



USER MANUAL

Indexing Plungers with Status Sensor

1. Introduction

1.1 General

Please read these operating instructions carefully before using the indexing plunger with status sensor.

These operating instructions provide important information on the use of the device. A prerequisite for safe working is the observance of all specified safety and handling instructions.

The relevant regional accident prevention and general safety regulations for the area where the device is used must be observed.

These operating instructions are an integral part of the product and must be kept accessible to qualified personnel at all times.

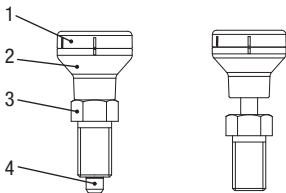
The general terms and conditions in the sales documents apply.

The use of the indexing plunger with status sensor is the responsibility of the user. HEINRICH KIPP WERK GmbH & Co. KG is under no circumstances responsible for any kind of damage, however caused.

Subject to technical changes.

2. Design and Function

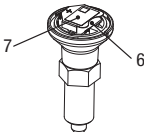
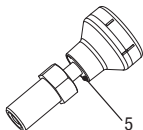
2.1 Overview



Actuation status:

advance

retracted



1. Cap
2. Mushroom knob
3. Sleeve
4. Indexing pin
5. Sensor
6. Electronics + Battery
7. Type plate
8. LED

2.2 Description

Indexing plungers are used where a change in the indexed position through lateral forces should be prevented.

Examples of this are locking the length or height and position indexing in machine, equipment, furniture and special vehicle construction.

With indexing plungers with status sensor the actuated status can be read electronically and further processed.

The actuation status is transmitted wirelessly via Bluetooth to a mobile terminal or the Gateway K1494.

The combination of indexing plunger with status sensor and Gateway is used for further processing of the signal, e.g. in a machine control system.

The indexing plunger is powered by an integrated button cell which can be replaced when necessary.

2.3 Package contents

1. Indexing plunger with status sensor
2. Button battery CR2032
3. User manual
4. Packaging

3. Safety and warning notes

3.1 Explanation of symbols



WARNING!

... indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



TAKE CARE!

... indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or damage to property and the environment.



INFO!

... highlights useful tips, recommendations and information for efficient and trouble-free operation.

3.2 Appropriate use

Indexing plungers with status sensor are for mechanically locking two components. They detect their actuation status by sensors and transmit it wirelessly to a receiver.

The trouble-free function and operational safety can only be guaranteed if the information in this operating manual is observed. During use, the legal and safety regulations required for the respective application must also be observed. This also applies analogously to the use of accessories.

Indexing plungers with status sensor are not intended for safety relevant functions.

Correct and safe operation of the device requires proper transport, storage, installation and mounting, as well as careful operation and maintenance.

The device is designed and constructed exclusively for the intended use described here and may only be used in accordance with this. The technical specifications in this manual must be observed.

Improper handling or operation of the equipment beyond the technical specifications may cause damage and malfunction.

3.3 Operator responsibility

The device is intended for use in the commercial sector. The operator is therefore subject to the legal obligations for industrial safety.

The safety instructions in this user manual as well as the safety, accident prevention and environmental regulations valid for the application area of the device must be observed.

To work safely with the device, the operator must ensure:

- that the qualified electricians are regularly instructed in all applicable questions of work safety, first aid and environmental protection, and that they are familiar with the operating instructions and especially the safety instructions contained therein.
- that the device is suitable for the intended use.

3.4 Personnel qualifications



WARNING!

Risk of injury in the event of inadequate qualifications

Improper handling can lead to serious personal injury and property damage.

- The activities described in this operating manual may only be carried out by qualified personnel with the following qualifications.

Qualified electricians

Due to their technical training, knowledge and experience as well as their knowledge of country-specific regulations, applicable standards and directives, qualified electricians are able to carry out work on electrical installations and to independently identify and avoid possible hazards.

Qualified electricians are specially trained for the working environment in which they operate and know the relevant standards and regulations.

Qualified electricians must comply with the provisions of the applicable statutory accident prevention regulations.

Maintenance staff / service personnel

The maintenance and service personnel are authorised and instructed in the operation, maintenance and repair of the product. They may carry out service measures such as battery replacement.

Operating personnel

The operating personnel must never carry out any work on the indexing plungers with status sensor unless they are qualified electricians or service personnel.

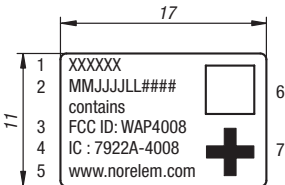
The permitted activity of the operating personnel consists of manually operating the indexing plunger with status sensor for production purposes and monitoring its function.

