

SBE® 160 / SBX® 175 Connectors

Up to 280 Amps



SBX[°] and SBE[°] connectors can integrate up to 8 auxiliary power / signal contacts along with the two primary power circuits. SBE[°] connectors feature an IEC 60950 touch safe housing molded from a chemical resistant PBT / PC blend resin. SBX[°] are molded from a rugged PC resin and are rated IP20 per IEC 60529.

- Meets EN1175:2020
- Touch Safe Interface
 Minimizes potential contact with live circuits per IEC 60950
 & IEC 60529
- Up to 8 Last Mate / First Break Auxiliaries Enables intelligent power switching, CAN and interlock loop circuitry, as well as power up to 20 amps per pole
- Color-coded Mechanical Voltage Keys Like all Multipole connectors, the SBE® and SBX® offer an easy way to identify circuits and protect against cross mating

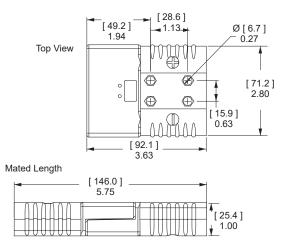
SBE® 160 / SBX® 175 ORDERING INFORMATION

SBE® 160 / SBX® 175 Housings

The middle size of SBE[®], X, O style housing. SBE[®] housings are molded from a chemical resistant PBT. SBX[®] housings are molded from PC. SBE[®] 160 and SBX[®] 175 housings of the same Voltage Color-Code can be mated (except yellow) but is not recommended as it invalidates UL approvals. SBX[®] 175 housings do not meet EN1175:2020 requirements for industrial trucks.

Description	SBE® 160 P	art Numbers	SBX® 175 P	art Numbers
Minimum Quantity	100	25	100	25
Yellow	2-8170G4	E6383G1	2-7251G4	6383G1
Orange	2-8170G3	E6382G1	2-7251G3	6382G1
Red	2-8170G5	E6385G1	2-7251G5	6385G1
Gray	2-8170G1	E6380G1	2-7251G1	6380G1
Blue	2-8170G2	E6381G1	2-7251G2	6381G1
Green	2-8170G7	E6390G1	2-7251G7	6390G1
Black	2-8170G14	E6392G1	N/A	N/A

* Yellow SBE® 160 and SBX® 175 housings are NOT intermateable.

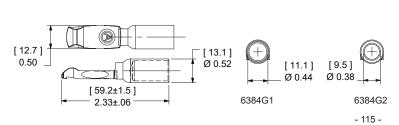


SBE® 160 / SBX® 175 Silver Plated Primary Power Wire Contacts

Use two silver plated contacts per housing for the best electrical performance and durability up to 10,000 mating cycles. See reducing bushings in accessory section for smaller wires.

				Dimen: - A -	
AWG	mm²	Loose Piece	Part Numbers	inches	mm
Minim	um Quantity	500	50		
1/0	50	6384G1-BK	6384G1 *	0.44	11.1
2	35	6384G2-BK	6384G2 *	0.38	9.7

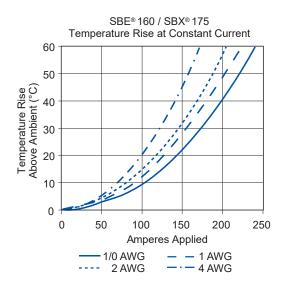
* Sold as pairs. 2 parts shipped for every 1 part ordered.

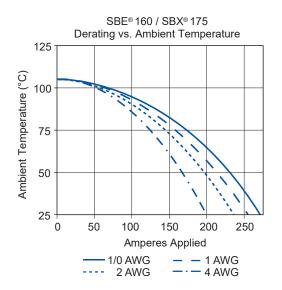


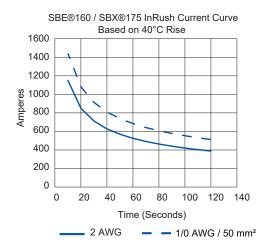
SBE® 160 / SBX® 175 CONNECTOR TEMPERATURE CHARTS - Temperature rise charts

are based on a 25°C ambient temperature.

