IBS/IBSB ADVANCED INSULATED BRAIDED CONDUCTOR, HALOGEN FREE

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)

SPECIFICATIONS

Wire Diameter:	0.006"
Insulation Thickness:	0.070"
Dielectric Strength:	20 kV/mm

Insulation Elongation:	500 %
Max Working Voltage, UL 67:	600 VAC/DC
Max Working Voltage, IEC/UL 758:	1,000 VAC;1,500 VDC
Material:	Copper;Thermoplastic Elastomer
Complies With:	IEC® 60439.1;IEC® 60695-2-11 (Glow Wire Test 960 °C);IEC® 61439.1;IEC® 61439.1 Class II
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;IEC® 60 364: AN3 Level
Certification Details:	UL® 67;UL® 758
Flammability Rating:	UL® 94V-0
Working Temperature:	-58 to 239 °F

Catalog Number	Item Name	Typical Application Current Rating	Peak Short Circuit Current (Ipk)	Finish	Cross Section	Conductor Width	Conductor Thickness	Length(L)	A	B	C	D	Hole Size 1(HS1)	Hole Size 2(HS2)	Unit Weight
IBSADV25-1030	534506	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	40.550"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	0.900 lb
IBSADV25-230	534500	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	9.060"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	2.090 lb
IBSADV25-330	534501	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	12.990"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	0.310 lb
IBSADV25-430	534502	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	16.930"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	0.370 lb
IBSADV25-530	534503	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	20.870"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	0.460 lb
IBSADV25-630	534504	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	24.800"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	0.550 lb
IBSADV25-830	534505	160 A	14 kA	Tinned	49.340 kcmil	0.79"	0.07"	32.680"	0.390"	0.470"	0.980"	0.240"	0.330"	0.410"	0.730 lb
IBSADV50-1030	534513	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	40.550"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	1.430 lb
IBSADV50-230	534507	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	9.060"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	0.350 lb
IBSADV50-330	534508	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	12.990"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	0.490 lb
IBSADV50-430	534509	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	16.930"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	0.640 lb
IBSADV50-530	534510	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	20.870"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	0.780 lb
IBSADV50-630	534511	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	24.800"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	0.900 lb
IBSADV50-830	534512	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	32.680"	0.470"	0.470"	1.063"	0.315"	0.410"	0.410"	1.170 lb
IBSBADV100-1030	534427	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	40.550"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	2.620 lb
IBSBADV100-230	534421	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	9.060"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	0.600 lb
IBSBADV100-330	534422	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	12.990"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	0.860 lb
IBSBADV100-430	534423	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	16.930"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	1.100 lb
IBSBADV100-530	534424	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	20.870"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	1.370 lb
IBSBADV100-630	534425	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	24.800"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	1.610 lb
IBSBADV100-830	534426	350 A	70 kA	Tinned	197.350 kcmil	0.94"	0.20"	32.680"	0.350"	0.430"	1.220"	0.510"	0.330"	0.410"	2.120 lb
IBSBADV120-1030	534434	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	40.550"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	3.150 lb
IBSBADV120-230	534428	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	9.060"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	0.730 lb

