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ELECTRICAL INSTALLATION MATERIAL

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1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

Purpose:

Blade fuses are mainly used in fuse systems in vehicle electrics. A distinction is made between:

1. the widely used standard design **ATO** (up to max. 40 A),
2. the large-format **MAXI** blade fuse for high voltages (up to max. 80 A),
3. the small-format **MINI** blade fuse for individual powered devices (up to max. 30 A),
4. and the even more compact **low-profile MINI variant** (also up to 30 A).

Advantages:

- OEM quality compliant with ISO 8820-3
- Compact design
- Easy to use
- Complete assortment including special variants for electric vehicles and LED fuses for fast replacements even at night

1.1.1 Blade fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
ATO blade fuses	1 A	■	5	D 131	**8JS 711 683-831**	1
	2 A	■	5	D 132	**8JS 711 683-841**	1
	3 A	■	5	D 16	**8JS 711 683-821**	1
	4 A	■	5	D 190	**8JS 711 683-881**	1
	5 A	■	5	D 17	**8JS 711 684-821**	1
	7.5 A	■	5	D 18	**8JS 711 685-821**	1
	10 A	■	5	D 19	**8JS 711 686-821**	1
	15 A	■	5	D 20	**8JS 711 687-821**	1
	20 A	■	5	D 21	**8JS 711 688-821**	1
	25 A	□	5	D 22	**8JS 711 689-821**	1
	30 A	■	5	D 23	**8JS 711 690-821**	1
	35 A	■	5	D 191	**8JS 711 683-871**	1
	40 A	■	5	D 133	**8JS 711 683-851**	1
	1 A	■	50	D 128	**8JS 711 683-011**	50
	2 A	■	50	D 129	**8JS 711 683-021**	50
	3 A	■	50	D 69	**8JS 711 683-002**	50
	4 A	■	50	D 188	**8JS 711 683-052**	50
	5 A	■	50	D 70	**8JS 711 684-002**	50
	7.5 A	■	50	D 71	**8JS 711 685-002**	50
	10 A	■	50	D 72	**8JS 711 686-002**	50
	15 A	■	50	D 73	**8JS 711 687-002**	50
	20 A	■	50	D 74	**8JS 711 688-002**	50
	25 A	□	50	D 75	**8JS 711 689-002**	50
	30 A	■	50	D 76	**8JS 711 690-002**	50
	35 A	■	50	D 189	**8JS 711 683-042**	50
	40 A	■	50	D 130	**8JS 711 683-031**	50

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

1.1.1 Blade fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
MINI blade fuse	2 A		5	D 134	**8JS 728 596-861**	1
	3 A		5	D 135	**8JS 728 596-881**	1
	4 A		5	D 30	**8JS 728 596-801**	1
	5 A		5	D 31	**8JS 728 596-811**	1
	7.5 A		5	D 136	**8JS 728 596-891**	1
	10 A		5	D 32	**8JS 728 596-821**	1
	15 A		5	D 33	**8JS 728 596-831**	1
	20 A		5	D 34	**8JS 728 596-841**	1
	25 A		5	D 137	**8JS 728 596-871**	1
	30 A		5	D 35	**8JS 728 596-851**	1
	2 A		50	D 138	**8JS 728 596-081**	50
	3 A		50	D 139	**8JS 728 596-101**	50
	4 A		50	D 140	**8JS 728 596-121**	50
	5 A		50	D 141	**8JS 728 596-131**	50
	7.5 A		50	D 142	**8JS 728 596-111**	50
	10 A		50	D 143	**8JS 728 596-141**	50
	15 A		50	D 144	**8JS 728 596-151**	50
	20 A		50	D 145	**8JS 728 596-161**	50
	25 A		50	D 146	**8JS 728 596-091**	50
	30 A		50	D 147	**8JS 728 596-171**	50
Low-Profile MINI blade fuses	2 A		5	D 233	**8JS 728 596-262**	5
	3 A		5	D 234	**8JS 728 596-272**	5
	4 A		5	D 235	**8JS 728 596-282**	5
	5 A		5	D 236	**8JS 728 596-292**	5
	7.5 A		5	D 237	**8JS 728 596-302**	5
	10 A		5	D 238	**8JS 728 596-312**	5
	15 A		5	D 239	**8JS 728 596-322**	5
	20 A		5	D 240	**8JS 728 596-332**	5
	25 A		5	D 241	**8JS 728 596-342**	5
	30 A		5	D 242	**8JS 728 596-352**	5
MAXI blade fuses	20 A		1	D 148	**8JS 728 595-051**	1
	30 A		1	D 149	**8JS 728 595-061**	1
	40 A		1	D 150	**8JS 728 595-071**	1
	50 A		1	D 151	**8JS 728 595-081**	1
	60 A		1	D 152	**8JS 728 595-091**	1
	70 A		1	D 153	**8JS 728 595-101**	1
	80 A		1	D 154	**8JS 728 595-111**	1
	20 A		10	D 156	**8JS 728 595-131**	10
	25 A		10	D 249	**8JS 728 595-212**	10
	30 A		10	D 157	**8JS 728 595-141**	10
	40 A		10	D 158	**8JS 728 595-151**	10
	50 A		10	D 159	**8JS 728 595-161**	10
	60 A		10	D 160	**8JS 728 595-171**	10
	70 A		10	D 161	**8JS 728 595-181**	10
	80 A		10	D 162	**8JS 728 595-191**	10
ATO blade fuses with LEDs (only up to 12 V)	3 A		10	D 194	**8JS 711 683-062**	10
	5 A		10	D 195	**8JS 711 683-072**	10
	7.5 A		10	D 196	**8JS 711 683-082**	10
	10 A		10	D 197	**8JS 711 683-092**	10
	15 A		10	D 198	**8JS 711 683-102**	10
	20 A		10	D 199	**8JS 711 683-112**	10
	25 A		10	D 200	**8JS 711 683-122**	10
	30 A		10	D 201	**8JS 711 683-132**	10

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

1.1.1 Blade fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
MINI blade fuses with LEDs (only up to 12 V)	3 A		10	D 203	**8JS 728 596-182**	10
	5 A		10	D 204	**8JS 728 596-192**	10
	7.5 A		10	D 205	**8JS 728 596-202**	10
	10 A		10	D 206	**8JS 728 596-212**	10
	15 A		10	D 207	**8JS 728 596-222**	10
	20 A		10	D 208	**8JS 728 596-232**	10
	25 A		10	D 209	**8JS 728 596-242**	10
	30 A		10	D 210	**8JS 728 596-252**	10
Blade fuses for electric vehicles up to 80 V	3 A		10	D 262	**8JS 711 683-202**	10
	5 A		10	D 261	**8JS 711 683-212**	10
	7.5 A		10	D 260	**8JS 711 683-222**	10
	10 A		10	D 259	**8JS 711 683-232**	10
	15 A		10	D 258	**8JS 711 683-242**	10
	20 A		10	D 257	**8JS 711 683-252**	10
	25 A		10	D 256	**8JS 711 683-262**	10
	30 A		10	D 255	**8JS 711 683-272**	10

	Description	Ampere	Contents in pcs.	Short designation	Part number	PU in°pcs.
Fuse gripper/ tester	ATO/MINI blade fuse gripper with integrated function tester		1	A 96	**8PE 713 576-011**	1
	MAXI blade fuse gripper		1	D 225	**8PE 713 576-021**	1
Fuse assortment	Assortment of ATO fuses plus four fuse holders (page 20) 8KV 004 418-004	15 each of 5 A, 7.5 A, 10 A, 15 A, 20 A, 25 A, 30 A	109	D 99	**8JS 004 743-803**	1
	ATO assortment	1 each of 3 A, 5 A, 7.5 A, 15 A, 25 A, 30 A; 2 each of 10 A, 20 A	10	D 49	**8JS 711 683-903**	1
	ATO assortment	5 each of 2 A, 5 A, 7.5 A, 15 A, 20 A, 30 A	30	D 263	**8JS 711 683-861**	1
	MINI assortment	3 each of 4 A, 5 A, 30 A; 5 each of 10 A, 15 A, 20 A	24	D 44	**8JS 728 596-901**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

	Description	Ampere	Contents in pcs.	Short designation	Part number	PU in pcs.
Fuse assortment	MAXI assortment	1 each of 20 A; 3 each of 30 A, 40 A, 50 A, 60 A	13	D 43	**8JS 728 595-901**	1
	ATO assortment with LED	1 each of 5 A, 7.5 A, 10 A, 15 A, 20 A	5	D 202	**8JS 711 683-931**	1
	MINI assortment with LED	1 each of 5 A, 7.5 A, 10 A, 15 A, 20 A	5	D 211	**8JS 728 596-921**	1

Assortment case	Designation	Part number Case	PU in pcs.
Fuse assortment case	The assortment comprises ATO (25 for each current rating) and MINI blade fuses (20 for each current rating) plus one MINI/ATO blade fuse tester/gripper. Quantity delivered as refill set deviates from the quantity in the original set.	**8JS 009 257-801**	1

Contents of fuse assortment case	Designation	Ampere	Colour	Quantity in the assortment
	ATO blade fuse	2 A		25
		3 A		25
		4 A		25
		5 A		25
		7.5 A		25
		10 A		25
		15 A		25
		20 A		25
		25 A		25
		30 A		25
		40 A		25
	MINI blade fuse	2 A		20
		3 A		20
		4 A		20
		5 A		20
		7.5 A		20
		10 A		20
		15 A		20
		20 A		20
		25 A		20
		30 A		20

refill	Short designation	Part numbers of fuses	PU in pcs.
Spare parts	D 129	**8JS 711 683-021**	50
	D 69	**8JS 711 683-002**	50
	D 188	**8JS 711 683-052**	50
	D 70	**8JS 711 684-002**	50
	D 71	**8JS 711 685-002**	50
	D 72	**8JS 711 686-002**	50
	D 73	**8JS 711 687-002**	50
	D 74	**8JS 711 688-002**	50
	D 75	**8JS 711 689-002**	50
	D 76	**8JS 711 690-002**	50
	D 130	**8JS 711 683-031**	50
	D 138	**8JS 728 596-081**	50
	D 139	**8JS 728 596-101**	50
	D 140	**8JS 728 596-121**	50
	D 141	**8JS 728 596-131**	50
	D 142	**8JS 728 596-111**	50
	D 143	**8JS 728 596-141**	50
	D 144	**8JS 728 596-151**	50
	D 145	**8JS 728 596-161**	50
	D 146	**8JS 728 596-091**	50
	D 147	**8JS 728 596-171**	50

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

Product details

Purpose:

Strip fuses – aka leaf fuses – essentially consist of a stamped strip of fuse metal. Alongside the open type, which has no sheath, closed types with plastic insulators or ceramic casings are also used. Because of their more solid construction these are primarily used to secure high-current and high-voltage electrical systems.

The main CF8 fuse is especially designed for applications at the battery terminal. The associated insulating nuts and terminals are included in the programme.

Advantages:

- OEM quality to standard
- Various versions for a wide range of applications

1.1.2 Strip and screw fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
MIDI **high-current fuses** 	30 A		1	D 164	**8JS 742 901-061**	1
	40 A		1	D 165	**8JS 742 901-001**	1
	50 A		1	D 166	**8JS 742 901-011**	1
	60 A		1	D 167	**8JS 742 901-021**	1
	70 A		1	D 168	**8JS 742 901-031**	1
	80 A		1	D 169	**8JS 742 901-041**	1
	100 A		1	D 170	**8JS 742 901-051**	1
	125 A		1	D 171	**8JS 742 901-071**	1
	150 A		1	D 172	**8JS 742 901-081**	1
MEGA **high-current fuses** 	100 A		1	D 173	**8JS 742 902-001**	1
	125 A		1	D 174	**8JS 742 902-011**	1
	150 A		1	D 175	**8JS 742 902-021**	1
	175 A		1	D 176	**8JS 742 902-031**	1
	200 A		1	D 177	**8JS 742 902-041**	1
	225 A		1	D 178	**8JS 742 902-061**	1
	250 A		1	D 179	**8JS 742 902-051**	1
	300 A		1	D 180	**8JS 742 902-071**	1
	350 A		1	D 243	**8JS 742 902-081**	1
	400 A		1	D 244	**8JS 742 902-091**	1
	450 A		1	D 245	**8JS 742 902-101**	1
	500 A		1	D 246	**8JS 742 902-111**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

1.1.2 Strip and screw fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
Fuse strips **41 x 11 mm** 	30 A		100		**8JS 713 575-011**	100
	50 A		100		**8JS 713 575-021**	100
	60 A		100		**8JS 713 575-031**	100
	80 A		100		**8JS 713 575-001**	100
	100 A		100		**8JS 713 575-041**	100
	125 A		100		**8JS 713 575-051**	100
	150 A		100		**8JS 713 575-061**	100
HSB fuse strips **42 x 12 mm** 	30 A		10		**8JS 713 575-102**	10
	40 A		10		**8JS 713 575-112**	10
	50 A		10		**8JS 713 575-122**	10
	60 A		10		**8JS 713 575-132**	10
	80 A		10		**8JS 713 575-142**	10
	110 A		10		**8JS 713 575-152**	10
	150 A		10		**8JS 713 575-162**	10
	175 A		10		**8JS 713 575-172**	10
Fuse strips **for battery-driven railless vehicles** **82 x 20 mm (DIN 43560 part 1)** 	35 A		1		**8JS 713 575-201**	1
	50 A		1		**8JS 713 575-211**	1
	63 A		1		**8JS 713 575-221**	1
	80 A		1		**8JS 713 575-231**	1
	100 A		1		**8JS 713 575-241**	1
	125 A		1		**8JS 713 575-251**	1
	160 A		1		**8JS 713 575-261**	1
	200 A		1		**8JS 713 575-271**	1
	250 A		1		**8JS 713 575-281**	1
	300 A		1		**8JS 713 575-291**	1
	355 A		1		**8JS 713 575-301**	1
	425 A		1		**8JS 713 575-311**	1
CF 8 main fuses **up to 58 V** 	50 A		1		**8JS 747 876-001**	1
	75 A		1		**8JS 747 876-011**	1
	100 A		1		**8JS 747 876-021**	1
	125 A		1		**8JS 747 876-031**	1
	150 A		1		**8JS 747 876-041**	1
	175 A		1		**8JS 747 876-051**	1
	200 A		1		**8JS 747 876-061**	1
	250 A		1		**8JS 747 876-071**	1
	300 A		1		**8JS 747 876-081**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

	Description	Contents in pcs.	Short designation	Part number	PU in pcs.
Accessories CF 8 main fuses	Insulating nut	1		**9MJ 747 877-001**	1
	Battery terminal 1-pole + terminal ø 17.5 mm pin ø 8 mm	1		**8KX 747 875-001**	1
	Battery terminal 2-pole + terminal ø 17.5 mm pin ø 8 mm	1		**8KX 747 875-011**	1

Product details

Purpose:

PAL fuses (up to a maximum of 120 A) have a similar range of application to MAXI blade fuses, but unlike these they are installed primarily in Japanese vehicles.

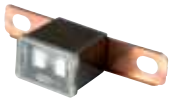
This type of fuse is also available in a number of sizes and designs. More recent vehicles primarily come with JCASE fuses or even especially compact low-profile JCASE fuses.

Advantages:

- Compact design
- Easy to use
- Complete assortment for all vehicle generations

1.1.3 Cartridge fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
Female (AS)	20 A		1	D 100	**8JS 740 026-001**	1
	30 A		1	D 101	**8JS 740 026-011**	1
	40 A		1	D 102	**8JS 740 026-021**	1
	50 A		1	D 103	**8JS 740 026-031**	1
	60 A		1	D 104	**8JS 740 026-041**	1
Female small (F)	30 A		1	D 105	**8JS 740 026-101**	1
	40 A		1	D 106	**8JS 740 026-111**	1
Male (B)	30 A		1	D 107	**8JS 740 026-201**	1
	40 A		1	D 112	**8JS 740 026-241**	1
	50 A		1	D 113	**8JS 740 026-251**	1
	60 A		1	D 108	**8JS 740 026-211**	1
	70 A		1	D 114	**8JS 740 026-261**	1
	80 A		1	D 109	**8JS 740 026-221**	1
	100 A		1	D 110	**8JS 740 026-231**	1
	120 A		1	D 115	**8JS 740 026-271**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

1.1.3 Cartridge fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
Bent (C) 	30 A		1	D 116	**8JS 740 026-311**	1
	40 A		1	D 117	**8JS 740 026-321**	1
	50 A		1	D 118	**8JS 740 026-331**	1
	60 A		1	D 119	**8JS 740 026-341**	1
	70 A		1	D 120	**8JS 740 026-351**	1
	80 A		1	D 111	**8JS 740 026-301**	1
	100 A		1	D 121	**8JS 740 026-361**	1
	120 A		1	D 122	**8JS 740 026-371**	1
Bent short (CS)	30 A		1	D 212	**8JS 740 026-501**	1
	40 A		1	D 213	**8JS 740 026-511**	1
	50 A		1	D 214	**8JS 740 026-521**	1
	60 A		1	D 215	**8JS 740 026-531**	1
	70 A		1	D 216	**8JS 740 026-541**	1
	80 A		1	D 217	**8JS 740 026-551**	1
	100 A		1	D 218	**8JS 740 026-561**	1
	120 A		1	D 219	**8JS 740 026-571**	1
Female slot (D)	25 A		1	D 220	**8JS 740 026-601**	1
	30 A		1	D 221	**8JS 740 026-611**	1
Female slot (E)	45 A		1	D 222	**8JS 740 026-701**	1
	65 A		1	D 223	**8JS 740 026-711**	1
	75 A		1	D 224	**8JS 740 026-721**	1
JCASE	20 A		1	D 123	**8JS 740 026-401**	1
	30 A		1	D 124	**8JS 740 026-411**	1
	40 A		1	D 125	**8JS 740 026-421**	1
	50 A		1	D 126	**8JS 740 026-431**	1
	60 A		1	D 127	**8JS 740 026-441**	1
Low Profile JCASE	20 A		1	D 227	**8JS 740 026-731**	1
	25 A		1	D 228	**8JS 740 026-741**	1
	30 A		1	D 229	**8JS 740 026-751**	1
	40 A		1	D 230	**8JS 740 026-761**	1
	50 A		1	D 231	**8JS 740 026-771**	1
	60 A		1	D 232	**8JS 740 026-781**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.1 Fuses

1.1.4 Other fuses	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
Torpedo fuses, (DIN 72581, part 1, 6 x 25 mm)	5 A	yellow	5	D 11	**8JS 704 073-801**	1
	8 A	white	5	D 12	**8JS 025 889-801**	1
	16 A	red	5	D 13	**8JS 089 015-801**	1
	25 A	blue	5	D 14	**8JS 091 603-801**	1
	5 A	yellow	100	D 64	**8JS 704 073-003**	100
	8 A	white	100	D 65	**8JS 025 889-003**	100
	16 A	red	100	D 66	**8JS 089 015-003**	100
	25 A	blue	100	D 67	**8JS 091 603-003**	100
	40 A	grey	100	D 68	**8JS 713 144-003**	100
Glass-tube fuses 5 x 20 mm, quick-acting	1A		100	D 50	**8JS 713 549-003**	100
	2.5 A		100	D 51	**8JS 713 804-003**	100
	5 A		100	D 52	**8JS 713 550-003**	100
Glass-tube fuses 6.3 x 32 mm, quick-acting	5 A		50	D 53	**8JS 713 564-002**	50
	10 A		50	D 54	**8JS 713 805-003**	50
	15 A		50	D 55	**8JS 713 806-003**	50
	20 A		50	D 57	**8JS 713 807-003**	50
	25 A		50	D 58	**8JS 713 808-003**	50
	30 A		50	D 59	**8JS 713 567-003**	50

Description	Ampere	Contents in pcs.	Short designation	Part number	PU in pcs.
Assortment of glass-tube and Torpedo fuses	5 x 20 mm: 1 x 2.5 A 6,3 x 32 mm: 3 x 10 A 3 x 20 A 1 x 25 A	8	D 48	**8JS 003 481-823**	1
Assortment of glass-tube fuses	5 x 20 mm: 1 x 2.5 A Torpedo: 1 x 5 A 4 x 8 A 3 x 16 A 1 x 25 A	10	D 47	**8JS 003 481-803**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.2 Circuit-breakers

Purpose:

Circuit-breakers, like conventional fuses, are used to protect equipment from excess load and short-circuit by interrupting the application circuit. Their advantage over conventional fuses is that they can do this many times over, without having to be replaced each time they are triggered. An automatic or manual reset restores the circuit-breaker to its original state - saving time and money.
Circuit-breakers are able to distinguish between brief start-up surges and genuine overloads, so they can guarantee optimal protection without triggering unnecessarily or wasting power.
The variant with manual trigger gives users a fast and easy way of interrupting a circuit and then reclosing it manually – which is optimal for many electrical tests, such as those needed in vehicle workshops.

Advantages:

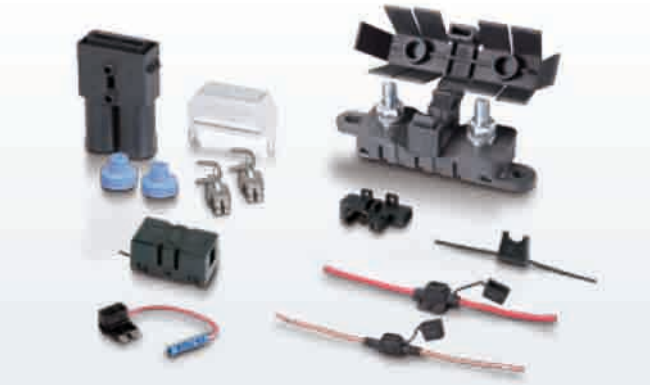
- Compact design
- Easy and reliable to use
- Available in all common blade fuse sizes

1.2 Circuit-breakers	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
Resettable, connection as ATO fuses	5 A		1	C 01	**8JS 174 320-001**	1
	7.5 A		1	C 02	**8JS 174 320-011**	1
	10 A		1	C 03	**8JS 174 320-021**	1
	15 A		1	C 04	**8JS 174 320-031**	1
	20 A		1	C 05	**8JS 174 320-041**	1
	25 A		1	C 06	**8JS 174 320-051**	1
	30 A		1	C 07	**8JS 174 320-061**	1
	40 A		1	C 08	**8JS 174 320-071**	1
With manual trigger, connections as ATO fuses	5 A		1	C 09	**8JS 174 326-001**	1
	7.5 A		1	C 10	**8JS 174 326-011**	1
	10 A		1	C 11	**8JS 174 326-021**	1
	15 A		1	C 12	**8JS 174 326-031**	1
	20 A		1	C 13	**8JS 174 326-041**	1
	25 A		1	C 14	**8JS 174 326-051**	1
	30 A		1	C 15	**8JS 174 326-061**	1
	35 A		1	C 16	**8JS 174 326-081**	1
	40 A		1	C 17	**8JS 174 326-071**	1
Automatic reset, 2 male blade connections 6.3 x 0.8 mm	12 A		1	C 18	**8JS 174 328-001**	1
	15 A		1	C 19	**8JS 174 328-011**	1
	20 A		1	C 20	**8JS 174 328-021**	1
	30 A		1	C 21	**8JS 174 328-031**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.2 Circuit-breakers

1.2 Circuit-breakers	Ampere	Colour	Contents in pcs.	Short designation	Part number	PU in pcs.
Automatic reset, connections as MINI fuses	5 A		1	C 22	**8JS 174 330-001**	1
	7.5 A		1	C 23	**8JS 174 330-011**	1
	10 A		1	C 24	**8JS 174 330-021**	1
	15 A		1	C 25	**8JS 174 330-031**	1
	20 A		1	C 26	**8JS 174 330-041**	1
	25 A		1	C 27	**8JS 174 330-051**	1
	30 A		1	C 28	**8JS 174 330-061**	1
Automatic reset, connections as MAXI fuses	10 A		1	C 29	**8JS 174 333-001**	1
	15 A		1	C 30	**8JS 174 333-011**	1
	20 A		1	C 31	**8JS 174 333-021**	1
	25 A		1	C 32	**8JS 174 333-031**	1
	30 A		1	C 33	**8JS 174 333-041**	1
	35 A		1	C 34	**8JS 174 333-051**	1
	40 A		1	C 35	**8JS 174 333-061**	1
	50 A		1	C 36	**8JS 174 333-071**	1

Product details



Purpose:

Whenever upgrading of converting an electrical system calls for additional overload protection (e.g. when connecting additional consumers), the **fuse holder** serves as a link between the cable and the fuse.
Here the range of products is at least as wide as the range of possible applications. You can use variants for a wide range of fuse types depending on your specific needs - with integrated cables, covers or even completely enclosed in rubberised seals for maximum moisture resistance.

