

**NP 129AG**

**New Modular Industrial Patch Panel (MIPP™)**

Belden® introduces the MIPP, a modular industrial patch panel that makes it possible to terminate fiber and copper in one solution.



**The New MIPP Brings Flexibility and Versatility to Cable Termination, Providing Space and Cost Savings as well as Maximum System Availability.**

**BELDEN**



**HIRSCHMANN**

A BELDEN BRAND

- Combining copper and fiber management for the first time in one patch panel for maximum system flexibility and versatility
- The innovative modular design enables quick and easy installation significantly reducing initial set-up cost

The new MIPP is a termination panel for cables that need connecting to active equipment such as switches. Thanks to the modular design, MIPP can be linked to create a large single patch panel, to which, for the first time ever, both fiber and copper cables can be connected.

The MIPP is a completely new solution that provides the ideal connection between Belden® cables and Hirschmann™ switches. Available in a choice of modules suitable for both fiber and copper cables, up to 6 modules can be connected to create a single panel that can accommodate both types of cable at the same time for maximum system flexibility. Using patchcords to connect to active equipment, cables can be terminated outside the cabinet in an organized and structured manner to ensure the highest level of reliability.

**Applications**

The MIPP is ideal for use in a wide range of industrial 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 for general use in enterprise, buildings and other applications.

**Benefits**

The MIPP is designed for industrial use, where its functionality and reliability can make a significant contribution to the uptime and availability of the system. Thanks to its modular design, installation is quick and easy, saving time and significantly reducing initial set-up costs, whilst at the same time contributing to greater reliability and easier and more efficient system management, requiring less maintenance.

Designed to have the same look and feel as the Hirschmann range of industrial switches, the MIPP has a lightweight aluminum structure, which increases its overall versatility. It easy to mount on a DIN Rail or it can attach at the sides of the cabinets simply using a wall mount plate. Thanks to its small housing, high port density and modularity, cabinet space is kept to a minimum.

## MIPP: A Versatile, Modular Patch Panel for Industrial Use



MIPP is a modular, flexible patch panel that combines both copper and fiber cabling in one innovative solution.

The MIPP is available as both single and double modules:







- Single Fiber Modules (up to 12 fiber connections)
  - 6 x SC duplex adapters
  - 6 x LC duplex adapters
  - 6 x ST duplex adapters
  - 6 x E-2000™ duplex adapters
- Single Copper Modules
  - 4 x RJ45 keystone shielded
  - 4 x RJ45 keystone unshielded
  - 4 x RJ45 coupler shielded
  - 4 x RJ45 coupler unshielded
- Double Fiber Modules (up to 24 fiber connections)
  - 12 x SC duplex adapters
  - 12 x LC duplex adapters
  - 12 x ST duplex adapters
  - 12 x E-2000™ duplex adapters

Thanks to their compact dimensions, up to 6 modules can be combined in any permutation – and when required, each module can be easily removed or replaced for maximum flexibility.

### The Advantages at a Glance

- Accommodating various media and connectors
- LC, SC fiber duplex adapters
- RJ45 copper keystone jacks (Shielded and Unshielded, Cat 5e, Cat 6, Cat 6A)
- RJ45 copper coupler (Shielded and Unshielded, Cat 6A)
- High port density for maximum use of available space
- Easy to use, allows space for handling cable and module is removable from unit to facilitate connection/splicing
- Splice tray and multiple fingers for easy fiber management
- Cable entry in two places (top or bottom) for ease of use and choice of placement in cabinet
- Three cable entries for single fiber module, for ring topology applications
- Double fiber module accommodates hybrid fiber cables, with single mode and multi mode fibers
- Resilient for protection against the harsher industrial environments
- Wide temperature range from -20°C to +70°C
- Available as part of a system with market leading Hirschmann™ switches and high performance Belden cabling for optimum reliability in Industrial Ethernet networks
- UL approval (UL 1863) pending

### Technical Information

Housing Type and Description						
Description	Modular Industrial Patch Panel, DIN Rail					
Number of Single Modules	1	2	3	4	5	6
						
