

PFREUNDT mining

Forward-looking weighing technology

Better weighing with
the latest technology

8.75t

09:30
08/04/2019

Save time and money



PFREUNDT – weighing technology for the mining industry

Forward-looking weighing technologies for loading, transport and digital process solutions – weighing becomes very easy

Robust, durable and effective – you can rely on the innovative PFREUNDT scales. Because reliable and precise scales are indispensable for the diverse requirements of material weighing in the mining industry. Whether check weighing or calibration weighing for a legally binding trading: With the economic and sustainable PFREUNDT solutions, you are optimally equipped. Including for future challenges.

Anyone who works hard every day should have it easy when weighing.

With the sophisticated PFREUNDT solutions, you can complete weighing tasks faster and easier. As pioneers of mobile weighing technology, PFREUNDT knows exactly what is important in quarries, gravel pits, etc.: Saving time and costs, ease of use, as well as robustness and reliability of the devices.



Our mining product portfolio Pages 4 - 9

New digital system solutions Pages 10 - 11

The PFREUNDT Web Portal Pages 12 - 13

Our service Pages 14 - 15

This is PFREUNDT Pages 16 - 17

Technical details Page 18

The complete PFREUNDT product portfolio Page 19





PFREUNDT WK60 series

Flexible, future-proof, manufacturer-independent and calibratable – because your investment should pay off

For simple, precise and effective weighing, the WK60 series is available in various versions, such as WK60-XS, WK60-Smart, WK60-S and WK60. All versions already offer a wide range of options in the basic configuration and thanks to the many additional features they can be adapted to special requirements and operating procedures at any time. For the digital processing of your weighing data, all scales of the WK60 series are equipped with WLAN and can be directly connected to the PFREUNDT Web Portal, therefore. The scales can easily be installed or retrofitted in various manufacturer vehicles of your machine park.

The right weighing system for every mining requirement



Wheel loader scales
Page 6



Excavator scale
Page 7



Dumper scales & Belt scales
Page 8



Weighbridges
Page 9

Discover our complete product portfolio at
www.pfreundt.de/en/ – now also with E-Shop!



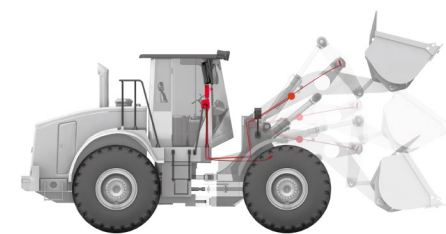
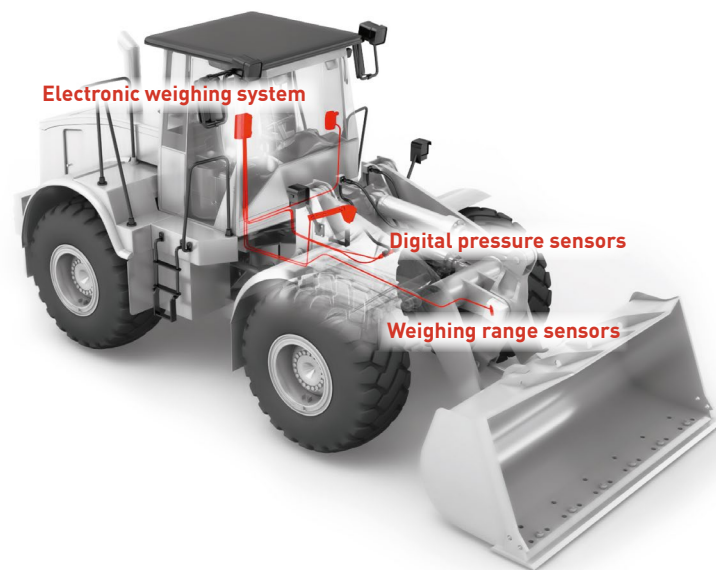
PFREUNDT wheel loader scales

