



Accurately Weighing Africa



ULTRA HEAVY DUTY WEIGHBRIDGE

(WB-HD)

Weighbridge for Extreme Weighing Conditions

SASCO WEIGHING SYSTEMS

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ULTRA-HEAVY DUTY WEIGHBRIDGES are an important product within Sasco's range of Truck Weighing solutions. Other products within Sasco's truck weighing range which offer a similar solution, include weigh-in-motion wimbridges, standard weighbridges with upgraded instrumentation to enable axle weighing, group axle weighers and weigh pads.

Under conditions of high volume and ultra-heavy truck loadings the WB-HD is the optimal solution for enabling highly accurate digital total weight trade weighing.

The WB-HD, when installed with Sasco ProWeigh+ software, provides an array of operational functionality including weighing automation, the total integration of weighing data generated with user IT systems and powerful cloud and networking data capabilities, and single tare weighing of the vehicle.



Product Overview

The WB-HD is a highly accurate and highly robust trade approved Truck Weighing System providing total weight

Sasco typically achieves accuracy levels of 99.95% on the system, with a maximum total loading of up to 150 tons. Key elements of the system are:

- 120 ton capacity, with 25 tonne axle loadings and 6-year deck warranty.
- Option of a span filler module of 1.5m to widen weighbridge to 4.5m allowing for the weighing of both standard road trucks and off road earth moving and dumper trucks.
- In built lightning protection in each load cell, surge voltage protection on the whole system with the deck also being grounded through a single point grounding system.
- Complete digital instrumentation with all components being manufactured in Europe.
- The key instrumentation components are one DD1010 indicator and 10 CPD digital load cells.
- The most common specification length for the weighbridge is 24m, but is also trade approved up to a length of 36m.
- Decks are manufactured from only high grade steel being grade EN10025/Q235D and can accommodate extreme axle loadings of up to 25 tons.
- Mounting options are either pit mounted or mounted above the ground.
- Sasco ProWeigh + software is supplied as standard, which means the adding of an array of weighbridge automation options is easy.
- Sasco ProWeigh+ also has the functionality to facilitate the integration of weighing data to a range of ERP systems whether directly or via the Cloud,
- The set-up menu of Sasco Proweigh+ Fleet Manager Database, allows for the option of single tare weighing as opposed to double weighing of vehicles.
- Finally, there is the added option of fully unmanned operations whether on a stand-alone basis or as part of a Centralized Weighing Operations Control Centre configuration.

Indicator

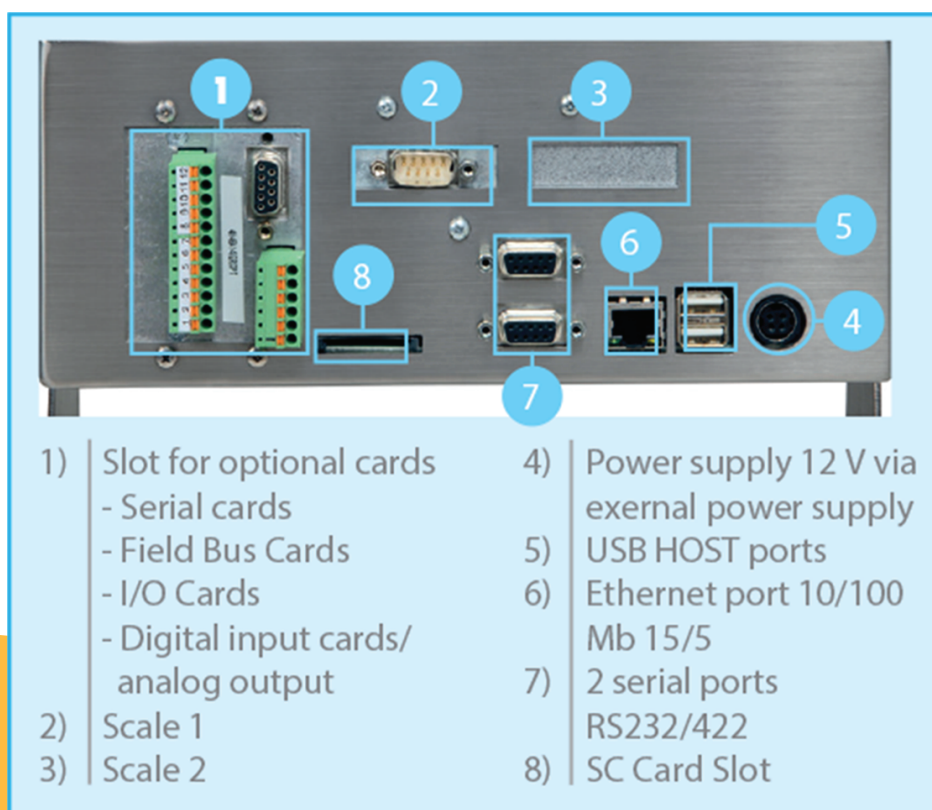
The indicator used on the WB-HD is the DD1010, which is manufactured by Bilanciai in Italy. The reasons for deciding to specify the WB-HD with this indicator are as follows:

