements of your machine early on in the design stage. The inverters with integrated safety functions are certified in accordance with EN ISO 13849-1.

Depending on the requirements of the machine, two different versions of the i950 with integrated safety functions can be employed:



## Basic Safety

- Safe torque off (STO)

## Extended safety

- Safe torque off(STO)
- Safety busPROFIsafe
- Safety bus FSoE
- Safe stop 1 with ramp monitoring (SS1-r) \*\*
- Safe stop 1 with time monitoring (SS1-t)
- Safe stop 2 (SS2) \*\*
- Safe operational stop (SOS) \*\*
- Safely limited speed (SLS) \*\*
- Safe maximum speed (SMS) \*\*
- Safe speed monitor (SSM) \*\*
- Safe direction (SDI) of motion \*\*
- Safely limited increment (SLI) \*\*
- Safely limited position (SLP) \*\*
- Safe cams (SCA) \*\*
- Safe brake control (SBC)
- Position-dependent safely limited speed (PDSS) \*\*
- Cascading of the STO safety function
- Safe monitor
- Operation mode selector (OMS) with enable switch (ES)
- Repair mode (RMS) with enable switch (ES)
- Safe inputs/outputs

\*\* Safe encoder system required



# One Cable Technology



## Open and established

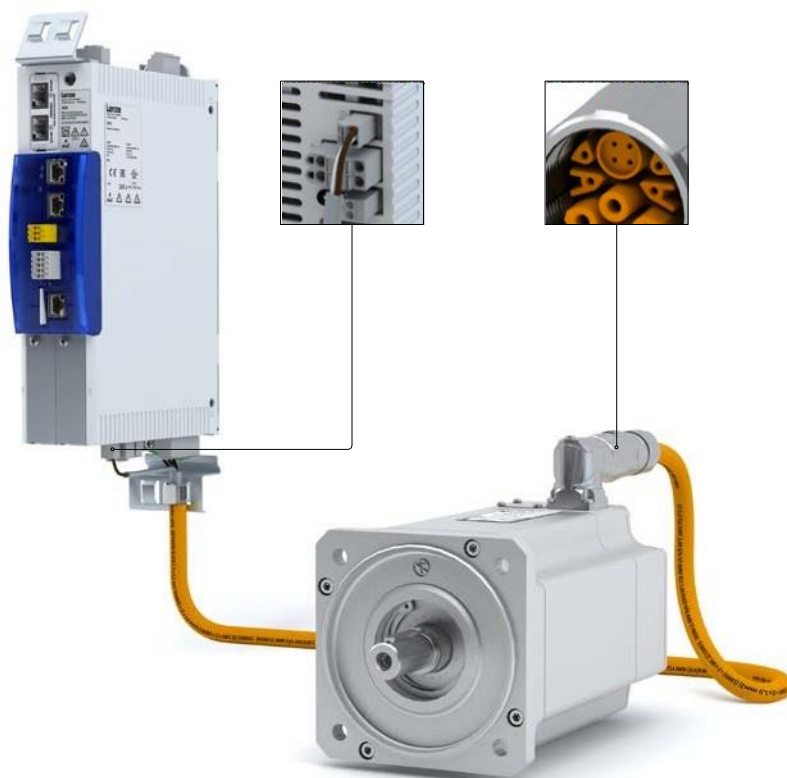
With the aid of the open motor feedback protocol HIPERFACE DSL®, drive solutions from Lenze allow for the use of future-oriented One Cable Technology. The use of hybrid wires allows for combined servo and rotary transducer wires.

This intelligently minimises connecting cables, cable variants, and connection costs. It is also available in conjunction with Basic Safety (STO).

HIPERFACE DSL® is characterised by a high degree of fault resistance and the efficient detection and remedy of faults.

## Advantages

- Lower space requirements thanks to less connectors
- More efficient installation and reduced connection costs
- Detection of additional sensor signals possible



# Motors and geared motors

## Easily a match for any requirement

A market-optimised selection of motors and geared motors provides the right combination that fulfils the respective requirements.

## Synchronous and asynchronous servo motors

The synchronous servo motors up to 200 Nm and the asynchronous servo motors up to 1100 Nm are optimally calibrated for operation with a servo inverter. Adjustment during commissioning is a breeze thanks to autotuning mechanisms. Application-oriented feedback systems which evaluate the servo inverter and plug-in connectors provide everything necessary for quick deployment for applications with high precision and dynamics.



m850 synchronous servo motors



m850 synchronous servo motors  
combined with g700 planetary gearbox

## Geared servo motors

The servo motors can be combined with planetary, bevel, helical, or shaft-mounted helical gearboxes. These robust geared motors impress with a high concentricity factor and low backlash.

