

A photograph of a server room. The room is dimly lit with a blue hue. In the foreground and middle ground, there are several rows of server racks. Each rack is filled with server components, and many of them have small, colorful indicator lights (red, green, blue) that are illuminated. The racks are arranged in a perspective that leads towards a white door at the end of the aisle. Above the door, there is a green exit sign with a white arrow pointing to the right. The floor is a light-colored, reflective material. The ceiling has some recessed lighting fixtures.

**BELDEN**

# Belden PatchPro<sup>®</sup>

Real-time Network Security and Transparency  
with Belden's PatchPro<sup>®</sup> Intelligent Patching

### Belden PatchPro®

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**The latest Patching Solution Belden PatchPro<sup>®</sup> delivers transparency and increased network security for applications that require maximum network reliability and operation uptime.**

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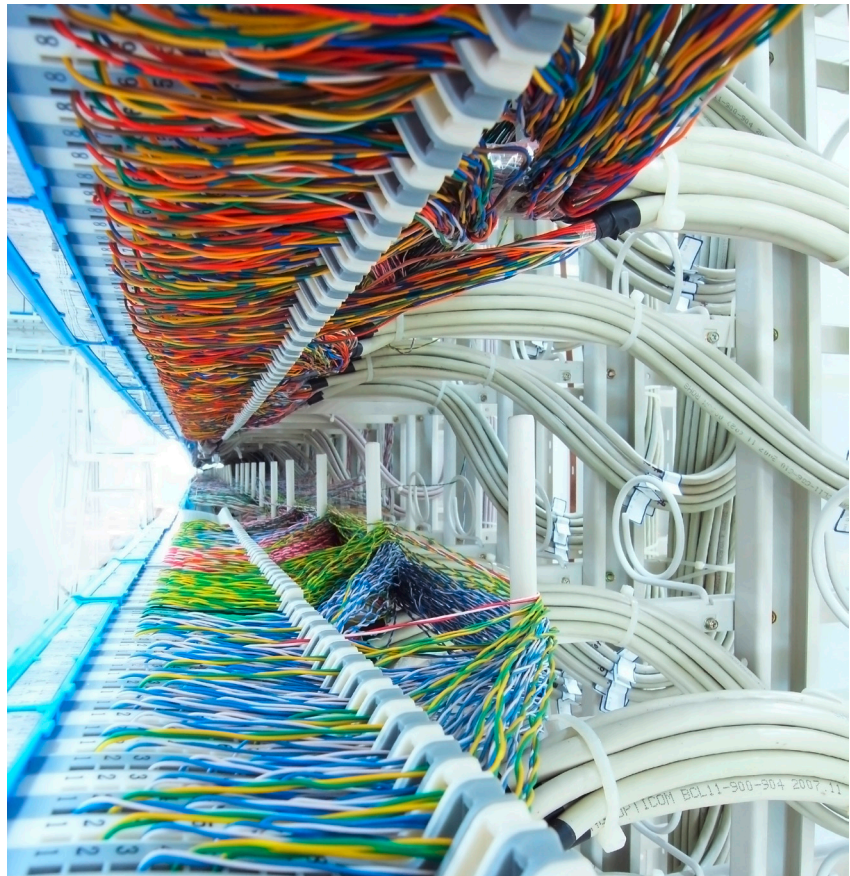
### Real-Time Network Security and Transparency

Communication – the exchange of data and information – is one of today’s most powerful economic factors, and can make or break an organization. Demand for bandwidth and reliable service is continuing to increase, along with requirements for better IT security.

According to analyst Gartner, nearly one-third of data center service outages are due to cabling or connectivity errors. To maintain guaranteed business continuity, accurate documentation of all IT assets – from the planning phase to day-to-day operations – is essential.

To meet growing data center requirements, Belden introduces a hardware and software portfolio for networks that call for high security, maximum reliability and constant uptime: the Belden PatchPro® Intelligent Patching Solution.

Building on state-of-the-art technology, PatchPro® patching products can be combined to provide a complete, cost-effective intelligent patching solution that ensures increased network security, reliability and uptime.





## How PatchPro® Works

Belden PatchPro® offers a complete intelligent ready physical layer management system that uses RFID (radio frequency identification) technology for wireless identification of individual patch cords and real-time monitoring of unintended physical changes in network infrastructure.

Smart patch cords are equipped with an RFID chip containing idiosyncratic identification information (name, standard, manufacturer, etc.), which is recognized by the panel and automatically fed into the software for seamless real-time database documentation. The RFID technology does not alter data center density or affect patch cord flexibility or reliability.

Network infrastructure changes are automatically detected and transmitted to the software platform, facilitating immediate action. Network managers also receive email and/or text alerts about unwanted changes.

At the rack level, unwanted changes are signaled in three ways:

1. By a red light on top of the rack
2. As clear text in the Belden PatchPro® Network Manager display
3. With LED signaling at the patch-panel level

## Where PatchPro® Works

PatchPro® is a key component of full-distribution network management systems in organizations that require reliability and operational uptime:

- Airports
- Data centers
- Educational campuses
- Financial institutions
- Government agencies
- Healthcare organizations



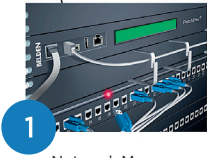
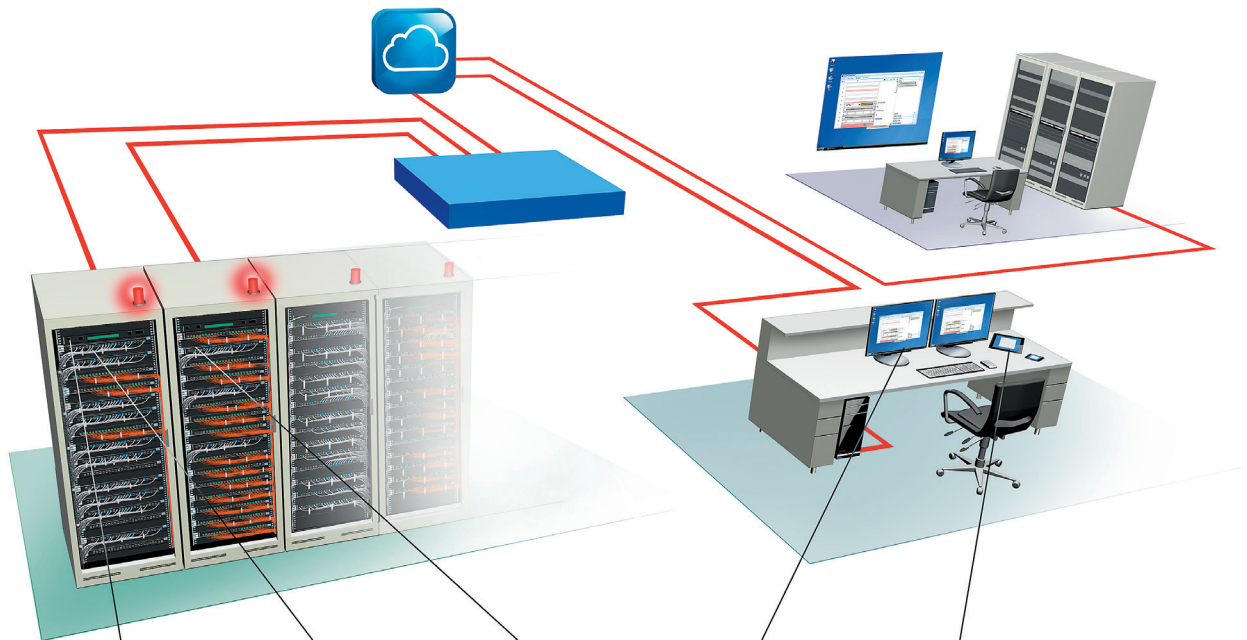
## The Benefits of PatchPro®

The easy-to-use, three-way, real-time signaling system significantly reduces downtime and the amount of time needed to correct unwanted changes. Being able to identify and address unwanted changes immediately offers network managers a greater level of security, as well as significant cost reductions by knowing what requires immediate attention due to failure.

