



**SPECIAL PROVISIONS
FOR
TRAFFIC SIGNALIZATION**

**Clay County
ICAAP-SWAP-7170(630)--SH-21**

**Effective Date
August 16, 2022**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

Make the following revisions to Section 4189 of the Standard Specifications:

4189.02, B, 3, Solid State Piezo Pedestrian Push Buttons (non-APS).

Replace the title and Article:

Solid State Piezo Pedestrian Push Buttons (non-APS).

- a. Housing:** Die cast aluminum, weather tight, secure against electrical shock and withstands continuous hard usage.
- b. Push Button:** Nonrusting metal alloy, ADA compliant, 2 inch diameter with 3 pounds maximum operational force, with momentary LED visual confirmation and audible tone confirmation. The buttons shall be die cast aluminum, powder coated. Buttons shall have vibra tactile button, LED confirmation light, and audible feedback.
- c. Switch:** Solid state piezo driven, rated at 20 million operations minimum.
- d. Operating Temperature:** -30°F to 165°F.

4189.02, C, 1, Video Detection System and Processors.

Replace the Article:

- a.** Single-camera vehicle detection, counting and monitoring.
- a b.** Processor to be card rack mounted, shelf mounted, or located within camera. Compatible with NEMA TS-1, TS-2, ITE ATC, and Type 170 and 2070 controllers and cabinets.
- b c.** Shall be capable of the following:
 - 1)** Ability to view all four directions of traffic using one camera with fisheye optics, horizon to horizon view including the center of the intersection.
 - 2)** Ability to select detection zones for all four directions up to 150 feet.
 - 3)** Ability to provide video output.
 - 4 4)** Shadow rejection without special hardware.
 - 2 5)** Non-impaired operation under light intensity changes.
 - 3 6)** Maintained operation during various weather conditions (e.g. rain, fog, snow).
 - 4)** Anti-vibration, 5% rejection based on image change.

- ~~5 7)~~ Ability to select direction of flow parameters.
- ~~6)~~ ~~Ability to properly detect directionally.~~
- ~~7 8)~~ Operate in presence mode with less than 4% error.
- 9) Ability to add module to provide intersection counting ability and storage of count data.
- c. Provide user-defined detection zone programming via a graphical user virtual pan-tilt-zoom interface (GUI) and any necessary equipment for future programming. Store detection zones in non-volatile memory.
- d. Comply with NEMA TS-1 and TS-2 environmental and physical standards with an operating temperature of -29°F to 140°F, and 0% to 95% relative humidity.
- e. Ensure a factory certified representative from the supplier provides on-site VDS programming and testing.

4189.04, A, NEMA Controller, Cabinet, and Auxiliary Equipment.

Replace the Article:

Comply with the latest edition of NEMA TS1 or TS2, ~~CalTrans model 2070,~~ or ~~ITE advanced transportation controller (ATC)~~ standards.

1. Controller.

- ~~a. Solid state modular design with digital timing and capable of accommodating at least eight phases.~~
- ~~b. Fully prompted, front panel keyboard with menu driven programmability.~~
- ~~c. Local time base scheduler including automatic accommodation for daylight savings time.~~
- ~~d. Local coordination control.~~
- ~~e. Local preemption control with at least four programmable internal preemption sequences.~~
- ~~f. Current software and documentation.~~
- ~~g. Data retained in a memory medium that does not require battery backup.~~

All new controllers shall be the latest model FLeX Series controller unit manufactured by McCain. The controller assembly must be fully compliant with the ATC 6.25 standard. The controller assembly must also fully support NTCIP 1201 and 1202 standards.

2. Cabinet.

- a. Unpainted aluminum cabinet ~~according to~~ based on the ITE/NEMA/AASHTO ATC suite of standards.
- b. Aluminum cabinet ~~riser with same dimensions as cabinet and 12 to 18 inch height is to be pole mounted,~~ as specified in the contract documents.
- c. ATC cabinet voltage category as specified in the contract documents.
- d. Police door with auto/flash switch ~~and on/off power switch,~~ manual/stop time switch, and on/off power switch for signal heads only. Controller to remain in full operation regardless of switch positions.
- e. Maintenance panel on inside of the main door containing the following test switches.
 - 1) Controller power switch.
 - 2) Detector test switches.
 - 3) Stop time switch.
 - 4) Signal flash switch.
- f. Heavy-duty clear plastic envelope attached to inside wall of cabinet or cabinet door, for cabinet wiring diagrams, 12 inches by 18 inches minimum.
- g. GFI electrical outlet and lamp in accessible location near the front of the cabinet. GFI outlet fused separately from main AC circuit breaker. Fluorescent or LED cabinet lamp connected and fused with GFI outlet.
- h. Back panel positions to accommodate phasing and expansibility specified in the contract documents.
- i. Power protection devices including AC power circuit breakers, radio interference suppressors, and lightning and surge protectors.
 - 1) AC field service single pole, nonadjustable, magnetic breaker rated for 117 VAC operation, NEC approved.

- 2) Radio interference suppressors (RIS) as required to minimize interference in all broadcast transmission and aircraft frequency bands.
 - 3) Lightning arrestor/surge protector capable of withstanding repeated (minimum of 25) 30,000 ampere surges.
 - j. Neatly train wiring throughout the cabinet and riser. Bundle and attach wiring to interior panels using nonconductive clamps or tie-wraps.
3. **Auxiliary Equipment:** Conflict monitor/malfunction management unit, flasher, load switches, terminals and facilities, and miscellaneous equipment and materials according to NEMA standards. For ATC cabinets, use serial interface unit, high density switch pack/flasher unit, cabinet monitor unit, cabinet power supply requirements, auxiliary display unit, sensor unit, and miscellaneous equipment materials meeting ITE standards.