

The background is a vibrant blue gradient with a complex geometric pattern. It features overlapping squares and rectangles in various shades of blue, some containing a grid of small white dots. The overall effect is a modern, technical, and digital aesthetic.

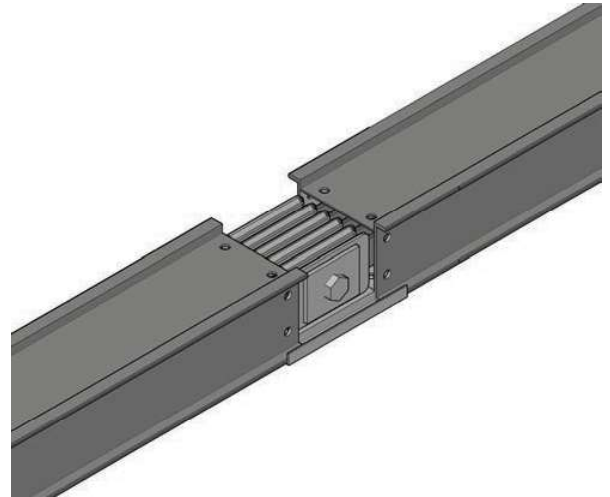
**SP-H
SERIES
100A-160A**

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GENERAL FEATURES

DTM SP-H 100A -160A Busbar trunking systems are used as an power distribution line where there is a need for energy distribution.

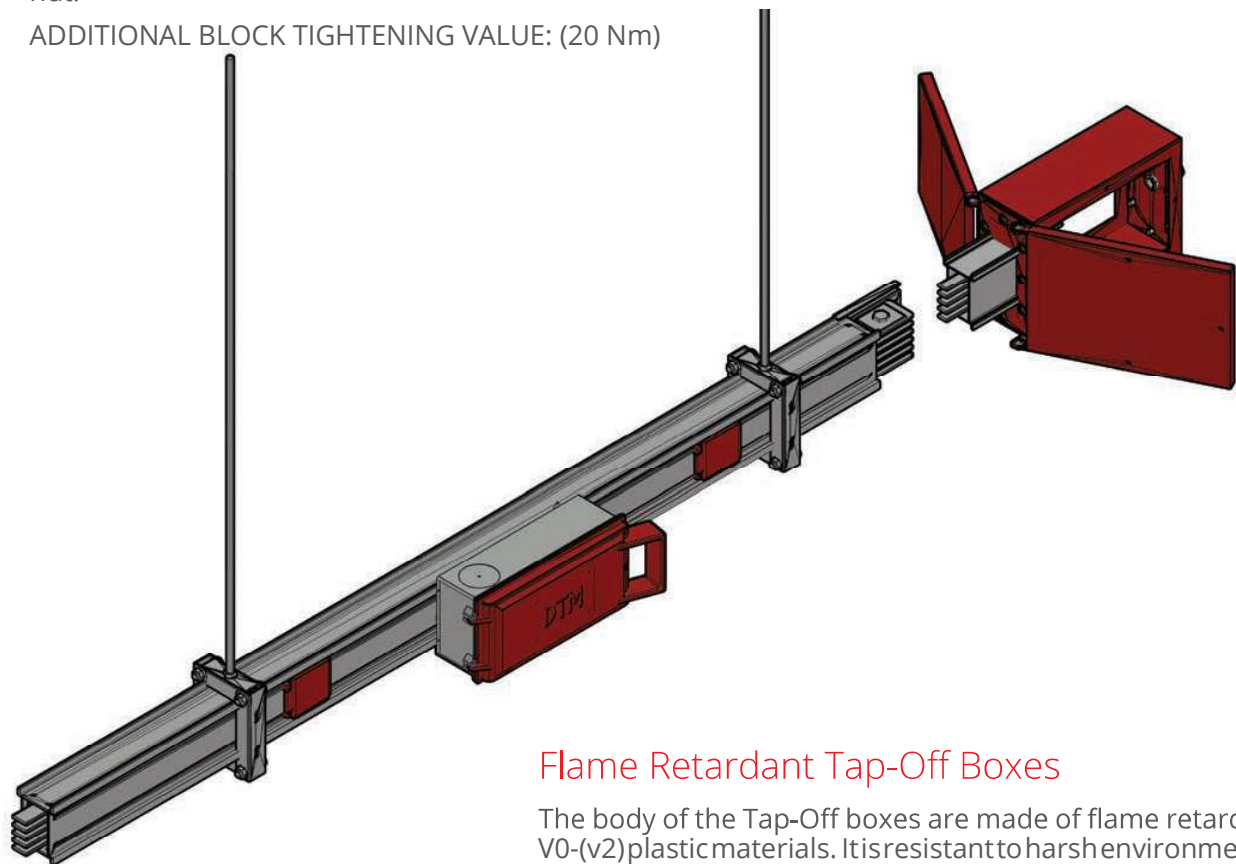
The outer body is produced from standard galvanized sheet metal or RAL7038 painted (optional).



Joint Stack

With the plug-in screw system, the assembly is done safely in a short time. It is used by tightening the screw with the nut.

