

# TITAN CABLE MANAGEMENT (TCM)



IMS Engineered Products is

**ISO 9001 Certified**



Designed and  
Manufactured in the USA

**Titan Cable Management Catalog**



**AMCO**<sup>®</sup>  
**ENCLOSURES**  
an IMS Engineered Products Brand

# TCM Overview

## About TCM

IT hardware in today's data centers has dramatically increased power, cooling and cable management requirements in the physical layer. Increased back pressure from trapped heat leads to hotter racks, which in turn slow down system performance. As thermal thresholds are approached, there is an increased potential for equipment failure. On the rack level, power and cable management require specific places in the rack so they do not trap exhaust air which causes an increase in back pressure. As with server racks, network racks need this same efficiency. By using the structured cabling approach, we provide dedicated, organized pathways for cable bundles that support proper bend radiuses and simplify cable management additions, moves or removal over the lifetime of the installation. Proper structured cabling management reduces equipment requirements, power consumption and cooling costs – while reducing the risk of equipment failure. This in turn increases the system's overall performance while lowering your TCO.

Our TCM Rack Series provides high density cabling a safe, efficient space for large bundles of cabling and can be joined together or used alone in smaller network settings.

### Cable Manager with Door

Frame

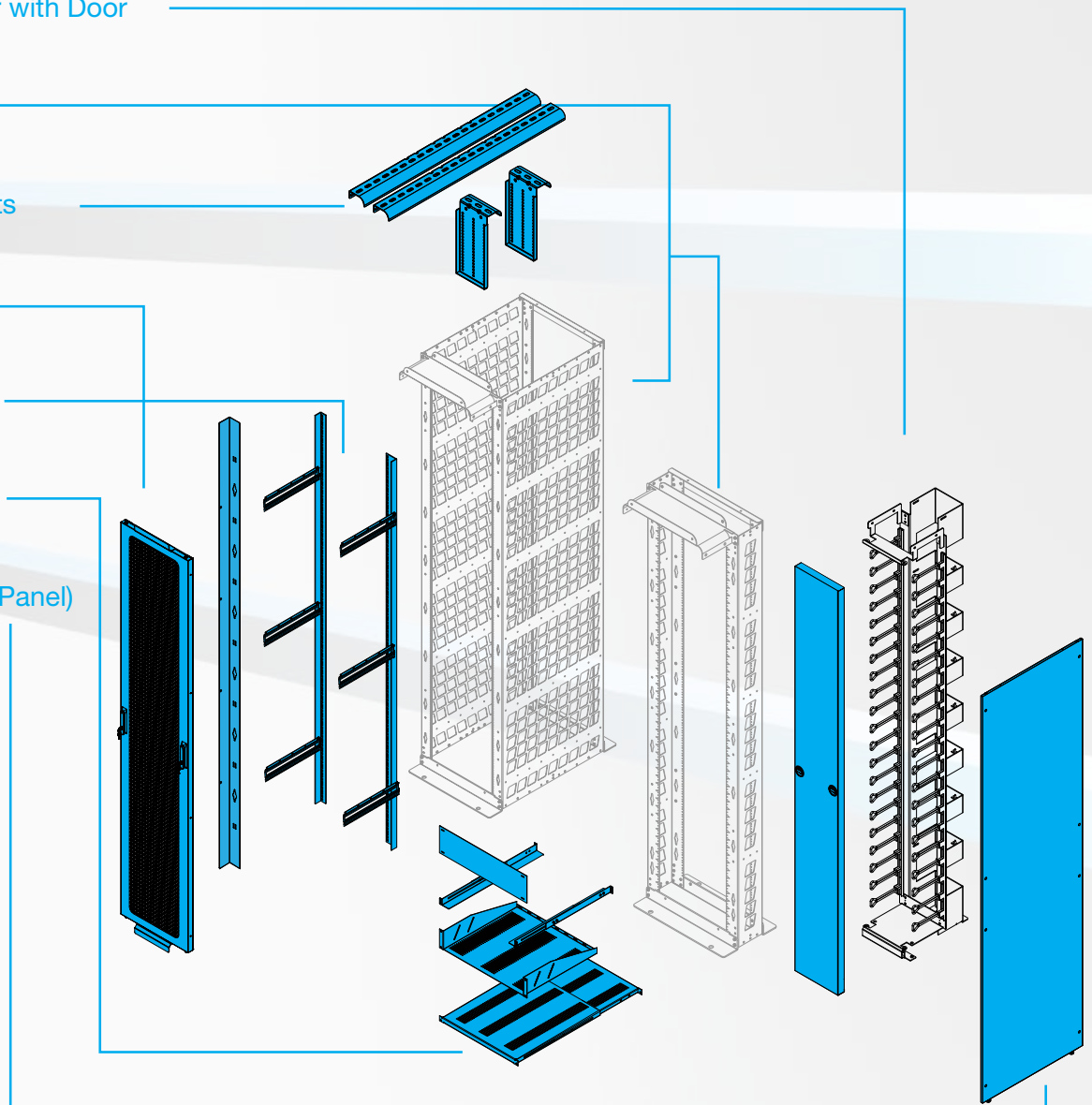
Ladder Brackets

Doors

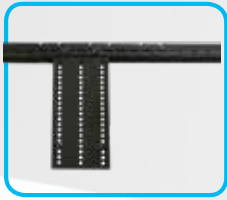
Third Rail Kit

Accessories

End Cap (Side Panel)



# Optional Features



## Ladder Brackets

Ladder rack brackets mount to the top of the TCM Rack and support your overhead cable raceways. Universal Ladder Adapter Brackets help mount overhead cable ladders and larger wire baskets.



## Cable Manager with Door

Constructed of 9ga. wire, these vertical cable managers are available in 51RU and 45RU rack heights, and in 6", 10", 12" and 16" widths. Solid doors have dual hidden latch mechanisms that provide access from either side. 12" and 16" wide are available as custom sizes with additional lead time.



## Third Rail

Third rail option provides one pair of additional vertical channels and six side struts for front to rear equipment mounting in 30"D racks.



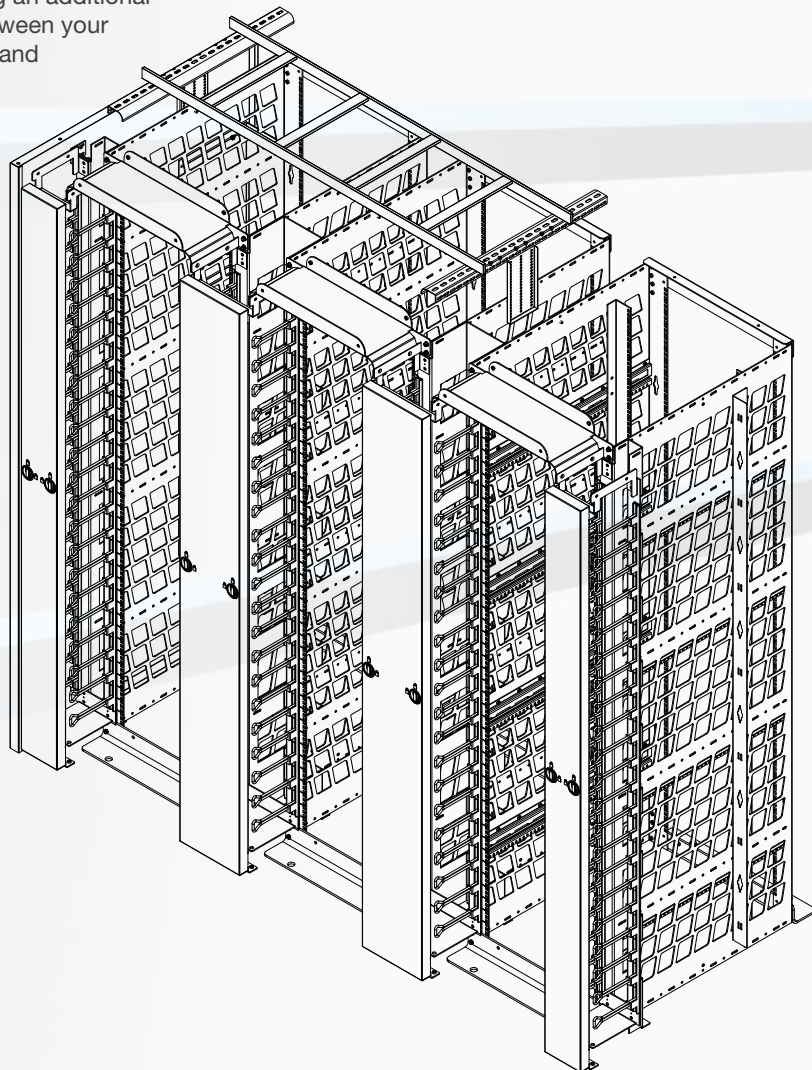
## PDU Bracket

TCM PDU Bracket mounts to the outside rear of the rack for tool-less power strip mounting.



