

## SmartShelf: Remote Inventory Solutions

### Real-Time Inventory Management



#### Never Run Out

Make your shelf talk! With the direct integration of A/D converters close to the weighing point, you get stable and easy-to-use digital communication of stock levels. This digital integration can ensure you never run out for smoother processing and happier operators or customers.



#### Track Your Valuables

Weighing is very useful for tracking all types of MRO or PPE materials that cannot be dispensed or controlled in traditional ways. Vending machines offer full accountability, saving valuable assets from excessive use.



#### Check Stock Remotely

Weighing sensors can be digitally integrated into SmartShelf pads. This digital communication allows you to check the weight of any bin anywhere you have an internet connection. When you set inventory levels, they can be automatically replenished, keeping operations stable and reducing or eliminating wait-time for parts and components.



#### Pick and Pack Accurately

Weighing sensors can be used to determine the extraction of different parts required for a kit to ensure that the kit contains correct parts and quantities, helping to create an error-free process. Kits will always be complete and ready for the operator or end user.



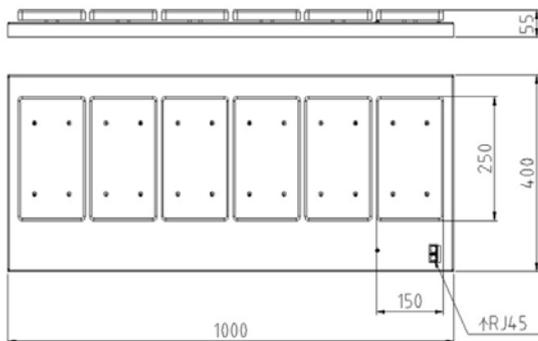
#### Weight-Based Inventory Control Creates Leaner Operations

Weighing sensors are the perfect tool to remotely monitor inventory levels. They can be integrated into shelves, racks, industrial vending machines or jobsite containers. All weighing electronics have digital connectivity for easy integration into existing networks. This remote computer access allows you to check stock and analyze usage trends for easy supply-chain optimization anywhere, anytime. Combined with appropriate access-control, such systems can also be used for direct accountability when items or tools are checked out to ensure tracking and safe return.

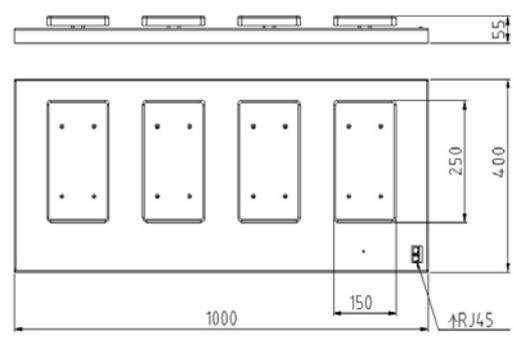
## SmartShelf: Complete Shelves

SmartShelf systems include a shelf, integrated scales, and individual A/D converters for each weighing pad. Shelves have one, four or six integrated scales mounted on top. These shelves can be daisy-chained using standard CAT5 cables. The cable integrates both serial communication and power supply in one simple connection.

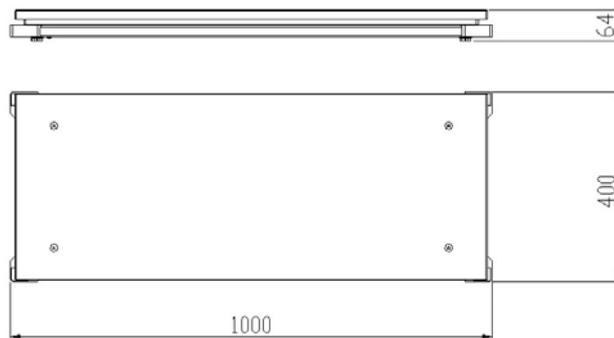
The shelves are compatible with SSI Schaeffer and BITO racking systems. They are available in the following sizes and capacity ranges.