## Geared motors with three-phase asynchronous motors

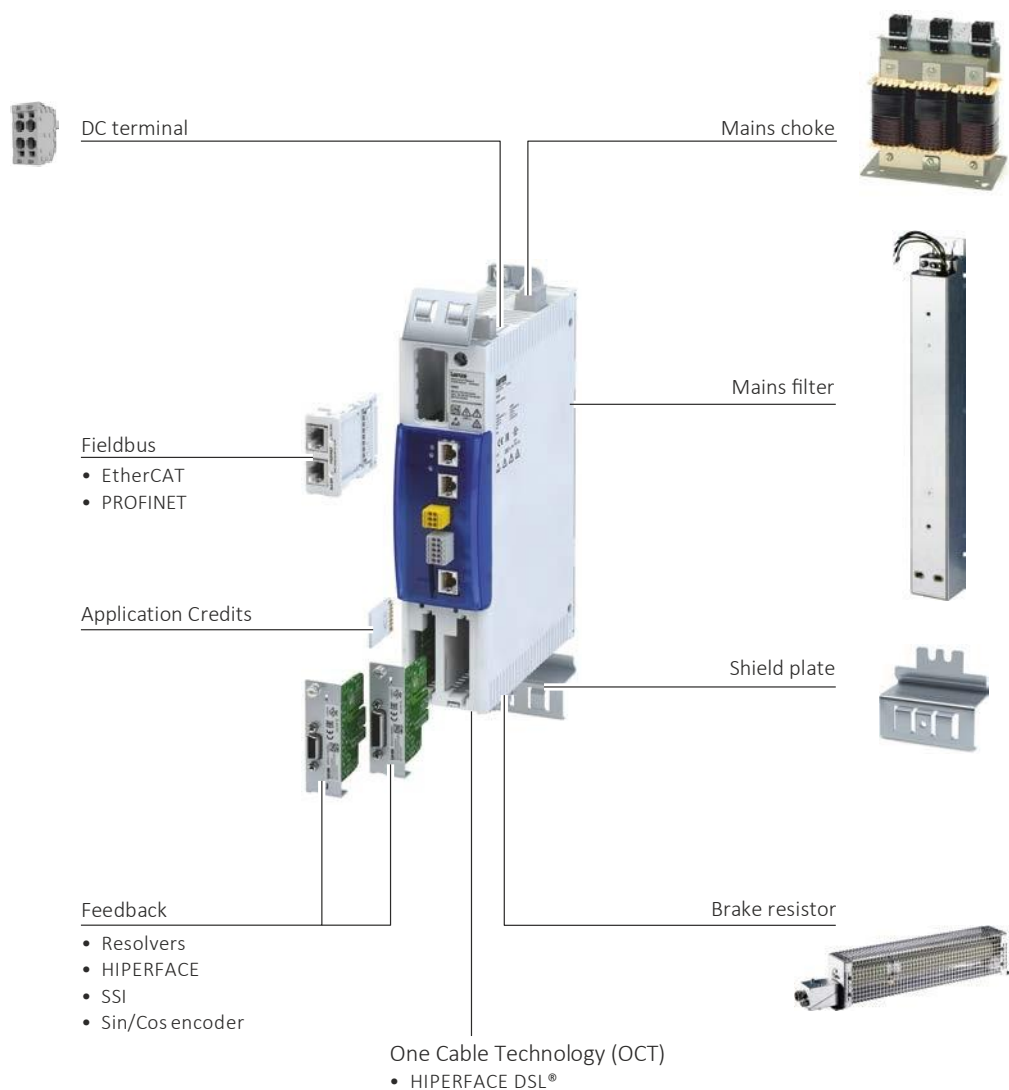
For less demanding applications, a more cost-effective three-phase geared motor with commercially available asynchronous motors can be operated with the servo inverter. High-quality control accuracy can also be achieved in this case, with and without feedback. The high efficiency of the gearbox demonstrates the optimal efficiency of the latest three-phase AC drive technology.



m550 three-phase asynchronous motor  
combined with g500 helical or bevel gearbox

# Scalable hardware

The i950 servo inverter is designed to be scalable to machine requirements: The integrated technology applications (TA) support you with the implementation of the automation tasks, and the accessories with the overall integration in the installation.