3.5 Personal protective equipment

Requirements for the necessary protective equipment result from the environmental and application conditions at the place of use, other products or their combination with other products.

3.6 Type plate, safety markings

The type plate is situated on the battery holder inside the mushroom knob.



1. Model / Material number
2. Serial number
3. FCC ID
4. IC number
5. Manufacturers website
6. Data Matrix Code
7. Indicates battery positive pole

4. Transport, Packaging and Storage

4.1 Transport

Inspect the indexing plunger with status sensor and the supplied accessories for any damage caused during transport before use. Report any obvious damage immediately.



TAKE CARE!

Damage due to improper transport

Improper transport can cause considerable damage to property.

- When unloading the packages upon delivery and during internal transport, proceed with care and observe the symbols on the packaging.
- For internal transport, follow the instructions in the section “Packaging and Storage”.

The indexing plungers with status sensor require careful handling. Hard impacts to the device during transport can cause permanent damage.

4.2 Packaging and Storage

The packaging offers optimum protection for the device. Do not remove the indexing plunger with status sensor from the packaging until immediately before installation. It is also recommended to keep the packaging for e.g. location changes or repair shipments.

The permissible ambient conditions can be found in the section Technical Data.

5. Commissioning, Operation

5.1 Installation

Depending on the version, the indexing plunger with status sensor is fastened with the sleeve by screwing or pressing in to one of the components being indexed.

Further information can be found in the respective data sheets.

5.2 Energy management

The indexing plunger with status sensor has an intelligent energy management system to increase battery life.

A distinction is made between two operating modes:

1. Idle mode

all device functions are inactive. Energy consumption is minimal.

2. Operating mode

all device functions are active.

By moving the mushroom knob, the device is switched from the idle mode to the operating mode.

If the indexing plunger with status sensor is connected to a receiver, such as a Gateway, the operating mode remains permanently active.

If the indexing plunger with status sensor is not connected to a receiver and is not moved, the device switches back to the idle mode after 30 seconds.

5.3 Commissioning

5.3.1 Establishing the radio link

To link an indexing plunger with status sensor to a receiver (pairing), proceed as follows:

1. Move the mushroom knob of the device to establish the operating status.
2. The LED in the mushroom knob begins to blink (1x per second)
 - ➔ The device sends a signal and attempts to link with a receiver. The device name is "KIPP-Plunger"
3. The link must be confirmed at the receiver.
 - ➔ When the link is established and confirmed at the receiver, the LED on the mushroom knob goes out.
4. mechanical actuation of the indexing plunger
 - ➔ By the first mechanical actuation of the connected indexing plunger, the actuation status is taught and transmitted to the receiver.



INFO!

Ensure clear identification

For clear identification, make sure that only the indexing plunger to be linked is in pairing mode (blinking LED).

5.3.2 Disconnecting the radio link

The indexing plunger with status sensor does not have its own disconnecting device.

The radio link is always disconnected at the receiver end. The procedure can be found in the respective operating instructions.



INFO!

Disconnecting linked devices

If linked receivers are not disconnected, the secure link prevents the indexing plunger being reconnected to another receiver.

If it is not possible to disconnect the receiver e.g. due to a defect, this can be done by briefly removing the battery.

5.4 Operation

After successful commissioning, the linked indexing plungers with status sensor send the actuation status and the battery charge level to the receiver at a transmission rate of 10 1/s.

Apart from the mechanical operation, no other activities by the user are required.



INFO!

Secure radio communication

The communication between the indexing plunger and the Gateway receiver is encrypted.

6. Care and Maintenance

6.1 Maintenance / Changing batteries

Except for changing the battery, the indexing plunger with status sensor is maintenance-free.

Battery life is about 1 year.

A high number of actuations, temperature fluctuations or other external influences can reduce the battery life.



INFO!

Observe the correct battery type

Recommended battery: VARTA CR2032

Use of the recommended battery ensures optimum battery life.

A battery change is indicated by slow blinking of the LED (1x per 5 seconds) in the mushroom knob.

If a KIPP Gateway is used, a required battery change is also indicated on the Gateway.



TAKE CARE!

Damage due to electrostatic discharge

When changing the battery, measures must be taken to protect the electronics from electrostatic discharge e.g. wearing ESD gloves.

