

## Aluminum Clear/Black Pre-Insulated Power Bars Single-Sided Conductor Entry

Type IPB-S/Type IPBB-S

Manufactured from high strength aluminum alloy

Dual rated for aluminum and copper conductors, 600 Volt, 194°F

Wide conductor range: 750 kcmil - 14 Sol.

- Allows flexibility in the field and reduces number of connectors in inventory

Multiple conductor configurations: 2 through 14 position

- Choose the right connector for the application

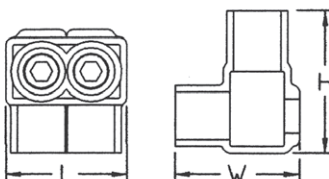
Suitable for use in panelboards, cable trays, raceways, ducts and troughs

Pre-filled with oxide inhibitor, prevents oxidation, moisture and contaminants from entering contact area

Supplied with removable access plugs over screw and conductor ports providing protection against contaminants

Pre-insulated at factory with high dielectric strength plastisol

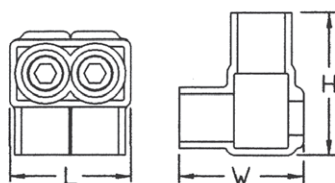
- Black insulation is UV resistant
- Clear insulation allows for visual confirmation that conductor is properly inserted
- Saves time, eliminates taping, reduces overall installation costs
- Abrasion and chemical resistant
- Will not support combustion



SINGLE SIDED ENTRY



| CLEAR<br>PART NO. | BLACK<br>PART NO. | NUMBER OF<br>CONDUCTORS | CONDUCTOR<br>RANGE | APPROXIMATE DIMENSIONS (IN.) |      |      |             |
|-------------------|-------------------|-------------------------|--------------------|------------------------------|------|------|-------------|
|                   |                   |                         |                    | L                            | W    | H    | HEX<br>SIZE |
| IPB-NA4-2S        | IPBB-NA4-2S       | 2                       | 4 Str. - 14 Sol.   | 1.39                         | 1.13 | 1.25 | 1/8         |
| IPB-NA4-3S        | IPBB-NA4-3S       | 3                       |                    | 1.99                         | 1.13 | 1.25 |             |
| IPB-NA4-4S        | IPBB-NA4-4S       | 4                       |                    | 2.59                         | 1.13 | 1.25 |             |
| IPB-NA4-5S        | IPBB-NA4-5S       | 5                       |                    | 3.19                         | 1.13 | 1.25 |             |
| IPB-NA4-6S        | IPBB-NA4-6S       | 6                       |                    | 3.79                         | 1.13 | 1.25 |             |
| IPB-NA4-8S        | IPBB-NA4-8S       | 8                       |                    | 4.99                         | 1.13 | 1.25 |             |
| IPB-NA4-10S       | IPBB-NA4-10S      | 10                      |                    | 6.19                         | 1.13 | 1.25 |             |
| IPB-NA4-12S       | IPBB-NA4-12S      | 12                      |                    | 7.39                         | 1.13 | 1.25 |             |
| IPB-NA4-14S       | IPBB-NA4-14S      | 14                      |                    | 8.59                         | 1.13 | 1.25 |             |
| IPB-NA2/0-2S      | IPBB-NA2/0-2S     | 2                       | 2/0 Str. - 14 Sol. | 1.64                         | 1.32 | 1.38 | 3/16        |
| IPB-NA2/0-3S      | IPBB-NA2/0-3S     | 3                       |                    | 2.37                         | 1.32 | 1.38 |             |
| IPB-NA2/0-4S      | IPBB-NA2/0-4S     | 4                       |                    | 3.09                         | 1.32 | 1.38 |             |
| IPB-NA2/0-5S      | IPBB-NA2/0-5S     | 5                       |                    | 3.82                         | 1.32 | 1.38 |             |
| IPB-NA2/0-6S      | IPBB-NA2/0-6S     | 6                       |                    | 4.54                         | 1.32 | 1.38 |             |
| IPB-NA2/0-8S      | IPBB-NA2/0-8S     | 8                       |                    | 5.99                         | 1.32 | 1.38 |             |
| IPB-NA2/0-10S     | IPBB-NA2/0-10S    | 10                      |                    | 7.44                         | 1.32 | 1.38 |             |
| IPB-NA2/0-12S     | IPBB-NA2/0-12S    | 12                      |                    | 8.89                         | 1.32 | 1.38 |             |
| IPB-NA2/0-14S     | IPBB-NA2/0-14S    | 14                      |                    | 10.34                        | 1.32 | 1.38 |             |



