



HIRSCHMANN

A **BELDEN** BRAND



MIPP: The Industrial Termination and Patching Solution

The MIPP is designed for harsh environments, where its robust construction and high port density with multiple connector types make it ideal for installation in industrial networks.

Fiber Splice Box
Copper Patch Panel
Mix or MPO Patching

**Be certain.
Belden.**



Robust industrial quality offers long-term stability for performance-critical ethernet applications, delivering peace of mind to network engineers and system installers.



Hirschmann's Modular Industrial Patch Panel (MIPP) is a robust and versatile termination panel for both fiber and copper cables that need to be connected from operating environment to active equipment. Easily installed on any standard 35 mm DIN Rail, MIPP features high port-density to meet expanding network connectivity needs within limited space. MIPP is Hirschmann's high-quality solution for performance-critical Industrial Ethernet Applications.

Robust Quality

The durable MIPP panels are constructed of lightweight, high strength aluminium, securely protecting copper and optical fiber connections under the harshest industrial conditions. The housing is able to withstand temperatures from -20 °C to +70 °C and is resistant to shocks and vibrations. The patch panel's industrial quality guarantees a secure termination point for reliable industrial Ethernet connectivity.

Fiber, Copper, Both

MIPP comes as either a Fiber Splice Box, Copper Patch Panel, Mix or MPO Patching Cassette. Where both fiber and copper cables are needed together the design enables simply connecting both to a single panel. MIPP allows flexible network design for network engineers and flexible patching for system installers.

Easy Installation and Maintenance

The smart housing design allows quick and flexible installation of the MIPP on a DIN Rail or a wall. Maintenance is equally easy, since the modules can be individually removed without dismantling the MIPP from the DIN Rail or wall mount. Just take out the modules that need work and save precious time.

Future Proof

As network design may change over time, MIPP allows for modifications by simply swapping modules to meet the new design required. Installing a MIPP with blind* modules readies the solution for any extensions or modifications to come. MIPP is the future proof termination and patching solution for dynamic industries.

Save Space

Hirschmann knows the importance of cabinet space in industrial sites. Continuous growth of system networks requires smart use of the existing space. MIPP is designed to fit. Thanks to its narrow housing design the required space is kept to a minimum. With three cable entry points (top and bottom) there is no need for special cabinet design or positioning.

Best Fit

MIPP is the reliable solution for connecting Belden cables and Hirschmann switches.

5 Reasons Why MIPP Is the Dependable Industrial Termination and Patching Solution

- 1. Robustness:** durable UL certified (UL 1863) solution for linking Hirschmann switches to Belden cabling with a guaranteed lifetime of well over 10 years.
- 2. Versatility:** suitable in nearly any industrial application where fiber splicing, copper termination or both are required. A single MIPP allows for termination and patching of:
 - up to 72 fiber cables: MIPP Fiber Splice Box
 - up to 24 copper cables: MIPP Copper Patch Panel
- 3. Ease of use:** mounted on a DIN Rail or wall, any module can be individually extracted from the housing for maintenance actions.
- 4. Future proof:** simply swap modules to meet new network demands or add blind modules at initial installation.
- 5. Save space and cost:** high port density and multiple cable entry points.

* A blind module is a blanking plate with no cut-outs, for future proof.

MIPP's housing design reduces installation and maintenance time. Just extract the modules that require work.



Wind tower installation application





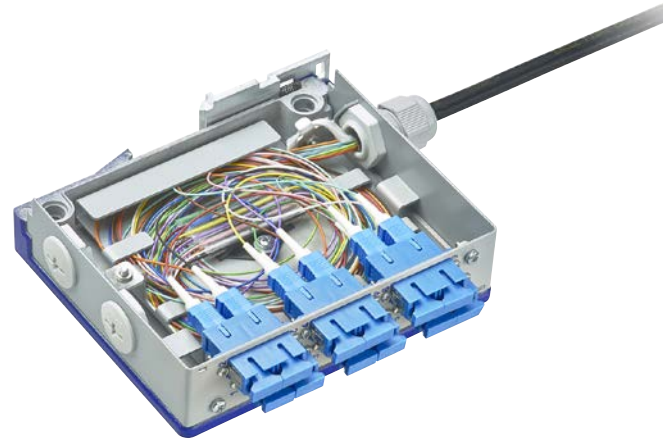
MIPP Fiber Splice Box

Save cost and space: high port density and multiple cable entry points minimize required cabinet space.

MIPP Fiber Splice Box guarantees efficient fiber termination and is designed for use in a wide range of industrial applications. MIPP Fiber Splice Box accommodates various fiber types and connectors: LC, SC, SC metal, ST, ST metal and E-2000 fiber duplex adapters.

