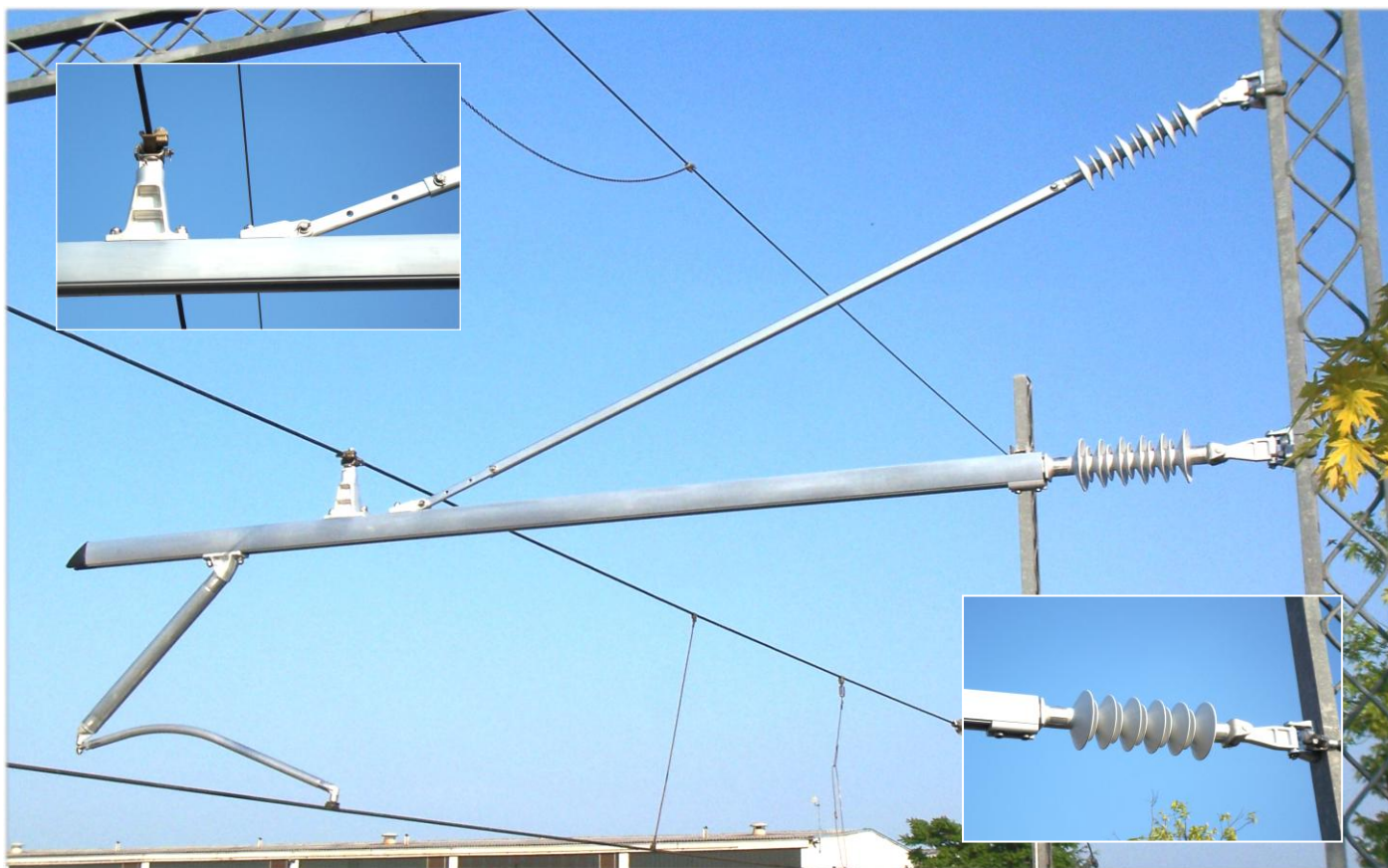


Network Rail Series 2 Specification

Bonomi Group Product Summary

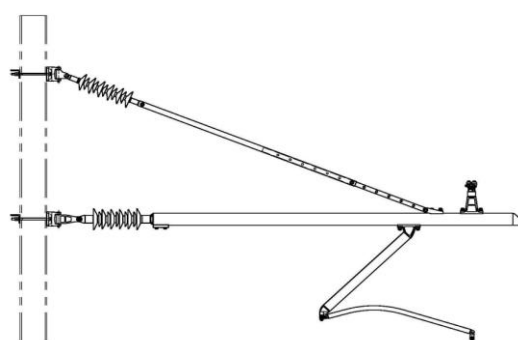
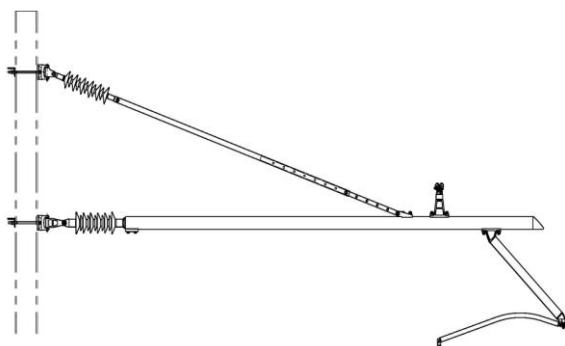


25kV OMNIA CANTILEVERS

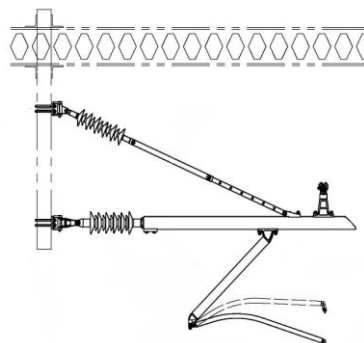
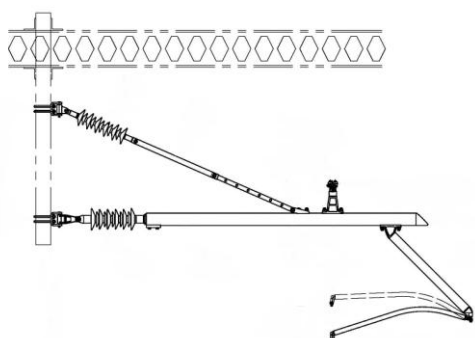
The Omnia range are pre-assembled Cantilevers which are proven in European Railways and offer key efficiencies in OLE:

- Reduced installation time – Up to one third of traditional systems
- Strong Aluminium Alloy structure for improved system stability