SINGLE SIDED ENTRY

**Type IPB-S/Type IPBB-S (continued)**

| CLEAR<br>PART NO. | BLACK<br>PART NO. | NUMBER OF<br>CONDUCTORS | CONDUCTOR<br>RANGE  | APPROXIMATE DIMENSIONS (IN.) |      |      |             |
|-------------------|-------------------|-------------------------|---------------------|------------------------------|------|------|-------------|
|                   |                   |                         |                     | L                            | W    | H    | HEX<br>SIZE |
| IPB-NA250-2S      | IPBB-NA250-2S     | 2                       | 250 kcmil - 10 Sol. | 2.15                         | 2.08 | 2.13 | 5/16        |
| IPB-NA250-3S      | IPBB-NA250-3S     | 3                       |                     | 3.15                         | 2.08 | 2.13 |             |
| IPB-NA250-4S      | IPBB-NA250-4S     | 4                       |                     | 4.15                         | 2.08 | 2.13 |             |
| IPB-NA250-5S      | IPBB-NA250-5S     | 5                       |                     | 5.15                         | 2.08 | 2.13 |             |
| IPB-NA250-6S      | IPBB-NA250-6S     | 6                       |                     | 6.15                         | 2.08 | 2.13 |             |
| IPB-NA250-8S      | IPBB-NA250-8S     | 8                       |                     | 8.15                         | 2.08 | 2.13 |             |
| IPB-NA250-10S     | IPBB-NA250-10S    | 10                      |                     | 10.15                        | 2.08 | 2.13 |             |
| IPB-NA250-12S     | IPBB-NA250-12S    | 12                      |                     | 12.15                        | 2.08 | 2.13 |             |
| IPB-NA250-14S     | IPBB-NA250-14S    | 14                      |                     | 14.15                        | 2.08 | 2.13 |             |
| IPB-NA350-2S      | IPBB-NA350-2S     | 2                       | 350 kcmil - 10 Sol. | 2.40                         | 2.32 | 2.50 | 5/16        |
| IPB-NA350-3S      | IPBB-NA350-3S     | 3                       |                     | 3.53                         | 2.32 | 2.50 |             |
| IPB-NA350-4S      | IPBB-NA350-4S     | 4                       |                     | 4.65                         | 2.32 | 2.50 |             |
| IPB-NA350-5S      | IPBB-NA350-5S     | 5                       |                     | 5.78                         | 2.32 | 2.50 |             |
| IPB-NA350-6S      | IPBB-NA350-6S     | 6                       |                     | 6.90                         | 2.32 | 2.50 |             |
| IPB-NA350-8S      | IPBB-NA350-8S     | 8                       |                     | 9.15                         | 2.32 | 2.50 |             |
| IPB-NA350-10S     | IPBB-NA350-10S    | 10                      |                     | 11.40                        | 2.32 | 2.50 |             |
| IPB-NA350-12S     | IPBB-NA350-12S    | 12                      |                     | 13.65                        | 2.32 | 2.50 |             |
| IPB-NA350-14S     | IPBB-NA350-14S    | 14                      |                     | 15.90                        | 2.32 | 2.50 |             |
| IPB-NA600-2S      | IPBB-NA600-2S     | 2                       | 600 kcmil - 4 Str.  | 2.80                         | 2.38 | 2.75 | 3/8         |
| IPB-NA600-3S      | IPBB-NA600-3S     | 3                       |                     | 4.13                         | 2.38 | 2.75 |             |
| IPB-NA600-4S      | IPBB-NA600-4S     | 4                       |                     | 5.45                         | 2.38 | 2.75 |             |
| IPB-NA600-5S      | IPBB-NA600-5S     | 5                       |                     | 6.78                         | 2.38 | 2.75 |             |
| IPB-NA600-6S      | IPBB-NA600-6S     | 6                       |                     | 8.10                         | 2.38 | 2.75 |             |
| IPB-NA600-8S      | IPBB-NA600-8S     | 8                       |                     | 10.75                        | 2.38 | 2.75 |             |
| IPB-NA600-10S     | IPBB-NA600-10S    | 10                      |                     | 13.40                        | 2.38 | 2.75 |             |
| IPB-NA600-12S     | IPBB-NA600-12S    | 12                      |                     | 16.05                        | 2.38 | 2.75 |             |
| IPB-NA600-14S     | IPBB-NA600-14S    | 14                      |                     | 18.70                        | 2.38 | 2.75 |             |
| IPB-NA750-2S      | IPBB-NA750-2S     | 2                       | 750 kcmil - 2 Str.  | 3.02                         | 2.75 | 3.00 | 3/8         |
| IPB-NA750-3S      | IPBB-NA750-3S     | 3                       |                     | 4.46                         | 2.75 | 3.00 |             |
| IPB-NA750-4S      | IPBB-NA750-4S     | 4                       |                     | 5.89                         | 2.75 | 3.00 |             |
| IPB-NA750-5S      | IPBB-NA750-5S     | 5                       |                     | 7.33                         | 2.75 | 3.00 |             |
| IPB-NA750-6S      | IPBB-NA750-6S     | 6                       |                     | 8.76                         | 2.75 | 3.00 |             |
| IPB-NA750-8S      | IPBB-NA750-8S     | 8                       |                     | 11.63                        | 2.75 | 3.00 |             |
| IPB-NA750-10S     | IPBB-NA750-10S    | 10                      |                     | 14.50                        | 2.75 | 3.00 |             |
| IPB-NA750-12S     | IPBB-NA750-12S    | 12                      |                     | 17.37                        | 2.75 | 3.00 |             |
| IPB-NA750-14S     | IPBB-NA750-14S    | 14                      |                     | 20.24                        | 2.75 | 3.00 |             |