ADDITIONAL BLOCK TIGHTENING VALUE: (20 Nm)



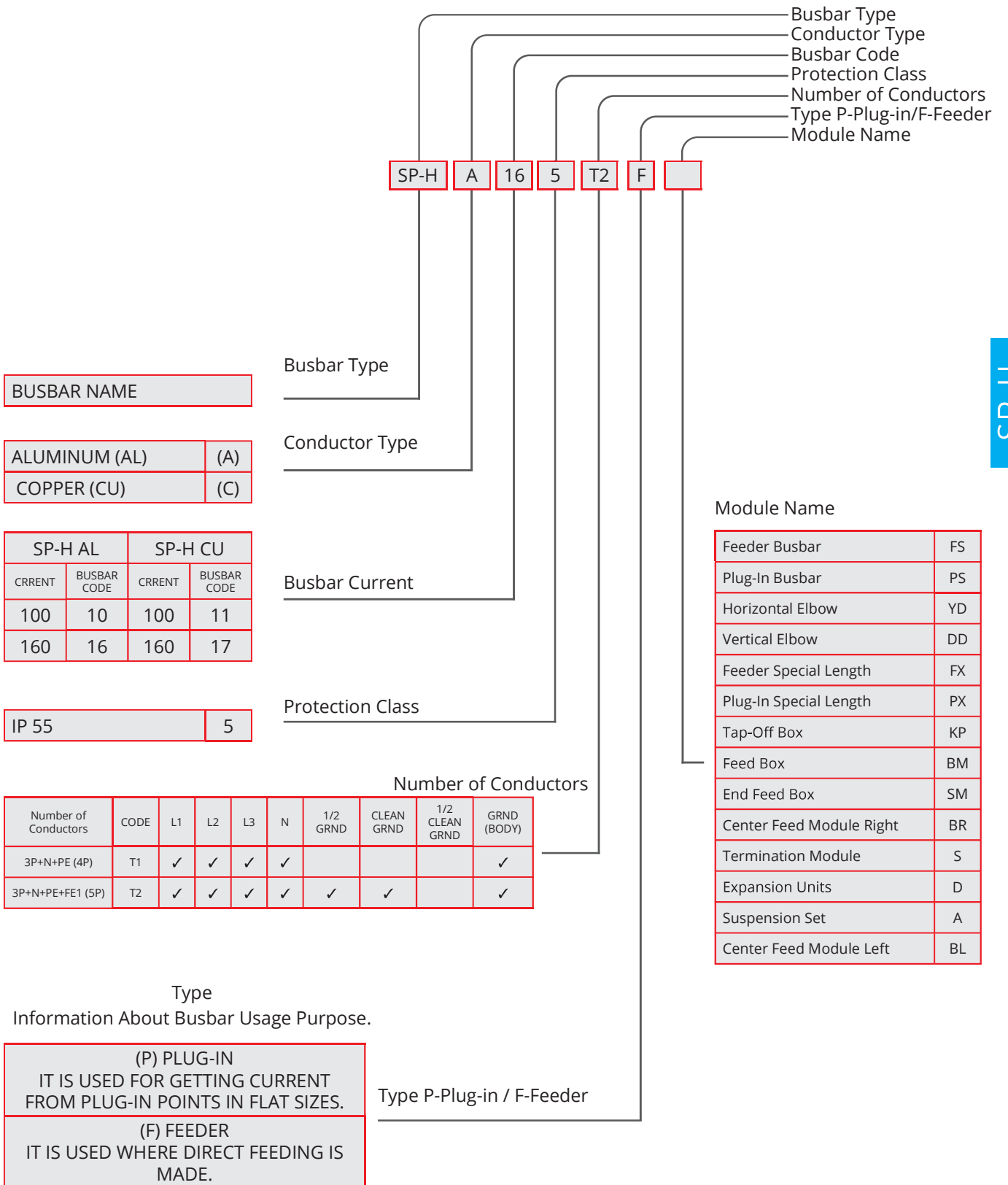
Flame Retardant Tap-Off Boxes

The body of the Tap-Off boxes are made of flame retardant V0-(v2) plastic materials. It is resistant to harsh environmental conditions and resistant to high temperatures.

It is possible to supply currents up to 80 A with Tap-Off boxes.

Tap-Off boxes are easily and safely installed without requiring any elements.

ORDER CODE SYSTEM



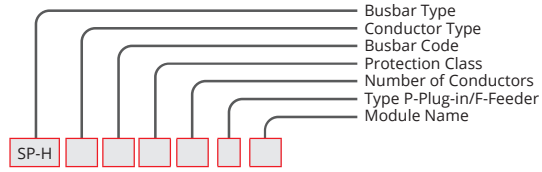
SP-H

SP-H

TECHNICAL TABLE (SP-H AL)				
ALUMINUM CONDUCTOR (AL)				
Rated Current	In	A	100	160
Busbar Code			SP-HA10	SP-HA16
Protection Class	IP55			
Standards	IEC 61439-6 TS EN 61439-6 IEC 61439-1 TS EN 61439-1			
Max. Rated Operating Voltage	Ue	Vac	690	400-1000
Rated Impact Withstand Voltage	Uimp	kV	8	400-1000
Frequency	f	Hz	50	400-1000
Rated Insulation Voltage	Ui	V	1000	Category IV
Mechanical Impact Resistance (IK Code)	Plug-in Busbar IK10			
Measures for the Protection of People	Basic Protection (TS-HD 60364-4-41, item A1)			
Rated Short Term Current (1s)	Icw	kA	3.77	6
Rated Peak Withstand Current	Ipk	kA	5.44	9.18
Rated Short Time Current for Neutral Conductor (1s)	Icw	kA	2.22	3.6
Rated Peak Withstanding Current for Neutral Conductor	Ipk	kA	3.15	5.29
Rated Short Time Current For Prot. Circuit (1s)	Icw	kA	2.22	3.6
Rated Peak Withstand Current for Prot. Circuit	Ipk	kA	3.15	5.29