Current - Temperature Derating per IEC 60512-5-2 Test 5B







EN1175:2020 Rating			
Rated Current (A)	Cable cross-section (mm ²)		
160	35		

SBE® 160 / SBX® 175 CONNECTOR SPECIFICATIONS

Electrical	SBE® / S	SBX®	SBE [®] Only
Current Rating Amperes ¹	USR	CNR	EN1175:2020
Primary Power (1/0)	280	175	160
Powerpole [®] Auxiliary	20	20	N/A
1x4 Auxiliary (12 AWG)	20	20	N/A
PPMX Auxiliary (20 AWG)	7	5	N/A
Voltage Ratings			
Primary Power Contact	600	600	150
Powerpole [®] Auxiliary	600	600	150 ⁴
1x4 Auxiliary (12 AWG)	600	600	N/A
Dielectric Withstanding Voltage			
Volts AC	2,200	2,000	2,000
Avg. Mated Contact Resistance 1			
6" of 1/0 AWG Wire	0.1	0.1	
UL Hot Plug Current Rating Ampe	res - 250 Cy	cles at 12	OV DC
Power	100	100	
Powerpole [®] Auxiliary	30	30	
1x4 Auxiliary	5A	5A	

MECHANICAL		
Wire Size Range	AWG	mm²
Power Contacts	10 to 1/0	5.3 to 53.5
Auxiliary Contacts	24 to 10	0.25 to 5.3
Max. Wire Insulation Diameter	in.	mm
Power Contacts	0.600	15.200
Powerpole [®] Auxiliary	0.175	4.450
1x4 Auxiliary	0.140	3.600
Operating Temperature ²	°F	°C
SBX [®] and SBE [®] Housings	-4° to 221°	-20° to 105°
Mating Cycles No Load by Plating	Silver (Ag)	Gold (Au)
Power Contacts	10,000	
Powerpole [®] Auxiliary	10,000	
1x4 Auxiliary		10,000
PPMX Auxiliary		5,000
Avg. Mating / Unmating Force	Lbf.	Ν
Main Connector Housing	30	134
Per Powerpole [®] Connector	5.00	22.00
Per Contact in 1x4 Auxiliary	0.70	3.00
Per PPMX Housing	4.50	20.00
Min. Contact / Spring Retention Force	Lbf.	N
Power Standard Housing	120	533.7
Powerpole [®] Housing	25	111
1x4 Auxiliary Housing	10	44.5
PPMX Housing	12	53

Specifications continued on next page

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SBX [®] and Powerpole [®] Plastic Resin	Polycarbonate
SBE® and 1x4 Auxiliary Housing	Polycarbonate / PBT Blend
Contact Retention Spring	Stainless Steel
Housing Flammability Rating	
UL94	V-0
Glow Wire - SBE® 160 Only	960°C (GWFI) / 850°C (GWIT)
Power & Powerpole [®] Contact	Silver Plated Copper Alloy
1x4 Auxiliary Contacts	
Pin	Copper Alloy, Au Over Ni
Socket	BeCu, Au Over Ni
Socket Body	Copper Alloy, Sn Bright Over Ni
Retention Clip	Stainless Steel
PPMX Contacts	Gold Plated Copper Alloy
Contact Termination Methods	
Crimp ³	
Hand Solder	





NOTE 1: See IEC 60664-1 for working voltage.

NOTE 2: Amp ratings are stated per position and based on all positions being fully loaded.

/RoHS

APP

- 1 Based on: 105°C rated or better cable of the largest size. Properly calibrated Anderson Power™ recommended tooling, and a 25°C ambient temperature. UL rating not to exceed the maximum operating temperature. CSA Rating below a 30°C temperature rise.
- 2 Limited by the thermal properties of the connector plastic housing.
- 3 Use Anderson Power™ recommended tooling only. Alternate tools may adversely affect the performance of our connectors along with UL and CSA recognition.
- 4 Voltage capability of SBE® housing is identical to SBX®, but derated to meet EN1175:2020 requirements.