Automated database documentation, available through real-time mapping of the physical layer, saves time and cuts down on maintenance costs.

<b>Strategic Planning</b>	<ul style="list-style-type: none"> <li>Enhanced Business Decision</li> <li>Visualize</li> </ul>	<ul style="list-style-type: none"> <li>Analyze</li> <li>Optimize</li> </ul>
<b>Monitor</b>	<ul style="list-style-type: none"> <li>Power</li> <li>Environmental</li> </ul>	<ul style="list-style-type: none"> <li>IT</li> <li>Security</li> </ul>
<b>Operational Planning</b>	<ul style="list-style-type: none"> <li>Asset Management</li> <li>Capacity Management</li> </ul>	<ul style="list-style-type: none"> <li>Reporting &amp; Analytics</li> <li>Integration &amp; Execution</li> </ul>

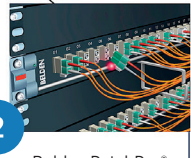




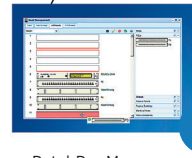
Network Manager



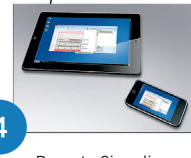
Belden PatchPro®  
CU Panel



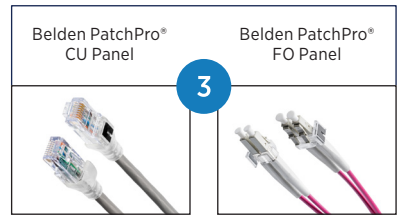
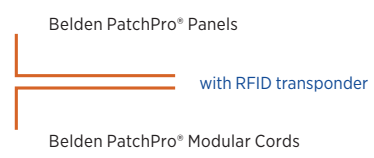
Belden PatchPro®  
FO Panel



PatchPro Manager



Remote Signaling



Belden PatchPro®  
CU Panel

Belden PatchPro®  
FO Panel

## Network Manager

Serving as the communication bridge between Belden PatchPro® Panels and the management console, the Network Manager features an embedded display that supplies information from up to 40 panels linked via a bus cable. Bus cable signals are converted to a SNMP/Ethernet protocol, and sent to the management console. The RFID component monitors all ports and transmits information to the Network Manager. LEDs provide visual support during the patching process, signaling unwanted changes.

## CU Panel

- 24/48-port copper Termination panel set (available in Category 6A/UTP/STP)
- 24-port copper Coupler panel set (available in Category 6A and UTP/STP)
- Upgradable with LED RFID component

## FO Panel

- 24-port termination/splice panel set (with 24x duplex LC or SC in OS2, OM3 or OM4, including splicing cassette and pigtail set)
- 24-port MPO panel set (with 24x duplex LC or SC in OS2, OM3 or OM4, including MPO/LC or MPO/SC assembly set)
- Upgradable with LED RFID component

## Modular Cords

- Belden PatchPro® CU Modular Cord features RJ45 patch cord with RFID transponder on both ends for Category 6 and Category 6A
- Belden PatchPro® FO Modular Cord features duplex LC or SC patch cords with RFID transponder on both ends for OS2, OM3 or OM4





## Category 6/Category 6A

- Supports current and future Category 6 and 6A applications, such as 10GBASE-T (10 Gigabit Ethernet), 1000BASE-T (Gigabit Ethernet), 100BASE-T, 10BASE-T, FDDI and ATM
- Meets international standard ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
- Meets European standard EN 50173-1 (2002) and EN 50173-1 Amendment 1 (2009)



Belden PatchPro® CU Modular Cord

These images are 3D replicas of the original Modular Cords and may therefore differ slightly from the original product.

## OFC

- Supports current and future optical fiber applications, such as 10G Ethernet and FDDI
- Meets international standards ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
- GR-326-CORE for OFC jumper



Belden PatchPro® FO Modular Cord



Belden PatchPro® CU Panel



Belden PatchPro® FO Panel



Network Manager



RFID Upgrade Kit

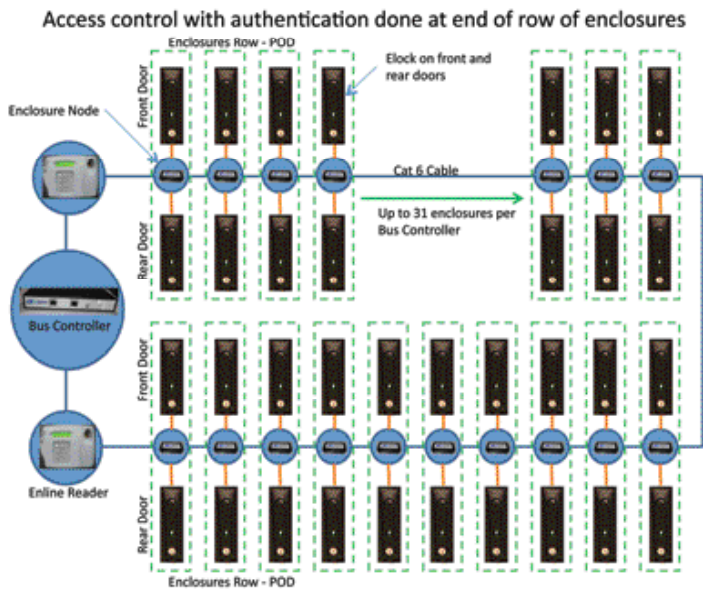
**Intelligent Power Distribution Units**

- Belden PatchPro® integrated DCIM software monitors the intelligent PDU's solution
- Available in horizontal and vertical configurations



**Access Control**

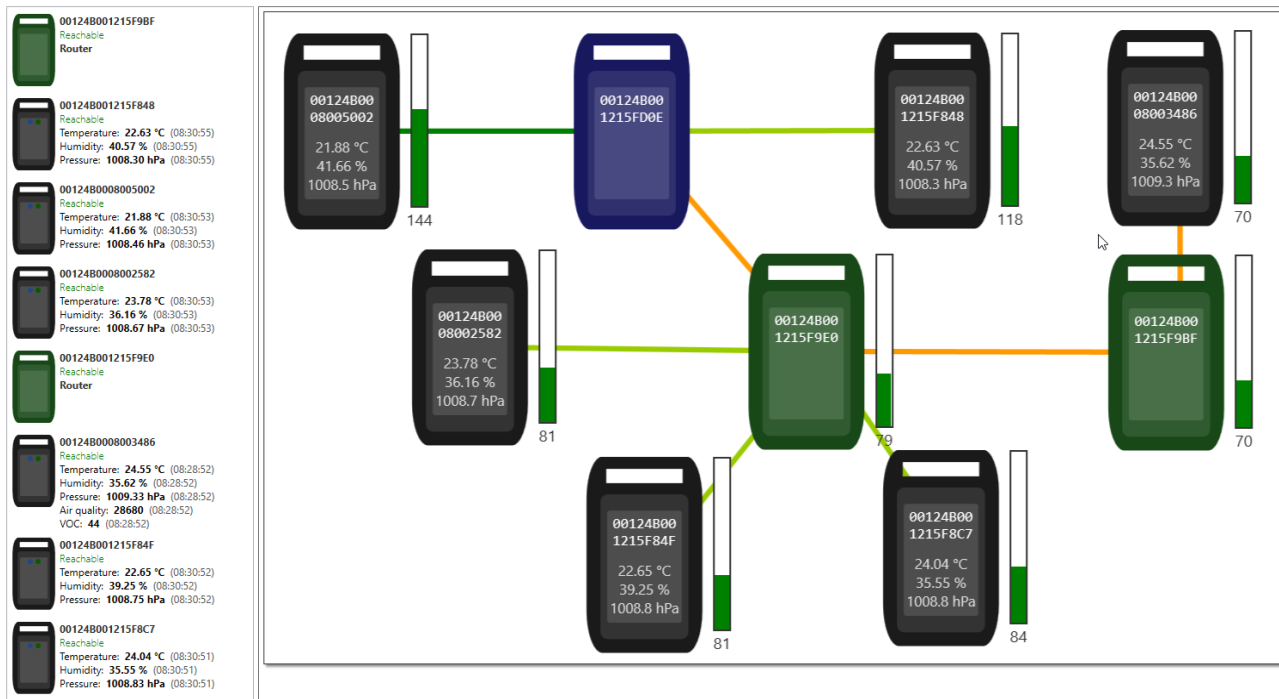
- Belden PatchPro® integrated DCIM software monitors our access control solution
- Available Smart Lock/Access System - Network Level & Row Access Systems