MIPP Fiber Splice Box Gives You Everything You Need

- Splice tray and multiple fingers for easy fiber management
- Up to three cable entries, ideal for ring topology applications
- High port density with up to 72 fiber counts (for a single MIPP) for efficient usage of space



Type of Adapters

Single Fiber Modules

(up to 12 fiber connections)

- 6 x SC duplex adapters
- 6 x SC metal duplex adapters
- 6 x LC duplex adapters
- 6 x ST duplex adapters
- 6 x ST metal duplex adapters
- 6 x E-2000 duplex adapters

Double Fiber Modules

(up to 24 fiber connections)

- 12 x SC duplex adapters
- 12 x SC metal duplex adapters
- 12 x LC duplex adapters
- 12 x ST duplex adapters
- 12 x ST metal duplex adapters
- 12 x E-2000 duplex adapters



Accessories for the MIPP Fiber Splice Box Brilliance connectors

Fiber Applications

- Multimode: OM1, OM2, OM3 and OM4
- Singlemode: OS2 and OS2/APC

MIPP Fiber Splice Box is UL certified (UL 1863).

MIPP Copper Patch Panel

MIPP Copper Patch Panel ensures maximum reliability for Industrial Ethernet and PROFINET networks. The MIPP Copper Patch Panel compliments the market leading Hirschmann switches and high performance Belden cabling solutions by enabling cables to be terminated and linked to active equipment using DataTuff patch cords, in an organised and structured manner.

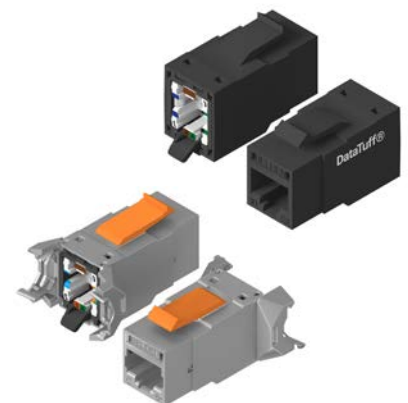
MIPP Copper Patch Panel Covers All Your Copper Termination and Patching Needs

- High variety of media and connectors:
 - RJ45 copper keystone jacks (unshielded and shielded, CAT5E, CAT6, CAT6A)
 - RJ45 copper coupler (unshielded and shielded, CAT6A)
 - RJ45 copper Industrial REVConnect jacks (unshielded and shielded, CAT6A)
 - RJ45 copper Industrial REVConnect couplers (unshielded, CAT6A)
- Suitable in nearly any industrial application thanks to the robust aluminium housing (resisting an operating temperature range of -20 °C to +70 °C)



Perfect fit to the Belden cables and Hirschmann product families.

Accessories



DataTuff Industrial REVConnect – Field-Termination RJ45 Connectors

Type of Keystone

Single Copper Modules

- 2 or 4 x RJ45 keystone unshielded
- 2 or 4 x RJ45 keystone shielded
- 2 or 4 x RJ45 coupler unshielded
- 2 or 4 x RJ45 coupler shielded
- 2 or 4 x RJ45 Industrial REVConnect jack unshielded
- 2 or 4 x RJ45 Industrial REVConnect jack shielded
- 2 or 4 x RJ45 Industrial REVConnect coupler unshielded

Type of Cable Categories

- CAT5E unshielded and shielded
- CAT6 unshielded and shielded
- CAT6A unshielded and shielded



DataTuff for cables and patch cords

MIPP Copper Patch Panel is UL certified (UL 1863).

MIPP Mix

MIPP Fiber Splice Box and Copper Patch Panel for varying industrial networking needs

The market shows a clear trend in the growing use of both Industrial Ethernet and fiber infrastructures in industrial networks. MIPP addresses this by allowing the connection of both fiber and copper cables in a single solution*. Specifically designed for industrial use, MIPP's functionality and reliability can make a significant contribution to the uptime and availability of performance-critical systems.



Scan to view the MIPP Mix video



* up to 6 single modules, 3 double modules or a combination can be used in one MIPP



MIPP Pre-Terminated MPO Cassette

MIPP Pre-Terminated MPO Cassette provides a simple, uncompromisingly flexible plug & play solution to adapt to the growing industrial applications connectivity needs.

Designed specifically for use in industrial environments, the 100% factory terminated and tested, MIPP MPO Cassette ensures top performance with minimum installation time.

MIPP MPO: ingrained simplicity, quick network deployment and maintenance.