Profit by the bucket

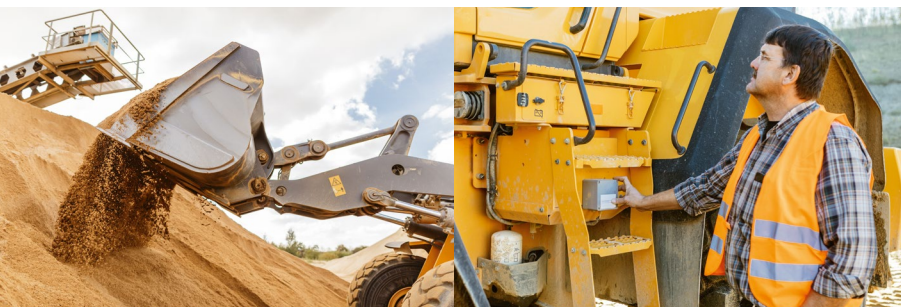
The PFREUNDT wheel loader scales have been fitted with practical features for faster processing, more efficient loading and maximum capacity.

Advantages for you

- **Calibratable** and PFREUNDT conformity assessed, your scales are directly ready for business use.
- Comprehensive and customisable **master data and weighing data management** guarantee you easy and fast dispatch.
- Future-proof **data communication** creates full transparency of your weighing data, e.g. in the PFREUNDT Web Portal.



Weigh even faster and easier with **Speed Weigh Technology (SWT)**: Digital angle sensors allow an expansion of the previous measuring range. The weight is already displayed after a short lift.



With networked weighing data acquisition across the entire process chain, your company is prepared for the future. Further information about PFREUNDT system solutions can be found on pages 10 and 11.

Further information on equipment and accessories:
www.pfreundt.de/en/products/wheel-loader-scale/

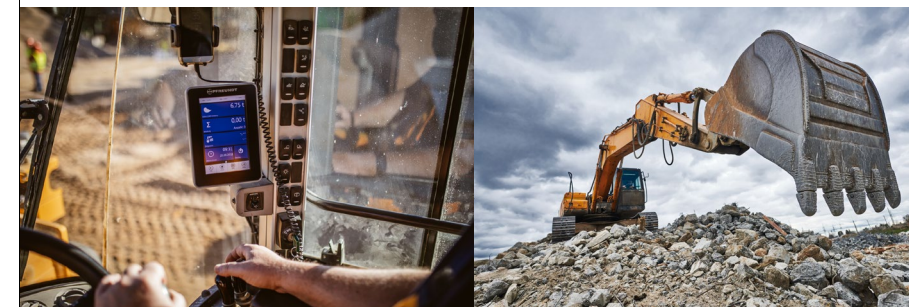
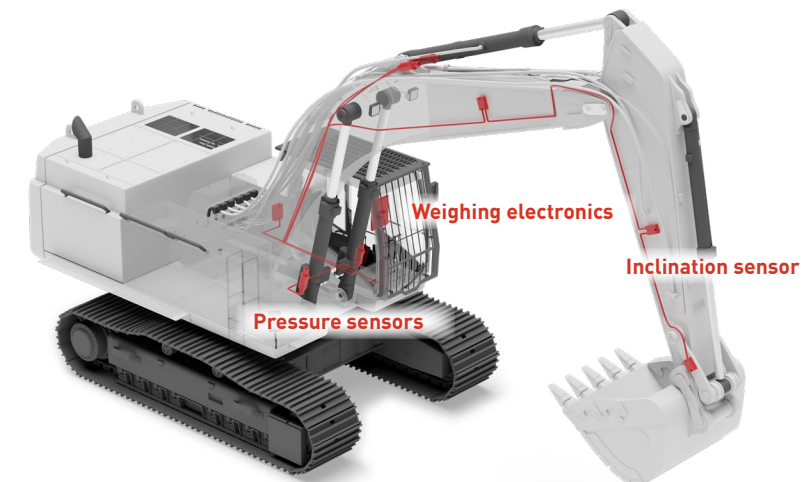
PFREUNDT Excavator Scale

Weighing directly during material handling

By recording the weighing data directly during the work process, the hydraulic PFREUNDT excavator scale enables fast and accurate loading of transport equipment. The weighing system ensures transparency in the material flow and can be retrofitted at any time in excavators of all manufacturer types with mono booms.

