



ez-wheel

SWD[®]

Cables

Technical specifications

Version 1-a – Original version



ez-Wheel[®]

A brand of the IDEC Corporation Group

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1. About this document

1.1. Who is this manual for?

This manual is intended for **SWD**® customers, industrial machine integrators and maintenance teams.

1.2. Additional resources

- **IDEC ez-Wheel**® website and products: <https://ez-wheel.com/>
- **IDEC ez-Wheel**® downloadable resources at <https://ez-wheel.com/en/resources>, such as:
 - Product family catalogue
 - **SWD**® Safety Wheel Drive brochure
 - **SWD**® products Instruction manuals

1.3. Disclaimer

The technical information included in this manual is subject to change. No responsibility is accepted for the completeness, up-to-dateness or accuracy of the data and illustrations provided.

Texts and visuals included in this manual are the property of **APEM SAS**, company of **IDEC Corporation**.

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«TECHNICAL SPECIFICATIONS»
Original version English 2025
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FIRST EDITION, JULY 2025

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2. Prerequisites

To ensure the safe and effective use of the **SWD**® cables, it is essential that only qualified personnel operate or interact with the product. The required knowledge and competencies are:

- ✓ **Electrical fundamentals:** understanding of voltage, current, resistance, and safe handling of electrical components.
- ✓ **Wiring and circuit design:** ability to read and interpret electrical schematics and safely connect components.
- ✓ **Risk awareness:** knowledge of electrical hazards, including short circuits, electric shock, and arc flash risks.
- ✓ **Standards compliance:** awareness of relevant safety standards and regulations (e.g., IEC, ISO, or local equivalents)

3. Summary table of the SWD® cable range

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

4. SWD® Cables

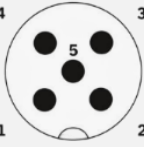
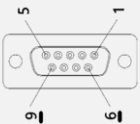
4.1. SWD® Diag and Config cables

4.1.1. SWD® CAN adapter cable (EW9Z-2CANDS)

SWD® CAN adapter cable from the M12 CAN connector to D-Sub, can be used to establish the connection to the CAN bus.

Part Number: EW9Z-2CANDS

	Connectors	M12 male Straight to D-Sub female	Green (RAL 6024) and Black	D-Sub Plastic casing M12 Ø 14.5 mm
	Cable	Shielded 22 AWG	PUR Blac	2000 mm ± 50 mm Ø 5 mm

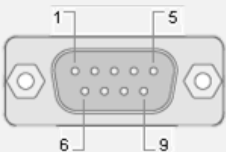
M12 Male 5-pin coding: A	Pin #	Wire colour	D-Sub Female 9-pin	Pin #	Function
	1	Braid		6	FE
	2	Brown		9	+24
	3	White		3	GND
	4	Blue		7	CAN High
	5	Black		2	CAN Low

4.1.2. USB-CAN probe (IPEH-002021)

[Peak-System](#) USB-CAN [probe](#) can be used to establish a simple connection to CAN networks from a PC without native CAN hardware, like a laptop.

Part number: IPEH-002021

	Connectors	USB-A male to D-Sub male	White	Plastic casing
	Cable	Shielded 28 AWG - 22 AWG	White	0.8m ± 50 mm

D-Sub Male 9-pin	Pin #	Function (Complies with CiA® 106)
	1	Not connected (supply)
	2	CAN Low
	3	GND
	6	GND (shield)
	7	CAN High
	9	Not connected (supply)

NB: Device driver is available from the PEAK website for both Linux and Windows OS.

4.1.3. SWD® Diag and Config Pack (EW9Z-2DCP1)

SWD® Diag and Config Pack – Groups the USB-CAN probe and the D-Sub to M12 CAN cable.

Part Number: EW9Z-2DCP1

	Part number	Designation
	EW9Z-2CANDS	SWD® CAN adapter cable
	IPEH-002021	USB-CAN probe

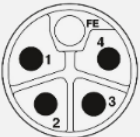
4.2. SWD® Flying leads cables

4.2.1. SWD® Power supply cable (EW9Z-2PSC2MF)

SWD® Power Supply Cable can be used to connect the power to **SWD®** devices.

Part Number: EW9Z-2PSC2MF

	Connector	M12 male Straight	Black	Ø 16 mm
	Cable	Shielded 14 AWG	PUR Black	2000 ± 30 mm Ø 9.5 mm

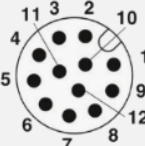
M12 Male 4-pin+FE coding: L	Pin #	Wire colour	Function
	1	Brown	+24
	2	White	+24
	3	Blue	GND
	4	Black	GND
	PE	Yellow/green	FE

4.2.2. SWD® I/O cable (EW9Z-2IOC2MF)

SWD® I/O Cable can be used to connect the safety signals and the CAN bus to **SWD®** devices.

Part Number: EW9Z-2IOC2MF

	Connector	M12 male Straight	Yellow (RAL1003)	Ø 14 mm
	Cable	Shielded 26 AWG	PUR Black	2000 ± 50 mm Ø 6 mm

M12 Male 12-pin coding: A	Pin #	Wire colour	Function
	1	White	CAN High
	2	Brown	INSafe4
	3	Green	CAN Low
	4	Yellow	+24 out
	5	Gray	STO_1
	6	Pink	GND out
	7	Blue	INSafe1
	8	Red	STO_2
	9	Orange	INSafe3
	10	Purple	INSafe2
	11	Black	GND in
	12	Violet	NA / On

4.2.3. SWD® CAN cable (EW9Z-2CANC2MF)

SWD® CAN Cable can be used to connect the CAN bus and power-up additional peripherals (consult **SWD®** User manual).

Part Number: EW9Z-2CANC2MF

	Connector	M12 male Straight	Green (RAL6024)	Ø 14.5 mm
	Cable	Shielded 22 AWG	PUR Black	2000 ± 50 mm Ø 5.5 mm

M12 Male 5-pin coding: A	Pin #	Wire colour	Function
	1	Brown	FE
	2	White	+24
	3	Blue	GND
	4	Black	CAN High
	5	Gray	CAN Low

4.2.4. SWD® Flying leads Pack (EW9Z-2CP1)

SWD® Flying leads Cables Pack – Groups the 3 flying lead cables.

Part Number: EW9Z-2CP1

	Part number	Designation
	EW9Z-2PSC2MF	SWD® Power supply cable
	EW9Z-2IOC2MF	SWD® I/O cable
	EW9Z-2CANC2MF	SWD® CAN cable

5. Modification history

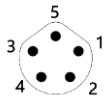
Revision	Release date	Changes
V1-a	July 2025	First Release

APPENDICE

1. SAV P 203208

M8 to USB-A cable for **SWD®** firmware updates

	Connectors	M8 male Straight to USB-A male	Black	USB Plastic casing M8 Ø 10 mm
	Cable	28 AWG	PUR Black	1500 ± 30 mm Ø 4.7 mm

 M8 Male 5-pin coding: B	Wire colour	 USB-A male	Function
1	Brown	1	VBUS
3		2	D-
2		3	D+
4	Black	4	GND
5	Braid	Shell	Shield