



Category 6A UTP System

Better Technology Through Innovation



Introduction

At the centre of the HellermannTyton Category 6A UTP solution is the GST jack. A compact high performance connector which, when combined with HellermannTyton UTP Category 6A cables and patch cords, delivers superior Category 6A performance. The solution is completed by a comprehensive range of modular flat and angled panels and a full set of plastic mounting hardware.

Category 6A (Class EA) supports application protocols demanding higher bandwidth than can be supported with existing Category 6 (Class E) or Category 5e (Class D) systems. It has specifically been designed to support 10 Gigabit Ethernet (10GBase-T).

The GST jack has standard keystone mounting dimensions and therefore can be loaded into any standard faceplate, this means that the jack can be used in faceplates suited to local requirements.

The 12 colour options available enable identification and demarcation of different services such as voice, data, CCTV, etc. They can also be used to define different network paths, access paths or levels within the network (eg: in government or military installations), in accordance with TIA 606A.

GST C6A Jack

The GST jack is a small modular UTP jack with industry standard keystone mounting dimensions that can be used in standard keystone faceplates and modular panels.

It has a narrow width enabling 24 jacks to be mounted in a single 1U 19" panel. Its shallow depth means it is suitable for mounting in under floor or in-floor boxes, back boxes and trunking.

Central to the design of the Cat 6A GST jack is the performance optimised PCB and contact set which provides the necessary inherent performance to deliver a component compliant solution to ANSI/TIA-568-C.2-2009. The patented contact set is designed to cancel Near End Cross Talk (NEXT) at the point of insertion by providing capacitive compensation through a flexible PCB mounted onto the contact set.

System Overview

The Category 6A UTP solution from HellermannTyton provides a full end to end system comprising of:

- GST Category 6A UTP jack
- Single action termination tool
- Full range of modular patch panels
- Category 6A UTP cable
- Category 6A UTP patch leads
- Plastic mounting hardware



The GST jack uses a wire-manifold with an integral lid which manages the twisted pairs and provides strain relief for the cable. This manifold requires the use of the specially designed single action crop and crimp tool (see Termination Tool below) making it quicker, easier and safer than traditional termination methods.

The design of the manifold and termination tool ensures a highly repeatable and controlled termination which contributes to the consistent electrical performance of the jack.



Manifold with colour coded wiring guide



Contact set mounted PCB for optimised Cat 6A performance



Performance standard moulding on front of jack



Key Features

- Component compliant performance to ANSI/TIA-568-C.2-2009 Category 6A standard
- Independently performance verified by ETL
- Industry standard keystone dimensions and interface
- 24, 48 or 72 jacks in 1U or 2U flat and angled modular panels (see page 4)
- Short length jack allowing for larger bend radius of Cat 6A UTP cables
- Single action crop and crimp termination tool – high speed and ease of termination
- Wiring manifold manages the cable pairs, maximising performance and providing integral strain relief
- The wiring manifold incorporates both TIA 568A and 568B wiring schemes
- Available in 12 standard colours; White, Black, Blue, Brown, Office White, Green, Grey, Ivory, Orange, Red, Violet and Yellow
- Performance identifying icon (CAT 6A) moulded into the front face of the jack
- UL Compliant - each jack is moulded with the UL logo as confirmation of compliance

Termination Tool

The patented GST termination tool combines cropping the conductor tails and termination into the IDC in a swift single action. The tool is designed to be comfortable in the hand with a narrow reach and smooth action, alleviating strain when terminating multiple jacks.

The tool is designed to terminate both Category 6A UTP GST and Deca¹⁰ FTP jacks through the use of an interchangeable head. The heads are colour coded for ease of identification. The blades used to crop the conductors will perform in excess of 10,000 terminations before the head needs replacing. The tool is rugged and robust and will achieve in excess of 30,000 terminations.



Key Features

- Single action crop and crimp – fast consistent termination
- Ergonomic design
- Interchangeable colour coded heads enabling a single tool to be used for the GST UTP and Deca¹⁰ FTP modular jacks
- Blades will perform in excess of 10,000 terminations



Interchangeable FTP and UTP termination heads

Modular Panels

A full range of 8 modular panels complements the Category 6A GST jack product set. The panel range comprises flat and angled panels in 1U 24, 1U 48, 2U 48 or 2U 72 ports. All panels have a labelling field for each individual jack and are supplied unloaded.



