Motion control
Smart. Small. Safe.
Drive systems

Made for modern machine designs

Modular system
  Centralized and decentralized topologies

Large power range
  20 W to 120 kW

Integrated safety technology
  From hardwired STO to network-based safety

Easy to use
  Optimized for industrial control cabinets
Drive systems

All-in-one device

**Compact design**
- Integrated line filter
- Generously dimensioned braking resistor

**Pluggable encoder cards**
- Analog and digital encoder interfaces

**Selection of cooling concepts**
- Wall/feed-through mounting, cold plate

**Technology functions**
- Cam switches
- Pressure control
Motors

Excellent dynamics in compact housing

Large power range
20 W to 140 kW

Different types of motors
- Servo motor
- Torque motors
- Stepper motor

Shipped with gearbox mounted
- Motors and gearboxes from a single source
- High dynamics due to direct mounting

Embedded parameter chip
- Integrated in B&R motors
Lean automation with Scalability+
Lean automation with Scalability+
Lean automation with Scalability

One platform for all variants
Highly scalable
Cost-effective
Simple commissioning and service

Automatic node number assignment

No tools required
Segmentation
Fast and easy
Simple commissioning and service

Central firmware management

Automation PC

Browser, hot-plug display or HMI

Tool-free maintenance

Minimal downtime
Software functionality
Software functionality
At home in any application

Motion control
- Rotating cross cutter, flying saw
- Winding and unwinding, tension control
- Registration and print mark control

CNC
- Laser, plasma, water jet cutting
- Bending, grinding, milling, punching

Robotics
- Bending, handling, painting

Safety technology
- Single axes
- Cartesian and serial kinematics
Software functionality

Numerous possibilities with many beneficial uses

Extensive standard library
  Can be expanded with own developments

Safety technology
  Motion control, CNC and robotics handled safely

Diagnostics
  Current and historical power data
  Detection of potential sources of error such as mains fluctuations, power failures, overvoltage

Motor parameter identification
  Motor data automatically verified and optimized
Software functionality

Setup at the push of a button

Easy control loop parameterization

- Improved dynamics
- Intuitive operation
- Faster commissioning

Diagnostics

- Comprehensive information about the driven mechanical system
- Evaluation based on measured closed loop

Maintenance

- Valuable diagnostics tool for experts
ETHERNET POWERLINK
Structure comparison

Classic structure

- Many bus systems
- Different engineering tools
- Complex diagnostics and maintenance
Structure comparison

Optimized structure

- One technology
- Unlimited freedom in machine design
- Easy diagnostics and maintenance
POWERLINK technology

Functionality

- Easy and robust functionality
- No complex time synchronization
- All on one medium
POWERLINK technology

Free selection of topology

Easy to expand

100% topology freedom: line, star, tree or ring
POWERLINK technology

High availability

Ring redundancy

PLC

- Reduced downtime
- Simple functionality
POWERLINK technology

High availability

Redundant master

- Extremely fast change-over
- Effective prevention of failure

Medium redundancy
Unlimited scalability
Centralized or decentralized

- Control multiple robots in one manufacturing cell

… in practice, not just in theory!
Maximized performance

728 axes in 400 μs

- World record
- Highly synchronous

… in practice, not just in theory!
Absolute integration

Synchronous and non-synchronous data on a single network

- Enhanced quality through integrated vision sensors
- Extremely easy to use

… in practice, not just in theory!
Open source technology

Worldwide availability

Patent-free open technology

Product variety on the market

EPSON standardization

Independent Standardization group since 2003
Coordination of POWERLINK activities

www.ethernet-powerlink.org
Solutions for all industries

trust in B&R – worldwide

30,000 plant & factory solutions
4,000 machine builders

270,000 PLC systems
285,000 Drives

annually installed
PERFECTION IN AUTOMATION