IEC INFORMATION

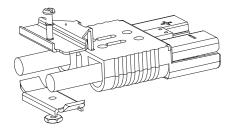
		Creepage /		ATTRIBUTES	SBE® 160
Connector Series	Configurations	Clearance per IEC	Material Group	AMP Rating AC/DC	160 Amp
Jenes		60950-1	Group	Voltage Rating AC/DC (Steady State)	600 V AC/DC (Operational)
	Unmated	6.1 mm		Breaking Capacity - AMP Rating / Cycles	160 Amp / 10 Cycles
SBE® 160	Mated	11.6 mm	Illa	Voltage Rating (Breaking Capacity)	220 VDC
	1			FINGER Safety - Mated / Unmated	IEC 60529 - IP20
				Wire Size Tested	50 mm ²
PROTECTION	-			Contact Series Tested	6384G1
Touch Safety	Main Connector H	lousing		Climatic Testing (Cold, Heat & MFG)	IEC 60512 Test -11j, 11i & 11g
IEC 60950	SBE® 160 Only	Pas	S	Cycle Life	IEC 60512 Test 9a - 5,000 Cycles
IEC 60529	SBE [®] 160 and SE	3X® 175 IP20	0 unmated	Mechanical Strength Impact	IEC 60512-5 @ 29.5 Inches-
					dropped 8 times
TÜV Rheisland				Temperature Range	-20 °C to 105 °C
					-4 °F to 221 °F

SBE® 160 / SBX® 175 ACCESSORIES

Cable Clamps *

Durable metal clamps adapt to a wide range of cable sizes.

	Cable Size		
	Min / Max	Min / Max	
Description	Inches O.D.	mm O.D.	Part Number
Minimum Quantity			25
Cable Clamp Kit	0.62 to 0.22	15.7 to 5.6	945G2



* Torque value 30 (in - lbs) / 3.4 (Nm)

NOTE: For assembly of clamp to housing only

The given wire O.D. information is an estimate. Cable clamps should be evaluated for performance with the actual wire to be used.

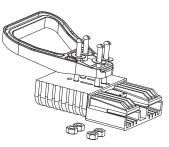
Handles *

Handles are made out of durable PC plastic. Hardware to attach to connector body included in kits.

Description	Part Numbers	
Minimum Quantity	100	25
Gray Handle Kit	-	995G1
Red Handle Kit	-	995G3
Handle Only, Gray	3-5074P1	-
Handle Only, Red	3-5074P3	-
Handle Only, Black	3-5074P5	-
Hardware Bag	-	105G8

* Torque value 30 (in - lbs) / 3.4 (Nm)

NOTE: For assembly of clamp to housing only



Powerpole® Auxiliary

Powerpole[®] auxiliary connectors are rated up to 30 amps 600 volts and can be used for auxiliary power, control or sensing. The auxiliary kit includes (1) each black and red Standard Powerpole[®] housing, (2) contacts, (2) zip cable straps, and (2) retaining pins. (1) Retaining clip can be Substituted for (2) retaining pins.

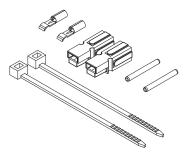
Description	Part Nu	mbers
Minimum Quantity	200	25
Powerpole [®] Auxiliary Kit	-	6344
Black Powerpole® Housing	1327G6	-
Red Powerpole® Housing	1327	-
16 to 12 AWG Contact	1331	-
NOTE E. CODAE/A	- 1 .	1 11

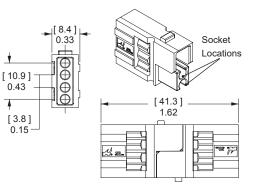
NOTE: Finger proof PP15/45 housings should not be used for auxiliary contacts.

1x4 Auxiliary Connector

The unique 1x4 auxiliary connector allows up to 4 auxiliary circuits up to 20 amps 150 volts each in SBE[®], SBO[®], & SBX[®] housings. The genderless design holds two each of the gold plated pin & socket contacts. This innovation allows the very durable and cost effective design of SBE[®], O, X connectors to substitute for DIN 43589-1 applications where 4 auxiliary contacts are required. Multiple pin lengths allow the further benefit of sequencing between circuits. (2) Retaining pins or (1) Retaining clip is required to hold the auxiliary housing in place. Auxiliary Kits include (1) Auxiliary Housing, (2) Standard Length Pin Contacts, (2) Socket Contacts, (2) Retaining Pins and (1) Retaining Clip.