Advantages for you

- Dynamic weighing in the working process for fast and accurate loading
- Precise weighing results even under extreme condition
- Maximum freedom of movement of the machine is fully maintained
- Fast availability of weighing data, even with a high number of short load cycles
- Installation or retrofitting possible in excavators with mono booms from a wide range of manufacturers



Further information on equipment and accessories:
<https://www.pfreundt.de/en/products/hydraulic-excavator-scale/>

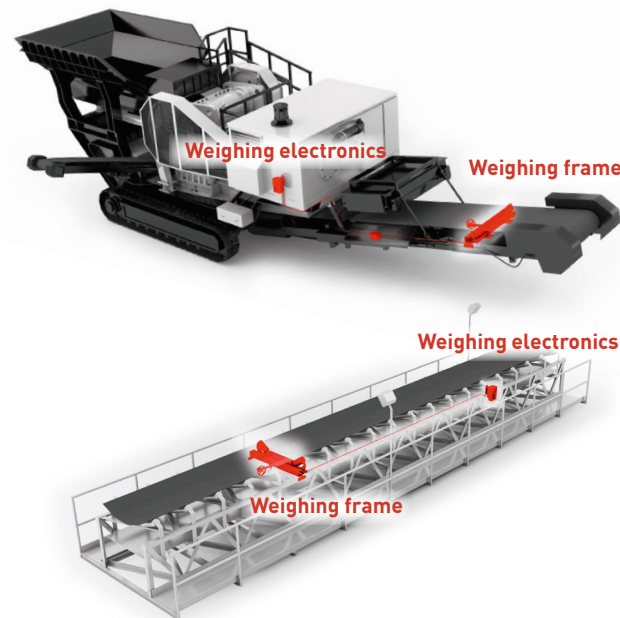
PFREUNDT belt scales

Precise weighing data in mobile and stationary systems

PFREUNDT offers you belt scales for installation in stationary systems, as well as in mobile screening and crushing plants. Due to the special construction, with a very low installation height, the belt scales can be easily integrated into your existing conveyor belts.

Advantages for you

- One electronic assembly for several belts
- Integrated belt speed measurement
- Storage, processing and transfer of your master data and weighing data
- Inclination measuring system for correction calculation of changing discharge angles



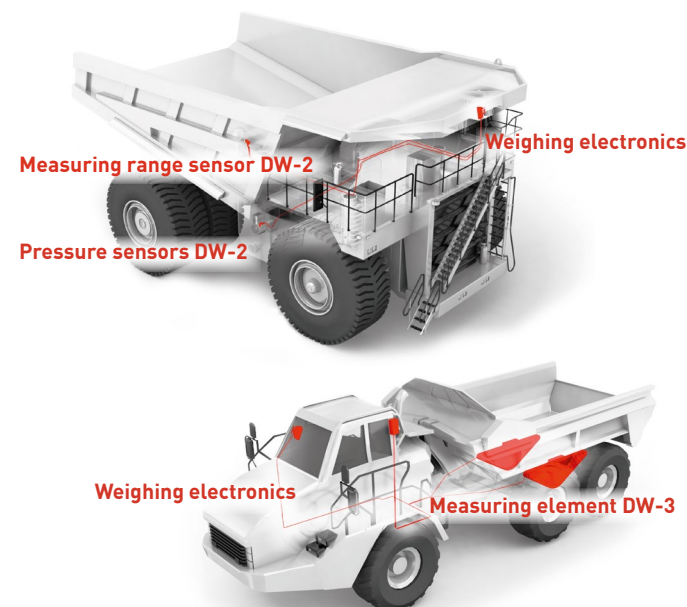
PFREUNDT dumper scales

The right weighing solution for any dumper

With the scales for articulated and rigid-frame dumpers PFREUNDT offers you the perfect weighing solution for every type. The weight is determined on the one hand during unloading by pressure sensors via the working pressure in the tipping hydraulics and on the other hand during loading using measuring elements on the rear axles.