Advantages:

- Wide assortment of products for numerous applications
- Pragmatic safety solutions for minor upgrades and conversions

1.3.1 Inline fuse holders	Description	Load-carrying capacity	Contents in pcs.	Short designation	Part number	PU in pcs.
ATO inline fuse holders	with 1.3 mm² cables, splash-proof	max. 20 A	1	D 81	**8JD 743 557-021**	1
	with 3.3 mm² cables, splash-proof	max. 30 A	1	D 82	**8JD 743 557-031**	1
	with 1.3 mm² cables	max. 20 A	1	D 83	**8JD 743 557-041**	1
	with cables 3.3 mm²	max. 30 A	1	D 84	**8JD 743 557-051**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.3 Fuse holders

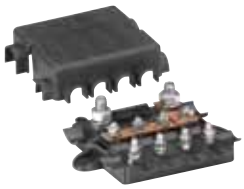
1.3.1 Inline fuse holders	Description	Load-carrying capacity	Contents in pcs.	Short designation	Part number	PU in pcs.
MINI inline fuse holders,	with 2 mm² cables, splash-proof	max. 20 A	1	D 181	**8JD 743 557-001**	1
	with 3 mm² cables, splash-proof	max. 30 A	1	D 182	**8JD 743 557-011**	1
MINI inline fuse holders	with protective cap, 2.5 mm², splash-proof, possible to clip several holders together	max. 20 A	1	D 264	**8JD 187 871-001**	1
Low-profile MINI inline fuse holder	with 1.5 mm² cables, splash-proof	max. 15 A	1	D 265	**8JD 187 871-011**	1
	with 2.5 mm² cables, splash-proof	max. 20 A	1	D 266	**8JD 187 871-021**	1
Low-profile MINI inline fuse holder	with 0.75 mm² cables, splash-proof	max. 10 A	1	D 247	**8JD 743 557-091**	1
	with 3.0 mm² cables, splash-proof	max. 30 A	1	D 248	**8JD 743 557-101**	1
JCASE inline fuse holders	with 8.3 mm² cables, splash-proof	max. 60 A	1	D 250	**8JD 743 557-111**	1
Low-profile JCASE inline fuse holder	with 8.3 mm² cables, splash-proof	max. 40 A	1	D 251	**8JD 743 557-121**	1

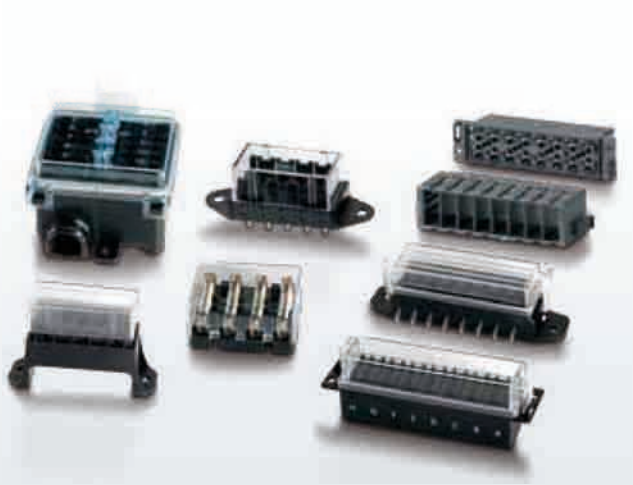
1.3.1 Inline fuse holders	Description	Load-carrying capacity	Contents in pcs.	Short designation	Part number	PU in pcs.
Inline fuse holder for glass-tube fuses 	for 5 x 20 mm glass tube fuses without fuse	max. 10 A at 32 V	1	D 252	**8JD 003 285-011**	1
	for 6.3 x 32 mm glass tube fuses without fuse	max. 20 A at 32 V	1	D 253	**8JD 003 285-021**	1
	with glass tube fuse inserts 2 A 5 x 20 mm, 170 mm long, flat receptacle 6.3 x 0.8 mm		2	I 03	**8KV 003 285-801**	1
			8	I 54	**8KV 003 285-002**	8

1.3.2 Other fuse holders	Description	Contents in pcs.	Short designation	Part number	PU in pcs.
MAXI fuse holders 	with blade terminal connections (6.3 x 0.8 mm)	10	I 59	**8KV 004 418-004**	10
		2	I 09	**8KV 004 418-821**	1
	for direct clamping to the cable	10	I 60	**8KV 714 340-002**	10
	with 2 twin-spring contacts 8KW 054 944-003 (page 106); possible to line up several holders together; compatible with female connector housing 8 JA 003 526-001 for mini-relays (see main Electrical catalogue)	1		**8JA 007 024-001**	1

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.3 Fuse holders

1.3.2 Other fuse holders	Description	Load-carrying capacity	Contents in pcs.	Short designation	Part number	PU in pcs.
Inline fuse holder for glass-tube fuses 	with two twin-spring contacts 8KW 054 944-003 (page 106) and cover, for cables up to 2.5 mm², for cables 2.5–4.0 mm² use twin-spring contacts 8KW 054 943-003 (page 106)! Possible to clip several holders together.	max. 30 A	6	D 77	**8JD 005 235-002**	6
		max. 30 A	2	D 24	**8JD 005 235-801**	1
MINI fuse holder 	with protective cap, holds up to 4 MINI blade fuses		10		**8JD 187 871-031**	10
MAXI fuse holders 	splash-proof, with cover, 2 screws each, contacts for cables from 2.5–6.0 mm² and 5.0–10.0 mm²	20 A– 60 A	1	D 183	**8JD 743 708-001**	1
	watertight, with cover, seals and contacts, for cables 4–6 mm²	20 A– 80 A	1	D 184	**8JD 743 710-001**	1
	for cables 6–10 mm2		1	D 185	**8JD 743 709-001**	1
Auxiliary fuse holder 	MINI fuse holder with 4 blade fuses 1 each of 3 A, 5 A, 7.5 A, 10 A		5	D 192	**8JD 743 557-801**	1
	ATO fuse holder with 4 blade fuses 1 each of 3 A, 5 A, 7.5 A, 10 A		5	D 193	**8JD 743 557-811**	1

1.3.2 Other fuse holders	Description	Load-carrying capacity	Contents in pcs.	Short designation	Part number	PU in pcs.
MEGA and MIDI fuse holders 	MIDI fuse holder	30 A – 150 A	1	D 187	**8JD 743 136-001**	1
	MEGA fuse holder	100 A – 250 A	1	D 186	**8JD 743 135-001**	1
	MEGA fuse holder with flexible cover which allows cable routing from any direction	max. 500 A	1	D 254	**8JD 743 135-011**	1
MIDI / MEGA combo-fuse holders 	with protective cap, for 4 x MIDI and 1 x MEGA fuse, housing constructed with additional attachment points and cable openings		1		**8JD 187 871-041**	1
Fuse holder for railless battery vehicles 	for fuses 8JS 713 575-201 to -311 (Page 11)		1	D 226	**8JD 743 557-081**	1
Torpedo fuse holder for cable cross-sections 1.5–2.5 mm²	with fuse insert 8 A		2	I 04	**8KV 002 127-801**	1
			10	I 55	**8KV 002 127-003**	10
	with fuse insert 5 A		10		**8KV 002 136-001**	10
	with fuse insert 16 A		10		**8KV 002 127-021**	10
	with fuse insert 25 A		10		**8KV 002 127-011**	10
	without fuse insert		10		**8KV 002 136-011**	10



Purpose:

If a single fuse holder is not sufficient to enable any further equipment to be added to the electrical system, or if you want to add a number of functions simultaneously, you may wish to use a **fuse box**.
Bundling the safety functions at one central point makes this clearer and easier to maintain.
As for the fuse holders, there are numerous variants for every type of fuse, in different shapes, colours. sizes, contacts and protection classes.

Advantages:

- Wide assortment of products for numerous applications
- The modular set system for ATO offers a highly customisable solution

These **fuse box sets** are modular, making it possible to configure your **fuse box** individually as appropriate for your application.
Thanks to the new lamellar contact system they can also be used for high currents: up to 60 A using the enclosed individual contacts, and even up to 125 A using the contact busbars that are available separately.

In each case the ordered set contains the housing, the insert, 16 individual contacts and - depending on the set - a suitable cover for standard ATO fuses or circuit-breakers 8JS 174 320-xxx or 8JS 174 326-xxx (page 16).
A coding set and various sizes of contact strip are available as accessories.

The empty housing is fitted with contact rails or individual contacts.

The housing insert is inserted ...

... and clicked into place.

Next step: insert fuses.

Put cover in place.

Finished.

Fuse box sets from Hella:

1. **8JD 005 993-161**
   with standard cover

2. **8JD 005 993-171**
   with high cover

3. **8JD 005 993-181**
   with open cover

Fuse box set with high cover for circuit-breakers 8JS 174 320-xxx.

Fuse box set with open cover for circuit-breakers 8JS 174 826-xxx.

1.4 Fuse boxes	Description	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
ATO fuse boxes 	Fuse box set for ATO blade fuses, each comprising housing, insert and cover plus 16 individual contacts	8-pole	4		**8JD 005 993-161**	1
	Fuse box set for 8JS 174 320-xxx circuit-breakers, each comprising housing, insert and cover plus 16 individual contacts	8-pole	4		**8JD 005 993-171**	1
	Fuse box set for 8JS 174 326-xxx circuit-breakers, each comprising housing, insert and cover plus 16 individual contacts	8-pole	4		**8JD 005 993-181**	1
	Contact rails for currents up to 125 A	2-pole	10		**9MK 741 492-022**	10
		3-pole	10		**9MK 741 492-032**	10
		4-pole	10		**9MK 741 492-042**	10
		5-pole	10		**9MK 741 492-052**	10
		6-pole	10		**9MK 741 492-062**	10
		7-pole	10		**9MK 741 492-072**	10
		8-pole	10		**9MK 741 492-082**	10

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.4 Fuse boxes

1.4 Fuse boxes	Description	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
ATO fuse boxes 	with 8 axial outputs, (6.3 x 0.8 mm), transparent cover and contact parts	4-pole	10		**8JD 005 993-072**	10
	with 8 side outputs (6.3 x 0.8 mm), transparent cover and contact parts	4-pole	10		**8JD 005 993-082**	10
	with 10 axial outputs (6.3 x 0.8 mm), transparent cover, for max. 5 x 30-A-flat fuse inserts, with two angle brackets	5-pole	10		**8JD 005 993-001**	10
			1	D 95	**8JD 005 993-002**	1
	with 10 axial solder connections (2.2 mm), transparent cover, for max. 5 x 15-A-flat fuse inserts	5-pole	10		**8JD 005 993-021**	10
	with 10 side outputs (6.3 x 0.8 mm), transparent cover, for max. 5 x 30-A-flat fuse inserts	5-pole	10		**8JD 005 993-032**	10
	with 12 axial outputs (6.3 x 0.8 mm), transparent cover and contact parts	6-pole	10		**8JD 005 993-092**	10
	with 12 side outputs (6.3 x 0.8 mm), transparent cover and contact parts	6-pole	10		**8JD 005 993-102**	10

1 Fuses/Circuit-breakers/Fuse holders/Fuse boxes
1.4 Fuse boxes

1.4 Fuse boxes	Description	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
ATO fuse boxes 	with 24 axial connections (6.3 x 0.8 mm), transparent cover	6-pole	10		**8JD 005 993-051**	10
	Bridge (width 15.8 mm)		80		**9MK 741 492-001**	80
	with 16 axial outputs (6.3 x 0.8 mm), transparent cover and contact parts	8-pole	10		**8JD 005 993-112**	10
	with 16 side outputs (6.3 x 0.8 mm), transparent cover and contact parts	8-pole	10		**8JD 005 993-122**	10
	with either 32 axial connections (6.3 x 0.8 mm) or 64 axial connections (2.8 x 0.8 mm), transparent cover	8-pole	10		**8JD 005 993-061**	10
	Bridge (width 11.5 mm)		80		**9MK 741 492-011**	80
	Coding set		4		**8JB 742 649-001**	1
	Coding set		4		**8JB 742 649-041**	1
	Special fuse box, splash- proof with holders integrated in the cover for 4 spare blade fuses, rubber seal and 12 contacts for cables 1.5 to 2.5 mm², up to 10 A	12-pole	1		**8JD 005 993-131**	1

1.4 Fuse boxes	Description	Cover colour	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
Torpedo fuse boxes with 8 A fuse inserts	Threaded connections for cables up to 6 mm²	■	1-pole	10		**8JD 002 288-001**	10
	Threaded connections for cables up to 6 mm²	■	2-pole	10		**8JD 002 289-001**	10
		transparent	2-pole	10		**8JD 002 289-011**	10
	Male blade connection 6.3 x 0.8 mm²	transparent	2-pole	10		**8JD 002 289-081**	10
	Threaded connections for cables up to 6 mm²	■	4-pole	15		**8JD 002 294-001**	15
		transparent	4-pole	15		**8JD 002 294-011**	15
	Male blade connection 6.3 x 0.8 mm²	transparent	4-pole	10		**8JD 002 294-081**	10
	Threaded connections for cables up to 6 mm²	■	6-pole	10		**8JD 002 291-001**	10
		transparent	6-pole	10		**8JD 002 291-011**	10
	Male blade connection 6.3 x 0.8 mm²	transparent	6-pole	10		**8JD 002 291-141**	10
	Threaded connections for cables up to 6 mm²	■	8-pole	5		**8JD 002 290-001**	5
		transparent	8-pole	5		**8JD 002 290-031**	5
	Male blade connection 6.3 x 0.8 mm²	transparent	8-pole	10		**8JD 002 290-141**	10
	Connection rail		2-pole	100		**9XS 091 200-007**	100
	60 male blade connections 6.3 x 0.8 mm	transparent	12-pole	10		**8JD 004 588-001**	10

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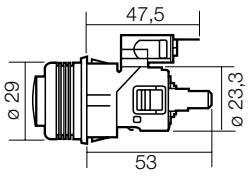
2. Plug-type connections
Cigarette lighters, power sockets and USB sockets

Purpose:

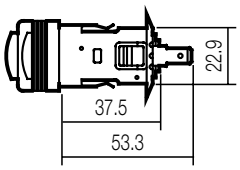
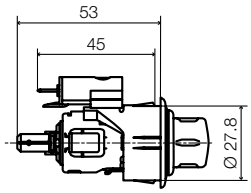
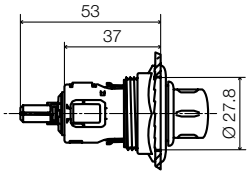
These products are used for various special applications. The power sockets are used to connect a variety of consumers such as lights, fans, cool boxes, phones, laptops, portable refrigerators and coffee makers. Cigarette lighters are offered in a variety of designs.

Advantages:

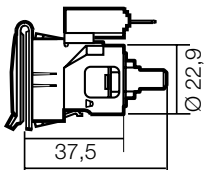
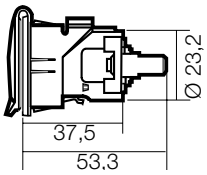
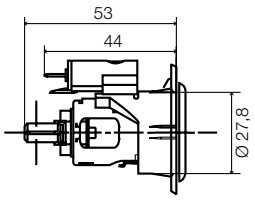
- Easy to assemble
- Screw thread and clamping sleeve
- Optionally with light
- 12 V and 24 V versions available
- Proven technology for OEMs

2.1 Cigarette lighters, power sockets and USB sockets	Description	Voltage	max. load-carrying capacity as socket	Part number	PU
  	**Universal cigarette lighter with light** type of connection: blade coupling 6.3 mm, fastened with a green clamping sleeve, pierced hole: Ø 28 mm, control panel thickness: max. 2.5 mm				
	Boxed	12 V	10 A	**8EZ 008 021-001**	1
	Boxed	24 V	5 A	**8EZ 008 021-011**	1

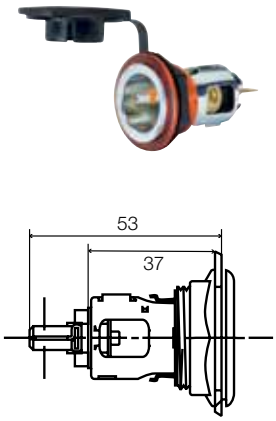
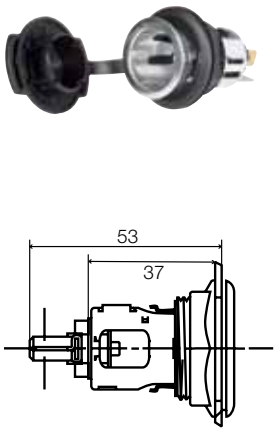
2. Plug-type connections
2.1 Cigarette lighters and power sockets

2.1 Cigarette lighters, power sockets	Description	Voltage	max. load-carrying capacity as socket	Part number	PU
  	**Universal cigarette lighter without light** type of connection: blade coupling 6.3 mm, fastened with a lock washer, pierced hole: Ø 23.5 mm, control panel thickness: max. 2.5 mm				
	Boxed	12 V	10 A	**8EZ 008 022-001**	1
	Boxed	24 V	5 A	**8EZ 008 022-011**	1
  	**Universal SAE standard cigarette lighter with light** type of connection: blade coupling 6.3 mm, fastened with a red clamping sleeve, pierced hole: Ø 28 mm, control panel thickness: max. 2.0 mm				
	Boxed	12 V		**8EZ 008 021-021**	1
	Boxed	24 V		**8EZ 008 021-031**	1
  	**Universal SAE standard cigarette lighter without light** type of connection: blade coupling 6.3 mm, fastened with a hexagon nut, pierced hole: Ø 28 mm, control panel thickness: max. 2.0 mm				
	Boxed	12 V		**8EZ 008 021-041**	1
	Boxed	24 V		**8EZ 008 021-051**	1

2. Plug-type connections
2.1 Cigarette lighters and power sockets

2.1 Cigarette lighters, power sockets	Description	Voltage	max. load-carrying capacity as socket	Part number	PU
  	**Power socket with light and cover** Type of connection: blade coupling 6.3 mm, fixed using a green clamping sleeve, pierced hole: Ø 28 mm, control panel thickness: max. 2.5 mm with 12 V bulb installed, an additional bulb must be ordered for 24 V.				
	Boxed	12 V	15 A	**8JB 008 023-011**	1
  	**Power socket unlit with cover** Type of connection: blade coupling 6.3 mm, fixed using a green clamping sleeve, pierced hole: Ø 28 mm, control panel thickness: max. 2.5 mm				
	Boxed	12 / 24 V	15 A	**8JB 008 023-001**	1
  	**Power socket with light and cover** Connection: blade coupling 6.3 mm, fixed using a red clamping sleeve, pierced hole: Ø 28 mm, internal diameter: 21.0 mm				
	Boxed	12 V	20 A with a cable cross-section of 2.5 mm² 15 A with a cable cross-section of 1.5 mm²	**8JB 008 023-021**	1
	Boxed	24 V		**8JB 008 023-031**	1
	Fixing by means of a green clamping sleeve				
	Boxed	24 V		**8JB 008 023-041**	1

2. Plug-type connections
2.1 Cigarette lighters and power sockets

2.1 Cigarette lighters and power sockets	Description	Voltage	max. load-carrying capacity as socket	Part number	PU
	**Power socket unlit, with cover** Connection: blade coupling 6.3 mm, fixed using a hexagon nut, red sleeve, pierced hole: Ø 28 mm, internal diameter: 21.0 mm	12 / 24 V	20 A with a cable cross-section of 2.5 mm² 15 A with a cable cross-section of 1.5 mm²	**8JB 008 023-051**	1
	**Power socket unlit** Connection: two blade couplings 6.3 mm, fixed using a black hexagon nut, black sleeve, pierced hole: Ø 28 mm, internal diameter: 21.0 mm cover not printed	12 / 24 V	20 A with a cable cross-section of 2.5 mm² 15 A with a cable cross-section of 1.5 mm²	**8JB 008 023-067**	160
	USB socket for installation Connection: cable length: 15 cm, cable cross-section: 1.0 mm², pierced hole: 27.8 mm ± 0.1 mm, panel thickness with threaded bush: 2 - 8 mm			**8JB 004 125-001**	1
	USB socket for installation with mounting plate 60 x 44 mm	12 V	Input: 12 V ± 4 V, 800 mA Output: 5 V ± 0.25 VDC	**8JB 004 125-011**	
	Two power sockets: 2-pole, max. 20 A with cable cross-section 2.5 mm², max 15 A with cable cross-section 1.5 mm² internal diameter 21 mm, for universal plugs, with mounting plate 60 x 44 mm **One USB socket for installation** Connection: cable length: 15 cm, cable cross-section: 1.0 mm², pierced hole: 27.8 mm ± 0.1 mm, panel thickness with threaded bush: 2 - 8 mm	12 V	Input: 12 V ± 4 V, 800 mA Output: 5 V ± 0.25 VDC	**8JB 004 123-061**	1

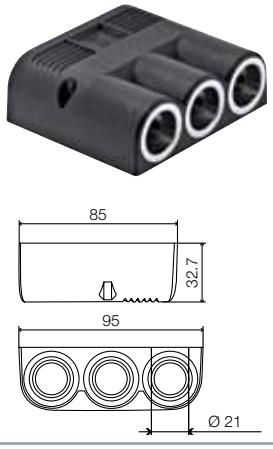
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

Purpose:

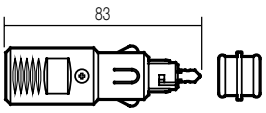
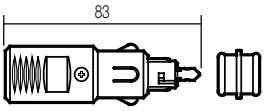
These products are used for various special applications. Depending on the version, the sockets can be installed both inside and outside the vehicle. The plug system compliant with ISO 4165 and the power sockets are used for the electrical connection of various consumers, such as lights, fans, cool boxes, phones, laptops, portable refrigerators and coffee coffee maker.

Advantages:

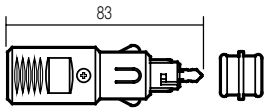
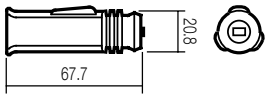
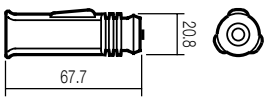
- Easy to assemble
- A number of different connection options (screw terminals and blade couplings)
- Sockets with and without cover
- Alloy and plastic designs available
- Sockets compliant with ISO 4165 available with polarity reversal protection through T-plug connection
- Extensions, battery monitors and adapters for consumers in the range

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Connection	Part number	PU
	Surface-mount socket 2-pole, no cover, plastic housing internal diameter 21 mm, for universal plugs load-carrying capacity: max. 20 A at 24 V (cable cross-section 2.5 mm²) max. 15 A at 24 V (cable cross-section 1.5 mm²) Boxed	2 flat plug connections - 6.3 mm	**8JB 004 123-042**	5
	**Surface-mount three-way socket** 2-pole, plastic housing internal diameter 21 mm, for universal plugs load-carrying capacity: max. 20 A at 24 V (cable cross-section 2.5 mm²) max. 15 A at 24 V (cable cross-section 1.5 mm²) Polythene bag		**8JB 004 123-051**	1

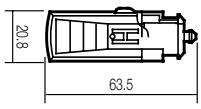
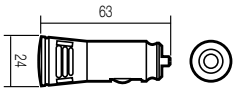
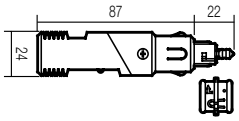
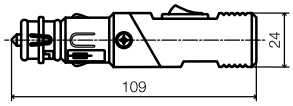
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Connection	Part number	PU
  	**Universal safety plug** with ducted strain relief, integrated replaceable 8 A fuse and pulling tool, cable opening 7 mm load-carrying capacity: max. 8 A at 6 – 24 V, cable cross-section around 0.75 mm²			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 007 589-001**	10
	Pro-fit packaging	2 screw terminals up to 2.5 mm²	**8JA 007 589-002**	1
  	**Universal safety plug** with LED and screwed strain relief, integrated replaceable 8 A fuse and pulling tool, cable opening 7 mm load-carrying capacity: max. 8 A at 6 – 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 007 589-032**	10
	Pro-fit packaging	2 screw terminals up to 2.5 mm²	**8JA 007 589-031**	1

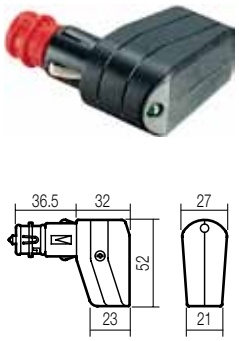
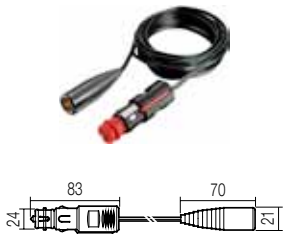
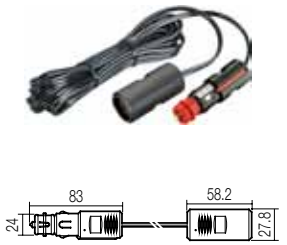
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Connection	Part number	PU
	**Universal safety plug** with screwed strain relief, no fuse, with pulling tool, cable opening 7 mm			
	Load-carrying capacity: 8 A at 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 007 589-011**	10
	Load-carrying capacity: 16 A at 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 007 589-021**	10
	**Universal economy plug** cable opening: 5 x 3 mm load-carrying capacity: max. 8 A at 6 – 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 002 252-103**	12
	Pro-fit packaging	2 screw terminals up to 2.5 mm²	**8JA 002 252-101**	1
	**Universal economy plug** cable opening: Ø 8 mm load-carrying capacity: max. 8 A at 6 – 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 001 921-102**	12

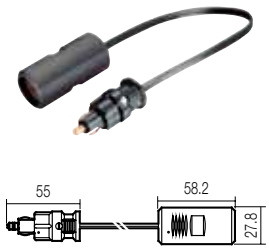
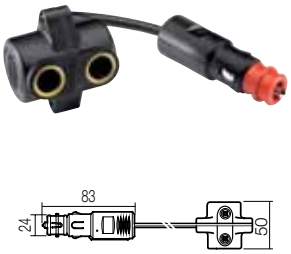
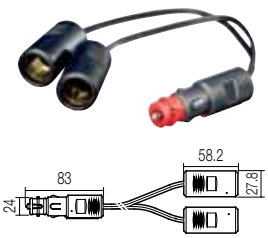
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Connection	Part number	PU
	**Universal economy plug** with ducted strain relief cable opening: 5 x 3 mm			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 007 158-001**	1
	**Universal economy plug** with ducted strain relief cable opening: Ø 8 mm			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 004 667-001**	10
	**Universal right-angle plug** with screwed strain relief, with integrated, replaceable 8 A fuse, can be pivoted completely through 180°, with sufficient space for electronics (dimensions for circuit board: 28.5 x 26.5 x 1.5 mm)			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 007 589-042**	8
	Pro-fit packaging	2 screw terminals up to 2.5 mm²	**8JA 007 589-041**	1
	**Universal right-angle plug** with screw-type strain relief, printed O-I rocker switch and integrated, replaceable 8 A fuse, can be pivoted completely through 180°			
	Boxed	2 screw terminals up to 1.5 mm²	**8JA 007 589-152**	8

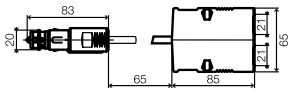
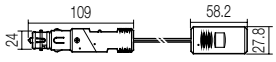
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Connection/length	Part number	PU
	**Universal right-angle plug** with screw-type strain relief, integrated 7.5 A ATO blade-type fuse and LED function check			
	Boxed	2 screw terminals up to 1.5 mm²	**8JA 007 589-052**	8
	**Cable** for adapting standard and cigarette lighter sockets to standard sockets Cable: 2 x 0.75 mm² Universal safety plug with integrated 8 A fuse load-carrying capacity: max. 8 A at 24 V			
	Polythene bag	4.0 m	**8KA 007 589-071**	1
	**Extension cable** for adapting standard and cigarette lighter sockets to cigarette lighter connectors Cable: 2 x 0.75 mm² Universal safety plug with integrated 8 A fuse load-carrying capacity: max. 8 A at 24 V			
	Polythene bag	4.0 m	**8KA 007 589-081**	1
	Helical extension cable for adapting standard and cigarette lighter sockets to cigarette lighter connectors Cable: 2 x 0.75 mm² Universal safety plug with integrated 8 A fuse load-carrying capacity: max. 8 A at 24 V			
	Polythene bag	0.6 – 3.0m	**8KA 007 589-091**	1
	Pro-fit packaging	0.6 – 3.0m	**8KA 007 589-092**	1