**Type #: A60008**  
6 x 8 kg, shelf size 1000 mm x 400 mm

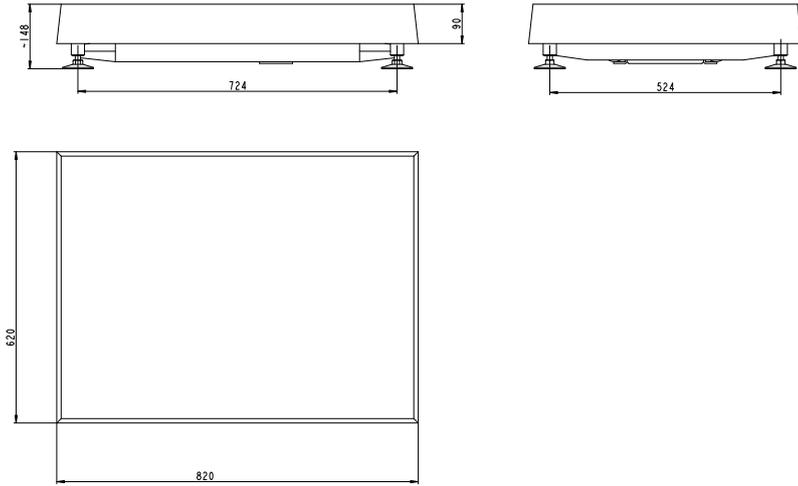


**Type #: A40020**  
4 x 20 kg, shelf size 1000 mm x 400 mm



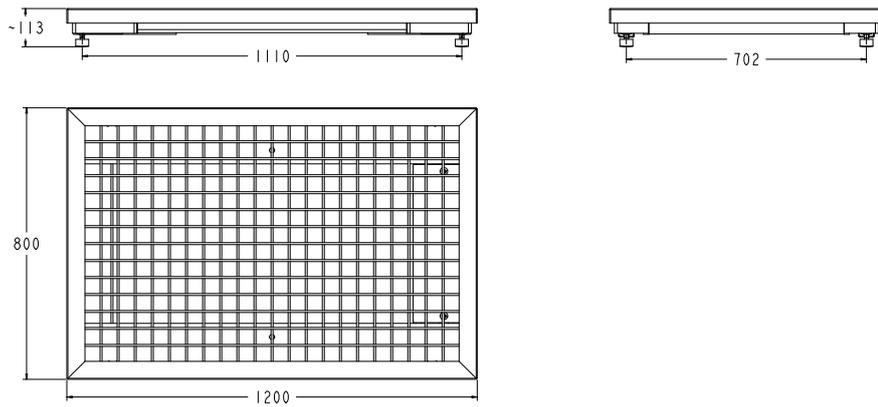
**Type #: A10100**  
1 x 100 kg, shelf size 1000 mm x 400 mm

Pads / Capacity	Resolution in kg	Resolution in lb
6 Pads, Capacity 8 kg / 25 lb	8 kg x 0.002 kg	25 lb x 0.01 lb
4 Pads, Capacity 20 kg / 50 lb	20 kg x 0.01 kg	50 lb x 0.02 lb
1 Pad, Capacity 100 kg / 250 lb	100 kg x 0.05 kg	250 lb x 0.1 lb



**Type #: A10600**

1 x 600 kg, shelf size 820 mm x 820 mm



**Type #: A11000**

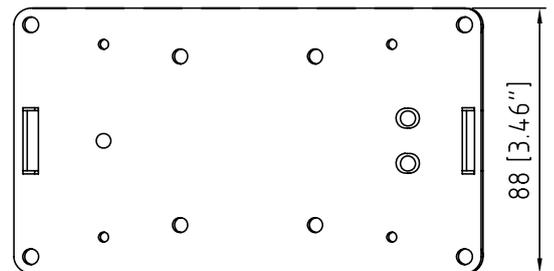
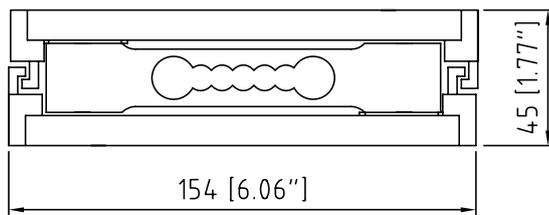
1 x 1000 kg, shelf size 1200 mm x 800 mm

Pads / Capacity	Resolution in kg
1 Bench, Capacity 600 kg	600kg x 0.5kg
1 Floor, Capacity 1000 kg	1000kg x 0.5kg
1 Pad, Capacity 100 kg / 250 lb	100 kg x 0.05 kg

## SmartShelf: Weighing Pads

Weighing pads can be used to retrofit scales into existing shelf systems where not every bin requires a scale, or to build individual scales for integration into shelf systems or machines. They consist of the load cell and a mounting assembly to simplify integration and protect the load cell.

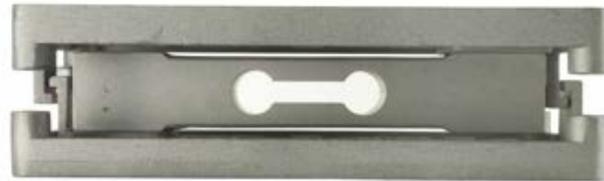
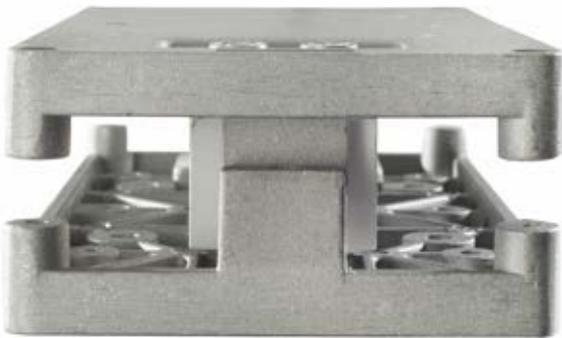
These weighing pads are available in load cell capacities of 2, 8 and 25 kilograms as well as 5, 25 and 50 pounds. All pads come standard with a one-meter cable. An optional three-meter cable is also available. Overload protection is included to prevent load-cell damage.