Advantages for you

- Optimum capacity utilisation
- Registration of overloads
- Weight checks



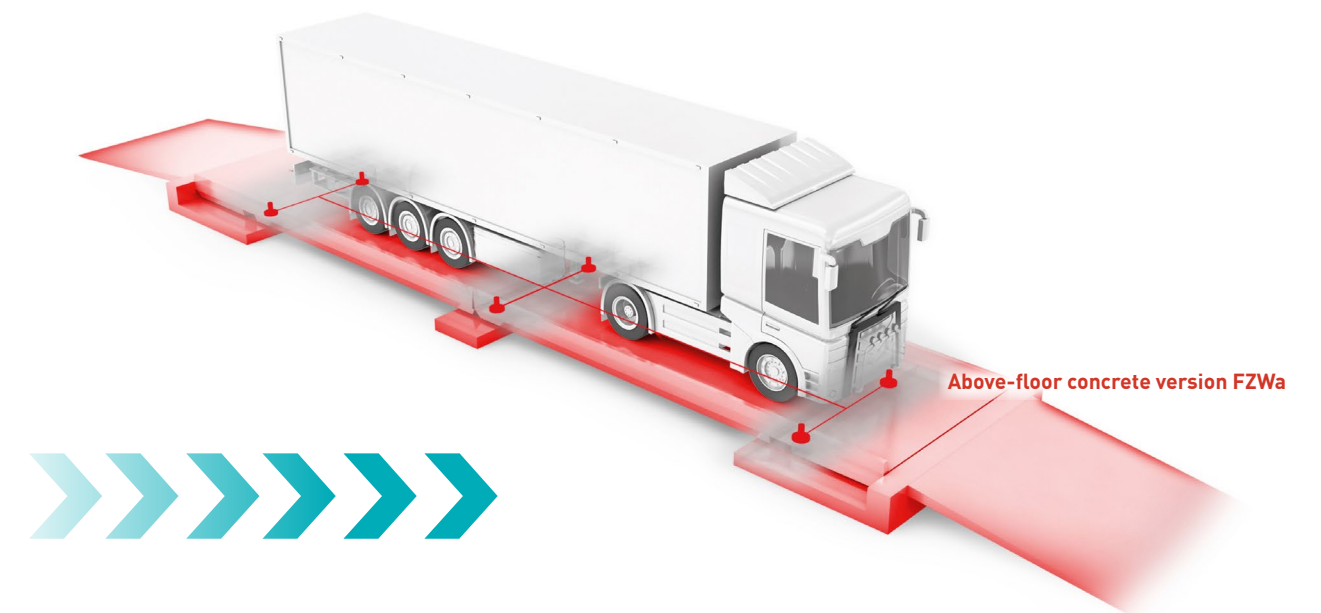
PFREUNDT weighbridges

Highest measuring accuracy and perfect service

In addition to complete weighbridges for installation at ground level, PFREUNDT offers you surface-mounted vehicle scales for above-ground installation in various lengths, as well as steel and concrete versions. PFREUNDT develops the ideal solution for your weighbridges according to your requirements and the conditions on site. From advice from assembly to commissioning with conformity assessment and software connection, you get everything from one source.

Advantages for you

- Little preparation for installation
- Quick installation of the complete scale
- Optimised cleaning and maintenance options



You can order various peripheral devices such as traffic light control, large displays, barrier system or software connection. References for networked weighing data acquisition over the entire work process can be found at: www.pfreundt.de/youtube/

PFREUNDT system solutions



We prepare you for the future: With the networked recording of weighing data across the entire process chain

From standard solutions through complex system solutions to individual solutions for your entire operational process – everything is possible. Thanks to our many years of experience, we know exactly what matters and make it easy for you. So you can be sure that PFREUNDT will develop the best weighing solution for your company.

Your advantages

- Faster dispatch means more sold quantity per day for you
- Digital processes ensure fast invoicing
- Fewer manual activities lower your operating costs
- Full transparency of your weighing data gives you more planning security
- Sustainable management reduces your CO₂ emissions

Our services

Need

Together with you, we take the current processes and procedures in your company into account and develop the appropriate concept for your weighing solution.

Implementation

We install all components and put your weighing system solution into operation.

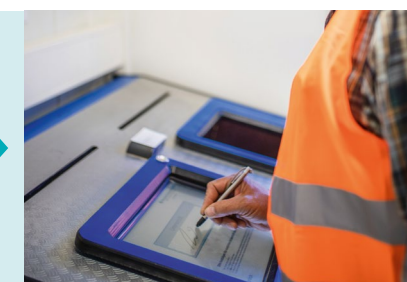
Support

We will ensure that your plant operates trouble-free at all times.