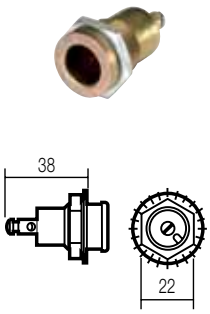
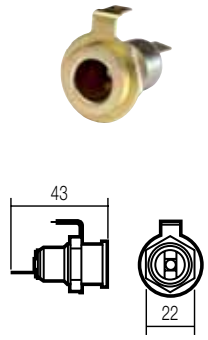
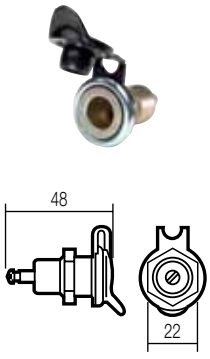
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Length	Part number	PU
	**Adapter cable** for adapting standard sockets to cigarette lighter connectors Cable: 2 x 0.75 mm² load-carrying capacity: max. 8 A at 24 V			
	Polythene bag	0.25 m	**8KA 007 589-101**	1
	Pro-fit packaging	0.25 m	**8KA 007 589-102**	1
	Adapter for adapting standard sockets to cigarette lighter connectors. Load-carrying capacity: max. 16 A at 12 / 24 V			
	Polythene bag	93 mm	**8KA 007 589-131**	1
	**Adapter cable** for adapting standard and cigarette lighter sockets to two standard sockets Cable: 2 x 0.75 mm² Universal safety plug with integrated 8 A fuse load-carrying capacity: max. 8 A at 24 V			
	Pro-fit packaging	0.12 m	**8JB 008 032-001**	
	**Twin coupling** for adapting standard and cigarette lighter sockets to two cigarette lighter connectors Cable: 2 x 0.75 mm² Universal safety plug with integrated 16 A fuse load-carrying capacity: max. 2 x 8 A at 24 V			
	Polythene bag	0.25 m	**8JA 007 589-111**	1
	Pro-fit packaging	0.25 m	**8JA 007 589-112**	1

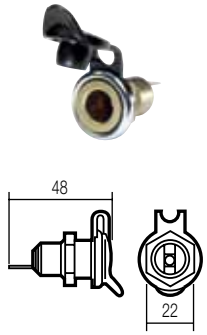
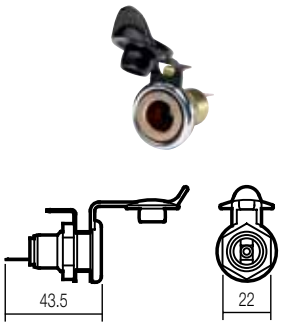
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.1 Universal plugs, sockets, adapters and couplings	Description	Length	Part number	PU
  	**Twin coupling** for adapting standard or cigarette lighter sockets to two cigarette lighter connectors load-carrying capacity: max.16 A at 12 / 24 V Polythene bag	65 mm	**8JA 007 589-141**	1
  	**Battery monitor** – protects the battery from total discharge by switching consumers off in good time, e.g. cool boxes, seat heating, fans and other mobile 12 V devices when voltage is low. Automatic switch-on once operating voltage returns to normal level. Cable: 2 x 0.75 mm² suitable for standard and cigarette lighter sockets, LED function control and short-circuit protection load-carrying capacity: max. 8 A at 12 V Polythene bag	1.0 m	**8ES 007 589-121**	1

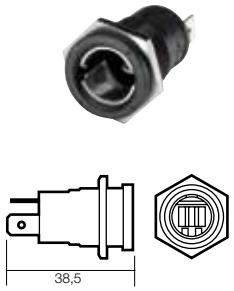
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.2 2-pole plug system compliant with ISO 4165	Description	Connection	Part number	PU
	Socket compliant with ISO 4165, light-weight metal pierced hole: Ø 18.5 mm control panel thickness: max. 7 mm load-carrying capacity: max. 8 A at 24 V			
	**Standard socket** 2-pole			
	Boxed	1 screw terminal, earth on the housing	**8JB 001 946-031**	10
	**Standard socket** 2-pole, with additional earth plug			
	Boxed	2 flat plug connections - 6.3 mm	**8JB 001 946-041**	10
	**Standard socket** 2-pole, with cover			
	Boxed	1 screw terminal, earth on the housing	**8JB 001 946-021**	10
	Pro-fit packaging	1 screw terminal, earth on the housing	**8JB 001 946-022**	1

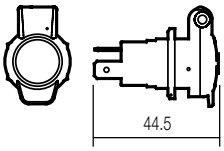
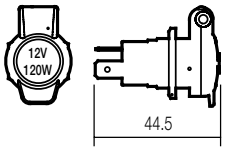
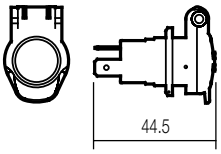
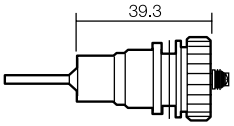
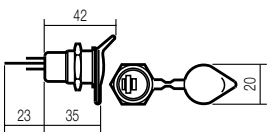
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.2 2-pole plug system compliant with ISO 4165	Description	Connection	Part number	PU
	**Socket** 2-pole, with cover Boxed	1 blade coupling 6.3 mm, earth on the housing	**8JB 001 946-011**	10
	**Socket** 2-pole, with cover and additional earth plug Boxed	2 flat plug connections - 6.3 mm	**8JB 001 946-051**	10

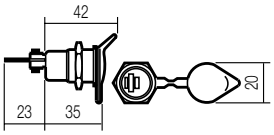
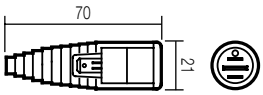
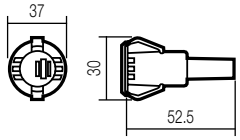
Socket compliant with ISO 4165, plastic housing
polarity reversal protection through T-plug connection, recommended female connector housing 8JD 008 152-021 (10 pcs.), recommended blade terminal sleeves 8KW 701 235-033 (100 pcs.), pierced hole: Ø 18.5 mm, control panel thickness: max. 7 mm, load-carrying capacity: max. 16 A at 6 – 24 V

	**Socket** 2-pole, without cover Boxed	2 flat plug connections - 6.3 mm	**8JB 001 946-072**	10

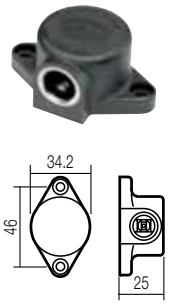
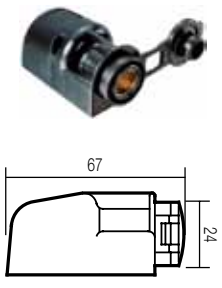
2. Plug connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.2 2-pole plug system compliant with ISO 4165	Description	Connection	Part number	PU
   	**Socket** 2-pole, with snap cover, cover does not latch, load-carrying capacity max. 16 A at 6 – 24 V Boxed	2 flat plug connections - 6.3 mm	**8JB 001 946-082** **8JB 001 946-127**	10 50
  	**Socket** 2-pole, with arresting cover, (the cover remains in place when opened, the catch is released on insertion so that the cover automatically closes when the plug is removed.) load-carrying capacity max. 16 A at 6 – 24 V Boxed	2 flat plug connections - 6.3 mm	**8JB 001 946-092**	10
  	**Socket** 2-pole, watertight as per IP 67, with unloseable cover, 300 mm lead 2.5 mm², ideally suited for use in boats and near motors temperature range: –40°C to +105 °C Boxed	Blade contact and earth sleeve	**8JB 001 946-101**	1
  	**Socket** 2-pole, with cover Boxed Pro-fit packaging	2 flat plug connections - 6.3 mm 2 flat plug connections - 6.3 mm	**8JB 004 777-001** **8JB 004 777-002**	5 1

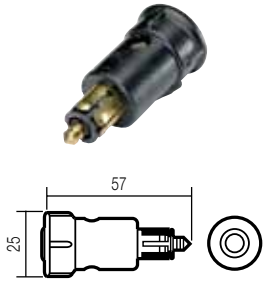
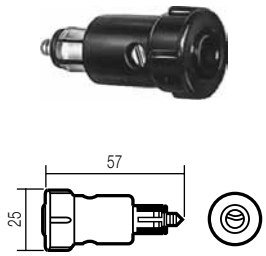
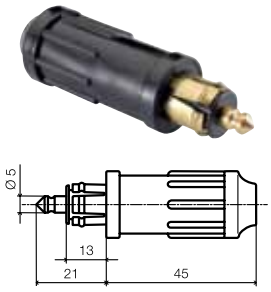
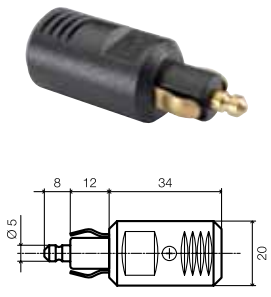
2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.2 2-pole plug system compliant with ISO 4165	Description	Connection	Part number	PU
  	**Socket** 2-pole, with cover			
	Boxed	2 screw terminals	**8JB 004 777-011**	5
  	**Coupling** for setting up individual extensions for a power supply to electric appliances and lights. load-carrying capacity: max. 16 A at 24 V			
	Pro-fit packaging	2 flat plug connections - 6.3 mm	**8JA 007 589-061**	1
	Boxed	2 flat plug connections - 6.3 mm	**8JA 007 589-062**	20
  	**Socket** 2-pole, without cover control panel thickness: max. 3 mm pierced hole: Ø 23 mm load-carrying capacity: max. 8 A at 6 V – 24 V			
	Boxed	2 flat plug connections 6.3 mm	**8JB 002 286-021**	10

2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.2 2-pole plug system compliant with ISO 4165	Description	Connection	Part number	PU
	Socket 2-pole, with cover control panel thickness: max. 2 mm pierced hole: Ø 23 mm load-carrying capacity: max. 8 A at 6 V – 24 V			
	Boxed	2 flat plug connections - 6.3 mm	**8JB 002 286-031**	10
	Surface-mount socket 2-pole, without cover, plastic housing contacts CuZn			
	Boxed	2 screw terminals	**8JB 004 123-001**	5
	Pro-fit packaging	2 screw terminals	**8JB 004 123-002**	1
	**Surface-mount socket** 2-pole, without cover, plastic housing, designed to be resistant to seawater contacts CuZn nickel plated			
	Boxed	2 screw terminals	**8JB 004 123-012**	5
	**Surface-mount socket** 2-pole, with cover, plastic housing			
	Boxed	2 flat plug connections - 6.3 mm	**8JB 004 123-032**	5
	Pro-fit packaging	2 flat plug connections - 6.3 mm	**8JB 004 123-031**	1

2. Plug-type connections
2.2 Universal plug-type connections / 2-pole plug system compliant with ISO 41 65

2.2.2 2-pole plug system compliant with ISO 4165	Description	Connection	Part number	PU
	Plug compliant with ISO 4165, plastic design			
	Plug without strain relief cable opening: Ø 9.2 mm load-carrying capacity: max. 18 A at 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 002 262-001**	10
	Pro-fit packaging	2 screw terminals up to 2.5 mm²	**8JA 002 262-003**	1
	Plug with screw-type strain relief cable opening: Ø 9.2 mm load-carrying capacity: max. 18 A at 24 V			
	Boxed	2 screw terminals up to 2.5 mm²	**8JA 001 915-001**	10
	Plug without strain relief cable opening: Ø 7.5 mm load-carrying capacity: max. 15 A at 24 V			
	Boxed	2 screw terminals	**8JA 001 915-022**	10
	Plug with solder contacts and ducted strain relief cable opening: Ø 7.5 mm load-carrying capacity: max. 8 A at 24 V			
	Boxed	2 solder contacts	**8JA 001 915-032**	10

2. Plug-type connections
2.3 2-pole plug system compliant with DIN 14 690

Purpose:

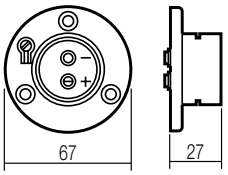
This plug system is mainly used for charging batteries on fire engine.

Advantages:

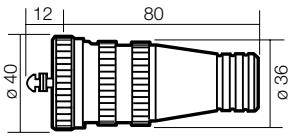
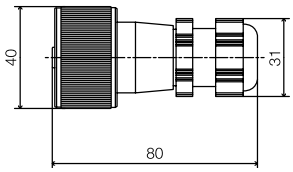
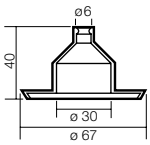
- Complete range comprising connector, socket and coupling box
- Socket and coupling box with captive cover

Technical data:

Operating temperature: -40°C to +100°C
rated output: 6 – 42 V
strength of current: max. 16 A

2.3 2-pole plug system compliant with DIN 14 690	Description	Connection	Part number	PU
  	**Socket, light-weight metal,** **with captive cover** **form A** with seal in screw cover and rubber underlay for cables Ø 6...8 mm			
	Boxed	2 screw terminals	**8JB 002 281-001**	1
	Pro-fit packaging	2 screw terminals	**8JB 002 281-002**	1

2. Plug-type connections
2.3 2-pole plug system compliant with DIN 14 690

2.3 2-pole plug system compliant with DIN 14 690	Description	Connection	Part number	PU
  	**Coupling socket, light-weight metal, with screw cover form B** seal in screw-on cover with cable protection sleeve for cables Ø 6- 10 mm			
	Boxed	2 screw terminals	**8JB 002 281-011**	1
  	**Socket, light-weight metal, form C** with union nut for cables Ø 6 – 10 mm			
	Boxed	2 screw terminals	**8JA 001 925-001**	1
  	**Accessories** rubber underlay for cables Ø 6 – 8 mm			
	Boxed		**9GD 735 641-032**	10
	Contact insert for 2-pole connection compliant with DIN 14 690 (Hella part number: 8JA 001 925-001)			
	Polythene bag	2 screw terminals	**9MK 748 467-001**	1

2. Plug-type connections
2.4 3-pole plug systems

Purpose:

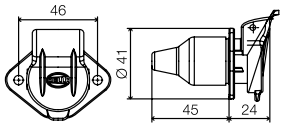
The 3-pole plug system compliant with DIN 9680 is used for tractors and agricultural machinery for the electrical connection of long-term consumers such as mowing attachments, excavator attachments and sweeping machines with a max. current consumption of 25 A. The standard does not apply to electrical connections for the supply of lighting equipment (see ISO 1724). The 3-pole plug system without standard is used for the transfer of auxiliary functions between the tractor and the trailer.

Advantages:

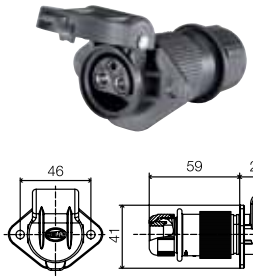
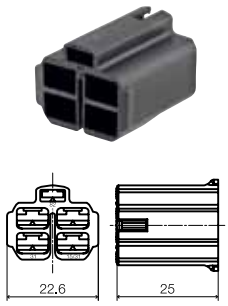
- Easy to assemble
- Wide range of different connection options (screw terminals and blade couplings)
- Sturdy plastic housing with high mechanical strength

Technical data:

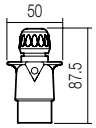
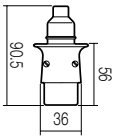
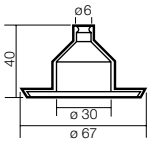
Rated output: 6 – 42 V
strength of current: max. 16 A

2.4 3-pole plug systems	Description	Connection	Part number	PU
  	**Socket** black plastic design, DIN 9680, with rubber grommet pierced hole: ø 30 mm temperature range: -25°C to +75°C watertight as per IP 54			
	Boxed	4 x 6.3 mm / 1 x 4.8 mm male blade connections	**8JB 001 933-011**	10

2. Plug-type connections
2.4 3-pole plug systems

2.4 3-pole plug systems	Description	Connection	Part number	PU
	**Socket** DIN 9680, with screw cap temperature range -25°C to +75°C watertight as per IP 54 Boxed	4 x 6.3 mm / 1 x 4.8 mm male blade connections	**8JB 001 933-042**	10
	**Receptacle housings** for 8JB 001 933-011 and -042 Boxed	4 x 6.3 mm / 1 x 4.8 mm male blade connections	**9MK 180 175-001**	20
	Plug black plastic design, DIN 9680, with rubber seals for cables Ø 8...13 mm Boxed	4 x 6.3 mm / 1 x 4.8 mm male blade connections	**8JA 002 263-011**	10
	Socket black plastic design, with rubber seal in cover base: Ø 65 mm (round housing) Boxed	3 screw terminals	**8JB 001 933-031**	1

2. Plug-type connections
2.4 3-pole plug systems

2.4 3-pole plug systems	Description	Connection	Part number	PU
  	**Plug** black plastic design, for cables Ø 6.3...8.3 mm, with union nut and rubber grommet			
	Boxed	3 screw terminals	**8JA 002 263-031**	1
  	**Plug** black plastic design, for cables Ø 6.3...8.3 mm, with protective cable grommet			
	Boxed	3 screw terminals	**8JA 002 263-001**	1
  	**Rubber underlay** for cables Ø 6,8 mm			
	Boxed		**9GD 735 641-032**	10

2. Plug-type connections
2.5 4-pole plug system compliant with DIN 72 575

Purpose:

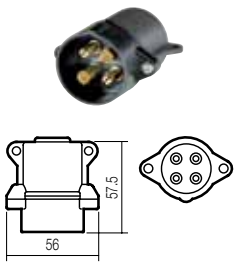
The 4-pole plug system compliant with DIN 72 575 is used for the transfer of auxiliary functions between the tractor and the trailer.

Advantages:

- Easy to assemble
- Sturdy plastic housing with high mechanical strength

Load-carrying capacity:

max. 16 A at 6–24 V (cable cross-section 1.5 mm²)
max. 25 A at 6 – 24 V (cable cross-section 2.5 mm²)

2.5 4-pole plug systems compliant with DIN 72 575	Description	Connection	Part number	PU
	Socket with rubber seal in cover, 90° cable outlet for cables Ø 7.2 – 9.0 mm Operating temperature -40°C to+85°C Boxed	4 screw terminals	**8JB 001 944-011**	1
	**Plug** with screw-type strain relief for cables Ø 5 – 9 mm Boxed	4 screw terminals	**8JA 001 920-011**	1

2. Plug-type connections
2.6 Plug-type connections 12 V

Purpose:

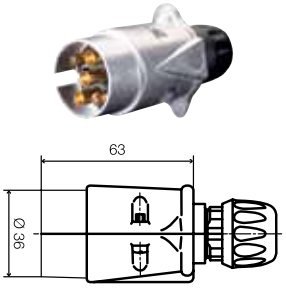
The 5-pole plug system compliant with ISO 1724 is used for the transfer of auxiliary functions between the tractor and the trailer.

Advantages:

- Easy to assemble
- Sturdy plastic housing with high mechanical strength

Load-carrying capacity:

max. 16 A at 6 –24 V (cable cross-section 1.5 mm²)
max. 25 A at 6 – 24 V (cable cross-section 2.5 mm²)

2.6.1 5-pole plug system compliant with ISO 1724	Description	Connection	Part number	PU
	Socket with cover base: Ø max. 72 mm, Temperature range: -25°C to +75°C Boxed	5 screw terminals	**8JB 001 940-001**	1
	**Plug** screw-type tension relief and union nut for cables up to Ø 8 mm temperature range: -25°C to +75°C Boxed	5 screw terminals	**8JA 001 916-001**	1

2. Plug-type connections
2.6 Plug-type connections 12 V

Purpose:

This 7-pole 12 V plug system compliant with ISO 1724 / ISO 3732 is the most frequently used system for electrical connections between traction vehicle and trailer with 12 V vehicle electric system. The system is mainly used for applications with average requirements. The system comprises a regular plug-type connector, type N, compliant with ISO 1724 and an auxiliary plug-type connector, type S, compliant with ISO 3732. The auxiliary system differs from the normal system by its white housing, contact inserts and non-interchangeable contact arrangement.

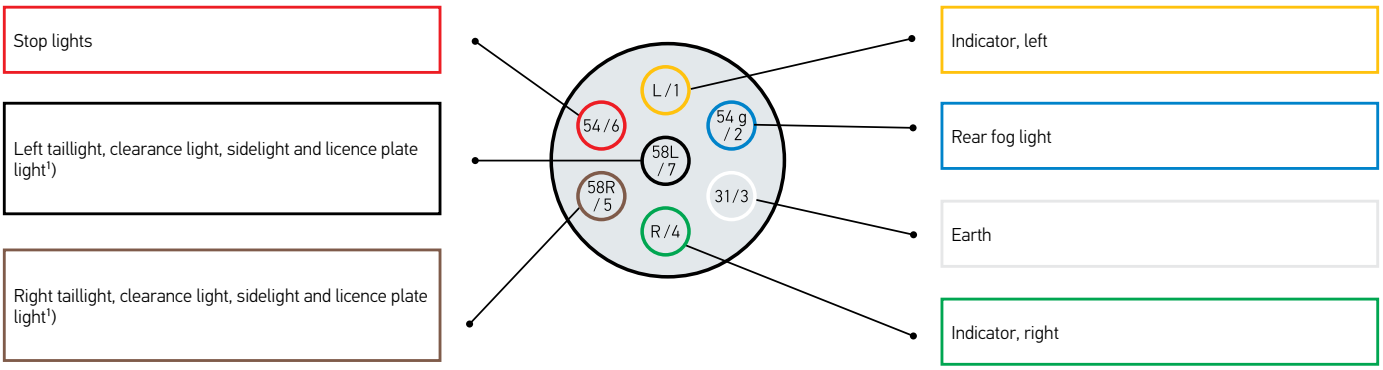
Advantages:

- Economical system for simple applications
- Easy to assemble
- Wide range of different connection options (screw terminals and blade couplings)
- Coupling sockets available
- Sockets with rear fog light switch-off available

Load-carrying capacity:

Max. 15 A at 12 V
cable cross-section: max. 1 x 2.5 mm², max 2 x 1.5 mm²
permissible temperature range: -25 to 70°C ambient temperature

2.6.2 7-pole plug system / 12 V (compliant with ISO 1724)
Pin-out – trailer plug fitting 12 V / 7-pole N type ISO 1724

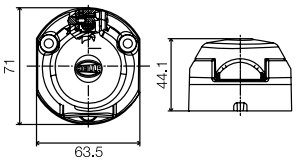
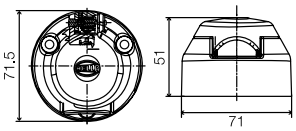
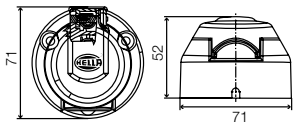


Contact assignment for normal plug-type connectors compliant with ISO 1724, 12 V, 7-pole N

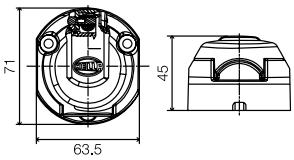
Contact no.	Function	Cable cross-section	Colour of wire insulation
1 / L	Indicator, left	1.5 mm²	
2 / 54g	Rear fog light	1.5 mm²	
3/31	Earth	2.5 mm²	
4 / R	Indicator, right	1.5 mm²	
5/58R	Right taillight, clearance light, sidelight and licence plate lights [1)]	1.5 mm²	
6/54	Stop lights	1.5 mm²	
7/58L	Left taillight, clearance light, sidelight and licence plate lights [1)]	1.5 mm²	

[1)] The licence plate lights must be connected in such a way that none of the lamps is connected to both contacts 5 and 7.