Description	AWG	mm²	Pa	rt Numbers	s
Minimum Quantity			1,000	250	25
1x4 Auxiliary Kit	12	4	-	-	441G3
1x4 Auxiliary Kit	16 to 14	1.5 to 2.5	-	-	441G1
1x4 Auxiliary Kit	20 to 16	0.75 to 1.5	-	-	441G2
1x4 Auxiliary Housing	Contacts S	Sold Separately	3-5956P1	444G1	-



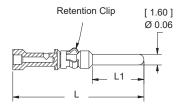


Pin Contacts for 1x4 Auxiliary Connector

Gold plated contacts are available in 4 lengths to allow sequencing of circuits.

Description	AWG	mm²	Part	Numbers
Minimum Quantity			500	50
Standard Length 7.7 mm	12	2.5	PM16P12S30	PM16P12S30-50
	16 to 14	1.0 to 1.5	PM16P1416S30	PM16P1416S30-50
	20 to 16	0.75 to 1.0	PM16P1620S30	PM16P1620S30-50
	24 to 20	0.50 to 0.75	PM16P2024S30	PM16P2024S30-50
Pre-Mate 9.3 mm	12	2.5	PM16P12A30	-
	16 to 14	1.0 to 1.5	PM16P1416A30	-
	20 to 16	0.75 to 1.0	PM16P1620A30	-
	24 to 20	0.50 to 0.75	PM16P2024A30	-
Post-Mate 6.4 mm	12	2.5	PM16P12C30	-
	16 to 14	1.0 to 1.5	PM16P1416C30	-
	20 to 16	0.75 to 1.0	PM16P1620C30	-
	24 to 20	0.50 to 0.75	PM16P2024C30	-
Auxiliary Pin			1.4	

Contact Lengths				
	in.	mm	in.	mm
Standard Length 7.7 mm	0.77	19.6	0.30	7.7
Pre-Mate 9.3 mm	0.83	21.2	0.37	9.3
Post-Mate 6.4 mm	0.72	18.3	0.25	6.4



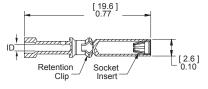
Socket Contacts for 1x4 Auxiliary Connector

Selectively gold plated contacts offer low resistance and durability up to 10,000 mating cycles.

Description	AWG	mm²	Part Numbers		
Minimum Quant	ity		500	50	
Socket Contact	12	2.5	PM16S12S32	PM16S12S32-50	
	16 to 14	1.0 to 1.5	PM16S1416S32	PM16S1416S32-50	
	20 to 16	0.75 to 1.0	PM16S1620S32	PM16S1620S32-50	
	24 to 20	0.50 to 0.75	PM16S2024S32	PM16S2024S32-50	

Auxiliary Socket Contacts

Wire Gauge	in.	mm.			
24 to 20	0.04	1.1			
20 to 16	0.07	1.7			
16 to 14	0.08	2.1			
12	0.10	2.6			



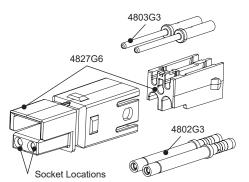
PPMX Auxiliary Connector

The PPMX auxiliary connector allows up to 8 auxiliary circuits to be used in the SBE[®], SBO[®], & SBX[®] housings. There are 4 auxiliary circuits per PPMX connector and two PPMX housings fit into the auxiliary port in the main connector housing. Rated up to 7 amps 300 volts per contact, the genderless design holds two each gold plated pin & Socket contacts. This innovation allows the very durable and cost effective design of SBE[®], O, X connectors to be used for applications requiring up to 8 battery monitoring or equipment vehicle communication circuits. (2) Retaining pins or (1) Retaining clip is required to hold the auxiliary housing in place.

Auxiliary Kits includes: (1) Auxiliary Housing, (2) Pin Contacts, and (2) Socket Contacts.

Description	AWG	mm²	Pa	rt Numbers	
Minimum Quantity PPMX Auxiliary Kit	24 to 20	0.50 to 0.25	1,000 -	100 4850G6	25 -
1x4 Auxiliary Housing		Sold Separately	4827G6-BK	-	4827G6

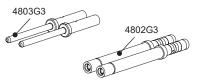
* No extraction tool required for contact removal.



Pin & Socket Contacts for PPMX Auxiliary Connector

Gold plated contacts are ideal for signal or low power use with durability up to 5,000 mating cycles.