Key Features

- Robust rigid metalwork
- Industry standard keystone apertures
- Jack colours and icons clearly visible
- Large, clear, screen printed label fields
- Angled panels include a central panel label field
- Supplied pre-loaded with Rack Snaps, or supplied with cage nuts or 12/24 screws as standard



1U Angled Panel with Rear Cable Manager and Low Profile Panel Cover

Flat Modular Patch Panels

Flat panels remain the most common panels in use today. The HellermannTyton modular panels have large labelling fields, identifying each port and a screen printed area which can be used for writing on port identification or for applying labels over as required.

1U 24 port flat modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24.
1U 48 port flat modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24 for top row and 25-48 for bottom row.
2U 48 port flat modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24 for top row and 25-48 for bottom row.
2U 72 port flat modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24 for top row, 25-48 for middle row and 49-72 for bottom row.

Angled Modular Patch Panels

Angled panels save valuable U space by directing patch leads to the side into the vertical cable management area of the rack or patching frame. This means that front patch lead cable management is not required, increasing rack capacity by up to 50%.

The angled panels are available with a range of optional accessories including rear cable management bars, blanking panels and panel covers which are designed to maintain airflow within the racks or cabinets, ideal for the data centre environment.

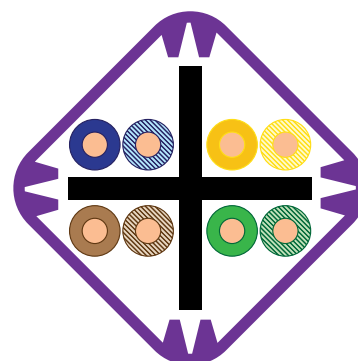
1U 24 port angled modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24.
1U 48 port angled modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24 for top row and 25-48 for bottom row.
2U 48 port angled modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24 for top row and 25-48 for bottom row.
2U 72 port angled modular panel	Rack Snap, cage nut or screw rack fixing options. Matt black with screen printed port identification area and numbers 1 to 24 for top row, 25-48 for middle row and 49-72 for bottom row.



Cable

HellermannTyton Category 6A UTP cable is a U/UTP solid cable with a violet LSOH sheath. The cable ensures optimal performance in both the link and channel up to 90m & 100m respectively when installed with the Category 6A GST Jacks.

Parameter	Details	
Delivery method	305m on an open drum	
Cable diameter	9.0mm	
Bend radius	120mm during installation	32mm installed (static)
	Note installed bend diameter is 65mm for 180° transitions	
Temperature rating	Operation -20c to +60c	Storage -20c to + 80c
Conductor diameter	23AWG	
NVP	67%	
Performance approvals	ANSI/TIA-568-C.2-2009	ISO11801



The Category 6A UTP cable ensures optimal performance as a key component of the Category 6A UTP System from HellermannTyton

Patch Leads

HellermannTyton patch leads are required in order to provide a warranted standards compliant channel. All Category 6A UTP patch leads are designed to give high performance levels and are individually tested and bagged with test results supplied.

The diameter and flexibility of the cable ensures ease of use and the highest possible density within the patching area.

HellermannTyton Category 6A UTP patch leads are available in 5 standard lengths (1m, 2m, 3m, 5m, and 10m). Other lengths are available on request. All patch leads are constructed using a LSOH sheath and are supplied in grey as standard.

Key Features

- High Category 6A performance in the channel
- Small diameter cable and low profile UTP RJ45 plugs for high density patching
- Flexible LSOH cable



Plastic Mounting Hardware

Where jacks are located in the work area, the most common location for the network ports is likely to be in wall containment (such as trunking) or in raised floors using sub floor or pod boxes. In these applications, the use of an angled mounting module will help with the larger bend radii required of the Category 6A UTP cable.

HellermannTyton supply angled mounting modules in 3 different sizes: Alpha Snap, Easy Clip (also known as Euro Mod) and 6C. All three angled modules are spring shuttered and will fit into the range of flat and bevelled face plates available from HellermannTyton.

