City of Los Angeles



Model 352i Advanced Transportation Controller (ATC) Cabinet Specification

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Model 352i ATC Cabinet Specification

General

This specification describes the 120 Vac High Voltage (HV) Model 352i Advanced Transportation Controller (ATC) Cabinet ("the cabinet") for City of Los Angeles. The ATC Cabinet family is a modular, serially-interconnected cabinet architecture that is designed to fulfill a variety of transportation applications.

The cabinet shall include: Service Assembly (SA), Input Assembly (IA), Output Assembly (OA), SB1/SB2 and DC/Clean Power Bus, Field Input Termination Assembly (FITA), and Field Output Termination Assembly (FOTA).

LADOT 352i ATC Cabinet Specification shall complies with the City of Forth Worth 352i ATC Cabinet Specification except for following items:

1. City of Los Angeles identification

Each cabinet shall include City of Los Angeles identification. The name "City of Los Angeles" shall be molded, cast, or scribed in 0.250 inch letters on the outside, top center area of the front cabinet door.

2. Door Latches and Lock Mechanism

Each door shall be equipped with a removable hex handle and "U" handle. The latching mechanism shall be a three-point draw type. When the door is closed and latched, the door shall be locked. The lock and lock support shall be rigidly mounted on the door. In the locked position, the bolt throw shall extend a minimum of 0.25 inch (+/-0.03125 inches) into the latch cam area. A seal shall be provided to prevent dust or water entry through the lock opening.

3. Locks & Keys

The locks shall be BEST type. One key shall be supplied with each lock. The keys shall be removable in the locked position only. The locks shall have rectangular, spacing loaded bolts.

The bolt shall have a 0.281 inch throw and shall be 0.75 inch wide by 0.375 inch thick. Tolerance is 0.035 inch. A swing away cover shall be placed over the key entrance to protect the lock mechanism. The lock shall be mounted in the center.

Best Lock numbers are:

- Right Hand 5L6RL3XA7559-606
- Left Hand 5L6RL4X47559-606

Each cabinet will be supplied with two (2) locks, each with a "LA-1" core, keyed alike. LA-1 Keys and Core Keys shall be supplied separately, the quantity will be specified at the time of each purchase order. Contractor cores must be available upon request through the parts contract.

4. Aluminum Surface Protection

The aluminum surface protection shall be LADOT Anti-Graffiti Paint.

5. Communication Panel

Each cabinet shall be equipped with a Communication Panel.

Communications Cable Terminal Block (CTB-1):

Communications Cable Terminal Blocks shall be quick-connected blocks consisting of 25 horizontal rows of six (6) clips per row, mounted in a molded self-extinguishing plastic case. The horizontal rows of six (6) clips shall be divided into two (2) sets of three (3) electrically common clips. The two (2) sets of three (3) clips shall be connected by a bridge clip. These blocks, commonly referred to "66B Type" blocks, shall terminate 25 pairs of 20 through 24 AWG solid unstripped conductors. The blocks shall be equipped with integral fanning strips and an enclosed back to prevent grounding of clips to the panel.

Termination Block (CTB-2):

A four (4) position, double row, closed back design terminal block, Kulka part No. 671-GP-04 or equivalent, labeled CTB-2 shall be mounted on the Communications Termination Panel. The strip shall be rated at 15 Amps and shall be provided with 6-32 by 0.250 inch nickel plated brass binder head screws.

C-20 Termination Block (CTB-3):

A four (4) position, double row, closed back design terminal block, Kulka part No. 671-GP-04 or equivalent, labeled CTB-3 shall be mounted on the Communications Termination Panel. The strip shall be rated at 15 Amps and shall be provided with 6-32 by 0.250 inch nickel plated brass binder head screws.

Over-Voltage Protection:

An over voltage surge protector shall be provided for each active communications cable pair (Audio-In pair, and Audio-Out pair) terminating at CTB-2 and CTB-3. Protectors shall be of the Three-Electrode Gas Tube type, and shall have the following ratings:

- Impulse Life (1,000 Amp, 10/1000 waveshape at one minute intervals each direction, with 500 Amps on each side to ground simultaneously): 1,000 surges minimum, 2,500 surges typical.
- AC Discharge Current, 11 cycles, 60 Hz: 400 Amps RMS, 200 Amps on each side to ground simultaneously
- Maximum Single Impulse Discharge Current, 8/20 waveshape: 40 kA maximum, 20 kA/side simultaneously
- Capacitance: Line-ground = 4 pf, Line-line = 2 pf
- DC Holdover: 180 VDC typical at 200 mA, 150 VDC minimum
- DC Arc Voltage: 30 volts typical
- Glow to Arc Transition Current: 1.0 Amp typical
- Transition Time: 0.5 microseconds maximum

 Line-Ground Impulse Breakdown Voltage at 10 kV/sec: 1000 volts maximum average

Insulation Resistance:

1,000 megohms minimum at 100 VDC (line-ground). The protectors shall be encapsulated, and shall be equipped with minimum 2 inches long, spade lug tipped leads. Maximum size of each protector shall be $0.5 \times 0.5 \times 2.0$ -inches. The grounding lead shall be attached to the panel's grounding stud. Grounding Stud:

A grounding stud shall be provided. The stud shall extend through the panel. The over voltage protection devices' ground leads shall be attached to the stud on the front side of the panel. A No. 8 AWG copper conductor shall connect to the stud on the back side of the panel, and shall connect to the cabinet's Equipment Grounding Bus. C2P Harness and Connector:

4-conductor jacketed cables shall each be attached to terminal blocks CTB-2 and CTB-3 with soldered ring lugs. The cables shall terminate with a standard C2P and C20P connectors, and shall be routed through the cabinet, 2 feet in length to reach the back of the 2070 Controller Unit, when the unit is installed in the equipment rack. Feed-Through Opening:

A feed-through openings, complete with protective grommets, shall be provided on the panel to protect the C2P and C20P harnesses. A strain relief device shall also be provided for each.

Cable-Tie Openings:

Six (6) 0.250 inch diameter holes shall be provided for installation of cable ties. Allen Tel Distribution Ring:

Allen Tel Distribution Ring model #GB 13 or equivalent shall be installed at the bottom of the panel CTB-1

Attachment to Equipment Rack:

The panel shall be securely attached to the equipment rack using mounting keyholes sized to facilitate removal of the panel without removing the mounting screws.

6. Police Panel

A police panel assembly shall be provided to allow limited control access. The panel door shall be equipped with a lock and master police key. The front and back of the panel shall be enclosed with a rigid metal covering so that no parts having live voltage are exposed. The panel assembly shall have a drain to prevent water from collecting within the assembly. The drain shall be channeled to the outside. The cabinet shall have one switch provided and labeled "SIGNALS ON / OFF" and one switch provided and labeled "SIGNALS ON / OFF".

7. Warranty Statement

LADOT warranty statement shall be applied.

8. Sample Delivery

LADOT sample delivery requirement shall be applied.