# i950 technical data

|  |                   |   |
|--|-------------------|---|
| <b>Conformity declarations</b>                         | CE                | 2006/42/EG, 2014/30/EU  |
|  | RoHS 2            | 2011/65/EU  |
| <b>Approvals</b>                                       | cUL <sub>US</sub> | UL 61800-5-1, CSA 22.2 No. 274  |
| <b>Energy efficiency</b>                               | Class IE2         | EN 50598-2  |
| <b>Enclosure</b>                                       | IP20              | EN 60529 (except in wire range of terminals)  |
|  |                   | NEMA 250 (Type 1 protection against accidental contact only)  |
|  | Open type         | Only in UL-approved systems   |
| <b>Power system</b>                                    | TT, TN            | Voltage against earth: max. 300 V   |
|  | IT                | Apply the measures described for IT systems!  |
| <b>Mains switching</b>                                 |                   | 3 x within one minute possible, from 5 kW 1 x within one minute   |
| <b>Operation with residual current circuit breaker</b> |                   | Up to 4.0 kW 30 mA; from 5.5 kW 300 mA  |
| <b>Cable length for EMC</b>                            | Category C2       | 20m   |
|  | Category C3       | ≥ 35 m  |
| <b>Switching frequencies</b>                           |                   | 2, 4, 8, 16 kHz. The rated output currents listed below apply at 45 °C and switching frequencies of 2 and 4 kHz, and at 40 °C and switching frequencies of 8 and 16 kHz |
| <b>Ambient temperature</b>                             |                   | 55 °C (derating of 2.5 %/°C above 45 °C)  |
| <b>Max. Output frequency</b>                           |                   | 0 Hz ... 599 Hz   |
| <b>Overload capacity</b>                               |                   | 200% for 3s; 150% for 60s   |

|                         | <b>Rated power</b> | <b>Mains voltage range</b>                    | <b>Rated output current</b> | <b>Weight</b> | <b>Dimensions (h x w x d)</b> |
|-------------------------|--------------------|---|-----------------------------|---------------|-------------------------------|
|                         | <b>[kW]</b>        | <b>[V]</b>                                    | <b>[A]</b>                  | <b>[kg]</b>   | <b>[mm]</b>                   |
| <b>i950-C0.55/400-3</b> | 0.55               | 3/PE AC<br>340 V ... 528 V<br>45 Hz ... 65 Hz | 1.8                         | 1.6           | 250 x 60 x 173                |
| <b>i950-C0.75/400-3</b> | 0.75               |   | 2.4                         |               |                               |
| <b>i950-C2.2/400-3</b>  | 2.2                |   | 5.6                         |               |                               |
| <b>i950-C4.0/400-3</b>  | 4                  |   | 9.5                         |               |                               |
| <b>i950-C7.5/400-3</b>  | 7.5                |   | 16.5                        | 3.9           | 276 x 120 x 173               |
| <b>i950-C11/400-3</b>   | 11                 |   | 23.5                        |               |                               |
| <b>i950-C15/400-3</b>   | 15                 |   | 32                          | 10.7          | 347 x 205 x 240               |
| <b>i950-C22/400-3</b>   | 22                 |   | 47                          |               |                               |
| <b>i950-C30/400-3</b>   | 30                 |   | 61                          | 16.7          | 450 x 250 x 234               |
| <b>i950-C45/400-3</b>   | 45                 |   | 89                          |               |                               |
| <b>i950-C55/400-3</b>   | 55                 |   | 110                         | 24            | 536 x 250 x 270               |
| <b>i950-C75/400-3</b>   | 75                 |   | 150                         |               |                               |
| <b>i950-C90/400-3</b>   | 90                 |   | 180                         | 35.6          | 685 x 258 x 304               |
| <b>i950-C110/400-3</b>  | 110                |   | 212                         |               |                               |

