IBSB ADVANCED INSULATED BRAIDED CONDUCTOR, 250 A, 0.79" X 0.11" X 16.93"

CATALOG NUMBER

IBSBADV50-430



IBS/IBSB Advanced Insulated Braided Conductor, Halogen Free is the ideal ready-to-install flexible wire replacement solution that is specifically designed for connections to all molded case circuit breakers, including the most compact breakers on the market. IBS/IBSB Advanced connects to the front access terminals of the breakers without any additional accessories, such as angular connectors, spreaders, ring terminal connectors or extenders. IBS/IBSB Advanced is available in cross sections of 25 to 240 mm² (49.34 to 273.65 kcmil), lengths from 230 to 1,030 mm (9.06" to 40.55"), and 80 to 700 A.

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

The unique manufacturing process of integral pre-punched palms make IBS/IBSB Advanced ready to connect out of the box. There are no lugs to purchase or install, making connections simpler and faster and eliminates faulty connections due to vibration or fatigue.

IBS/IBSB Advanced is compatible with all major brand molded case circuit breakers.

The advanced technology insulation is a high-resistance low smoke, halogen-free and flame retardant thermoplastic.

IBS/IBSB Advanced does not generate corrosive gases and produces a relatively low smoke opacity in accordance with IEC 61034-2 and UL 2885. The low smoke characteristic improves visibility conditions for people to be able to easily locate the emergency exit and also allows rescue workers to better assess an emergency situation. IBS/IBSB Advanced means greater safety for individuals, less damage for your electrical equipment and less environmental impact.

The halogen–free feature enables a reduction in the quantity of toxic smoke. IBS/IBSB Advanced does not contain any halogens, according to IEC 60754-1 and UL 2885, minimizing toxicity and making it the ideal product for use in enclosed

spaces such as data centers, rail, and public facilities such as hospitals and schools. This also facilitates the use of IBS/IBSB Advanced in specific applications such as submarines, switchboards and other enclosed environments that require a low emissions solution.

In addition to the above features, IBS/IBSB Advanced is compliant with the UL 94-V0 testing standard and glow wire test 960 °C. The flame retardant portion of the test illustrates the self-extinguish feature. This superior feature of IBS/IBSB Advanced is also shown by the Limiting Oxygen Index (LOI) at 30%. In case of fire, IBS/IBSB Advanced generates a limited quantity of smoke that is less damaging to your electrical equipment.

CERTIFICATIONS

FEATURES

- Suitable for all main molded case circuit breakers
- Resistant to vibration, improving reliability and performance
- Insulated by high-resistance, halogen free, flame retardant and low smoke material
- Tinned copper provides superior corrosion resistance
- Improves assembly flexibility and aesthetics
- Quick and easy installation
- No additional cutting, stripping, crimping and punching needed
- Integral palm without lugs or terminals reduces material and assembly weight
- Conforms to NF EN 45545 obtaining an HL3 classification for chapters R22 and R23
- DNV GL® and Bureau Veritas certified for marine and offshore applications
- Small wire diameter provides maximum flexibility
- Dramatically smaller and more flexible than comparable cable based on ampacity
- Better power density than cable with lower skin effect ratio
- Reduces total installation cost
- RoHS compliant
- Tinned copper allows for copper or aluminum conductor connections
- On request, can be manufactured with other colors (typically with Orange sleeve for battery connection)

PRODUCT ATTRIBUTES

Article Number: 534409

Typical Application Current Rating: 250 A

Peak Short Circuit Current (Ipk): 30 kA

Finish: Tinned

Material: Copper; Thermoplastic Elastomer

Dielectric Strength: 20

Flammability Rating: UL® 94V-0

Halogen Free Rating: UL® 2885; IEC® 60754-1; IEC® 62821-1

Low Smoke Rating: IEC® 61034-2; ISO 5659-2; UL® 2885

UV Resistance Rating: UL® 2556; UL® 854

Insulation Elongation: 500 %

Insulation Thickness: 1.8 mm

Max Working Voltage, IEC/UL 758: 1000; 1500

Max Working Voltage, UL 67: 600

Working Temperature: −50 to 115 °C

Wire Diameter: 0.15 mm

Certification Details: UL® 67; UL® 758

Complies With: IEC® 60439.1; IEC® 60695-2-11 (Glow Wire Test 960 °C); IEC® 61439.1; IEC® 61439.1 Class II

Cross Section: 50 mm²

Conductor Width: 20 mm

Conductor Thickness: 2.8 mm

Length: 430 mm

A: 9 mm

B: 11 mm

C: 27 mm

D: 8 mm

Hole Size 1: 8.5 mm

Hole Size 2: 10.5 mm

Unit Weight: 0.27 kg

ADDITIONAL PRODUCT DETAILS

ΔT = 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.