5-, 25- and 50- pound as well as 2-, 8-, and 25- kilogram pads are identical in size with different load cells.



Accuracy	%FS	0.03
Rated Output	mV/V	2.0 +- 0.2
Non-linearity	%FS	0.02
Hysteresis	%FS	0.02
Repeatability	%FS	0.02
Creep	%FS/30 min	0.03
Zero Balance	%FS	2.0
Temperature Effect for Span	%FS/10°C	0.05
Compensated Temp Range	°C (°F)	-20 to +40
Operating Temp Range	°C (°F)	-20 to +65
Safe Overload	%FS	150
Ultimate Overload	%FS	300
Rating		IP65



<b>Pads / Capacity</b>	<b>Resolution in kg</b>	<b>Resolution in lb</b>
Weighing Pad 5lb/2kg	2kg x 0.001kg	5lb x 0.002lb
Weighing Pad 25lb/8kg	8kg x 0.002kg	25lb x 0.01lb
Weighing Pad 50lb/20kg	20kg x 0.01kg	50lb x 0.02lb

## Network Components

### Power Supply & Converter Box

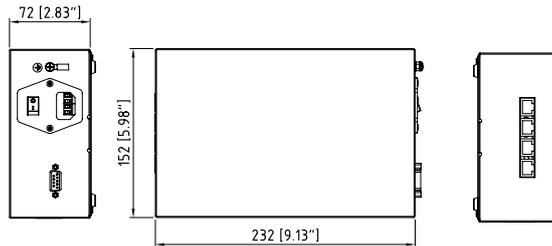
The power supply and converter box converts the signals coming from the SmartShelf scales via the four RS485 ports into a RS232 signal that can be managed at the PC. The unit also provides power to the scales. With this box and enhanced CAT5 networking cable, up to 20 SmartShelf scales or A/D boards can be connected. The maximum distance in the network is 20 meters.

Power input:	100~240 VAC 1.3A 50/60 Hz
Power output:	+12 VDC 2.0 A
Serial interface:	RS232 (to PC), 4 x RS485 (to weighing sensors)
Operating temperature:	0 to 40 °C (32 to 104 °F)
Weight:	1.6 kg

### Network Repeater

If the distance in the RS485 network exceeds 20 meters or if more than 32 shelves or electronic boards are connected to the system, repeaters must be used to reinforce signal and power supply.

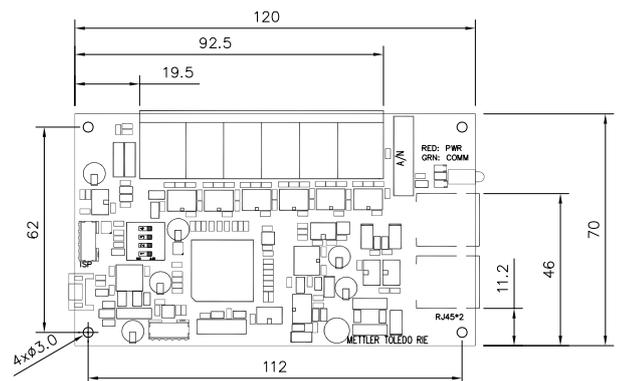
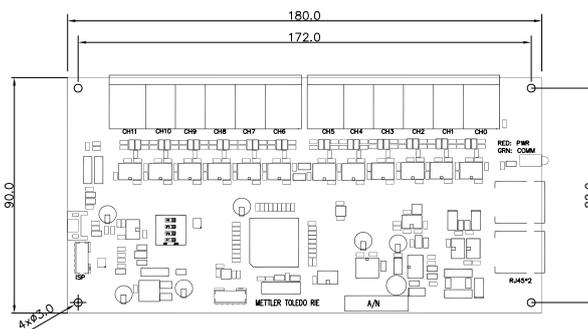
Power input:	100~240 VAC 1.3A 50/60 Hz
Power output:	+12 VDC 2.0 A
Serial interface:	RS485 (to converter), 4x RS485 (to weighing sensors)
Operating temperature:	0 to 40 °C (32 to 104 °F)
Weight:	1.6 kg



### Scale Boards (for Pads Only)

Scale boards are available with 6 or 12 weighing channels. They convert the analog load signal from a weighing pad into serial RS485. In SmartShelf scales, these boards are already integrated. It is possible to combine A/D boards and SmartShelf pads in the same network.