## IoT Sensor technology

- Belden PatchPro® integrated DCIM software monitors our wired-wireless sensor solutions
- Environmental Sensors
- Ambient Temperature, Relative Humidity, Pressure
- Indoor Air Quality - Absolute CO2 Value (0 - 5000 ppm)
- Movement - Ambient Light
- Facility Management
- Seat Occupancy - Electronic Labeling (E-Ink display) - Indoor Asset Localization



- Temperature, Humidity, Pressure
  - Movement (Orientation, Acceleration)
  - Air Quality (VOC)
  - Seat Occupancy
- IEEE 802.15.4 meshed network (ZigBee)
  - Battery lifetime up to 5 years

## PatchPro®

This key PatchPro® Infrastructure DCIM/AIM solution works with PatchPro® hardware to achieve transparency and accuracy in complex, demanding environments. Adapting to any environment – small businesses, large enterprises or sophisticated data centers – PatchPro® modular architecture allows you to license only the components you need. Licensing is based on concurrent users, allowing you to install the software on as many workstations as you like – and allows you to grow in the future. It can also be adapted to your specific requirements without programming or expensive consulting.

With PatchPro®, you can:

- Monitor vital systems for early recognition of potential bottlenecks, such as hotspots, excessive power usage and other critical conditions that could impact business continuity
- Minimize the effort required to prepare for assessments, delivering data and documents to auditors for a fast signoff
- Extract business-critical, real-time data from your network and display it in tables, charts or combined dashboards
- Make sure existing data center capacity is utilized before investing in an expansion
- Support any topology (star, ring, bus or meshed network structures) or any voltage (low-, medium- or high-voltage [230 V, 400 V, 500 V])
- Integrate air conditioning, alerting, fire and intrusion detection, facility management and IT server monitoring systems

PatchPro® can be extended to cover your entire facility – not just the data center – with its space and inventory management, end-to-end connections to workspaces and maintenance management for all building technology.





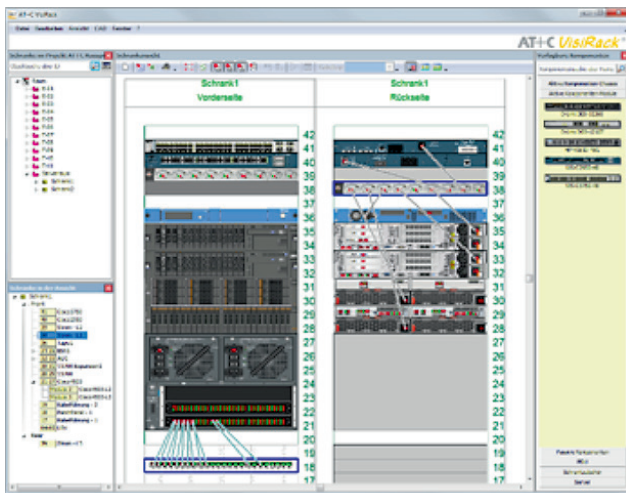
## Comprehensive Software Toolbox

### Component Library

A library features graphics and symbols of devices and components from the most common hardware manufacturers, with generic graphics for others.

### RackView

RackView is the main planning, documentation and task management tool for SoftPro®. It displays IT room and data center floorplans, as well as the components in the racks.



### Monitoring, Reporting and Analytics

Real-time data and status updates can be extracted from devices and systems via standard interfaces like SNMP, or using our API to create customized integration. The reporting tool already provides several out-of-the-box reports that can be modified to your needs; new reports can easily be created.

Define floorplan regions or rack views for an overview of the state of your data center with just the glimpse of an eye.



## PatchPro® I Facility Manager

From integrated reporting to move management tools, this module offers several components to help facility managers make the most of their space, time, staff, and resources:

- Strategic planning (space requirements, staff planning)
- Internal management (cost calculation, remodeling)
- Budget estimates (planned vs. actual cost comparisons)
- Calculation of cost (cost accounting, depreciation)
- Staff (phone directories, employee management, security)
- Inventory/assets (planning, procurement, asset management)
- Maintenance (cleaning schedules, waste removal)
- Alternatives (leasing, purchasing, rental)
- Communications (IT configuration, network management)
- Realization (room data, furnishings, detail drawings)

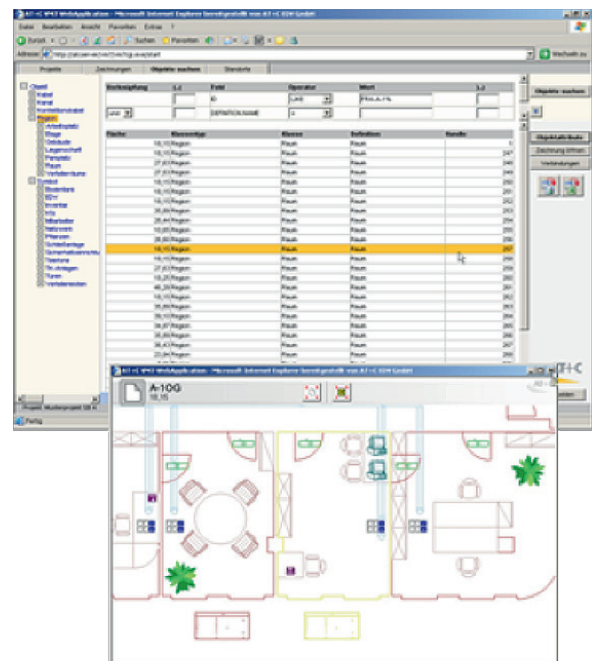
## PatchPro® I Connecting Manager

This powerful information system combines the geographical corresponding structure of a building drawing with the logic of a database. By visualizing and documenting the current environment, Connecting Manager can analyze available resources and evaluate possible system expansion plans. Efficiently increase network security and availability through:

- Higher availability
- Professional planning
- Reduced downtime
- Reduced operating costs by up to 50%
- Reduction of spare parts
- Resource analysis
- Transparent data

## InternetServer

Retrieve all your information and data from PatchPro® I Facility Manager and Connecting Manager at any time – at any place in the world – just a click away. InternetServer stores your data online without the need for software installation, permitting remote access to data about your premises, sites, buildings, floors, rooms, inventory, etc.