- Judged on reliability and functionality, Bilanciai is regarded as the leading manufacturer of weighing indicators globally.
- The DD1010 has the unique functionality to compute, from the total weight, the axle loadings of the vehicle on the weighbridge.



- The DD1010 stores all the load cell calibrations, such that when load cells require replacing, the correct calibrations can be simply be down loaded from the indicator to the relevant load cell. This reduces down time.

- The DD1010 offers an array of interfacing terminal options, can form part of a total facilities network and can also, on a standalone basis, directly manage and control multiple hardware devices used in weighbridge automation.



Load Cells

The WB-HD comes with CPD load cells.

The accuracy of the CPD load cells are both very high and both have stainless steel casing.

Key advantages are:

- The CPD load cell are rated IP68 rated, the CPD load cell has proven to be able to sustain being submerged for up to a month without compromising its operations.
- The continuing accuracy under conditions of extreme temperature changes, of CPD load cells, have been proven to be better particularly in environments of extreme heat.
- The CPD load cells come with inbuilt lightning protection in each load cell. This has proven invaluable when installations are in high lightning strike areas.
- The CPD load cells come complete with anti-rodent cabling. This has also proven to be invaluable where rats are a problem.



CPD LOAD CELL



Software and Data Integration

The WB-HD runs on Sasco Proweigh + software and offers the functionality of seamless data integration, either directly or via the Sasco Cloud.

The weighing sequence to be followed by the Weighbridge Operator, when in both in and out weighing mode, is as follows:

FIRST ACTION:

Capture vehicle details. Depending on the type of vehicles this may only be one registration or could be multiple if trailers are involved. The process of capture can be automated to be RFID, QR code or APNR camera based.

SECOND ACTION:

First weighing of empty vehicle. If Pro-Weigh is set up to run in tare weighing mode, this step is not required as the empty vehicle weight is obtained from the Truck Master File in ProWeigh+ containing the certified vehicle tare weight.

THIRD ACTION:

Second weighing full vehicle. Again, this process can be automated. Vehicles are loaded on the ProWeigh Fleet Master database.

Generate Hard Copy or Electronic Weighing

FOURTH ACTION: Once the weighing process is complete, print the weighing ticket. If ProWeigh is set up to integrate with the User's IT system or Sasco Cloud, all the relevant weighing Information will also be immediately transmitted electronically to this data destination.