Power input:	12 VDC, 65 mA
Serial interface:	2 x RS485 (daisy chain)
Operating temperature:	0 to 40 °C (32 to 104 °F)
Temperature effect on span:	8 ppm/°C
Temperature effect on zero:	Network Components15 ppm/°C





## How Do You Benefit from Real-Time Inventory?

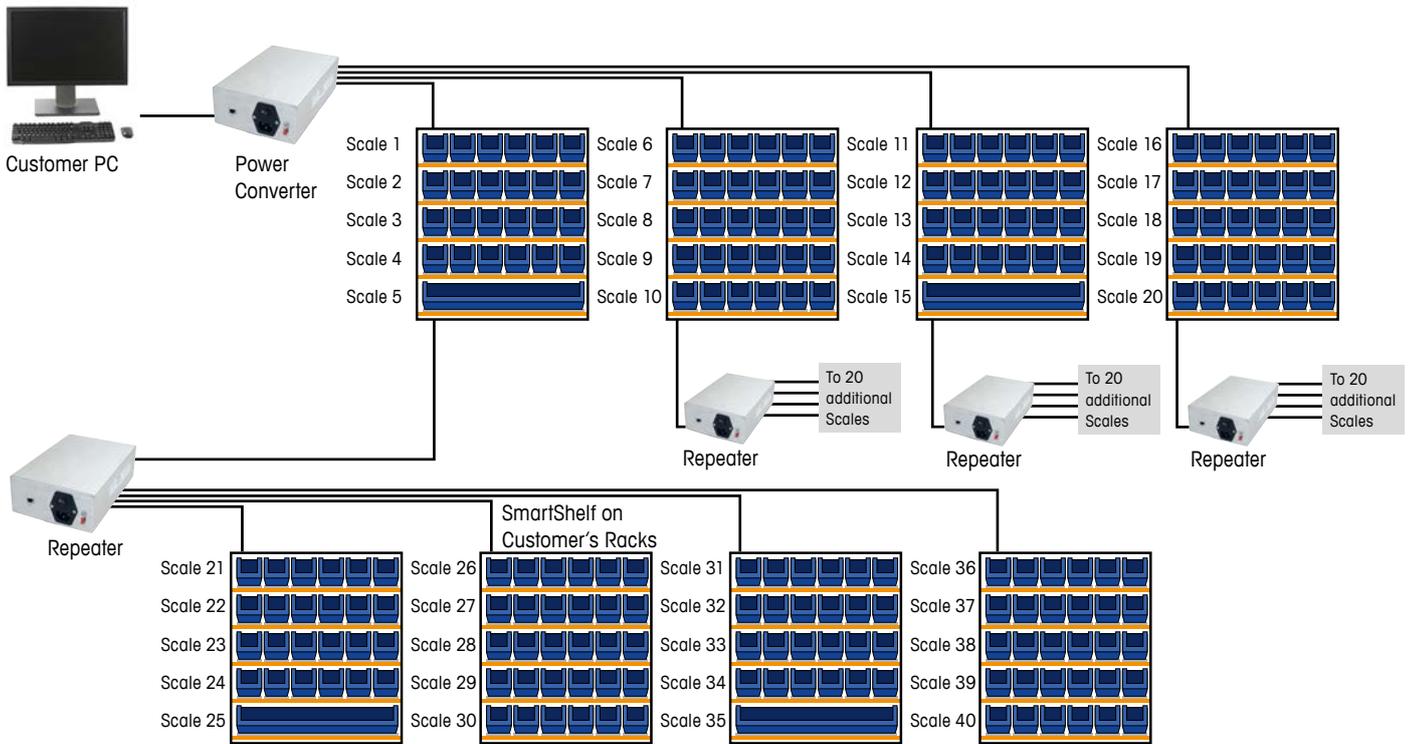
**Stock Control**  
Never run out of supply

**Usage Trend Analysis**  
Maintain a secure supply chain

**Automatic Replenishments**  
Simplify ordering and receiving

**Accountability**  
Control and monitor the usage of high-value items

## SmartShelf System Example



# Cross Border

## Field Support and Service

**Roll-out of projects often runs across borders. Global account management with one point of contact, and a globally standardized product and service offering ensures successful global implementation.**

When measurements are directly linked to profit, downtime is expensive. With a global service network, we can serve you with on-site support and technical assistance, any time and anywhere. Our service team knows how to satisfy your business needs by getting the best from your dimensioning, weighing and scanning equipment. Take advantage of the experience, skills and thorough know-how of our far-reaching team and maximize your return on investment.

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