Key Features

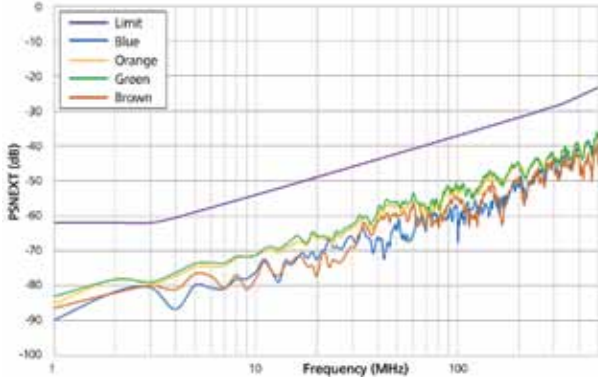
- Helps maintain required cable bend radii
- Available in 3 different size options
- Floor Box and Pod Compatible



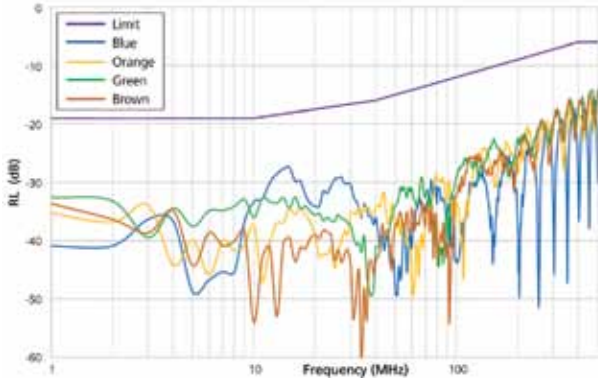
Performance

Channel Performance

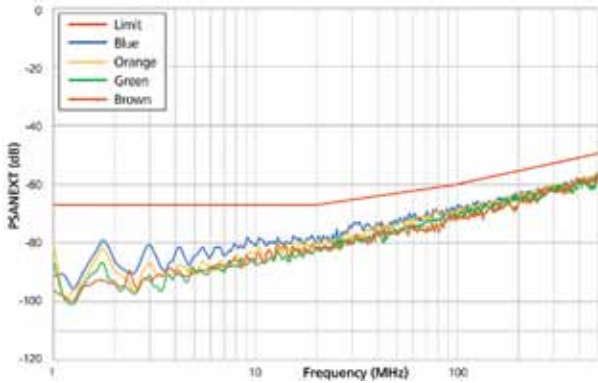
Channel - PowerSum Near End Cross Talk



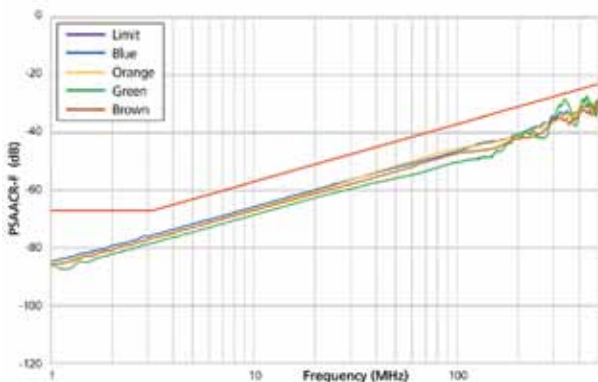
Channel - Return Loss



Channel - PowerSum Alien Near End Cross Talk

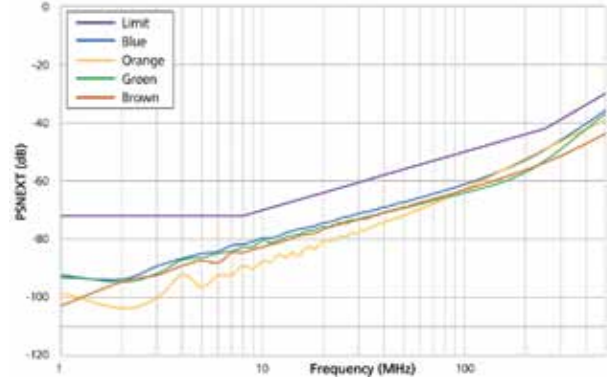


Channel - PowerSum Alien ACR-F

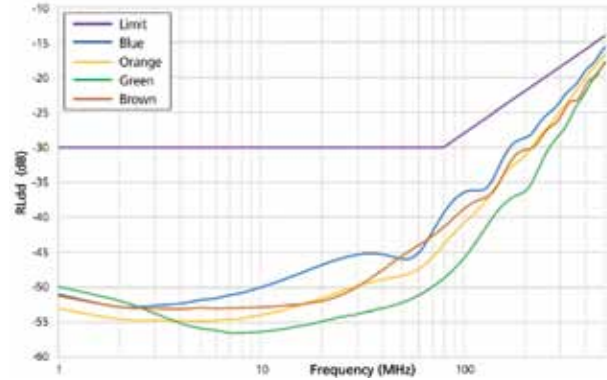


Connecting Hardware Performance

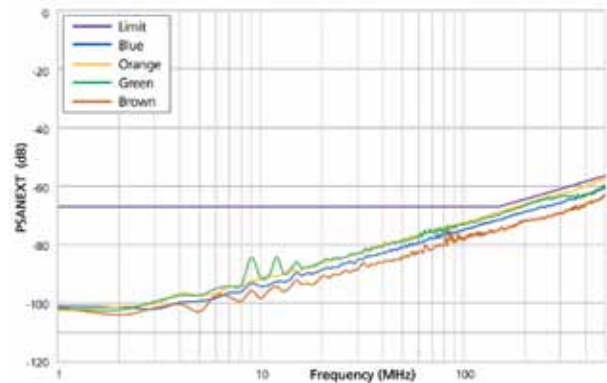
Connector - PowerSum Near End Cross Talk



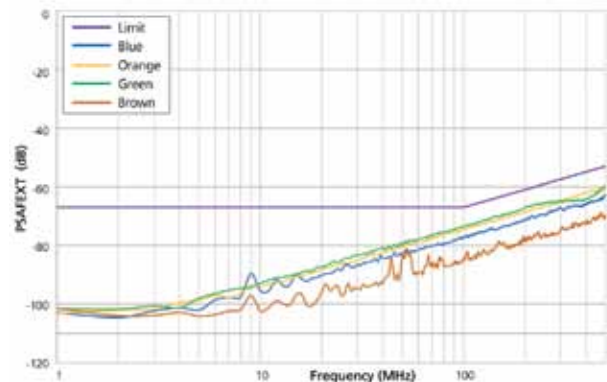
Connector - Return Loss



Connector - PowerSum Alien Near End Cross Talk



Connector - PowerSum Alien Far End Cross Talk



Channel data is shown for a 2 connector channel with a 90m link and 2m patch cords. Limit lines are shown to ANSI/TIA-568-C.2-2009.