To change the battery, proceed as follows:

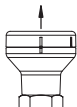
1. Remove any dirt from the mushroom knob!
2. Remove the cap from the mushroom knob



1. Locked cap



2. Unlocked cap



3. Remove cap

3. Slide the battery out of the holder



A plastic, pointed object can be used to do this.

4. Push the new battery into the holder

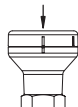


TAKE CARE!

Damage due to incorrectly placed battery

The battery must be inserted with the positive pole facing upwards.

5. Replace and close the cap on the mushroom knob



1. Replace cap



2. Unlocked cap



3. Locked cap audible

>>click<<



TAKE CARE!

Damage due to cap not properly closed

The cap must lock with an audible „click“ when closing.

6.2 Cleaning

The indexing plunger with status sensor can be cleaned with a dry cloth.

7. Dismantling, Returning, Disposal

7.1 Dismantling

1. Disconnect the indexing plunger from the linked receiver
2. Secure locked and moving components if necessary before removing the indexing plunger from the application
3. Remove the indexing plunger

7.2 Returning

When shipping the device, please note the following:

All equipment sent to HEINRICH KIPP WERK must be free of hazardous substances (acids, alkalis, solutions, etc.) and must therefore be cleaned before returning.

The battery must also be removed before the device is returned.

It is recommended that the original packaging be used when returning the device. Alternative suitable transport packaging may be used.

Please consult your contact person before returning the goods. The address for returning goods can be found in the Service section.

7.3 Disposal

Incorrect disposal can pose risks to the environment. Dispose of equipment components and packaging materials in an environmentally friendly manner in accordance with the country-specific waste treatment and disposal regulations.



Do not dispose of in household waste. Ensure separate disposal according to national regulations.

8. Technical Data

Power supply		
Battery		VARTA CR2032 3V
Battery life		About 1 year
Battery replacement		through removable cover
Wireless transfer		
Transfer protocol		Bluetooth Low Energy
Transmission frequency	[GHz]	2.4
Range	[m]	about 10
Transfer rate	[1/s]	10
Displays / control elements		
LED blue		Flashing quickly: pairing mode active Flashing slowly: battery needs to be replaced
Environmental conditions		
Application location		For use indoors
Altitude		up to 2000m
Operating temperature	[°C]	0 to 65
Storage temperature	[°C]	-10 to 65
Maximum relative humidity	[%]	80 (without condensation)
Safety rating		IP64 as defined in DIN EN 60529

Approvals / inspections		
Radio licences		Europe, USA, Canada
Electrical safety		EN 61010-1 / EN 61010-2-201
EMV		EN 301 489-1 / EN 301 489-17
Wireless		EN 300 328
Vibration resistance		EN 60068-2-6
Shock resistance		EN 60068-2-27

Subject to change without notice.

9. Declaration of Conformity / Compliance Statements

The Bluetooth module used is certified for the following countries:

Europe	RED 2014/53/EU		
USA	FCC Part 15.247	FCC ID:	WAP4008
Canada	RSS 247	IC:	7922A-4008

EU – Konformitätserklärung / EC Declaration of Conformity

Heinrich Kipp Werk GmbH & Co. KG hereby declares that the wireless system type indexing plunger with status sensor complies with the 2011/65/EU and 2014/53/EU directives.

The full text of the EU Declaration of Conformity is available at the following Internet address:

<https://www.kippwerk.de/de/de/Produkte/Bedienteile-Normelemente/Federnde-Druckst%C3%BCcke-Arretierbolzen-Kugelsperbolzen/Arretierbolzen-mit-Zustandssensor.html>

Supplier's Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

product description:	indexing plunger with status sensor
type designation / model:	246205, 246206, 246207, 246208, 246209, 246210, 246211, 246212
product number:	K1495
Manufacturer:	Heinrich Kipp Werk GmbH & Co. KG Heubergstr. 2 DE-72172 Sulz am Neckar
U.S. Responsible Party:	Kipp Inc. 4305 N. Roosevelt Rd. MI 49127 Stevensville United States
Contact Person:	Todd Schultz, (269) 932-1100, todd.schultz@kipp.com

11/26/2020

.....
date



.....
signature

Supplier's Declaration of Conformity

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not interfere, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

product description:	indexing plunger with status sensor
type designation / model:	246205, 246206, 246207, 246208, 246209, 246210, 246211, 246212
product number:	K1495
Manufacturer:	Heinrich Kipp Werk GmbH & Co. KG Heubergstr. 2 DE-72172 Sulz am Neckar

10. Service

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