

Special Specification 6117

Closed Circuit Television (CCTV) Equipment Cabinet



1. DESCRIPTION

Furnish and install Closed Circuit Television (CCTV) Equipment Cabinet and include all necessary associated electrical and mechanical devices as detailed in this special specification. This cabinet will house the various types of surveillance and control equipment for the system as shown on the plans.

This equipment may include, but is not limited to:

- Modular Fiber Distribution Housing
- Camera Control Unit
- CCTV Color Video Compression System
- Wireless Ethernet Radio
- Serial Server Unit
- Hardened Ethernet Switch

Provide and install all necessary wiring, harnesses and cable assemblies as directed.

2. MATERIALS

Furnish new, corrosion resistant materials. Furnish, assemble, fabricate and install materials in strict accordance with the details shown on the plans and in the specification.

Construct the CCTV equipment cabinet using unpainted sheet aluminum with a minimum thickness of 0.125 in. Provide materials that meet NEMA Standards and the requirements of ASTM B209 for 5052-H32 aluminum sheet.

3. CONSTRUCTION

3.1. Cabinet Design and Requirements.

Submit all shop drawings of the cabinet and cabinet wiring diagrams to the Engineer for approval before installation.

Provide cabinet with the following external dimensions:

- Height -- 41 in.
- Width -- 24 in.
- Depth -- 20 in

The height and depth dimensions may be ± 1 in.

Weatherproof cabinet to prevent the entry of water. Continuously weld all exterior seams for the cabinet and door. Smooth all exterior welds.

Provide the cabinet with 1 door in front and 1 door in the rear that will provide access to the cabinet. Provide the doors with a full length stainless steel piano hinge, with stainless steel pins spot welded at the top. Mount the hinges so that it is not possible to remove them from the door or cabinet without first opening the

door. Provide sturdy and torsional rigid cabinet doors that substantially cover the full area of the cabinet access opening.

Brace the door and hinges to withstand a 100 lb. per vertical foot of door height load applied vertically to the outer edge of the door when standing open. Ensure there is no permanent deformation or impairment of any part of the door or cabinet body when the load is removed. Provide provisions to hold the door open at approximately the 90 degree and 180 degree positions.

Fit the cabinet doors with Number 2 Corbin locks or equal, 5/8 in. stainless steel handles and a 3 point roller latch. Design the lock and latch such that the handle cannot be released until the lock is released. Provide the handle with a locking ring so a padlock can be installed in addition to the Corbin lock. Provide two keys for each cabinet. Locate the Corbin lock to be clear of the arc of the handle.

The cabinet door openings must be double-flanged on all four sides. Provide a gasket to act as a permanent dust and weather resistant seal at the cabinet door facing. Ensure the gasket material is of a non-absorbent material and will maintain its resiliency after exposure to the outdoor environment. Provide 1/2 in. x 2 in. closed cell neoprene gasket, and locate it in a channel provided for this purpose either on the cabinet or on the door(s). A channel formed by an "L" bracket and the door lip is acceptable. In any case the gasket must show no sign of rolling or sagging and must insure a uniform dust and weather resistant seal around the entire door facing. Any other method is subject to engineering approval during inspection.

The cabinet must be configured for side of pole mounting using two aluminum "U" channel mounting brackets with 3 in. x 6 in. 12 gauge stainless steel reinforcing plates on the inside of the cabinet. The cabinet must also have a 0.250 in. aluminum reinforcing plate mounted in the bottom of the cabinet.

Vent and cool the cabinet with two thermostatically controlled fans. The thermostat must be an adjustable type with an adjustment range of 70°F to 110°F. Provide a press-to-test switch to test the operation of the fans.

Provide commercially available model fans with a capacity of at least 100 CFM each. The intake for the vent system must be filtered with a 12 in. wide by 12 in. high by 1 in. thick washable, reusable aluminum air conditioning filter on both front and rear doors. Provide the cabinet with filtered vent openings to allow adequate convection cooling of the electronic components to be installed in the cabinets. Mount the filter securely so that any air entering the cabinet must pass through the filter. Ensure the cabinet opening for intake of air is large enough to use the entire filter. Screen the exhaust vent to prevent entry of insects. Provide the screen openings no larger than 0.0125 sq. in. Ensure the total free air opening of the vent is large enough to prevent excessive back-pressure on the fans.

