

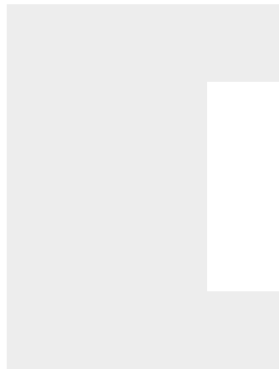


 **ez-wheel**
The Electric Wheel



Wheel Drives for Industrial Mobility

Assistance and Automation of your rolling material



FOR MORE THAN 75 YEARS, IDEC HAS DESIGNED AND MANUFACTURED HIGH QUALITY PRODUCTS. SINCE 1976, IDEC HAS SERVED THE COMPETITIVE EUROPEAN MARKET BY PROVIDING THE VERY BEST PRODUCTS AND SERVICES THAT SATISFY THE MARKET NEEDS, THAT NEVER CEASE CHANGING AND EVOLVING.

EUROPEAN NETWORK

FRANCE
UNITED KINGDOM
GERMANY
BENELUX
ITALY
SWEDEN



Together, IDEC and its well established European subsidiary APEM are now one of the world's largest manufacturers of human machine interface (HMI) components, panels and systems.

With more than €500 million in total sales, the combined entity has a broad portfolio of HMI, Safety and Automation products designed for a variety of Industrial applications, and access to markets across Europe, North America and Asia.



APEM
an IDEC company



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IDEC SAFETY DNA

With decades of experience, we focus on safe environments for humans interacting with machines, and to that end we develop solutions maximizing your safety and productivity. We provide our customers with both efficient solutions and reliable expertise, supplying cutting-edge safety and automation solutions as well as one-to-one support.



OUR EXPERTISE, OUR CAPABILITIES



IDEC'S RELIABILITY

For more than 75 years, IDEC has designed and manufactured high quality products. We offer a wide variety of innovative solutions that help businesses overcome work challenges across the globe. With a decades long history in safety and automation paired with tenacious forwardthinking, our tools are what you need for not only today, but tomorrow as well.



EZ-WHEEL® 15 YEARS OF SMART MOBILITY

A UNIQUE RANGE OF INDUSTRIAL WHEEL DRIVE SOLUTIONS

The ez-Wheel® technology represents 15 years of innovation in smart mobility.

ez-Wheel® products have revolutionized heavy load handling and automation in industrial environments by first integrating motors and batteries directly into the wheels, and then adding safe motion control.

This unique technology makes the integration of a wheel drive considerably easier and faster than conventional solutions: fewer components used, greater freedom of integration.

Today, across its two ranges AWD® Assist Wheel Drive and SWD® Safety Wheel Drive, the ez-Wheel® product line provides a valuable solution specifically designed for handling heavy loads and automating intralogistics in factories and warehouses.



EASIER & SAFER

“TO DEVELOP EASIER & SAFER MOBILITY OF GOODS TO BETTER SERVE PEOPLE”

The industrial wheel drive solutions have been adopted by hundreds of major industrial companies in Europe, to improve productivity and prevent workplace accidents especially in the fields of Automotive, Factory logistics, Warehouses, Food processing, Hospitals and Pharmaceuticals.



TOOLBOX FOR MOTORIZED ASSISTANCE, AUTOMATION & MOBILE ROBOTICS

Because **Well-being** and **Safety**
should be the cornerstones of every
intralogistics organization.

Assistance
to heavy loads
manual handling

Page 30



AWD
Assist Wheel Drive



AWARDED TECHNOLOGY



PATENTED PRODUCTS



15 YEARS OF SMART MOBILITY



THOUSANDS OF DAILY USERS

AGVs, AMRs,
automated platforms

Page 44



SWD
Safety Wheel Drive



AGCs, small mobile robots conveying



SWD
Safety Wheel Drive

Page 48

Ergonomics for repeated movements



AWD
Assist Wheel Drive

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BUSINESS SECTORS

EZ-WHEEL® PRODUCTS ARE DESIGNED TO MEET THE NEEDS OF A WIDE RANGE OF SECTORS, OFFERING SOLUTIONS ADAPTED TO THE CONSTRAINTS OF EACH ENVIRONMENT. MOTORIZED WHEELS AND ACCESSORIES CAN BE EASILY INTEGRATED TO OPTIMIZE OPERATIONS, GUARANTEEING GREATER EFFICIENCY AND SAFETY ACROSS A WIDE RANGE OF APPLICATIONS.

BUSINESS SECTORS

Endless possibilities

Power any rolling equipment dedicated to manual handling or intralogistics automation quickly and easily.



10 - INDUSTRY

14 - AUTOMOTIVE

18 - E-COMMERCE / RETAIL

22 - CONTROLLED ENVIRONMENTS

INDUSTRY

IMPROVING INTRALOGISTICS FLOWS WITHIN INDUSTRIAL SITES IS AN OBVIOUS PERFORMANCE DRIVER.

Motorized assistance and automation of rolling equipment in the industry increase productivity by optimizing operations and reducing cycle times. These means enhance precision and product quality while minimizing human errors. Additionally, they improve worker safety by reducing the risks associated with repetitive and strenuous tasks.



our missions



Motorized assistance



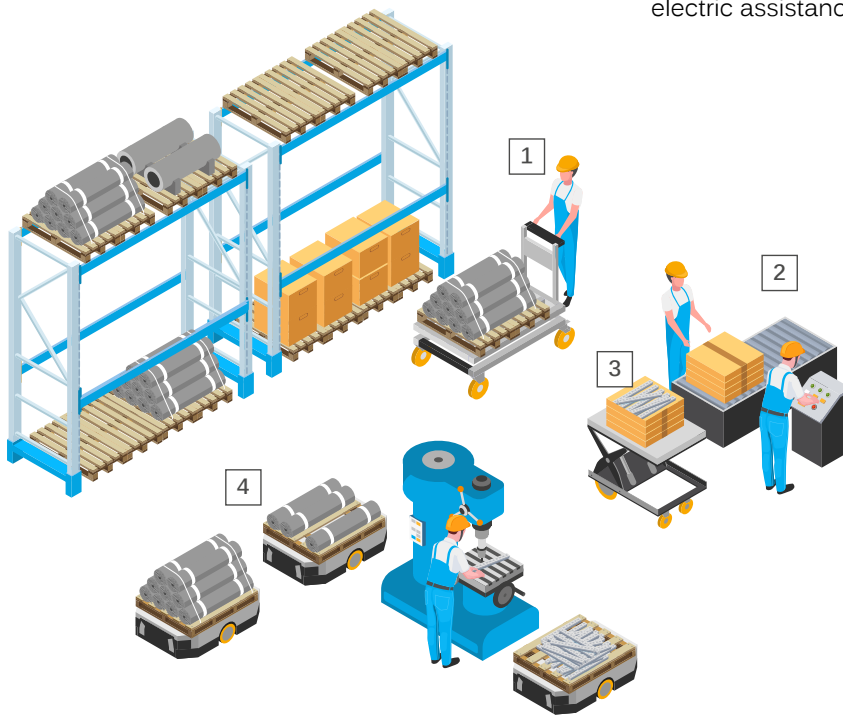
Motorization for automation

1



Heavy-duty rolling platforms motorization

- ✓ Handle heavy and bulky loads effortlessly and safely for the operator
- ✓ Double the load capacity and productivity thanks to electric assistance



2



Motorization of conveying robots and shuttles

- ✓ Transfer heavy loads such as pallets or wire mesh containers
- ✓ Ensure continuous operation

3



Motorization of industrial scissor lift platforms

- ✓ Assist operators for line-side supply
- ✓ Improve ergonomics through motorized platform for levelling loads

4



AGVs/AMRs motorization

- ✓ Automate supply of raw materials and sub-assemblies to production cell
- ✓ Meet ISO 3691-4 safety standards for mobile robots safety

TESTIMONIAL

"We've been using the products for over 5 years now. All you have to do is steer left and right. You don't have to make any physical effort - it's so much easier!"



”

Assembly workshop operator
Manitou
France

+ online video on YouTube



Suitable for Industry

Multiple tons moved without effort!

ez-Wheel® solutions have been designed to meet the needs of the field and the expectations of users in the industrial sector: high level of performance, reliability and versatility.



◀ Scalable load capacity

Wheels can be paired to double the moved-load capacity. This platform has been equipped with two wheels and can move a load of 3 tons.



◀ Continuous conveying

The transfer carriage or carousel can easily be powered to ensure repetitive motions.

This example is fitted with 2 external batteries to allow continuous use.

◀ Manual control

The Assist Wheel Drive is made for heavy load/large dimensions movement assistance and offers great freedom of manual control.



◀ Special machinery

Most industrial special machinery can be fitted with ez-Wheel® electric wheels and accessories.

An easy mechanical integration >

The compact design of the electric wheel, with its standard caster dimensions, facilitates mechanical integration, either as original equipment or as a retrofit for existing trolleys.



▲ Industrial flow automation

SWD® drives can be adapted to all load transfer axis automation needs in intralogistics, with a minimum of development and integration effort.

▼ Mixed flows

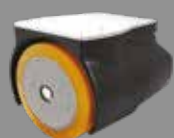
Manual flow equipped with automated return pulled by an AGV.



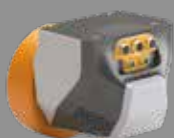
◀ Built-in operational safety

SWD® wheels are equipped with a certified safety controller that processes information from robot safety sensors to prevent unsafe movements.

OUR SOLUTIONS FOR THE INDUSTRY



ASSIST WHEEL DRIVE
AWD® 150
Page 30



SAFETY WHEEL DRIVE
SWD® 150
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SAFETY WHEEL DRIVE
SWD® 125
Page 46



SAFETY DRIVE
SWD® CORE
Page 48

AUTOMOTIVE

THE AUTOMOTIVE INDUSTRY REQUIRES AN OPTIMISATION
AND A PERFECT CONTROL OF INTRALOGISTICS FLOWS THROUGHOUT THE SUPPLY CHAIN.

Motorized assistance and automation of rolling equipment in the automotive industry increase the precision and speed of manufacturing operations. These processes reduce worker fatigue and minimize the risk of accidents associated with repetitive tasks. Additionally, they boost overall productivity by streamlining production flows and reducing downtime.



our missions



Motorized assistance



Motorization for automation

1



Heavy-duty rolling platforms motorization

- ✓ Handling heavy and bulky loads effortlessly and safely for the operator
- ✓ ez-Wheel® can be paired to double the load capacity: 2 tons of payload can be moved in this way

2



AGVs/AMRs motorization

- ✓ Supply of raw materials and sub-assemblies to assembly workstations
- ✓ Meeting ISO 3691-4 safety standards for mobile robot safety

3



Motorization of industrial mobile lifting platforms

- ✓ Ideal assistant or line-side supply
- ✓ Motorized platform for levelling loads

4



Automating assembly platforms/chains

- ✓ Replace fixed chains with autonomous safety platforms
- ✓ Deliver a reprogrammable tool
- ✓ Create an agile organization in multi-purpose workstations/RMS

5



Making production robots mobile

- ✓ Share production tools across several workstations
- ✓ Accelerate return on investment
- ✓ Meet ISO 3691-4 safety standards for mobile robot safety

TESTIMONIAL



Pierre GELINEAU
Process engineer
at Scania Production

"The big advantage of the wheels ez-Wheel® is that they eliminated ergonomic problems without fundamentally changing the flow, while maintaining flexibility."

"We were looking for a solution to an old ergonomic problem on our production line. Specifically, to move from the 'Chassis' line to the 'Assembly' line, the operators had to put the chassis on a cart and push it by hand (...) there was a lot of effort involved."

[+ online video on YouTube](#)



Suitable for Automotive Industry

Ensuring continuous service

ez-Wheel® solutions have been designed to meet the needs of the field and the expectations of users in the automotive industry: high level of performance, easy integration and total versatility.



< Ergonomic and reliable solution

Trolley equipped with an Assist Wheel Drive mounted on suspensions, in order to transport chassis weighing up to 2 tons. To operate them, an ergonomic wireless control box was specially designed.



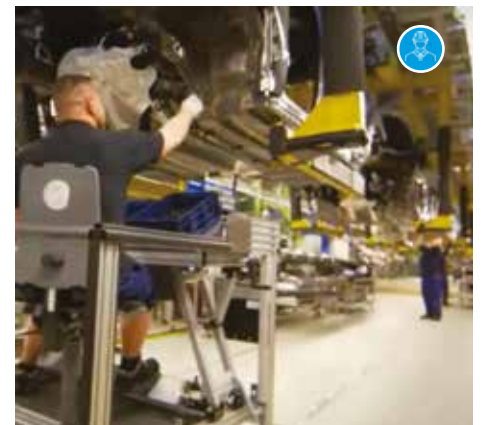
^ Charging at workstation

The AWD® 150 ez-Wheel® electric wheels, can be recharged on each return to workstation through recharge contacts. The built-in batteries are designed to go through many micro-charging cycles without any premature ageing risks.



^ High resistance to shock and vibration

With their reinforced cast iron housings and hubs, ez-Wheel® electric wheels can withstand severe shocks, vibrations and loads from 250 to 700 kg per wheel.



