

RADAR SPEED DISPLAY UNIT.

(REV 12-11-00) (FA 6-20-01) (1-02)

ARTICLE 102-3 (Pages 106-111) is expanded by the following new Subarticle:

102-3.7 Radar Speed Display Unit:

102-3.7.1 Scope: This specification establishes the physical display and operational requirements for solar powered, Radar Speed Display Units used in active work zones to inform motorists of the posted speed and their actual speed.

The radar speed display shall be activated only during active work activities and will be deactivated when no work is being performed. The display unit shall be activated and deactivated by a dial-up control system to allow operation of the display unit from a remote location via cellular phone or standard telephone line. The display unit shall be protected by a security code.

Manufacturers seeking approval for a Radar Speed Display Unit shall submit an application, Material Safety Data Sheet (MSDS) and certification in accordance with 6-1.

Only use Radar Speed Display Units listed on the Qualified Products list. Manufacturers providing the device described herein shall provide a certified test report to the Engineer indicating the device meets these specification requirements.

102-3.7.2 Display Unit Panel and Housing: The Display Unit Panel and Housing shall meet the following physical requirements as a minimum:

(1) Use Corrosion resistant nuts, bolts, washers, and other fasteners for assembly.

(2) Paint the panel background and frame with a flat black paint meeting Federal Specification TT-E-489.

(3) Cover the panel with a bulletproof polycarbonate, non-glare face having an ultra-violet inhibitor to protect from fading and yellowing.

(4) Construct the Display Unit panel support structure such that it may be raised and lowered, and when raised to the upright position, the maximum height to the top of the panel from the ground is 8 feet [2.4 m].

(5) Provide capability to mount a 24 by 30 inch [610 by 760 mm] regulatory sign with interchangeable numbers showing the posted speed limit above the message display.

102-3.7.3 Message Display: The message Display shall meet the following physical requirements as a minimum:

(1) Provide a super bright LED, 18 inch [450 mm], two digit speed display with red, pixels, or a two (2) line display.

(2) The message display area shall be a maximum 66 inches [1.7 m] wide by 24 inches [.6 m] high. The message matrix panel shall contain two separate lines. Each line shall consist of at least seven characters, equally spaced a minimum of the equivalent to a single column of inactive matrix elements. Each message shall provide for a minimum 10 inch [254 mm] character height.

(3) Speed display shall be visible from a distance of at least 1/2 mile [805 m] and legible from a distance of at least 650 feet [198 m] under both day and night conditions.

102-3.7.4 Electrical System: Provide solar powered units meeting the following criteria:

(1) The battery shall be equipped with a battery controller to prevent over-charging and over-discharging, and an external battery level indicator.

(2) The unit shall provide for automatic recharging of power supply.

(3) The unit shall provide ten days of continuous operation without sunlight.

(4) The battery, controller, and power panel shall be designed to be protected from the elements and vandalism.

102-3.7.5 Radar: The radar unit shall not be affected by normal radio transmissions and meet the following physical requirements as a minimum:

(1) Approach-Only sensor.

(2) Equipped with a low power K-Band transmitter.

(3) Part 90 FCC acceptance, 3 amps, 10.8 to 16.6 vdc. Fuse and reverse polarity protected.

(4) Range of 1000 feet [305 m] for mid-size vehicle, capable of accurately sensing speeds of 10 to 99 mph [16 to 159 km] with over speed function that operates when a vehicle approaches over the posted speed limit.

102-3.7.6 Trailer Mounted Unit:

(1) The trailer shall be painted Omaha orange, Federal Standard 595-B, Number 12243.

(2) The trailer shall be equipped with class-A lights, using a plug adaptor.

(3) The trailer shall be equipped with adjustable outrigger leveling pads (screw-type), one on each of the four frame corners, designed to be set up at the site with its own chassis and outriggers, without being hitched to a vehicle.

(4) The trailer shall be a see through design (no box designs) equipped with fenders over the tires and shall be made from heavy-duty metal sufficient to allow a person to stand and operate or perform maintenance on the unit.

(5) The trailer shall meet all equipment specifications set forth in Chapter 316 of the Florida Statutes, and by such rule, regulation or code that may be adopted by the Department of Highway Safety and Motor Vehicles.

102-3.7.7 Traffic Counter: The unit shall be fitted with a device, which counts the number of vehicles passing the Radar Speed Display Unit. The counter device shall be capable of:

(1) Digital readout of the number of vehicles passing the radar speed display unit.

(2) Digital readout of the number of vehicles exceeding the speed shown on the radar speed display unit.