- Highly adjustable nature delivering installation and maintenance efficiencies
- Operating at 155 mph

STANDARD CANTILEVER ASSEMBLIES

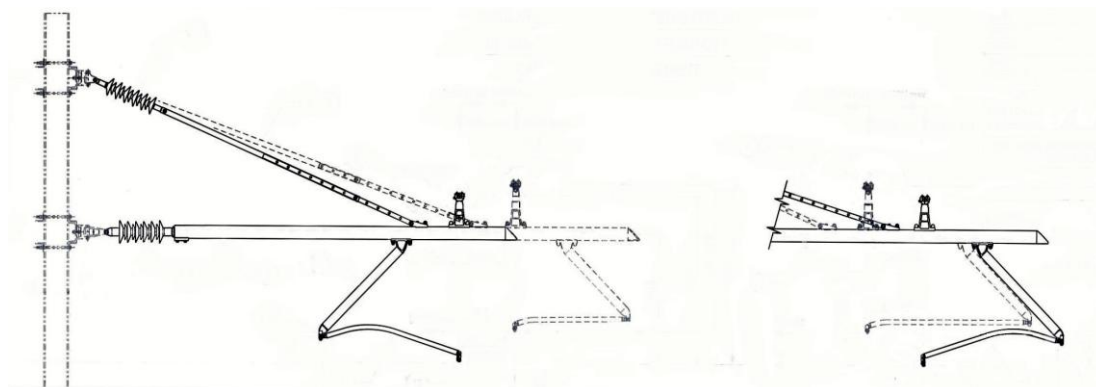


Network Rail	Bonomi Group	Description
Series 2 Ref.	Part n°	Push-off & Pull-off Arrangements – Mast Attachment
2/C99/001/00*	L03120	OMNIA Aluminium standard cantilever for straight track Encumbrance 1300 mm
2/C99/001/10*	L03124	OMNIA Aluminium standard cantilever For MID-POINT arrangement Encumbrance 1300 mm