^ Moving platform

Operators' movements may be also assisted by ez-Wheel® electric wheel. This motorized platform is foot-controlled, allowing the operator to follow the overhead line movement.

✓ High towing capacity

The SWD® wheels are used to equip mobile robots for towing loads in the factory.



◀ Several tons of load moved

SWD® wheels can move up to 1.5 tons per motor. The drives can be easily linked to provide multi-wheel or multi-axle systems capable of moving several tons.

◀ Simple and standardized interface

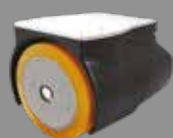
SWD® drives use standard motor control interface and safety loops, so they can be integrated quickly and easily into customized solutions.



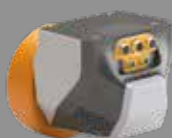
◀ Compactness and modularity

Small footprint allows to develop low profile robots to carry any type of shelves.

OUR SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY



ASSIST WHEEL DRIVE
AWD® 150
Page 30



SAFETY WHEEL DRIVE
SWD® 150
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SAFETY WHEEL DRIVE
SWD® 125
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SAFETY DRIVE
SWD® CORE
Page 48

E-COMMERCE / RETAIL

THE RETAIL AND E-COMMERCE SECTORS DEMAND PERFECT CONTROL OF INTRALOGISTICS FLOWS.

Motorized assistance and automation of rolling equipment in e-commerce and retail enhance operational efficiency by speeding up order preparation and delivery. These solutions reduce processing errors, ensuring better customer satisfaction. Additionally, they optimize inventory management, contributing to cost reductions and better resource utilization.



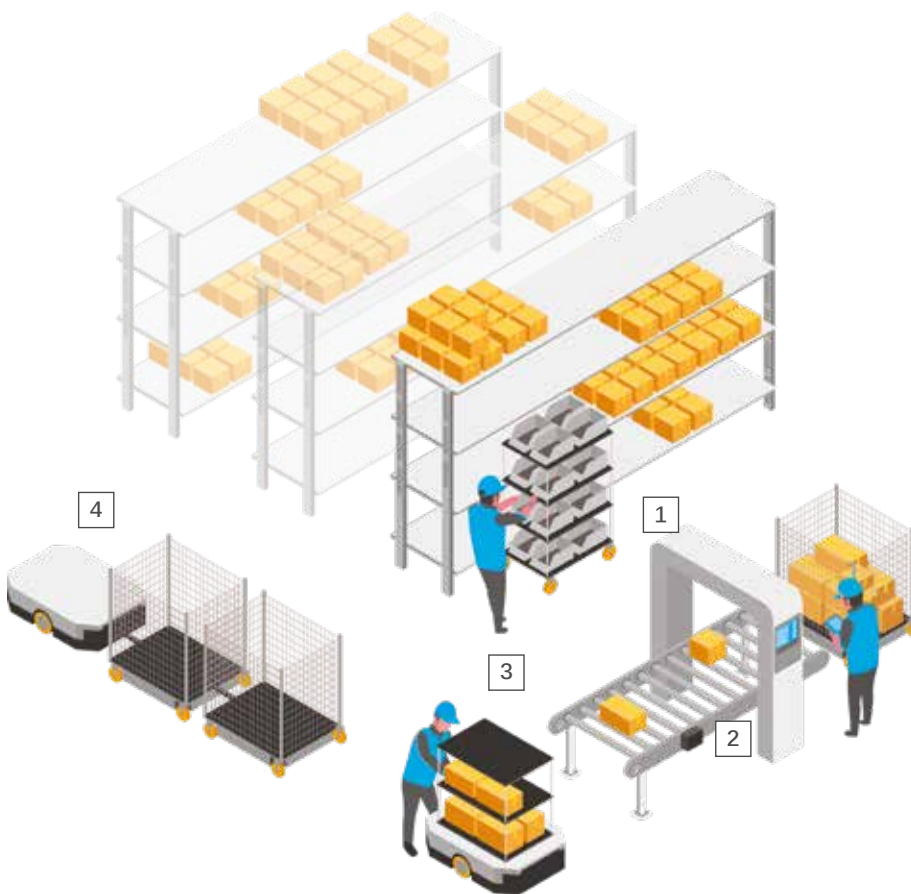
our missions



Motorized assistance



Motorization for automation



1



Motorization of a kitting trolleys

- ✓ Increase the number of parcels managed by the operator
- ✓ Move up to 750 kg effortlessly

2



Motorization of conveyors

- ✓ Powering pallets and box conveyors
- ✓ Integrated safety can avoid fences

3



Motorization of AGV/AMR shelving systems

- ✓ Handling long and repetitive parcel journeys
- ✓ Meet ISO 3691-4 safety standards for mobile robots
- ✓ Increase operator availability

4



Motorization of AGV/AMR tuggers

- ✓ Pulling trolleys/crates from the order-picking area to the dispatch area
- ✓ Compliance with ISO 3691-4 safety standards for mobile robots
- ✓ Products calibrated to meet the constraints of the sector (autonomy, travel speed, service life, etc.)



CEO of an e-Commerce group

TESTIMONIAL

"Man and machine are too often pitted against each other. It's a question of getting them to work together to reduce drudgery."

+ online video on YouTube



Suitable for e-Commerce / Retail

Flexible, time-saving solutions

ez-Wheel® solutions have been designed to meet the needs of the field and the expectation of users in the logistics sector: high level of performance, flexibility and cost-effectiveness.

▼ Multiple starts and stops

The AWD® 160 electric wheels are specifically developed to ensure thousands of successive picking trolley starts and stops, and offer acceleration and deceleration assistance, with automatic motor brake and free-wheel control.



Low height >

The AWD® 160 wheels are easily integrated to control picking systems with other electronic components, such as these trolleys fitted with Put-to-Light. The wheel is able to power the other components thanks to its on-board energy.



▲ Full integration

The compact design of the electric wheel, with its standard caster dimensions, facilitates mechanical integration, either as original equipment or as a retrofit for existing trolleys.



< Productivity gain

Motorization increases the carrying capacity and reduces the number of trips. Here, a trolley puller powered by an Assist Wheel Drive wheel moving a train of 4 preparation trolleys at the same time.



◀ Facilitate the AMRs development

AMR designed to meet the internal intralogistics needs in IDEC's factories and warehouses. The robot is equipped with a pair of SWD® 125 and two IDEC SE2L safety scanners: the perfect match to ensure the ISO 3691-4 safety compliance.



▲ Operators' safety

Equipped with two SWD® 125, this AMR is fitted with all the protective devices needed for operators to operate in complete safety.



▲ Quick & low-cost installation

The SWD® Core motor format is suitable for bin and pallet transfer robots.



▲ Continuous operation

SWD® wheels are qualified for millions of cycles, enabling high logistic outputs.

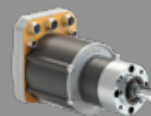
OUR SOLUTIONS FOR THE E-COMMERCE / RETAIL SECTOR



ASSIST WHEEL DRIVE
AWD® 160
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SAFETY WHEEL DRIVE
SWD® 125
Page 46



SAFETY DRIVE
SWD® CORE
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CONTROLLED ENVIRONMENTS

CONTROLLED ENVIRONMENTS DEMAND A RELIABLE AND MANAGEMENT OF INTERNAL FLOWS. SPECIFIC STANDARDS MUST BE ADHERED TO.

Motorizing rolling equipment used in sensitive places —like hospitals, pharmaceutical labs, or clean rooms and aseptic areas poses unique challenges because of the stringent cleanliness, disinfection, and safety requirements.



our missions



Motorized assistance



Motorization for automation

1



Motorization in aseptic areas

- ✓ Enhance maneuverability and safety of rolling equipment
- ✓ Meet rigorous protection standards and hygienic requirements

2



Motorization of patient transfer rolling equipment

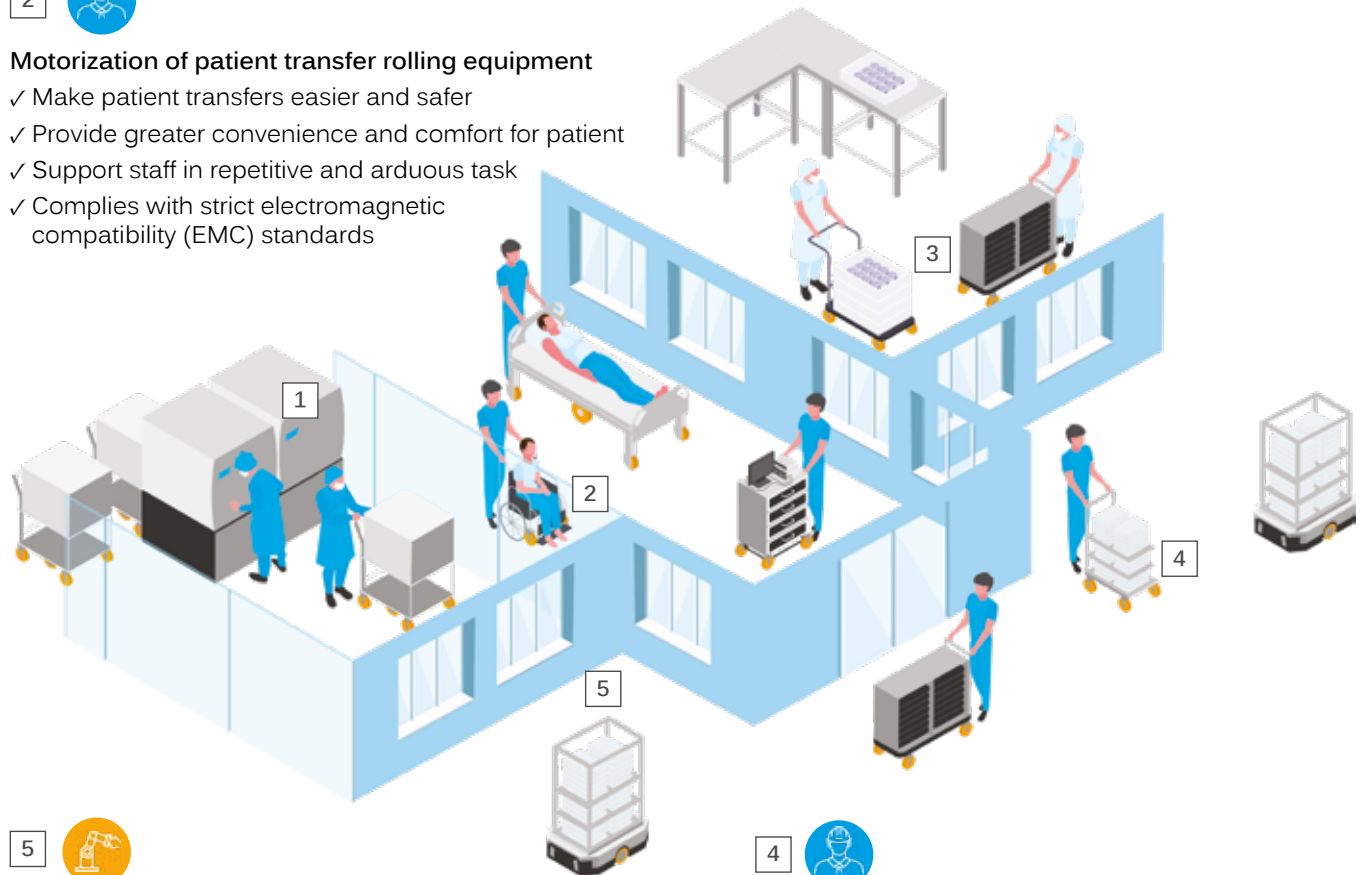
- ✓ Make patient transfers easier and safer
- ✓ Provide greater convenience and comfort for patient
- ✓ Support staff in repetitive and arduous task
- ✓ Complies with strict electromagnetic compatibility (EMC) standards

3



Motorization of meal distribution trolleys

- ✓ Speeds up and smooths out the service process
- ✓ Reduces staff fatigue and the risk of injury
- ✓ Enables trolleys to operate in environments with negative temperatures (cold storage)



5



AGVs/AMRs motorization

- ✓ Automate supplies between store and hospital services
- ✓ Meet ISO 3691-4 safety standards for mobile robots safety

4



Motorization of service trolleys

- ✓ Support staff in repetitive and arduous tasks
- ✓ Meet high protection class and hygiene requirements



Technical Services
Team Leader
of a pharmaceutical
laboratory

TESTIMONIAL

"The wheel makes the docking maneuver to the autoclave easier whilst at the same time being easier on the posture.

The operator can walk beside their trolley, which can be up to 600 kg (500 kg for the container and almost a hundred more for the trolley), as easily as if they were operating an electric pallet truck. They can handle the load with one arm effortlessly and safely. For me, the real gain is the reduction in physical strain!"