Ordering and Part Numbers

GST Jacks - Single

Part-No.	UNS No.	Description	Performance	Colour
GSTJ6AU-BK	852-25103	GST JACK C6A UTP BLACK	Cat 6A	BLACK
GSTJ6AU-BL	852-25104	GST JACK C6A UTP BLUE	Cat 6A	BLUE
GSTJ6AU-BR	852-25105	GST JACK C6A UTP BROWN	Cat 6A	BROWN
GSTJ6AU-FW	852-25106	GST JACK C6A UTP OFFICE WHITE	Cat 6A	OFFICE WHITE
GSTJ6AU-GN	852-25107	GST JACK C6A UTP GREEN	Cat 6A	GREEN
GSTJ6AU-GY	852-25108	GST JACK C6A UTP GREY	Cat 6A	GREY
GSTJ6AU-IV	852-25109	GST JACK C6A UTP IVORY	Cat 6A	IVORY
GSTJ6AU-OR	852-25110	GST JACK C6A UTP ORANGE	Cat 6A	ORANGE
GSTJ6AU-RD	852-25111	GST JACK C6A UTP RED	Cat 6A	RED
GSTJ6AU-VI	852-25112	GST JACK C6A UTP VIOLET	Cat 6A	VIOLET
GSTJ6AU-WH	852-25113	GST JACK C6A UTP WHITE	Cat 6A	WHITE
GSTJ6AU-YL	852-25114	GST JACK C6A UTP YELLOW	Cat 6A	YELLOW

Note: Standard single pack keystone are supplied in multiples of 50 single bags in a box.