## End Cap/ Side Panels

TCM end caps finish off the ends of rows while providing an additional layer of security between your cable management and outside access.





# TCM Frames



## Titan Cable Management (TCM) Rack

AMCO's TCM rack is a high density, open architecture cable management system that establishes pathways for large volume network cabling. It provides complete accessibility for cabling swaps and add-ons, while providing optimal heat dissipation. This allows your network hardware to run cooler and perform as intended.

### Certified Load Rating:

2,100lbs.

### Rack Heights:

51RU and 45RU

### Rack Width:

19" or 23" equipment mounting

### Rack Depths:

6", 10", 16", and 30"

RU Height	Overall Height	6" Depth	10" Depth	16" Depth	30" Depth
51	94.18"	TCMR-51U-6	TCMR-51U-10	TCMR-51U-16	TCMR-51U-30
45	83.68"	TCMR-45U-6	TCMR-45U-10	TCMR-45U-16	TCMR-45U-30

### How to Specify Color

- For Black add "-116" to the end of the part number. For example: TCMR-51U-6-116
- For White add "-151" to the end of the part number. For example: TCMR-51U-6-151

### Features:

- TCM racks support large cable bundles with dedicated raceways
- Large vent pattern in rack sides help heat dissipation
- Racks are constructed of heavy duty aluminum-creating a light weight rack with a high load rating
- Bottom flange at base of rack can be turned inward for typical 2'x2' computer floor tile mount
- Vented doors with dual handles for LH/RH access to equipment
- #12-24 hardware for 6", 10" and 16" depth racks, M6 hardware for the 30" depth
- Stocked in standard black and white with a durable powder coat finish or available in nine additional standard colors (additional lead time)

## Estimated Cable Fill Capacities for TCM Frame

Part Number	Description	Usable Area (sq. in.)	Recommended Fill					Maximum Cable Fill				
			Cat 5e	Cat 6	Cat 6a	2091SD	2091B	Cat 5e	Cat 6	Cat 6a	2091SD	2091B
			0.200	0.250	0.300	0.265	0.285	0.200	0.250	0.300	0.265	0.285
			40%	40%	40%	40%	40%	60%	60%	60%	60%	60%
TCMR-xxU-30	TITAN CABLE MANAGEMENT RACK 30"D	175.0	1114	713	495	635	549	1671	1070	743	952	823
TCMR-xxU-16	TITAN CABLE MANAGEMENT RACK 16"D	94.0	598	383	266	341	295	898	574	399	511	442
TCMR-xxU-10	TITAN CABLE MANAGEMENT RACK 10"D	60.3	384	245	170	218	189	575	368	256	328	283
TCMR-xxU-6	TITAN CABLE MANAGEMENT RACK 6"D	36.8	234	150	104	133	115	351	225	156	200	173

Note: The fill rates listed are at 40% and 60%.



# Vertical Cable Managers

## Cable Manager with Door

Constructed of .230" dia. steel wire, these vertical cable managers are available in 6" and 10" widths. 12" and 16" wide are available as custom sizes with additional lead time. Solid doors have two handles that provide access to cabling from either side.