+ online video on YouTube



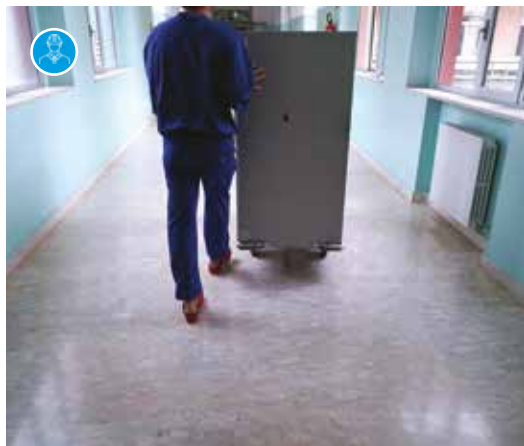
Suitable for Controlled environments

Clean, reliable and helpful

Thanks to their compactness and hygienic design, ez-Wheel® wheels can motorize or automate any type of rolling equipment operating in a controlled environment.

▼ Ability to climb slopes

The motorization offers a significant crossing torque, which allows a single person to climb slopes and access ramps without wasting time and effort.



◀ White and clean rooms

ez-Wheel® electric wheels enhance the maneuverability and safety of rolling equipment in aseptic areas, thanks to their hygienic design.

▼ Easy add-on

By combining compactness and performance, the AWD® 160 wheels can easily upgrade any type of meal distribution cart.



◀ Food processing

Even the most complex production machinery can be motorized using ez-Wheel® electric wheels, thanks to their compact dimensions and IP66 housing.

Flow automation in public place >

SWD® Safety Wheel Drives are particularly suitable for collaborative robots in hospital environments thanks to their low profile and specific design.

▼ Healthcare workers support

Adding an electrical motorization on manual handling equipment allows preserving the health of healthcare workers.



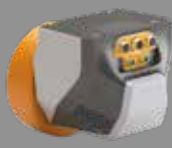
▲ Optimized designs to limit the risks of contamination

The design of mobile robots with less components thanks to SWD® technology can help minimizing particle generation and contamination.

OUR SOLUTIONS FOR CONTROLLED ENVIRONMENTS



ASSIST WHEEL DRIVE
AWD® 160
Page 30



SAFETY WHEEL DRIVE
SWD® 150
Page 44



SAFETY WHEEL DRIVE
SWD® 125
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SAFETY DRIVE
SWD® CORE
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MOTORIZED ASSISTANCE

ez-Wheel®
EW1A ASSIST WHEEL DRIVE

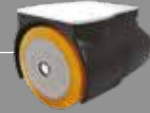
- AUTONOMOUS, COMPACT AND FULLY INTEGRATED WHEEL
- MANUAL HANDLING ASSISTANCE
- HEAVY LOADS TRANSPORTATION
- SUITABLE FOR THE MOST DEMANDING ENVIRONMENTS

EW1A ASSIST WHEEL DRIVES

AWD[®] 150

For industrial use

P.30



AWD[®] 160

For logistics and controlled environments

P.30

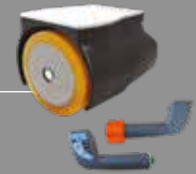


EW1A KIT

AWD[®] 150 Evaluation kit

For easy and quick integration

P.32



SOFTWARE

AWD[®] ez-Config

For Assist Wheel Drive products

P.34



AWD[®] ez-Diag

For Assist Wheel Drive products

P.36



AWD[®] Update tool

For Assist Wheel Drive products

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THE MOST INTEGRATED INDUSTRIAL ELECTRIC WHEELS

THE EZ-WHEEL® ASSIST WHEEL DRIVE RANGE IS A SIMPLE AND EFFICIENT SOLUTION TO QUICKLY BRING ELECTRIC ASSISTANCE TO ANY ROLLING EQUIPMENT OR VEHICLES.



CONCENTRATE OF TECHNOLOGY

- Ultra compact wheel drive
- Patented and award-winning technology



MODULARITY & SIMPLICITY

- Compatible with existing equipment
- User-friendly controls



ERGONOMICS AND USABILITY

- Musculoskeletal disorders prevention
- Ergonomic and customizable solutions

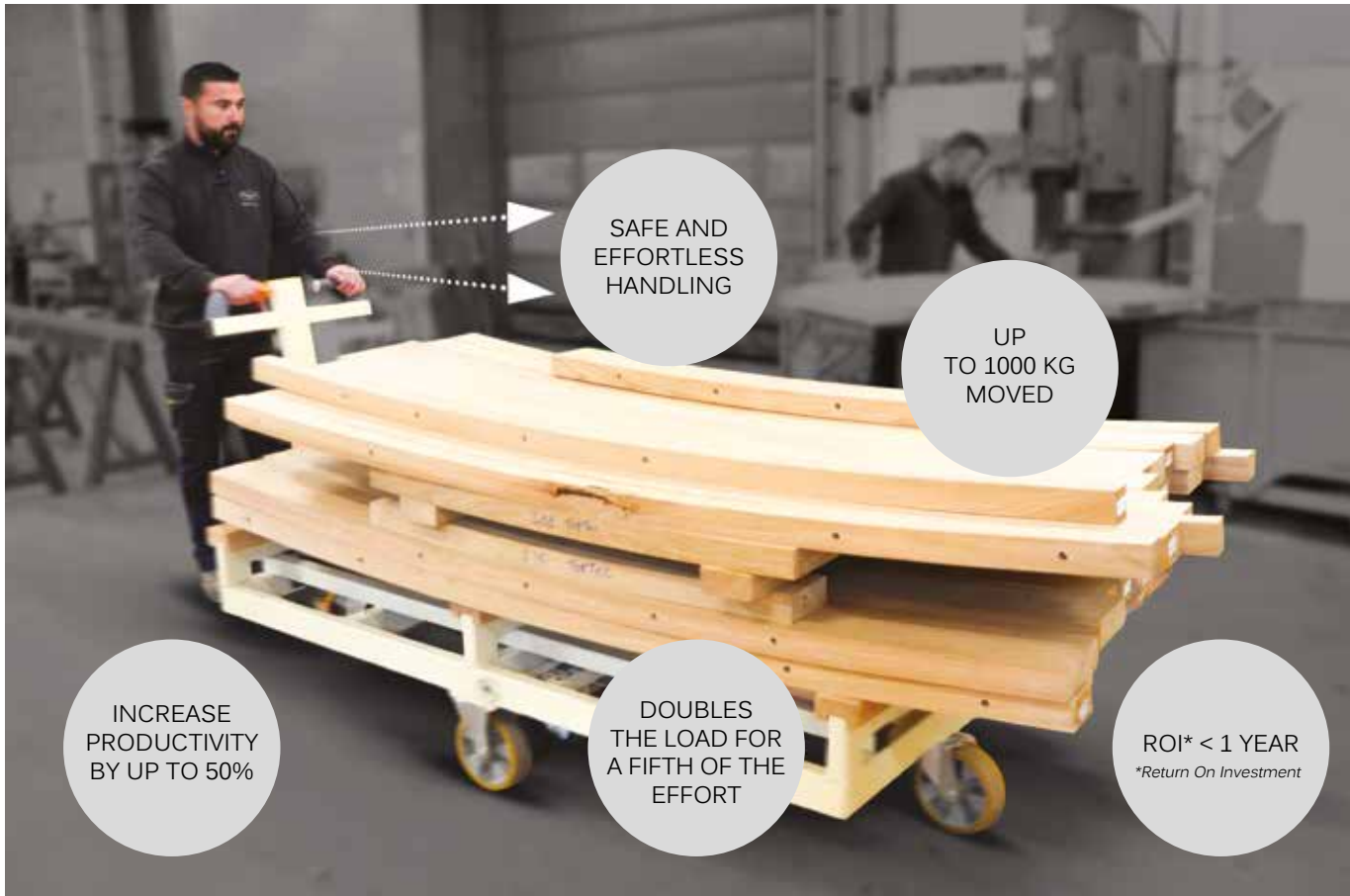


HIGH PERFORMANCE

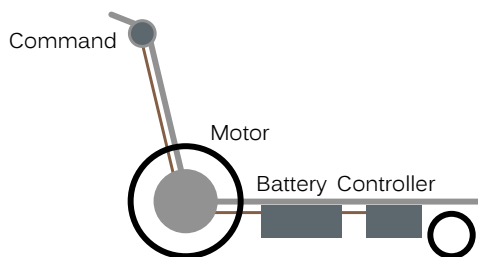
- High load transfer capacity
- Industrial tools modernization



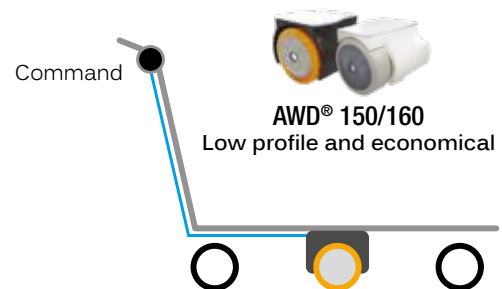
A SAFER AND MORE EFFICIENT HANDLING OF HEAVY LOADS



BEFORE EZ-WHEEL®...



...WITH EZ-WHEEL®



The first electric wheel featuring **embedded motor, batteries and electronics**.

Quick fitting ez-Wheel® technology removes most of peripherals from the chassis, making the integration of these solutions a fast and easy task compared to other alternatives.



EW1A Assist Wheel Drives

AWD® 150/160

For low profile equipment

AWD® 150 AND 160

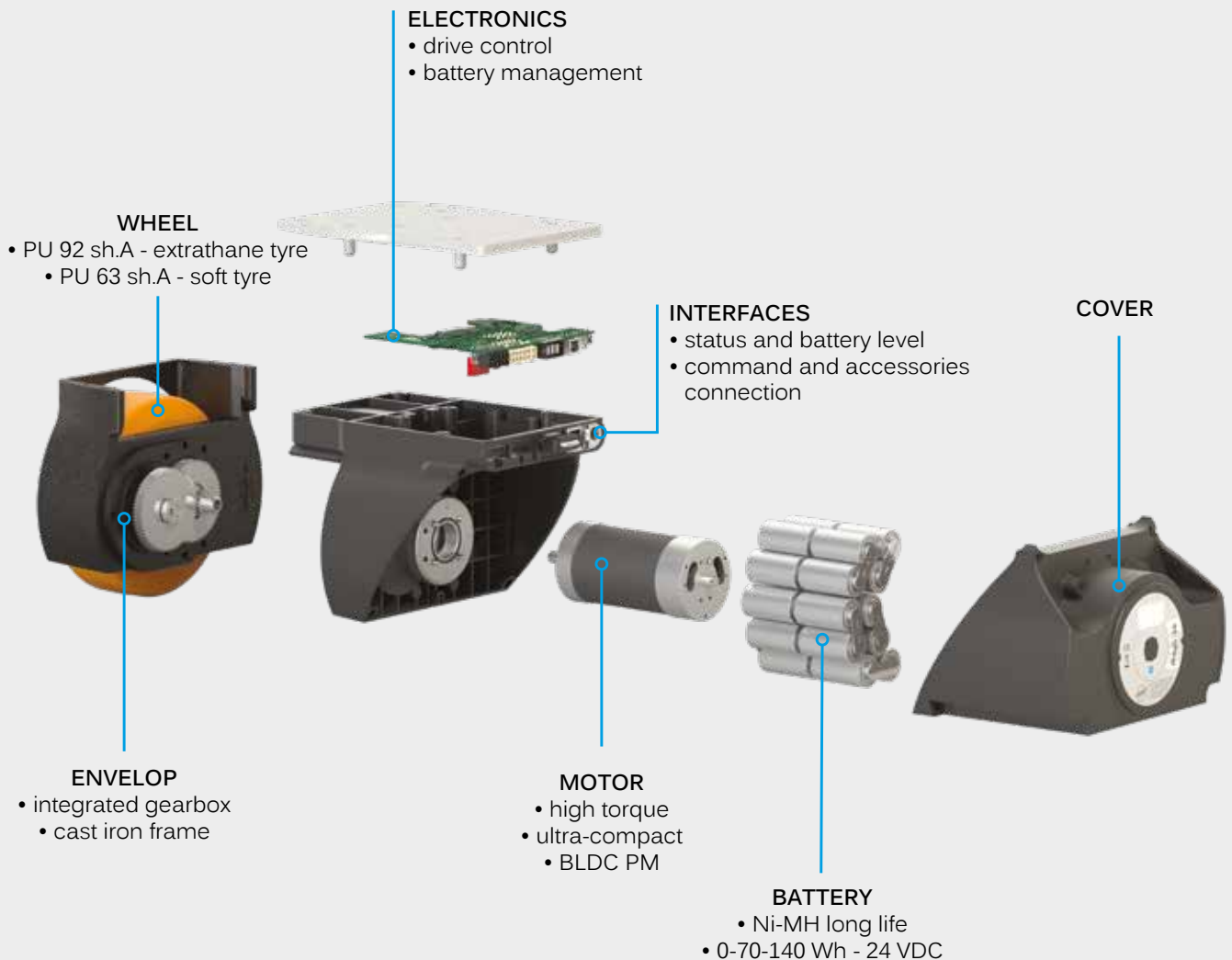
are compact electric wheel ranges designed to facilitate mechanical integration.

SPECIFICATION

- Ø from 150 to 158 mm
- Shockproof
- From IP43 to IP66
- Configurable products: available software - **Pages 34 to 39**

PERFORMANCE

- Up to 1000 kg moved
- From 50 to 400 kg max. vertical load
- From 0 to 5 km/h





DATASHEET

CAD 2D/3D - INSTRUCTION MANUALS

▶ available ONLINE

WHICH WHEEL FOR WHICH USE?