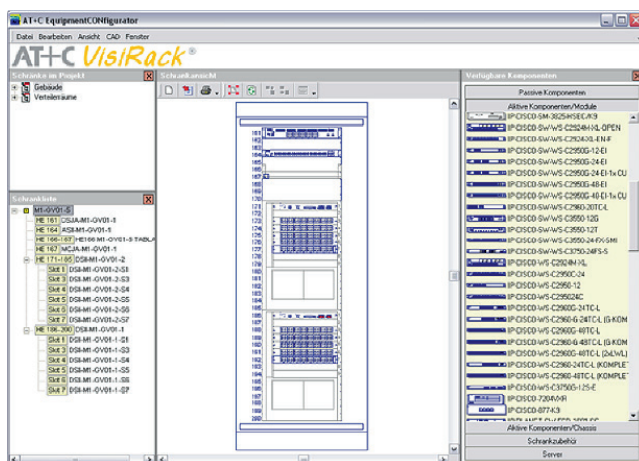
## RackView

This module supports configuration and deployment of racks and cabinets.

View all sites, buildings and rooms with available racks and cabinets, and drag-and-drop selected racks to connect devices to each other. Selecting an object displays all of the object's associated information, such as serial numbers, vendors, configuration, etc.

## PatchPro Manager

Create connections between devices by cable or direct connectors (from device to device).



Belden's experienced support staff is available during regular business hours to assist and support you as you use hardware and software as part of the PatchPro® Intelligent Patching Solution. We're here to make your project successful. Contact us today!



PatchPro® Hardware		
Description	Part number	
<b>Active Hardware</b>		
PatchPro® - 1U Rack Manager with LCD manages up to 40 panels	PPIRRC	
PatchPro® - 0U Rack Manager without LCD manages up to 40 panels	PPIRRS	
PatchPro® - 0U Rack Manager power extender	PPIRRP	
PatchPro® - Rack Identification Lamp (Red)	PPRIL	
<b>Upgrade Hardware</b>		
PatchPro® - RFID 24-port Copper Panel Upgrade Kit - Type 1	PPCUUK-N	
PatchPro® - RFID 48-port Copper Panel Upgrade Kit - Type 2	PPCUUK-D	
PatchPro® - RFID 24-port Copper REVConnect Panel Upgrade Kit - Type 3	PPCUUK-R	
PatchPro® - RFID 24-port/48-fiber LC/DX Fiber Panel Upgrade Kit - Type 4	PPFOUK-N	
<b>Hardware Accessoires</b>		
PatchPro® - Bus cable 25m	PPACAB	
PatchPro® - Bus connector 1 - black (10 pcs)	PPACON	
PatchPro® - Bus connector 2 - red lockable (10 pcs)	PPACOS	
PatchPro® - Bus connector 3 - red lockable with 1 male connector (extension)	PPACOX	
PatchPro® - Bus termination (10 pcs)	PPATER	
PatchPro® - Crimping tool	PPACRI	

PatchPro® Connectivity			
Description	Part number	Compatible upgrade kit	
<b>Copper Connectivity Termination Patch Panels</b>			
REVConnect 24-port UTP Cat6A iPLM Ready Panel, White	RVAPPF1U24WH	PPCUUK-R	
REVConnect 24-port UTP Cat6A iPLM Ready Panel, Black	RVAPPF1U24BK		
PatchPro® - 48-port UTP Cat6A iPLM Ready Panel	PPC6AUR-D	PPCUUK-D	
PatchPro® - 48-port STP Cat6A iPLM Ready Panel	PPC6ASR-D		
PatchPro® - 24-port UTP Cat6A iPLM Ready Panel	PPC6AUR	PPCUUK-N	
PatchPro® - 24-port STP Cat6A iPLM Ready Panel	PPC6ASR		
PatchPro® - 24-port UTP Cat6A iPLM Ready Coupler Panel	PPC6AUC		
PatchPro® - 24-port STP Cat6A iPLM Ready Coupler Panel	PPC6ASC		
Includes all Connectivity, without RFID & Hardware			
<b>Copper Connectivity RFID Patch Cords</b>			
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 1m	CA24106001MID		
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 2m	CA24106002MID		
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 3m	CA24106003MID		
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 5m	CA24106005MID		
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 1m	CAE4106001MID		
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 2m	CAE4106002MID		
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 3m	CAE4106003MID		
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 5m	CAE4106005MID		





**PatchPro® Connectivity**

Description	Part number	Compatible upgrade kit
<b>Copper Connectivity MPO Termination Patch Panels/Splice Patch Panels</b>		
PatchPro® - 24-port 48-fiber LCDX OS2 iPLM Ready MPO Panel Set	PPLSMPON	
PatchPro® - 24-port 48-fiber LCDX/APC OS2 iPLM Ready MPO Panel Set	PPLAMPON	
PatchPro® - 24-port 48-fiber LCDX OM3 iPLM Ready MPO Panel Set	PPL3MPON	
PatchPro® - 24-port 48-fiber LCDX OM4 iPLM Ready MPO Panel Set	PPL4MPON	
PatchPro® - 24-port 48-fiber LCDX OM5 iPLM Ready MPO Panel Set	PPL5MPON	
PatchPro® - 24-port 48-fiber LCDX OS2 iPLM Ready MPO Alternate Panel Set	PPLSMPON-ALT	
PatchPro® - 24-port 48-fiber LCDX/APC OS2 iPLM Ready MPO Alternate Panel Set	PPLAMPON-ALT	
PatchPro® - 24-port 48-fiber LCDX OM3 iPLM Ready MPO Alternate Panel Set	PPL3MPON-ALT	
PatchPro® - 24-port 48-fiber LCDX OM4 iPLM Ready MPO Alternate Panel Set	PPL4MPON-ALT	
PatchPro® - 24-port 48-fiber LCDX OM5 iPLM Ready MPO Alternate Panel Set	PPL5MPON-ALT	
PatchPro® - 24-port 48-fiber LCDX/UPC OS2 iPLM Ready Term/Splice Panel Set	PPLSTSN	PPFOUK-N
PatchPro® - 24-port 48-fiber LCDX/APC OS2 iPLM Ready Term/Splice Panel Set	PPLATSN	
PatchPro® - 24-port 48-fiber LCDX OM3 iPLM Ready Term/Splice Panel Set	PPL3TSN	
PatchPro® - 24-port 48-fiber LCDX OM4 iPLM Ready Term/Splice Panel Set	PPL4TSN	
PatchPro® - 24-port 48-fiber LCDX OM5 iPLM Ready Term/Splice Panel Set	PPL5TSN	
PatchPro® - 24-port 48-fiber LCDX/UPC OS2 iPLM Ready Term/Splice Panel Set	PPLSTSN-H	
PatchPro® - 24-port 48-fiber LCDX/APC OS2 iPLM Ready Term/Splice Panel Set	PPLATSN-H	
PatchPro® - 24-port 48-fiber LCDX OM3 iPLM Ready Term/Splice Panel Set	PPL3TSN-H	
PatchPro® - 24-port 48-fiber LCDX OM4 iPLM Ready Term/Splice Panel Set	PPL4TSN-H	
PatchPro® - 24-port 48-fiber LCDX OM5 iPLM Ready Term/Splice Panel Set	PPL5TSN-H	

Includes all Connectivity, without RFID & Hardware Add -H for half loaded panels after the part number (half loaded panels will come with 24 pigtailed)