TECHNICAL TABLE (SP-H CU)				
COPPER CONDUCTOR (CU)				
Rated Current	In	A	100	160
Busbar Code			SP-HC11	SP-HC17
Protection Class	IP55			
Standards	IEC 61439-6 TS EN 61439-6 IEC 61439-1 TS EN 61439-1			
Max. Rated Operating Voltage	Ue	Vac	690	
Rated Impact Withstand Voltage	Uimp	kV	8	
Frequency	f	Hz	50	
Rated Insulation Voltage	Ui	V	1000	Category IV
Mechanical Impact Resistance (IK Code)	Plug-in Busbar IK10			
Measures for the Protection of People	Basic Protection (TS-HD 60364-4-41, item A1)			
Rated Short Term Current (1s)	Icw	kA	3.7	6.5
Rated Peak Withstand Current	Ipk	kA	5.3	10.3
Rated Short Time Current for Neutral Conductor (1s)	Icw	kA	2.2	3.7
Rated Peak Withstanding Current for Neutral Conductor	Ipk	kA	3.25	5.5
Rated Short Time Current For Prot. Circuit (1s)	Icw	kA	2.2	3.7
Rated Peak Withstand Current for Prot. Circuit	Ipk	kA	3.25	5.5

Standard Lengths

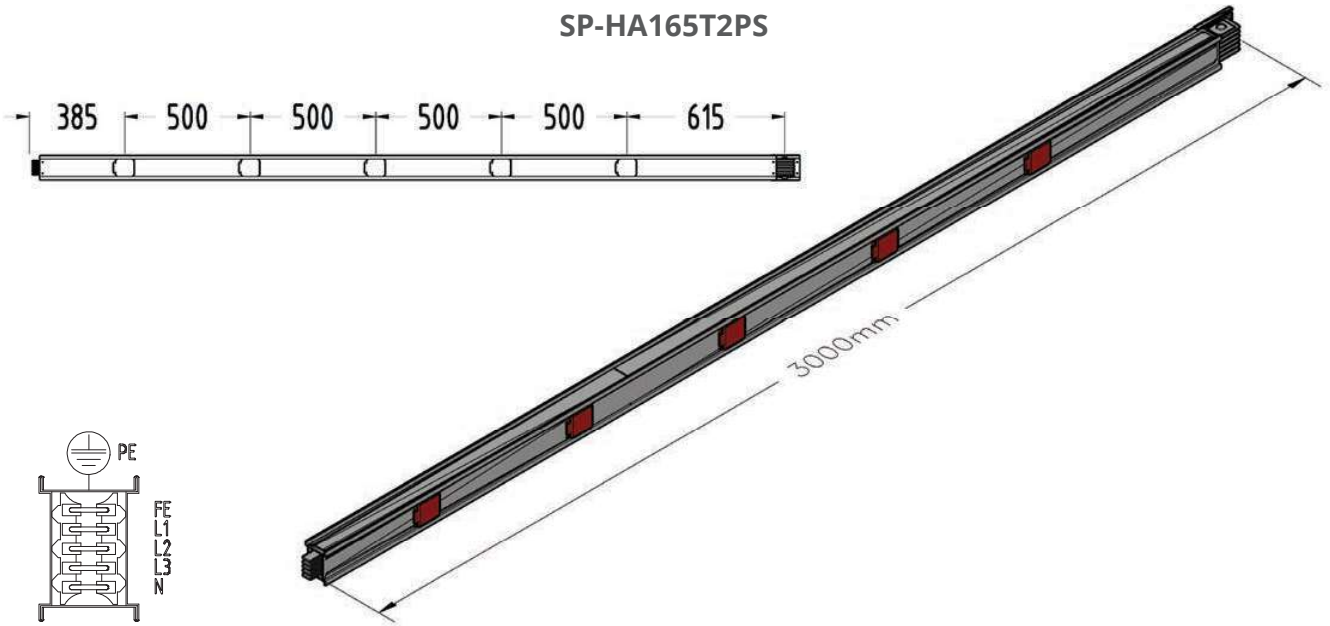


Plug-In Busbar	PS
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SAMPLE ORDER

160 A Aluminum,
Plug-in IP 55 5 Conductors

SP-HA165T2PS



SP-H

Feeder Busbar	FS
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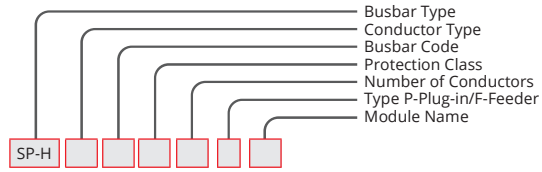
SAMPLE ORDER