- Clean, contemporary design aesthetic with no visible hardware on outside surface
- TCM cable manager doors have a solid face with hidden hinges that feature easy on/off access to cabling
- Comes standard with 7.25" depth metal fingers with 2RU (3.50") or 1RU spacing
- Vertical cable managers are available in two widths – 6" and 10" in either a 51RU or 45RU rack height; 12" and 16" wide are available as custom sizes with additional lead time

RU Height	Overall Height	Finger Spacing	6" Width	10" Width	12" Width	16" Width
51	89.00"	2RU	TCMFD-51U-6	TCMFD-51U-10	TCMFD-51U-12	TCMFD-51U-16
45	78.50"	2RU	TCMFD-45U-6	TCMFD-45U-10	TCMFD-45U-12	TCMFD-45U-16
51	89.00"	1RU	TCMFD-1-51U-6	TCMFD-1-51U-10	TCMFD-1-51U-12	TCMFD-1-51U-16
45	78.50"	1RU	TCMFD-1-45U-6	TCMFD-1-45U-10	TCMFD-1-45U-12	TCMFD-1-45U-16

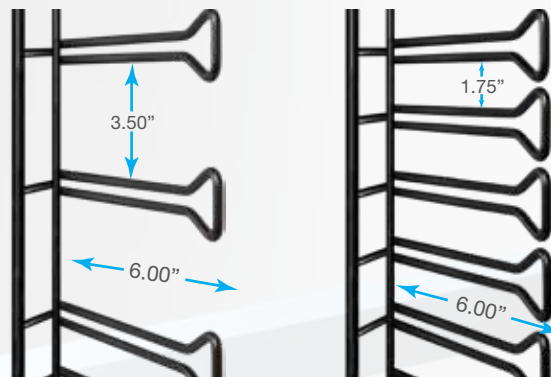
Note: TCMFD-1 part numbers have fingers at every RU

### How to Specify Color

- For Black add "-116" to the end of the part number. For example: TCMFD-51U-6-116
- For White add "-151" to the end of the part number. For example: TCMFD-51U-6-151

## 2RU Finger Wire Cable Managers

Wire Cable Managers Metal fingers have a depth of 7.25" to accommodate larger cable bundles with a usable depth of 6" in 2RU designs for cable-routing requirements. 2RU fingers have a full 3.50" open spacing from finger center to finger center.



2RU Finger Cable Manager

1RU Finger Cable Manager

Cable Manager with Door

## Estimated Cable Fill Capacities for TCM Cable Managers

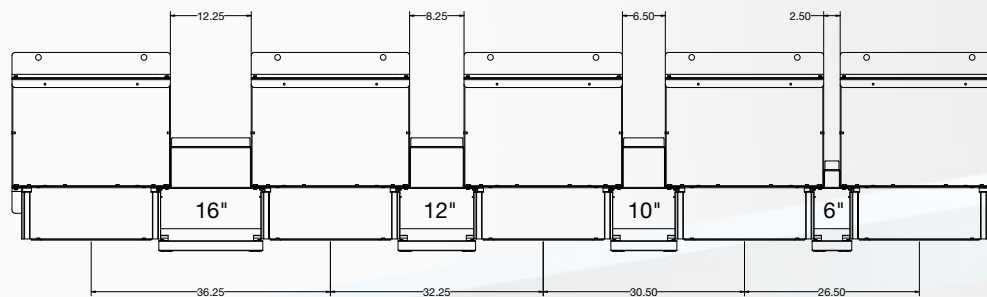
Part Number	Description	Usable Area (sq. in.)	Recommended Fill					Maximum Cable Fill				
			Cat 5e	Cat 6	Cat 6a	2091SD	2091B	Cat 5e	Cat 6	Cat 6a	2091SD	2091B
			0.200	0.250	0.300	0.265	0.285	0.200	0.250	0.300	0.265	0.285
TCMFD-xxU-16	FINGERS WITH DOOR 16"	167.0	1063	680	473	606	524	1595	1021	709	908	785
TCMFD-xxU-12	FINGERS WITH DOOR 12"	118.0	751	481	334	428	370	1127	721	501	642	555
TCMFD-xxU-10	FINGERS WITH DOOR 10"	97.0	618	395	274	352	304	926	593	412	528	456
TCMFD-xxU-6	FINGERS WITH DOOR 6"	41.0	261	167	116	149	129	392	251	174	223	193

Note: The fill rates listed are at 40% and 60%. 12" and 16" wide are available as custom sizes with additional lead time.