PatchPro® Connectivity	
Description	Part number
<b>Fiber Connectivity RFID Patch Cords</b>	
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 1m	PP-S2LDLD001MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 2m	PP-S2LDLD002MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 3m	PP-S2LDLD003MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 5m	PP-S2LDLD005MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 1m	PP-S2LALA001MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 2m	PP-S2LALA002MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 3m	PP-S2LALA003MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 5m	PP-S2LALA005MX
RFID Patch Cords LCDX/PC-DX OM3, LSNH, 1m	PP-32LDLD001MX
RFID Patch Cords LCDX/PC-DX OM3, LSNH, 2m	PP-32LDLD002MX
RFID Patch Cords LCDX/PC-DX OM3, LSNH, 3m	PP-32LDLD003MX
RFID Patch Cords LCDX/PC-DX OM3, LSNH, 5m	PP-32LDLD005MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 1m	PP-42LDLD001MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 2m	PP-42LDLD002MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 3m	PP-42LDLD003MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 5m	PP-42LDLD005MX
RFID Patch Cords LCDX/PC-DX OM5, LSNH, 1m	PP-52LDLD001MX
RFID Patch Cords LCDX/PC-DX OM5, LSNH, 2m	PP-52LDLD002MX
RFID Patch Cords LCDX/PC-DX OM5, LSNH, 3m	PP-52LDLD003MX
RFID Patch Cords LCDX/PC-DX OM5, LSNH, 5m	PP-52LDLD005MX



PatchPro® Infrastructure DCIM/AIM Software	
Description	Part number
<b>PatchPro® - Facility Manager (Concurrent License Model)</b>	<b>BELDEN EPN EA</b>
PatchPro® - Enterprise Facility Manager CAD7 Interface - (CAD license included)	PP-ENT-FC7M
PatchPro® - Professional Facility Manager CAD7 Interface - (CAD license included)	PP-PRO-FC7M
PatchPro® - Business Facility Manager CAD7 Interface - (CAD license included)	PP-BUS-FC7M
<b>PatchPro® - Facility Manager (Concurrent License Model)</b>	<b>BELDEN EPN EA</b>
PatchPro® - Enterprise Facility Manager AutoCAD Interface - (AutoCAD license not included)	PP-ENT-FACM
PatchPro® - Professional Facility Manager AutoCAD Interface - (AutoCAD license not included)	PP-PRO-FACM
PatchPro® - Business Facility Manager AutoCAD Interface - (AutoCAD license not included)	PP-BUS-FACM
<b>PatchPro® - Connectivity and Facility Manager (Concurrent License Model)</b>	<b>BELDEN EPN EA</b>
PatchPro® - Enterprise Connectivity & Facility Manager CAD7 Interface - (CAD license included)	PP-ENT-CFC7M
PatchPro® - Professional Connectivity & Facility Manager CAD7 Interface - (CAD license included)	PP-PRO-CFC7M
PatchPro® - Business Connectivity & Facility Manager CAD7 Interface - (CAD license included)	PP-BUS-CFC7M
<b>PatchPro® - Connectivity and Facility Manager (Concurrent License Model)</b>	<b>BELDEN EPN EA</b>
PatchPro® - Enterprise Connectivity & Facility Manager AutoCAD Interface - (CAD license not included)	PP-ENT-CFACM
PatchPro® - Professional Connectivity & Facility Manager AutoCAD Interface - (CAD license not included)	PP-PRO-CFACM
PatchPro® - Business Connectivity & Facility Manager AutoCAD Interface - (CAD license not included)	PP-BUS-CFACM
<b>PatchPro® - Windows Clients per Connectivity and/or Facility &amp; Specials (Concurrent License Model)</b>	<b>BELDEN EPN EA</b>
PatchPro® - Read-Only Connectivity and/or Facility with CAD7 (CAD license included)	PP-RO-C7
PatchPro® - Read-Only Connectivity and/or Facility with AutoCAD Interface - (CAD license not included)	PP-RO-AC
PatchPro® - Client Editor for Facility Manager incl. administration tools	PP-FM-ED
PatchPro® - Client Editor for Connectivity & Facility Manager incl. RackView and administration tools	PP-CM-ED
PatchPro® - Traffic lights and component Manager	PP-TLC





PatchPro® Infrastructure DCIM/AIM Software	
Description	Part number
<b>PatchPro® - Web Modules (User license)</b>	
<b>BELDEN EPN EA</b>	
Web API (Application Programming Interface, incl. REST interface)	PP-W-API
PatchPro® - IIS Web Illustration Server, base license per server (one licence only needed for below Web Modules)	PP-IIS
PatchPro® - IIC Web client license, per web user (Total = qty of each Named User License)	PP-IIC
PatchPro® - Service Planning Web Server license (requires one IIS web server)	PP-SPS
PatchPro® - Service Planning Software client license, per web user (Named User License)	PP-SPC
PatchPro® - CBM web server license (requires one IIS web server)	PP-CBS
PatchPro® - CBM client license, per web user (Named User License)	PP-CBC
PatchPro® - RackView web server license (requires one IIS web server)	PP-RVS
PatchPro® - RackView client license, per web user (Named User License)	PP-RVC
<b>Interfaces</b>	
<b>BELDEN EPN EA</b>	
SNMP-Interface	SNMP-INT
WMI interface	WMI-INT
LDAP interface	LDAP-INT
MS Visio Export interface	MSVE-INT
<b>Add-on Tools</b>	
<b>BELDEN EPN EA</b>	
Net spider / connection topology	PP-RO-C7
Planning mode incl. workorder generation	PP-RO-AC
Connectivity Manager (mass connections) - included in Professional and Enterprise	PP-FM-ED
IP Address Manager	PP-CM-ED

Services	
Description	Part number
<b>Software Services</b>	
<b>BELDEN EPN EA</b>	
§ Software-Service / Maintenance / Updates / Hotline - Year (during business hours GMT+1)	PRS-xxxxxx
Not including software updates of CAD-Systems & 3rd Party Software & other services Each request need RFS / PRS- part number = RFS number / PRS- will be issued when quote send to customer	
<b>Training services (one day - 8 Hours)</b>	
<b>BELDEN EPN EA</b>	
§ PPRO-TRAINING - Admin (max. 5 people) - per day	PP-TRU
§ PPRO-TRAINING - Specialist (max. 5 people) - 5 day course	PP-TRS
§ PPRO-TRAINING - User (max. 5 people) - per day	PPRO-TRAINING
Excluding travel & accomodation expences when on-site support requested	
<b>Special Installation services (one day - 8 Hours)</b>	
<b>BELDEN EPN EA</b>	
§ PPRO-Developer Programming - per day	PP-DP
§ PPRO-Configuration services - per day	PP-ICS
§ PPRO-Project Data services - per day	PP-PDS
§ PPRO-Installation - services - per day	PPRO-INSTALL
§ PPRO-Create project - classes, definitions & symbols - per day	PPRO-PROJECT
§ PPRO-Connect - cable ports, passive and active equipment services - per day	PPRO-CONNECT
§ PPRO-Draw - create drawing -sites, regions, rooms, assets - per day	PPRO-DRAW
Excluding travel & accomodation expences when on-site support requested	
<b>On-site Services</b>	
<b>BELDEN EPN EA</b>	
§ Travel expenses	POS-xxxxx
Flight costs if applicable will be added by Belden EMEA (flights above 5 hours are business class) Each request need RFS / POS- part number = RFS Number / POS- will be issued when quote send to customer	

## Pre-Term Made Easy

- Easy to configure: only a few standard components to choose from to build an entire system
- Easy to order: simplified ordering process eliminates errors
- Easy to install: small and flexible cable assemblies combined with