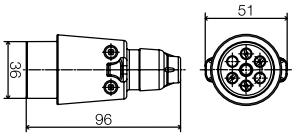
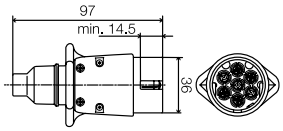
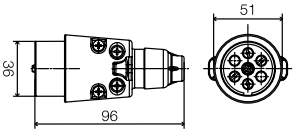
2. Plug-type connections
2.6 Plug-type connections 12 V

2.6.2 7-pole plug systems ISO 17 24	Description	Connection	Part number	PU
	7-pole plug system compliant with ISO 1724 Socket: centre contact 7/58L as pin Plug: centre contact 7/58L as sleeve Base: Ø max. 72 mm			
  	**Socket** with cover, solid metal removable contact insert			
	Boxed	7 screw terminals	**8JB 001 941-002**	25
	Pro-fit packaging	7 screw terminals	**8JB 001 941-001**	1
	with switch-off contact for the rear fog light on the motor vehicle			
	Boxed	7 screw terminals with auxiliary terminal	**8JB 001 941-062**	10
  	**Socket** with cover, solid metal removable contact insert			
	Boxed	7 flat plug connections 6.3 mm	**8JB 001 941-041**	25
  	**Socket** with cover, black plastic design removable contact insert			
	Boxed	7 flat plug connections 6.3 mm	**8JB 006 462-001**	25

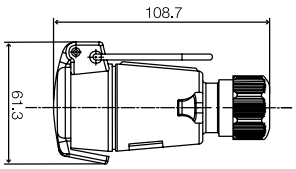
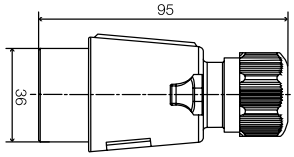
2. Plug-type connections
2.6 Plug-type connections 12 V

2.6.2 7-pole plug systems ISO 17 24	Description	Connection	Part number	PU
  	**Socket** with cover, black plastic design removable contact insert			
	Boxed	7 screw terminals	**8JB 001 943-003**	25
	Pro-fit packaging	7 screw terminals	**8JB 001 943-001**	1
	with switch-off contact for the rear fog light on the motor vehicle			
	Boxed	7 screw terminals	**8JB 001 943-011**	10
	Socket underlay for cables Ø 8–11 mm, with 180° cable outlet, suitable for the following sockets: 8JB 001 941-002 8JB 001 941-001 8JB 001 941-062 8JB 001 943-003 8JB 001 943-001 8JB 001 943-011			
	Boxed		**9GD 735 641-001**	10
	Socket underlay for cables Ø 8–11 mm, with 180° cable outlet, suitable for the following sockets: 8JB 006 462-001 8JB 001 941-041			
	Boxed		**9GD 735 641-051**	10
	Rubber underlay for cables Ø 8–11 mm, with 90° cable outlet, suitable for the following sockets: 8JB 001 943-003 8JB 001 943-001 8JB 001 943-011			
	Boxed		**9GD 735 641-042**	10

2. Plug-type connections
2.6 Plug-type connections 12 V

2.6.2 7-pole plug systems ISO 17 24	Description	Connection	Part number	PU
  	**Plug** metal version, with screw-type strain relief and rubber grommet			
	Boxed	7 screw terminals	**8JA 001 918-002**	25
	Boxed	7 flat plug connections 6.3 mm	**8JA 001 918-011**	25
  	**Plug** metal version, with screw-type strain relief and rubber grommet, sturdy version			
	Boxed	7 screw terminals	**8JA 001 918-021**	25
  	**Plug** black plastic design, with screw-type strain relief and rubber grommet			
	Boxed	7 screw terminals	**8JA 001 930-003**	25
	Pro-fit packaging	7 screw terminals	**8JA 001 930-001**	1
	Boxed	7 flat plug connections 6.3 mm	**8JA 001 930-041**	25

2. Plug-type connections
2.6 Plug-type connections 12 V

2.6.2 7-pole plug systems ISO 17 24	Description	Connection	Part number	PU
  	**Coupling socket** with cover, black plastic design, with screw-type strain relief, trailer fitting and rubber grommet for 7-wire extension cables			
	Boxed	7 screw terminals	**8JB 001 939-001**	10
  	**Plug** black plastic design, folding version with strain relief, contact insert and union nut, included individually			
	Boxed	7 screw terminals	**8JA 005 476-002**	5
	Industrial packaging	7 screw terminals	**8JA 005 476-001**	100

2.6.2 7-pole plug systems ISO 17 24	Description	Diameter	Part number	PU
	Grommet for 7-pole plug not for 8JA 001 918-021 or 8JA 001 930-021			
	Polythene bag	Ø 10.2 mm	**9GD 179 708-002**	10
	Polythene bag	Ø 16.2 mm	**9GD 179 708-002**	10
	Polythene bag	Ø 13.2 mm	**9GD 179 708-002**	10
	Polythene bag	Ø 2 x 6.5 mm	**9GD 179 708-002**	10
	Polythene bag	Ø 8.5 mm	**9GD 179 708-002**	10

2. Plug-type connections
2.6 Plug-type connections 12 V

Purpose:

This 7-pole 12 V plug system compliant with ISO 1724 / ISO 3732 is the most frequently used system for electrical connections between traction vehicle and trailer with 12 V vehicle electric system. The system is mainly used for applications with average requirements. The system comprises a regular plug-type connector, type N, compliant with ISO 1724 and an auxiliary plug-type connector, type S, compliant with ISO 3732. The auxiliary system differs from the normal system by its white housing, contact inserts and non-interchangeable contact arrangement.

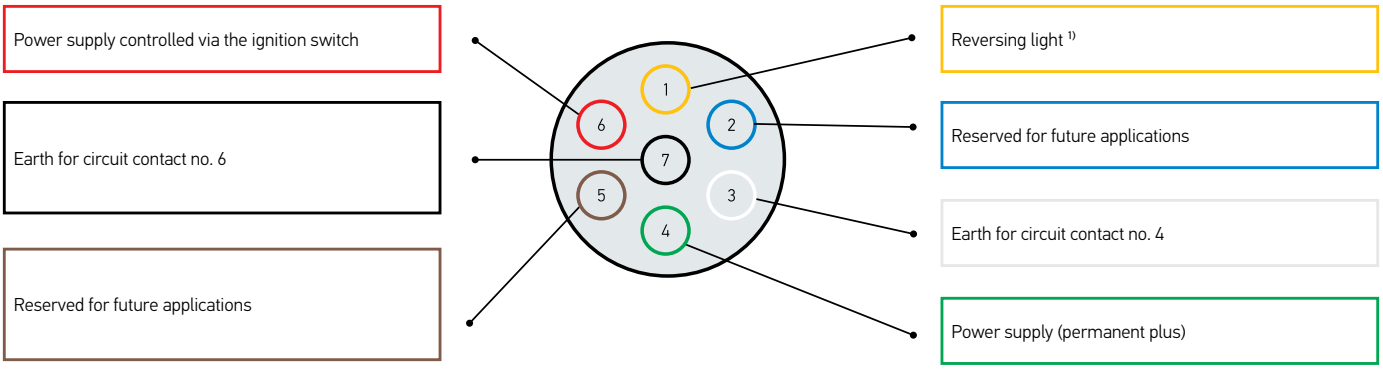
Advantages:

- Economical system for simple applications
- Easy to assemble
- Wide range of different connection options (screw terminals and blade couplings)
- Coupling sockets available
- Sockets with rear fog light switch-off available

Load-carrying capacity:

Max. 15 A at 12 V
cable cross-section: max. 1 x 2.5 mm², max 2 x 1.5 mm²
permissible temperature range: -25 to 70°C ambient temperature

Pin-out – trailer plug fitting 12 V/7-pole S type ISO 3732

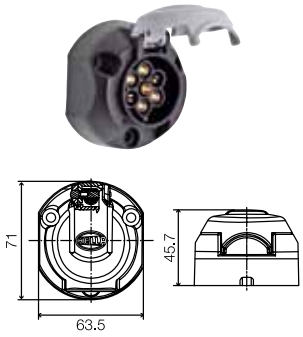
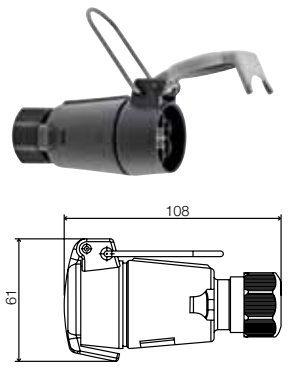


Contact assignment for auxiliary plug-type connectors compliant with ISO 3732, 12 V, 7-pole S

Contact no.	Function	Cable cross-section	Colour of wire insulation
1	Reversing light 1)	1.5 mm²	
2	Reserved for future applications	not prescribed	No cable or blue
3	Earth for circuit contact no. 4	2.5 mm²	
4	Power supply (permanent plus)	2.5 mm²	
5	Reserved for future applications	1.5 mm²	
6	Power supply via the ignition switch	2.5 mm²	
7	Earth for circuit contact no. 6	2.5 mm²	

1) The earth for this contact is usually contact no. 3 of the 12 V, 7-pole N type plug connector compliant with ISO 1724.

2. Plug-type connections
2.6 Plug-type connections 12 V

2.6.3 7-pole 12 V plug systems in accordance with ISO 37 32	Description	Connection	Part number	PU
	7-pole plug system compliant with ISO 3732 Socket: centre contact 7/58L as sleeve Plug: centre contact 7/58L as pin, Base: Ø max. 72 mm			
	**Socket** black plastic design with light-grey cover, contact insert can be removed Boxed	7 screw terminals	**8JB 001 943-041**	25
	Plug light-grey plastic design, with screw-type strain relief and rubber grommet Boxed	7 screw terminals	**8JA 001 930-031**	25
	**Coupling socket** black plastic design with light-grey cover, with screw-type strain relief, trailer fitting and rubber grommet for 7-wire extension cables Boxed	7 screw terminals	**8JB 006 464-001**	10
	Socket underlay for cables Ø 8–11 mm, with 180° cable outlet Boxed		**9GD 735 641-001**	10
	Rubber underlay for cables Ø 8–11 mm, with 90° cable outlet Boxed		**9GD 735 641-042**	10

2. Plug-type connections
2.6 Plug-type connections 12 V

Purpose:

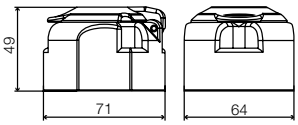
This 13-pole plug system compliant with ISO 11446 was developed at the end of the 1980s. Its large number of poles compared with the 7-pole system allows all the lighting and auxiliary functions to be transferred using only one plug. The system is continually replacing the older plug-type connector generation on account of its advantages, particularly with regard to watertightness, stability, contact reliability and easy handling thanks to the bayonet closure.

Advantages:

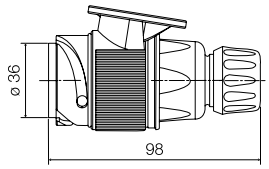
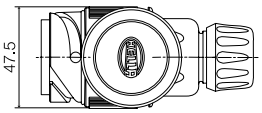
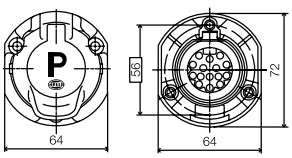
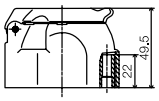
- Easy handling thanks to the bayonet closure
- Easy to assemble
- Tightness compliant with protection class IP 54K
- Sockets with rear fog light switch-off available

Load-carrying capacity:

max. 16 A at 6 – 24 V (cable cross-section 1.5 mm²)
max. 25 A at 6 – 24 V (cable cross-section 2.5 mm²)
permissible temperature range: -40 to 85°C

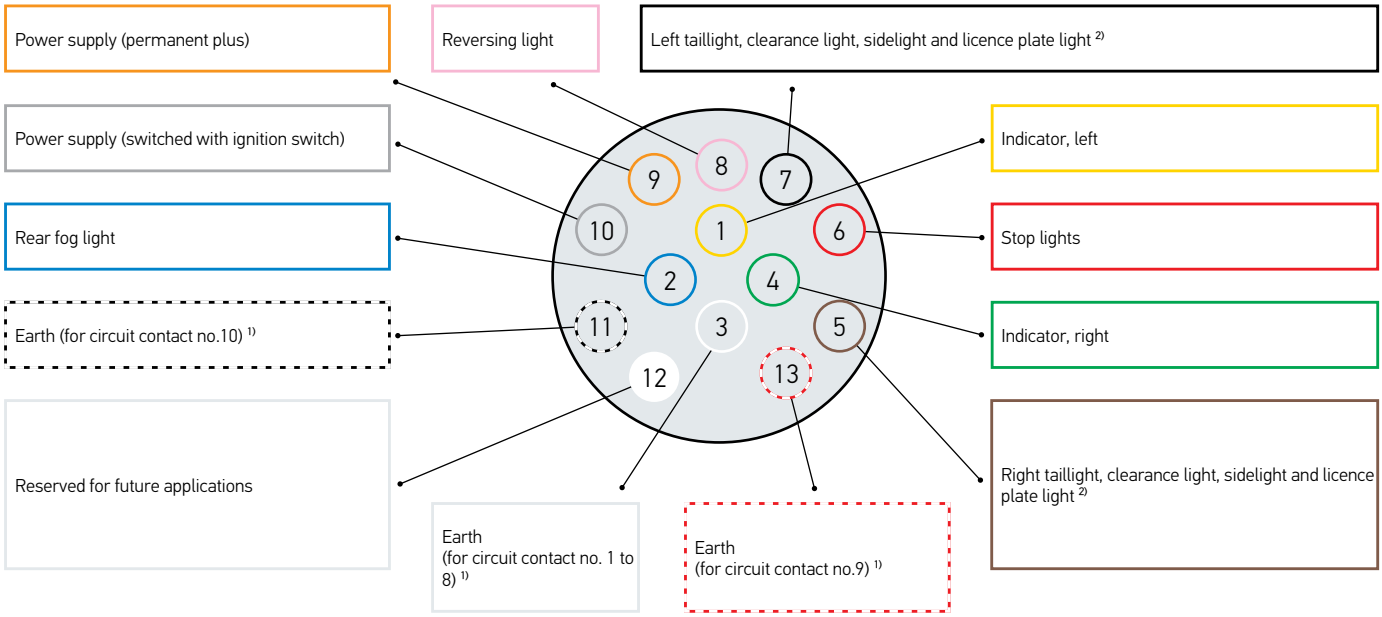
2.6.4 13-pole 12 V plug systems compliant with ISO 11446	Description	Connection	Part number	PU
	Socket with cover, black plastic design removable contact insert, rubber underlay and rubber seal in cover			
	Boxed	13 screw terminals	**8JB 005 949-001**	1
	With switch-off contact for the rear fog light on the motor vehicle			
	Boxed	13 screw terminals with auxiliary terminal	**8JB 005 949-011**	1
	Pro-fit packaging	13 screw terminals with auxiliary terminal	**8JB 005 949-012**	1
	With microswitch, three-way switch left		**8JB 005 949-041**	1

2. Plug-type connections
2.6 Plug connections 12 V

2.6.4 13-pole plug systems compliant with ISO 11 446	Description	Connection	Part number	PU
   	**Plug** black plastic design with rubber seal, union nut and bayonet closure			
	Boxed	13 screw terminals	**8JA 005 951-001**	1
	Boxed	13 screw terminals	**8JA 005 951-027**	16
	Pro-fit packaging	13 screw terminals	**8JA 005 951-003**	1
 	Plus black plastic design, “click” version, plug can not be reopened once it has been assembled, including parking socket			
	Polythene bag	13 screw terminals	**8JA 005 951-041**	1
   	**Parking socket** black plastic design with blue cover, for protecting the 13-pole connector when the trailer is parked			
	Boxed		**8HG 005 953-001**	1

2. Plug-type connections
2.6 Plug-type connections 12 V

2.3.4 Pin-out – trailer plug fitting 13-pole ISO 11446



Contact assignment for plug-type connectors compliant with ISO 11446, 12 V, 13-pole

Contact no.	Function	Cable cross-section	Colour of wire insulation
1	Indicator, left	1.5 mm²	
2	Rear fog light	1.5 mm²	
3 1)	Earth for contacts no. 1 to 8	2.5 mm²	
4	Indicator, right	1.5 mm²	
5	Right taillight, clearance light, sidelight and licence plate lighting 2)	1.5 mm²	
6	Stop lights	1.5 mm²	
7	Left taillight, clearance light, sidelight and licence plate lighting 2)	1.5 mm²	
8	Reversing light	1.5 mm²	
9	Power supply (permanent plus)	2.5 mm²	
10	Power supply via the ignition switch	2.5 mm²	
11 1)	Earth for contact no. 10	2.5 mm²	
12	Reserved for future applications	not prescribed	not prescribed
13 1)	Earth for contact no. 9	2.5 mm²	

1) The 3 earth cables must not be connected together in the trailer.
2) The licence plate lights must be connected in such a way that none of the lamps is connected to both contacts 5 and 7.

2. Plug connections
2.6 Plug connections 12 V

Purpose:

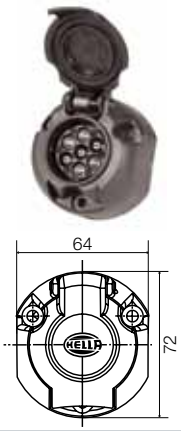
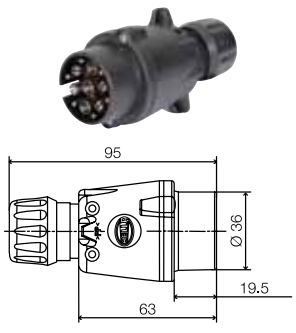
The 7+6-pole plug system for the electrical connection of traction and trailer vehicles can be used for both 7 and 13-pole applications.

Advantages:

- Compatible with standard ISO 1724
- Simple and rational fitting
- Socket contains micro-switch with changeover function for switching the rear fog light, the parking system and/or trailer detection.

Load-carrying capacity:

- Operating temperature: -25°C to 75°C
- Load-carrying capacity max. 20 A (with 2.5 mm² cable)

2.6.5 7+6-pole plug system compliant with NEN 6120	Description	Connection	Part number	PU
	**Socket** 7+6-pole, black plastic design,with rubber seal in cover, microswitch compatible with MULTICON and WeSt plugs Boxed	13 screw terminals	**8JB 005 949-031**	1
	**Plug** 7+6-pole, black plastic design with rubber seal and union nut for cables Ø 11.5 ...14.0 mm compatible to WeSt sockets. Not suitable for MULTICON sockets. Boxed	13 screw terminals	**8JA 005 951-061**	1

2. Plug-type connections
2.7 Plug-type connections 24 V

Product details

Purpose:

This 7-pole 24 V plug system compliant with ISO 1185 / ISO 3731 is currently the most widespread system for the electrical connection between traction vehicle and trailer or prime mover and semi-trailer in the commercial vehicles field. The system is mainly used for applications with average requirements. The system comprises a regular plug-type connector, type N, compliant with ISO 1185 and an auxiliary plug-type connector, type S, compliant with ISO 3731. The auxiliary system differs from the normal system by its white housing, contact inserts and non-interchangeable contact arrangement.

Advantages:

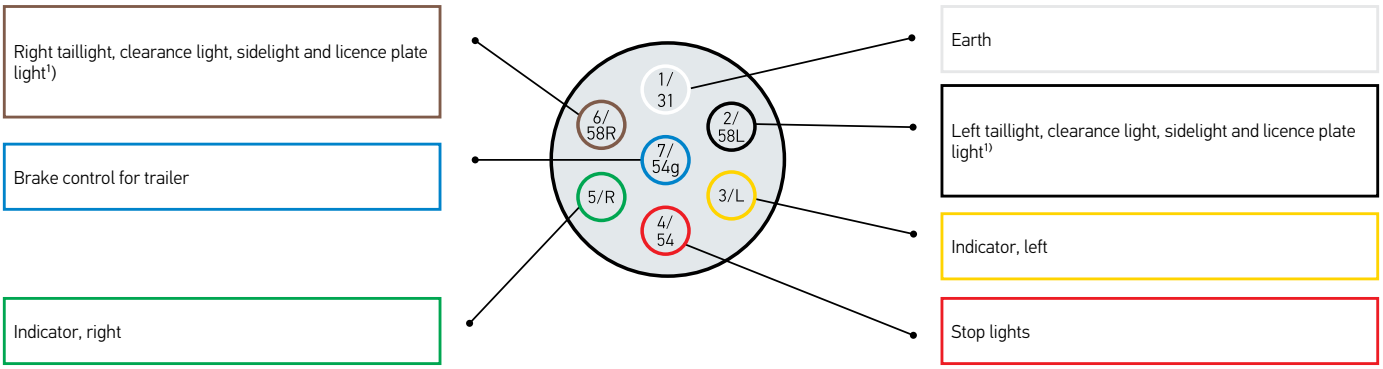
- Economical system for simple applications
- Easy to assemble
- Wide range of different connection options (screw terminals and blade couplings)
- Housing parts made of sturdy materials (aluminium, break-proof plastic)

Load-carrying capacity:

max. 20 A (with 2.5 mm² cable)
max. 15 A (with 1.5 mm² cable)
permissible temperature range: -25 to 75°C

2.7.1 7--pole plug system compliant with ISO 1185 (N-type)

Pin-out – trailer plug fitting 24 V / 7-pole N-type ISO 1185
31st contact / socket – pin; 31st contact / plug – sleeve

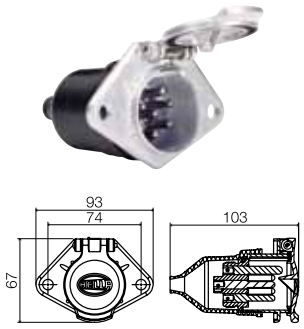
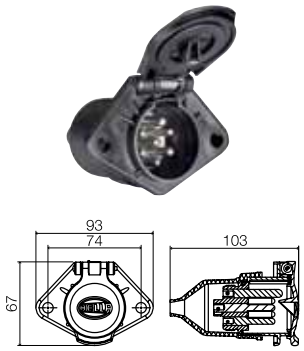
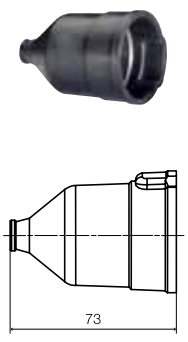


Contact assignment for normal plug-type connectors compliant with ISO 1185, 24 V, 7-pole N

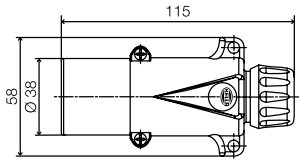
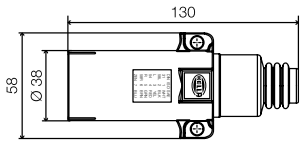
Contact no.	Function	Cable cross-section	Colour of wire insulation
1/31	Earth	2.5 mm²	
2/58L	Left taillight, clearance light, sidelight and licence plate lighting [1)]	1.5 mm²	
3/L	Indicator, left	1.5 mm²	
4/54	Stop lights	1.5 mm²	
5/R	Indicator, right	1.5 mm²	
6/58R	Right taillight, clearance light, sidelight and licence plate lighting [1)]	1.5 mm²	
7/54g	Control trailer brake	1.5 mm²	

[1)] The licence plate lights must be connected in such a way that none of the lamps is connected to both contacts 2 and 6.

2. Plug-type connections
2.7 Plug-type connections 24 V

2.7.1 7-pole plug system compliant with ISO 1185 (N-type)	Description	Connection	Part number	PU
	**Socket,** metal version, with cable grommet for cables Ø 9.5 ... 12.5 mm.			
	Boxed	7 screw terminals	**8JB 003 833-001**	10
	Boxed	7 flat plug connections 6.3 mm	**8JB 003 833-031**	10
	Boxed	16 blade couplings 6.3 mm (5 x 2-fold / 2 x 3-fold)	**8JB 003 833-011**	10
	**Socket,** plastic version, with cable grommet for cables Ø 9.5 ... 12.5 mm.			
	Boxed	7 screw terminals	**8JB 008 085-001**	10
	Boxed	7 flat plug connections 6.3 mm	**8JB 008 085-021**	10
	Boxed	16 blade couplings 6.3 mm (5 x 2-fold / 2 x 3-fold)	**8JB 008 085-041**	10
	**Cable grommet** for cables Ø 9.5 ... 12.5 mm.			
	Boxed		**9GD 735 641-012**	10

2. Plug-type connections
2.7 Plug-type connections 24 V

2.7.1 7-pole plug system compliant with ISO 1185 (N-type)	Description	Connection	Part number	PU
  	**Plug,** metal version, with high-strength cable gland, interior seal for cables Ø 9.2 ... 11.5 mm			
	Boxed	7 screw terminals	**8JA 003 831-001**	10
	Boxed	7 flat plug connections 6.3 mm	**8JA 003 831-011**	10
  	**Plug,** plastic version, with cable grommet for cables Ø 8.0 ... 12.0 mm.			
	Boxed	7 screw terminals	**8JA 008 084-001**	10
	Boxed	7 flat plug connections 6.3 mm	**8JA 008 084-021**	10

2. Plug-type connections
2.7 Plug-type connections 24 V

Purpose:

This 7-pole 24 V plug system compliant with ISO 1185 / ISO 3731 is currently the most widespread system for the electrical connection between traction vehicle and trailer or prime mover and semi-trailer in the commercial vehicles field. The system is mainly used for applications with average requirements. The system comprises a regular plug-type connector, type N, compliant with ISO 1185 and an auxiliary plug-type connector, type S, compliant with ISO 3731. The auxiliary system differs from the normal system by its white housing, contact inserts and non-interchangeable contact arrangement.