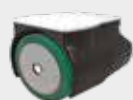
AWD® 150



EW1A-150xxx

- ✓ industrial use
- ✓ IP43
- ✓ shockproof
- ✓ cast iron housing

Available versions - EW1A-150 **H** **N** **A**



H Type of tyre

H: PU 92 sh.A (yellow tyre)
S: PU 63 sh.A (green tyre)



N Internal battery(ies)*

N: Without battery
1: One battery
2: Two batteries



A Parking brake

A: Without brake
B: With brake

AWD® 160



EW1A-160MxA

- ✓ controlled environment and logistics use
- ✓ IP66
- ✓ high pressure jet cleaning
- ✓ antistatic wheel

Available versions - EW1A-160M **N** **A**



N Internal battery(ies)*

N: Without battery
1: One battery
2: Two batteries



* Internal battery for AWD® 150/160
EW9Z-1BINT03V

REFERENCE	Designation
EW1A-150HxA	AWD® 150 wheel Industrial rubber with x battery(ies)
EW1A-150HxB	AWD® 150 wheel Industrial rubber with x battery(ies), with Brake
EW1A-150SxA	AWD® 150 wheel Industrial rubber with x battery(ies), with Soft PU
EW1A-150SxB	AWD® 150 wheel Industrial rubber with x battery(ies), with Brake and Soft PU
REFERENCE	Designation
EW1A-160MxA	AWD® 160 wheel Medical rubber with x battery(ies)
REFERENCE	Designation
EW9Z-1BINT03V	Internal battery for AWD® 150/160

EW1A KIT

AWD® 150 Evaluation kit

Typical kit to address a low profile use case

EW1A-SK150A KIT

provides a quick electrical assistance for industrial manual handling equipment such as tool trolley, rolling equipment for factories, mobile workstation, etc.



AWD® 150 Evaluation Kit
EW1A-SK150A



1 Electric wheel
EW1A-150S2A
Page 30

2 Suspension bracket (for heavy loads)
EW9Z-1MCS3
Page 77

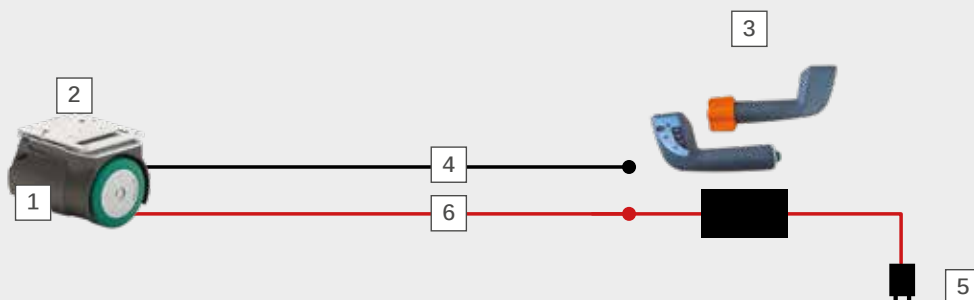
3 Rotating handle with button & display
EW9Z-1ARH2
Page 60

4 Adapter cable 3 meters
EW9Z-1AC3M
Page 72

5 1,8 Amp charger
Mascot1A8
Page 74

6 Charge cable
EW9Z-1CCxMW
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CABLE COMPATIBILITY





CONFIGURATION SOFTWARE FOR ASSIST WHEEL DRIVE PRODUCTS

► available ONLINE

ez ez ez ez ez



BUSINESS SECTORS

MOTORIZED ASSISTANCE

MOTORIZATION FOR AUTOMATION

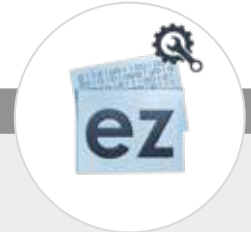
ACCESSORIES

REFERENCE	Designation
EW1A-SK150A	Assist Wheel Drive AWD® 150 evaluation kit (A)

AWD® ez-Config

for Assist Wheel Drive products

Configure your wheel



EZ-CONFIG is the core of the ez-Wheel® solutions. Thanks to their open connectivity, wheels and hand controls are programmable and can be perfectly adapted to any situation.

BENEFITS

- Simple and complete interface
- Precise configuration of the wheel behavior
- Ability to save configurations

PRODUCT COMPATIBILITY

- AWD® 150 and 160 - **Page 30**

OPERATING STEPS

1

ANALYSE

- Evaluate and understand the working place characteristics



2

CONNECT

- Open ez-Config and connect ez-Wheel® devices via a USB port



3

CONFIGURE

- Configure wheels and accessories
- Save parameters



TECHNICAL SPECIFICATIONS

EN

English
interface



Windows compatibility
7 and above



Offline
software



SOFTWARE AVAILABLE FOR DOWNLOAD

► on the ez-wheel.com website in the 'Download' section

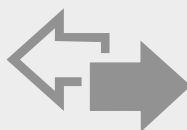
FEATURES SPECIFICATIONS

- This set of intuitive functions has been developed and adapted on the basis of years of experience and meets the requirements of every user.



Speed definition

Define the speed of the wheel.
Forward and Backward speed can be differentiated.



Direction change

Adjust the behaviour of the wheel during a change in the set direction.
2 modes are available:
"Deceleration" and "Inversion".



Max speed mode

Set the behaviour of the wheel when the rolling speed exceeds the maximum speed value entered in ez-Config.



Acceleration time

Set the acceleration time according to your needs.
e.g. slow for patient moving, fast for picking trolley.



Deceleration mode

Choose the deceleration behaviour when releasing the hand control.
e.g. motor brake resistance, free wheel to continue rolling.



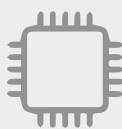
Start time limiter

Limit the motor drive time for each start. When the hand control is released, the wheel goes back to the selected deceleration mode.



Auto stand-by

Enter a value in seconds corresponding to the waiting time between the absence of activity on the hand control and switching back to stand-by.



Inputs Outputs

Configure external interfaces for the displays, buttons, external power supply.

+
Free of charge software



+
ID login & Password on demand



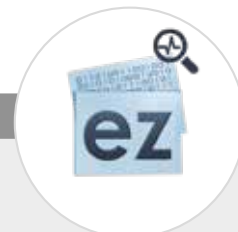
+
Available from our website



AWD® ez-Diag

for Assist Wheel Drive products

Diagnose your wheel



EZ-DIAG is your first device diagnostic assistant. This tool enables remote troubleshooting, making it quick and easy to get your equipment back into service.

BENEFITS

- Simple and complete interface
- General state of your device, in real time
- Quick diagnostic of your ez-Wheel® devices

PRODUCT COMPATIBILITY

- AWD® 150 and 160 - Page 30

OPERATING STEPS

1

CONNECT

- Open ez-Diag and connect ez-Wheel® devices via a USB port



2

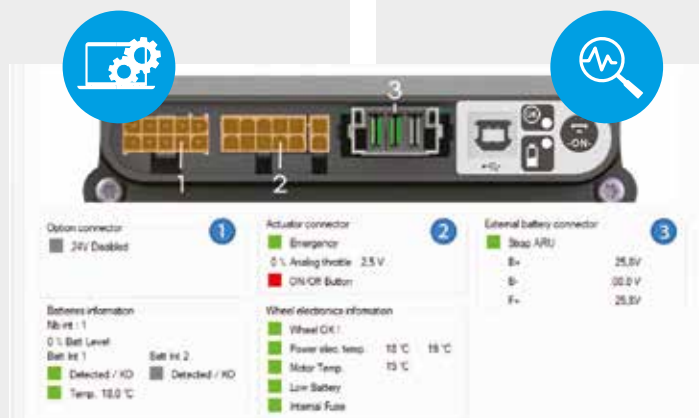
LAUNCH

- Get all the key parameters of your device gathered on the same spot

3

DIAGNOSE

- Understand the status of your device and identify errors
- Share diagnostics for a simplified support



TECHNICAL SPECIFICATIONS

EN

English
interface



Windows compatibility
7 and above



Offline
software



SOFTWARE AVAILABLE FOR DOWNLOAD

▶ on the ez-wheel.com website in the 'Download' section

FEATURES SPECIFICATIONS

Devices identities:

Serial Number,
software version



Devices status



Command state

Command setpoint,
On/Off status



Temperature monitoring

Motor, battery, electronics



Over/ undervoltage



Protections state

Emergency stop,
fuse



Battery monitoring

Charge level, voltage,
low battery status



Free of charge software



Without installation
or identification



Available from our website



AWD® Update tool

for Assist Wheel Drive products

Update your device

UPDATE TOOL

This tool provides the latest release for all your Assist Wheel Drive devices.

BENEFITS

- Easy access to the latest versions
- No risk: error-free update and configuration
- Fully automated management for convenience

PRODUCT COMPATIBILITY

- AWD® 150 and 160 - Page 30



OPERATING STEPS

1

CONNECT

- Open Update tool and connect ez-Wheel® devices via a USB port



2

LAUNCH

- Get an overview of your device version
- Start software update of your device



TECHNICAL SPECIFICATIONS

EN

English
interface



Windows compatibility
7 and above



Offline
software



Free of charge software



Without installation
or identification



Available from our website



DOWNLOAD RESSOURCES DIRECTLY FROM OUR WEBSITE



MOTORIZATION FOR AUTOMATION

ez-Wheel®
EW2A SAFETY WHEEL DRIVE

- HIGH LEVEL OF INTEGRATION
- BUILT-IN SAFE MOTION CONTROL AND SAFETY ENCODER
- FACILITATES COMPLIANCE WITH ISO 3691-4
- AUTOMATION OF HEAVY DUTY MOBILE PLATFORMS
- CHAINABLE SAFETY AND MULTIPLE SAFETY INPUTS

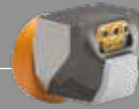


EW2A SAFETY WHEEL DRIVES

SWD[®] 150

For heavy duty intralogistics automation

P.44



SWD[®] 125

For light weight or medium duty intralogistics

P.46

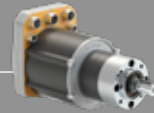


EW2A SAFETY DRIVES

SWD[®] Core

For multi-axis systems

P.48



EW2A KIT AND SETUPS

SWD[®] Starter Kit

Development kit for AGVs and AMRs

P.50



Typical setups using SWD[®]

For safety critical mobile platforms

P.51



SOFTWARE

SWD[®] ez-Config

Configure your drives and wheel drives

P.54



SWD[®] Update tool

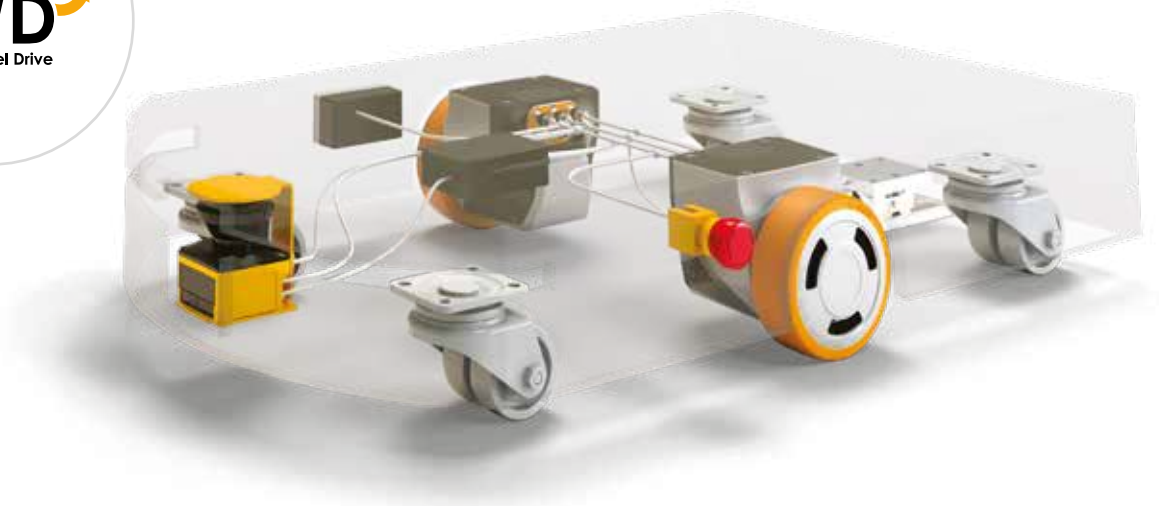
For firmware updates

P.56



THE SIMPLEST MOBILE ROBOT SETUP EVER

SWD® TECHNOLOGY DISRUPTS AGVS AND AMRS ARCHITECTURE THANKS TO ITS UNIQUE LEVEL OF INTEGRATION



COST REDUCTION

- Up to 50% less components
- Simpler and faster assembly



TIME SAVING

- Shorter engineering time
- Simplified certification process



FIRST-CLASS SAFETY

- Suitable for collaborative applications
- ISO 3691-4 compliance

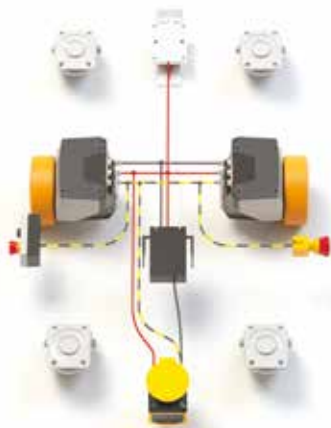


MODULAR ARCHITECTURE

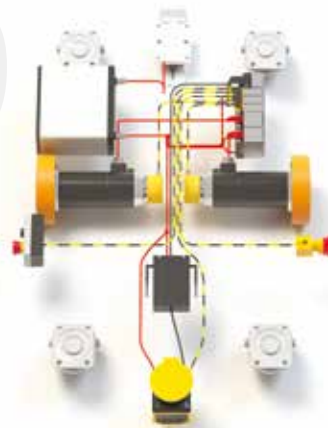
- Freedom of integration
- Flexible and scalable

SWD®

CONVENTIONAL SOLUTION



- SAFETY WHEEL DRIVES
- NAVIGATION PC
- SAFETY LASER SCANNER
- E-STOPS



- WHEELS
- GEARBOXES
- MOTORS
- SAFETY ENCODERS
- PLC
- SAFETY PLC
- RELAYS
- MOTOR DRIVERS
- BATTERY
- CIRCUIT BREAKERS
- NAVIGATION PC
- SAFETY LASER SCANNER
- E-STOPS

The SWD® Safety Wheel Drives provide a simple, versatile, and safety-compliant technological brick for system integrators and AGV/AMR manufacturers.