# TCM Layout Examples

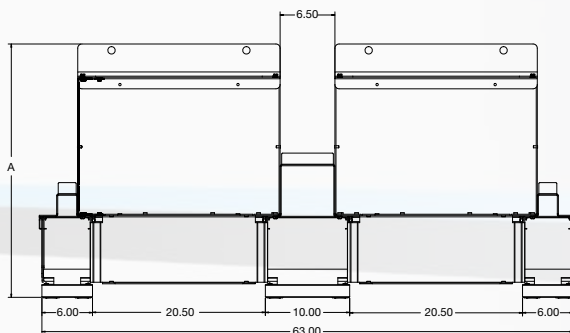
## Vertical Wire Raceway Cable Manager Widths



Note: 12" and 16" Fingers Have Extended Lead Time

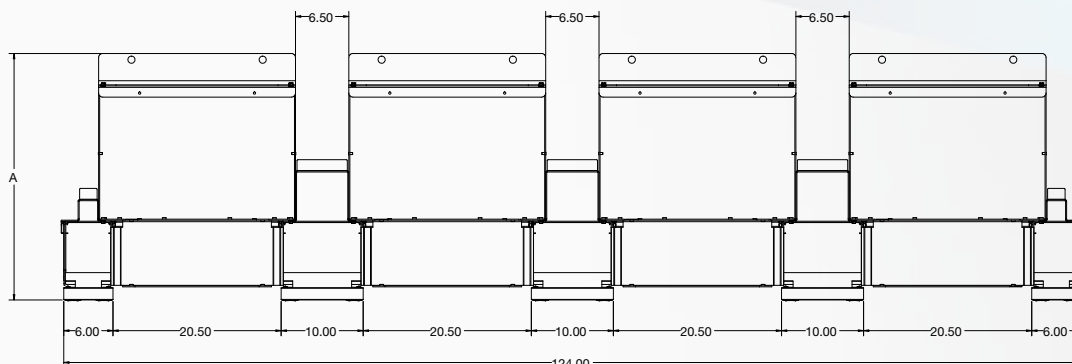
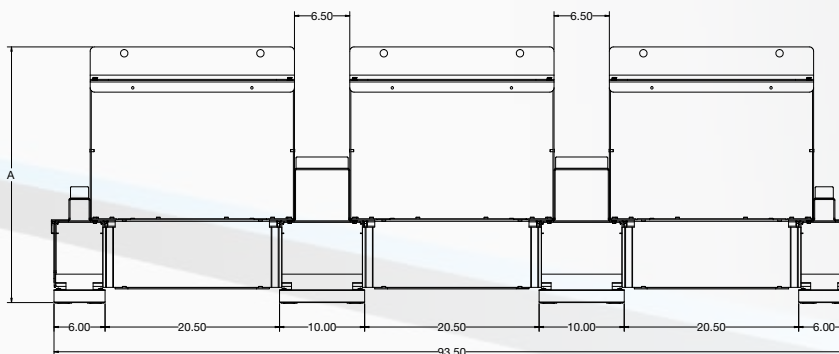
## TCM Layout Examples

Drawings shown below have 6" TCMFD at the ends and 10" TCMFD in between racks.

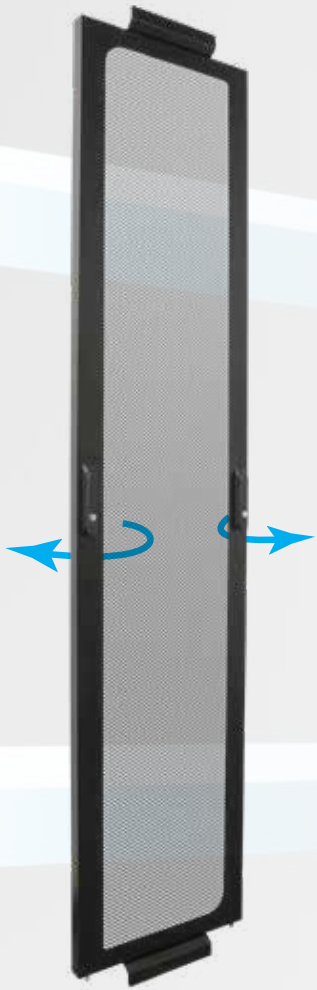


TCMR Configuration	Depth (A)*
TCMR-45U-6	20.294
TCMR-45U-10	24.294
TCMR-45U-16	30.004
TCMR-45U-30	43.794

\*Same for 51U configurations



# Doors



## TCM Doors

TCM doors have a 77% open vent pattern. Doors feature a dual handle design that allows either RH/LH access to your equipment. All doors have swing handles with keyed locks.