# Accessories

## i950 accessories; connection to 400 V mains

| Inverter                | Rated power   | Mains voltage range                           | Brake resistor |                             |
|-------------------------|---|---|----------------|-----------------------------|
|                         | [kW]  | [V]   | Order codes    | Dimensions (h x w x d) [mm] |
|                         |  |   |                |                             |
|                         |   | 3/PE AC<br>340 V ... 528 V<br>45 Hz ... 65 Hz |                |                             |
| <b>i950-C0.55/400-3</b> | 0.55  |   | ERBM390R100W   | 235 x 21 x 40               |
| <b>i950-C0.75/400-3</b> | 0.75  |   | ERBM390R100W   | 235 x 21 x 40               |
| <b>i950-C2.2/400-3</b>  | 2.2   |   | ERBP180R200W   | 240 x 41 x 122              |
| <b>i950-C4.0/400-3</b>  | 4   |   | ERBP047R200W   | 320 x 41 x 122              |
| <b>i950-C7.5/400-3</b>  | 7.5   |   | ERBP027R200W   | 320 x 41 x 122              |
| <b>i950-C11/400-3</b>   | 11  |   | ERBP027R200W   | 320 x 41 x 122              |
| <b>i950-C15/400-3</b>   | 15  |   | ERBS018R800W   | 710 x 110 x 105             |
| <b>i950-C22/400-3</b>   | 22  |   | ERBS015R800W   | 710 x 110 x 105             |
| <b>i950-C30/400-3</b>   | 30  |   | ERBG075D01K9   | 486 x 236 x 302             |
| <b>i950-C45/400-3</b>   | 45  |   | ERBG075D01K9   | 486 x 236 x 302             |
| <b>i950-C55/400-3</b>   | 55  |   | ERBG005R02K6   | 486 x 326 x 302             |
| <b>i950-C75/400-3</b>   | 75  |   | ERBG005R02K6   | 486 x 326 x 302             |
| <b>i950-C90/400-3</b>   | 90  |   | ERBG028D04K1   | 486 x 426 x 302             |
| <b>i950-C110/400-3</b>  | 110   |   | ERBG028D04K1   | 486 x 426 x 302             |

## Overview of required application credits

|                                  | Technology applications (TA)     |                            |                             | Technology modules (TM) |                 |                   |              | Required Application credit |
|----------------------------------|----------------------------------|----------------------------|-----------------------------|-------------------------|-----------------|-------------------|--------------|-----------------------------|
|                                  | <b>Parameterisable</b>           | Speed control              | Electronic gearbox          | Table positioning       | -               |                   |              |                             |
| Synchronism with mark correction |                                  | Winder with dancer control | Winder with tension control | 100<br>EPCZEMSD0L1010   |                 |                   |              |                             |
| <b>Actuating drive</b>           | CiA 402                          |                            |                             | -                       |                 |                   |              | No application credit       |
|                                  | CiA 402 Advanced                 |                            |                             |                         |                 |                   |              | 50<br>EPCZEMSD0L1005        |
| <b>Programmable</b>              | Speed control                    | Electronic gearbox         | Table positioning           | Speed control           | Electronic gear | Table Pos         | Flex CAM     | ≥ 150<br>EPCZEMSD0L1015     |
|                                  | Synchronism with mark correction | Winder with dancer control | Winder with tension control | Winder Dancer           | Winder Tension  | Sync & Correction | Cross Cutter | ≥ 200<br>EPCZEMSD0L1020     |
|                                  | Customer                         |                            |                             |                         |                 |                   |              | ≥ 300<br>EPCZEMSD0L1030     |

There are also additional accessory components available for the i950 inverter. You can find the complete range in the project planning documents for the i950.