Get free advice now: +49 (0) 2862 9807-0

More references: www.pfreundt.de/youtube/

Process flow reference project at our customer RBS



100%

transparency

Check-in

The truck driver receives an RFID card to store the weighing data.

Loading

A wheel loader with PFREUNDT WK60 weighing system loads and records the weighing data.

Storage of weighing data

The weighing data is stored on the RFID card by a sensor on the wheel loader.

Terminal

After loading and before exit, the RFID card is read at the self-service terminal.

Check-out

The driver signs the weighing data and prints the delivery note.

PFREUNDT Web Portal



Digital weighing data – available in real time

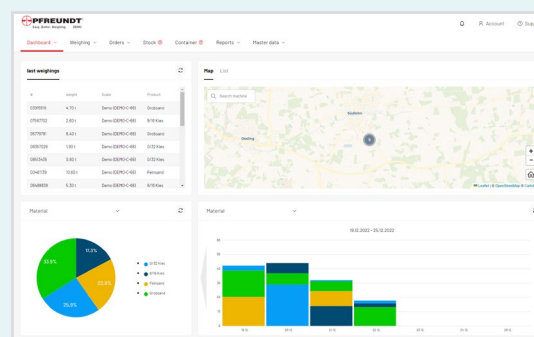
The PFREUNDT Web Portal makes it easy for you to manage your weighing data, optimises your load management and thus increases your efficiency:

- Minimises costs
- Optimises processes
- Recognises potentials
- Increases quality
- Increases productivity
- Secures sustainability

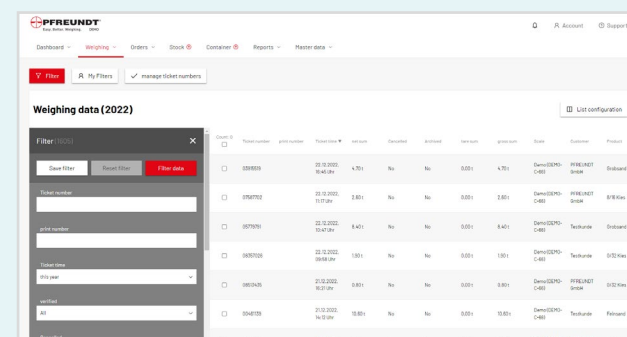
The digitisation of your weighing data and processes is advisable for the following reasons:

- All production and sales figures at a glance and always up-to-date
- A multitude of functionalities to control your flow of goods
- Individual evaluation options as a basis for decision-making – including automated email dispatch of generated reports
- Latest technology for creating delivery notes and documents in your system
- Highest data security through encrypted data exchange and state-of-the-art server technology in accordance with corresponding data protection guidelines

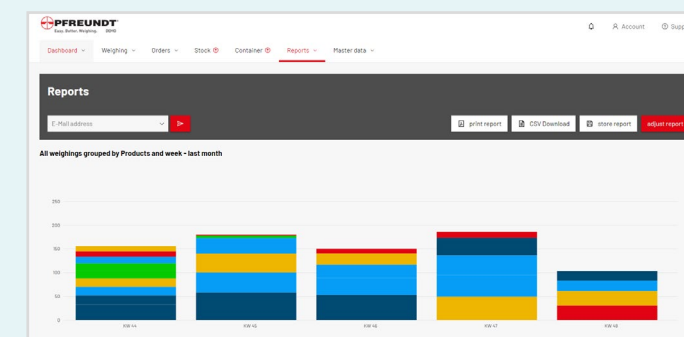
Make your day-to-day business easier and increase your planning security



Dashboard:
All data and information at a glance



Weighing data:
With the filter function you have all data under control



Reports:
Individual creation of reports and evaluations



Try our Web Portal now for 3 months free of charge!
Get free advice now: +49 (0) 2862 9807-0



PFREUNDT service

We are at your disposal

PFREUNDT stands for top performance – not only in products, but also in service. Our comprehensive service network with our own assembly teams ensures installation and retrofitting, as well as smooth and uninterrupted operation of your weighing systems.



Hotline support

Friendly, competent, solution-oriented – real experts. PFREUNDT support staff are very familiar with all scales and accessories, allowing them to provide you with expert advice over the phone.

Calibration service

All appointments with you and the calibration office are planned and coordinated by our staff of the calibration service. The PFREUNDT calibration vehicle comes to you with calibration weights and hoists. Experienced service technicians carry out the readjustments and calibrations directly on site.

