

CAMERAS



Function: This section explains the requirements for interior and exterior cameras. Refer to the range narrative to clarify applicability of this section to a specific range type.

General Summary: Training ranges are divided into two groups: Integrated MOU Training Systems (IMTS) and the standard training ranges. Camera coverage is a requirement for the IMTS in the Combined Arms Collective Training Facility (CACTF) and the Shoothouse. Training Circular (TC) 25-8 states there shall be 80% training building interior room camera coverage within 80% of the training buildings in the CACTF. Standard training ranges require downrange camera coverage in the Digital Multi Purpose Range Complex (DMPRC), Battle Area Complex (BAX), and the Digital Multi Purpose Training Range (DMPTR).

Exterior Cameras: Camera towers for exterior cameras must be designed to minimize sway of the camera. The maximum acceptable amount of sway for digital ranges (BAX, DMPRC, and DMPTR) is 13mm (0.5 inch) in a 50 kph (30 mph) wind with a 3 foot cube weighing 14kg (30 lbs) centered on top. All camera towers or poles located downrange require a NEMA 4 rated camera data enclosure with back plate at a minimum size of 610mm (2.0')W x 914mm (3.0')H x 203mm (8")D, and a small NEMA 3R rated, 120/240V circuit breaker enclosure (4 single pole breaker spaces) with transient voltage surge suppression (TVSS). The circuit breaker enclosure shall feed the camera data enclosure receptacle and provide spare breakers for future loads on the camera tower such as a warning light atop the camera tower. The enclosures shall be mounted at the base of the pole or tower for the installation of power and fiber optic cabling. The power

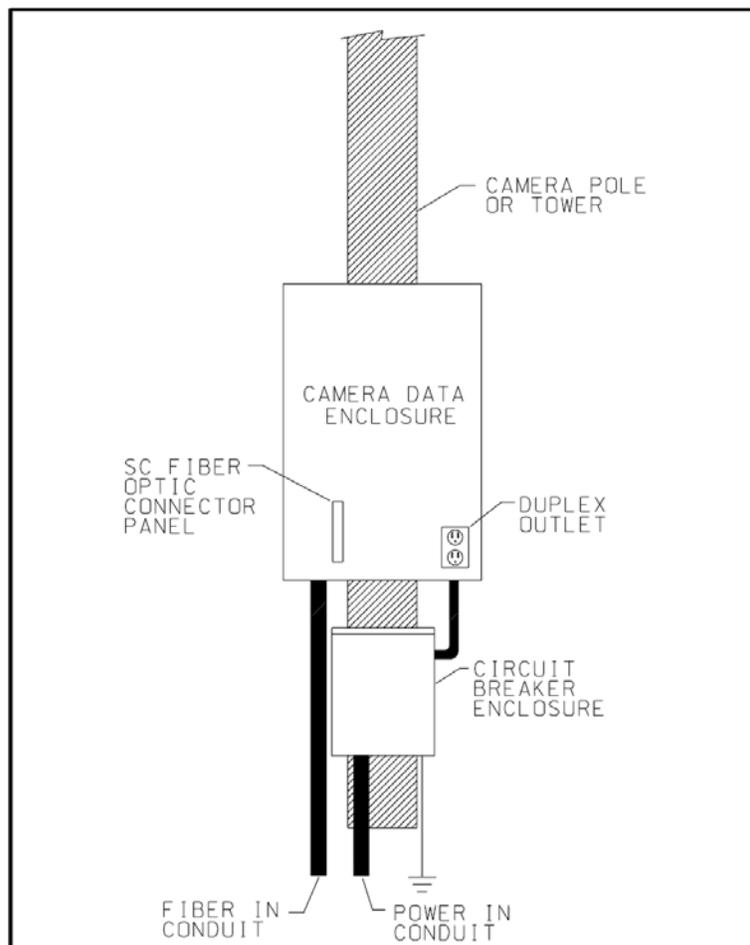
shall be supplied via the Power Center (PC) distribution panel. The power and data requirements shall be as follows:

a. Power.

One – dedicated 120Vac, 20amp, duplex receptacle mounted on the back plate in the lower right-hand corner of the camera data enclosure.

b. Data.

One per camera – dedicated six-strand single-mode fiber optic cable installed from the Range Operations Center (ROC) to the camera tower data cable enclosure. The cable shall be installed and tested on a surface mounted, small form factor, “SC” type connector patch mounted on lower left-hand corner of camera enclosure. Some camera poles or towers may be provided with multiple cameras. Each exterior camera requires a dedicated six-strand fiber optic cable. When the camera is located in the CACTF training area, the cable may be routed via local electrical/communication room rack-mounted patch panels. The camera data enclosure patch panel shall be mounted on the back plate in the lower left-hand corner.