Advantages:

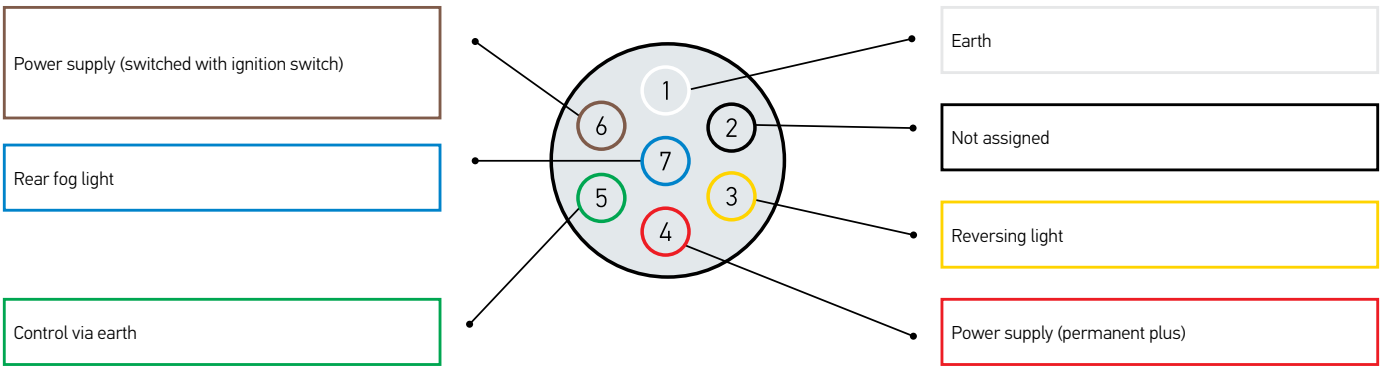
- Economical system for simple applications
- Easy to assemble
- Wide range of different connection options (screw terminals and blade couplings)
- Housing parts made of sturdy materials (aluminium, break-proof plastic)

Load-carrying capacity:

max. 20 A (with 2.5 mm² cable)
max. 15 A (with 1.5 mm² cable)
permissible temperature range: -25 to 75°C

2.7.2 7-pole plug system compliant with ISO 37 31 (S-type)

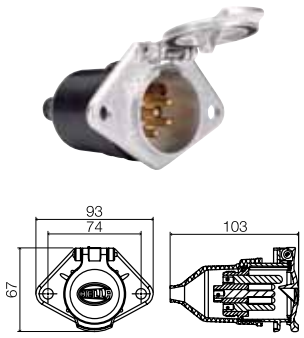
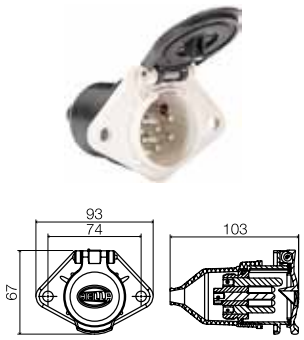
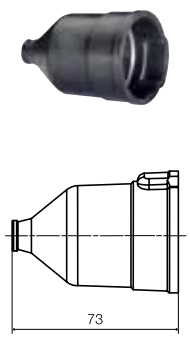
Pin-out – trailer plug fitting 24 V / 7-pole S-type ISO 3731
31st contact / socket – sleeve; 31st contact / plug – pin



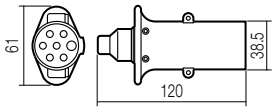
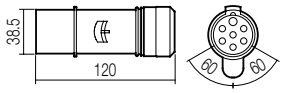
Contact assignment for auxiliary plug-type connectors compliant with ISO 3731, 24 V, 7-pole S

Contact no.	Function	Cable cross-section	Colour of wire insulation
1	Earth	2.5 mm²	
2	Reserved for future applications	1.5 mm²	
3	Reversing light	1.5 mm²	
4	Power supply (permanent plus)	2.5 mm²	
5	Control via earth	1.5 mm²	
6	Power supply via the ignition switch	2.5 mm²	
7	Rear fog light	1.5 mm²	

2. Plug connections
2.7 Plug-type connections 24 V

2.7.2 7-pole plug system compliant with ISO 3731 (S-type)	Description	Connection	Part number	PU
	**Socket,** metal version, with cable grommet for cables Ø 9.5 ... 12.5 mm.			
	Boxed	7 screw terminals	**8JB 003 834-001**	10
	Boxed	7 flat plug connections 6.3 mm	**8JB 003 834-031**	10
	Boxed	16 blade couplings 6.3 mm (5 x 2-fold / 2 x 3-fold)	**8JB 003 834-021**	10
	**Socket,** plastic version, with cable grommet for cables Ø 9.5 ... 12.5 mm.			
	Boxed	7 screw terminals	**8JB 008 085-011**	10
	Boxed	7 flat plug connections 6.3 mm	**8JB 008 085-031**	10
	Boxed	16 blade couplings 6.3 mm (5 x 2-fold / 2 x 3-fold)	**8JB 008 085-051**	10
	**Cable grommet** for cables Ø 9.5 ... 12.5 mm.			
	Boxed		**9GD 735 641-012**	10

2. Plug-type connections
2.7 Plug-type connections 24 V

2.7.2 7-pole plug system compliant with ISO 3731 (S-type)	Description	Length	Part number	PU
  	**Plug,** metal version, with high-strength cable gland, interior seal for cables Ø 9.2 ... 11.5 mm.			
	Boxed	7 screw terminals	**8JA 003 832-001**	10
	Boxed	7 flat plug connections 6.3 mm	**8JA 003 832-011**	10
  	**Plug,** plastic version, with cable grommet for cables Ø 9.5 ... 12.5 mm.			
	Boxed	7 screw terminals	**8JA 008 084-011**	10
	Boxed	7 flat plug connections 6.3 mm	**8JA 008 084-031**	10

2. Plug-type connections
2.7 Plug-type connections 24 V

Purpose:

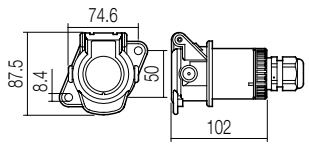
The 15-pole plug system compliant with ISO 12098 is the modern system for the transfer of lighting and auxiliary functions in 24 V vehicle electric systems.
On account of its technical advantages, such as reliable contacting and watertightness, the system is used by many leading commercial vehicle manufacturers for OE applications. The system is increasingly replacing the older 7-pole plug-type connector generations. The plug-type connectors are suitable for ADR / GGVS applications.

Advantages:

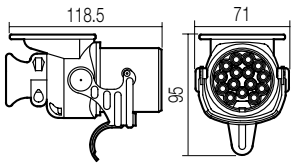
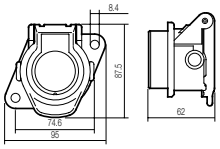
- The system meets the high requirements on modern trailer plug-type connectors compliant with ISO 4091
- High-grade lamella contacts with crimp connection
- Easy to assemble
- Crimp connection for OE applications
- Screw-type connection for spare part applications

Load-carrying capacity:

max. 16 A at 6 – 24 V (cable cross-section 1.5 mm²)
max. 25 A at 6 – 24 V (cable cross-section 2.5 mm²)

2.7.3 15-pole plug system compliant with ISO 12 098	Description	Connection	Part number	PU
  	**Socket** sturdy plastic version with cover, ADR/GGVS tested, with rubber seals and nickel-plated male contacts, made of glass fibre reinforced polyamide, high-strength cable gland on the cable outlet pierced hole: Ø 54 mm, for cable diameters: 12–18 mm, male contacts: 12 x 1.5 mm² + 3 x 2.5 mm²			
	Boxed	15 screw terminals	**8JB 007 242-011**	1
	Boxed	15 crimped/solder connections	**8JB 007 242-021**	1

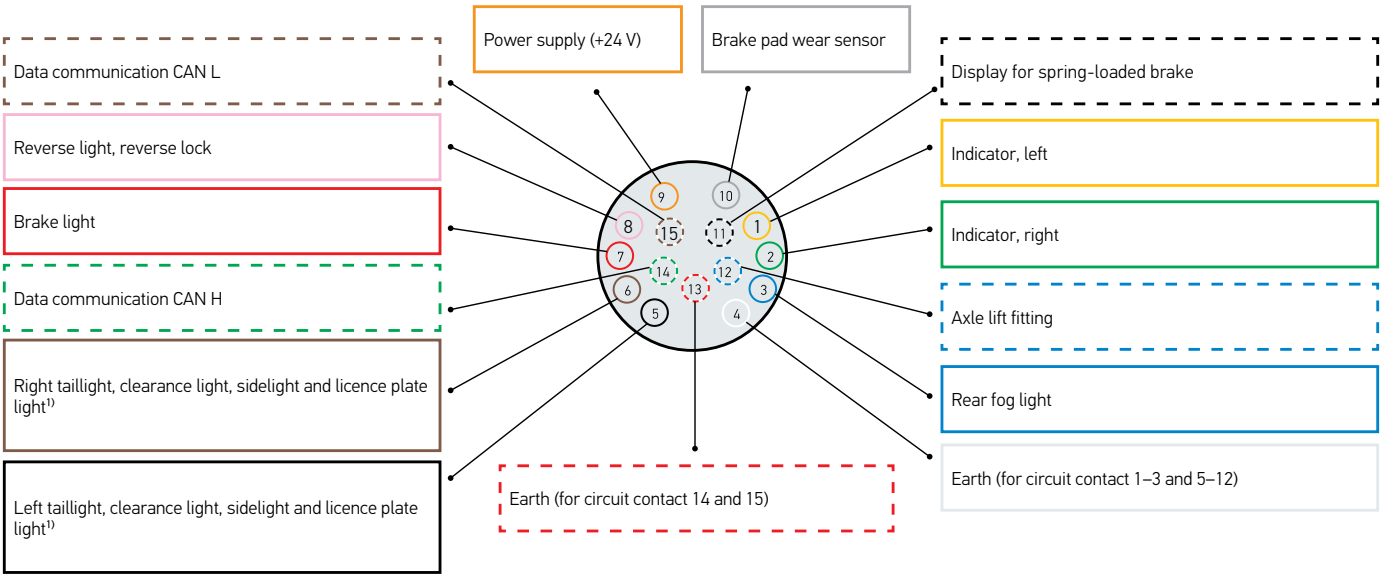
2. Plug-type connections
2.7 Plug-type connections 24 V

2.7.3 15-pole plug system compliant with ISO 12 098	Description	Connection	Part number	PU
  	**Plug** ADR / GGVS tested, with rubber seals and nickel-plated female contacts, made of glass fibre reinforced polyamide, mechanical strain relief, securely held in place by a non-rusting metal shackle for cable diameters: 12–18 mm contact socket: 12 x 1.5 mm² + 3 x 2.5 mm²			
	Boxed	15 screw terminals	**8JA 007 241-021**	1
	Boxed	15 crimped/solder connections	**8JA 007 241-031**	1
  	**Parking socket** for 15-pole 24 V plug 8JA 007 241-021 /-031 pierced hole: Ø 54 mm			
	Boxed		**8HG 007 647-001**	1
	Crimp/solder male contact set* (12 x 1.5 mm² + 3 x 2.5 mm²) for socket 8JB 007 242-021			
			9MK 726 761-811	1
	Crimp/solder female contact set* (12 x 1.5 mm² + 3 x 2.5 mm²) for plug 8JA 007 241-031			
			9MK 726 758-821	1

*** You will find suitable tools on page 177.**

2. Plug-type connections
2.7 Plug-type connections 24 V

2.4.3 Pin-out – trailer plug fitting 15-pole compliant with ISO 12 098



Contact assignment for plug-type connectors compliant with ISO 12098, 24 V, 15-pole

Contact no.	Function	Ø cable	Colour of wire insulation	
1	Indicator, left	1.5 mm²		
2	Indicator, right	1.5 mm²		
3	Rear fog light	1.5 mm²		
4	Earth for contacts 1–3 and 5–12	2.5 mm²		
5	Left taillight, clearance light, sidelight and licence plate lighting [1)]	1.5 mm²		
6	Right taillight, clearance light, sidelight and licence plate lighting [1)]	1.5 mm²		
7	Stop lights	1.5 mm²		
8	Reversing light	1.5 mm²		
9	Permanent power supply (+ 24 V)	2.5 mm²		
10	Sensor for brake pad wear indication	1.5 mm²		
11	Display for spring-loaded brake	1.5 mm²		
12	Axle lift	1.5 mm²		
13	Earth for data cables 14 and 15	2.5 mm²		
14	CAN H	1.5 mm²		
15	CAN L	1.5 mm²		

[1)] The licence plate lights must be connected in such a way that none of the lamps is connected to both contacts 5 and 6.

2. Plug-type connections
2.7 Plug-type connections 24 V

Purpose:

Plug systems compliant with ISO 7638-1 / ISO 7638-2 are used on almost all commercial vehicles with ABS / EBS systems. The plug-type connectors are suitable for ADR / GGVS applications.

Advantages:

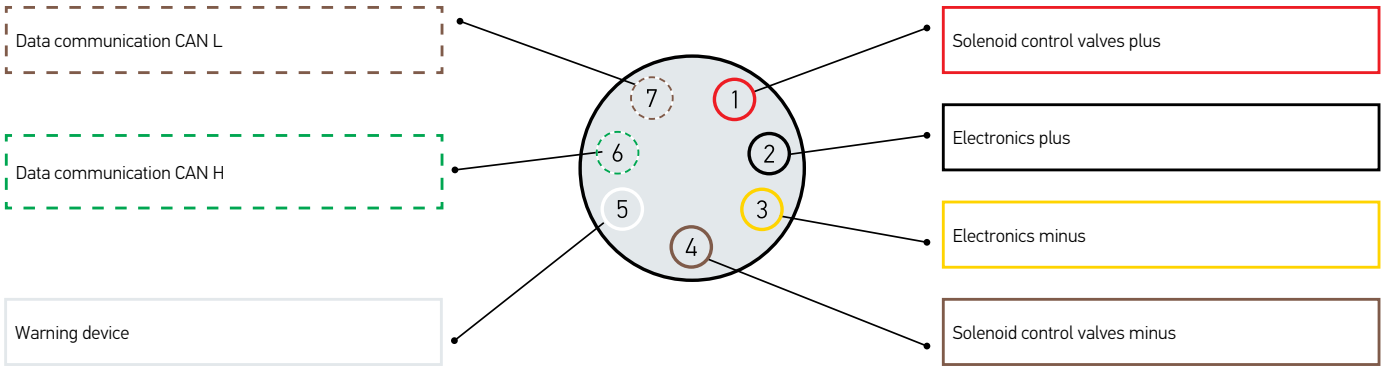
- The system meets the high requirements on modern trailer plug-type connectors compliant with ISO 4091
- High-grade lamella contacts with crimp connection
- Easy to assemble
- Crimp connection for OE applications
- Screw-type connection for spare part applications
- Both 12 V and 24 V versions of this plug system are available

Load-carrying capacity:

max. 16 A at – 24 V (cable cross-section 1.5 mm²)
max. 25 A at 24 V (cable cross-section 2.5 mm²)
max. 30 A at 24 V (cable cross-section 4.0 – 6.0 mm²)

2.7.4 Pin-out – ABS/EBS plug system compliant with ISO 76 38

Pin-out – trailer plug fitting ABS/EBS 24 V / 5/7-pole ISO 7638-1

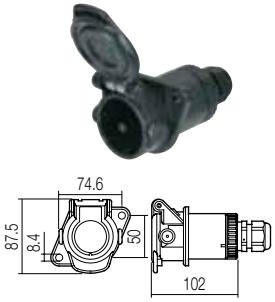
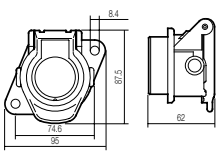


Contact assignment for plug-type connectors compliant with ISO 7638-1, ABS/EBS 24 V

Contact no.	Function	Cable cross-section	Colour of wire insulation
1	Solenoid valve plus	4 mm²	■
2	Electronics plus	1.5 mm²	■
3	Electronics minus	1.5 mm²	■
4	Solenoid valve minus	4 mm²	■
5	Warning device [1]	1.5 mm²	□
6	CAN H [2]	1.5 mm²	□ / ■
7	CAN L [2]	1.5 mm²	□ / ■

[1] The warning device is triggered via contact no. 5. Under normal operating conditions, this contact's circuit in the trailer is open.
[2] Compliant with ISO 11992-1 and ISO 11992-2.

2. Plug-type connections
2.7 Plug-type connections 24 V / 12 V

2.7.4 ABS / EBS plug system 24 V / ISO 7638-1 and 12 V / ISO 7638-2	Description	Connection	Part number	PU
	**Socket** with cover, ADR/GGVS tested, with rubber seals and nickel-plated male contacts, made of glass fibre reinforced polyamide, high-strength cable gland on the cable outlet pierced hole: Ø 54 mm, for cable diameters: 9–16 mm, male contacts: 5 x 1.5 mm² + 2 x 4 mm² + 2 x 6 mm² and two dummy plugs			
	Boxed	Screw connections	**8JB 007 645-031**	1
	Boxed	Crimp/solder connections	**8JB 007 645-021**	1
	12 V version with screw connections compliant with ISO 7638-2	Screw connections	**8JB 011 895-001**	1
	Plug ADR / GGVS tested, with rubber seals and nickel-plated female contacts, made of glass fibre reinforced polyamide, mechanical strain relief, securely held in place by a non-rusting metal shackle for cable diameters: 11–13 mm female contacts: 5 x 1.5 mm² + 2 x 4 mm² + 2 x 6 mm² and two dummy plugs			
	Boxed	Screw connections	**8JA 007 644-051**	1
	Boxed	Crimp/solder connections	**8JA 007 644-041**	1
	12 V version with screw connections compliant with ISO 7638-2	Screw connections	**8JA 011 896-001**	1
	Parking socket for ABS / EBS 24 V plug 8JA 007 644-041 and -051 pierced hole: Ø 54 mm made of glass fibre reinforced polyamide			
				
	Boxed		**8HG 007 647-001**	1

2. Plug-type connections
2.7 Plug-type connections 24 V

2.7.4 ABS/EBS plug system compliant with ISO 7638	Description	Connection	Part number	PU
	Crimp/solder male contact set* (5 x 1.5 mm² + 2 x 4 mm² + 2 x 6 mm² and two dummy plugs) for socket 8JB 007 645-021		**9MK 726 762-831**	1
	Crimp/solder female contact set* (5 x 1.5 mm² + 2 x 4 mm² + 2 x 6 mm² and two dummy plugs) for plug 8JA 007 644-041		**9MK 726 759-831**	1

*** You will find suitable tools on page 177.**

2. Plug-type connections
2.8 Plug-type connections for special vehicles compliant with VG 96 923, VG 96 917 and ISO 4165

Purpose:

This product group contains various plug-type connectors for special applications that are mainly used in the military field, but can also increasingly be found wherever large currents are involved and value is placed on a high degree of safety coupled with simple use. The 12-pole 24 V system compliant with VG 96 923 stands out on account of the very high demands for military use, particularly with regard to soiling and impact resistance. The 2-pole 24 V system compliant with VG 96 917 meets up to similar requirements and is used for battery charging with currents up to 500 A (short-term load up to 10 s). The plug system compliant with ISO 4165 is used for the electrical connection of various consumers.

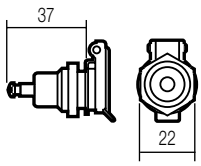
Advantages:

- High-grade crimped/solder contacts
- Easy to assemble
- Suitable for high current loads

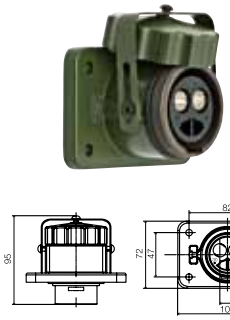
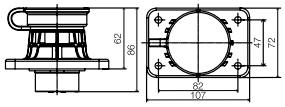
Load-carrying capacity:

Current rating:
max. 15 A (cable cross-section 1.5 mm²)
max. 100 A (cable cross-section 25 mm²)
max. 160 A (cable cross-section 35 mm²)
max. 200 A (cable cross-section 50 mm²)

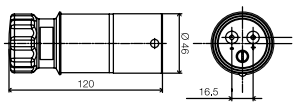
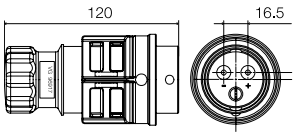
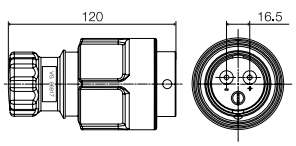
brief currents up to 10s:
max. 35 A (cable cross-section 1.5 mm²)
max. 250 A (cable cross-section 25 mm²)
max. 400 A (cable cross-section 35 mm²)
max. 500 A (cable cross-section 50 mm²)

2.8 Plug-type connections for special vehicles	Description	Connection	Part number	PU
  	**Socket** with green cover (ISO 4165 / VGV 96 921) compact design for installation, cover in RAL 6031 pierced hole: Ø 18.5 mm control panel thickness: max. 7 mm, Boxed	1 screw terminal, earth on the housing	**8JB 001 946-001**	10

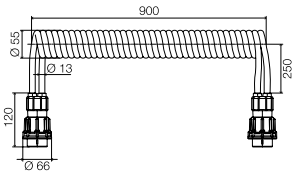
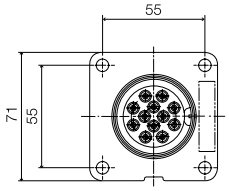
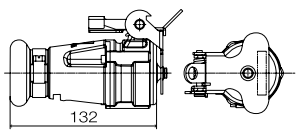
2. Plug-type connections
2.8 Plug-type connections for special vehicles compliant with VG 96 923, VG 96 917 and ISO 4165

2.8 Plug-type connections for special vehicles	Description	Connection	Part number	PU
	**Socket, aluminium** 2-pole with green screw-on cover (VG 96 917-3 form A). Seal in the screw-on cover, additional sealing ring between thread and screw-type cover. Permissible operating temperature: -40°C ... +85°C protection class: IP X4 (connected when inserted) contacts: CuZn, silver-plated			
	Boxed	2 crimped/solder female contacts for cables up to 50 mm²	**8JB 001 935-031**	1
	Boxed	2 crimped/solder female contacts for cables up to 35 mm²	**8JB 001 935-051**	1
	Socket, plastic 2-pole with black rubber cap (mating compatible with VG 96 917). Permissible operating temperature: -40°C ... +85°C protection class: IP X6 with cover closed contacts: CuZn, silver-plated			
	Boxed, black	2 crimped/solder female contacts for cables up to 35 mm²	**8JB 001 935-041**	1
	Boxed, yellow	2 crimped/solder female contacts for cables up to 35 mm²	**8JB 001 935-061**	1
	Accessories grommet for 2-pole sockets: **8JB 001 935-031** **8JB 001 935-041** **8JB 001 935-051** **8JB 001 935-061**		**9GD 735 641-062**	1
	Socket, metal yellow, 2-pole with black rubber cap (mating compatible with VG 96 917)			
	Boxed	2 crimped/solder female contacts for cables up to 50 mm²	**8JB 010 806-001**	1

2. Plug-type connections
2.8 Plug-type connections for special vehicles compliant with VG 96 923, VG 96 917 and ISO 4165

2.8 Plug-type connections for special vehicles	Description	Connection	Part number	PU
	**Plug** 2-pole (mating compatible with VG 96 917), black permissible operating temperature: -40°C ... +85°C contacts: CuZn, silver-plated			
	Metal design	2 crimp/solder pin contacts for cables up to 35 mm²	**8JA 001 931-041**	1
	Plastic design	2 crimp/solder pin contacts for cables up to 35 mm²	**8JA 001 931-081**	1
	**Plug, metal** 2-pole with green threaded ring (VG 96917 form E) permissible operating temperature: -40°C ... +85°C protection class: IP X4 (connected when inserted) Contacts: CuZn, silver-plated			
	Boxed	2 crimp/solder pin contacts for cables up to 35 mm²	**8JA 001 931-051**	1
	Boxed	2 crimp/solder pin contacts for cables up to 50 mm²	**8JA 001 931-071**	1
	**Plug, metal** 2-pole with black plastic-covered threaded ring (VG 96917 form E) permissible operating temperature: -40°C ... +85°C protection class: IP X4 (connected when inserted) contacts: CuZn, silver-plated			
	Boxed	2 crimp/solder pin contacts for cables up to 50 mm²	**8JA 001 931-061**	1

2. Plug-type connections
2.8 Plug-type connections for special vehicles compliant with VG 96 923, VG 96 917 and ISO 4165

2.8 Plug-type connections for special vehicles	Description	Connection	Part number	PU
	**Helical cable** 2-pole, max. working length 4 m, cross-section 2 x 35 mm², plus two mounted plugs with threaded ring (VG 96917) permissible operating temperature: -40°C ... +85°C rated current 300 A (at an ambient temperature of 20°C)		**8KA 010 807-001**	1
	**Socket** 12-pole with green cover (VG 96923 A–12 S), with screw accessories and screw cap permissible operating temperature: -40°C ... +85°C protection class: IP 68 connectable cross-sections: 12 x 1.5 mm², for cable diameters 18 ... +23.5 mm contacts: CuZn, silver-plated			
	Boxed	12 solder contact sleeves	**8JB 001 934-021**	1
	**Plug** 12-pole, with green cover (VG 96923) permissible operating temperature: -40°C ... +85°C protection class: IP 54 (when connected) connectable cross-sections: 12 x 1.5 mm², for cable diameters 24 mm contacts: CuZn, silver-plated			
	Boxed	12 solder male contacts	**8JA 002 264-051**	1
	Boxed	12 solder contact sleeves	**8JA 002 264-061**	1

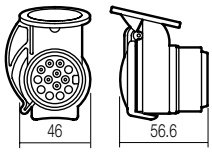
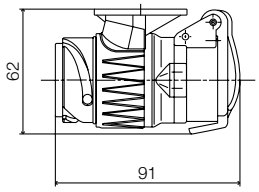
2. Plug-type connections
2.8 Plug-type connections for special vehicles compliant with VG 96 923, VG 96 917 and ISO 4165

2.8 Plug-type connections for special vehicles	Description	Connection	Part number	PU
	Crimp female contact for cables up to 50 mm² for articles: 8JB 001 935-031 8JB 001 935-061	Crimp female contact 50 mm²	**9MK 748 466-011**	1
	Crimp female contact for cables up to 35 mm² for articles: 8JB 001 935-041 8JB 001 935-051	Crimp female contact 35 mm²	**9MK 748 466-021**	1
	Crimp male contact for cables up to 50 mm² for article: 8JA 001 931-071	Crimp male contact 50 mm²	**9MK 748 465-011**	1
	Crimp male contact for cables up to 35 mm² for articles: 8JA 001 931-041, 8JA 001 931-051, 8JA 001 931-061, 8JA 001 931-081	Crimp male contact 35 mm²	**9MK 748 465-021**	1

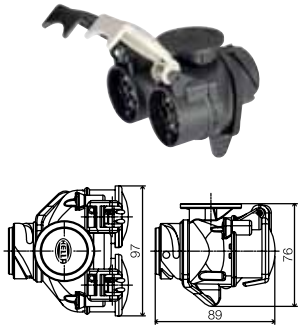
2. Plug-type connections
2.9 Adapter 12 V / 24 V

Purpose:

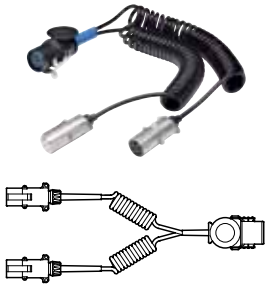
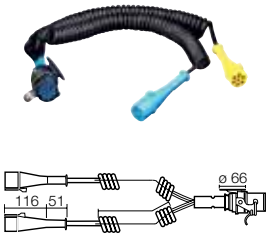
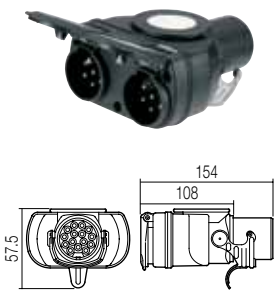
- Adapter from 13-pole socket (ISO 11446) on the traction vehicle to 7-pole plug (ISO 1724) on the trailer cable.
- Adapter from 7-pole socket (ISO 1724) on the traction vehicle to 13-pole plug (ISO 11446) on the trailer cable.
- Cable connection 7-pole (ISO 1724)
- UK short adapter from 13-pole socket (ISO 11446) on the traction vehicle to two 7-pole plugs (ISO 1724 + ISO 3732) on the trailer cables.
- Adapter cable 24 V from 15-pole socket (ISO 12 098) on the traction vehicle to two 2-pole sockets (ISO 1185 + ISO 3731) on the trailer
- Adapter cable available in two lengths, other lengths on request