100 A Aluminum,
Feeder IP 55 5 Conductors

SP-HA105T2FS



Special Lengths

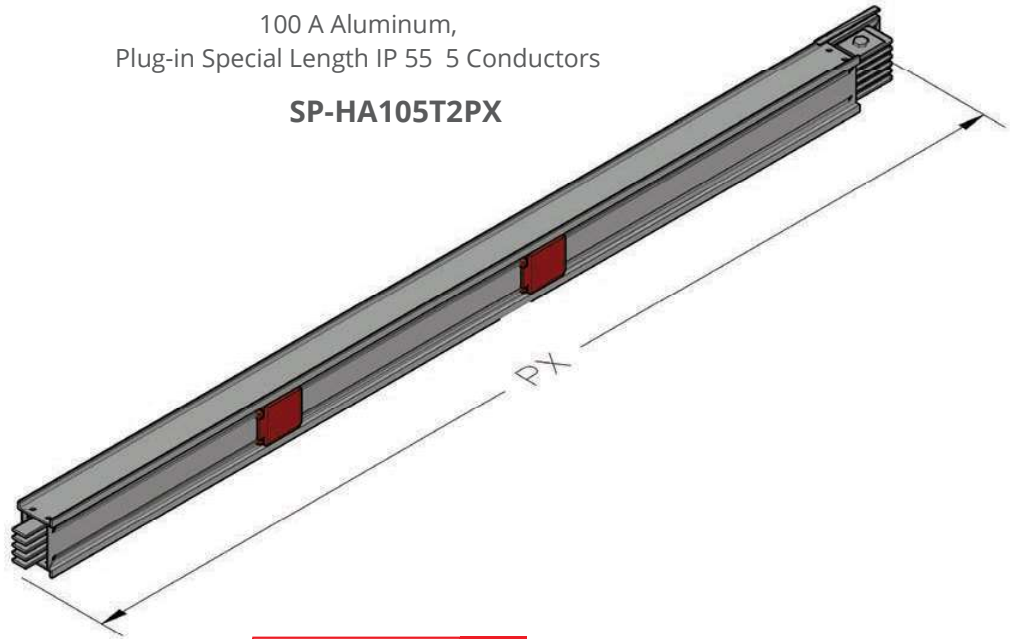


Plug-in Busbar Special Length	PX
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SAMPLE ORDER

100 A Aluminum,
Plug-in Special Length IP 55 5 Conductors

SP-HA105T2PX

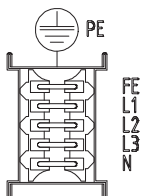
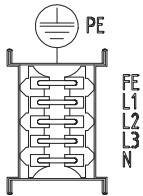
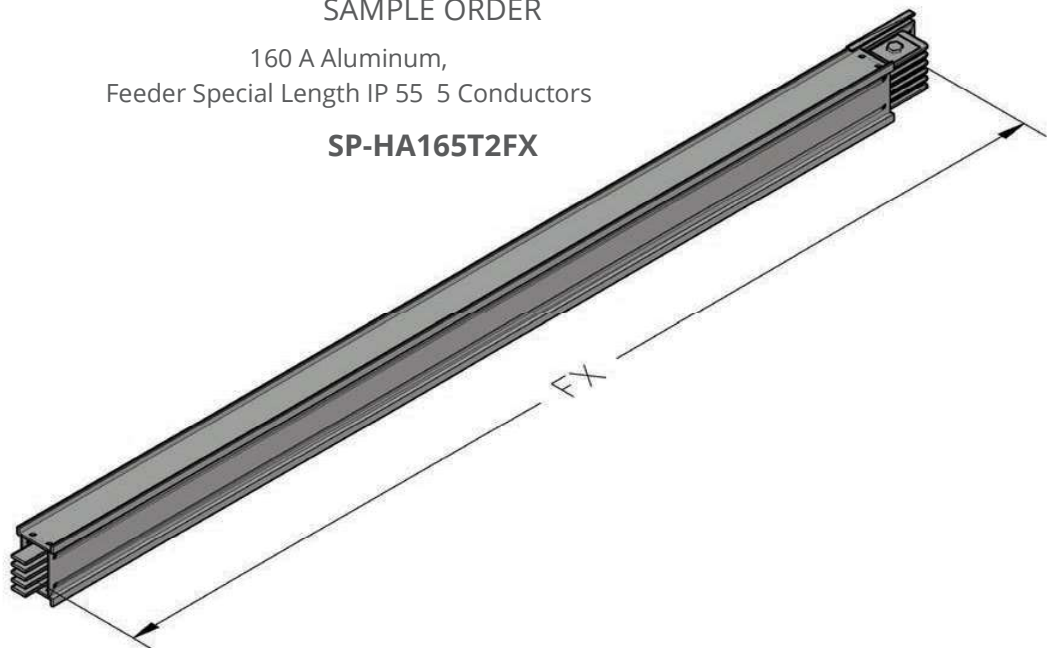


Feeder Busbars Special Length	FX
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SAMPLE ORDER

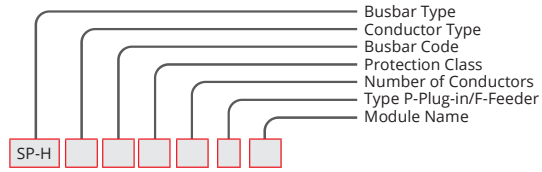
160 A Aluminum,
Feeder Special Length IP 55 5 Conductors

SP-HA165T2FX



SP-H

Elbow Modules

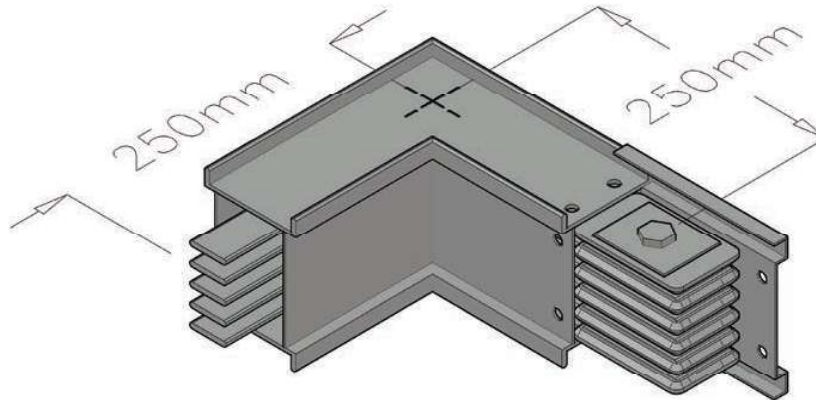
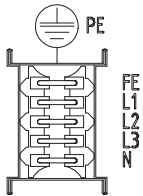


Horizontal Elbow Module	YD
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SAMPLE ORDER