- Doors have a dual handle design providing equipment access from either LH/RH side
- Doors include swing handles with keyed locks

RU Height	Overall Height	Width	Vented Door
51	89.00"	19.75"	TCMRD-51U
45	78.50"	19.75"	TCMRD-45U



\* Cable manager is necessary to mount the TCM door.



## End Cap (Side Panel)

TCM end caps provide an additional layer of security between your cable management and outside access.

- Bolt-on design prevents outside access

RU Height	6" Depth	10" Depth	16" Depth	30" Depth
51	TMEC-51U-6	TMEC-51U-10	TMEC-51U-16	TMEC-51U-30
45	TMEC-45U-6	TMEC-45U-10	TMEC-45U-16	TMEC-45U-30



# Accessories



## Third Rail Kit

Third rails are available in 51RU and 45RU rack heights and provide additional depth location support for shallower equipment mounting in 30" deep racks.

- Rails are M6 style
- Set consists of two mounting rails and six side struts for front-to-rear equipment adjustments

RU Height	30" Depth
51	TCM-51U-TRK
45	TCM-45U-TRK



## PDU Bracket

TCM PDU Bracket mounts to the outside rear of the rack for tool-less power strip mounting.

RU Height	Part Number
51	TCM-PDU-51U
45	TCM-PDU-45U



## Chassis Guides

Chassis guides have a 2"H x 2"W profile and are available for the 16" and 30" TCM rack depths. Chassis guides mount to the front and rear mounting channels. The flanges support mounted equipment in a minimal profile and can support loads up to 125 lbs.

Depth	Part Number
16"	TCMCG16
30"	TCMCG30



## Ladder Brackets

Ladder brackets mount to the top of the TCM rack and support your wire baskets, ladder racks and other overhead cable management systems.

Part Number
TCM-ULB



## Horizontal Cable Managers

- 2RU panel height (3.50")
- 10 ga. steel construction
- Available in 4" and 7" depths

Part Number	A	B
HCM4	4.00	3.47"
HCM7	7.00	3.47"



# Accessories



Heavy Duty Solid



Heavy Duty Vented

## Heavy Duty Shelves

Heavy duty shelves are 1.75"H (1RU), fit 19" width panel openings, and have depths of 25" up to 40". They are available in solid or vented models and are load-rated to support up to 300 lbs. Shelves mount to the front and rear of the mounting channels. Standard finish is black powder coat.

HD Solid	Depth	Load Rating
UA-SHAS-2540	25" - 40"	300 lbs.

\*Note: UA-SHAS-2540 can only be used with 30" deep frame

HD Vented	Depth	Load Rating
UA-SHAV-2540	25" - 40"	300 lbs.

\*Note: UA-SHAV-2540 can only be used with 30" deep frame



## Light Duty Shelf

UA shelves are light duty and mount to the front of the mounting channel. The shelves are 19" wide, 16" deep and available in the following heights: 1RU, 2RU, 3RU, 4RU and 5RU. Standard finish is black powder coat.

Part Number	Load Rating
UA-SH1	15 lb.
UA-SH2	50 lb.
UA-SH3	60 lb.
UA-SH4	70 lb.
UA-SH5	80 lb.



## Drawer with Lock

UA drawers are perfect for applications that require a lockable, light-weight storage solution. They are 19" wide, 18" deep, feature a keyed lock and mount to the front of the mounting channels. Drawers are available in heights of 2RU, 3RU and 4RU. Standard finish is black powder coat.

Part Number	Load Rating
UA-DR2-LK	30 lb.
UA-DR3-LK	40 lb.
UA-DR4-LK	50 lb.

## Blanking Panels



### Steel Blanking Panels

- Tool-less
- Cover empty spaces in panel openings
- Optimize air circulation
- Material: 16ga. CRS

Part Number	Width (A)	Height (B)
BPT24-1U	19.23"	1.75"
BPT24-2U	19.23"	3.5"
BPT24-3U	19.23"	5.25"
BPT24-4U	19.23"	7"
BPT24-8U	19.23"	14"



### Co-Poly Blanking Panels

- Ten 6 RU sheet
- Square hole only
- No tools or hardware required
- Use as complete sheet or break apart to size needed