Mechanical Construction						
Material Housing	Aluminium					
Dimensions (WxHxD)	42 x 138 x 122 mm	72 x 138 x 122 mm	102 x 138 x 122 mm	132 x 138 x 122 mm	162 x 138 x 122 mm	192 x 138 x 122 mm
Dimensions with Adapters and Gland, max. (HxD)	165 x 133 mm	165 x 133 mm	165 x 133 mm	165 x 133 mm	165 x 133 mm	165 x 133 mm
Mounting	DIN Rail					
Appr. Weight Housing	360 g	530 g	697 g	865 g	1034 g	1200 g
Dimension Wallmount Plate (WxH)	38 x 157 mm	68 x 157 mm	98 x 157 mm	128 x 157 mm	158 x 157 mm	188 x 157 mm
Appr. Weight Wallmount Plate	67 g	119 g	172 g	223 g	277 g	329 g

# Be Certain with Belden



Module Type and Description						
Type	Single Module	Single Module	Single Module	Single Module	Single Module	Single Module
<b>Description</b>	6 x SC Duplex	6 x LC Duplex	6 x ST Duplex	6 x E-2000™ Duplex	4 x RJ45 Keystone Jack, Unshielded	4 x RJ45 Coupler, Unshielded
Mechanical Construction						
<b>Material</b>	Aluminium					
<b>Adapter/Keystone Types</b>	<ul style="list-style-type: none"> <li>Blue SC adapter OS2 UPC zirconia ceramic</li> <li>Beige SC adapter OM1/OM2 PC phosphor bronze</li> <li>Aqua SC adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Blue LC adapter OS2 UPC zirconia ceramic</li> <li>Beige LC adapter OM1/OM2 PC phosphor bronze</li> <li>Aqua LC adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Blue ST adapter OS2 UPC zirconia ceramic</li> <li>Beige ST adapter OM1/OM2 PC phosphor bronze</li> <li>Aqua ST adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Blue E-2000™ adapter OS2 UPC zirconia ceramic</li> <li>Beige E-2000™ adapter OM1/OM2 PC zirconia ceramic</li> <li>Aqua E-2000™ adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Cat 5e Modular Jack, Keyconnect AX101310, black</li> <li>Cat 6+ Modular Jack, Keyconnect AX101321, black</li> <li>Cat 6A/10GX Modular Jack, Keyconnect AX102283, black</li> </ul>	<ul style="list-style-type: none"> <li>Cat 6A/10GX Modular Jack, Keyconnect Couple AX104024, black</li> </ul>
<b>Appr. Weight Module</b>	218 g	218 g	218 g	218 g	516 g	516 g
<b>Protection Class</b>	IP40	IP40	IP40	IP40	IP20	IP20
<b>Cable Entry</b>	3, M16 Gland	3, M16 Gland	3, M16 Gland	3, M16 Gland	–	–
<b>Maximum Diameter Cable</b>	10 mm	10 mm	10 mm	10 mm	4 x 7.5 mm	4 x 7.5 mm
<b>Cable Types</b>	Fiber cables up to 12 fi bers: loose tube, mini-breakout, breakout cables				Cat 5e unshielded, Cat 6 unshielded, Cat 6A unshielded	
Module Type and Description						
Type	Double Modules	Double Modules	Double Modules	Double Modules	Single Module	Single Module
<b>Description</b>	12 x SC Duplex	12 x LC Duplex	12 x ST Duplex	12 x E-2000™ Duplex	4 x RJ45 Keystone Jack, Shielded	4 x RJ45 Coupler, Shielded
Mechanical Construction						
<b>Material</b>	Steel					
