

# IBSHY Insulated Braided Conductor for Compact Circuit Breakers

IBSHY is the ideal ready-to-install flexible wire replacement solution that is specifically designed for connections from compact molded case circuit breakers with typical current rating of 125/160 A to copper busbar . The IBSHY connects to the front access terminals of the breakers without any additional accessories, such as angular connectors, spreaders, ring terminal connectors or extenders. IBSHY is available in cross section of 32 mm<sup>2</sup> (63.15 kcmil), lengths from 230 to 830 mm (9.1" to 32.7").

Manufactured in an ISO 9001 2015 certified proprietary automated facility, IBSHY is formed by weaving high-quality electrolytic copper wire to form a durable low voltage connector with maximum flexibility that allows for more compact power connections to circuit breakers. The IBSHY allows users to reduce the total size and weight of the installation, improving both design flexibility and assembly aesthetics.

The IBSHY features integral pre-punched palms at one end with a pre-punched crimped tube at the other end both of which are ready to connect out of the box. There are no lugs to purchase or install, making connections simpler and faster and eliminating faulty connections due to vibration or fatigue.

These specific shapes give users the advantage to have the possibility to link a compact circuit breaker, or other apparatus, using connection by cage or bolt to a copper busbar with a larger bolt.

The insulation is a high-resistance, self-extinguishing, and halogen free glass fiber reinforced silicone providing possible high working temperature. IBSHY is compatible with all major brand compact molded case circuit breakers with 125/160 A nominal current. Contact your nVent ERIFLEX representative to determine the correct size for your application.



## CERTIFICATIONS



## FEATURES

Suitable for all main 125/160 A electrical devices and specifically molded case circuit breakers

Resistant to vibration, improving reliability and performance

Improves assembly flexibility and aesthetics

Quick and easy installation

No additional cutting, stripping, crimping and punching needed

Small wire diameter provides maximum flexibility

Halogen free solution for applications requiring a low smoke solution

Conforms to NF EN 45545 obtaining an HL3 classification for chapters R22 and R23

DNV GL® certified for marine and offshore applications

High working temperature

RoHS compliant

## SPECIFICATIONS

|                                                     |                                        |
|-----------------------------------------------------|----------------------------------------|
| <b>Wire Diameter:</b>                               | 0.15mm                                 |
| <b>Peak Short Circuit Current (I<sub>pk</sub>):</b> | 15kA                                   |
| <b>Typical Application Current Rating:</b>          | 160 A                                  |
| <b>Max Working Voltage, IEC (U<sub>i</sub>):</b>    | 1000;1500                              |
| <b>Working Temperature:</b>                         | -60 to 250 °C                          |
| <b>Material:</b>                                    | Copper;Glass Fibre Reinforced Silicone |
| <b>Complies With:</b>                               | IEC® 60439.1;IEC® 61439.1              |
| <b>Finish:</b>                                      | Tinned                                 |
| <b>Flammability Rating:</b>                         | UL® 1441 VW-1                          |

Table 1/2

| Catalog Number | Article Number | Cross Section     | Length (L) | A     | B     | C    |
|----------------|----------------|-------------------|------------|-------|-------|------|
| IBSHY32-330    | 558586         | 32mm <sup>2</sup> | 330mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-500    | 558589         | 32mm <sup>2</sup> | 500mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-430    | 558588         | 32mm <sup>2</sup> | 430mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-765    | 558594         | 32mm <sup>2</sup> | 765mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-700    | 558593         | 32mm <sup>2</sup> | 700mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-230    | 558584         | 32mm <sup>2</sup> | 230mm      | 11 mm | 25 mm | 3 mm |

| CatalogNumber | Article Number | Cross Section     | Length (L) | A     | B     | C    |
|---------------|----------------|-------------------|------------|-------|-------|------|
| IBSHY32-830   | 558595         | 32mm <sup>2</sup> | 830mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-565   | 558591         | 32mm <sup>2</sup> | 565mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-630   | 558592         | 32mm <sup>2</sup> | 630mm      | 11 mm | 25 mm | 3 mm |
| IBSHY32-365   | 558587         | 32mm <sup>2</sup> | 365mm      | 11 mm | 25 mm | 3 mm |

| Table 2/2      |                |      |                   |                   |
|----------------|----------------|------|-------------------|-------------------|
| Catalog Number | Article Number | D    | Hole Size 1 (HS1) | Hole Size 2 (HS2) |
| IBSHY32-330    | 558586         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-500    | 558589         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-430    | 558588         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-765    | 558594         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-700    | 558593         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-230    | 558584         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-830    | 558595         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-565    | 558591         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-630    | 558592         | 5 mm | 6.5 mm            | 10.5 mm           |
| IBSHY32-365    | 558587         | 5 mm | 6.5 mm            | 10.5 mm           |

## ADDITIONAL PRODUCT DETAILS

$\Delta T$  = Temperature of conductors – Internal temperature of panel.

This table indicates the temperature rise produced by chosen current in the given section. This calculation does not take into account the heat dissipation from the switch gear.

| Maximum Ampacity Ratings                  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                             |                             |                                 |                                 |
|-------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|---------------------------------|---------------------------------|
| Cross Section<br>(mm <sup>2</sup> /kcmil) | $\Delta T$<br>30°<br>C<br>(A) | $\Delta T$<br>35°<br>C<br>(A) | $\Delta T$<br>40°<br>C<br>(A) | $\Delta T$<br>45°<br>C<br>(A) | $\Delta T$<br>50°<br>C<br>(A) | $\Delta T$<br>55°<br>C<br>(A) | $\Delta T$<br>60°<br>C<br>(A) | $\Delta T$<br>65°<br>C<br>(A) | $\Delta T$<br>70°<br>C<br>(A) | $\Delta T$<br>75°<br>C<br>(A) | $\Delta T$<br>80°<br>C<br>(A) | $\Delta T$<br>100°<br>C (A) | $\Delta T$<br>120°<br>C (A) | 2 Bar<br>Current<br>Coefficient | 3 Bar<br>Current<br>Coefficient |
| 32/63.15                                  | 142                           | 153                           | 164                           | 174                           | 184                           | 193                           | 201                           | 209                           | 217                           | 225                           | 235                           | 263                         | 290                         | 1.6                             | 2                               |

| Circuit Breaker Compatibility      |                        |
|------------------------------------|------------------------|
| Circuit Breaker Current Rating     | 125/160 A              |
| Part Number                        | IBSHY32x               |
| Schneider Electric® Compact® (IEC) | NSA NG 125             |
| Square D® PowerPact® (UL)          | H-Frame                |
| ABB® Tmax® (IEC)                   | T1 T2 XT1 XT2          |
| ABB® Tmax® (UL)                    | T1 T2 XT1 XT2          |
| GE® Record Plus® (IEC/UL)          | FD 160                 |
| Siemens® Sentron® (IEC/UL)         | VL160X 3VL1 VL160 3VL2 |
| Moeller® xEnergy® (IEC)            | NZM1                   |
| Cutler Hammer® Series G (UL)       | EG Frame               |
| Legrand® (IEC)                     | DPX 160 DPX3 160       |
| Hager® (IEC)                       | h3 160                 |
| Rockwell/Allen Bradley (UL)        | G-Frame H-Frame        |
| OEZ (IEC)                          | BC160N                 |

## DIAGRAMS



## WARNING

nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at [www.nvent.com](http://www.nvent.com) and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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