Provide a standard EIA 19 in. rack assembly, sized appropriately based on cabinet inside height dimension and accessible from either door. Rack will be equipped with a 1U pull out shelf accessible from the front door. Provide adjustable shelves as required to support the equipment as specified on the plans. Ensure shelf adjustment at 1U intervals in the vertical position. Provide shelves that are removable and capable of supporting the electronic equipment. Provide a minimum of 2 in. between the back and front edge of the shelf to back inside wall and door of the cabinet respectively to allow room for the equipment cables and connectors. Rack will also be provided with two 1U horizontal power strips, one accessible from the front door and one accessible from the rear door. Each power strip must have six right-angle receptacles spaced to allow for wall transformers.

Install two fluorescent lights, with switches, in the cabinet. These lights must turn on when the cabinet door is opened, and turn off when the cabinet door is closed.

Provide two 18 in. unistrut channels on each side wall of cabinet for mounting power panel and vehicle detector interface panel.

Provide the cabinet with a unique 5-digit serial number located on the upper right sidewall near the front of the cabinet which must be stamped directly on the cabinet or engraved on a metal or metalized Mylar plate epoxied or riveted with aluminum rivets to the cabinet. Ensure the digits are at least 0.2 in. in height.

3.2. **Power Requirements.**

Provide a power panel installed on the lower wall opposite from the pole mounted wall. The panel must include a terminal block for incoming power service for 120/240V at 30 amperes per phase. Line 1 must provide power to circuit breakers 1 and 2. Line 2 must provide power to circuit breakers 3 and 4. Equip the circuit breakers with solderless connectors and install them in such a manner that their rating markings are visible and the breakers are easily accessible. Circuit breakers must be Square D QOU series, GE THQC series, or TxDOT approved equal.

The power panel must include two HESCO model LF-50 line filters or TxDOT approved equal and two EDCO ACP-340 surge protectors or TxDOT approved equal. One of each unit must be wired to protect one line of the 120/240V service.

Circuit breaker 1 must be 20 ampere and provide power to the light and fans. Circuit breaker 2 must be 10 ampere and provide power to power strip 1. Circuit breaker 3 must be 10 ampere and provide power to power strip 2. Circuit breaker 4 must be 20 ampere and provide power to the Maintenance GFCI outlet.

Mount and wire a GFCI-protected duplex receptacle of the 3 wire grounding type which will accept a standard 2 pronged non-grounding plug in the cabinet.

Except where soldered, provide all wires with lugs or other approved terminal fittings for attachment to binding posts.

Insulation parts and wire insulation must be capable of withstanding a minimum of 600V.

Provide copper ground buses for both the power supply neutral (common) and chassis ground. Provide each bus bar a minimum of 10 unused terminals with eight (8) 32 X 5/16 in. or larger screws. Do not connect the AC neutral and chassis ground buses together.

Place all wiring in a neat and orderly manner and grouped together, and secured to cabinet with nylon tie-downs.

Provide a clear 1/8 in. thick removable cover made from Lexan material to cover the power panel. Ensure this cover is placed as not to interfere with the functional operation within the cabinet.

3.3. **Documentation Requirements.**

Provide documentation in accordance with Special Specification 6005, "Testing, Training, Documentation, Final Acceptance, and Warranty."

3.4. **Testing.**

Perform testing in accordance with Special Specification 6005, "Testing, Training, Documentation, Final Acceptance, and Warranty."

3.5. **Warranty.**

Provide a warranty in accordance with Special Specification 6005, "Testing, Training, Documentation, Final Acceptance and Warranty."

4. **MEASUREMENT**

The cabinet will be measured as each unit furnished, installed, and tested in accordance with this Special Specification.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "CCTV Equipment Cabinet." This price will be full compensation for all equipment described under this Item with all cables and connectors; cabinet mounting brackets and hardware; documentation and testing; and for furnishing all labor, materials, tools, training, equipment, and incidentals.