<b>Adapter/Keystone Types</b>	<ul style="list-style-type: none"> <li>Blue SC adapter OS2 UPC zirconia ceramic</li> <li>Beige SC adapter OM1/OM2 PC phosphor bronze</li> <li>Aqua SC adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Blue LC adapter OS2 UPC zirconia ceramic</li> <li>Beige LC adapter OM1/OM2 PC phosphor bronze</li> <li>Aqua LC adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Blue ST adapter OS2 UPC zirconia ceramic</li> <li>Beige ST adapter OM1/OM2 PC phosphor bronze</li> <li>Aqua ST adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Blue E-2000™ adapter OS2 UPC zirconia ceramic</li> <li>Beige E-2000™ adapter OM1/OM2 PC zirconia ceramic</li> <li>Aqua E-2000™ adapter OM3/OM4 PC zirconia ceramic</li> </ul>	<ul style="list-style-type: none"> <li>Cat 5e Shielded Modular Jack, Keyconnect AX104595, metal body</li> <li>Cat 6+ Shielded Modular Jack, Keyconnect AX104596, metal body</li> <li>Cat 6A/10GX Shielded Modular Jack, Keyconnect AX104562, metal body</li> </ul>	<ul style="list-style-type: none"> <li>Cat 6A/10GX Shielded Modular Jack, Keyconnect Coupler AX104501, metal body</li> </ul>
<b>Appr. Weight Module</b>	450 g	450 g	450 g	450 g	636 g	636 g
<b>Protection Class</b>	IP40	IP40	IP40	IP40	IP20	IP20
<b>Cable Entry</b>	1, M20 Gland	1, M20 Gland	1, M20 Gland	1, M20 Gland	–	–
<b>Maximum Diameter Cable</b>	13 mm	13 mm	13 mm	13 mm	4 x 7.5 mm	4 x 7.5 mm
<b>Maximum Diameter Cable</b>	Fiber cables up to 24 fi bers: loose tube, mini-breakout Hybrid Fiber cable: 6 x SM + 6 x OM1, 6 x SM + 6 x OM2, 6 x SM + 6 x OM3, 6 x SM + 6 x OM4				Cat 5e shielded, Cat 6 shielded, Cat 6A shielded, Cat 7 shielded	
Accessories						
<b>Pigtails</b> (1 pack of 12 pigtails, 900 micron, 0.6 m in 12 different colors)	<ul style="list-style-type: none"> <li>SC/UPC SM 9/125, OS2</li> <li>SC/PC MM 62.5/125, OM1</li> <li>SC/PC MM 50/125, OM2</li> <li>SC/PC MM 50/125, OM3</li> <li>SC/PC MM 50/125, OM4</li> </ul>	<ul style="list-style-type: none"> <li>LC/UPC SM 9/125, OS2</li> <li>LC/PC MM 62.5/125, OM1</li> <li>LC/PC MM 50/125, OM2</li> <li>LC/PC MM 50/125, OM3</li> <li>LC/PC MM 50/125, OM4</li> </ul>	<ul style="list-style-type: none"> <li>ST/UPC SM 9/125, OS2</li> <li>ST/PC MM 62.5/125, OM1</li> <li>ST/PC MM 50/125, OM2</li> <li>ST/PC MM 50/125, OM3</li> <li>ST/PC MM 50/125, OM4</li> </ul>	<ul style="list-style-type: none"> <li>E-2000™/UPC SM 9/125, OS2</li> <li>E-2000™/PC MM 62.5/125, OM1</li> <li>E-2000™/PC MM 50/125, OM2</li> <li>E-2000™/PC MM 50/125, OM3</li> <li>E-2000™/PC MM 50/125, OM4</li> </ul>		
<b>Brilliance Field Installable Connector</b> (900 micron)	12 brilliance connectors SC: <ul style="list-style-type: none"> <li>SM 9/125, OS2, blue, AX104247</li> <li>MM 62.5/125, OM1, beige, AX104244</li> <li>MM 50/125, OM2, black, AX104245</li> <li>MM 50/125, OM3/OM4, aqua, AX104246</li> </ul>	12 brilliance connectors LC: <ul style="list-style-type: none"> <li>SM 9/125, OS2, blue, AX104243</li> <li>MM 62.5 micron, OM1, beige, AX104240</li> <li>MM 50 micron, OM2, black, AX104241</li> <li>MM 50 micron, OM3/OM4, aqua, AX104242</li> </ul>	24 brilliance connectors ST: <ul style="list-style-type: none"> <li>SM 9/125, OS2, blue, AX104251</li> <li>MM 62.5/125, OM1, beige, AX104248</li> <li>MM 50/125, OM2, black, AX104249</li> <li>MM 50/125, OM3/OM4, aqua, AX104250</li> </ul>			