Catalog Number	Item Name	Typical Application CurrentRating	Peak Short Circuit Current (Ipk)	Finish	Cross Section	Conductor Width	Conductor Thickness	Length(L)	A	B	C	D	Hole Size 1(HS1)	Hole Size 2(HS2)	Unit Weight
IBSBADV120-330	534429	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	12.990"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	1.040 lb
IBSBADV120-430	534430	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	16.930"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	1.320 lb
IBSBADV120-530	534431	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	20.870"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	1.630 lb
IBSBADV120-630	534432	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	24.800"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	1.940 lb
IBSBADV120-830	534433	400 A	70 kA	Tinned	236.820 kcmil	1.26"	0.17"	32.680"	0.430"	0.430"	1.540"	0.470"	0.410"	0.410"	2.540 lb
IBSBADV185-1030	534440	500 A	70 kA	Tinned	365.100 kcmil	1.26"	0.28"	40.550"	0.470"	0.550"	1.540"	0.630"	0.410"	0.490"	4.630 lb
IBSBADV185-330	534435	500 A	70 kA	Tinned	365.100 kcmil	1.26"	0.28"	12.990"	0.470"	0.550"	1.540"	0.630"	0.410"	0.490"	1.540 lb
IBSBADV185-430	534436	500 A	70 kA	Tinned	365.100 kcmil	1.26"	0.28"	16.930"	0.470"	0.550"	1.540"	0.630"	0.410"	0.490"	1.980 lb
IBSBADV185-530	534437	500 A	70 kA	Tinned	365.100 kcmil	1.26"	0.28"	20.870"	0.470"	0.550"	1.540"	0.630"	0.410"	0.490"	2.430 lb
IBSBADV185-630	534438	500 A	70 kA	Tinned	365.100 kcmil	1.26"	0.28"	24.800"	0.470"	0.550"	1.540"	0.630"	0.410"	0.490"	2.870 lb
IBSBADV185-830	534439	500 A	70 kA	Tinned	365.100 kcmil	1.26"	0.28"	32.680"	0.470"	0.550"	1.540"	0.630"	0.410"	0.490"	3.750 lb
IBSBADV240-1030	534446	630 A	80 kA	Bare, Tinned	473.650 kcmil	1.26"	0.36"	40.550"	0.470"	0.550"	1.540"	0.730"	0.410"	0.490"	5.890 lb
IBSBADV240-330	534441	630 A	80 kA	Bare, Tinned	473.650 kcmil	1.26"	0.36"	12.990"	0.470"	0.550"	1.540"	0.730"	0.410"	0.490"	1.960 lb
IBSBADV240-430	534442	630 A	80 kA	Bare, Tinned	473.650 kcmil	1.26"	0.36"	16.930"	0.470"	0.550"	1.540"	0.730"	0.410"	0.490"	2.510 lb
IBSBADV240-530	534443	630 A	80 kA	Bare, Tinned	473.650 kcmil	1.26"	0.36"	20.870"	0.470"	0.550"	1.540"	0.730"	0.410"	0.490"	3.090 lb
IBSBADV240-630	534444	630 A	80 kA	Bare, Tinned	473.650 kcmil	1.26"	0.36"	24.800"	0.470"	0.550"	1.540"	0.730"	0.410"	0.490"	3.640 lb
IBSBADV240-830	534445	630 A	80 kA	Bare, Tinned	473.650 kcmil	1.26"	0.36"	32.680"	0.470"	0.550"	1.540"	0.730"	0.410"	0.490"	4.760 lb
IBSBADV25-1030	534406	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	40.550"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.770 lb
IBSBADV25-230	534400	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	9.060"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.180 lb
IBSBADV25-330	534401	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	12.990"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.240 lb
IBSBADV25-430	534402	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	16.930"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.330 lb
IBSBADV25-530	534403	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	20.870"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.400 lb
IBSBADV25-630	534404	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	24.800"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.490 lb
IBSBADV25-830	534405	160 A	14 kA	Tinned	49.340 kcmil	0.47"	0.11"	32.680"	0.256"	0.256"	0.710"	0.350"	0.260"	0.260"	0.620 lb
IBSBADV50-1030	534413	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	40.550"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	1.410 lb
IBSBADV50-230	534407	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	9.060"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	0.330 lb
IBSBADV50-330	534408	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	12.990"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	0.460 lb
IBSBADV50-430	534409	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	16.930"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	0.600 lb
IBSBADV50-530	534410	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	20.870"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	0.730 lb
IBSBADV50-630	534411	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	24.800"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	0.860 lb
IBSBADV50-830	534412	250 A	30 kA	Tinned	98.680 kcmil	0.79"	0.11"	32.680"	0.350"	0.430"	1.063"	0.315"	0.330"	0.410"	1.150 lb
IBSBADV70-1030	534420	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	40.550"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	1.900 lb
IBSBADV70-230	534414	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	9.060"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	0.440 lb
IBSBADV70-330	534415	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	12.990"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	0.620 lb
IBSBADV70-430	534416	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	16.930"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	0.790 lb

Catalog Number	Item Name	Typical Application CurrentRating	Peak Short Circuit Current (Ipk)	Finish	Cross Section	Conductor Width	Conductor Thickness	Length(L)	A	B	C	D	Hole Size 1(HS1)	Hole Size 2(HS2)	Unit Weight
IBSBADV70-530	534417	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	20.870"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	0.970 lb
IBSBADV70-630	534418	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	24.800"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	1.170 lb
IBSBADV70-830	534419	300 A	30 kA	Tinned	138.150 kcmil	0.79"	0.17"	32.680"	0.350"	0.430"	1.060"	0.430"	0.330"	0.410"	1.540 lb

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

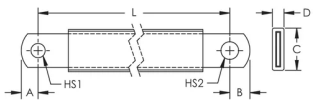
Cross Section (mm²/kcmil)	ΔT 30° C (A)	ΔT 40° C (A)	ΔT 45° C (A)	ΔT 50° C (A)	ΔT 55° C (A)	ΔT 60° C (A)	ΔT 70° C (A)	2 Bar Current Coefficient	3 Bar Current Coefficient
25/49.34	116	134	142	150	157	164	177	1.6	2
50/98.68	213	246	260	274	288	301	325	1.6	2
70/138.15	226	261	277	291	306	319	345	1.6	2
100/197.35	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

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 (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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