In addition to electric traction functions, SWD® motorizations natively embed safety, especially safe motion control and safety encoder which facilitate and accelerate the development of all mobile robots and automated load transfer solutions.

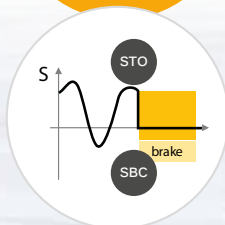
Combined with IDEC's SE2L safety laser scanner, E30 safety edges, XW emergency stop switches - *available page 70*, Human-Machine Interfaces (HMIs) - *available page 68*... SWD® motorizations address the functional needs of mobile robots, in full compliance with AGV standards and machine safety regulations.



STO
SAFE MOTOR
DISCONNECTION
when a stop is
requested
STO up to SIL3/PLc



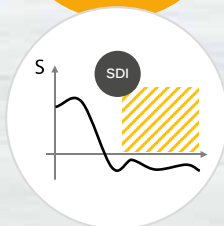
SBC
SAFE BRAKE
CONTROL
to ensure a lockout
SBC or SBU (unlock)
up to SIL2/PLd



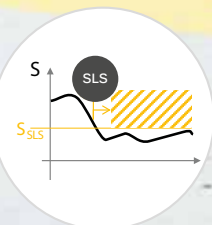
SS1
SAFE STOP
MONITORING
to ensure
a controlled stop
SS1 up to SIL2/PLd



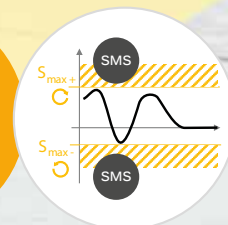
SDI
SAFE DIRECTION
CONTROL
in case of
collision risk
SDI up to SIL2/PLd



SLS
SAFELY
LIMITED SPEED
to prevent hazardous
situations
SLS (8 levels) or SLSa
(asymmetric) up to
SIL2/PLd



SMS
SAFE MAXIMUM
SPEED
to secure
operating range
SMS up to SIL2/PLd



Safety Wheel Drives

SWD® 150

For heavy duty intralogistics automation

SWD® 150

is a compact and safety compliant solution to automate heavy load transportation in a production area.

SPECIFICATION

- Ø 150 mm
- Shockproof
- IP66 electronic housing
- Configurable products: available software - **Pages 54 to 58**

PERFORMANCE

- Up to 2100 kg moved
- 700 kg max. vertical load
- From 0 to 3.7 km/h

WHEEL

- PU 92 sh.A
- Flat profile

MOTOR

- high torque
- ultra-compact
- BLDC PM



BATTERY

- Li-ion high power
- 0-100 Wh - 24 VDC

INTERFACES

- connectors: I/O, 24 VDC, CAN, USB, ETH (reserved for future use), brake
- LEDs: Status, CAN, ETH (reserved for future use)

GEARBOX

- in a heavy-duty cast iron frame
- available gear ratio 14 and 25

ELECTRONICS

- drive control
- safe motion
- safety encoder
- battery management

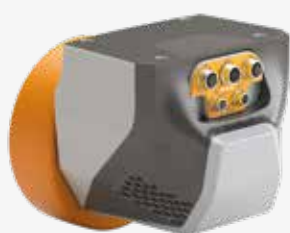


DATASHEET

CAD 2D/3D - INSTRUCTION MANUALS

▶ available ONLINE

SWD® 150



EW2A-150Hxxx

- ✓ developed for **industrial** use
- ✓ IP66 electronic housing
- ✓ functional safety
- ✓ wear-resistant tread



Available versions - EW2A-150H

N 1 4 A



N Modular battery

N: Without battery
1: With battery*



1 4 Gear ratio

14: 14:1 ratio
25: 25:1 ratio



A Parking brake

A: Without brake
B: With brake

MAX SPEED

3.7 km/h
1 m/s

2.1 km/h
0.6 m/s

RATIO 14
EW2A-150HN14x

RATIO 25
EW2A-150HN25x

1500 kg 2100 kg

RECOMMENDED
MAXIMUM LOAD

REFERENCE

Designation

EW2A-150HNxA

SWD® 150 - Safety Wheel Drive Industrial rubber, Heavy Duty, x:1 reduction ratio
CANopen communication, without battery

EW2A-150HNxB

SWD® 150 - Safety Wheel Drive Industrial rubber, Heavy Duty, x:1 reduction ratio and Brake
CANopen communication, without battery

Safety Wheel Drives

SWD® 125

For light weight or medium duty intralogistics

SWD® 125

is an extremely compact wheel drive designed to address the functional safety requirements of mobile robots.

SPECIFICATION

- Ø 125 mm
- Shockproof
- IP66 electronic housing
- Configurable products: available software - **Pages 54 to 58**

PERFORMANCE

- Up to 1500 kg moved
- 250 kg max. vertical load
- From 0 to 11 km/h

COVER

- robust

INTERFACES

- Connectors: I/O, 24 VDC, CAN, USB, ETH (reserved for future use), brake
- LEDs: Status, CAN, ETH (reserved for future use)

MOTOR

- high torque
- ultra-compact
- BLDC PM

WHEEL

- PU 80 sh.A
- Flat profile

ELECTRONICS

- drive control
- safe motion
- safety encoder

GEARBOX

- in cast iron frame
- available gear ratio 4 and 14



DATASHEET

CAD 2D/3D - INSTRUCTION MANUALS

▶ available ONLINE

SWD® 125



EW2A-125HNxx

- ✓ extremely compact footprint
- ✓ for medium loads at high speed
- ✓ IP66 electronic housing
- ✓ functional safety

Available versions - EW2A-125HN

0 4 A



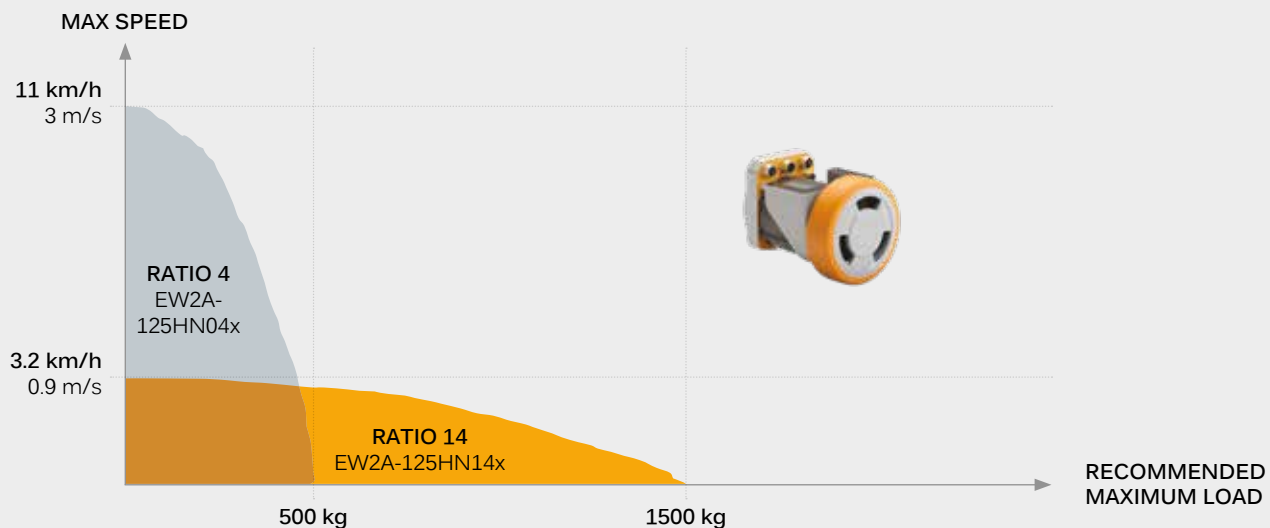
0 4 Gear ratio

04: 4:1 ratio
14: 14:1 ratio



A Parking brake

A: Without brake
B: With brake



REFERENCE	Designation
EW2A-125HNxA	SWD® 125 - Safety Wheel Drive Industrial rubber, Medium Duty, x:1 reduction ratio - CANopen communication
EW2A-125HNxB	SWD® 125 - Safety Wheel Drive Industrial rubber, Medium Duty, x:1 reduction ratio and brake - CANopen communication

Safety Drives SWD® Core

For safe multi-axis movements

SWD® CORE

is a safety integrated gearmotor able to lift, convey, transfer or rotate any load.

SPECIFICATION

- High torque up to 37 Nm at 100 rpm
- Shockproof
- IP66 electronic housing
- Configurable products: available software - **Pages 54 to 58**

COVER

- robust



INTERFACES

- Connectors: I/O, 24 VDC, CAN, USB, ETH (reserved for future use), brake
- LEDs: Status, CAN, ETH (reserved for future use)



MOTOR

- high torque
- ultra-compact
- BLDC PM



ELECTRONICS

- drive control
- safe motion
- safety encoder



GEARBOX

- Available gear ratio 1, 4, 14, 25, 50 and 100



DATASHEET

CAD 2D/3D - INSTRUCTION MANUALS

▶ available ONLINE

SWD® CORE



EW2A-000Nxx

- ✓ for safety critical movements
- ✓ generic design for wide applications range
- ✓ IP66 electronic housing
- ✓ functional safety

Available versions - EW2A-000N

0 0 A

0 0 Gear ratio

00: 1:1 ratio
04: 4:1 ratio
14: 14:1 ratio
25: 25:1 ratio
50: 50:1 ratio
99: 100:1 ratio

A Parking brake

A: Without brake
B: With brake

REFERENCE	Designation
EW2A-000N00A	SWD® Core - Safety Gear Motor without gear box - CANopen communication
EW2A-000N00B	SWD® Core - Safety Gear Motor without gear box, with Brake - CANopen communication
EW2A-000Nx A	SWD® Core - Safety Gear Motor x:1 reduction ratio - CANopen communication
EW2A-000Nx B	SWD® Core - Safety Gear Motor x:1 reduction ratio and Brake - CANopen communication

SWD® Starter Kit

Development kit for AGVs and AMRs

SWD® STARTER KIT

is a pre-packaged kit that accelerates the development of your mobile robot

**START IMMEDIATELY
THE DEVELOPMENT
OF YOUR MOBILE ROBOT!**

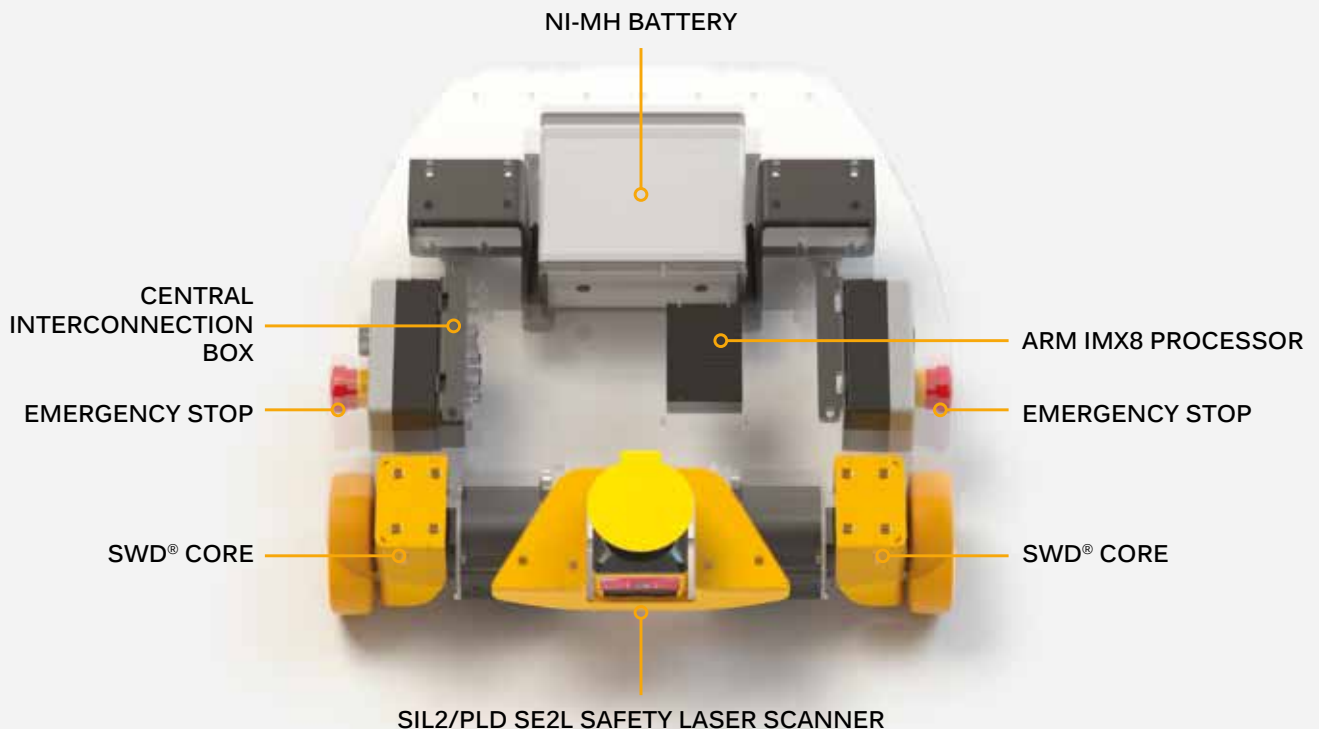
1 SWD® Starter Kit EW2A-SK000A



- > Ticket management
- > Open source ROS packages
- > Documentation
- > ROS community
- > Configuration API for SWD®