| | |
|--|--|
| <small>Print Date : 2018/07/24 Print Time : 14:00:29</small> | |
| <h2 style="margin: 0;">Weighbridge Ticket Slip</h2> | |

| | | | |
|------------------|-----------------------------|------------------|------|
| Weighbridge Name | Sasco Demo Weighbridge 1 | Weighbridge Type | Road |
| Company Name | Sasco Customer Demo Company | | |

| | | | |
|---------------------|------------|-------------|---------------------|
| TICKET NUMBER | WB00000002 | Ticket Date | 2018/07/24 14:00:00 |
| Registration Number | ABC123GP | | |

| | |
|--|--|
| <u>Transporter Details</u> Transporter Code 002 Transporter Name Sasco Transport Driver Name 1st Weigh John Driver Name 2nd Weigh John Destination DBN Vehicle Capacity 0 kg Vehicle Tare Weight 0 kg <u>ERP Document Details</u> Document Type Sales Document Order Weight 0 kg | <u>User-Defined Fields</u> Colour: Engine Number: VIN Number: |
|--|--|

| | | |
|---|---|--|
| <u>First Weigh Details</u> Load Type Empty Weight 16 500 kg Date Time 2018/07/24 13:59:47 Operator sa | <u>Second Weigh Details</u> Load Type Fully Loaded Weight 45 000 kg Date Time 2018/07/24 14:00:19 Operator sa | <u>Weigh Calculations</u> NETT Weight 28 500 kg Product Weight 28 500 kg Total Difference 28 500 kg Total Cost R0,00 |
|---|---|--|

**** Scale Weights have been manually overwritten by Supervisor ****

| | | | |
|-----------------|-----------------|-----------------|---------------------|
| Document Number | Document Weight | Customer Number | Customer Name |
| SAS0000000002 | 0kg | 001 | Sasco Demo Customer |

| | | | |
|--------------|---------------------|------|--------|
| Product Code | Product Description | Cost | Weight |
| 001 | Coal | 0 | 0 kg |

| | | | |
|---------------------|------|--------------|---|
| Total Pallet Weight | 0 kg | Pallet Count | 0 |
|---------------------|------|--------------|---|

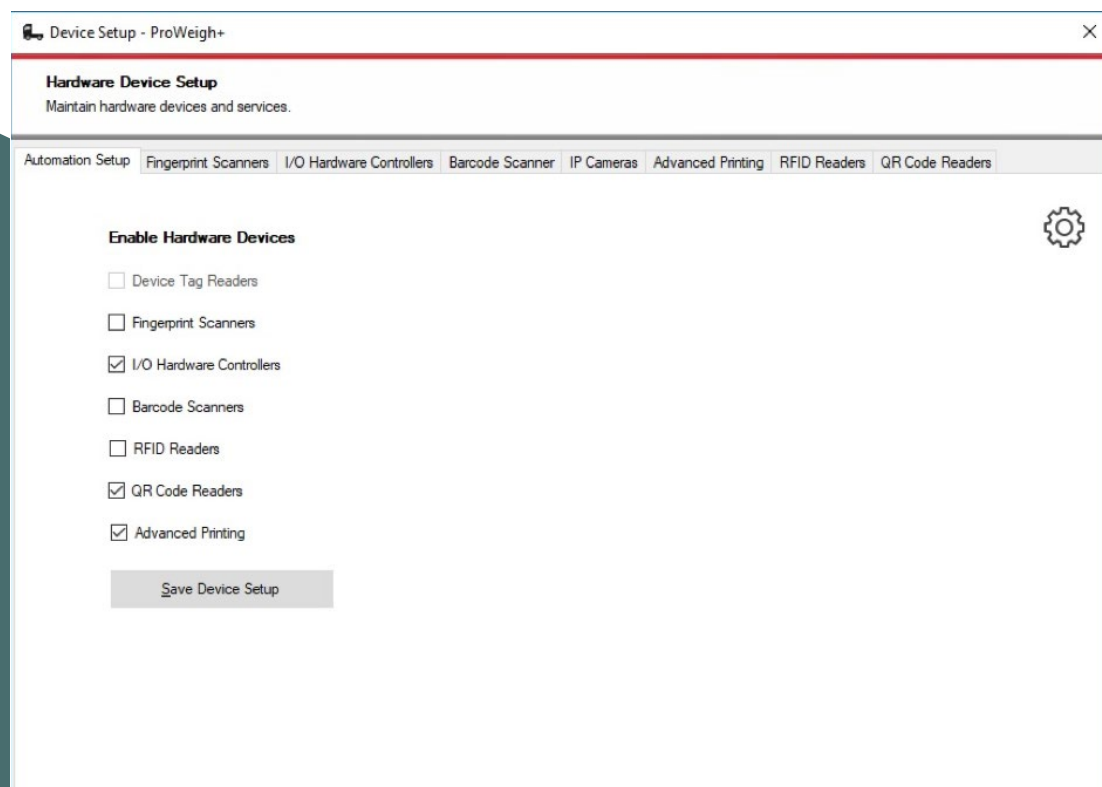
| | |
|---------------|----------------|
| DRIVER _____ | OPERATOR _____ |
| CELL NO _____ | DATE _____ |