Application advice

Our application consultants ensure that you always work with the most efficient solution. Material, quantity and equipment determine the optimal equipment for your needs.



“We are proud to be the only company in this industry that offers service on this scale!”

25,363*
service hours in operation

1,823*
calibrations

563*
conformity assessments

1,181,852*
kilometres driven

917*
new assemblies

*Figures from 2018 in Germany

PFREUNDT

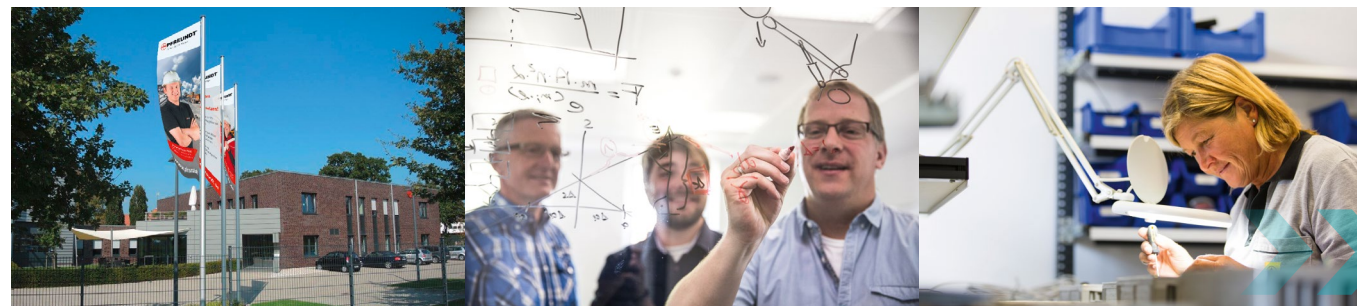
The pioneers of mobile weighing technology

Innovative technology – now and in the future

For 40 years, everything at PFREUNDT has revolved around optimum weight determination. We have always aimed to simplify the elaborated, time-consuming processes involved in weight determination and to make the processes simpler, more precise and more transparent. We think ahead for you – and already develop today the solutions for tomorrow's needs. PFREUNDT innovations are pioneering in the industry.

Our milestones in the industry

- 1984** WK25 – first calibration approval for a mobile scale in a wheel loader
- 1994** First belt scale for mobile crushing plants with inclination compensation
- 1998** WK50 – first mobile scale with patented dot-matrix printer for printing a multi-line weighing card
- 2010** pSeries – first mobile scale with rotary wheel operation and camera monitor
- 2015** WK60 – first mobile scale with touch display and connection to the PFREUNDT Web Portal



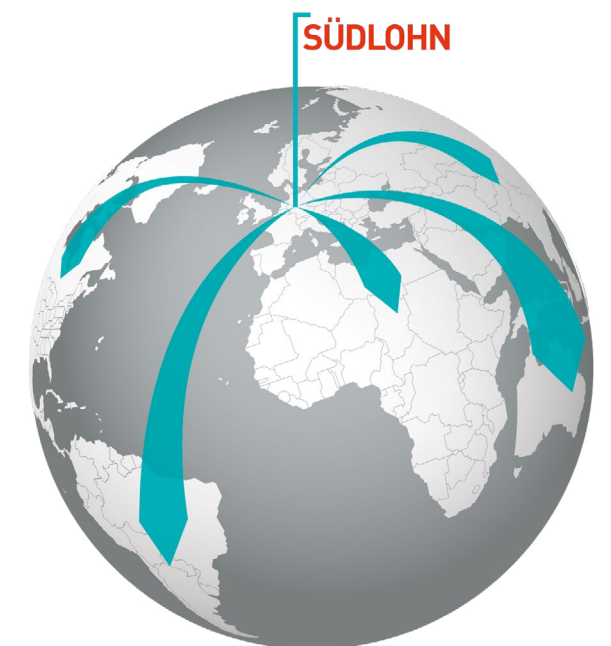
Weighing system solutions “Made in Germany”

Our high quality standards are implemented from the incoming goods inspection through to production. In addition, we hire employees with many years of experience, train junior staff and continuously invest in qualification measures. Marking and documentation of all scales is just as obvious for us as strict quality controls. This ensures that all information is transparent to you at all times.