## MIPP Product Configurator

Use the configured product code to order

**M I P P / J D / 1 L 1 P / 2 T 9 N / X X X X / X X X X / X X X X / X X X X / X X**

### Design/Model

**MIPP** = Modular Industrial Patch Panel

### Housing Type (Note: A double module requires two places)

- |                             |                             |
|-----------------------------|-----------------------------|
| X = No Housing              | H = 2 x Double module fiber |
| A = 1 x Single module       | I = 3 x Double module fiber |
| B = 2 x Single module       | J = 1 x SM + 1 x DM fiber   |
| C = 3 x Single module       | K = 1 x SM + 2 x DM fiber   |
| D = 4 x Single module       | L = 2 x SM + 1 x DM fiber   |
| E = 5 x Single module       | M = 2 x SM + 2 x DM fiber   |
| F = 6 x Single module       | N = 3 x SM + 1 x DM fiber   |
| G = 1 x Double module fiber | O = 4 x SM + 1 x DM fiber   |

Note: SM = Single module and DM = Double module

### Mounting Type

- X = No Housing  
 W = Wall Mount Plate included  
 D = Standard DIN Rail

### Module Type

- 1 = Single module (fiber or blind)  
 2 = Double module (fiber or blind)  
 C = Single copper module

### Adapter and Keystone Type

- |                                     |                          |
|-------------------------------------|--------------------------|
| T = ST/ST Duplex adapters           | d = Shielded couplers    |
| L = LC/LC Duplex adapters           | u = Unshielded keystones |
| S = SC/SC Duplex adapters           | s = Shielded keystones   |
| E = E-2000™/E-2000™ Duplex adapters | N = Blind module         |
| c = Unshielded couplers             |                          |

### Fiber Type / Category Type for Copper

- |                         |                         |
|-------------------------|-------------------------|
| 1 = MM/OM1              | 8 = 6 x SM/OS2, 6 x OM4 |
| 2 = MM/OM2              | 9 = SM/OS2              |
| 3 = MM/OM3              | e = Cat 5e              |
| 4 = MM/OM4              | d = Cat 6               |
| 5 = 6 x SM/OS2, 6 x OM1 | a = Cat 6A              |
| 6 = 6 x SM/OS2, 6 x OM2 | N = Blind module        |
| 7 = 6 x SM/OS2, 6 x OM3 |                         |

### Accessories and Number of Keystones

- P = Pigtails  
 B = Brilliance Field Installable Connectors  
 2 = 2 keystones/couplers  
 4 = 4 keystones/couplers  
 N = No accessories

### Description of Parts Configured:

Panel with one single module and one double module fiber:

- OM1 single fiber module (three input version) with 6 LC duplex adapters including pack of 12 pigtails
- SM/OS2 double fiber module with 12 ST duplex adapters

### Always Stay Ahead with Belden

In a highly competitive environment, it is crucial to have reliable partners who are able to add value to your business. When it comes to signal transmissions, Belden is the number one solutions provider. We understand your business and want to know your specific challenges and targets to see how effective signal transmission solutions can push you ahead of the competition. By combining the strengths of our three leading brands, Belden®; Hirschmann™; and Lumberg Automation™, we are able to offer the solution you need. Today it may be a single cable, a switch or a connector, thus solving a specific issue; tomorrow it can be a complex range of integrated applications, systems and solutions.

We guarantee the superior performance of your mission-critical systems, even in the most demanding circumstances. If signal transmission is vital to your business, get in touch with the partner that delivers. Be certain. Belden.