2.9 Adapter 12 V / 24 V	Description	Length	Part number	PU
  	**Extra short adapter** from 13-pole socket (ISO 11 446) on the traction vehicle to a 7-pole plug (ISO 1724) on the trailer cable. Round cover compliant with ISO 11 446 protects from soiling and damage, insertion aid for single-hand operation, splashwater protection in accordance with IP 54, nickel-plated contacts (corrosion protection and constant low insertion forces), low weight load from the 13-pole socket (only 99 g), load-carrying capacity: max. 16 A at 12 V			
	Boxed	57 mm	**8JA 008 969-001**	1
  	**Short adapter** from 13-pole socket (ISO 11 446) on the traction vehicle to a 7-pole plug (ISO 1724) on the trailer cable load-carrying capacity: max. 16 A at 12 V			
	Boxed	120 mm	**8JA 005 952-011**	1
	Pro-fit packaging	120 mm	**8JA 005 952-013**	1

2. Plug-type connections
2.9 Adapter 12 V / 24 V

2.9 Adapter 12 V / 24 V	Description	Length	Part number	PU
	Adapter from 13-pole socket (ISO 11446) on the traction vehicle to a 7-pole plug (ISO 1724) on the trailer cable. With trailer fitting on the 7-pole coupling socket Boxed	0.25 m	**8JA 005 952-001**	1
	**“UK” short adapter** from 13-pole socket (ISO 11 446) to 2 x 7-pole plugs (ISO 1724 + ISO 3732) Boxed	89 mm	**8JA 179 368-001**	1
	Short adapter from 13-pole socket (ISO 11 446) on the traction vehicle to 7-pole plug (ISO 1724) on the trailer cable Boxed	106 mm	**8JA 005 952-091**	1
	Extremely short adapter from 7-pole socket (ISO 1724) on the traction vehicle to 13-pole plug (ISO 11 446) on the trailer cable. Boxed	57 mm	**8JA 008 969-011**	1

2. Plug-type connections
2.9 Adapter 12 V / 24 V

2.9 Adapter 12 V / 24 V	Description	Length	Part number	PU
	Mini short adapter from 7-pole socket (ISO 1724) on the traction vehicle to 13-pole plug (ISO 11 446) on the trailer cable.			
	Boxed	100 mm	**8JA 008 981-001**	1
	**Adapter cable** from 15-pole socket (ISO 12 098) on the traction vehicle to two 7-pole sockets (ISO 1185 + ISO 3731) on the trailer, with 15-pole plastic plug and 7-pole metal plugs cable diameter: 8.7 mm outer helix: Ø 50 mm sheath: polyurethane			
	Boxed	max. 3.5 m	**8JA 005 952-111**	1
	Boxed	max. 4 m	**8JA 005 952-041**	1
	**Adapter cable** from 15-pole socket (ISO 12098) on the traction vehicle to two 7-pole sockets (ISO 1185 + ISO 3731) on the trailer, absolutely watertight with 15-pole plastic plug and moulded 7-pole plastic plugs! (protection class IPX9K for the cable outlet) cable diameter: 8.8 mm outer helix: Ø 48 mm sheath: polyurethane			
	Boxed	max. 3.5 m	**8JA 005 952-101**	1
	Boxed	max. 4 m	**8JA 005 952-081**	1
	**Short adapter** from 15-pole socket (ISO 12 098) on the traction vehicle to two 7-pole plugs (ISO 1185 + ISO 3731) on the trailer, made of glass fibre reinforced polyamide			
	Boxed	155 mm	**8JA 005 952-061**	1

2. Plug-type connections
2.10 Test plug 12 V / 24 V

Purpose:

- Test plug for 7-pole sockets (ISO 1724) and 13-pole sockets (ISO 11 446)
- Test plugs for helical cables (ISO 1185)
- Test plugs for testing ABS sockets

2.10 Test plugs 12 V / 24 V	Description	Length	Part number	PU
	Test plugs for testing 7-pole sockets 12 V (ISO 1724) function display with LEDs 7-pole, 12 V Boxed		**8PD 004 508-001**	1
	Test plugs for testing 13-pole sockets 12 V (ISO 11 446) function display with LEDs 13-pole, 12 V Boxed		**8PD 007 216-001**	1

2. Plug-type connections
2.10 Test plugs 12 V / 24 V

2.7 Test plugs 12 V / 24 V	Description	Length	Part number	PU
	Test plugs for testing 7-pole sockets compliant with ISO 1185, normal version Boxed	81 mm	**8PD 004 508-011**	1
	Test plugs for testing helical cables compliant with ISO 1185, normal version Boxed	89 mm	**8PD 004 508-021**	1
	Test plugs for testing ABS sockets Boxed	110 mm	**8PD 004 508-031**	1

	Chapter overview	Page
3.	**Cables**	
3.1	Helical cables	**87-90**
3.2	Cables (running meter)	**91-95**
3.2.1	Single-wire PVC vehicle cables	**91-93**
3.2.2	Multi-wire PVC vehicle cables	**93-94**
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3.2.5	ADR vehicle cables	**95**
3.2.6	Welding cables	**95**

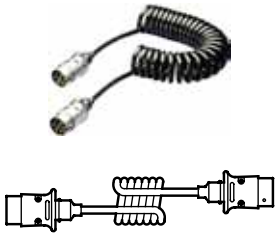
3. Cables
3.1 Helical cables

Purpose:

Helical cables are used for the electrical connection between traction vehicles and semi-trailers in the commercial vehicles field.

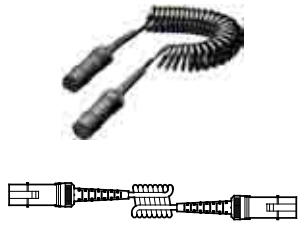
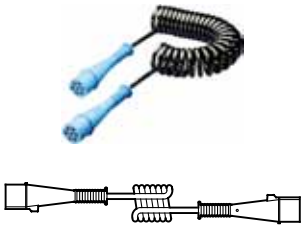
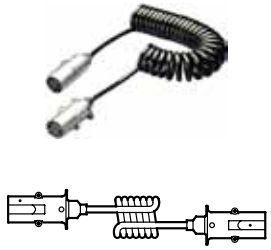
Advantages:

- Wide range of products for all common applications
- Cable sheathing in a choice of polyurethane or Hytrel
- Extremely resistant to cold, heat and influence of the weather
- High resistance to oils and chemicals
- Very good reversed bending properties
- Excellent reset behaviour
- 7-pole connector in a choice of metal or plastic

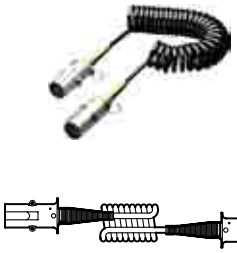
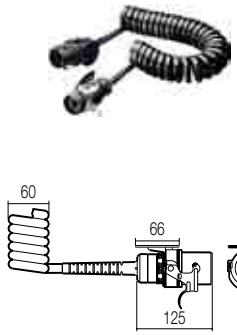
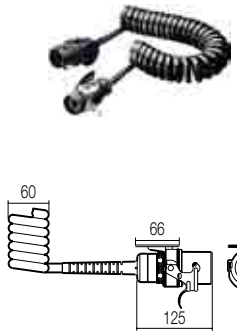
3.1 Helical cables	Description	ISO	Cross-section in mm²	Material	Part number	PU
	**Helical cable**, 12 V 7-pole max. Working length 4 m with two screwed-on metal plugs	1724, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-021**	1

3.1 Helical cables	Description	Length	Part number	PU
	Cable 7-pole, 12 V, "N" (ISO 1724) sheathing: PVC cable cross-sections: 6 x 1.0 mm² + 1 x 1.5 mm² with two screwed-on plastic plugs Polythene bag	3 m	**8KA 002 185-061**	1

3. Cables
3.1 Helical cables

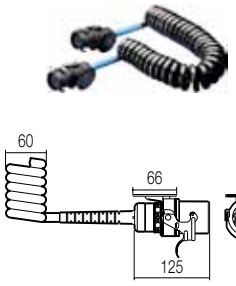
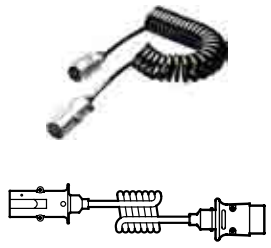
3.1 Helical cables	Description	ISO	Cross-section in mm²	Material	Part number	PU
	**Helical cable, 24 V** **7-pole** with two screwed-on plastic plugs					
	with anti-kink sleeves, 4 m	1185 „N“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-041**	1
	with anti-kink sleeves, 3.5 m	1185 „N“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-141**	1
	with anti-kink sleeves, 4 m	3731 „S“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-051**	1
	with anti-kink sleeves, 3.5 m	3731 „S“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-151**	1
	**Helical cable, 24 V 7-pole** max. Working length 4 m, with moulded plastic plugs and anti-kink sleeves, power outlet watertight (IP X9K)					1
		1185 „N“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-031**	1
		3731 „S“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 007 965-011**	1
	**Helical cable, 24 V 7-pole** max. Working length 4 m, with two screwed-on metal plugs					
		1185 „N“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-071**	1
		3731 „S“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-081**	1

3. Cables
3.1 Helical cables

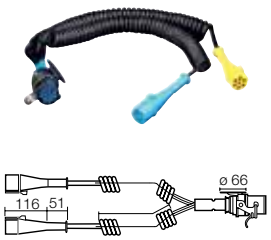
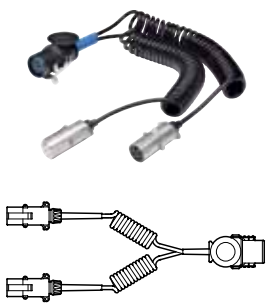
3.1 Helical cables	Description	ISO	Cross-section in mm²	Material	Part number	PU
	**7-pole** max. Working length 4 m, with screwed-on metal plugs, metal anti-kink protection and hanger					
		1185 „N“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-101**	1
		3731 „S“, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 004 797-111**	1
	**ABS helical cable, 5-pole, 24 V** with two mounted ABS plugs and anti-kink sleeves					
	20,000 reversed bending operations guaranteed!* 4 m	7638-1	3 x 1.5 + 2 x 4.0	Hytrel	**8KA 007 648-001**	1
		7638-1	3 x 1.5 + 2 x 4.0	Polyurethane	**8KA 007 648-011**	1
	20,000 reversed bending operations guaranteed!* 3.5 m	7638-1	3 x 1.5 + 2 x 4.0	Polyurethane	**8KA 007 648-071**	1
	**EBS helical cable, 7-pole** with two mounted EBS plugs and anti-kink sleeves					
	20,000 reversed bending operations guaranteed!* 4 m	7638-1	5 x 1.5 + 2 x 4.0	Hytrel	**8KA 007 648-021**	1
		7638-1	5 x 1.5 + 2 x 4.0	Polyurethane	**8KA 007 648-031**	1
	20,000 reversed bending operations guaranteed!* 3.5 m	7638-1	5 x 1.5 + 2 x 4.0	Polyurethane	**8KA 007 648-081**	1

* ISO 4141 prescribes at least 10,000 reversed bending operations.

3. Cables
3.1 Helical cables

3.1 Helical cables	Description	ISO	Cross-section in mm²	Material	Part number	PU
	**Helical cable, 15-pole, 24 V** with two mounted plastic plugs with blue anti-kink sleeves					
	20,000 reversed bending operations guaranteed!* 4 m	12098	12 x 1.5 + 3 x 2.5	Hytrel	**8KA 007 648-041**	1
		12098	12 x 1.5 + 3 x 2.5	Polyurethane	**8KA 007 648-051**	1
	20,000 reversed bending operations guaranteed!* 3.5 m	12098	12 x 1.5 + 3 x 2.5	Polyurethane	**8KA 007 648-091**	1
	**Helical cable, 7-pole, 12 / 24 V "N"** Normal version for FMVSS functions, with two screwed-on metal plugs cable diameter: 8.8 mm outer diameter of helix: 48 mm					
		1185 „N", 1724, 6722	6 x 1.0 + 1 x 1.5	Polyurethane	**8KA 007 648-061**	1

* ISO 4141 prescribes at least 10,000 reversed bending operations.

3.1 Helical cables	Description	Length	Part number	PU
	**Adapter cable** from 15-pole socket (ISO 12 098) on the traction vehicle to two 7-pole sockets (ISO 1185 + ISO 3731) on the trailer, absolutely watertight with 15-pole plastic plug and moulded 7-pole plastic plugs! (protection class IPX9K for the cable outlet) cable diameter: 8.8 mm outer helix: Ø 48 mm sheath: polyurethane			
	Boxed	max. 3.5 m	**8JA 005 952-101**	1
	Boxed	max. 4 m	**8JA 005 952-081**	1
	**Adapter cable** from 15-pole socket (ISO 12 098) on the traction vehicle to two 7-pole sockets (ISO 1185 + ISO 3731) on the trailer, with 15-pole plastic plug and 7-pole metal plugs cable diameter: 8.7 mm outer helix: Ø 50 mm sheath: polyurethane			
	Boxed	max. 3.5 m	**8JA 005 952-111**	1
	Boxed	max. 4 m	**8JA 005 952-041**	1

Purpose:

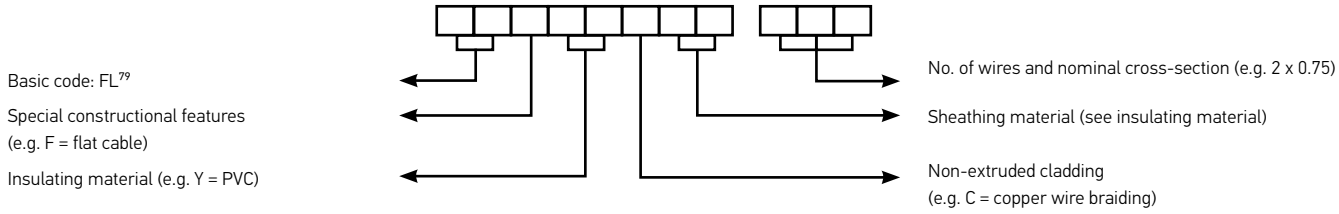
Wherever in a vehicle electrical current has to flow from A to B you will need **cables**. Their precise design, size, material and implementation will depend on the voltage, current and frequency required and the environmental conditions to which the **cable** will be exposed.

Advantages:

- Vehicle cables compliant with ISO 6722
- Wide assortment of products for numerous applications

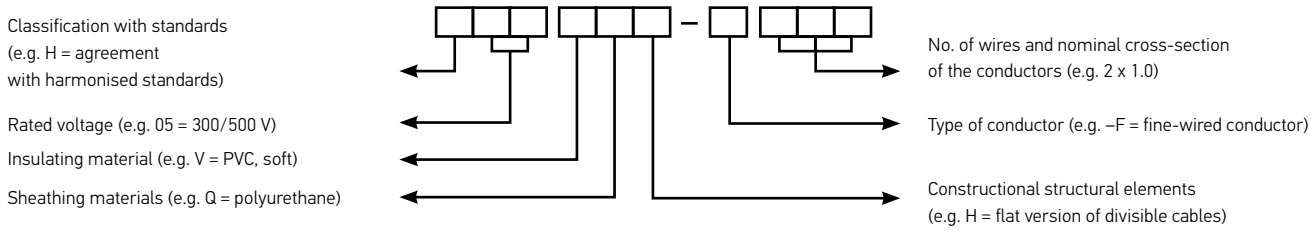
Codes for vehicle cables

Representation of the code structure compliant with DIN 7672278:



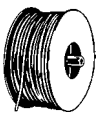
1st block (basic code)		2nd block (constructional features)		3rd block (insulating material and sheathing material)	
FL	Vehicle cable	F	Flat cable	Y	PVC
		R	Reduced wall thickness	X	PVC-X (X = cross-linked)
		Z	Multi-wire disconnectable cable	11Y	PUR

Representation of the code structure compliant with DIN VDE 0292:



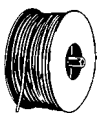
1st block (standard assignment)		2nd block (rated voltage)		3rd block (insulating material and sheathing material)		4th block (type of conductor)	
H	harmonised	1	100/100 V	V	PVC, soft	F	Fine-wired conductor of a flexible cable (flexibility corresponds to EN 60228 Class 5)
A	non-harmonised, national	3	300/300 V	R	Ethylene propylene rubber or equivalent synthetic elastomer		
		5	300/500 V			D	Fine-wired conductor for welding cables compliant with HD 22.6
		7	450/750 V	N2	Special polychlorophrene rubber mixture for sheathing on welding cables compliant with HD 22.6		

3. Cables
3.2 Cables (By running meter)

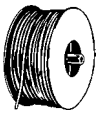


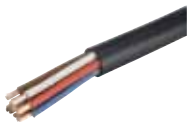
3.2.1 Single-wire PVC vehicle cables	Designation	Cable cross-section in mm²	Wire colour	Metres per coil	Part number	Metres per ring	Part number
	FLY	0.75	■	100	**8KL 054 001-002**	50	**8KL 712 929-001**
	FLY	0.75	□	100	**8KL 054 002-002**	50	**8KL 712 930-001**
	FLY	0.75	■	100	**8KL 054 003-002**	50	**8KL 712 931-001**
	FLY	0.75	■			50	**8KL 712 929-011**
	FLY	0.75	■	100	**8KL 054 004-002**	50	**8KL 712 932-001**
	FLY	0.75	■	100	**8KL 054 005-002**	50	**8KL 712 933-001**
	FLY	0.75	■	100	**8KL 054 006-002**	50	**8KL 712 934-001**
	FLY	0.75	■	100	**8KL 054 007-002**	50	**8KL 712 935-001**
	FLY	1.0	■	100	**8KL 054 008-002**	50	**8KL 712 936-001**
	FLY	1.0	□	100	**8KL 054 009-002**	50	**8KL 712 937-001**
	FLY	1.0	■	100	**8KL 054 010-002**	50	**8KL 712 938-001**
	FLY	1.0	■	100	**8KL 054 011-002**	50	**8KL 712 939-001**
	FLY	1.0	■	100	**8KL 054 012-002**	50	**8KL 712 940-001**
	FLY	1.0	■	100	**8KL 054 013-002**	50	**8KL 712 941-001**
	FLY	1.0	■	100	**8KL 054 014-002**	50	**8KL 712 942-001**
	FLY	1.5	■	100	**8KL 712 943-002**	50	**8KL 712 943-001**
	FLY	1.5	□	100	**8KL 712 944-002**	50	**8KL 712 944-001**
	FLY	1.5	■	100	**8KL 712 945-002**	50	**8KL 712 945-001**
	FLY	1.5	■	100	**8KL 712 946-002**	50	**8KL 712 946-001**
	FLY	1.5	■	100	**8KL 712 947-002**	50	**8KL 712 947-001**
	FLY	1.5	■	100	**8KL 712 948-002**	50	**8KL 712 948-001**
	FLY	1.5	■	100	**8KL 712 949-002**	50	**8KL 712 949-001**
	FLY	1.5	■	100	**8KL 712 950-002**	50	**8KL 712 950-001**
	FLY	1.5	■ / ■			50	**8KL 717 460-001**
	FLY	1.5	■ / ■			50	**8KL 717 461-001**
	FLY	1.5	■ / □			50	**8KL 717 462-001**
	FLY	1.5	■ / ■			50	**8KL 717 463-001**
	FLY	1.5	■ / ■			50	**8KL 717 464-001**

3. Cables
3.2 Cables (By running meter)



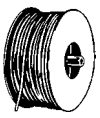
3.2.1 Single-wire PVC vehicle cables	Designation	Cable cross-section in mm²	Wire colour	Metres per coil	Part number	Metres per ring	Part number
	FLY	2.5	■	50	**8KL 712 952-002**	50	**8KL 712 952-001**
	FLY	2.5	□	50	**8KL 712 953-002**	50	**8KL 712 953-001**
	FLY	2.5	■	50	**8KL 712 954-002**		
	FLY	2.5	■	50	**8KL 712 955-002**	50	**8KL 712 955-001**
	FLY	2.5	■	50	**8KL 712 956-002**		
	FLY	2.5	■	50	**8KL 712 957-002**	50	**8KL 712 957-001**
	FLY	2.5	■	50	**8KL 712 958-002**	50	**8KL 712 958-001**
	FLY	2.5	■	50	**8KL 712 959-002**	50	**8KL 712 959-001**
	FLY	4.0	■	25	**8KL 712 960-002**	50	**8KL 712 960-001**
	FLY	4.0	■	25	**8KL 712 962-002**	50	**8KL 712 962-001**
	FLY	6	■			50	**8KL 712 964-001**
	FLY	6	■			50	**8KL 712 965-001**
	FLY	6	■			50	**8KL 712 966-001**
	FLY	10	■			50	**8KL 712 967-001**
	FLY	10	■			50	**8KL 712 968-001**
	FLY	16	■			50	**8KL 712 969-001**
	FLY	25	■			50	**8KL 712 970-001**
	FLY	35	■			50	**8KL 712 971-001**
	FLY	50	■			50	**8KL 712 972-001**

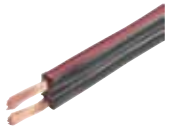


3.2.1 Multi-wire PVC vehicle cables	Designation	Cable cross-section in mm²	Wire colour	Sheath colour	Metres per coil	Part number	Metres per ring	Part number
	FLYY	1 x 1.5	■	■	50	**8KL 712 975-002**	50	**8KL 712 975-001**
	FLYY	1 x 2.5	■	■			50	**8KL 712 976-001**
	FLYY	2 x 0.75	2x ■	■	50	**8KL 735 190-002**	100	**8KL 735 190-001**
	FLYY	2 x 0.75	■ / ■	■			200	**8KL 712 986-001**
	FLYY	2 x 1.0	■ / ■	■			50	**8KL 712 991-001**
	FLYY	2 x 1.5	2x ■	■	25	**8KL 712 977-002**	50	**8KL 712 977-001**
	FLYY	2 x 1.5	■ / ■	■			50	**8KL 712 992-001**
	FLYY	2 x 2.5	2x ■	■			50	**8KL 712 978-001**
	FLYY	3 x 1.5	■ / ■ / ■	■			50	**8KL 712 993-001**

3. Cables
3.2 Cables (By running meter)

3.2.2 Multi-wire PVC vehicle cables	Designation	Cable cross-section in mm²	Wire colour	Sheath colour	Metres per ring	Part number
	FLYY	4 x 0.75	■ / □ / ■ / ■	■	200	**8KL 712 987-001**
	FLYY	4 x 0.75	■ / □ / ■ / ■	■	200	**8KL 712 988-001**
	FLYY	4 x 1.0	■ / □ / ■ / ■	■	50	**8KL 712 994-001**
	FLYY	4 x 1.5	■ / □ / ■ / ■	■	50	**8KL 712 995-001**
	FLYY	5 x 1.0	■ / ■ / □ / ■ / ■	■	50	**8KL 712 996-001**
	FLYY	5 x 1.5	■ / ■ / □ / ■ / ■	■	50	**8KL 715 434-001**
	FLYY	6 x 0.75	■ / ■ / □ / ■ / ■ / ■	■	200	**8KL 712 989-001**
	FLYY	7 x 0.75	■ / ■ / ■ / □ / ■ / ■ / ■	■	200	**8KL 712 990-001**
	FLYY	7 x 1.0	■ / ■ / ■ / □ / ■ / ■ / ■	■	50	**8KL 715 435-001**
	FLYY	7 x 1.5	■ / ■ / ■ / □ / ■ / ■ / ■	■	50	**8KL 712 997-001**
	FLYY	8 x 0.75	■ / ■ / ■ / □ / ■ / ■ / ■ / ■	■	100	**8KL 198 465-001**
	FLYY	8 x 1.5	■ / ■ / □ / ■ / ■ / ■ / ■ / ■	■	50	**8KL 713 735-001**
	FLYY	6 x 1.5 + 1 x 2.5	(1.5) ■ / ■ / ■ / ■ / ■ / ■ / (2.5) □	■	50	**8KL 199 936-001**
	FLYY	7 x 1.5 + 5 x 2.5	(1.5) ■ / ■ / ■ / ■ / ■ / ■ / (2.5) □ / ■ / ■ / □ - ■ / ■ - □	■	50	**8KL 199 937-001**
	FLYY	9 x 1.5 + 4 x 2.5	(1.5) 7 x ■ / ■ / ■ / (2,5) 2 x ■ / ■ / ■	■	25	**8KL 719 852-001**
	FLYY	12 x 1.5 + 3 x 2.5	(1.5) ■ / ■ / ■ / ■ / ■ / ■ / ■ / ■ / □ - ■ / □ - ■ / □ - ■ / □ - ■ / (2.5) ■ - □ / ■ / □	■	50	**8KL 742 810-001**



3.2.3 PVC flat cables	Designation	Cable cross-section in mm²	Wire colour	Sheath colour	Metres per coil	Part number	Metres per ring	Part number
Flat cable for loudspeakers and music systems 	XYFAZ	2 x 0.5	■ / ■				100	**8KL 054 017-001**
	XYFAZ	2 x 0.75	■ / ■ - ■ / ■		100	**8KL 712 980-002**	50	**8KL 712 980-001**
	XYFAZ	2 x 0.75	■ / ■		100	**8KL 712 980-032**		
	XYFAZ	2 x 1.5	■ / ■ - ■				50	**8KL 712 981-001**
Vehicle flat cable	FLFYY	2 x 0.75	■ / ■	■			50	**8KL 177 729-002**
	FLFYY	2 x 1.5	■ / ■	■			50	**8KL 177 729-012**
	FLFYY	2 x 1.5	■ / □	■			50	**8KL 177 729-112**
	FLFYY	2 x 1.5	■ / □	■			50	**8KL 177 729-212**
	FLFYY	2 x 2.5	■ / ■	■			50	**8KL 177 729-022**

3. Cables
3.2 Cables (By running meter)

3.2.4 Cables	Designation	Cable cross-section in mm²	Wire colour	Sheath colour	Metres per ring	Part number
Rubber electrical cable	H05 RR-F	2 x 0.75	■ / ■	■	100	8KL 713 740-042
	H05 RR-F	2 x 1.0	■ / ■	■	50	8KL 713 740-032
	H05 RR-F	2 x 1.5	■ / ■	■	50	8KL 713 740-001
	A05 RR-F	3 x 0.75	■ / ■ / ■	■	50	8KL 713 737-001
	A05 RR-F	3 x 1.0	■ / ■ / ■	■	50	8KL 713 741-001
	A05 RR-F	3 x 1.5	■ / ■ / ■	■	50	8KL 713 742-001
	05 RR-F	4 x 1.5	■ / ■ / □ / ■ / ■	■	50	8KL 713 744-001
	05 RR-F	5 x 1.5	■ / ■ / □ / ■ / ■	■	50	8KL 715 436-001
	05 RR-F	7 x 1.5	■ / ■ / ■ / □ / ■ / ■ / ■	■	50	8KL 715 437-001
PVC electrical cable	H05 VV-F	2 x 0.75	■ / ■	■	100	8KL 177 370-032
	H05 VV-F	2 x 1.0	■ / ■	■	100	8KL 177 370-042
	H05 VV-F	2 x 1.5	■ / ■	■	100	8KL 177 370-052

3.2.5 ADR vehicle cables	Designation	Cable cross-section in mm²	Wire colour	Sheath colour	Metres per ring	Part number
PVC vehicle cable, ADR-suitable	FLRYY	2 x 1.0	■ / □	■	100	8KL 178 452-002
	FLRYY	2 x 1.0	■ / □	■	100	8KL 178 452-012
	FLRYY	5 x 1.0 + 1 x 2.5	(1.0) ■ - ■ / ■ / ■ - ■ / ■ / ■ / (2.5) □	■	50	8KL 178 453-002
	FLRYY	8 x 1.5 + 1 x 2.5	(1.5) ■ / ■ / ■ / ■ / ■ / ■ / ■ / (2.5) □	■	50	8KL 178 454-002
	FLRYY	10 x 1.5 + 3 x 2.5	(1.5) ■ / ■ / ■ / ■ / ■ / □ / ■ / □ - ■ / □ - ■ / ■ - □ / (2.5) ■ / ■ / ■	■	25	8KL 178 456-002
	FLRYY	12 x 1.5 + 3 x 2.5	(1.5) ■ / ■ / ■ / ■ / ■ / ■ / ■ / ■ / □ - ■ / □ - ■ / □ - ■ / □ - ■ / □ - ■ / (2.5) □ / ■ / □ - ■	■	25	8KL 178 451-002

3.2.6 Welding cables	Designation	Cable cross-section in mm²	Wire colour	Sheath colour	Metres per ring	Part number
Special welding cables for the connection of automatic and manual welding tools	H01N2-D	16.0	■		50	8KL 713 750-001
	H01N2-D	25.0	■		50	8KL 713 751-001
	H01N2-D	35.0	■		50	8KL 713 752-001
	H01N2-D	50.0	■		50	8KL 713 753-001
	H01N2-D	70.0	■		25	8KL 713 753-011
	H01N2-D	95.0	■		25	8KL 713 753-021

4

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4. Cable connectors
4.1 Crimp connectors

Purpose:

Uninsulated crimp connectors are generally used in those areas of the vehicle that are not at risk from splashes of water and primarily serve as removable system elements for electrical and mechanical cable connections or branches. A number of different contact systems have become established over the years depending on the application and the age of the vehicle.

