



Accurately Weighing Africa



# SPD-3000

**SURGE, POWER STABILISATION AND  
LIGHTNING PROTECTION**

**Critical Systems Protection**

**SASCO** WEIGHING SYSTEMS

GROUP SUPPORT H/O  
2 Blackburn Street  
Apex Industrial | Benoni

Phone: +27 (0) 11 746 6000

Fax: +27 (0) 11 746 6100

SMART SUPPORT

0861 422 134

OR +27 83 680 0722

E-mail: [info@sascoafrica.com](mailto:info@sascoafrica.com)

Web: [www.sascoafrica.com](http://www.sascoafrica.com)

24 hours, 7 Days a week

**SASCO'S SURGE, POWER STABILISATION AND LIGHTNING PROTECTION SYSTEM** is vital to protect your weighing system's components from power surges, voltage instability and lightning.

Modern weighing systems rely heavily on high performance electronic components, which equal increase these components vulnerability to disruption and damage that can be caused by over voltage or lightning.

The **SPD-3000** system comprises three critical elements:

- SPD-3000 reliable power unit delivering surge protection and voltage stabilisation;
- Single point grounding of the entire system; and
- Faraday cage protection of the entire system.



Weighbridge Lightning Protection is vital due to the fact that weighbridges technology is vulnerable to lightning strikes, the consequences of which can be very expensive to repair, not to mention the knock-on effects of the weighbridge being out of order.

# Surge Protection and Voltage Stabilisation

The SPD-3000 key feature is the fact that it is a “double conversion power unit” with an inbuilt input circuit breaker. This means that mains supply is rectified to a clean DC voltage and then is rebuilt into a very clean and regulated AC voltage.

## SPD-3000

The detailed specifications of the unit are:



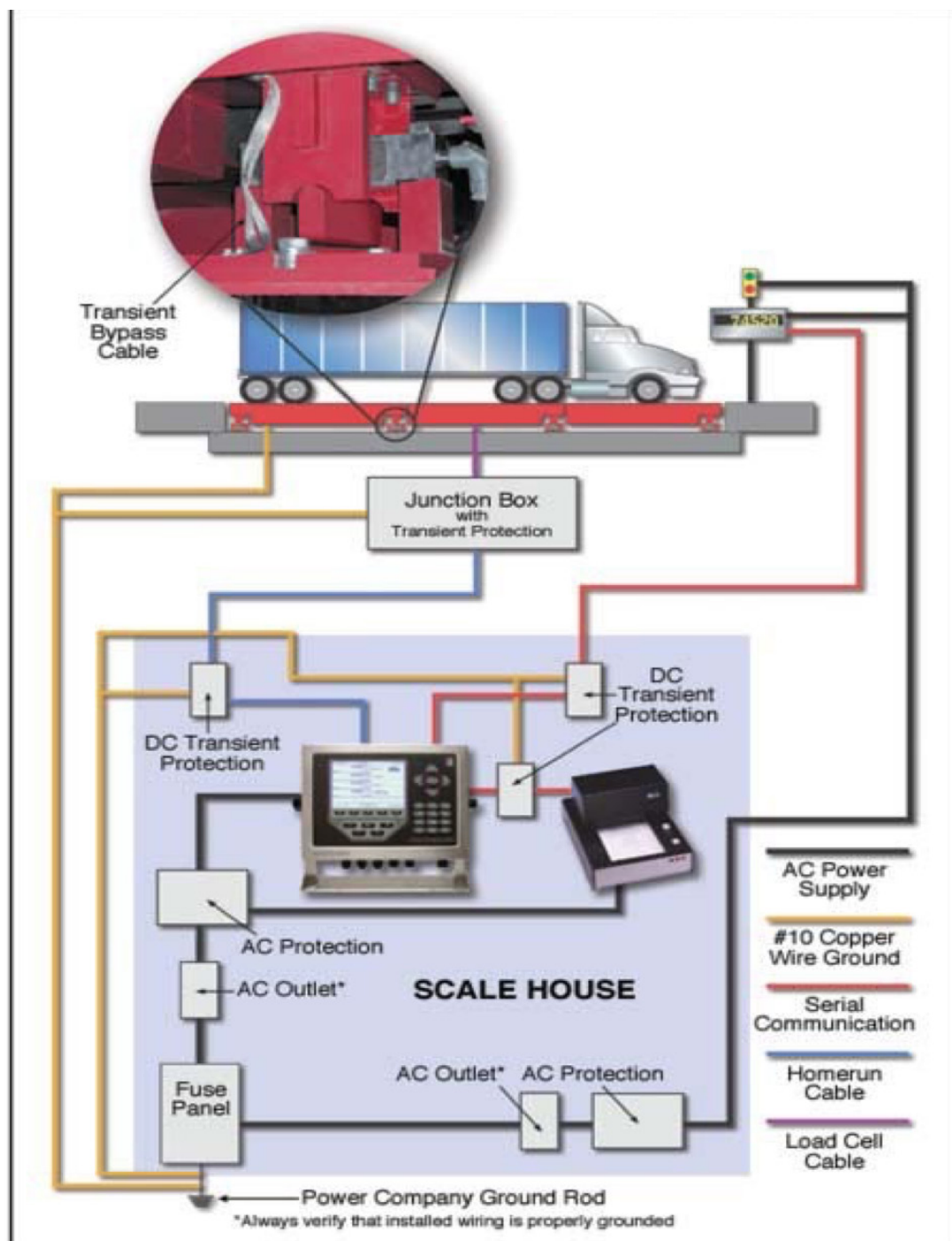
SPD-3000 Specifications	
Topology Technology	OL Double conversion
Wave Form	Pure Sine Wave
Maximum Capacity	3000VA 2400W
Nominal Input	230VAC
Input Frequency	50/60 HZ ± 4HZ
Input Voltage Regulation	160-300V AC single phase
Input Protection	Circuit Breaker
Crest Factor	3:1
Start	On battery
Nominal Output	220/230/240 VAC
Output Regulation	± 2%
Back Up Time	8 minutes
Number Batteries	8
Front Panel Indication	UPS Status, I/P Voltage, OP Voltage, Battery Voltage, Loading %, Temperature, History, Alarm
Audible Alarms	Yes
Comms Ports	RS232, DB9 or USB, or AS400 or SNMP/HTTP