100 A Aluminum,
Horizontal Elbow IP 55 5 Conductors

SP-HA105T2YD



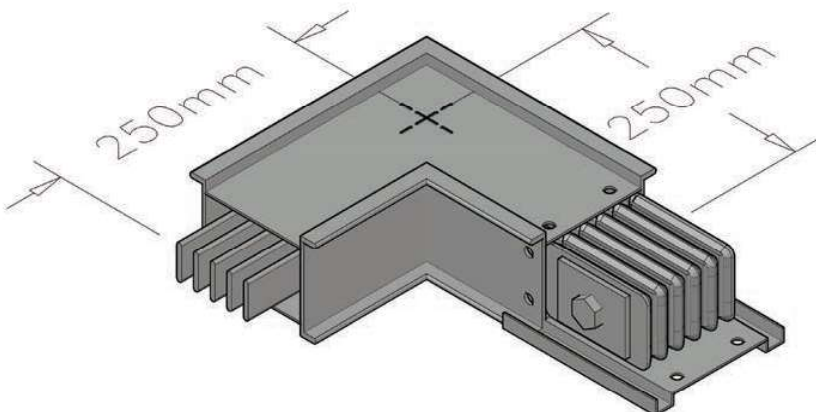
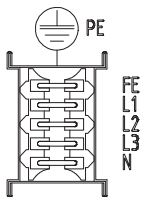
SP-H

Vertical Elbow Module	DD
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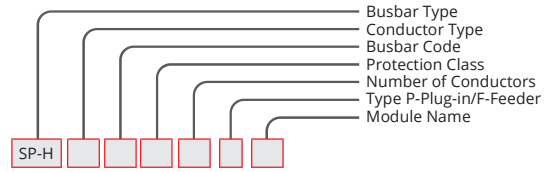
SAMPLE ORDER

160 A Aluminum,
Vertical Elbow IP 55 5 Conductors

SP-HA165T2DD



Expansion Units

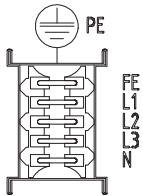
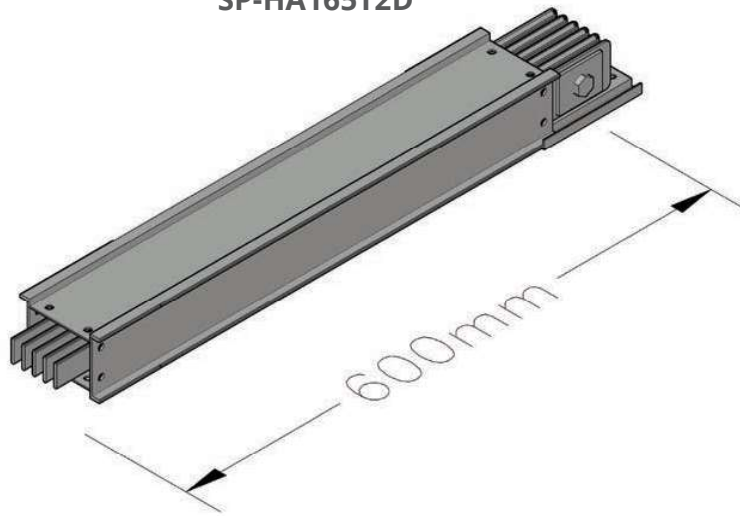


Expansion Module	D
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SAMPLE ORDER

160 A Aluminum,
Expansion IP 55 5 Conductors

SP-HA165T2D

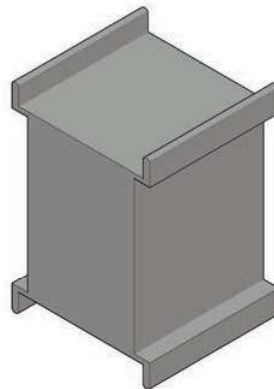


End Covers	S
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SAMPLE ORDER

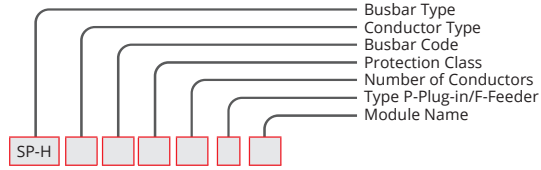
100 A Aluminum,
Termination IP 55 5 Conductors

SP-HA105T2S



SP-H

Tap-Off Boxes



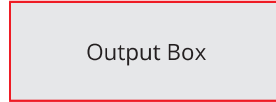
Standard Tap-Off Boxes (EMPTY) 16A			
CRRNT	Conductor	CONFIGURATION	CODE
16	4	L1,L2,L3,N,PE (BODY)	SPHA1654B1
	5	L1,L2,L3,N,PE +(BODY)	SPHA1655B2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA1655B3

Standard Tap-Off Boxes (EMPTY) 32A			
CRRNT	Conductor	CONFIGURATION	CODE
32	4	L1,L2,L3,N,PE (BODY)	SPHA3254B1
	5	L1,L2,L3,N,PE +(BODY)	SPHA3255B2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA3255B3

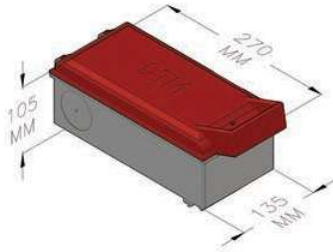
Standard Tap-Off Boxes (EMPTY) 40A			
CRRNT	Conductor	CONFIGURATION	CODE
40	4	L1,L2,L3,N,PE (BODY)	SPHA4054B1
	5	L1,L2,L3,N,PE +(BODY)	SPHA4055B2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA4055B3

Standard Tap-Off Boxes (EMPTY) 63A			
CRRNT	Conductor	CONFIGURATION	CODE
63	4	L1,L2,L3,N,PE (BODY)	SPHA6354B1
	5	L1,L2,L3,N,PE +(BODY)	SPHA6355B2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA6355B3