## Reliability and Performance - No Compromise

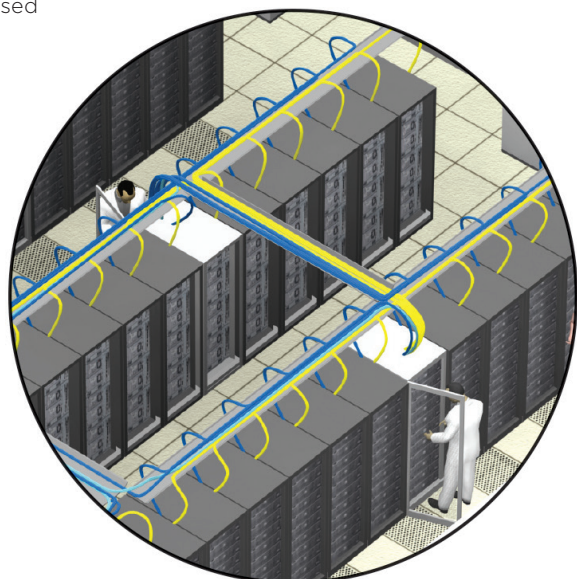
- Built-in reliability with ultra-robust assemblies and connectors
- Guaranteed Category 6A performance with test results supplied with each assembly
- Guaranteed headroom up to 625 MHz
- Guaranteed headroom in channels as short as 5 ft (1.6 m)
- Fully supported under Belden's IBDN 10GX Certification Program

## Save Time and Money

- Reduced planning time with simplified selection of modular components
- Fast delivery to meet short project turn-around deadlines
- Up to 90% reduction in installation time and labor costs
- Virtually no testing or troubleshooting required

## Make it “Green”

- Simplicity of the components means energy and waste savings throughout the manufacturing and supply chain process
- Small and flexible cable assembly design mean less cable to be deployed and no unnecessary slack
- Plug-and-play RJ45 connectivity components significantly reduce installation time and labor costs with almost no product waste during installation and operation
- Up to 50% material reduction in Data Center cabling topology
- All system components can be easily re-deployed and reused

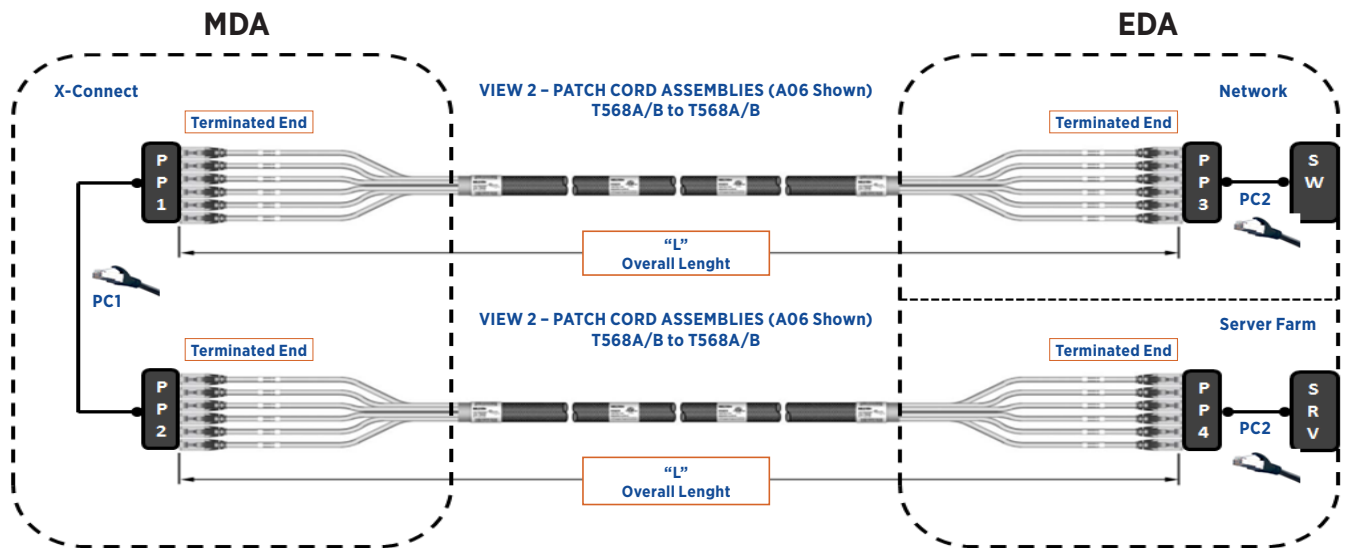


# Belden PatchPro® 10GX

Patchpro® 10GX Pre-Term RFID Intelligent 'Ready' Patching Cabling System



## Pre-Term Made Easy



10GX Pre-Term REVConnect System



10GX Pre-Term Coupler System



## Pre-Term Made Easy™

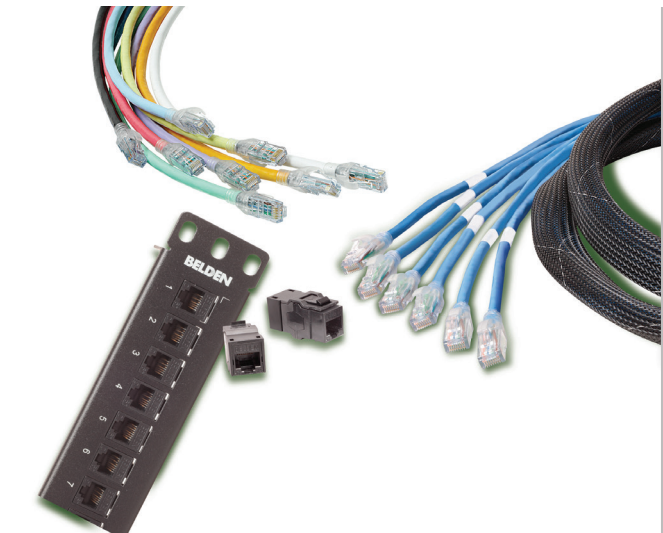
REVConnect Pre-Term Assemblies provide a rapid deployment infrastructure solution for today's data centers and enterprise LANs, with a compact copper pre-term bundle OD. They save time on the long process of field termination and offer a more cost-effective, proven-quality and flexible plug-and-play solution.

REVConnect Pre-Terminated Assemblies, using our unique cables, are terminated with our award-winning REVConnect termination. Universal Core can be terminated with Jack or RJ45 Plug, providing a versatile solution to End Users. Compact Pulling Eye OD, makes pulling the cable easier for contractors during installation. Enable faster and more efficient deployment when paired with our REVConnect Preloaded Patch Panels. Providing a true Plug & Play and MAC-Friendly solution. (MAC = Moves added and Changes) Future-proofing your network for high-bandwidth applications. They can be deployed in spaces to link Wireless Access Points to Consolidation, or to Workstation area.

Furthermore, with simple planning, fast delivery, up to 90% reduction in installation time and labor cost, bandwidth virtually no testing or troubleshooting required, Belden's 10GX Pre-Terminated Cabling System delivers the promise of pre-terminated cabling systems: dramatically reduced installation time, cost-savings, and the reliability and performance of factory terminations – all without compromises or trade-offs.

## Ideal for Data Centers

Belden understands that the ultimate goal in Data Center networks is to have zero downtime or 'extreme' network availability. In a risk-averse environment with very strict schedule constraints and budgets, demanding reliability and performance without compromise is a must. Belden's 10GX Pre-Terminated Cabling System delivers fast-deployment, with built-in reliability combined with guaranteed performance and headroom. Moreover, the system is fully supported under Belden's IBDN 10GX Certification Program including guaranteed bandwidth of 625MHz, total support for 10 Gb/s Ethernet, and Belden's 25-Year IBDN Product Warranty.