Advantages:

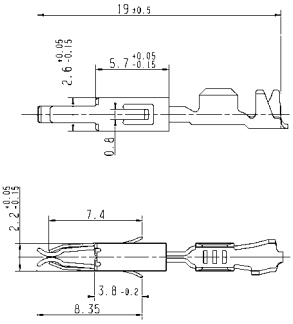
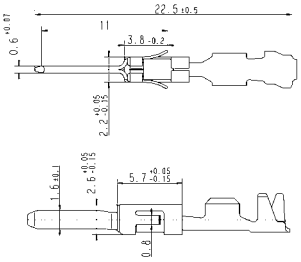
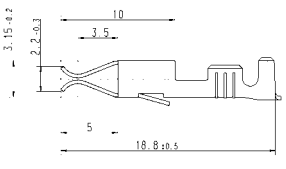
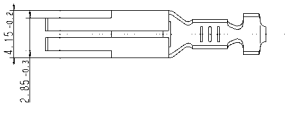
- OEM quality
- Wide assortment of products for numerous applications

Materials and surface finishes

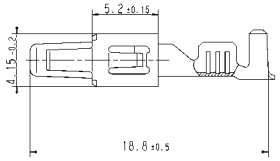
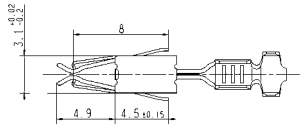
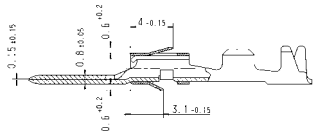
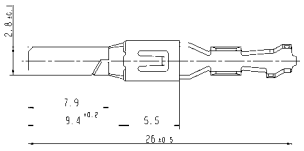
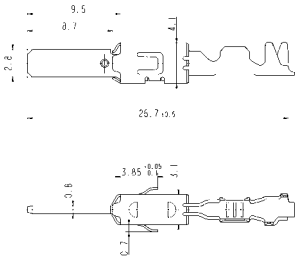
Material overview			
Short designation	**Material**	**Corrosion resistance (in air)**	**Electrical conductivity**
CuZn	Brass	good, better with surface treatment	medium
CuSn	Tin bronze	good, better with surface treatment	low
CuFe	Copper-iron	good, better with surface treatment	good
CuNi	Copper-nickel	good	low

Surface treatment		
Short designation	**Material**	**Remark**
bk	(bright)	no surface coating, no special protection
Sn	Tin	corrosion protection, easy to solder, provides electrical contact
frSn	galvanised tin-plated	lead-free corrosion protection, easy to solder, provides electrical contact
Ag	Silver	high conductivity, provides good electrical contact
Au	Gold	resistant to tarnishing, best contact making at low current

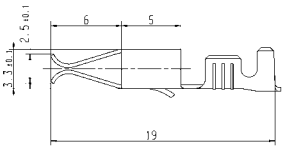
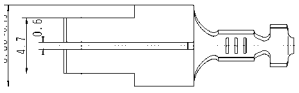
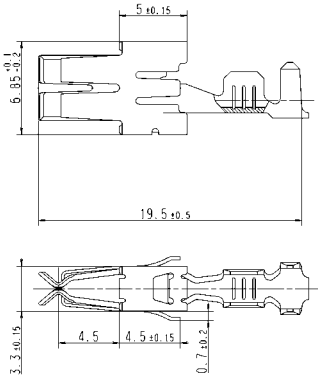
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Micro Timer II	Flat receptacle	0.5–1.0	1.6 x 0.8	CuFe/Sn	B 192	**8KW 863 933-003**	50
	for individual conductor seal	0.5–1.0	1.6 x 0.8	CuFe/Sn	B 193	**8KW 863 933-013**	50
							
	Blade terminal	0.5–1.0	1.6 x 0.8	CuFe/Sn	B 190	**8KW 863 932-003**	50
	for individual conductor seal	0.5–1.0	1.6 x 0.8	CuSn/Sn	B 191	**8KW 863 932-013**	50
							
	Individual conductor seal	1.4–1.9		Silicone grey	B 201	**9GD 863 952-012**	50
	Blind plug			Silicone white	B 202	**9GD 863 952-002**	50
Junior Timer	Flat receptacle with a catch spring	0.5–1.0	2.8 x 0.8	CuZn/Sn	B 175	**8KW 863 926-003**	50
		1.0–2.5	2.8 x 0.8	CuZn/Sn	B 176	**8KW 863 926-013**	50
							
							

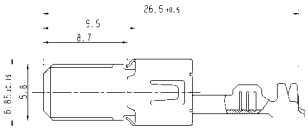
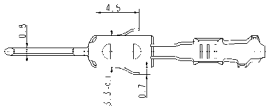
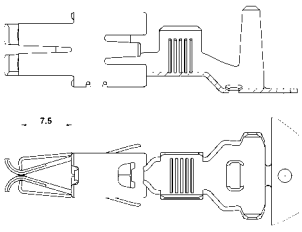
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Junior Power Timer  	Flat receptacle	0.5–1.0	2.8 x 0.8	CuSn/Sn	B 194	**8KW 863 934-003**	50
	for individual conductor seal	0.5–1.0	2.8 x 0.8	CuSn/Sn	B 195	**8KW 863 934-013**	50
	Flat receptacle	1.0-2,5	2.8 x 0.8	CuSn/Sn	B 216	**8KW 863 934-023**	50
	Flat receptacle	1.0-2,5	2.8 x 0.8	CuSn/Sn		**8KW 863 934-024**	1000
	Male blade connector with non-symmetrical steel spring	0.5–1.0	2.8 x 0.8	CuSn/Sn	B 189	**8KW 863 931-003**	50
	Male blade connector with symmetrical steel spring	0.5–1.0	2.8 x 0.8	CuSn/Sn	B 187	**8KW 863 930-003**	50
	with symmetrical steel spring for strand insulation	0.5–1.0	2.8 x 0.8	CuSn/Sn	B 188	**8KW 863 930-013**	50

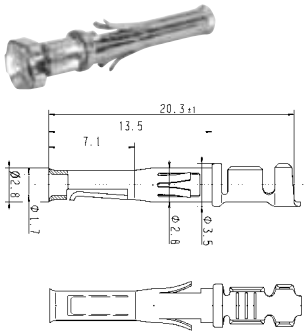
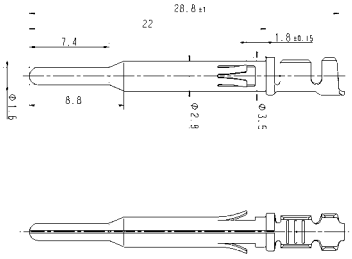
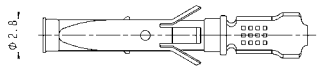
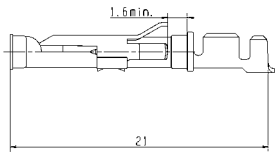
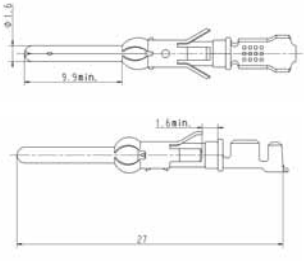
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
	Individual wire seal	1.2–2.1 mm		Silicone blue	B 204	**9GD 863 953-012**	50
	Blind plug			Silicone natural	B 203	**9GD 863 953-002**	50
Standard Timer  	Flat receptacle with a catch spring	0.5–1.0	4.8/5.8/ 6.8 x 0.8	CuZn/Sn	B 173	**8KW 863 925-003**	50
		1.0–2.5	4.8/5.8/ 6.8 x 0.8	CuSn/Sn	B 174	**8KW 863 925-013**	50
Standard Power Timer 	Flat receptacle	0.5–1.0	4.8/5.8/ 6.8 x 0.8	CuFe/Sn	B 177	**8KW 863 927-003**	50
		1.5–2.5	4.8/5.8/ 6.8 x 0.8	CuFe/Sn	B 178	**8KW 863 927-013**	50
		2.5–4.0	4.8/5.8/ 6.8 x 0.8	CuFe/Sn	B 179	**8KW 863 927-023**	50
	for individual conductor seal	1.5–2.5	4.8/5.8/ 6.8 x 0.8	CuFe/Sn	B 180	**8KW 863 927-033**	50

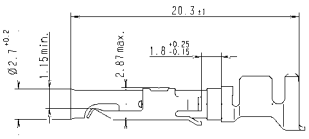
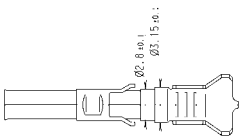
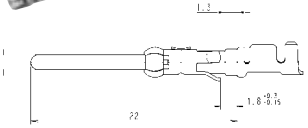
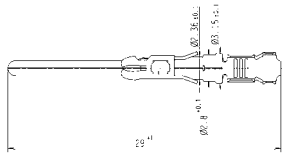
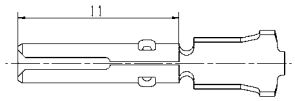
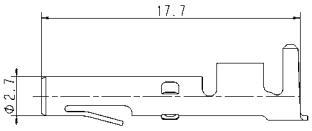
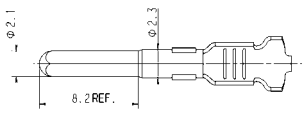
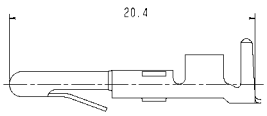
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
	Male blade connector with symmetrical steel spring	0.5–1.0	5.8 x 0.8	CuFe/Sn	B 181	**8KW 863 928-003**	50
		1.5–2.5	5.8 x 0.8	CuFe/Sn	B 182	**8KW 863 928-013**	50
		2.5–4.0	5.8 x 0.8	CuFe/Sn	B 183	**8KW 863 928-023**	50
	Male blade connector with symmetrical steel spring for individual conductor seal	1.5–2.5	5.8 x 0.8	CuFe/Sn	B 184	**8KW 863 928-033**	50
	Individual conductor seal	2.2–3.0 mm		Silicone white	B 205	**9GD 863 954-012**	50
	Blind plug			Silicone black	B 206	**9GD 863 954-002**	50
Maxi Power Timer 	Flat receptacle for individual conductor seal	2.5–4.0	9.5 x 1.2	CuNi/Sn	B 198	**8KW 863 951-003**	10
		4.0–6.0	9.5 x 1.2	CuNi/Sn	B 199	**8KW 863 951-013**	10
		6.0–10.0	9.5 x 1.2	CuNi/Sn	B 200	**8KW 863 951-023**	10
Maxi Power Timer	Individual wire seal	4.7–5.3 mm		Silicone blue	B 208	**9GD 863 961-012**	10
		5.8–6.6 mm		Silicone light blue	B 209	**9GD 863 961-022**	10

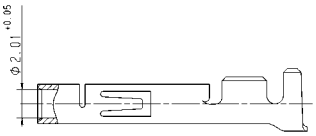
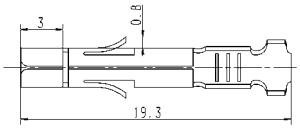
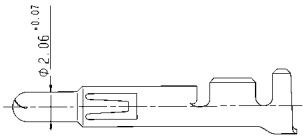
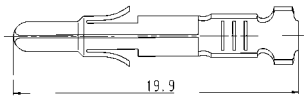
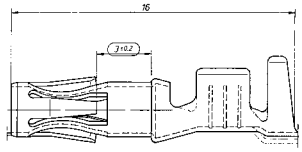
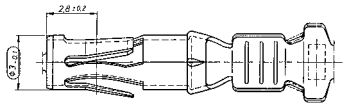
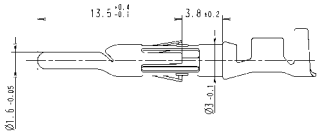
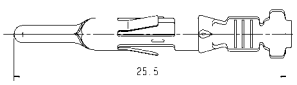
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Male connector-type connection CIC 	Female contact	0.5–1.5	1.6	CuZn/Sn	B 159	**8KW 863 918-003**	50
		1.0–2.5	1.6	CuSn/Sn	B 160	**8KW 863 918-013**	50
	Male pin contact	0.5–1.5	1.6	CuZn/Sn	B 161	**8KW 863 919-003**	50
		1.0–2.5	1.6	CuZn/Sn	B 162	**8KW 863 919-013**	50
Male connector-type connection Type III for M series	Female contact	0.75–1.5	1.6	CuZn/Sn	B 196	**8KW 863 945-003**	50
		0.2–0.56	1.6	CuSn/Sn	B 197	**8KW 863 945-013**	50
							
	Male pin contact	0.75–1.5	1.6	CuZn/Sn	B 185	**8KW 863 929-003**	50
		0.2–0.56	1.6	CuSn/Sn	B 186	**8KW 863 929-013**	50

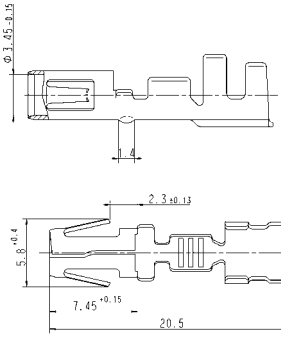
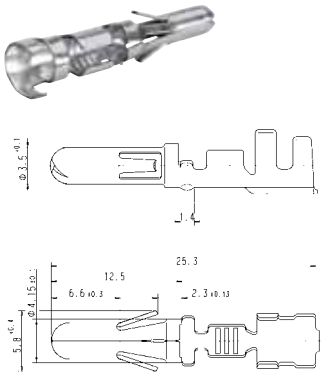
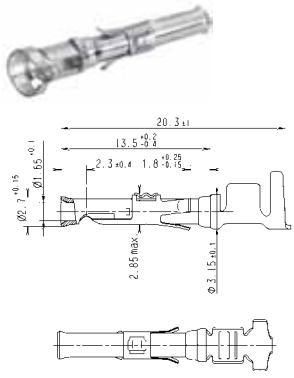
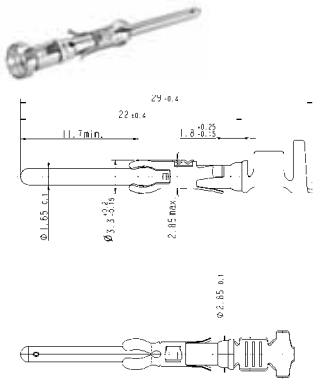
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Male connector-type connection CI 2  	Female contact	0.5–1.0	1.6	CuSn/Sn	B 157	**8KW 863 917-013**	50
		1.0–2.5	1.6	CuSn/Sn	B 158	**8KW 863 917-003**	50
 	Male pin contact	0.5–1.5	1.6	CuZn/Sn	B 171	**8KW 863 924-003**	50
		1.0–2.5	1.6	CuZn/Sn	B 172	**8KW 863 924-013**	50
Plug-type connector Mate'n' Lock  	Female contact	0.5–1.0	2.1	CuZn/Sn	B 155	**8KW 863 916-003**	50
		1.0–2.5	2.1	CuZn/Sn	B 156	**8KW 863 916-013**	50
 	Male pin contact	0.5–1.0	2.1	CuZn/Sn	B 207	**8KW 863 915-013**	50
		1.0–2.5	2.1	CuZn/Sn	B 154	**8KW 863 915-003**	50

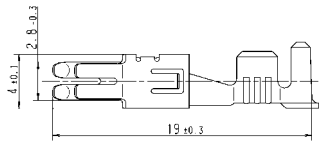
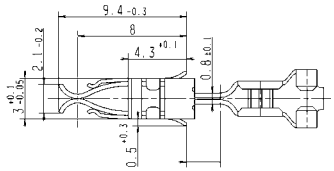
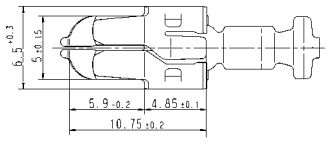
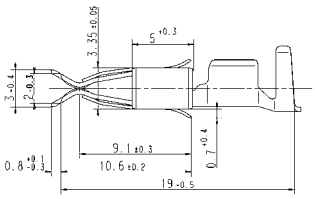
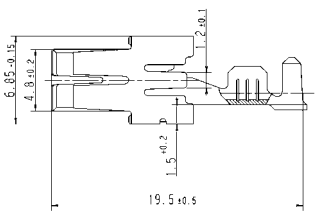
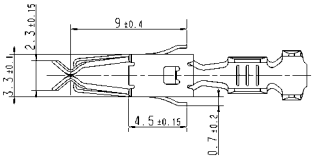
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Plug-type connector Universal Mate'n'Lock  	Female contact	0.5–2.1	2.1	CuSn/Sn	B 169	**8KW 863 923-003**	50
		1.5–2.5	2.1	CuZn/Sn	B 170	**8KW 863 923-013**	50
 	Male pin contact	0.5–2.1	2.1	CuZn/Sn	B 167	**8KW 863 922-003**	50
		1.5–2.5	2.1	CuZn/Sn	B 168	**8KW 863 922-013**	50
Cable lug for CONI round male connector system  	Sleeve	0.75–1.5	Ø 1.6	CuZn/frSn	B 70	**8KW 054 946-003**	50
		1.5–2.5	Ø 1.6	CuZn/frSn	B 116	**8KW 744 864-003**	50
Cable lug for CONI round male connector system  	Plugs	0.75–1.5	Ø 1.6	CuSn/frSn	B 71	**8KW 054 945-003**	50
		1.5–2.5	Ø 1.6	CuZn/frSn	B 117	**8KW 744 866-003**	50

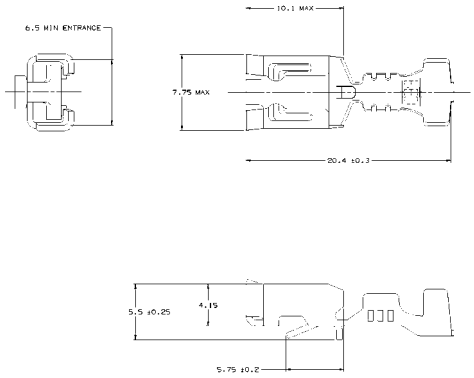
4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
RAM round male connector system	Sleeve	1.5–2.5	Ø 3.5	CuZn/frSn	B 72	**8KW 054 948-003**	50
		4.0-6,0	Ø 3.5	CuSn/frSn	B 215	**8KW 054 948-013**	50
	Plugs	1.5–2.5	Ø 3.5	CuSn/frSn	B 73	**8KW 054 947-003**	50
		4.0-6,0	Ø 3.5	CuSn/frSn	B 214	**8KW 054 947-013**	50
RSA round male connector system	Sleeve	1.5–2.5	Ø 1.6	CuSn/frSn	B 74	**8KW 054 950-003**	50
	Plugs	1.5–2.5	Ø 1.6	CuSn/frSn	B 75	**8KW 054 949-003**	50
							

4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
MDK5 flat receptacle  	Sleeve	0.5–1.0	2.8/4.8 x 0.8	CuSn/frSn	B 76	**8KW 054 942-003**	50
		1.5–2.5	2.8/4.8 x 0.8	CuSn/frSn	B 77	**8KW 054 941-003**	50
DFK 2 flat receptacle  	Sleeve	1.5–2.5	4.8 + 6.3 x 0.8	CuSn/frSn	B 78	**8KW 054 944-003**	50
		2.5–4.0	4.8 + 6.3 x 0.8	CuSn/frSn	B 79	**8KW 054 943-003**	50
AFK 4.8 Flat receptacle (claw rotated through 90° to DFK)  	Sleeve	0.5-1,0	4.8 + 6.3 x 0.8	CuFe/frSn	B 217	**8KW 172 971-002**	50
		0.5 - 1.0	4.8 x 6.3 x 0.8	CuFe/frSn		**8KW 172 971-003**	1000

4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Metri Pack flat receptacle 	Sleeve	1.0 - 2.0	6.3 x 0.8	CuZn / Sn	B 241	**8KW 863 904-003**	50
		2.5 - 4.0	6.3 x 0.8	CuZn / Sn	B 242	**8KW 863 904-013**	50

4.1.1 Uninsulated crimp connectors	Cross-section mm²	Eyelet hole Ø mm	Nominal size acc. to DIN	Contents in pcs.	Short designation	Part number	PU in pcs.
Solder-free conduit lugs DIN 46234	>1.0–2.5	3.2 (M3)	3–2.5	100	B 118	**8KW 744 708-003**	100
	>1.0–2.5	4.3 (M4)	4–2.5	100	B 119	**8KW 744 709-003**	100
	>1.0–2.5	5.3 (M5)	5–2.5	100	B 120	**8KW 744 710-003**	100
	>1.0–2.5	6.5 (M6)	6–2.5	100	B 121	**8KW 744 711-003**	100
	>2.5–6.0	4.3 (M4)	4–6	100	B 122	**8KW 744 712-003**	100
	>2.5–6.0	5.3 (M5)	5–6	100	B 123	**8KW 744 713-003**	100
	>2.5–6.0	6.5 (M6)	6–6	100	B 124	**8KW 744 714-003**	100
	>2.5–6.0	8.4 (M8)	8–6	50	B 125	**8KW 744 715-003**	50
	>6.0–10.0	5.3 (M5)	5–10	50	B 126	**8KW 744 716-003**	50
	>6.0–10.0	6.5 (M6)	6–10	50	B 127	**8KW 744 717-003**	50
	>6.0–10.0	8.4 (M8)	8–10	50	B 128	**8KW 744 718-003**	50
	>6.0–10.0	10.5 (M10)	10–10	50	B 129	**8KW 744 719-003**	50
	>10.0–16.0	5.3 (M5)	5–16	50	B 130	**8KW 744 720-003**	50
	>10.0–16.0	6.5 (M6)	6–16	50	B 131	**8KW 744 721-003**	50
	>10.0–16.0	8.4 (M8)	8–16	50	B 132	**8KW 744 722-003**	50
	>10.0–16.0	10.5 (M10)	10–16	50	B 133	**8KW 744 723-003**	50
	>16.0–25.0	6.5 (M6)	6–25	25	B 134	**8KW 744 724-003**	25
	>16.0–25.0	8.4 (M8)	8–25	25	B 135	**8KW 744 725-003**	25
	>16.0–25.0	10.5 (M10)	10–25	25	B 136	**8KW 744 726-003**	25
	>25.0–35.0	6.5 (M6)	6–35	25	B 137	**8KW 744 727-003**	25
	>25.0–35.0	8.4 (M8)	8–35	25	B 138	**8KW 744 728-003**	25
	>25.0–35.0	10.5 (M10)	10–35	25	B 139	**8KW 744 729-003**	25
	>35.0–50.0	8.4 (M8)	8–50	10	B 140	**8KW 744 730-003**	10
	>35.0–50.0	10.5 (M10)	10–50	10	B 141	**8KW 744 731-003**	10
	>35.0–50.0	13.0 (M12)	12–50	10	B 142	**8KW 744 732-003**	10
	>50.0–70.0	8.4 (M8)	8–70	10	B 148	**8KW 746 778-003**	10
	>50.0–70.0	10.5 (M10)	10–70	10	B 149	**8KW 746 779-003**	10
	>50.0–70.0	13.0 (M12)	12–70	10	B 153	**8KW 746 783-003**	10
	>70.0–95.0	10.5 (M10)	10–95	2	B 150	**8KW 746 780-003**	2
	>70.0–95.0	13.0 (M12)	12–95	2	B 151	**8KW 746 781-003**	2
	>95.0–120.0	13.0 (M12)	12–120	2	B 152	**8KW 746 782-003**	2