Standard Tap-Off Boxes (EMPTY) 80A			
CRRNT	Conductor	CONFIGURATION	CODE
80	4	L1,L2,L3,N,PE (BODY)	SPHA8054B1
	5	L1,L2,L3,N,PE +(BODY)	SPHA8055B2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA8055B3



SAMPLE ORDER
16 A Aluminum,
Tap-Off Box Empty
IP 55 5 Conductors
SPHA1655B2



Standard Tap-Off Boxes (MCB) 16A			
CRRNT	Conductor	CONFIGURATION	CODE
16	4	L1,L2,L3,N,PE (BODY)	SPHA1654M1
	5	L1,L2,L3,N,PE +(BODY)	SPHA1655M2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA1655M3

Standard Tap-Off Boxes (MCB) 32A			
CRRNT	Conductor	CONFIGURATION	CODE
32	4	L1,L2,L3,N,PE (BODY)	SPHA3254M1
	5	L1,L2,L3,N,PE +(BODY)	SPHA3255M2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA3255M3

Standard Tap-Off Boxes (MCB) 40A			
CRRNT	Conductor	CONFIGURATION	CODE
40	4	L1,L2,L3,N,PE (BODY)	SPHA4054M1
	5	L1,L2,L3,N,PE +(BODY)	SPHA4055M2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA4055M3

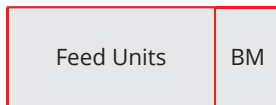
Standard Tap-Off Boxes (MCB) 63A			
CRRNT	Conductor	CONFIGURATION	CODE
63	4	L1,L2,L3,N,PE (BODY)	SPHA6354M1
	5	L1,L2,L3,N,PE +(BODY)	SPHA6355M2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA6355M3

Standard Tap-Off Boxes (MCB) 80A			
CRRNT	Conductor	CONFIGURATION	CODE
80	4	L1,L2,L3,N,PE (BODY)	SPHA8054M1
	5	L1,L2,L3,N,PE +(BODY)	SPHA8055M2
	5	L1,L2,L3,N,CPE,PE (BODY)	SPHA8055M3

SWITCH TYPE CODE	
SWITCH	EMPTY
M	B

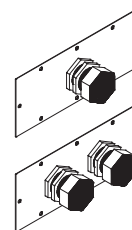
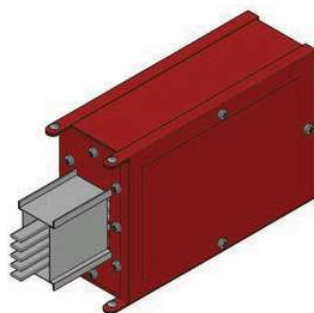
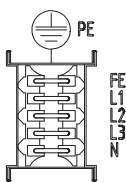
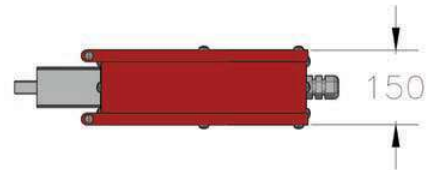
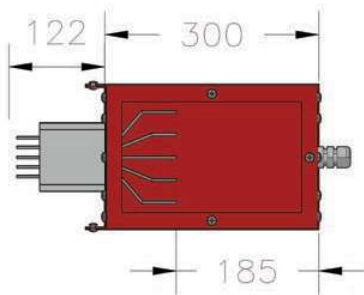
SP-H

Feed Units



SAMPLE ORDER
160 A Aluminum,
Feed Unit IP 55 5 Conductors

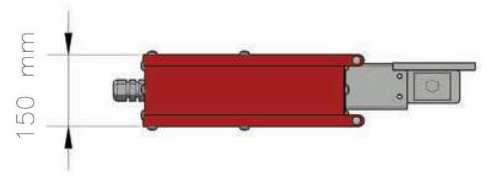
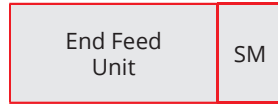
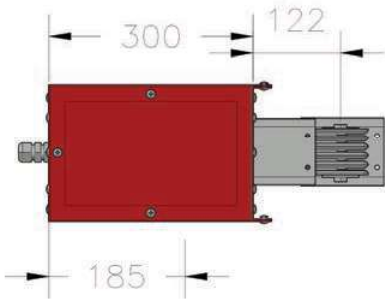
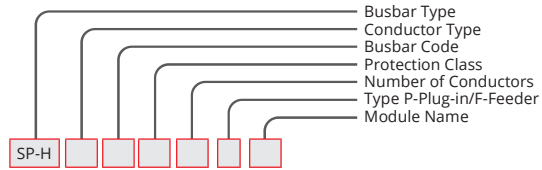
SP-HA165T2BM



FITTING PLATES		
AMR.	FITTING TYPE	CODE
100	PG21	BR1
160	PG36	BR2

SWITCH TYPE CODE	
SWITCH	EMPTY
M	B

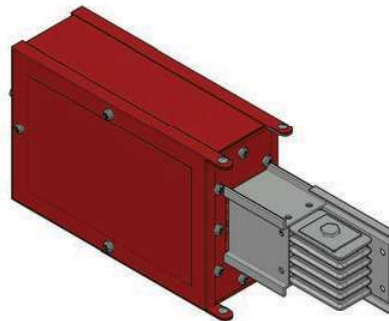
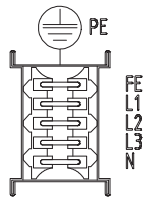
Feed Units



SAMPLE ORDER

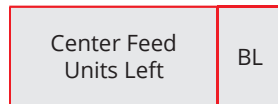
160 A Aluminum,
Feed Unit IP 55 5 Conductors