**Patch Panels (PP1, PP2, PP3, PP4)  
PatchPro® 10GX Connectivity**

Description	Part number
<b>10GX REVConnect iPLM Ready Patch Panels</b>	
10GX REVConnect 24-port UTP Cat6A iPLM Ready Panel, Black	PPC6AUR
10GX REVConnect 48-port UTP Cat6A iPLM Ready Panel, Black	PPC6AUR-D
10GX REVConnect 24-port UTP Cat6A iPLM Ready Panel, White	RVAPPF1U24WH
10GX REVConnect 24-port UTP Cat6A iPLM Ready Panel, Black	RVAPPF1U24BK
10GX REVConnect 24-port STP Cat6A iPLM Ready Panel, Black	PPC6ASR
10GX REVConnect 48-port STP Cat6A iPLM Ready Panel, Black	PPC6ASR-D
<b>10GX Pre-Terminated Cable Assembly, 4-Pair, 23 AWG Solid, T568A/B-T568A, 6 Cables</b>	
10GX UTP REVConnect Assembly LSZH, IEC-1/Eca, White	CB06AUCT1WxxxM
10GX UTP REVConnect Assembly LSZH, Cca, White	CB06AUCT3WxxxM
10GX S/FTP REVConnect Assembly LSZH, IEC-1/Eca, White	CB06ASCT1WxxxM
10GX S/FTP REVConnect Assembly LSZH, Cca, White	CB06ASCT3WxxxM

Use xx to specify length in meter - 03-15 mt. in increments of 1 mt. - 15-80 mt. in increments of 5 mt.

**RFID Patch Cords (PC1/2)**

Description	Part number
<b>Copper Connectivity RFID Ready Patch Cords</b>	
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 1m	CA24106001MID
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 2m	CA24106002MID
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 3m	CA24106003MID
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 5m	CA24106005MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 1m	CAE4106001MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 2m	CAE4106002MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 3m	CAE4106003MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 5m	CAE4106005MID

## Pre-Term Made Easy™

REVConnect Pre-Term Assemblies provide a rapid deployment infrastructure solution for today's data centers and enterprise LANs, with a compact copper pre-term bundle OD. They save time on the long process of field termination and offer a more cost-effective, proven-quality and flexible plug-and-play solution.

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**Patch Panels (PP1, PP2, PP3, PP4)  
PatchPro® 10GX Connectivity**

Description	Part number
<b>10GX Copper Connectivity Patch Panels</b>	
PatchPro 24-port UTP Cat6A iPLM Ready Panel (Coupler)	PPC6AUC
PatchPro 24-port STP Cat6A iPLM Ready Panel (Coupler)	PPC6ASC
Includes all Connectivity, without RFID & Hardware	
<b>10GX Pre-Terminated Cable Assembly, 4-Pair, 23 AWG Solid, T568A/B-T568A, 6 Cables</b>	
10GX CAT6A U/UTP KeyConnect Assembly LSZH, IEC-1/Eca, White	CA241090xxMA06
10GX CAT6A S/FTP KeyConnect Assembly LSZH, IEC-1/Eca, White	CAE41090xxMA06
Use xx to specify length in meter - 03-15 mt. in increments of mt. - 15-80 mt. in increments of 5 mt.	

**RFID Patch Cords (PC1/2)**

Description	Part number
<b>Copper Connectivity RFID Patch Cords</b>	
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 1m	CA24106001MID
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 2m	CA24106002MID
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 3m	CA24106003MID
RFID Patch Cords UTP CAT6A BLUE, T568A/B, 26AWG, LSNH, 5m	CA24106005MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 1m	CAE4106001MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 2m	CAE4106002MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 3m	CAE4106003MID
RFID Patch Cords STP CAT6A BLUE, T568A/B, 26AWG, LSNH, 5m	CAE4106005MID

## Pre-Term Made Easy™

At the heart of Belden's FX Pre-Terminated Cabling System are two core components: FX Pre-Terminated Cable Assemblies and MPO patch panels. Individually, these components offer superior reliability and performance. Together, they deliver the full potential of pre-terminated fiber cabling solutions. The Belden solution is referred to as 'Pre-Term Made Easy' because it brings simplicity to the configuring and ordering process and it offers ease of installation through flexible FX Cable Assemblies and Connectivity. Furthermore, with simple planning, fast delivery, up to 90% reduction in installation time and labor cost. Belden's FX Pre-Terminated Cabling System delivers the promise of pre-terminated cabling systems: dramatically reduced installation time, cost-savings, and the reliability and performance of factory terminations – all without compromises or trade-offs.

## Ideal for Data Centers

Belden understands that the ultimate goal in Data Center networks is to have zero downtime or 'extreme' network availability. In a risk-averse environment with very strict schedule constraints and budgets, demanding reliability and performance without compromise is a must. Belden's FX Pre-Terminated Cabling System delivers fast-deployment, with built-in reliability combined with guaranteed performance. Moreover, the system is fully supported under Belden's IBDN FX Certification Program including Belden's 25-Year IBDN Product Warranty.



MPO Trunk  
Assembly, MPO-12(F-f), Type-B, 25 m



Belden PatchPro®  
FO Modular Cord



Belden PatchPro® FO Panel



## Pre-Term Made Easy

- Easy to configure: only a few standard components to choose from to build an entire system
- Easy to order: simplified ordering process eliminates errors
- Easy to install: small and flexible cable assemblies combined with

## Reliability and Performance - No Compromise

- Built-in reliable assemblies and connectivity
- Fully supported under Belden's IBDN FX Certification Program

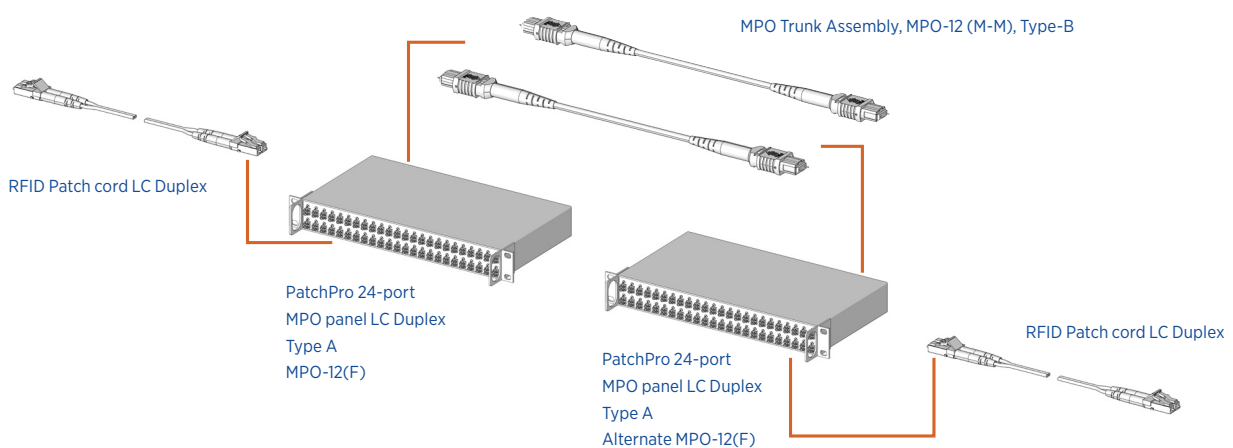
## Save Time and Money

- Reduced planning time with simplified selection of modular components
- Fast delivery to meet short project turn-around deadlines
- Up to 90% reduction in installation time and labor costs

