Cable Tray / Ladder Tray

**INSTALLATION**

**GENERAL INSTALLATION GUIDELINES:**
For more information refer to the latest NEMA standards and local building codes. Trough tray field support and frequency depends on the weight and construction (splice locations, elbow fittings, etc.) Of the tray being mounted. Supports should provide strength and working load sufficient to the load requirements of the cable tray system being supported. Structural building members should never be cut, and cable trays should not be installed in hoist ways or where subject to physical damage. Cable tray systems are to be installed so that they are accessible. If possible, leave 12" [300mm] of space minimum free above and to the side of the tray to allow for cable installation and maintenance.

**COVER INSTRUCTIONS:**
1.) Use to enclose cable tray and protect cable and wiring from damage or debris.
2.) Provided with self-tapping tek screws to mount into siderails.
3.) Additional cover styles such as vented, peaked, diamond plate, and others are available. Speak with MonoSystems for more information.

**COVER CLAMP INSTRUCTIONS:**
1.) Recommended for indoor applications only. For outdoor applications see wrap around cover clamps, P/N: XX-2094-XX
2.) To install, make sure tray cover is centered about tray. Place cover clamps as shown and tighten bolt until snug.

**WRAP-AROUND COVER HOLD DOWN INSTRUCTIONS:**
1.) Each provided with (2x) 3/8" hex bolts and (2X) 3/8" serrated flanged nuts for securing in place.
2.) Recommended for outdoor applications. For tray length of 72" or less, or with horizontal elbows or vertical bends: (2) straps are recommended. For tray length of 120", 144", or with horizontal tees: (3) Straps are recommended.
3.) To install, make sure tray cover is centered about tray. Place cover clamps as shown and tighten bolt until snug.

**WALKABLE DIAMOND PLATE COVER INSTRUCTIONS:**
1.) Use to enclose cable tray and protect cable and wiring from damage or debris.
2.) All mounting hardware (by others). MonoSystems recommends fastening cover to power tray fitting using 1/4" hardware. Feed screws thru hole in cover, mark and drill thru top siderail flange of tray and attach on other side with 1/4-20 nylon lock nut. Or install self tapping screws through holes in cover into tray. Be sure to completely align cover to tray before drilling and installing.
Cable Tray / Ladder Tray

INSTALLATION

SPLICE PLATE INSTRUCTIONS:
1.) For connecting two sections of power tray cable tray.
2.) Includes two splice plates with tray connection hardware.
3.) When installing, ensure flush contact between splice plate and power tray.
   Recommended torque for 3/8” fasteners: 35 ft-lbs [47.5 N-m].
   Recommended torque for 1/4” fasteners: 12 ft-lbs [16.3 N-m].
4.) One pair of splice connectors with hardware are supplied with each tray
   length ordered. For aluminum tray, carriage bolts are used, for steel tray,
   hex bolts are used.

WALL MOUNTED SUPPORT SOLUTIONS:

WALL BRACKET INSTRUCTIONS:
1.) Use to mount power tray to a wall or perpendicular surface.
2.) 3/8” or 1/2” mounting hardware by others.
3.) Fasten tray to wall mounted strut support (hardware by others).

EXPANSION SPLICE PLATE INSTRUCTIONS:
1.) For connecting two sections of power tray.
2.) Accommodates expansion or contraction of the tray.
3.) Includes two expansion splice plates with tray connection hardware.
4.) When installing, ensure flush contact between splice plate and power tray.
   When installing, torque 3/8” fasteners to 19 ft-lbs [21.7 Nm], torque 1/4”
   fasteners to 6 ft-lbs [8.1 Nm]. Then back off 1/4 turn.
5.) Grounding straps (C0-X060-X) (ordered separately) must be used with
   expansion splice connectors.

AX-X001-PR
ALUMINUM SPLICE PLATES
STEEL SPLICE PLATES
AX-X002-PR
ALUMINUM EXPANSION SPLICE PLATES
STEEL SPLICE PLATES

4 International Drive
Rye Brook, NY 10573
Toll Free: 1 888.764.7681
Phone: 914.934.2075
Fax: 914.934.2190
MonoSystems.com
Cable Tray / Ladder Tray
INSTALLATION

OVERHEAD SUPPORT SOLUTIONS:

TRAPEZE INSTRUCTIONS:
1.) Use to mount power tray using a strut support beneath the tray.
2.) 1/2" Mounting hardware by others.
3.) Fasten tray to strut support (hardware ordered separately).

VERTICAL HANGER SPLICE INSTRUCTIONS:
1.) Use to mount power tray vertically using threaded rods.
2.) Ø 1/2" rods and mounting hardware by others.
3.) 3/8" splice to tray hardware (provided)

HANGER CLIP INSTRUCTIONS:
1.) Use to mount single or multiple tiers of power tray (not containing a cover)
2.) 1/2" Mounting hardware by others. 3/8" & 5/8" threaded rod clips also available.
3.) Use washers and nuts as shown to clamp clips around side rails of tray. (hardware by others)

CENTER HANGER SUPPORT INSTRUCTIONS:
1.) Use to mount power tray using a strut support beneath the tray.
2.) 1/2" Mounting hardware by others.
3.) Fasten tray to strut support (hardware ordered separately).