Plug & Play Solution for an Effortless Fiber Termination

- Efficient, fast and reliable plug & play one-person installation
- Allows for quick network reconfiguration in the event of moves, adds and changes
- No need to splice, cleave or polish when installing

100% Pre-tested Compact and Rugged Design

- Critical optical characteristics are tightly controlled and tested during manufacturing process
- Lightweight, high strength aluminium housing for an industrial fiber pre-terminated cassette



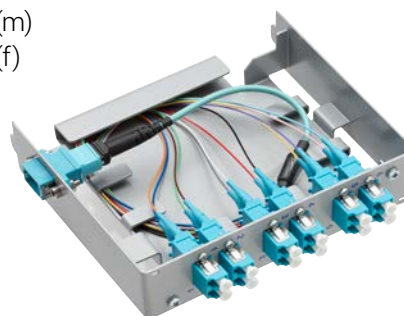
Type of Adapters

Patch Side

- LC Duplex
- LC/APC Duplex
- LC Duplex w/ Shutters
- LC/APC Duplex w/ Shutters
- SC Duplex
- SC/APC Duplex
- SC Duplex w/ Shutters
- SC/APC Duplex w/ Shutters
- ST Duplex

Trunk Side

- 1-Port MPO-12 (m)
- 1-Port MPO-12 (f)



Polarity

- Type - A
- Type - A ALT
- Type - B
- Type - C

Fiber Applications

- Multimode: OM1, OM2, OM3 and OM4
- Singlemode: OS2 and OS2/APC

MIPP Pre-Terminated MPO Cassette is UL certified (UL 1863).



Accessories

MIPP Fiber Splice Box Accessories

	SC	LC	ST	E-2000
Pigtails	1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours: <ul style="list-style-type: none"> • SC / UPC SM 9/125, OS2 • SC / APC SM 9/125, OS2 • SC / PC MM 62.5/125, OM1 • SC / PC MM 50/125, OM2 • SC / PC MM 50/125, OM3 • SC / PC MM 50/125, OM4 	1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours: <ul style="list-style-type: none"> • LC / UPC SM 9/125, OS2 • LC / APC SM 9/125, OS2 • LC / PC MM 62.5/125, OM1 • LC / PC MM 50/125, OM2 • LC / PC MM 50/125, OM3 • LC / PC MM 50/125, OM4 	1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours: <ul style="list-style-type: none"> • ST / UPC SM 9/125, OS2 • ST / PC MM 62.5/125, OM1 • ST / PC MM 50/125, OM2 • ST / PC MM 50/125, OM3 • ST / PC MM 50/125, OM4 	1 or 2 packs of 12 pigtails, 900 micron, 0.6 mtr in 12 different colours: <ul style="list-style-type: none"> • E-2000/UPC SM 9/125, OS2 • E-2000/APC SM 9/125, OS2 • E-2000/PC MM 62.5 ,OM1 • E-2000/PC MM 50/125,OM2 • E-2000/PC MM 50/125,OM3 • E-2000/PC MM 50/125,OM4
Brilliance Field Installable Connectors	12 or 24 brilliance connectors SC, 900 micron: <ul style="list-style-type: none"> • OS2 Blue • OM1 Beige • OM2 Black • OM3/4 Aqua 	12 or 24 brilliance connectors LC, 900 micron: <ul style="list-style-type: none"> • OS2 Blue • OM1 Beige • OM2 Black • OM3/4 Aqua 	12 or 24 brilliance connectors ST, 900 micron: <ul style="list-style-type: none"> • OS2 Blue • OM1 Beige • OM2 Black • OM3/4 Aqua 	
Cable Gland	MIPP-Z0001 M16 - 942 214-001	MIPP-Z0001 M16 - 942 214-001	MIPP-Z0001 M16 - 942 214-001	MIPP-Z0001 M16 - 942 214-001

MIPP Copper Panel Accessories

Accessories for MIPP Housings Equipped with Industrial REVConnect Jacks or Couplers

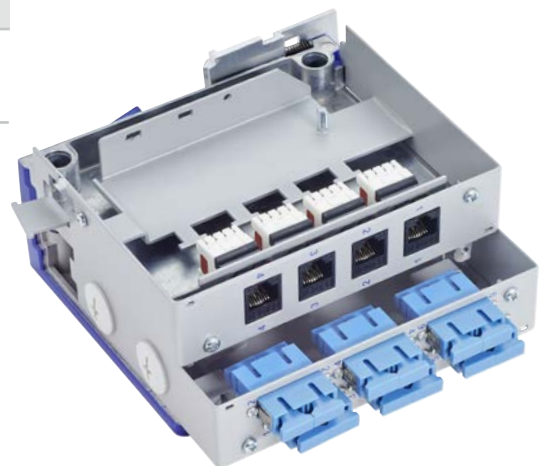
- Universal Cable Crimping Tool – 942 290-001
- Core pack 10 pcs. – 942 290-002
- Core Pack 20 pcs. – 942-290-003
- Core Pack 50 pcs. – 942-290-004

Industrial Ethernet Patch Cords*

- CAT5E 2 or 4 pairs
- CAT6 2 or 4 pairs
- CAT6A 2 or 4 pairs
- Shielded or Unshielded
- Twisted Pair or Bonded Pair
- PVC, FRNC, TPE or PUR jackets
- RJ45 and M12

FX@E LSZH Fiber Patch Cords*

- Singlemode and multimode
- LC, SC and ST fiber duplex connectors
- Polarity A/B (cross)



* For additional information, please contact customer service.