- > Differential driver for SWD® products in ROS1 & ROS2
- > Pre-installed ROS environment



REFERENCE	Designation
EW2A-SK000A	SWD® Starter Kit - Core 14:1 reduction ratio - iMX8 PC and SE2L scanner

Typical setups using SWD®

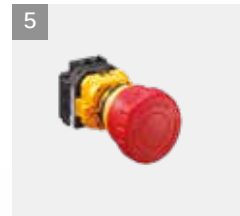
For safety critical human operated platforms

TYPICAL SETUP FOR MANUAL CONTROL OR REMOTE CONTROL



Also available with SWD® 125

- 1** Safety wheel drives SWD® 125 or SWD® 150 without battery version
Page 44 or 46
- 2** Lithium battery EW9Z-1BEXT20VL
Page 76
- 3** Central interconnection box EW9Z-2HUB1
Page 73
- 4** 10 Amp Lithium charger Mascot10A-Li
Page 75
- 5** Emergency stop XW1E
Page 70
- 6** Joystick XF Series CANopen
Page 65



Example
of compatible
remote control

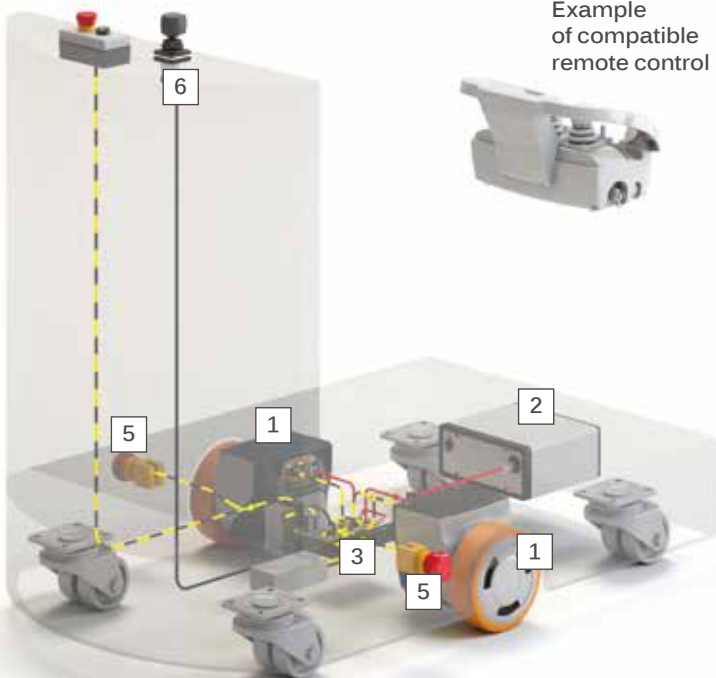


EXAMPLE OF RECOMMENDED COMPONENTS NOT SUPPLIED BY EZ-WHEEL®:

- PC or PLC
- Safety sensors
- Wireless control and receiver
- Cables



Flying lead
cables for SWD®
range available
on page 72



Typical setups using SWD®

For safety critical mobile platforms

TYPICAL SETUP FOR LINE GUIDED PLATFORM

1



Also available with SWD® 125

2



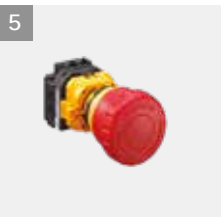
3



4



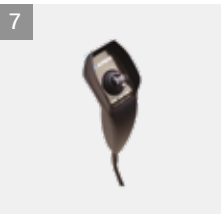
5



6



7



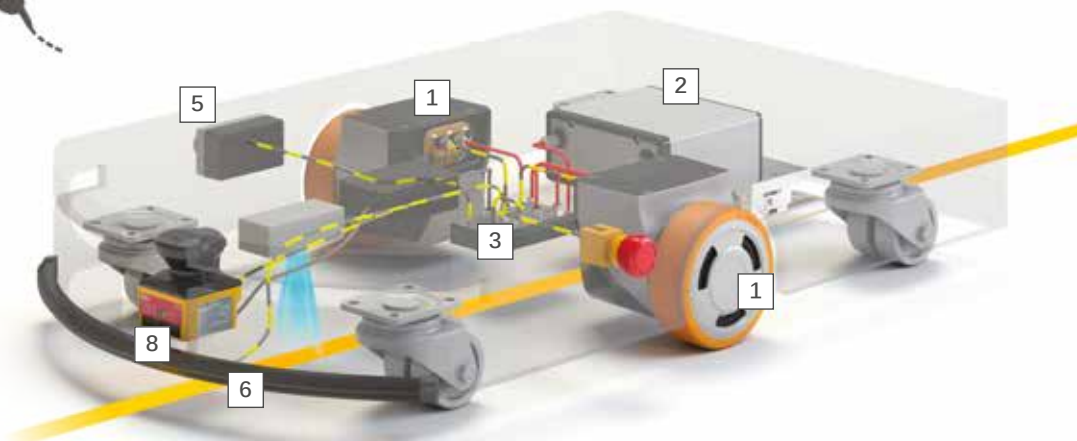
8

Flying lead cables for SWD® range available on page 72



- 1 Safety wheel drives SWD® 125 or SWD® 150 without battery version
Page 44 or 46
- 2 Lithium battery EW9Z-1BEXT20VL
Page 76
- 3 Central interconnection box EW9Z-2HUB1
Page 73
- 4 10 Amp Lithium charger Mascot10A-Li
Page 75
- 5 Emergency stop XW1F
Page 70
- 6 Safety Edge E30BK1
Page 70
- 7 Ergonomic joystick controllers PC 2441
Page 65
- 8 Safety laser scanner SE2L
Page 70

7



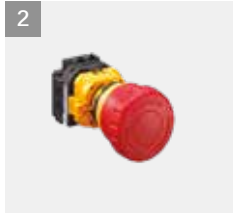
EXAMPLE OF RECOMMENDED COMPONENTS NOT SUPPLIED BY EZ-WHEEL®:

- Charging system
- PC or PLC
- Cables
- Line following sensor

TYPICAL SETUP FOR AMR WITH NAVIGATION



i Also available with SWD® 125 and external battery



1 Safety wheel drives SWD® 150 with integrated battery
Page 44

2 Emergency stop XW1E5I
Page 70

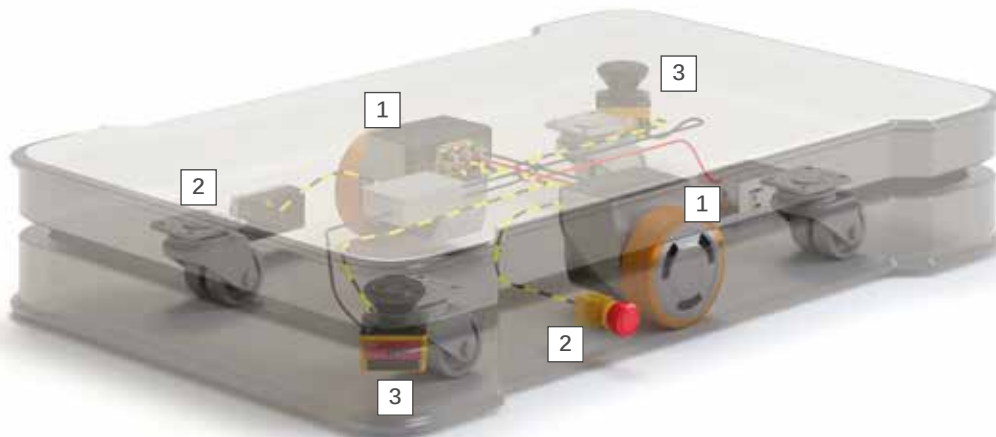
3 Safety Laser Scanners SE2L
Page 70



i Flying lead cables for SWD® range available on page 72

EXAMPLE OF RECOMMENDED COMPONENTS NOT SUPPLIED BY EZ-WHEEL®:

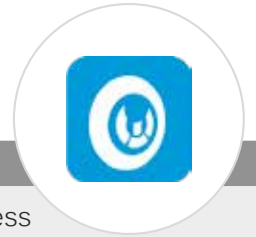
- Charging system
- Navigation system
- Wireless connectivity
- Cables



SWD® ez-Config

for Safety Wheel Drives products

Configure your drives and wheel drives



EZ-CONFIG is a tool designed to simplify and optimize the configuration of the SWD® drives and wheel drives. It is elaborated to make the most of SWD® products in their dedicated environments.

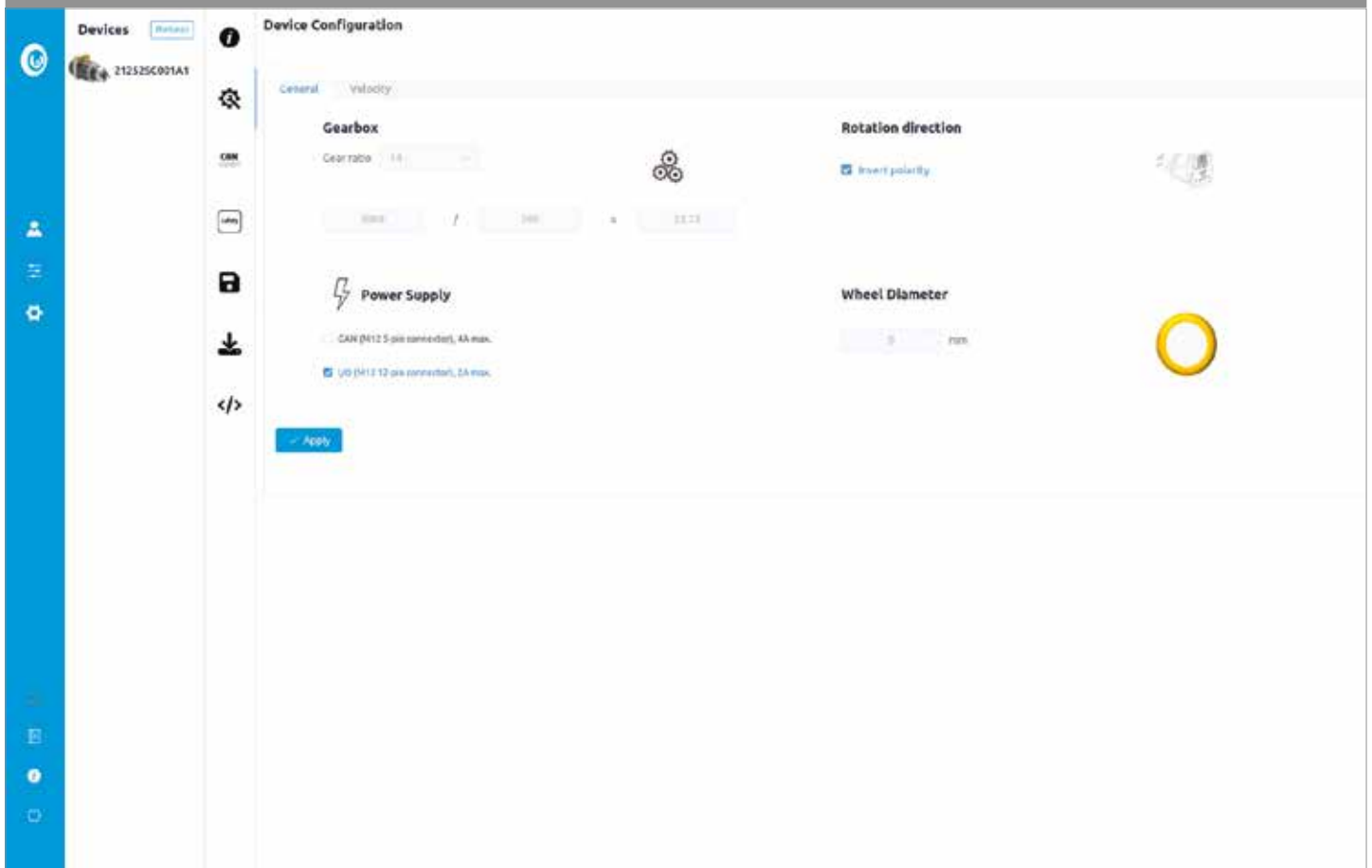
BENEFITS

- User-friendly interface: intuitive operation, easy access to settings and clear explanations for each function and option
- Ensures consistent configuration for SWD® products
- Reduces commissioning time for equipped machines
- Multi-OS tool: ensures optimal compatibility across platforms