Instructions for solid bottom insert tray: (not shown)
4.) Field drill Ø 1" hole in center of tray where center tray hanger pipe will be inserted.
5.) Install spring nuts in strut portion of center hanger.
6.) Field drill Ø 7/16" holes in solid bottom insert 1" from inside tray edge.
7.) Install bolt thru solid bottom insert and thread into spring nut until snug.
8.) Secure center hanger with 1/2" hardware as shown (by others).
9.) Views for reference - do not scale.
FLOOR MOUNTED SUPPORT SOLUTIONS:

ADJUSTABLE MULTI-TIER FLOOR SUPPORT INSTRUCTIONS:
1.) Use to mount one to four tiers of power tray to a flat level mounting surface
2.) Each support provided as (2x) vertical support posts to specified height and (1 - 4) horizontal shelf brackets provided to specified width.
    Shelf bracket to vertical support post hardware provided.
3.) Mount assembly to floor using 3/8” hardware (by others).
4.) Multi-tier system is universal and also suitable for trough tray, MonoRack, or MonoMesh products.

ELEVATED FLOOR BRACKET INSTRUCTIONS:
1.) Use to mount power tray to a flat level mounting surface.
    To install: center tray about floor bracket and install hold down clamps using provided 3/8” hex bolts.
    Tighten clamps until tray is secured.
2.) Brackets provide a floor mounted solution that is easier and faster than strut alone.
3.) Brackets are available in a height to suit.
    Allows for clearance or path space below.

ADDITIONAL MOUNTING SOLUTIONS:

UNIVERSAL I-BEAM BRACKET INSTRUCTIONS:
1.) To install, align clamps on existing I-beam (by others) and install 1/4” hex bolts.
    Capture on other end with 1/4” nylon lock nuts.
2.) Apply loctite (by others) and tighten provided 1/4” set screws to secure bracket to I-beam.
3.) Mount power tray (ordered separately) to clamp brackets using ZD-1208 or X0-2021 hold down clamps and 3/8” threaded hardware (ordered separately).
TRAY HOLD DOWN SOLUTIONS:

ADJUSTABLE MULTI-TIER FLOOR SUPPORT INSTRUCTIONS:
1.) Used to securely hold tray in place.
2.) Add NB-PR to end of part number for a pair with included hardware [3/8-16 x 3/4” hex bolt, 3/8-16” spring nut].
3.) Mount wherever a tray flange is accessible.

HEAVY DUTY HOLD DOWN INSTRUCTIONS:
1.) Used to securely hold tray in place.
2.) 3/8” mounting hardware (by others).
3.) Locate in place, mark and field-drill 3/8” mounting holes into tray side rail.
INSTALLATION INSTRUCTIONS

VERTICAL PIVOT CONNECTOR INSTRUCTIONS:
1.) Use to make vertical pivots using straight length trays.
2.) Mount pivot plates using supplied 3/8” hardware as shown. Tray must be supported within 24” on both sides per NEMA VE 2. Supports by others. Recommended torque for 3/8” fasteners: 35 ft-lbs [47.5 N-m]

VERTICAL TRANSITION INSTRUCTIONS:
1.) Use to make vertical transitions using straight length trays.
2.) To install, align plates with tray and mark hole locations. Field drill Ø 3/8” clearance holes thru side rail. Bolt transition brackets to side rail using provided 3/8” hardware & ensure flush contact.

HORIZONTAL PIVOT CONNECTOR INSTRUCTIONS:
1.) Used to accommodate changes in horizontal direction up to 6°. Mounting slots allow for movement when positioning desired angle.
2.) Align horizontal pivot connector to mounting locations at end of tray. Install horizontal pivot connectors inside tray using supplied 3/8-16 hardware as shown. Tray must be supported within 24” on both sides per NEMA VE 2. Supports by others.

HORIZONTAL EXTENDER PLATE INSTRUCTIONS:
1.) These connectors are designed to accommodate minor horizontal directional changes between 6° and 14°. If angle exceeds 14° MonoSystems recommends using standard horizontal elbow fittings.
2.) To install, align plates with tray, field bend, and mark hole locations. Field drill Ø 3/8” clearance holes thru side rail. Bolt plate to side rail using provided 3/8” hardware & ensure flush contact. Tray must be supported within 24” on both sides per NEMA VE 2. Supports by others.
3.) Bonding jumpers such as CD-2060-600 (ordered separately) must be used.