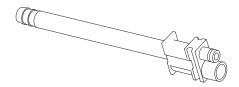
Description	AWG	mm²	Part Num	bers
Minimum Quantity Pin Contacts Socket Contacts	24 to 20 24 to 20	0.50 to 0.25 0.50 to 0.25	2,000 4803G3-BK 4802G3-BK	50 4803G3 4802G3



SBE® Air Tubes

Air tubes fit into SBE[®] housings to allow electrolyte circulation while charging the battery. Genderless tube design allows the same part to be used on both sides. (2) Retaining pins or (2) Spirol pins are required to hold the air tube in place both are included in Air Tube Kit.

Description	Part Numbers		
Minimum Quantity	500	25	
Air Tube Kit, Black	-	6396G1	
Air Tube Only	3-5798P1	-	



Retaining Clip

Retaining clips can be used in place of two retaining pins to hold auxiliary connectors or air tubes. Allows easier removal of auxiliary modules.

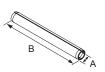
Description	Part Number
Minimum Quantity	100
For SBE [®] 160 & SBX [®] 175	2-8675P2



Retaining Pins

Retaining pins are used to hold accessories in the auxiliary port in SBE®, SBO®, & SBX® housings. Dimension "B" is +/- 0.015 in or 0.38 mm.

			Dimensions			
			- A -		- E	3 -
Description	Part Num	nbers	inches	mm	inches	mm
Minimum Quantity For SBE [®] 160 & SBX [®] 175	1,000 110G9-BK	100 110G9	0.093 / 0.099	2.36 / 2.51	0.85	21.59



Zip Cable Straps

Zip cable straps are used to secure auxiliary wires to the side of the main power cables.

Description	Part Number
Minimum Quantity	1,000
White	H1835P3

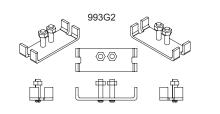
Use cable ties to secure auxiliary contact leads to one of the main cables.

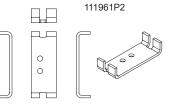
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Manual Release - Battery Side *

Works with the Charger / Truck side to ease mating and unmating connectors.

Description	Part Numbers		
Minimum Quantity	88	25	
Bracket and Hardware Kit	-	993G2	
Battery Bracket Only	111961P2	-	
Hardware Bag	-	105G1	



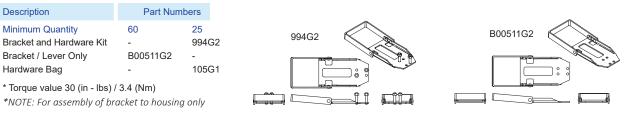


* Torque value 30 (in - lbs) / 3.4 (Nm)

*NOTE: For assembly of bracket to housing only

Manual Release - Charger / Truck Side *

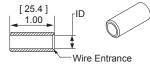
Works with the Battery side to ease mating and unmating connectors.



Silver Plated Reducing Bushings: for Use with Contact Part Number 6384G1

Use with contact part number 6384G1-BK to allow a smaller wire to be used with the connector. Electrical capability is derated with smaller wire.

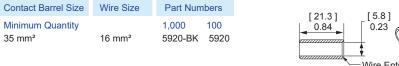
Contacts Barrel Size AWG mm ²		Wire	e Size mm²	Part Numbers			Dimen: - ID inches		
Minimum Quantity				1,500	1,000	500	100		
1/0	53.5	1	42.4	-	-	5687-BK	5687	0.39	9.91
1/0	53.5	2	33.6	5690-BK	-	-	5690	0.34	8.64
1/0	53.5	4	21.2	-	5693-BK	-	5693	0.27	6.86
1/0	53.5	6	13.3	-	5663-BK	-	5663	0.22	5.59
1/0	53.5	10 to 8	5.3 - 8.4	5648-BK	-	-	5648	0.19	4.83

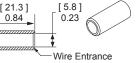


Reducing Bushings: for Use with Contact Part Number 6384G2

Use with contact part number 6384G2-BK to allow a smaller wire to be

used with the connector. Electrical capability is derated with smaller wire.