PRODUCT COMPATIBILITY

- SWD® 150 - Page 44
- SWD® 125 - Page 46
- SWD® Core - Page 48

GRAPHICAL USER INTERFACE





SOFTWARE AVAILABLE FOR DOWNLOAD

▶ on the ez-wheel.com website in the 'Download' section

MAIN FEATURES AND CONFIGURATION OPTIONS

- **Device Configuration:**
 - Setup gearbox
 - Polarity
 - Power supply output
 - ...
- **CANopen Configuration:**
 - Configure PDO
 - SRDO
 - Safety words
 - ...
- **Drive Configuration:**
 - Min and Max speed
 - Ramps (Accel / Decel, Quick Stop)
 - PID
 - ...
- **Safety Functions:**

Customize the Safe Motion configuration for enhanced safety

TECHNICAL SPECIFICATIONS

EN

English
interface



OS operating system:
Windows, Linux



Minimum System
Requirements:

- x86 64-bit system
- Internet connection



Additional Requirements:

- Linux Ubuntu system
- USB-CAN probe connected to your laptop and the SWD® to be configured



is an intuitive tool dedicated to maintenance purposes. It enables updating the firmware versions of SWD® products.

- Upgrade or downgrade firmware versions
- Compatibility guaranteed by an automatic check (before the update)
- Only compliant firmware can be uploaded in your SWD® products

- SWD® 150 - **Page 44**
- SWD® 125 - **Page 46**
- SWD® Core - **Page 48**

The screenshot shows the TSWD* Update Tool v1.0.8 interface. On the left, a sidebar contains a 'Devices' section with a list of devices. One device is highlighted with a red box and labeled '2'. The main content area displays 'Device Information' for the selected device. A red box labeled '3' highlights the 'Firmware Status' field, which shows 'Boot successfully'. Below the device information, there is a 'Firmware update' section with a 'Download' button and a progress bar.

- 1 Menu
- 2 Product list
- 3 Main window

EN



Minimum System Requirements:

- x86 64-bit system
- Internet connection

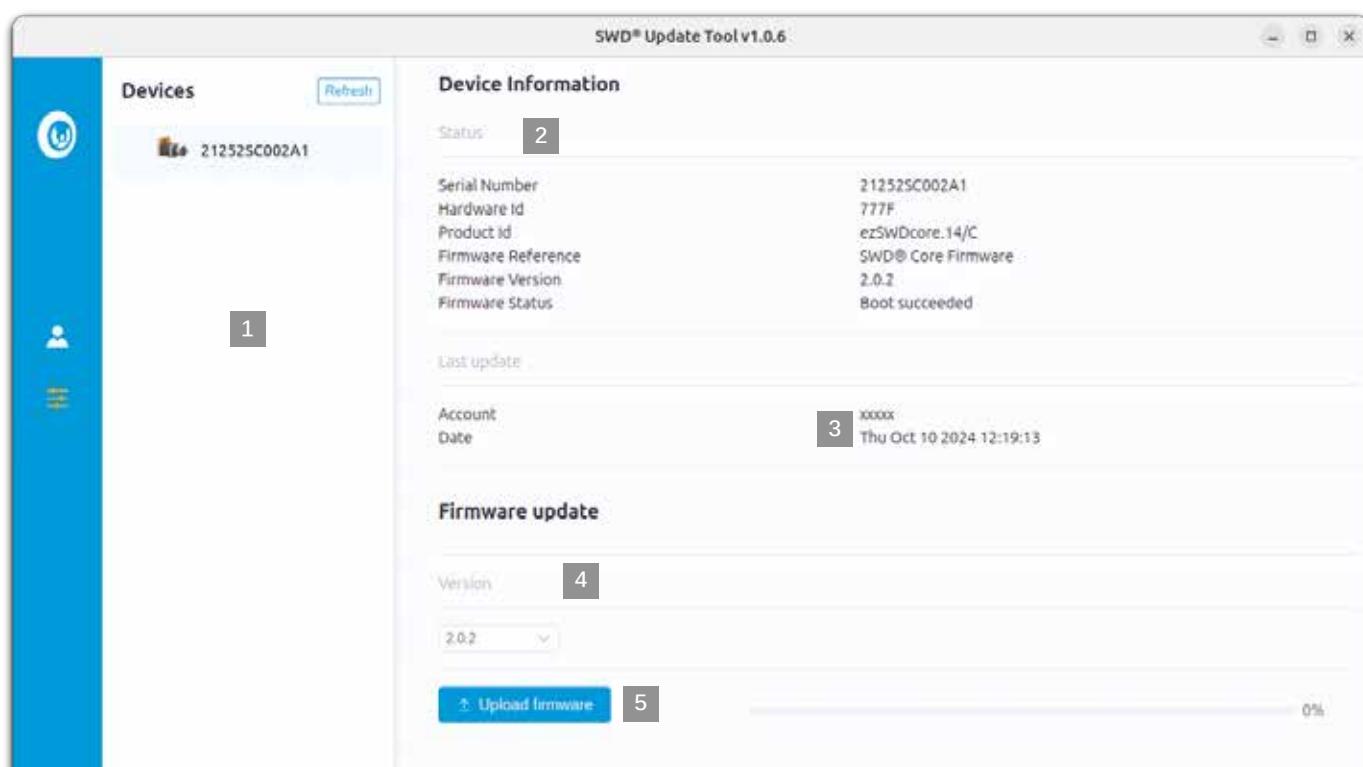


SOFTWARE AVAILABLE FOR DOWNLOAD

▶ on the ez-wheel.com website in the 'Download' section

MAIN FEATURES

- 1 Autonomous recognition of the products**
 - SWD® 150
 - SWD® 125
 - SWD® Core
- 2 Information about the device**
 - Serial number
 - Electronic board version
 - Mechanical characteristics
 - Firmware version
 - Device status
- 3 Information about the user and the last update**
 - Email account
 - Date of the last firmware update



- 4 Firmware selection (.ezb)**
 - Select among all compliant versions
- 5 Firmware Update status**
 - Progression bar when updating a new firmware



ACCESSORIES RANGE

ez-Wheel® ACCESSORIES

EZ-WHEEL® PRODUCTS HAVE BEEN DEVELOPED TO BE INTEGRATED INTO MANY APPLICATIONS IN VARIOUS ENVIRONMENTS. HUNDREDS OF ACCESSORIES COMBINATIONS ARE POSSIBLE THANKS TO THE HIGH LEVEL OF COMPATIBILITY!

Rotating handle

P.60

Bi-directional and intuitive



Assist Wheel Drive controller

P.62

Bi-directional and fully integrated



Hand controls

P.64

Bi-directional and ergonomic



Pre-wired switches

P.66

Plug and play



Machinery HMI & Signals

P.68

Interactive equipment



Safety devices

P.70

Risk prevention and compliance



Cables

P.72

Power, data or signal transmission



Safety hub

P.73

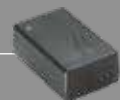
Easy wiring for mobile robots



Chargers

P.74

Multi-use and high compatibility



External batteries

P.76

Continuous use



Mechanical accessories

P.77

Optimal integration



Rotating handle

Bi-directional and intuitive

EW9Z-1ARHX ROTATING HANDLE

allows excellent maneuverability of the fitted equipment. Its various functions (e.g., hand detection, battery level display) make load handling safer and more efficient.

SPECIFICATION

- Directional throttle
- On/off button
- Battery status display
- Hand detection

MAIN APPLICATIONS

- Industrial trolleys
- Rolling equipment for factories
- Mobile workstations and tool trolleys

+ On/Off button



+ Battery level indicators

A remote LED indicates the battery level of the wheel and the wheel state of charge (optimal charge/charge in progress).

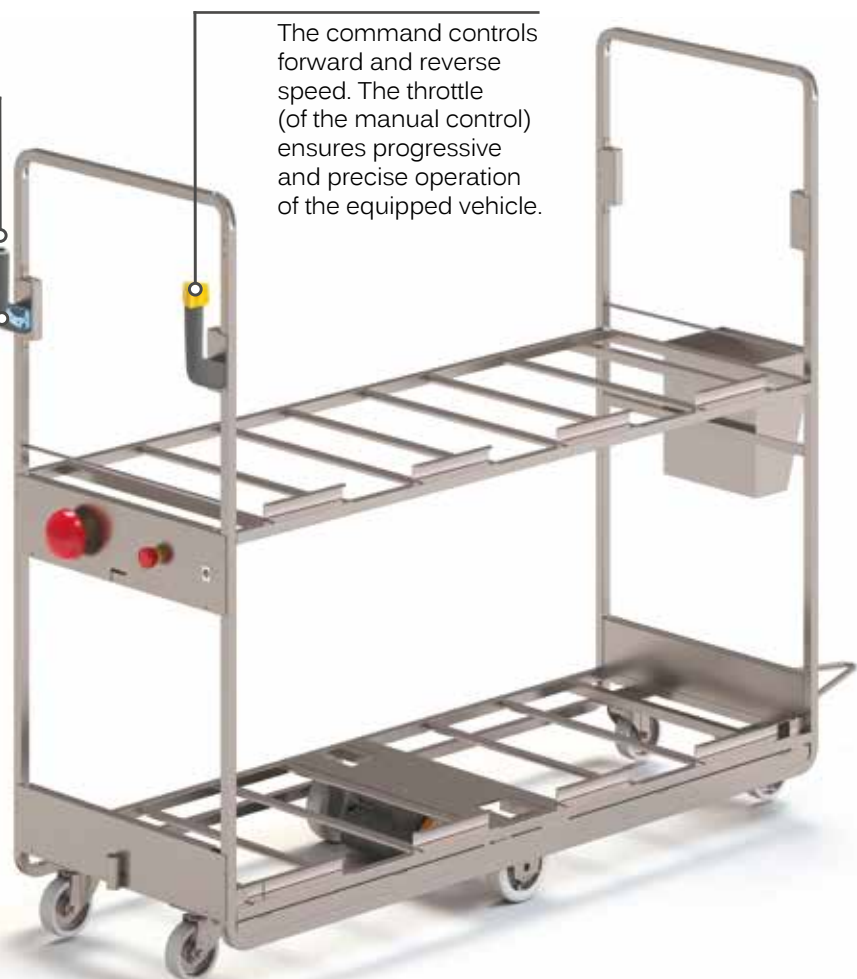
+ Directional throttle

The command controls forward and reverse speed. The throttle (of the manual control) ensures progressive and precise operation of the equipped vehicle.



+ Hand detection

This feature protects the operator by stopping the machine if hand contact is not established with the controls, thereby reducing the risk of accidents and injuries.



WIRED CONTROL



EW9Z-1ARH1

✓ industrial use

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72

WITH BUTTON AND DISPLAY



EW9Z-1ARH2

✓ industrial use
 ✓ On/Off button
 ✓ battery level indicators

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72

REFERENCE	Designation
EW9Z-1ARH1	Rotating Handle
EW9Z-1ARH3	Rotating Handle with Hand Detection
EW9Z-1ARH2	Rotating Handle with Button & Display
EW9Z-1ARH4	Rotating Handle with Button & Display and Hand Detection

Assist Wheel Drive controller

Bi-directional and fully integrated

EW9Z-1ACXR CONTROLLER

activates the electric wheels mounted on the rolling equipment.

The control is user-friendly and intuitive for the operator thanks to its features.

SPECIFICATION

- Directional throttle
- On/Off button
- Battery status display

MAIN APPLICATIONS

- Industrial trolleys
- Rolling equipment for factories
- Mobile workstations and tool trolleys

The Assist Wheel Drive controller is designed for easy integration on a tubular structure and for one-handed operation.



WIRED CONTROL



EW9Z-1AC1R

- ✓ industrial use
- ✓ On/Off button
- ✓ battery level indicator

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	Included

WITH ILLUMINATED BUTTON



EW9Z-1AC2R

- ✓ industrial use
- ✓ On/Off button
- ✓ battery level indicators
- ✓ illuminated button

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	Included



REFERENCE	Designation
EW9Z-1AC1R	Assist Wheel Drive controller with stop button
EW9Z-1AC2R	Assist Wheel Drive controller with illuminated stop button
EW9Z-1KCAC	2 meters extension cable for EW9Z-1AC1R or EW9Z-1AC2R

Hand controls

BI-DIRECTIONAL AND ERGONOMIC



EW9Z-1ATH0

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72



EW9Z-1JYTS

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72

Mini joystick

This finger operated mini joystick can control the speed in both directions (forward and backward). It can be mounted at the end of a tube, or on a panel.