IBSB Advanced Insulated Braided Conductor with a cross section of 240 mm² (473.65 kcmil) is constructed of red copper strands with tinned palms.

Distance between supports must not exceed 630 mm (17.8") according to IEC 61439-1.

Maximum Ampacity Ratings									
Cross Section (mm²/kcmil)	**ΔT 30° C (A)**	**ΔT 40° C (A)**	**ΔT 45° C (A)**	**ΔT 50° C (A)**	**ΔT 55° C (A)**	**ΔT 60° C (A)**	**ΔT 70° C (A)**	**2 Bar Current Coefficient**	**3 Bar Current Coefficient**
25/49.34	116	134	142	150	157	164	177	1.6	2
50/98.68	213	246	260	274	288	301	325	1.6	2
70/138.15	226	261	277	291	306	319	345	1.6	2
100/197.35	298	344	365	385	404	422	456	1.6	2
120/236.82	363	419	444	468	491	513	554	1.6	2
185/365.1	416	480	509	537	563	588	635	1.6	2
240/473.65	556	642	681	718	753	786	849	1.6	2

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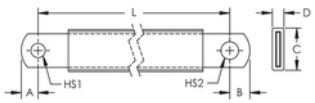
25/49.34 (IBSB)	116	134	142	150	157	164	177	1.6	2
25/49.34 (IBS)	137	158	167	177	185	193	209	1.6	2
50/98.68	213	246	260	274	288	301	325	1.6	2
70/138.15	226	261	277	291	306	319	345	1.6	2
100/197.35	298	344	365	385	404	422	456	1.6	2
120/236.82	363	419	444	468	491	513	554	1.6	2
185/365.1	416	480	509	537	563	588	635	1.6	2
240/473.65	556	642	681	718	753	786	849	1.6	2

Circuit Breaker Compatibility									
Circuit Breaker Current Rating	**125/160 A**		**250 A**		**300 A**	**350 A**	**400 A**	**500 A**	**630**
Part Number	**IBSBADV25x**	**IBSADV25x**	**IBSBADV50x**	**IBSADV50x**	**IBSBADV70x**	**IBSBADV100x**	**IBSBADV120x**	**IBSBADV185x**	**IBS**
Schneider Electric® Compact® (IEC)	NSA NG 125	NSX 100 NSX 160	NSX 250	NSX 250	NSX 400	NSX 400	NSX 400	NSX 630	NSX
Square D® PowerPact® (UL)	H-Frame	J-Frame	J-Frame	J-Frame	L-Frame	L-Frame	L-Frame	-	-
ABB® Tmax® (IEC)	T1 T2 XT1 XT2	-	T3 XT3 XT4	T3 XT3 XT4	T4	T4	T5	T5	T5
ABB® Tmax® (UL)	T1 T2 XT1 XT2	T3	T4 XT3 XT4	T4	T5	T5	T5	-	-
GE® Record Plus® (IEC/UL)	FD 160	FD 160	FE 250	FE 250	FG 400	FG 400	FG 400	FG 630	FG 6
Siemens® Sentron® (IEC/UL)	VL160X 3VL1 VL160 3VL2	-	VL250 3VL3	VL250 3VL3	VL400 3VL4	VL400 3VL4	VL400 3VL4	-	-
Moeller® xEnergy® (IEC)	NZM1	-	NZM2	NZM2	NZM3	NZM3	NZM3	NZM3	NZM
Cutler Hammer® Series G (UL)	EG Frame	JG Frame	JG Frame	JG Frame	LG Frame	LG Frame	LG Frame	LG Frame	LG F
Legrand® (IEC)	DPX 160 DPX3 160	-	DPX 250 DPX3 250	DPX 250 DPX3 250	DPX 630	DPX 630	DPX 630	DPX 630	DPX
Hager® (IEC)	h3 160	-	h3 250	h3 250	h3 630	h3 630	-	-	-
Rockwell/Allen Bradley (UL)	G-Frame H-Frame	-	I-Frame J-Frame	I-Frame J-Frame	I-Frame J-Frame	-	K-Frame	K-Frame	-
Mitsubishi Electric (IEC)	-	NF125 NF160 DSN125 DSN160	NF250 DSN250	NF250 DSN250	-	NF400 DSN400	-	-	-
OEZ (IEC)	BC160N	-	BD250N BD250S	-	BH630B BH630S	BH630B BH630S	BH630B BH630S	BH630B BH630S	BH63 BH63

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 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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