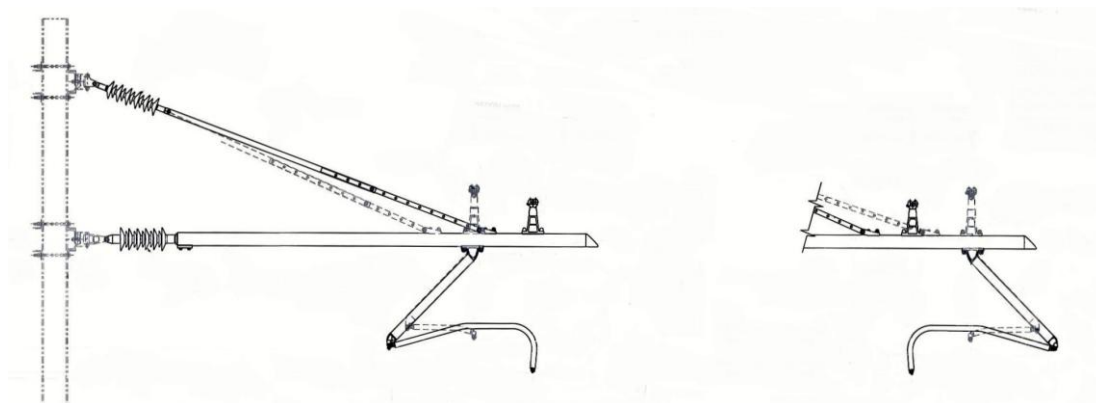


Network Rail	Bonomi Group	Description
Series 2 Ref.	Part n°	Push-off & Pull-off Arrangements – Portal Attachment
2/C99/006	L03120	OMNIA Aluminium standard cantilever for straight track Encumbrance 1300 mm

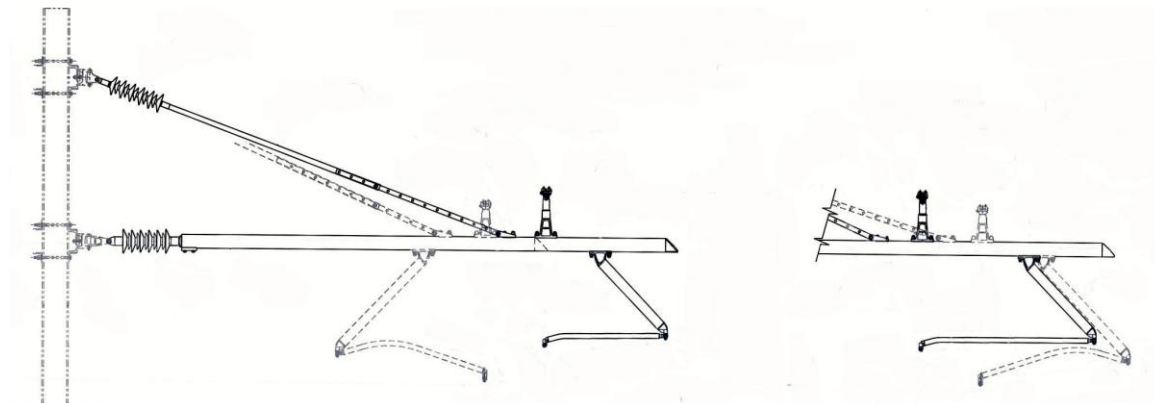
OVERLAPS CANTILEVER ASSEMBLIES



Network Rail	Bonomi Group	Description
Series 2 Ref.	Part n°	Push-off & Pull-off Arrangements
C99/002/001 to 005	L03120	OMNIA Aluminium cantilever For insulated and uninsulated Overlaps <u>in-running</u> Encumbrance 1300 mm

