



# 12" Radar Feedback Sign Specifications

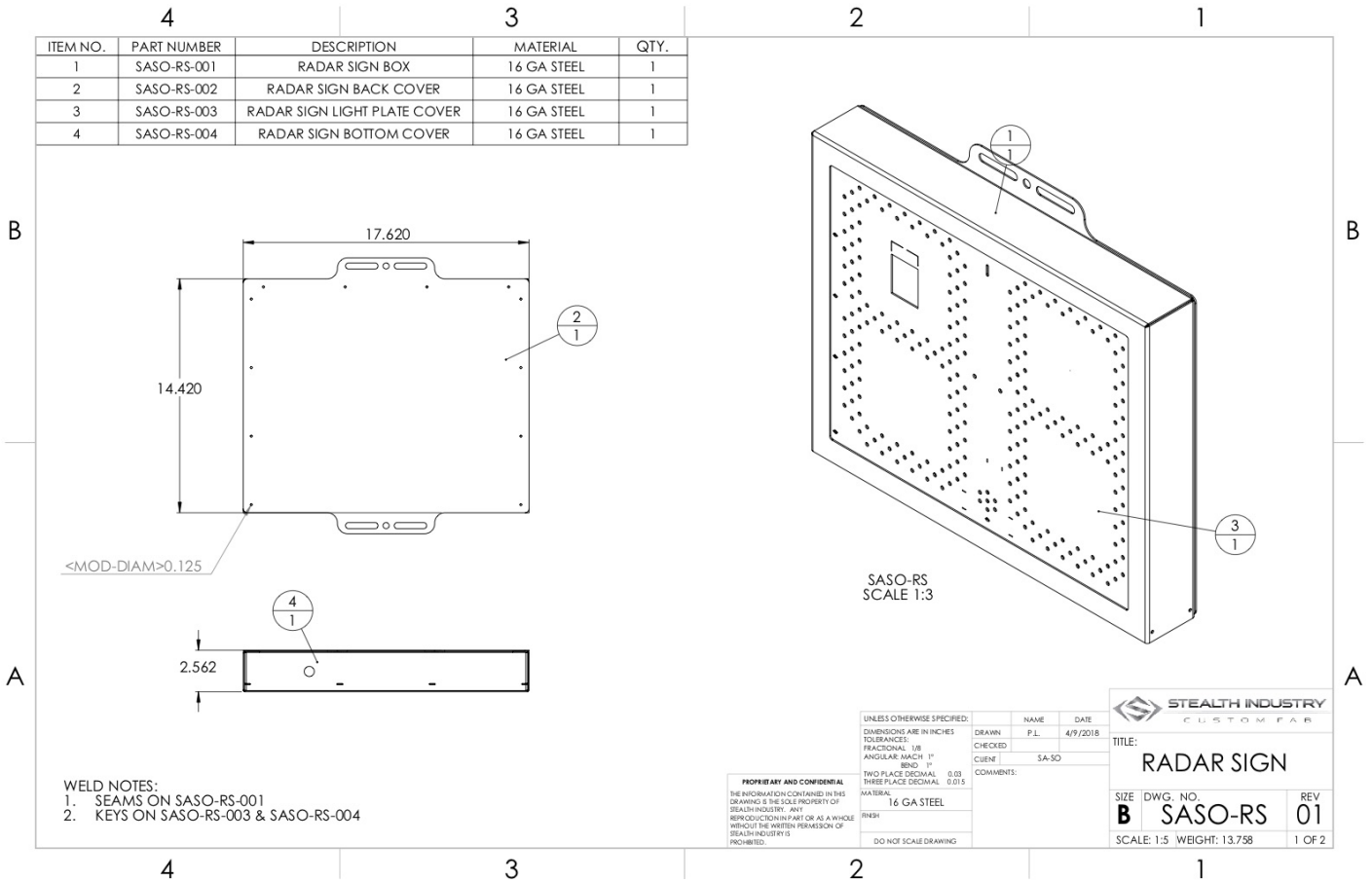


Part #  
SR12

Technical Data Sheet

**Scope**  
This specification covers the method and procedures of the physical dimensions and performance properties of the SR12, 12" Radar Feedback Sign as manufactured by SA-SO of Arlington, Texas.





