DIGITAL
LOAD LINK ZL

Technical manual

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Declaration of conformity

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Manufacturer: **EHP-Wägetechnik GmbH**

Address: **Dieselstrasse 8**

D-77815 Bühl (Baden)

hereby declares that the product: **Digital load link ZL**

Serial number:
Year of manufacture:

with all options, complies with the following harmonised standards:

Machinery Directive (according to 2006/42/EC) DIN EN ISO 12100;

EN 61000-4-2, EN 61000-4-3 in accordance with directive 2014/30/EU electromagnetic compatibility;

EN 61010-031 Part 1 - Safety requirements for electrical equipment for measurement, control and laboratory use.

The product is marked with the CE mark.

Bühl, March 2020

Markus Ebel / Technical Manager

Diese Erklärung ist nach DIN EN ISO/IEC 17050-1 erstellt.

Manual instructions

In this technical manual you will find the necessary information for the operation of the **digital load link ZL**

► Please read the operating instructions before you put your pull tab into operation. This will protect you and prevent damage to your equipment.

► Always keep this manual in a place where employees, service personnel etc. can refer to it. Present this manual to the inspector or the appointed specialist company at each periodic inspection.

Design features of this manual

Various elements of this manual have fixed design features. This allows you to easily distinguish the following elements:

Normal Text

● Enumerations

► Action steps

Table titles and ***illustrations*** are printed in bold.

ⓘ Tips contain additional information.

Design features of illustrations

If reference is made to elements of an illustration in a legend or in the running text, they are given a number (1). The numbers in the running text always refer to the figure shown.

Figure 1-Explanation design features

Safety Instructions

NOTE

- **The device may only be opened by a specialist!**
- **Protect the device from heat and moisture!**

⚠ IMPORTANT SAFETY INSTRUCTIONS ⚠

- **Operation is only permitted if a swirl catcher is present in the load line.**
- **Operating load must be constantly monitored to prevent overloads**
- **If overload " n n n n" (110% of rated load) is displayed, the load must be reduced immediately**
- **Dynamic load measurements Are not permitted**
- **When using the pull strap, the respective user information of the hoists and slings used must be observed in accordance with the applicable standards EN13155 and DGUV 2.8 100-500.**
- **Tampering with the construction of the transducer or changing the calibration of the load measuring device is prohibited.**
- **The operator is responsible for the safety of the tension measuring strap. Tension measuring lugs are load-bearing equipment in the sense of DIN EN 13155, including optional accessories such as hooks, shackles and master link. These parts must be inspected at regular intervals, but after one year at the latest. Visual inspections for damage to tensile stressed parts such as hooks, eyes, connecting links etc. should be carried out continuously.**
- **Only components of grade 8 of suitable chain size are to be fitted.**

Warranty

The warranty is void in case of

- improper use of the manufacturer's instructions in this technical manual
- Use outside the use as load link
- Mechanical damage, damage by humidity and liquids
- Mechanical modification of the load link
- Wear and tear
- Use of non-original batteries, chargers and power supplies
- Manipulation of the loading device
- Overloading of the sensor
- Modification or replacement of the load-bearing parts

Product overview

The ZL load link is a compact measuring device serving to determine the loads acting on wire rope hoists and lines. In conjunction with typical lifting tackle, such as shackles, eyes and hooks, it can be expanded into a complete crane weighing system.

The measured loads are displayed on the wireless remote control unit. The ZL load link and its corresponding remote control unit are factory-set to a common wireless address. Start-up synchronisation is completed in approx. 4 to 10 sec., if the load link is switched on first. If the remote control is switched on first, synchronisation may take up to 20 s, as the FFB 201 falls into a periodic standby mode no communication Signal is detected (10 sec. standby, 10 sec. search for signal).

Communication may be disturbed in the immediate vicinity of strong radio fields.

NOTE

- **The load link is currently only registered for wireless operation in Germany (Registration no. 7908802 at the Regulatory Authority for Telecommunications and Posts). Registration is possible in all countries of the EU with the exception of Great Britain and Greece.**
- **The load link is a measuring device, not a safety device!**

Scope of supply

- Digital load link ZL
- Wireless remote control unit
- Transport case

Figure 2 - Digital load link and wireless remote control unit

Measuring accuracy

To ensure an accurate measurement, the load and load link must always be suspended vertically and without swinging!

NOTE
● **Overloading of the load link in excess of 150% of the rated load to destruction of the load link and is not permissible for safety reasons.**

Using the load link ZL

	**Switch on load link**
	**Switch off load link (hold pressed for approx. 2 seconds)**

When the load link is switched on, the green LED (Power) flashes. The red LED lights to indicate a low battery. If the battery charge falls below the minimum charge level, the load link will switch itself off. In this case, it is necessary to replace the batteries (4 AA cells).