**WARNING:** Failure to achieve proper torque will result in connector and conductor overheating.



WIRE CONNECTOR

TIGHTENING TORQUE VALUES  
FOR  
PENN-UNION INSULATED POWER BAR CONNECTORS

| CATALOG FAMILY                         | INTERNAL SOCKET SIZE ACROSS FLATS (INCHES) | TIGHTENING TORQUE IN INCH POUNDS | CONDUCTOR INSULATION STRIP LENGTHS (INCHES) |
|--|--|----------------------------------|---|
| IPB, IPBM-NA4<br>IPBB, IPBBM-NA4       | 1/8  | 45 (10-14 AWG)<br>50 (4-8 AWG)   | 9/16 (±1/16)                                |
| IPB, IPBM-NA2/0<br>IPBB, IPBBM-NA2/0   | 7/32                                       | 180                              | 3/4 (±1/16)                                 |
| IPB, IPBM-NA250<br>IPBB, IPBBM-NA250   | 5/16                                       | 275                              | 1 1/16 (±1/16)                              |
| IPB, IPBM-NA350<br>IPBB, IPBBM-NA350   | 5/16                                       | 275                              | 1 1/4 (±1/8)                                |
| IPB, IPBM-NA600<br>IPBB, IPBBM-NA600   | 3/8  | 400                              | 1 3/8 (±1/8)                                |
| IPB, IPBM-NA750<br>IPBB, IPBBM-NA750   | 3/8  | 550                              | 1 3/4 (±1/8)                                |
| IPB, IPBM-NA1000<br>IPBB, IPBBM-NA1000 | 1/2  | 600                              | 2 5/8 (±1/8)                                |

PROPER FUNCTIONING OF PENN-UNION CORP. "IPB", "IPBM", "IPBB", & "IPBBM" SERIES INSULATED POWER BARS IS CONTINGENT UPON INSTALLATION OF THIS PRODUCT IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND THE ABOVE INSTRUCTIONS. ANY APPLICATION THAT IS NOT IN ACCORD IS CONSIDERED A MISUSE OF THE PRODUCT. READ INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ASSEMBLIES.

**PennUnion**  
229 WATERFORD STREET  
EDINBORO, PA 16412 USA

|      |             |          |       |          |
|------|-------------|----------|-------|----------|
| 4    | ADD IPB--   | 1/19/17  |       |          |
|      | 1000 FAMILY |          |       |          |
|      | 3           |          | 11678 | 12/22/16 |
|      | 2           |          | 11633 | 2/17/16  |
| 1    | 11512       | 10/15/14 |       |          |
| REV. | ECN         | DATE     |       |          |

9Y81-97543-01

**WARNING:** FAILURE TO FOLLOW THE INSTALLATION INSTRUCTIONS SHOWN BELOW CAN CAUSE A CONDITION OF SEVERE CONNECTOR OVERHEATING AND RELATED HAZARDS.

**INSTALLATION INSTRUCTIONS  
INSULATED ALUMINUM POWER BARS  
CLEAR & BLACK**

"IPB" & "IPBB" TYPE POWER BARS ACCOMMODATE FROM TWO TO FOURTEEN CONDUCTORS. TYPES "IPBM" & "IPBBM" ACCOMMODATE FROM TWO TO TWELVE CONDUCTORS IN THE FOLLOWING COMBINATIONS:

**ALUMINUM TO ALUMINUM  
ALUMINUM TO COPPER  
COPPER TO COPPER**

**INSTALLATION PROCEDURE**

- (1) SELECT PROPER IPB, IPBM, IPBB OR IPBBM CONNECTOR SIZE AND CONFIGURATION FOR THE CONDUCTOR RANGE TO BE USED.**
- (2) STRIP THE INSULATION TO A SUFFICIENT LENGTH FOR FULL INSERTION INTO THE CONNECTOR AND TO OBTAIN PROPER SCREW CONTACT.**

**WHEN STRIPPING INSULATION, BE CAREFUL NOT TO NICK THE CONDUCTOR STRANDS. A proper Insulation stripping tool or use of a pencil shaving method is recommended.**

**WARNING:** Nicking of strands will cause a reduction in current carrying capacity of the conductors.

**WARNING:** Conductor must be stripped immediately prior to installation.

- (3) Conductor surface should be thoroughly cleaned by use of a stiff wire brush or abrasive cloth to abrade surface.**
- (4) After conductors are properly prepared for installation, insert conductors into connector body to a sufficient depth to allow full contact with set screw. The IPB clear insulation will allow the installer to visually verify that full insertion depth has been achieved.**
- (5) Set screws shall be tightened to final torque value shown in table below.**