## Make it “Green”

- Simplicity of the components means energy and waste savings throughout the manufacturing and supply chain process
- Small and flexible cable assembly design mean less cable to be deployed and no unnecessary slack
- The connectivity components significantly reduce installation time and labor costs with almost no product waste during installation and operation
- Up to 50% material reduction in Data Center cabling topology
- Pre-term Assembly Trunk cables can be easily and reused for next generation migration

## Example:



**Patch Panels (PP1, PP2, PP3, PP4)  
PatchPro® 10GX Connectivity**

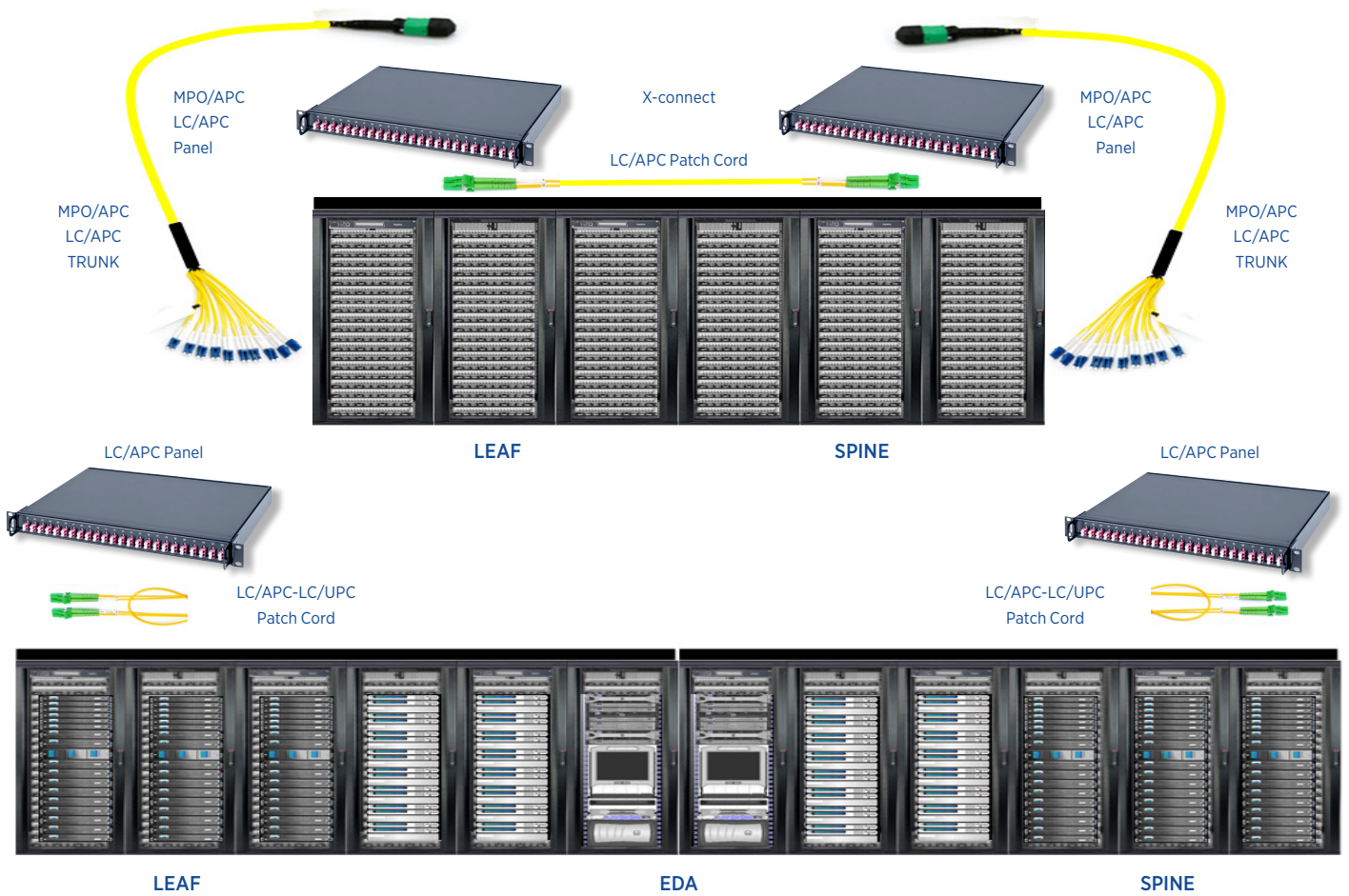
Description	Part number
<b>FX Fiber iPLM Ready Patch Panels</b>	
PatchPro® - 24-port 48-fiber LCDX OM4 iPLM Ready MPO Panel Set	PPL4MPON
PatchPro® - 24-port 48-fiber LCDX OM4 iPLM Ready MPO Alternate Panel Set	PPL4MPON-ALT
PatchPro® - 24-port 48-fiber LCDX/UPC OS2 iPLM Ready Term/Splice including pigtailed Panel Set	PPLSTSN
PatchPro® - 24-port 48-fiber LCDX/APC OS2 iPLM Ready Term/Splice including pigtailed Panel Set	PPLATSN
<b>FX Fiber Trunk Cables</b>	
12-Fiber Double Jacket MPO Male-Male OM4 B-polarity IEC/Eca Trunk Cable	G-4LMMMMxxxMB
24-Fiber Double Jacket MPO Male-Male OM4 B-polarity IEC/Eca Trunk Cable	G-4LMMMMxxxMBCD
12-Fiber Double Jacket MPO Male-Male OM4 B-polarity Cca Trunk Cable	G-4CMMMMxxxMB
24-Fiber Double Jacket MPO Male-Male OM4 B-polarity Cca Trunk Cable	G-4CMMMMxxxMBCD
12-Fiber Double Jacket MPO Male-Male OS2 B-polarity IEC/Eca Trunk Cable	G-SLMMMMxxxMB
24-Fiber Double Jacket MPO Male-Male OS2 B-polarity IEC/Eca Trunk Cable	G-SLMMMMxxxMBCD
12-Fiber Double Jacket MPO Male-Male OS2 B-polarity Cca Trunk Cable	G-SCMMMMxxxMB
24-Fiber Double Jacket MPO Male-Male OS2 B-polarity Cca Trunk Cable	G-SCMMMMxxxMBCD
12-Fiber Double Jacket MPO-LC/APC DX OS2 A-polarity IEC/Eca Trunk Cable	G-SLMLLAxxxMB
12-Fiber Double Jacket MPO-LC/APC DX OS2 A-polarity Cca Trunk Cable	G-SCMLLAxxxMB

**RFID Patch Cords (PC1/2)**

Description	Part number
<b>Fiber RFID Patch Cords</b>	
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 1m	PP-42LDLD001MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 2m	PP-42LDLD002MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 3m	PP-42LDLD003MX
RFID Patch Cords LCDX/PC-DX OM4, LSNH, 5m	PP-42LDLD005MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 1m	PP-S2LDLD001MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 2m	PP-S2LDLD002MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 3m	PP-S2LDLD003MX
RFID Patch Cords LCDX/UPC-DX OS2, LSNH, 5m	PP-S2LDLD005MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 1m	PP-S2LALA001MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 2m	PP-S2LALA002MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 3m	PP-S2LALA003MX
RFID Patch Cords LCDX/APC-DX OS2, LSNH, 5m	PP-S2LALA005MX



## Intelligent ready 11520-fiber System Solution





**BROCHURE**

## GLOBAL LOCATIONS

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