Louisiana

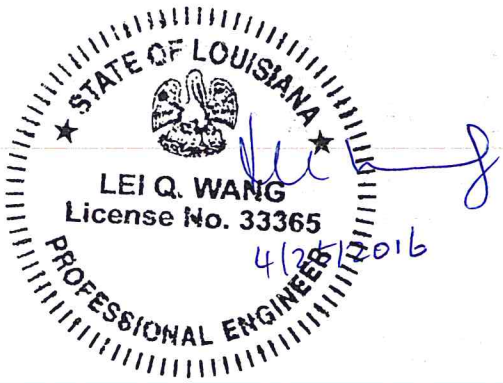
Department of Transportation And Development

Traffic Control Standard

Number 220

Accessible Pedestrian Pushbutton System

April 25, 2016



1. MATERIALS:
   1.1. Accessible (Audible/Tactile) Pedestrian Pushbutton Detector: The accessible pedestrian pushbutton detector must consist of all electronic control equipment, mounting hardware, pushbuttons, and pedestrian actuation signs (R10-3e 9" x 12" with LADOTD Type X sheeting) designed to provide both a pushbutton with a raised, vibrating tactile arrow on the button as well as a variety of audible indications for differing pedestrian signal functions.
      1.1.1. Electronic Control Equipment: The accessible pedestrian pushbutton detector must include electronic control equipment that is programmable and adjustable using a laptop computer or vendor supplied programmer. Electronic control equipment must be able to be installed within a traffic controller cabinet or within a pedestrian signal housing. Electronic control equipment installed within a traffic controller cabinet must allow the use of up to 16 pushbuttons (4 maximum per channel) with a single traffic controller cabinet. The accessible pedestrian pushbutton detector must receive timing from Walk and Don't Walk signals.
      1.1.2. Audible Messages: Audible messages must be programmable. All audible messages and tones must emanate from the accessible pedestrian pushbutton housing. The accessible pedestrian pushbutton detector must utilize digital audio technology. The system shall have, at a minimum, three programmable locator tones. The accessible pedestrian pushbutton detector must have independent minimum and maximum volume limits for the Locator Tone, Walk, and Audible Beaconing features. The Wait message must only annunciate once per actuation.
      1.1.3. Pushbutton locator tone: The accessible pedestrian pushbutton detector must provide independent ambient sound adjustment for the locator tone feature. The accessible pedestrian pushbutton detector must allow the locator tone to be deactivated.
      1.1.4. Vibrating Pushbutton (VPB): The accessible pedestrian pushbutton detector must include a Vibrating Pushbutton (VPB). The VPB must be a single assembly containing an ADA compliant, vibro-tactile, directional arrow button, weatherproof audible speaker and pedestrian actuation sign with optional placard Braille messages. The VPB tactile arrow must be 2 inches in length, be field adjustable to two directions, and require no more than 5 pounds of applied force to activate.
      1.1.5. Conflict Monitoring: The accessible pedestrian pushbutton detector must monitor the Walk condition for conflict operation. The accessible pedestrian detector system must disable the Walk functionality if a conflict is detected.
      1.1.6. Cabinet Control Unit (CCU): The accessible pedestrian pushbutton detector may include a CCU for interfacing and connecting the system. The CCU shall have labeled LED indicators for each channel operation. The CCU must reset upon loss of internal communication.

   1.2. Inputs and Outputs: All inputs and outputs must use Mil-Spec Multipin connectors.
      1.2.1. Inputs: Walk and Don't Walk inputs must be optically isolated 80-150 volts AC/DC, 5mA max. General purpose inputs must be optically isolated 10- 36 volts AC/DC, 10mA max.
      1.2.2. Outputs: Outputs must be optically isolated 36 volts AC/DC peak, 300mA solid

state fused contact closures. CCUs must include a normally open relay contact fault output.

1.3. Communication: The CCU must include an Ethernet interface. The CCU must have an integral web server that provides information on audible/tactile pedestrian-pushbutton detector status, access to event logs, and provides for remote Configuration of accessible pedestrian pushbutton detector system options. VPBs must include an Ethernet, serial, or USB programming interface.

1.4. Electrical: All wiring must meet applicable NEC requirements. The accessible pedestrian pushbutton detector must operate using a nominal input voltage of 120 volts alternating current (VAC). If any device requires nominal input voltage of less than 120 VAC, furnish the appropriate voltage converter.

1.4.1. Accessible pedestrian pushbutton detector control electronics that are mounted in a pedestrian signal head must be able to receive power from the Walk and Don't Walk circuits of the signal head. Voltage at the pushbutton shall not exceed 24 VAC.

1.5. Mechanical: Equipment must be permanently marked with manufacturer name or trademark, part number, date of manufacture, and serial number. Do not use self-tapping screws on the exterior of the assembly.

1.5.1. Ensure that all parts are made of corrosion-resistant materials, such as plastic, stainless steel, anodized aluminum, brass, or gold-plated metal. Ensure that all assembly hardware, including nuts, bolts, external screws and locking washers less than 5/8 inch in diameter, are Type 304 or 316 passivated stainless steel. Stainless steel bolts, screws and studs must meet ASTM F593. Nuts must meet ASTM F594. All assembly hardware greater than or equal to 5/8 inch in diameter must be galvanized. Bolts, studs, and threaded rod must meet ASTM A307. Structural bolts must meet ASTM A325.

1.5.2. Enclosures must have a NEMA 4X rating. Pushbutton housings for intersections must be black.

1.6. Environmental: Ensure equipment performs all required functions during and after being subjected to the environmental testing procedures described in NEMA TS2, Sections 2.2.7, 2.2.8, and 2.2.9.

2. TYPES.

2.1. The 2-wire Accessible Pedestrian Pushbutton Detectors, shall include the pedestrian actuation sign, APS push button station, all mounting hardware, materials and equipment.

2.2. The 2-wire Accessible Pedestrian Pushbutton Control Unit, shall include the Accessible

Pedestrian Pushbutton Control Unit, all mounting hardware, materials and equipment.

2.3. The 4-wire Accessible Pedestrian Pushbutton Detectors, shall include the pedestrian actuation sign, APS push button station, all mounting hardware, materials and equipment.