BRANCH PIVOT CONNECTOR INSTRUCTIONS:
1.) Use to make tray to tray offset transitions.
2.) Provided with hole for locking angle. Drill and install 3/8” hardware to lock angle in place.
Cable Tray / Ladder Tray
INSTALLATION

CABLE DROPOUT SOLUTIONS:

NO-RUNG CABLE DROPOUT INSTRUCTIONS:
1.) Design allows for installation of dropout from below tray. No drilling required.
2.) To install, position mounting bar with attached drop out centered in place below aluminum power tray.
3.) With mounting bar flush against bottom of tray, feed (2x) 1/4-20 pan head bolts upward thru clearance holes in mounting bar and into threads of pem nuts within mounting clips.
4.) Orient clamps in place such that they clamp against bottom outer side rail lip of tray (as shown). Tighten 1/4-20 pan head bolts allowing the clamps to pull against tray lip until snug.

BLIND END / END CAP INSTRUCTIONS:
1.) Use to close off the end of a power tray run.
2.) Mount blind end using supplied 3/8" hardware.

TRAY TO WALL CONNECTOR INSTRUCTIONS:
1.) Use to mount end of tray to a flush flat surface.
2.) Mount connectors to tray using supplied 3/8" hardware. Recommended torque for 3/8" fasteners: 35 ft-lbs [47.5 N-m]. Wall attachment hardware (by others).

TRAY TO BOX CONNECTOR INSTRUCTIONS:
1.) Designed to attach the end of a power tray run to a distribution cabinet or control center to help reinforce the box at the point of entry.
2.) Provided with tray attachment hardware.
Cable Tray / Ladder Tray
INSTALLATION

ADDITIONAL GROUNDING SOLUTIONS:

GROUNDING CLAMP LUG INSTRUCTIONS:
1.) Suitable for use with copper or aluminum conductor.
2.) Clear mounting surface & remove any paint or coating (if applicable).
3.) Available in a variety of ampere ratings from 60A to 2000A.

GROUNDING JUMPER INSTRUCTIONS:
1.) Use to provide additional grounding connection. Required with expansion type connectors.
2.) Field mount to tray by drilling Ø 3/8" holes and mount using provided 3/8" hardware.
3.) Available in a variety of ampere ratings from 60A to 2000A.

GROUNDING JUMPER INSTRUCTIONS:
1.) Mechanically attaches grounding cables to power tray. Mount on inside or outside of cable tray.
2.) Field mount to tray.
3.) Available in multiple configurations to accommodate a variety of cable sizes.

PROTECTIVE COVERINGS:

INSTRUCTIONS:
1.) Custom molded for a perfect fit to B4A, B5A, or B6A aluminum power tray.
2.) To install, center about end of rail and slide on.
3.) Material: black PVC. UL94 flame rated.

INSTRUCTIONS:
1.) Use as a protective covering. Supplied in 50ft rolls.
2.) To install, simply push onto edges of side rail. Edge trim contains a hot melt adhesive within trim.

INSTRUCTIONS:
1.) Use as a protective covering and alignment.
2.) To install, center about divider and snap onto edge.

GROUNDING JUMPER INSTRUCTIONS:
1.) Use to provide additional grounding connection. Required with expansion type connectors.
2.) Field mount to tray by drilling Ø 3/8" holes and mount using provided 3/8" hardware.
3.) Available in a variety of ampere ratings from 60A to 2000A.
Cable Tray / Ladder Tray

INSTALLATION

TRAY DIVIDERS:

DIVIDER INSTRUCTIONS:
1.) Use to create multiple compartments in power tray.
2.) Align divider flush with end of power tray or as desired. Position divider to desired horz. location and clamp in place to rungs. Field install #8 tek screws thru divider and into rungs.
3.) For horz. divider use P/N: XX-X058

DIVIDER INSTRUCTIONS:
1.) Standard divider length 72”. Sold individually.
2.) Includes divider, movable clips, and #8-32x3/8” PHIL. PAN. HD. screws.
3.) Installation instructions:
   • Align divider flush with end of power tray.
   • Position divider to desired horz. Location and clamp in place to rungs.
   • Insert movable divider clips into rung as shown.
   • Align #8-32 hole in clip and mark location on divider.
   • Field drill #8 clearance hole [ Ø 3/16”] thru divider and install pan head screw & flat washer (provided) thru drilled hole in divider and into tapped hole in clip. Fasten until divider is snug to rung. Do not over tighten!
4.) To move, simply loosen clip screws and slide divider section over.

WALL PENETRATION CONNECTOR:
1.) Used to accommodate wall penetrations.
2.) Includes: (1) 20” long base and cover section, cover tek screws and (2) trim plates.
3.) To install: feed sleeve thru wall or ceiling and secure in place (by others). Slide one trim plate over each end and position flush against penetrating surface. Mark and drill 3/8” holes and install 3/8” hardware to secure trim plate to sleeve.

CONDUIT ADAPTOR INSTRUCTIONS:
1.) Use to securely attach a conduit or box hub.
2.) Field mount to tray by drilling Ø 1/4” holes and mount using provided 1/4” hardware.

Manufactured by MonoSystems, Inc.