# Single Point Grounding

Sasco's installation procedures include the following stringent procedures:

- All the components that make up the weighing system and the AC power connection are connected to one grounding rod.
- The resistance of each component is then tested using a Multi Meter to ensure that all readings are less than one ohm.

The following system diagram sets out precisely the procedures Sasco follows:





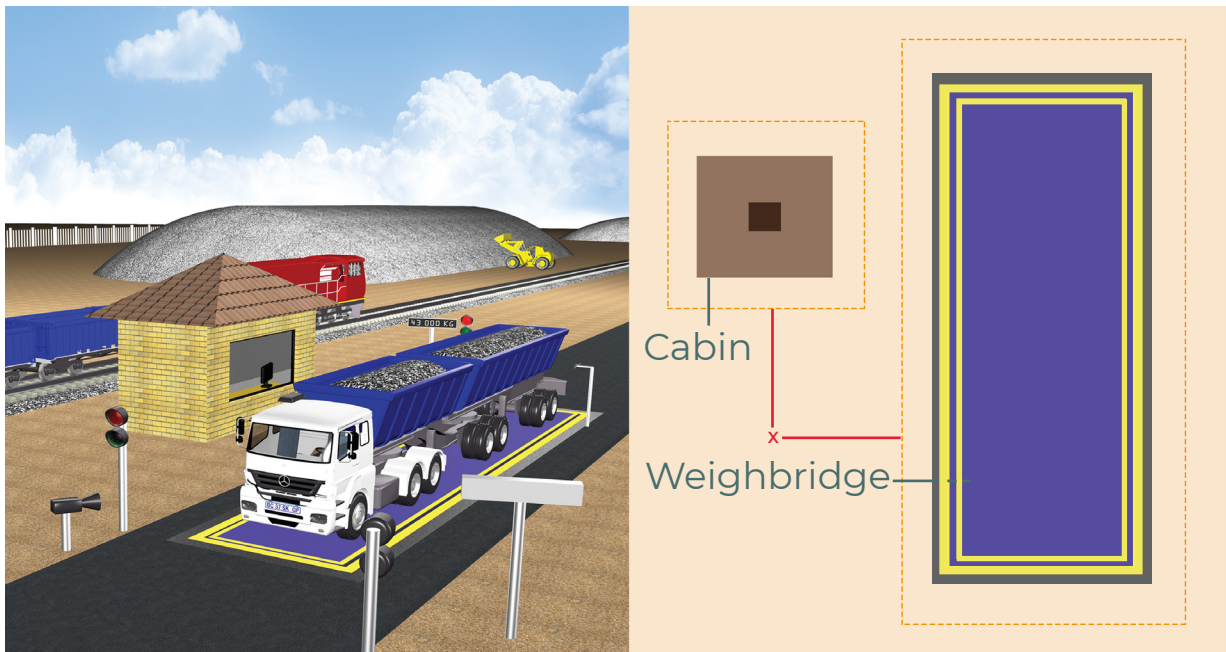
# Faraday Cage Protection

In order to provide, in the event of a proximity lightning strike, equalisation throughout the entire weighing system, it is necessary to construct a Faraday Cage around both the weighbridge and weighbridge.

If the distance between the two cages is relatively short, then the both cages should be connected to one grounding rod so that the system rises and falls at the same potential.

The Faraday Cage is comprised of 10mm copper cable buried to a depth of at least 30cm:

## Diagram A



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