Add-on Hardware Options

ProWeigh+ together with the DD1010 can accommodate the add-on of the following hardware devices:

- Robot
- Booms
- Cameras
- Electronic Display Board
- Bar Code Reader
- QR Code Reader
- RFID Reader
- Internet Communications Card

Additional automation hardware can be added without incurring development costs, simply through a standard menu driven activation process.



Application Example

Company H is a coal mine. It operates Cat 740 articulated dump trucks to carry coal between the mine and a coal fired power station. No trucks go on public roads. The truck axle loadings are 20 tons and the total truck loadings are up to 70 tons. Truck wheel spans are 3.5m.

The coal is sold to the power station based on weight and therefore the weighbridge needs to be trade approved. Both the mine and power station need real time data on coal movements.

The WB-HD combined with ProWeigh+ will be the optimal solution and would be configured as follows:

- One WB-HD weighbridges, with CPD load cells will be installed flush with the ground such that trucks can approach it from both directions, one direction in bound and the other direction out bound.
- A filler module of 1.5m will be installed to give the weighbridge a width of 4.5m
- RFID scanners mounted at both ends together with robots and kiosk printers mounted at driver height.
- ProWeigh+ will be loaded on the PC's in the site office.
- The entire fleet information will be loaded on the ProWeigh+ Fleet Master database. Tare weighing functionality will be activated allowing for single weighing.
- The ERP interfacing functionality of ProWeigh+ will be activated and the weighbridge PC connected to the customer network.



ARTICULATED DUMP
TRUCK

Technical Specifications

| | CPD Load Cells |
|--|---|
| Total Accuracy | +/- 99.95% |
| Installation | Above ground or pit |
| Standard Deck Width | 3m (without span filler module) |
| Wider Deck Option | 4.5m (including span filler module of 1.5m) |
| Deck Length | 12 - 36m |
| Module Lengths | 6m modules |
| Indicator | One - DD1010 |
| Indicator IP Rating | IP 48 |
| Load Cells | Ten - CPD |
| Load Cell IP Rating | IP68 |
| Dlink Required | No |
| Maximum Total Weigh | 120 tons |
| Maximum Axle Weigh 200 W.P.D | 25 tons |
| Reverse Calibration | Yes |
| Temperature Compensation | Yes |
| Total Weight Generated | Yes |
| Double or Single Weighing | Yes |
| Manned or Unmanned | Option |
| PC Required | Yes |
| Option of Automation | Yes |
| Option of Unmanned | Yes |
| Option of Centralization | Yes |
| Direct IT Systems Interfacing Possible | Yes |
| Cloud Interfacing Possible | Yes |
| Pre-Loading of Fleet Possible | Yes |
| Deck Warranty | 6 Years |
| Instrumentation Warranty | 12 months |
| Trade Approval | Yes |
| Pre-Loading of Fleet Possible | Yes |
| Deck Warranty | 6 Years |
| Instrumentation Warranty | 12 months |
| Trade Approval | Yes |

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