SP-HA165T2SM



FITTING PLATES		
AMR.	FITTING TYPE	CODE
100	PG21	SR1
160	PG36	SR2

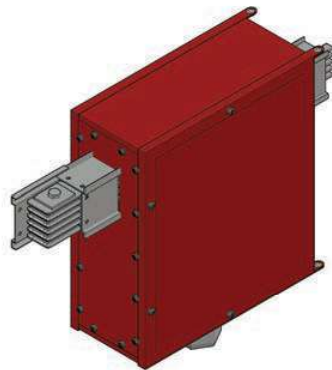
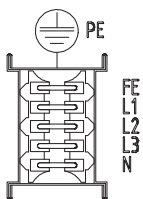
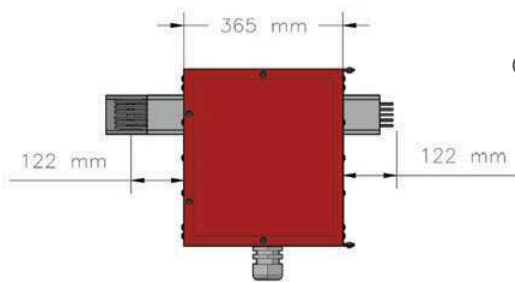
SP-H



SAMPLE ORDER

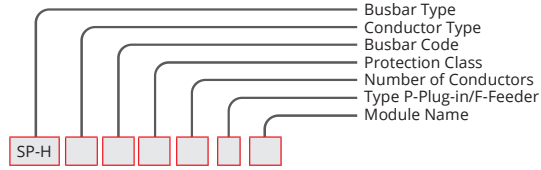
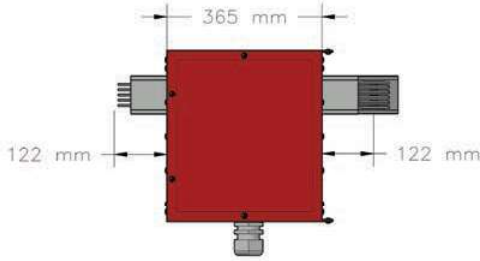
100 A Aluminum,
Center Feed Unit IP 55 5 Conductors

SP-HA105T2BL

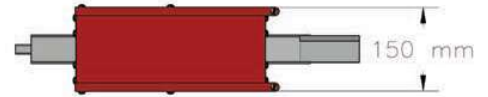


FITTING PLATES		
AMR.	FITTING TYPE	CODE
100	PG21	OR1
160	PG36	OR2

Feed Units



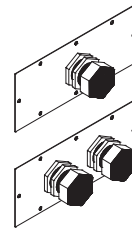
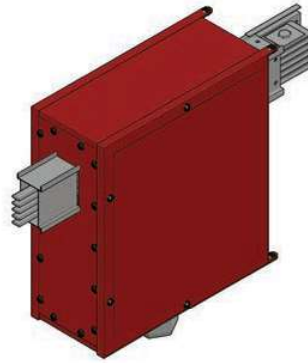
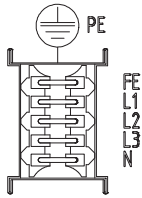
Center Feed Units Right	BR
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SAMPLE ORDER

160 A Aluminum,
Center Feed Box IP 55 5 Conductors

SP-HA165T2BR



FITTING PLATES		
AMR.	FITTING TYPE	CODE
100	PG21	BR1
160	PG36	BR2

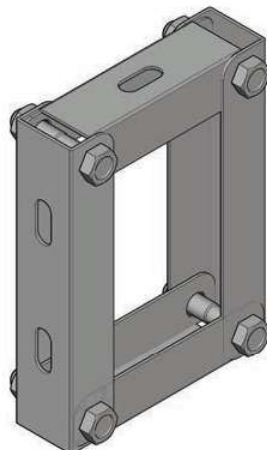
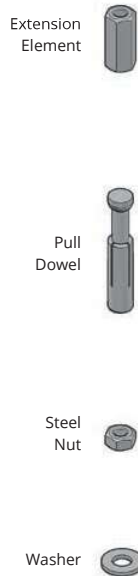
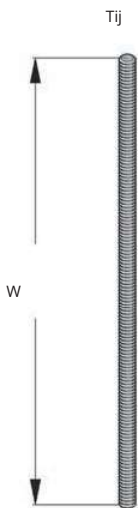
SP-H

Suspension Elements	A
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SAMPLE ORDER

100 A Aluminum,
Suspension Set IP 55 5 Conductors

SP-HA105T2A

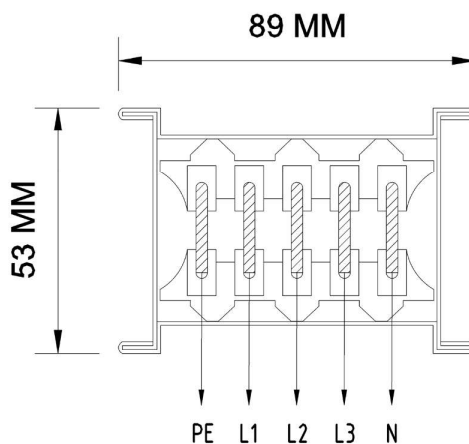


CONNECTION ELEMENTS		
PART	W (mm)	Code
B-E 8 Tij Hanger (M8)	500	T101
B-E 8 Tij Hanger (M8)	1000	T102
(M8) Extension Element	-	T103
M 8 Pull Dowel	-	T104
M 8 Steel Nut	-	T105

Busbar Technical Information

ALUMINUM BUSBAR SIZES AND WEIGHT								
AMPER CLASS	BUSBAR MM			CONDUCTOR / SECTION MM			FEEDER KG+MT	
							3P+N+PE (4)	3P+N+PE+FE1 (5)
100A	53	X	89	3	X	16	2,05	2,2
160A	62		89			25	2,4	2,6