GST Jacks - Contractor Packs

Part-No.	UNS No.	Description	Performance	Colour
GSTJ6AUB-BK	852-25139	GST JACK X50 C6A UTP BLACK	Cat 6A	BLACK
GSTJ6AUB-BL	852-25140	GST JACK X50 C6A UTP BLUE	Cat 6A	BLUE
GSTJ6AUB-FW	852-25142	GST JACK X50 C6A UTP OFFICE WHITE	Cat 6A	OFFICE WHITE
GSTJ6AUB-OR	852-25146	GST JACK X50 C6A UTP ORANGE	Cat 6A	ORANGE
GSTJ6AUB-WH	852-25149	GST JACK X50 C6A UTP WHITE	Cat 6A	WHITE

Termination Tool

Part-No.	UNS No.	Description
HT-TTO2U	854-40267	GST UTP Termination Tool
HT-TTO2JU	854-40271	Replacement UTP Jaws for the GST Termination Tool*

*FTP replacement jaws also available.

Bulk Cable

Part-No.	UNS No.	Description
CA169	851-05065	Cat 6A, Solid LSOH UTP Cable, 305m on drum, Violet

Patch Leads

Part-No.	UNS No.	Description
RJ45C6AUGY-1.0M	851-30062	Patch Lead CAT6A UTP LSOH Sleeve Grey 1.0m
RJ45C6AUGY-2.0M	851-30063	Patch Lead CAT6A UTP LSOH Sleeve Grey 2.0m
RJ45C6AUGY-3.0M	851-30064	Patch Lead CAT6A UTP LSOH Sleeve Grey 3.0m
RJ45C6AUGY-5.0M	851-30065	Patch Lead CAT6A UTP LSOH Sleeve Grey 5.0m
RJ45C6AUGY-10.0M	851-30066	Patch Lead CAT6A UTP LSOH Sleeve Grey 10.0m

Other lengths and colours are available upon request.

Modular Panels

Part-No.	UNS No.	Description	Angled/ Flat	Fixings	Height	No. of ports
GSTPP-1U24RS	853-50030	GST patch panel unloaded, 1U 24 port with Rack Snap fixings	Flat	Rack Snap	1U	24
GSTPP-1U48RS	853-50031	GST patch panel unloaded, 1U 48 port with Rack Snap fixings	Flat	Rack Snap	1U	48
GSTPP-2U48RS	853-50032	GST patch panel unloaded, 2U 48 port with Rack Snap fixings	Flat	Rack Snap	2U	48
GSTPP-2U72RS	853-50068	GST patch panel unloaded, 2U 72 port with Rack Snap fixings	Flat	Rack Snap	2U	72
GSTAPP-1U24RS	853-50033	GST angled patch panel unloaded, 1U 24 port with Rack Snap fixings	Angled	Rack Snap	1U	24
GSTAPP-1U48RS	853-50034	GST angled patch panel unloaded, 1U 48 port with Rack Snap fixings	Angled	Rack Snap	1U	48
GSTAPP-2U48RS	853-50035	GST angled patch panel unloaded, 2U 48 port with Rack Snap fixings	Angled	Rack Snap	2U	48
GSTAPP-2U72RS	853-50056	GST angled patch panel unloaded, 2U 72 port with Rack Snap fixings	Angled	Rack Snap	2U	72