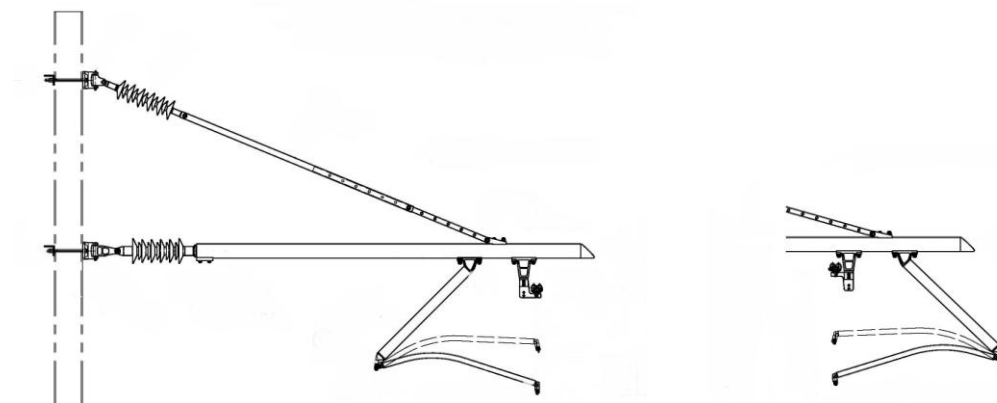


Network Rail	Bonomi Group	Description
Series 2 Ref.	Part n°	Push-off & Pull-off Arrangements
C99/002/006 to 010	L03123	OMNIA Aluminium cantilever insulated and uninsulated Overlaps <u>in-running</u> with reach over arm Encumbrance 1300 mm



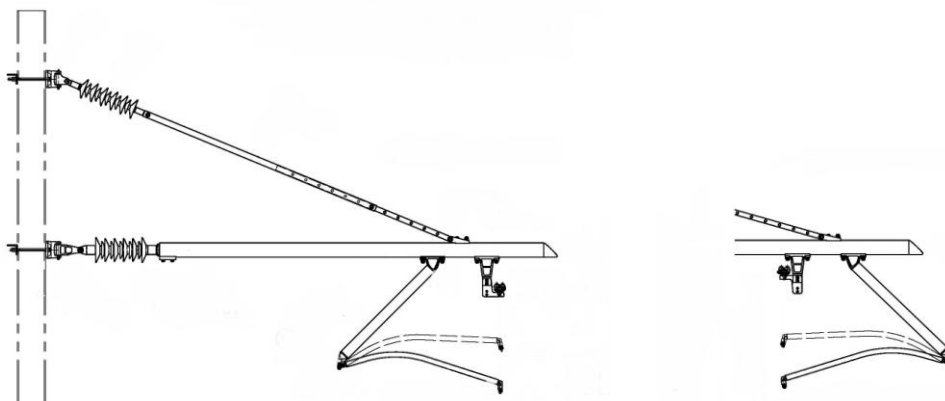
Network Rail	Bonomi Group	Description
Series 2 Ref.	Part n°	Push-off & Pull-off Arrangements
2/C99/003/*0*	L03121	OMNIA Aluminium cantilever For insulated and uninsulated Overlaps out-of-running Encumbrance 1300 mm

REDUCED ENCUMBRANCE CANTILEVER ASSEMBLIES



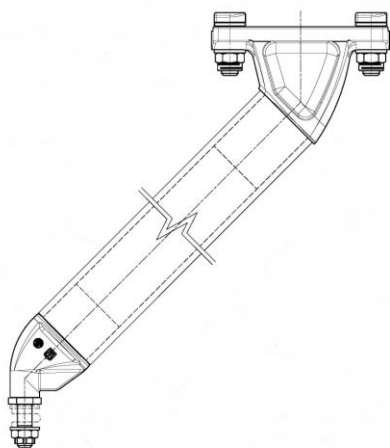
Network Rail	Bonomi Group	Description
Series 2 Ref.	Part-Dwg n°	Push-off & Pull-off Arrangements
2/C99/004/00*	L03127	OMNIA Aluminium cantilever Reduced encumbrance cantilever assembly Encumbrance 500 - 600 mm
	L03128	OMNIA Aluminium cantilever Reduced encumbrance cantilever assembly Encumbrance 750 - 850 mm

BRIDGE FACE CANTILEVER ASSEMBLIES



Network Rail	Bonomi Group	Description
Series 2 Ref.	Part-Dwg n°	Push-off & Pull-off Arrangements
2/C99/007/***	L03127	OMNIA Aluminium cantilever Reduced encumbrance bridge face cantilever assembly Spans 26m to 33m Special registration arm types, covering encumbrance from 665 – 357 See special types within table below