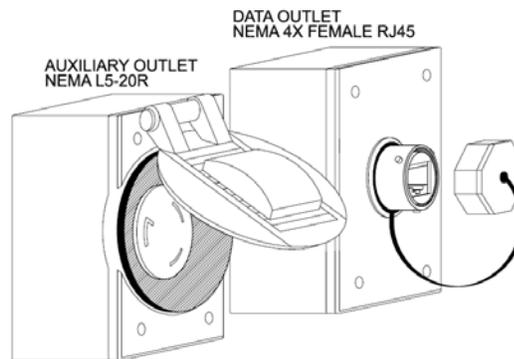


Example Exterior Camera Enclosure (Not to Scale)

Interior Cameras:

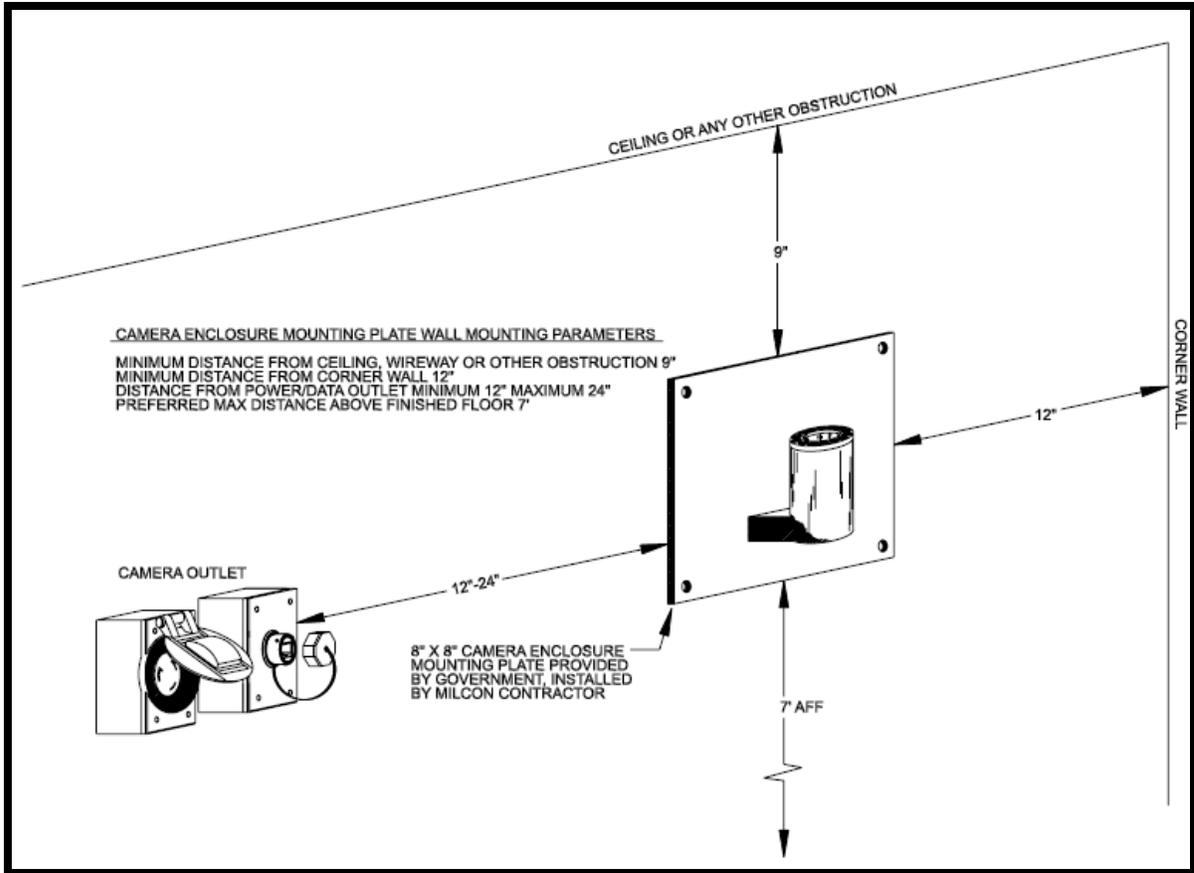
a. CACTF.

The cameras installed inside the CACTF training buildings are IP based cameras. Each camera outlet will have a power outlet for camera power and will have a data drop. The camera power outlet shall be a NEMA L5-20R outlet. All outlets shall be mounted at a minimum 2134mm (7 ft) A.F.F. to the bottom of the outlet box. Conduits shall not be installed on the interior walls below 2134mm (7 ft) A.F.F. Camera power and data outlets shall be weatherproof when in use and when they are not in use. Camera power outlets shall have weatherproof wet location covers with ethylene propylene rubber gaskets on bottom of cover to prevent the entrance of moisture and dirt with cover open and plug inserted. Locate the camera hangers near the camera outlets as identified within the Camera Hanger section in this document. A speaker outlet is the same configuration as the camera outlet. A speaker outlet should be centrally located in a corridor if possible and there shall be one speaker per floor.



Representative Interior Camera Outlets (CACTF Only)

Camera Outlet Hangers: The camera mounting plate will be government furnished by PEOSTRI. The MILCON contractor will install as shown below. The camera mounting plate shall be mounted to support a minimum load of 150 pounds with 1 foot eccentricity. MILCON contractor shall provide all mounting hardware (e.g. bolts, washers, nuts, etc).



Representative Interior Camera Hanger Location (CACTF Only)

b. SHOOTHOUSE.

The camera outlets installed inside the Live Fire Shoothouse are OPA provided. This includes the power and data outlets, and all wire and conduit from the electrical room to the camera locations. The MCA responsibility is to provide four, 20 amp, single-pole breakers to power 12 cameras, and provide spare conduits through the shoothouse electrical room wall to allow OPA installers a means to install power and data cables to the camera outlet locations.