| Mains choke  |                             | RFI filters   |                             |  |                             |
|--|-----------------------------|---|-----------------------------|--|-----------------------------|
|  |                             | Short Distance  |                             | Long Distance  |                             |
| <ul style="list-style-type: none"> <li>Required from 22 kW</li> <li>Reduction of the effective mains current</li> <li>Fewer current harmonics</li> </ul> |                             | <ul style="list-style-type: none"> <li>C1 up to 25 m (≤ 0.37 kW up to max. 15 m)</li> <li>C2 up to 50 m (≤ 0.37 kW up to max. 15 m)</li> <li>Use of filter leads to significantly reduced leakage current</li> <li>Operation with 30 mA residual current circuit breaker</li> </ul> |                             | <ul style="list-style-type: none"> <li>C1 up to 50 m (≤ 0.37 kW up to max. 15 m)</li> <li>C2 up to 100 m (≤ 0.37 kW up to max. 15 m, ≤ 2.2 kW up to max. 50m)</li> <li>Mains filter from 22 kW (mains choke and long distance filter) integrated.</li> <li>Operation with 300 mA residual current circuit breaker</li> </ul> |                             |
| Order codes  | Dimensions (h x w x d) [mm] | Order codes   | Dimensions (h x w x d) [mm] | Order codes  | Dimensions (h x w x d) [mm] |
| EZAELN3002B153   | 56 x 77 x 100               | IOFAE175F100S0000S  | 276 x 60 x 50               | IOFAE175F100D0000S   | 276 x 60 x 50               |
| EZAELN3004B742   | 60 x 95 x 115               | IOFAE175F100S0000S  | 276 x 60 x 50               | IOFAE175F100D0000S   | 276 x 60 x 50               |
| EZAELN3006B492   | 69 x 95 x 120               | IOFAE222F100S0000S  | 346 x 60 x 50               | IOFAE222F100D0000S   | 346 x 60 x 50               |
| EZAELN3010B292   | 85 x 120 x 140              | IOFAE255F100S0000S  | 346 x 90 x 60               | IOFAE255F100D0000S   | 346 x 90 x 60               |
| EZAELN3016B182   | 95 x 120 x 140              | IOFAE311F100S0000S  | 371 x 120 x 60              | IOFAE311F100D0000S   | 371 x 120 x 60              |
| EZAELN3025B122   | 110 x 155 x 170             | IOFAE311F100S0000S  | 371 x 120 x 60              | IOFAE311F100D0000S   | 371 x 120 x 60              |
| EZAELN3030B981   | 110 x 155 x 170             | –   | –                           | IOFAE311F100D0000S   | 371 x 120 x 60              |
| EZAELN3045B651   | 112 x 185 x 200             | –   | –                           | IOFAE322F100D0000S   | 436 x 205 x 90              |
| EZAELN3063B471   | 122 x 185 x 210             | –   | –                           | IOFAE330F100D0001S   | 590 x 250 x 105             |
| EZAELN3080B371   | 125 x 210 x 240             | –   | –                           | IOFAE345F100D0001S   | 590 x 250 x 105             |
| EZAELN3100B301   | 139 x 267 x 205             | –   | –                           | IOFAE355F100D0001S   | 700 x 250 x 105             |
| EZAELN3160B191   | 149 x 291 x 215             | –   | –                           | IOFAE375F100D0001S   | 700 x 250 x 105             |
| EZAELN3180B171   | 164 x 316 x 235             | –   | –                           | IOFAE411F100D0001S   | 855 x 250 x 130             |
| EZAELN3200B151   | 144 x 352 x 265             | –   | –                           | IOFAE411F100D0001S   | 855 x 250 x 130             |

| Inverter                | Shield mounting kit  |                             |
|-------------------------|--|-----------------------------|
|                         | Packaging unit   | Order codes                 |
| <b>i950-C0.55/400-3</b> | 5x motor shielding plate<br>10x fixing clip                                    | EZAMBHXM014/M               |
| <b>i950-C0.75/400-3</b> |  |                             |
| <b>i950-C2.2/400-3</b>  |  |                             |
| <b>i950-C4.0/400-3</b>  | 5x motor shielding plate<br>5x fixing clip<br>5x terminal clamp (4 ... 15 mm)  | EZAMBHXM015/M               |
| <b>i950-C7.5/400-3</b>  | 5x motor shielding plate<br>5x fixing clip<br>5x terminal clamp (10 ... 20 mm) | EZAMBHXM016/M               |
| <b>i950-C11/400-3</b>   |  |                             |
| <b>i950-C15/400-3</b>   |  |                             |
| <b>i950-C22/400-3</b>   | 5x terminal clamp (15 ... 28 mm)<br>5x terminal clamp (20 ... 37 mm)           | EZAMBHXM004/ME-ZAMBHXM005/M |
| <b>i950-C30/400-3</b>   |  |                             |
| <b>i950-C45/400-3</b>   |  |                             |
| <b>i950-C55/400-3</b>   | 5x terminal clamp (20 ... 37 mm)   | EZAMBHXM005/M               |
| <b>i950-C75/400-3</b>   |  |                             |

| Installation set for DC-bus operation |       |             |
|---------------------------------------|-------|-------------|
| Connection                            | Parts | Order codes |
| DC bus                                | 5     | I9ZAA0013M  |
| DC bus,<br>Daisy Chain                | 5     | I9ZAA0012M  |

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