Charger Key

Prevents charger and	truck connector h	alves from engaging			
Description	Part Numbers	For Use With	Hardware Kit Includes		
Minimum Quantity	25				14.
Charger Key Kit	6337G1	SBE®160/SBE®320	1 Yellow Key	Key	
		Connectors	2 Retaining Pins		
					· · ·

Space for Key

SBO[®] / SBE[®] / SBX[®] - Tooling Information

Wire Size		Loose Piece Part Number	Loose Piece Contact Crimp Tools								
AWG	mm²	Contacts	Pneumatic Bench Tool	+	Die	+	Locator	Number of Crimps	+	Hand Tools	
SBE® 160 / SBX® 175											
1/0	53.5	6384G1	1387G2		1303G13		1304G32	Double			
2	33.6 6384G2		1387G2		1303G13		1304G32	Double		1368 series	
1/0 to 2	53.5 to 5	6384G1 & 6384G2	1387G1	7	1388G3		1389G3	Single			
Powerpole® 15/45 Auxiliary Contacts **											
16 to 20	1.3 to .52	1332	N/A		N/A		N/A	Single		1309G2 or	
12 to 16	3.3 to 1.3	1331	IN/A							1309G8	
PowerMod [®] 1x4 Auxiliary Contacts											
12 to 24	3.3 to 0.20	All Crimp Pins	- TP0001*		N/A		TL0001	– Single		TM0001*	
12 10 24		All Crimp Sockets	110001				TL0002			PM1000G1	
PPMX Auxiliary Contacts											
20 to 24	0.50 to 0.25	4803G3	TP0001*		N/A		TL0005	Single		TM0001* or	
		4802G3								PM1000G1	
Insertion / Extraction Tools											
PM1002G1 - 1 x 4 Auxiliary Contact Insertion Tool - For use with PM contacts and 1x4 auxiliary housing (444G1 housings and 441G kits)											
PM1003G1 - 1 x 4 Auxiliary Contact Insertion Tool - For use with PM contacts and 1x4 auxiliary housing (444G1 housings and 441G kits)											
PM1003GX - 1x4 Auxiliary Contacts Inspection Tool - For use with PM contacts and 1x4 auxiliary housing (444G1 housings and 441G kits)											
969P1 - SBE® 160 / SBX® 175 Power Contact Extraction Tool											
970P1 - SBE® 320 / SBX® 350 Power Contact Extraction Tool											

* TP0001 and TM0001 tools require locators to properly position contacts.

** See Powerpole® family tooling chart for other Powerpole® contacts

The auxiliary contacts used with wire sizes 16 to 24 AWG cannot be properly inserted without the insertion tool. Properly installed auxiliary contact of all wire gauges cannot be removed from the housing without the extraction tool.

All Data Subject to Change Without Notice 2024-0023 DS-SBEX160-175 REV 8 Your Best Connection™

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HEADQUARTERS: Anderson Power Products[®], 13 Pratts Junction Road, Sterling, MA 01564-2305 USA T: +1 978-422-3800 F: +1 978-422-0128 • EUROPE: Anderson Power Products[®] Ltd., Unit 3, Europa Court, Europa Boulevard, Westbrook, Warrington, Cheshire, WA5 7TN United Kingdom T: +44 (0) 1925 428390 F: +44 (0) 1925 520203 • GERMANY: IDEAL[®] Industries Germany GmbH, Esslinger Strasse 7, D – 70771 Leinfelden-Echterdingen, T: +49 (0) 711 – 997606666 • ASIA / PACIFIC: IDEAL[®] Anderson Asia Pacific Ltd., Unit 922-928 Topsail Plaza, 11 On Sum Street, Shatin N.T., Hong Kong T: +(852) 2636 0836 F: +(852) 2635 9036 • INDIA: IDEAL[®] INDUSTRIES India Private Limited, 229-230, SPAZEDGE, Tower B, Sector 47, Sohna Road, Gurgaon – 122018, Haryana, India T: +(91) 956-0075905 T: +(91) 124-4495101
CHINA: IDEAL[®] Anderson Technologies (Shenzhen) Ltd., Block A8 Tantou Western Industrial Park, Songgang Baoan District, Shenzhen, PR. China 518105 T: +(86) 755 2768 2118 F: +(86) 755 2768 2218 • www.ideal-Industries.in • www.andersonpower.com

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