Find Your MIPP in 5 Steps



What is your system build-up?

Fiber only	Copper only	Both Fiber and Copper
MIPP Fiber Splice Box	MIPP Copper Patch Panel	MIPP Mix



How many Fibers/Copper cables do you need?

Single Module

Double Module

From 2 up to 6 Modules

MIPP Fiber Splice Box	MIPP Copper Patch Panel	MIPP Mix
Fiber count: up to 12	Copper cables: up to 4	Depending on design, a combination can be used
Fiber count: >12 and ≤ 24 in one cable	N/A	
Fiber count: up to 72	Copper cables: up to 24	

Also available as blind modules or housing for future proof or module replacement



How is it mounted?

On a DIN Rail

DIN Rail version

On a Wall

Wall mount plate included



What type of adapter/keystone do you need?

MIPP Fiber Splice Box	MIPP Copper Patch Panel
LC/LC Duplex adapters	Unshielded KeyConnect
SC/SC Duplex adapters	Shielded KeyConnect
ST/ST Duplex adapters	Unshielded Couplers
E-2000/E-2000 Duplex adapters	Shielded Couplers
	Unshielded Industrial REVConnect Jacks
	Shielded Industrial REVConnect Jacks
	Unshielded Industrial REVConnect Couplers



What fiber application/copper category do you need?

MIPP Fiber Splice Box		MIPP Copper Patch Panel
Multimode	Singlemode	CAT5E
OM1	OS2	CAT6
OM2	OS2/APC	CAT6A
OM3		
OM4		

Do you need Accessories?

See page 8.

For selecting a MIPP Pre-Terminated MPO Cassette please contact customer service.

MIPP Pre-Terminated MPO Cassette Configurator

				Housing		Cassette 1		Cassette 2		Cassette 3		Cassette 4		Cassette 5		Cassette 6																				
M	I	P	P	/	A	D	/	P	4	M	A	/	X	X	X	X	/	X	X	X	X	/	X	X	X	X	/	X	X	X	X	X	X	X	X	X

Housing

Housing

- X = No housing
- A = 1 x single module
- B = 2 x single module
- C = 3 x single module
- D = 4 x single module
- E = 5 x single module
- F = 6 x single module

Mounting

- D = Standard DIN Rail
- W = Wall mount plate included
- X = No housing

Fiber MPO Cassette

MPO Cassette

- P = Pre-Terminated MPO Cassette

Fiber Type (Applications)

- 4 = LC duplex MM/OM4
- 9 = LC duplex SM/OS2 UPC

Connector (Trunk Side)

- M = 1-port MPO-12 (m)

Polarity

- A = Type A

Example Part Numbers

Configuration	Description in DIN Rail Design
MIPP/AD/P9MA	MIPP with Pre-Terminated MPO Cassette with 6 LC OS2/UPC duplex adapters (blue) to 1 MPO-12 (male), Polarity Type-A
MIPP/AD/P4MA	MIPP with Pre-Terminated MPO Cassette with 6 LC OM4 duplex adapters (aqua) to 1 MPO-12 (male), Polarity Type-A

Can be inserted in any slot of a MIPP housing

For additional housings and cassette combinations, please contact customer service.



Fit for Any Industry

MIPP is ideal for use in a wide range of industrial networking applications requiring maximum system reliability and flexibility. The industrial design makes it highly suited for use in Machine Building, Transportation, Alternative Power Generation, Power Transmission & Distribution, and Oil & Gas markets, as well as more general use in enterprise, buildings and other applications.



About Belden

Belden Inc., a global leader in high quality, end-to-end signal transmission solutions, delivers a comprehensive product portfolio designed to meet the mission-critical network infrastructure needs of industrial, enterprise and broadcast markets. With innovative solutions targeted at reliable and secure transmission of rapidly growing amounts of data, audio and video needed for today's applications, Belden is at the center of the global transformation to a connected world. Founded in 1902, the company is headquartered in St. Louis, USA, and has manufacturing capabilities in North and South America, Europe and Asia.

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