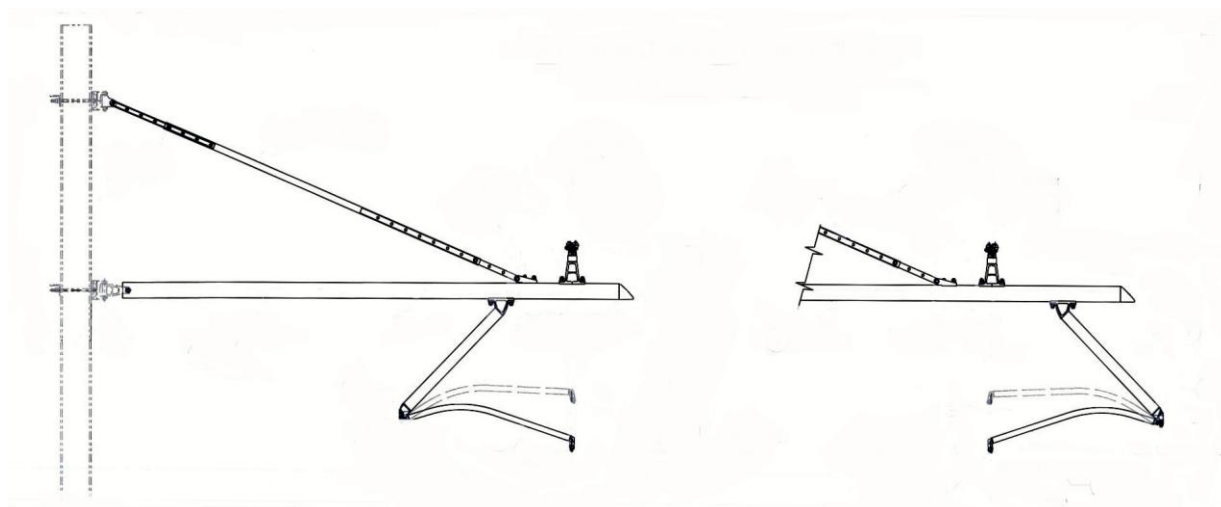
ALLOCATION TABLE FOR REDUCED ENCUMBRANCE & BRIDGE FACE CANTILEVER ASSEMBLIES REGISTRATION ARMS (STANDARD & SPECIAL TYPES)



STANDARD TYPE							
Type	h	A	L	LT	F1 [kN]	F2 [kN]	Mass [kg]
A	860	892.5	1067	995	2.7	6.8	5.83
B	760	792.5	926	854	3.0	7.5	5.37
C	660	692.5	784	712	3.5	8.8	4.91
D	510	542.5	572	500	5.0	12.5	4.22
E	610	642.5	714	642	3.8	9.5	3.94

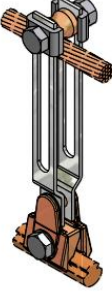
SPECIAL TYPE							
Type	h	A	L	LT	F1 [kN]	F2 [kN]	Mass [kg]
001	368	400.5	371	299	5.0	12.5	3.56
002	386	418.5	396	324	5.0	12.5	3.65
003	404	436.5	422	350	5.0	12.5	3.73
004	421	457.5	447	375	5.0	12.5	3.81
005	441	473.5	474	402	5.0	12.5	3.90
006	460	492.5	501	429	5.0	12.5	3.99
007	480	515.5	529	457	5.0	12.5	4.10
008	500	532.5	558	486	5.0	12.5	4.17
009	520	552.5	586	514	4.9	12.2	4.26
010	541	573.5	616	544	4.6	11.6	4.36
011	563	596.5	647	575	4.4	10.9	4.46
012	585	617.5	678	606	4.1	10.3	4.56
013	607	639.5	709	637	3.8	9.6	4.67
014	629	661.5	740	668	3.7	9.2	4.77
015	653	685.5	774	702	3.5	8.9	4.88
016	676	708.5	807	735	3.4	8.6	4.99

EARTHED CANTILEVER ASSEMBLIES FOR NEUTRAL SECTION

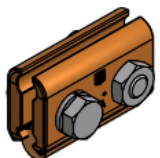
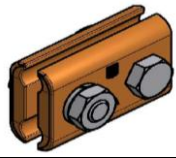