COPPER BUSBAR SIZES AND WEIGHT								
AMPER CLASS	BUSBAR MM			CONDUCTOR / SECTION MM			FEEDER KG+MT	
							3P+N+PE (4)	3P+N+PE+FE1 (5)
100A	53	X	89	3	X	10	2,45	3
160A	62		89			16	3	3,4



ELECTRICAL TECHNICAL INFO

Current	Resistance R (mohm/m)	Reactance X (mohm/m)	Impedance Z (mohm/m)
Aluminum			
100	0,99	0,23	1,01
160	0,64	0,63	0,90
Copper			
100	0,96	0,21	0,98
160	0,55	0,17	0,58

Calculate the voltage drop $\Delta V\%$ according to the formula below.

$$\Delta V\% = \sqrt{3} \times (R \times \cos\phi + X \times \sin\phi) \times I_b \times L / U_e \times 100$$

R: Resistance (mohm/m) (Electrical technical info is found from the table)

X: Reactance (mohm/m) (Electrical technical info is found from the table)

I_b : Sum of all extra effective charges

L: Total length of busbar line

U_e : Supply voltage

Example: The calculation of 100 A Busbar is as follows.

(L) Line Length 100 mt

(I_b) Effective load 65 A

U_e : Supply voltage 400 V

$\cos \phi$ 0,80

R value is 0.99×10^{-3} ohm/m and X value is 0.23×10^{-3} ohm/m from the table

(ΔV) Maximum allowable voltage drop 3%

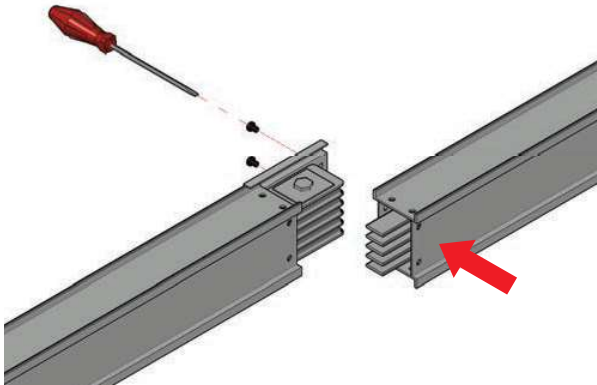
$$\Delta V\% = \sqrt{3} \times (R \times \cos\phi + X \times \sin\phi) \times I_b \times L / U_e \times 100$$

$$1,73 \times (0,99 \times 0,8 + 0,23 \times 0,6) \times 10^{-3} \times 65 \times 100 \times 100$$

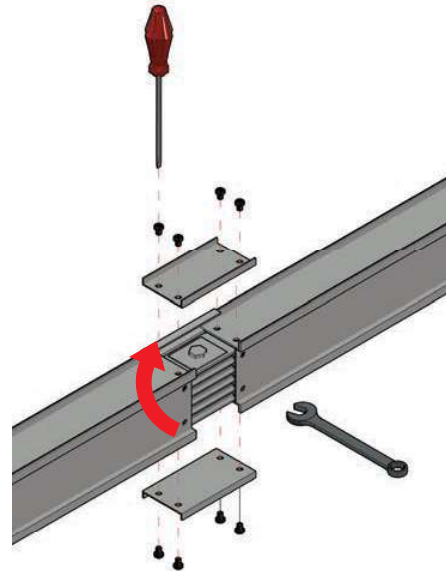
$$\Delta V\% = \frac{\quad}{400} = 2,62\%$$

The value found is less than 3%. 100 A Busbar selection is suitable according to voltage drop calculation.

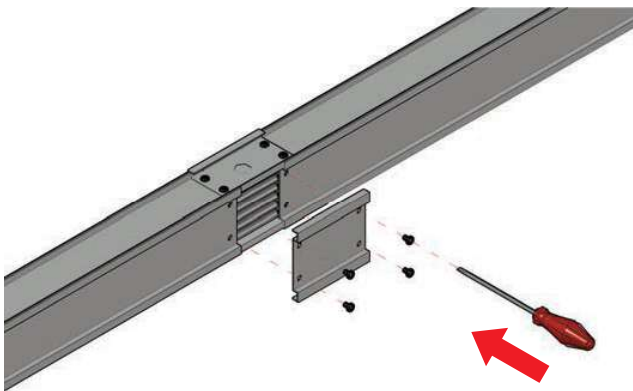
Installation Method



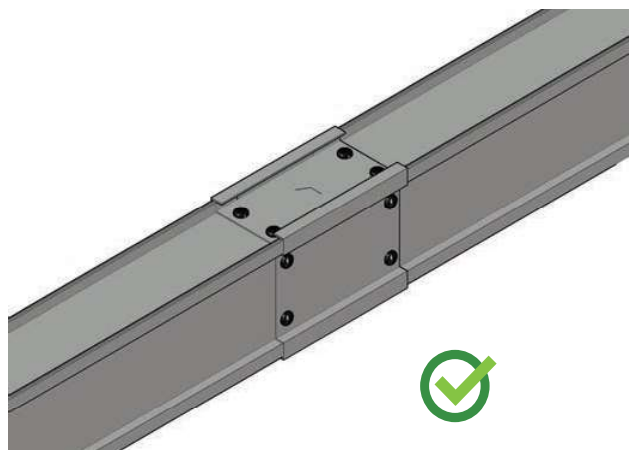
1 Install the additional cover to the busbar so that it fits into the body.



2 Install the additional block to the busbar and fix it to the next length body.



3 Before closing the joint cover, check whether the bolts are cracked or broken and fix the joint cover.



4 The tightening value with block torque is 20Nm.

SP-H