Part Number	Color
BP-6U-P-10	Black
BP-6U-P-WHITE-10	White

## Hardware Kits



#12-24 Tapped Screw  
(Part Number: HK-0014)

- Pan head screws for 6", 10" and 16" depth racks
- HK-0014 (25 ea. of #12-24 thread black screws)

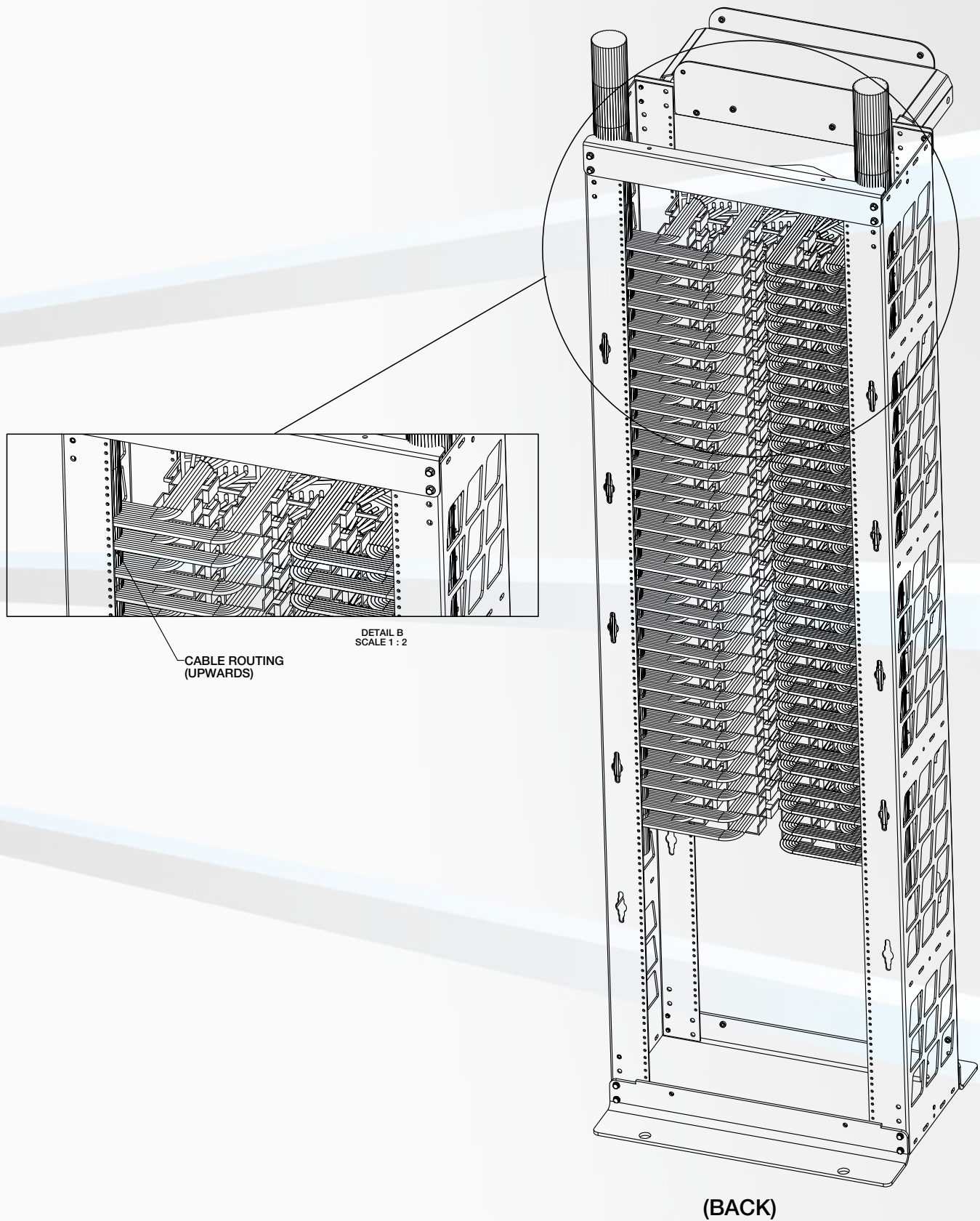


M6  
(Part Number: HKM6-25, HKM6-50)

- square hole for 30" depth racks
- HKM6-25 (25 ea. of M6 nuts and screws)
- HKM6-50 (50 ea. of M6 nuts and screws)



# TCM Cable Routing Reference



# Titan DT and Data Center Solutions



## Titan DT Network and Server Rack

Titan DT frames provide exceptional support for your IT infrastructure. Our fully welded frames have the highest load ratings in the industry at 5,400 LBS. The Titan DT is extremely flexible, featuring an extensive selection of rack heights, widths, depths and color choices that target your specific design requirements. Custom rack designs are available. UL Listed.