We are at your disposal – worldwide

Personal service is guaranteed by PFREUNDT. With our worldwide service and sales network, you always have a competent contact person on site. For all service, consulting or sales questions.



Technical data



WK60 | WK60-S | WK60-Smart | WK60-Light | WK60-XS

Supply voltage	9 V to 36 V Printers require 24 V, if necessary use voltage transformer
Nominal voltage	24 V
Power consumption incl. printers	max. 6 A
Protection class according to ISO 20653:2013-02	IP42 / IP5K2
Interfaces	1 x RS 232 2 x CAN (according to ISO11898-2) 2 x USB 2.0 1 x Ethernet (LAN) 3 x proximity switches (N1 to N3) 2 x input/output MIO 1/2 multifunctional: Input (10 kHz), output (1 kHz) 1 x analogue-to-digital converter (ADW) 1 x supply voltage (UB In) 1 x protective circuit (UB out), switchable
Communication interfaces	Bluetooth, WLAN according to IEE802.11 Mobile network modem
Position determination	GPS
Data storage	All data, incl. adjustment parameters and alibi memory in the mounting tray
Weight incl. holder	approx. 1.8 kg
Environmental conditions	Operating temperature: -10 °C to +40 °C Storage temperature: -20 °C to +70 °C
Display	Colour display: Capacitive 7" touch display, LC display with LED background lighting Viewing area: 154 mm x 93 mm Resolution: 800 x 480 pixels Dimensions: 206 mm x 145 mm x 72 mm Hinge: 1.5"Ø

Interfaces and antenna connections



PFREUNDT product range



Roll-off dumper scale



Skip loader scale



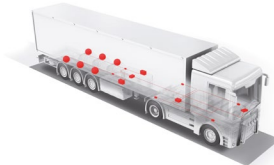
On-board scale



Excavator scale



Axle load scale



Axle load control system



Crane scale



Forklift scale



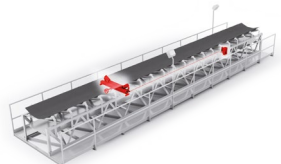
Front loader scale



Lifter scale



Telescopic handler scale



Belt scale



Weighbridge



Dumper scale



Wheel loader scale



Excavator scale

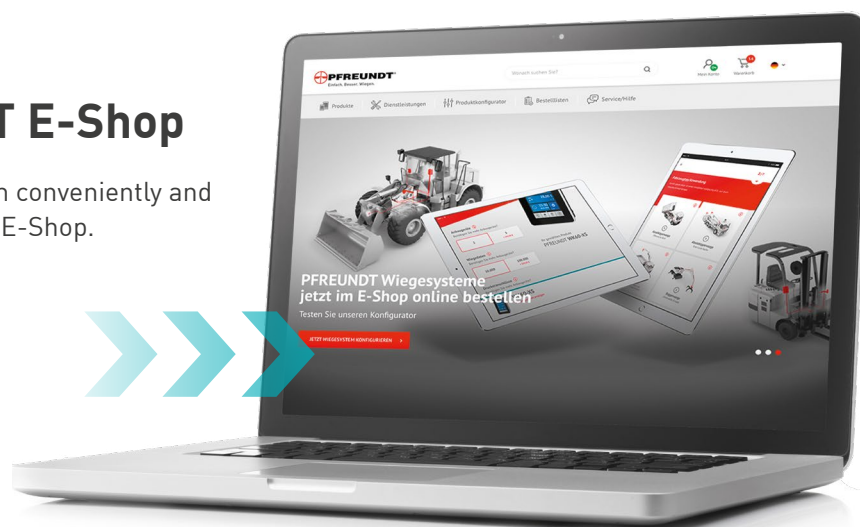
Information and technical details on all PFREUNDT scales can be found on our website: www.pfreundt.de/en/products/



The PFREUNDT E-Shop

Order your weighing system conveniently and securely in the PFREUNDT E-Shop.

shop.pfreundt.de/en/



PFREUNDT GmbH | Robert-Bosch-Str. 5 | 46354 Südlohn | Germany
Head office +49 (0) 2862 9807-0 | www.pfreundt.de | info@pfreundt.de