## Technical Description, Design, and Material

### Technical Description:

The AR12 Solar Powered Radar Feedback Sign is a single housing that contains radar detection, LED speed display, and electronics, powered by a 12v Lithium Ion Battery contained in the housing, and a 30 watt Solar Panel, separate from the housing.

### General Design and Operation:

The SR12 Solar powered radar sign will detect and display speeds up to 99 mph. However, the 12" letter height is intended for speed limits under 45 mph. For speed limits over 45 mph, the MUTCD requirement is the SR18, which has an 18" letter height.

Standard mounting of the SR12 is on a 1.75" or 2" Square post or a 2.375" Round Post.  
 Typical length of Post: 12'.

## References:

**Federal Highway Administration:** "MUTCD 2009 Edition, Dated December 2009 (PDF) - FHWA MUTCD." Manual on Uniform Traffic Control Devices (MUTCD) - FHWA. N.p., n.d. Web. 29 Jan. 2015.

**Federal Communication Commission:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation.

### **Regarding the Buy America Act and the American Iron and Steel (AIS) requirements:**

This product is manufactured locally in the USA. Regarding steel content, this product is made primarily of components other than steel. The total steel content falls under the De Minimus waiver of the AIS requirements.

#### **Dimensions**

#### **Radar Specifications:**

The SR12 utilizes a 100 meter radar device.

Power Consumption: 5.25 mA Typical 33 mA Max  
Operating Temperature: -40C to 85C  
Transmit Frequency: 24 GHz  
Default Unit Setting: mph  
Speed Resolution: 1 mph.

#### **Mechanical Properties**

#### **Enclosure with LED Display**

Size: See attached drawing  
LED Display: 7 segment LED, with 38 LED's per segment.  
Character Size: 12 inches  
Display Range: Up to 99 mph.  
Speed Resolution: 1 mph.  
Housing Material: Polyester Powder Coated 16 gauge Steel  
Housing Color: White  
Environmental Operating temperature: -40° C to +85° C

MIL-STD-810F Moisture Resistant  
MIL-STD-833 Mechanical Vibration

All electronics are located in the display enclosure.

#### **Solar Panel Properties:**

Monocrystalline 30W Panel  
Maximum Power: 30W  
Optimum Operating Voltage (Vmp): 17.5V  
Optimum Operating Current (Imp): 1.71A  
Weight: 6.2 lbs.  
Maximum System Voltage: 600V DC (UL)  
Open-Circuit Voltage (Voc): 21.6V  
Short-Circuit Current (Isc): 1.85A  
Dimensions: 13.5 X 23.8 X 1.0 In

Glass: 3.2 mm tempered glass,  
Resists 5400 PA snow loads and 2400 PA wind load.  
Film: main component is 30%-33% EVA, coated with fluoro-resin to prevent aging.  
Frame: Corrosion-resistant aluminum  
Mounting Bracket: Corrosion-resistant aluminum

**Battery Properties:**

12.6v Rechargeable Lithium-Ion (Li-ion) battery pack  
20.8 Ah Capacity  
Built in IC chip to prevent over charge and over discharge  
3000 Cycle Life Expectancy  
8 month Shelf Life exceeds NiMH batteries  
High Temperature Tolerance: 60C

**Solar Charge Controller Properties:**

99% efficient MPPT tracking (15Hz Speed)  
Operating Consumption of 0.150mA (150uA)  
CC-CV Charging Profile  
-40°C to 85°C Operating Temperature  
99.85% Electrical Efficiency

**IMPORTANT NOTICE:** ACP International and SA-SO (a division of ACP International) trusts that the user of the product has the most accurate knowledge of how the product might be most efficiently or safely utilized in any given application or environment.

ACP International and SA-SO also trust that the above technical data and product information is based on thorough and accurate testing of the product, but are not liable for any loss or damage to the product (or any other product, employee, or building from which the product might come into direct or indirect contact) resulting from an intentional or unintentional mishandling of the product.



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