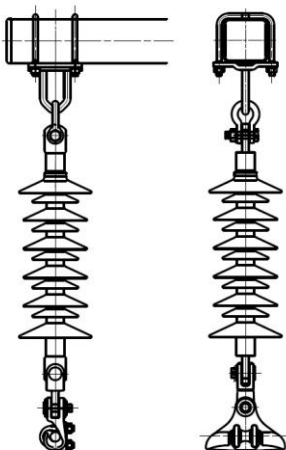
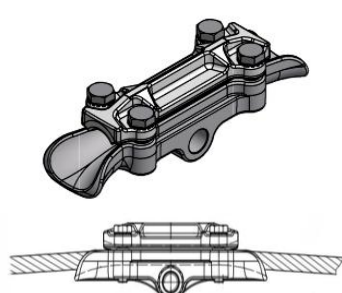
Network Rail	Bonomi Group	Description
Series 2 Ref.	Part-Dwg n°	Push-off & Pull-off Arrangements
2/C99/005/00*	L03129	OMNIA Aluminium cantilever Neutral section cantilever assembly Encumbrance 1300mm

DROPPERS

Network Rail Ref	Bonomi Group Drawing n°	Bonomi Group Part n°	Description	
C99/401/002	BE 1219	18001023	Flexible current carrying dropper with dropper rope 12 sqm Between AC 100-107-120-150 sqmm CONTACT WIRE EN 50149 NR 1/148/440 - NR 1/448/438 - NR 1/148/373 & Messenger wire from Ø 10,0 to Ø 13,0 mm	
C99/404/001	BE 944	18001006	Adjustable bridge dropper L= 140 mm For AC 100-107-120-150 sqmm CONTACT WIRE EN 50149 NR 1/148/440 - NR 1/448/438 - NR 1/148/373	
C99/404/002		18001007	Adjustable bridge dropper L= 268 mm For AC 100-107-120-150 sqmm CONTACT WIRE EN 50149 NR 1/148/440 - NR 1/448/438 - NR 1/148/373	
C99/404/003		18001008	Adjustable bridge dropper L= 418 mm For AC 100-107-120-150 sqmm CONTACT WIRE EN 50149 NR 1/148/440 - NR 1/448/438 - NR 1/148/373	

CLAMPS & CONNECTORS

Network Rail Ref	Bonomi Group Drawing n°	Bonomi Group Part n°	Description	
C25/100	M03014	GM0301400000	2-bolted Jumper Clamp Between HD-Copper 19/3.2 - Ø16 mm and Flexible Copper 19/9/0,71 Ø 10,6 or Copper Messenger Ø 10,5 mm	
C25/101	M03015	GM0301500000	2-bolted Jumper Clamp Between Flexibles Copper 19/9/0,71 Ø 10,6 And / Or Copper Messenger Ø 10,5 mm	

C21/544/001	BE 223	15197043	Conical anchor clamp for Messenger wire For Messenger Wire Copper Conductor 19/2,1 – Ø 10,5 mm	
C21/544/002		15197042	Conical anchor clamp For Contact Wire 107 – Ø 12,3 mm	
C21/544/003		15197044	Conical anchor clamp For Contact wire 120 – Ø 13,2 mm	
B72/001 - subassembly B72/002 - subassembly	L02142 - TCA	GL02142TCA00	Feeder suspension string For Hornet Ø 16.25 mm & Cockroach Ø 21,1 mm conductors Short clamp attachment TC Suspension clamp M01766	
	L02142 - TCB	GL02142TCB00	Feeder suspension string For Cockroach Ø 21,1 mm & Centipede Ø 26,5 mm conductors Short clamp attachment TC Suspension clamp M01766	
	L02142 - RA	GL02142RA000	Feeder suspension string For Hornet Ø 16.25 mm & Cockroach Ø 21,1 mm conductors Long clamp attachment R Suspension clamp M01896	
	L02142 - RB	GL02142RB000	Feeder suspension string For Cockroach Ø 21,1 mm & Centipede Ø 26,5 mm conductors Long clamp attachment R Suspension clamp M01896	
	M01766	GM0176600000	Suspension Clamp For aluminium conductors Hornet Ø 16.25 mm & Cockroach Ø 21,1 mm	
	M01896	GM0189600000	Suspension Clamp For aluminium conductors Cockroach Ø 21,1 mm & Centipede Ø 26,5 mm	
C99/620	L03022	GL0302200000	Earthing suspension clamp assembly For Aluminium cables from Ø 15,0 mm to Ø 18,0 mm Earth suspension clamp M03017 Clamp coupling screw LT0990	
C99/800	LT3153	GLT315300000	Designated Earth Point Assembly	