## Hot Aisle and Cold Aisle Containment

AMCO's Hot Aisle and Cold Aisle Containment System prevents air mixing and establishes separation of hot exhausted air and cold supplied air. This results in efficiently cooling the equipment and not the room. With these air separation paths in place, the system can deliver a consistent inlet temperature within ASHRAE A1 recommended ranges, providing dramatic savings in capital and operational costs year after year.



## Warranty & Policies

### A. Choice of Method of Shipment

Unless otherwise specified, AMCO Enclosures are shipped as individual modules per ISTA packaging certification with single width components assembled on the frame. Upon request, console arrangements will be completely assembled at the factory and shipped like furniture, via van, at no additional charge for assembly. Console arrangements may also be crated for shipment. Crating charges will be quoted for each such order, as console arrangements vary.

### B. Design Changes

To allow continued progress, improvement, and adaptability in an advancing industry, AMCO Enclosures reserves the right to make product changes as deemed necessary.

### C. Price Discounts

Purchase orders cannot be combined for discount advantages.

### D. Proprietary Rights

The catalog and drawings contain information deemed proprietary to AMCO Enclosures and are to be used only for the purposes for which they are submitted and, further, shall not be copied in whole or in part without the prior written consent of AMCO Enclosures.

### E. Cancellation & Return

Cancellation and return charges begin at 40% with a minimum of \$50.00, depending on the nature of the order and the extent to which it has been processed. All returns have a 30-day, upon receipt, time limit. Returns must be freight prepaid and not made without the prior written approval of AMCO Enclosures.

### F. Terms

All quotations, order confirmations, published prices, and discounts based on delivery F.O.B. AMCO Enclosures, 1 Innovation Drive, Des Plaines, IL freight collect. Invoice payment terms-net 30 days.

### G. Sales Representation

Experienced factory sales representatives in all principle cities of the U.S.A., Canada and Mexico. Ask for sales representative listing. AMCO Enclosures equipment is thoroughly inspected prior to shipment. No returns of damaged equipment will be accepted without prior written approval of AMCO Enclosures.

IMS Engineered Products is  
**ISO9001 Certified**



Designed and  
Manufactured in the USA

### Limited Warranty

AMCO Enclosures will repair or replace enclosures, accessories, and components manufactured by AMCO Enclosures that are proven to be defective in material or factory workmanship under normal use during the Period of this Warranty.

### Warranty Period

Ten years from date of purchase. (Non-transferable)

### This warranty does not cover:

- Failure in whole or part resulting from misuse, alteration, excessive temperature, excessive humidity, corrosive environment, or lack of maintenance.
- Any materials or components used or manufactured pursuant to the purchaser's specifications.
- Items ordered in error or not required.

### Power/Accessories

Warranty as specified by manufacturer.

### Warranty Repair

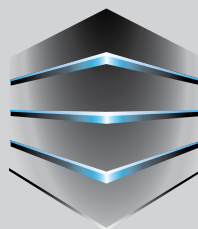
Purchaser shall obtain controlled authorization number before returning any items alleged to be defective to AMCO Enclosures.

### Inspection

AMCO Enclosures shall have the right to inspect any and all allegedly defective items on-site at purchaser's convenience.

### Disclaimer of Consequential Damages and Limitations of Implied Warranty

AMCO Enclosures disclaims any responsibility for loss of time or use of parts or equipment wherein AMCO Enclosures, components, or accessories are used, transportation or any other incidental or consequential damage; and any implied Warranties including the implied Warranty of merchantability and fitness for intended use are limited to the duration of this written warranty.



**AMCO**<sup>®</sup>  
**ENCLOSURES**  
an IMS Engineered Products Brand

1 Innovation Drive  
Des Plaines, IL 60016  
www.amcoenclosures.com  
847-391-8100