Remote control unit

1	MAX	**Two-function button MAX** • Switch GROSS & NET • MAX & Normal Display
2	CLEAR	**Three- function button CLEAR** • Tare: Normal Mode • Reset: MAX mode • Combination key to balance memory (SALD)
3	CONT	**function button CONT** • Weight output on USB interface
4	LIGHT	**Two-function button LIGHT** • Balance memory (SALD) • Display illumination
5	ON/OFF	**Three- function button ON/OFF** • Switching on & off • Unit change t-lb-to-kN-kg-t (1t corresponds to approx. 0.984to)

Functions of the keys in balance mode

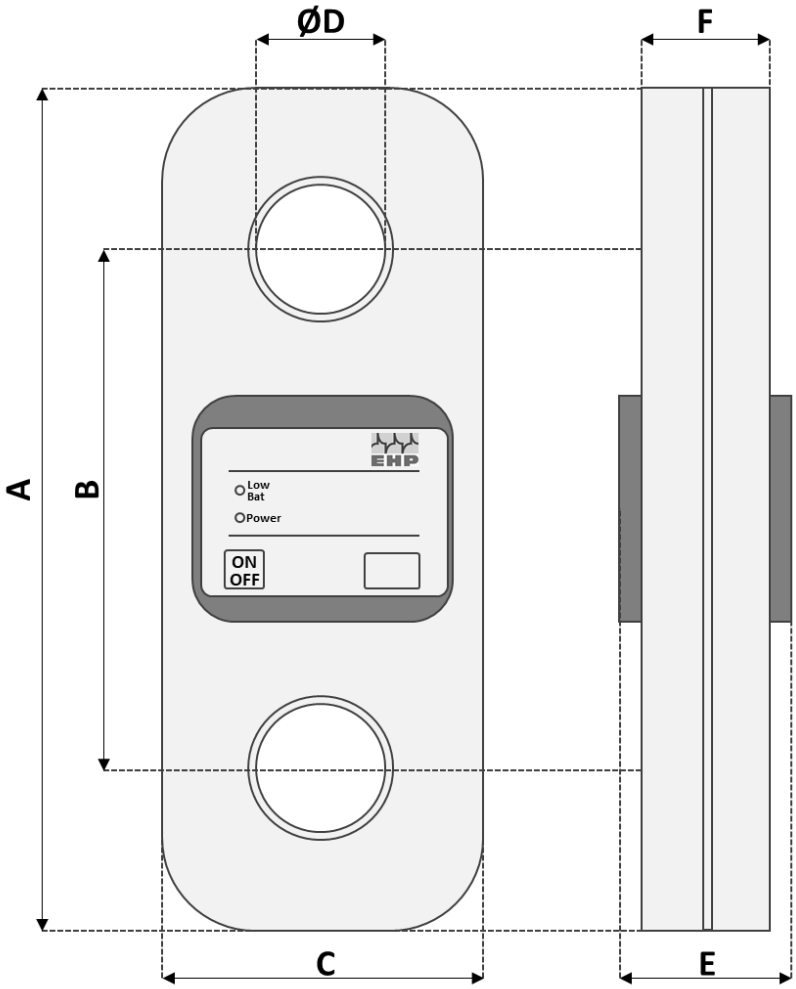
Keys	Function	Comment
SALD + UNIT	Accumulation memory ON / OFF	Press 0.5 sec
SALD	Save / accumulate measurement	Same unit, not zero
SALD + T	Clear the last 5 values	Press 0.5 sec
SALD + T	Clear whole accumulation memory	Press 2 sec

Troubleshooting

Malfunction	Remedy
No radio connection / no measured value	• Make sure that both devices are switched on • Make sure that the battery/accumulator is charged in both devices • Check the distance between the devices and the probability of signal disturbances, e.g. by moving the remote control unit closer to the ZL load link • Check that the wireless address of the remote control unit matches teh serial number of the ZL
Load link ZL cannot be tared or fails to respond properly to commands	• Issue the Command once more; a feedback should be received after approx. 2 seconds; check for signal disturbances.
Displayed measurement constant but too high	• Check whether the maximum value display is active; if so, press NET/GROSS for 2 seconds • Check whether the load link has been overloaded (e.g. outward signs of damage due to dropping or bending); in this case the device is irreparably defective
Displayed measurement very unstable or extremely high/low or else overload even without a load	• Check whether moisture may have penetrated into the load link

Technical specifications

Dimensioned drawing



ZL	A	B	C	ØD	E	F
ZL 1	190	151	118	14	38	16
ZL 2,5	233	173	118	22	42	25
ZL 5	250	180	118	27	45	30,5
ZL 10	325	213	118	48	64	47
ZL20	378	233	141	55	74	57
ZL35	405	245	156	66	84	67
ZL50	450	264	180	76	94	77
ZL100	640	380	260	100	113	99

All dimensions in mm

Technical specifications - load link ZL	
Accuracy class	0,2% of rated load
Rated load	1/2,5/5/10/20/35/50/100t
Maximum permissible load	150% of rated load
Ultimate overload	>500% of rated load
Rated temperature range	-20…+70°C
Battery life	approx. 140h
Protection category (EN 60529)	IP 54

Technical specifications – Wireless remote control unit	
Frequency	ISM-Band 868,3MHz
Transmission rate	1 measurement every 2 sec.
Line of sight range	approx. 40m
Display	LCD, 5-digits
Digit height	14mm
Operating voltage	3x AA batteries or via USB port
Operating time with supplied batteries	approx. 40h
USB interface	Mini-USB-B connector, 5-pin
Dimensions: (W x H x D)	82,1 x 161,7 x 53,8mm

EHP Service hotline

Do you need our support as quickly as possible? No problem - just call us free of charge.

Hotline: +49 7223 9366-0

Hotline times:

8am - 4pm (CET) (Monday - Thursday)

8am - 12am (CET) (Friday)

EHP Wägetechnik GmbH

Dieselstraße 8 • D-77815 Bühl (Baden) • Germany

Tel. +49 (0) 7223 9366-0 • Fax +49 (0) 7223 936660

E-mail: info@ehp.de • www.ehp.de