Modular Panels cont'd

Part-No.	UNS No.	Description	Angled/ Flat	Fixings	Height	No. of ports
GSTPP-1U24CN	853-50036	GST patch panel unloaded, 1U 24 port with cage nut fixings	Flat	Cage nut	1U	24
GSTPP-1U48CN	853-50037	GST patch panel unloaded, 1U 48 port with cage nut fixings	Flat	Cage nut	1U	48
GSTPP-2U48CN	853-50038	GST patch panel unloaded, 2U 48 port with cage nut fixings	Flat	Cage nut	2U	48
GSTPP-2U72CN	853-50070	GST patch panel unloaded, 2U 72 port with cage nut fixings	Flat	Cage nut	2U	72
GSTAPP-1U24CN	853-50039	GST angled patch panel unloaded, 1U 24 port with cage nut fixings	Angled	Cage nut	1U	24
GSTAPP-1U48CN	853-50040	GST angled patch panel unloaded, 1U 48 port with cage nut fixings	Angled	Cage nut	1U	48
GSTAPP-2U48CN	853-50041	GST angled patch panel unloaded, 2U 48 port with cage nut fixings	Angled	Cage nut	2U	48
GSTAPP-2U72CN	853-50058	GST angled patch panel unloaded, 2U 72 port with cage nut fixings	Angled	Cage nut	2U	72
GSTPP-1U24SC	853-50048	GST patch panel unloaded, 1U 24 port with screw fixings	Flat	12/24 screws	1U	24
GSTPP-1U48SC	853-50049	GST patch panel unloaded, 1U 48 port with screw fixings	Flat	12/24 screws	1U	48
GSTPP-2U48SC	853-50050	GST patch panel unloaded, 2U 48 port with screw fixings	Flat	12/24 screws	2U	48
GSTPP-2U72SC	853-50069	GST patch panel unloaded, 2U 72 port with screw fixings	Flat	12/24 screws	2U	72
GSTAPP-1U24SC	853-50051	GST angled patch panel unloaded, 1U 24 port with screw fixings	Angled	12/24 screws	1U	24
GSTAPP-1U48SC	853-50052	GST angled patch panel unloaded, 1U 48 port with screw fixings	Angled	12/24 screws	1U	48
GSTAPP-2U48SC	853-50053	GST angled patch panel unloaded, 2U 48 port with screw fixings	Angled	12/24 screws	2U	48
GSTAPP-2U72SC	853-50057	GST angled patch panel unloaded, 2U 72 port with screw fixings	Angled	12/24 screws	2U	72

Plastic Jack Mounting Modules

Part-No.	UNS No.	Description
AlphaSnap		
ASFPANG/WH	854-35228	Alpha Snap/GigaBand Angled Face Plate Module. Suitable for use with the AlphaSnap single and double gang face plates. These have a 2mm mounting shoulder. Bevelled face plates are recommended
Easy Clip		
EC-ANG-PMO/WH	854-39399	(10Pk) Easy Clip Angled Plastic Module for Keystone. Suitable for use with the Easy Clip plastic single and double gang face plates. Bevelled face plates are recommended
6C floor box		
6C-ANG-PMO/WH	852-30047	(10Pk) 6C Angled Plastic Module for Keystone. 6C is a 38.5x25mm size, commonly used in the UK in floor boxes and metal sub floor boxes. It has a 2mm mounting shoulder for mounting into metal plates. Not suitable for face plate fixing
Continental		
LG-ADP	852-20025	Continental adaptor module for Keystone. The dual keystone housing fits into 45x45mm aperture face plates such as used in mainland Europe

Accessories

Part-No.	UNS No.	Description	Fixings	Height
APARCM1U	854-05154	Angled panel rear cable manager, a single bar which can be fitted to 1U or 2U panels giving a single row for strain relief of link cables	N/A	N/A
APARCM2U	854-05155	Angled panel rear cable manager, a double bar that can be fitted to 2U panels giving two row for strain relief of link cables	N/A	N/A
APA-COVER1URS	854-40272	Angled patch panel cover, for top or bottom installation with integrated 1U blanking panel; with Rack Snap fixings	Rack Snap	1U
APA-COVER1UCN	854-40273	Angled patch panel cover, for top or bottom installation with integrated 1U blanking panel; with cage nut fixings	Cage nut	1U
APA-COVER1USC	854-40274	Angled patch panel cover, for top or bottom installation with integrated 1U blanking panel; with 12/24 screw fixings	12/24 screws	1U
APA-COVERLP	854-40275	Angled panel cover, low profile, for top or bottom installation, no fixings required	N/A	N/A
APABP1URS	854-10046	Angled panel blank unit, matching angle to all HellermannTyton angled panels; with Rack Snap fixings	Rack Snap	1U
APABP2URS	854-10049	Angled panel blank unit, matching angle to all HellermannTyton angled panels; with Rack Snap fixings	Rack Snap	2U
APABP1UCN	854-10047	Angled panel blank unit, matching angle to all HellermannTyton angled panels; with cage nut fixings	Cage nut	1U
APABP2UCN	854-10050	Angled panel blank unit, matching angle to all HellermannTyton angled panels; with cage nut fixings	Cage nut	2U
APABP1USC	854-10048	Angled panel blank unit, matching angle to all HellermannTyton angled panels; with 12/24 screw fixings	12/24 screws	1U
APABP2USC	854-10051	Angled panel blank unit, matching angle to all HellermannTyton angled panels; with 12/24 screw fixings	12/24 screws	2U

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