EW9Z-1JY3140

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72

Joystick

The joystick can control the speed in both directions (forward and backward). It can be mounted on a panel and is suitable or tough environments.

Tiller head

The command is a tiller head type control. It ensures a proper handling of equipment thanks to ergonomic shapes and well organized commands. It can control the speed in both directions (forward and backward). For safety, the control includes a belly button.

REFERENCE	Designation
EW9Z-1JYTS	Mini joystick
EW9Z-1JY3140	Joystick
EW9Z-1ATH0	Tiller Head



Ergonomic Joystick

The PC Series is an innovative and ergonomic game style pendant controller. Available with USB or analog outputs, the PC Series is configured to order and provides an immersive and intuitive method for controlling vehicles.



CAN Multi-axis Joystick

The XF Series joystick is a ruggedized finger operated joystick controller specifically engineered for vehicle applications.

The device offers up to three axes, CAN bus (J1939 & CANopen), USB protocol options, and an IP67-rated sealed panel for robust protection.



The references listed below correspond to product families. Please contact your reseller to obtain the list of orderable part numbers.

REFERENCE	Designation
PC Series	Ergonomic pendant controllers
XF Series	Multi-axis rugged fingertip controllers

Pre-Wired switches

PLUG AND PLAY



EW9Z-1ONF

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72

Switch On/Off Button

The EW9Z-1ONF is a bistable toggle switch, to start and stop the system.



EW9Z-1KEY

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72



EW9Z-1PBD

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	EW9Z-1ACxM Page 72

Switch Push Button and Display

The EW9Z-1PBD is an impulse push button featuring a status or battery level LED display.

Switch Key Button

The EW9Z-1KEY is a bistable key switch, to secure the start of the system.

REFERENCE	Designation
EW9Z-1ONF	Switch On/Off Button
EW9Z-1KEY	Switch Key Button
EW9Z-1PBD	Switch Push Button Color

**EW9Z-1ESSxM**

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	Included

Emergency Stop Switch

The EW9Z-1ESSxM is an emergency push button, to disconnect the motor power on AWD® 150/160.

**EW9Z-1ERBxM**

Suitable for:	Cable required
✓ AWD® 150/160 Page 30	Included

Emergency Reverse Button

The EW9Z-1ERBxM is an emergency reverse button, to secure an operator trapped between the trolley and an obstacle.



REFERENCE	Designation
EW9Z-1ESSxM	Switch Emergency x Meters
EW9Z-1ERBxM	Switch Emergency Reverse Button x Meters

Machinery HMI & Signals

INTERACTIVE EQUIPMENT



HG2J

Recommended for:

✓ SWD® range
Page 41

Projected Capacitive Touch

The Projected Capacitive Touch Stylish is a smart capacitance touchscreens with an input voltage of 12-24V DC, a leading choice for applications.

Safety Commander

The safety commander enables industrial tablets to provide operation safety and features wired LAN connection and mechanical switches.

Push Button and Pilot Light

The Push Button and Pilot Light and its two-step locking lever integrated with a guard provides a higher level of safety, and the low projection from the panel surface reduces the possibility of unexpected activation or operator damage.

Smart RFID Reader

The Smart RFID Reader increases tracking, security, access levels, and productivity of applications. Built for easy integration into industrial systems, this RFID device lets OEM and end users implement secure equipment identification, access control, and traceability.



HT4P

Recommended for:

✓ SWD® range
Page 41

CW1B

Recommended for:

✓ SWD® range
Page 41

KW2D

Recommended for:

✓ SWD® range
Page 41

The references listed below correspond to product families. Please contact your reseller to obtain the list of orderable part numbers.

REFERENCE	Designation
HT4P	Safety Commander
HG2J	Projected Capacitive Touch
CW1B	Push Button and Pilot Light
KW2D	Smart RFID Reader



LD6A

Recommended for:

✓ SWD® range
Page 41

Light Tower

The light tower uses LED technology to provide a bright solution for supervising workstations or indicating the status of a process.



HW1Z

Recommended for:

✓ SWD® range
Page 41

Illuminated buzzer

The illuminated buzzer enhances visibility to indicate the robot operating status.

The references listed below correspond to product families. Please contact your reseller to obtain the list of orderable part numbers.

REFERENCE	Designation
LD6A	Light Tower
HW1Z	Illuminated buzzer

Safety devices

RISK PREVENTION AND COMPLIANCE



SE2L

Recommended for:

✓ SWD® range
Page 41

Safety Laser Scanner

This small safety sensor ensures easy installation area protection and access protection for flexible and safe construction of robot systems.



E30BK1

Recommended for:

✓ SWD® range
Page 41

Safety Edge

The safety edge ensures safety on automatic doors of machine tools and on small AGVs.



XW1E

Recommended for:

✓ SWD® range
Page 41

Emergency Stop Switch

The emergency stop switch includes a new technology called safe break action that provides greater levels of human safety and is the first of its kind in the world.

The references listed below correspond to product families. Please contact your reseller to obtain the list of orderable part numbers.

REFERENCE	Designation
SE2L	Safety Laser Scanner
E30BK1	Safety Edge
XW1E	Emergency Stop Switch



Cables

POWER, DATA OR SIGNAL TRANSMISSION

CABLES FOR AWD® PRODUCTS AND ITS ACCESSORIES

REFERENCE	Designation	Compatibility
Charge cables		
EW9Z-1CCxMX	Charge Cable extender x Meters	NiMH Chargers with XLR charge plug - Page 74
EW9Z-1CCxMW	Charge Cable for AWD® 160/150 x Meters	AWD® 150/160 - Page 30
Battery cables		
EW9Z-1BC24V	Cable for 24V power discharge	AWD® 150/160 - Page 30
EW9Z-1BCEXT2MF	Cable for external battery, Flying leads	AWD® 150/160 without internal battery - Page 30
EW9Z-1BCEXT2M	Cable for external battery 2 Meters	AWD® 150/160 without internal battery - Page 30
Hand controls cables		
EW9Z-1ACxM	Adapter Cable x Meters for Button & Display	AWD® 150/160 - Page 30

CABLES FOR SWD® PRODUCTS AND DEVICES

REFERENCE	Designation	Compatibility
SWD® diag and config cables		
EW9Z-2CANDS 1	Adapter cable SWD® from SWD® CAN connector to D-Sub	SWD® range - Page 41
IPEH-002021 2	Probe USB-CAN from PC to D-Sub	SWD® range - Page 41
Cables Pack 1 + 2		
EW9Z-2DCP1	SWD® Diag and Config Pack – CAN probe and adapter cable	SWD® range - Page 41
SWD® Flying leads cables		
EW9Z-2PSC2MF 1	Power Supply Cable for SWD® devices, 24 VDC - 2 Meters Flying leads	SWD® range - Page 41
EW9Z-2IOC2MF 2	I/O Cable for safe Inputs/Outputs - 2 Meters Flying leads	SWD® range - Page 41
EW9Z-2CANC2MF 3	CAN Cable for CANopen communication - 2 Meters Flying leads	SWD® range - Page 41
Cables Pack 1 + 2 + 3		
EW9Z-2CP1	SWD® Flying leads Cables Pack – 24 VDC, I/O and CAN cables	SWD® range - Page 41

Safety hub

EASY WIRING
FOR MOBILE ROBOTS



EW9Z-2HUB1

Recommended for:

✓ SWD® range
Page 41

Inter connection box

The EW9Z-2HUB1 is a central interconnection box for intuitive wiring.

REFERENCE	Designation
EW9Z-2HUB1	SWD® Safety Hub

Chargers

 Universal plug available

 Universal voltage 90-264 V AC

**MULTI-USE
AND HIGH
COMPATIBILITY**

NI-MH CHARGERS



Mascot1A8xx

Suitable for:

✓ AWD® 150/160
Page 30

✓ Ni-MH external batteries
(Charger with XLR charge plug version) - Page 76

Charger 1,8 Amp

XLR charge plug
or Molex charge plug
+ power cord

Available versions Mascot1A8

W **U** **S**

W Charge plug

blank: XLR Charge plug
① recommended for remote charging with EW9Z-1CCxMW cable
Page 72

W: Molex Charge plug
① recommended for embedded charger configuration



U **S** Power cord

Blank: EU
US
UK
AUS

NI-MH CHARGERS



Mascot2A9xx

Suitable for:

✓ AWD® 150/160
Page 30

✓ Ni-MH external batteries
(Charger with XLR charge plug version) - Page 76

Charger 2,9 Amp

XLR charge plug or Molex charge plug + power cord

Available versions Mascot2A9

W **U** **S**

W Charge plug

blank: XLR Charge plug
① recommended for remote charging with EW9Z-1CCxMW cable
Page 72

W: Molex Charge plug
① recommended for embedded charger configuration



U **S** Power cord

Blank: EU
US
UK
AUS

REFERENCE	Designation
Mascot1A8xx	1,8 Amp charger x charge plug with x power cord
Mascot2A9xx	2,9 Amp charger x charge plug with x power cord

NI-MH CHARGERS

**Mascot4A****Suitable for:**

✓ AWD® 150/160 with EW9Z-1CCxMW cable
Page 30

✓ Ni-MH external batteries
(Charger with XLR charge plug version) - Page 76

Charger 4 Amp

XLR charge plug + EU power cord

REFERENCE	Designation
Mascot4A	4 Amps charger XLR charge plug with EU power cord

LITHIUM CHARGERS

**Mascot10A-Li****Suitable for:**

✓ EW9Z-1BEXT20VL Li-ion external battery
Page 76

Charger 10 Amp

XLR charge plug + EU power cord

REFERENCE	Designation
Mascot10A-Li	10 Amps charger Lithium 29,4 V for Li-ion external battery

External batteries

CONTINUOUS USE

NI-MH BATTERIES



EW9Z-1BEXTxxA

Suitable for:	Cable required
✓ AWD® 150/160 without internal battery Page 30	EW9Z-1BCEXT2M Page 72
✓ SWD® range without internal battery Page 41	

External battery with handle

Ni-MH 24 VDC - 9 Ah or 15 Ah

REFERENCE	Designation
EW9Z-1BEXT09A	External Battery with handle Ni-MH 24V 9AH
EW9Z-1BEXT15A	External Battery with handle Ni-MH 24V 15AH

LITHIUM BATTERIES



EW9Z-1BEXT20VL

Suitable for:	Cable required
✓ AWD® 150/160 without internal battery Page 30	EW9Z-1BCEXT2M Page 72
✓ SWD® range without internal battery Page 41	

External battery with handle

Li-ion 24 VDC - 20 Ah

REFERENCE	Designation
EW9Z-1BEXT20VL	External battery Lithium 24V 20Ah

Mechanical accessories

OPTIMAL INTEGRATION

The suspension bracket helps absorb shocks and vibrations, thereby enhancing stability and operator comfort. It also provides height compensation, ensuring secure transport of loads.



EW9Z-1MCS2

Suitable for:

✓ AWD® 150/160
Page 30

Compact suspension bracket

✓ Suitable for medium loads, up to 500 kg.



EW9Z-1MCS3

Suitable for:

✓ AWD® 150/160
Page 30

Compact suspension bracket with stronger spring force

✓ Suitable for heavier loads, between 500 and 1000 kg.



EW9Z-1MCS2
on AWD® 160 wheel

REFERENCE	Designation
EW9Z-1MCS2	Suspension bracket Light / Compact
EW9Z-1MCS3	Suspension bracket Light / Compact (for heavy loads)

WE MAKE THE POINT OF CONTACT, WHERE PEOPLE INTERFACE WITH MACHINES, EASY, SAFE AND SECURE. **WE CREATE NEW POSSIBILITIES.**



One of our corporate principles is to conduct business with consideration for social contribution. Since its founding, IDEC has developed and introduced the world to numerous products and services centered on its control technology. Today, our products are used not only in factories, but in a wide range of settings in people's everyday lives where customers desire safety, ease of use, reliability and a smaller environmental footprint.

Acronym & Abbreviation

AGC: Automated Guided Cart	ISO: International Organization for Standardization	SDI: Safe Direction
AGV: Automated Guided Vehicle	LAN: Local Area Network	SLS: Safely Limited Speed
AMR: Autonomous Mobile Robot	LED: Light Emitting Diode	SMS: Safe Maximum Speed
API: Application Programming Interface	OEM: Original Equipment Manufacturer	SRDO: Safety-Related Data Object
AWD: Assist Wheel Drive	PDO: Process Data Object	SSI: Safe Stop 1
CAN: Controller Area Network	PID: Proportional-Integral-Derivative	SWD: Safety Wheel Drive
EMC: Electromagnetic Compatibility	PLC: Programmable Logic Controller	VAC: Volts Alternating Current
ETH: Ethernet	ROS: Robot Operating System	VDC: Volts Direct Current
HMI: Human Machine Interface	SBC: Safe Brake Control	
IP: Ingress Protection	SBU: Safe Brake Unlock	

Notes



22 FACTORIES



MORE THAN **75** YEARS OF EXPERIENCE



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100 000 + REFERENCES

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