4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Contents in pcs.	Short designation	Part number	PU in pcs.
Flat receptacle	0.5–1.0	4.8 x 0.8	CuZn/bk	100	B 94	**8KW 744 828-003**	100
	0.75–1.5	6.3 x 0.8	CuZn/bk	100	B 51	**8KW 043 629-013**	100
	1.5–2.5	6.3 x 0.8	CuZn/Ag	100	B 92	**8KW 744 825-003**	100
	1.5–2.5	6.3 x 0.8	CuZn/bk	100	B 52	**8KW 043 630-013**	100
	1.5–2.5	6.3 x 0.8	CuZn/bk	1500		**8KW 043 630-014**	1500
	4.0–6.0	9.5 x 1.2	CuZn/bk	50	B 95	**8KW 744 787-003**	50
	0.5–1.5	6.3 x 0.8	CuSn/Sn	100	B 93	**8KW 744 827-003**	100

4.1.1 Uninsulated crimp connectors	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Flat receptacle with locking tag	0.5–1.0	2.8 x 0.8	**CuSn/Sn**	B 100	**8KW 744 817-003**	100
	0.5–1.0	4.8 x 0.8	**CuZn/Sn**	B 64	**8KW 733 815-003**	100
	0.5–1.0	6.3 x 0.8	**CuZn/bk**	B 103	**8KW 744 819-003**	100
	0.5–1.0	6.3 x 0.8	**CuZn/Ag**	B 243	**8KW 744 882-003**	100
	1.5–2.5	6.3 x 0.8	**CuZn/Sn**	B 54	**8KW 701 235-033**	100
	1.5–2.5	6.3 x 0.8	**CuZn/Sn**		**8KW 701 235-034**	1500
	1.5–2.5	6.3 x 0.8	**CuZn/Ag**	B 104	**8KW 744 820-003**	100
	Solder pin	6.3 x 0.8	**CuSn/frSn**		**8KW 719 874-007**	2500
	1.5–2.5	6.3 x 0.8	**CuSn/Ag**	B 105	**8KW 744 821-003**	100
Male blade connector	0.5–1.0	2.8 x 0.8	**CuZn/bk**	B 85	**8KW 744 752-003**	100
	0.5–1.0	6.3 x 0.8	**CuZn/Sn**	B 56	**8KW 043 635-013**	100
	1.5–2.5	6.3 x 0.8	**CuZn/bk**	B 86	**8KW 744 823-003**	100
Male blade connector with locking tag	0.5–1.0	2.8 x 0.8	**CuZn/Sn**	B 90	**8KW 744 834-003**	100
	0.5–1.0	6.3 x 0.8	**CuZn/frSn**	B 88	**8KW 744 832-003**	100
	1.5–2.5	6.3 x 0.8	**CuZn/frSn**	B 57	**8KW 048 056-033**	100
	1.5–2.5	6.3 x 0.8	**CuZn/Ag**	B 89	**8KW 744 833-003**	100

4. Cable connectors
4.1 Crimp connectors

4.1.1 Uninsulated crimp connectors	Cross-section mm²	Male connector dimensions mm	Material/ surface finish	Short designation	Part number	PU in pcs.
Piggy back spade connector	0.5–1.0	6.3 x 0.8	CuZn/bk	B 58	**8KW 701 671-003**	100
	1.5–2.5	6.3 x 0.8	CuZn/Sn	B 82	**8KW 744 885-003**	100
Male connector distributor, double		6.3 x 0.8	CuZn/bk	B 59	**8KW 043 636-003**	100
Male connector distributor, triple		6.3 x 0.8	CuZn/Sn	B 60	**8KW 700 144-003**	50
Coupling 45°		6.3 x 0.8 Ø 4.2	CuZn/Sn	B 213	**8KW 044 285-023**	100

4. Cable connectors
4.1 Crimp connectors

Assortment case	Designation	Part number Case	PU in pcs.
Contents of assortment case of uninsulated crimp connectors	Assortment case comprising various uninsulated connectors (quantity delivered as refill set deviates from the quantity in the original set, not all items can be refilled)	8KW 009 255-801	1

Contents of assortment case: uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Quantity in the assortment	refill	Short description	Part number	PU in pcs.
	Flat receptacle with locking tag	0.5–1.0	2.8 x 0.8	50	**Spare parts**	B 100	**8KW 744 817-003**	100
			4.8 x 0.8	50		B 64	**8KW 733 815-003**	100
			6.3 x 0.8	50		B 103	**8KW 744 819-003**	100
	Flat receptacle with locking tag	1.5–2.5	6.3 x 0.8	50		B 54	**8KW 701 235-033**	100
	Flat receptacle with locking tag, claw crosswise		6.3 x 0.8	20		B 105	**8KW 744 821-003**	100
	Male blade connector with locking tag	0.5–1.0	2.8 x 0.8	50		B 90	**8KW 744 834-003**	100
			6.3 x 0.8	50		B 88	**8KW 744 832-003**	100
	Male blade connector with locking tag	1.5–2.5	6.3 x 0.8	50		B 57	**8KW 048 056-033**	100
	Flat receptacle	0.5–1.0	4.8 x 0.8	50		B 94	**8KW 744 828-003**	100
		0.75–1.5	6.3 x 0.8	50		B 51	**8KW 043 629-013**	100
	Flat receptacle claw crosswise	0.5–1.5	6.3 x 0.8	20		B 93	**8KW 744 827-003**	100
	Flat receptacle	1.5–2.5	6.3 x 0.8	50		B 52	**8KW 043 630-013**	100
		4.0–6.0	9.5 x 1.2	50		B 95	**8KW 744 787-003**	50
	Male spade connector	1.5–2.5	6.3 x 0.8	50		B 86	**8KW 744 823-003**	100
	Male connector distributor, double		6.3 x 0.8	20		B 59	**8KW 043 636-003**	100
	Male connector distributor, triple		6.3 x 0.8	20		B 60	**8KW 700 144-003**	50
	Piggy back spade connector	1.5–2.5	6.3 x 0.8	20		B 82	**8KW 744 885-003**	100
	Male spade connector, 45°		6.3 x 0.8	20				
	Male blade connector, Ø 5.3 mm			20				
	Coupling			20				

4. Cable connectors
4.1.2 Insulated crimp connectors with shrink-on insulation

Purpose:

insulated Duraseal crimp connectors have an adhesive-coated shrinkable nylon cap that can be used to create a waterproof join between the cable and the contact. You do this by heating the nylon cap to around 135°C using a hot air gun (or other heat source). At this temperature the material of the cap firmly grasps the cable. You can then dispense with other forms of insulation (such as heat-shrinkable tubing or insulating tape).

Code colour red = crimp connectors for cable cross-sections 0.5–1.0 mm²
code colour blue = crimp connectors for cable cross-sections 1.5–2.5 mm²
code colour yellow = crimp connectors for cable cross-sections 4.0–6.0 mm²

Advantages:

- Cable connection and sealed insulation in one integrated product
- Wide-ranging assortment including all the usual contact variants

4.1.2 Insulated crimp connectors with shrink insulation (Duraseal)	Colour	Cross-section mm²	Insertion width mm/eyelet	Insulating material	Short designation	Part number	PU in pcs.
Flat receptacle fully insulated	red	0.5–1.0	2.8 x 0.5	Nylon	A 161	**8KW 744 761-003**	25
	red	0.5–1.0	4.8 x 0.5	Nylon	A 162	**8KW 744 762-003**	25
	red	0.5–1.0	6.3 x 0.8	Nylon	A 100	**8KW 732 566-003**	25
	blue	1.5–2.5	6.3 x 0.8	Nylon	A 101	**8KW 732 567-003**	25
	yellow	4.0–6.0	6.3 x 0.8	Nylon	A 163	**8KW 744 763-003**	25
Blade terminal	red	0.5–1.0	6.3 x 0.8	Nylon	A 102	**8KW 732 568-003**	25
	blue	1.5–2.5	6.3 x 0.8	Nylon	A 103	**8KW 732 569-003**	25
Ring connector	red	0.5–1.0	4.3 (M4)	Nylon	A 104	**8KW 732 570-003**	25
	red	0.5–1.0	5.3 (M5)	Nylon	A 106	**8KW 732 572-003**	25
	blue	1.5–2.5	4.3 (M4)	Nylon	A 105	**8KW 732 571-003**	25
	blue	1.5–2.5	5.3 (M5)	Nylon	A 107	**8KW 732 573-003**	25
	blue	1.5–2.5	6.5 (M6)	Nylon	A 109	**8KW 732 575-003**	25
	blue	1.5–2.5	8.4 (M8)	Nylon	A 111	**8KW 732 577-003**	25
	blue	1.5–2.5	10.5 (M10)	Nylon	A 154	**8KW 744 754-003**	25
	yellow	4.0–6.0	5.3 (M5)	Nylon	A 108	**8KW 732 574-003**	25
	yellow	4.0–6.0	6.5 (M6)	Nylon	A 110	**8KW 732 576-003**	25
	yellow	4.0–6.0	8.4 (M8)	Nylon	A 112	**8KW 732 578-003**	25
	yellow	4.0–6.0	10.5 (M10)	Nylon	A 155	**8KW 744 755-003**	25
Fork connector	blue	1.5–2.5	4.3 (M4)	Nylon	A 157	**8KW 744 757-003**	25
	blue	1.5–2.5	5.3 (M5)	Nylon	A 158	**8KW 744 758-003**	25

4. Cable connectors
4.1 Crimp connectors

4.1.2 Insulated crimp connectors with shrink insulation (Duraseal)	Colour	Cross-section mm²	Male connector dimensions mm	Insulating material	Short designation	Part number	PU in pcs.
Male bullet connector	■	0.5–1.0	Ø 4.0	Nylon	A 165	**8KW 744 765-003**	25
	■	1.5–2.5	Ø 5.0	Nylon	A 166	**8KW 744 766-003**	25
Female bullet connectors fully insulated	■	0.5–1.0	Ø 4.0	Nylon	A 167	**8KW 744 767-003**	25
	■	1.5–2.5	Ø 5.0	Nylon	A 168	**8KW 744 768-003**	25
Insulating splice	■	0.5–1.0		Nylon	A 113	**8KW 732 579-003**	25
	■	1.5–2.5		Nylon	A 114	**8KW 732 580-003**	25
	■	4.0–6.0		Nylon	A 115	**8KW 732 581-003**	25

4. Cable connectors
4.1 Crimp connectors

Assortment case	Designation	Part number Case	PU in pcs.
Contents of assortment case assortment of Duraseal crimp connectors	Case containing an assortment of Duraseal crimp connectors (quantity contained in refill set differs from the quantity in the original set)	8KW 009 253-801	1

Contents of assortment case assortment of Duraseal crimp connectors	Designation	Cross-section mm²	Insertion width mm/eyelet	Short designation	Quantity in the assortment	refill	Short description	Part number	PU in pcs.
	Insulating splice	0.5–1.0		A 113	15	**Spare parts**	A 113	**8KW 732 579-003**	25
		1.5–2.5		A 114	15		A 114	**8KW 732 580-003**	25
		4.0–6.0		A 115	15		A 115	**8KW 732 581-003**	25
	Flat receptacle	0.5–1.0	6.3 x 0.8	A 100	15		A 100	**8KW 732 566-003**	25
		1.5–2.5	6.3 x 0.8	A 101	15		A 101	**8KW 732 567-003**	25
	Blade terminal	0.5–1.0	6.3 x 0.8	A 102	15		A 102	**8KW 732 568-003**	25
		1.5–2.5	6.3 x 0.8	A 103	15		A 103	**8KW 732 569-003**	25
	Female bullet connector	1.5–2.5	Ø 5.0	A 168	15		A 168	**8KW 744 768-003**	25
	Male bullet connector	1.5–2.5	Ø 5.0	A 166	15		A 166	**8KW 744 766-003**	25
	Ring connector	1.5–2.5	M5	A 107	15		A 107	**8KW 732 573-003**	25
		1.5–2.5	M6	A 109	15		A 109	**8KW 732 575-003**	25
		1.5–2.5	M8	A 111	15		A 111	**8KW 732 577-003**	25
		4.0–6.0	M5	A 108	15		A 108	**8KW 732 574-003**	25
		4.0–6.0	M6	A 110	15		A 110	**8KW 732 576-003**	25
	Fork connector	1.5–2.5	M4	A 157	15		A 157	**8KW 744 757-003**	25
		1.5–2.5	M5	A 158	15		A 158	**8KW 744 758-003**	25

4. Cable connectors
4.1 Crimp connectors

Purpose:

Insulated crimp connectors are crimped using a tool and the appropriately coloured end in order to get a secure, permanent contact to the cable. The insulating material is made of either PVC (max. tolerable temperature 80°C) or nylon (max. 105°C).
The insulating sleeve is funnel-shaped to make it easier to insert the cable.

Code colour red = Crimping connector for cable cross-sections 0.5–1.0 mm²
Code colour blue= Crimping connector for cable cross-sections 1.5–2.5 mm²
Code colour yellow = Crimping connector for cable cross-sections 4.0–6.0 mm²

Advantages:

- Cable connection and insulation in one integrated product
- Wide-ranging assortment including all the usual contact variants

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Male connector dimensions mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
Flat receptacles								
	■	0.5–1.0	2.8 x 0.5	PVC	10	A 01	**8KW 705 393-812**	1
	■	0.5–1.0	2.8 x 0.5	PVC	100	A 50	**8KW 705 393-003**	100
	■	0.5–1.0	4.8 x 0.5	PVC	100	A 51	**8KW 705 392-003**	100
	■	0.5–1.0	6.3 x 0.8	PVC	15	A 03	**8KW 044 036-812**	1
	■	0.5–1.0	6.3 x 0.8	PVC	100	A 52	**8KW 044 036-003**	100
	■	0.5–1.0	6.3 x 0.8	PVC	1000		**8KW 044 036-004**	1000
	■	1.5–2.5	4.8 x 0.5	PVC	100	A 136	**8KW 744 697-003**	100
	■	1.5–2.5	4.8 x 0.8	PVC	100	A 137	**8KW 744 698-003**	100
	■	1.5–2.5	6.3 x 0.8	PVC	15	A 04	**8KW 044 022-822**	1
	■	1.5–2.5	6.3 x 0.8	PVC	100	A 53	**8KW 044 022-003**	100
	■	1.5–2.5	6.3 x 0.8	PVC	1000		**8KW 044 022-004**	1000
	■	1.5–3.0	7.7 x 0.8	PVC	50	A 55	**8KW 044 024-003**	50
	■	4.0–6.0	6.3 x 0.8	PVC	50	A 54	**8KW 044 023-003**	50
	■	4.0–6.0	6.3 x 0.8	PVC	1000		**8KW 044 023-004**	1000
	■	4.0–6.0	9.5 x 1.2	PVC	50	A 56	**8KW 700 142-003**	50
Flat receptacles, fully insulated								
	■	0.5–1.0	6.3 x 0.8	PVC	50	A 82	**8KW 708 373-003**	50
	■	0.5–1.0	6.3 x 0.8	PVC	1000		**8KW 708 373-004**	1000
	■	1.5–2.5	6.3 x 0.8	PVC	8	A 19	**8KW 708 374-812**	1
	■	1.5–2.5	6.3 x 0.8	PVC	50	A 83	**8KW 708 374-003**	50
	■	1.5–2.5	6.3 x 0.8	PVC	1000		**8KW 708 374-004**	1000
	■	4.0–6.0	6.3 x 0.8	PVC	50	A 173	**8KW 744 799-003**	50

4. Cable connectors
4.1 Crimp connectors

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Male connector dimensions mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
Blade terminal	red	0.5–1.0	2.8 x 0.8	PVC	100	A 138	**8KW 744 699-003**	100
	red	0.5–1.0	6.3 x 0.8	PVC	100	A 59	**8KW 702 796-003**	100
	blue	1.5–2.5	6.3 x 0.8	PVC	15	A 07	**8KW 044 288-812**	1
	blue	1.5–2.5	6.3 x 0.8	PVC	100	A 60	**8KW 044 288-003**	100
	yellow	4.0–6.0	6.3 x 0.8	PVC	50	A 139	**8KW 744 700-003**	50
Male blade connectors fully insulated	red	0.5–1.5	6.3 x 0.8	PVC	50	A 140	**8KW 744 703-003**	50
	blue	1.5–2.5	6.3 x 0.8	PVC	50	A 141	**8KW 744 704-003**	50
	yellow	4.0–6.0	6.3 x 0.8	PVC	25	A 142	**8KW 744 705-003**	25
for 8KV 744 858-003 to 8KV 744 860-003 (page 125)								
Piggy back spade connector	red	0.5–1.0	6.3 x 0.8	PVC	50	A 57	**8KW 700 143-003**	50
	blue	1.5–2.5	6.3 x 0.8	PVC	50	A 58	**8KW 044 032-003**	50
	blue	1.5–2.5	6.3 x 0.8	PVC	1000		**8KW 044 032-004**	1000
Male bullet connector	red	0.5–1.0	Ø 4.0	PVC	100	A 61	**8KW 044 040-003**	100
	red	0.5–1.0	Ø 4.0	PVC	1000		**8KW 044 040-004**	1000
	blue	1.5–2.5	Ø 5.0	PVC	100	A 62	**8KW 044 025-003**	100
	yellow	4.0–6.0	Ø 5.0	PVC	50	A 143	**8KW 744 733-003**	50
Female bullet connectors	red	0.5–1.0	Ø 4.0	PVC	10	A 10	**8KW 045 145-812**	1
	red	0.5–1.0	Ø 4.0	PVC	50	A 63	**8KW 045 145-003**	50
	blue	1.5–2.5	Ø 5.0	PVC	50	A 64	**8KW 044 026-003**	50
	yellow	4.0–6.0	Ø 5.0	PVC	50	A 144	**8KW 744 734-003**	50

4. Cable connectors
4.1 Crimp connectors

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Eyelet hole mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
Ring connector	■	0.5–1.0	3.2 (M3)	PVC	100	A 65	**8KW 044 275-003**	100
	■	0.5–1.0	4.3 (M4)	PVC	100	A 67	**8KW 044 276-003**	100
	■	0.5–1.0	5.3 (M5)	PVC	100	A 69	**8KW 044 291-003**	100
	■	0.5–1.0	6.5 (M6)	PVC	100	A 116	**8KW 744 772-003**	100
	■	0.5–1.0	8.4 (M8)	PVC	50	A 117	**8KW 744 773-003**	50
	■	0.5–1.0	10.5 (M10)	PVC	50	A 118	**8KW 744 774-003**	50
	■	1.5–2.5	3.7	PVC	100	A 66	**8KW 044 041-003**	100
	■	1.5–2.5	4.3 (M4)	PVC	100	A 68	**8KW 044 028-003**	100
	■	1.5–2.5	5.3 (M5)	PVC	100	A 70	**8KW 044 027-003**	100
	■	1.5–2.5	6.5 (M6)	PVC	12	A 15	**8KW 044 039-812**	1
	■	1.5–2.5	6.5 (M6)	PVC	100	A 72	**8KW 044 039-003**	100
	■	1.5–2.5	8.4 (M8)	PVC	50	A 74	**8KW 044 277-003**	50
	■	1.5–2.5	10.5 (M10)	PVC	50	A 119	**8KW 744 775-003**	50
	■	4.0–6.0	4.3 (M4)	PVC	50	A 120	**8KW 744 776-003**	50
	■	4.0–6.0	5.3 (M5)	PVC	50	A 71	**8KW 044 029-003**	50
	■	4.0–6.0	6.5 (M6)	PVC	50	A 73	**8KW 044 030-003**	50
	■	4.0–6.0	8.4 (M8)	PVC	50	A 75	**8KW 044 031-003**	50
	■	4.0–6.0	10.5 (M10)	PVC	50	A 76	**8KW 044 038-003**	50

4.1.3 Insulated crimp connectors	Colour	Cross-section in mm²	Eyelet hole mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
Open connector	■	0.5 - 1.0	3.2 (M3)	PVC	100	A 121	**8KW 744 777-003**	100
	■	0.5 - 1.0	4.3 (M4)	PVC	100	A 122	**8KW 744 778-003**	100
	■	0.5 - 1.0	5.3 (M5)	PVC	100	A 123	**8KW 744 779-003**	100
	■	0.5 - 1.0	6.5 (M6)	PVC	100	A 124	**8KW 744 780-003**	100
	■	1.2 - 2.5	4.3 (M4)	PVC	100	A 125	**8KW 744 782-003**	100
	■	1.5 - 2.5	5.3 (M5)	PVC	50	A 77	**8KW 044 282-003**	50
	■	1.5 - 2.5	6.5 (M6)	PVC	100	A 126	**8KW 744 783-003**	100
	■	4.0 - 6.0	5.3 (M5)	PVC	50	A 127	**8KW 744 784-003**	50
	■	4.0 - 6.0	6.5 (M6)	PVC	50	A 128	**8KW 744 785-003**	50
	■	4.0 - 6.0	8.4 (M8)	PVC	50	A 129	**8KW 744 786-003**	50
	■	1.5 - 2.5	5.3 (M5)	PVC	100	A 78	**8KW 044 037-003**	100

4. Cable connectors
4.1 Crimp connectors

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Male connector dimensions mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
Insulating splice	■	0.5–1.0		PVC	100	A 79	**8KW 044 280-003**	100
	■	0.5–1.0		PVC	1000		**8KW 044 280-004**	1000
	■	1.5–2.5		PVC	12	A 17	**8KW 044 033-812**	1
	■	1.5–2.5		PVC	100	A 80	**8KW 044 033-002**	100
	■	1.5–2.5		PVC	1000		**8KW 044 033-004**	1000
	■	4.0–6.0		PVC	50	A 81	**8KW 044 034-003**	50
Assorted cable connectors comprising: 5 x branch insulating screw connectors 8KV 744 859-003 (page 125) and blade terminals, fully insulated 8KW 744 704-003 (page 114)	■	1.0–2.5	6.3 x 0.8	PVC	10	I 11	**8KV 713 222-812**	1

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Eyelet hole mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
	■	0.5–1.0	3.2 (M3)	Nylon	100	A178	**8KW 178 042-002**	100
	■	0.5–1.0	4.3 (M4)	Nylon	100	A179	**8KW 178 042-012**	100
	■	0.5–1.0	5.3 (M5)	Nylon	100	A180	**8KW 178 042-022**	100
	■	0.5–1.0	6.5 (M6)	Nylon	100	A181	**8KW 178 042-032**	100
	■	0.5–1.0	8.4 (M8)	Nylon	50	A182	**8KW 178 042-042**	100
	■	0.5–1.0	10.5 (M10)	Nylon	50	A183	**8KW 178 042-052**	50
	■	1.5–2.5	3.7	Nylon	100	A184	**8KW 178 042-102**	100
	■	1.5–2.5	4.3 (M4)	Nylon	100	A185	**8KW 178 042-112**	100
	■	1.5–2.5	5.3 (M5)	Nylon	100	A186	**8KW 178 042-122**	100
	■	1.5–2.5	6.5 (M6)	Nylon	100	A187	**8KW 178 042-132**	100
	■	1.5–2.5	8.4 (M8)	Nylon	50	A188	**8KW 178 042-142**	50
	■	1.5–2.5	10.5 (M10)	Nylon	50	A189	**8KW 178 042-152**	50

4. Cable connectors
4.1 Crimp connectors

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Eyelet hole mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
	yellow	4.0–6.0	4.3 (M4)	Nylon	50	A190	**8KW 178 042-202**	50
	yellow	4.0–6.0	5.3 (M5)	Nylon	50	A191	**8KW 178 042-212**	50
	yellow	4.0–6.0	6.5 (M6)	Nylon	50	A192	**8KW 178 042-222**	50
	yellow	4.0–6.0	8.4 (M8)	Nylon	50	A193	**8KW 178 042-232**	50
	yellow	4.0–6.0	10.5 (M10)	Nylon	50	A194	**8KW 178 042-242**	50
Open connector	red	0.5–1.0	3.2 (M3)	Nylon	100	A201	**8KW 178 045-002**	100
	red	0.5–1.0	5.3 (M5)	Nylon	100	A202	**8KW 178 045-012**	100
	blue	1.5–2.5	5.3 (M5)	Nylon	50	A203	**8KW 178 045-102**	50
	blue	1.5–2.5	6.5 (M6)	Nylon	50	A204	**8KW 178 045-112**	50
	yellow	4.0–6.0	5.3 (M5)	Nylon	50	A205	**8KW 178 045-202**	50
	yellow	4.0–6.0	6.5 (M6)	Nylon	50	A206	**8KW 178 045-212**	50
	yellow	4.0–6.0	8.4 (M8)	Nylon	50	A207	**8KW 178 045-222**	50

4.1.3 Insulated crimp connectors	Colour	Cross-section mm²	Male connector dimensions mm	Insulating material	Contents (pcs)	Short designation	Part number	PU in pcs.
Pin connector	red	0.5–1.0	Ø 1.9	Nylon	100	A198	**8KW 178 044-002**	100
	blue	1.5–2.5	Ø 1.9	Nylon	100	A199	**8KW 178 044-012**	100
	yellow	4.0–6.0	Ø 2.7	Nylon	50	A200	**8KW 178 044-022**	50
Insulating splice	red	0.5–1.0		Nylon	100	A195	**8KW 178 043-002**	100
	blue	1.5–2.5		Nylon	50	A196	**8KW 178 043-012**	50
	yellow	4.0–6.0		Nylon	50	A197	**8KW 178 043-022**	50

4. Cable connectors
4.1 Crimp connectors

Assortment case of insulated crimp connectors	Designation	Part number Case	PU in pcs.
Contents of assortment case of insulated crimp connectors	Assortment case comprising: various crimping connectors, a branch connector, a coupling and a crimping pliers (quantity delivered as refill set deviates from the quantity in the original set)	**8KW 009 254-801**	1

Contents of assortment case of insulated crimp connectors	Designation	Cross-section mm²	Insertion width mm/eyelet	Quantity in the assortment	Refill	Short designation	Part number	PU in pcs.
	Female bullet connector	0.5–1.0	Ø 4.0	20	**Spare parts**	A 63	**8KW 045 145-003**	50
	Male bullet connector	0.5–1.0	Ø 4.0	20		A 61	**8KW 044 040-003**	100
	Flat receptacle	0.5–1.0	2.8 x 0.5	20		A 50	**8KW 705 393-003**	100
		0.5–1.0	6.3 x 0.8	20		A 52	**8KW 044 036-003**	100
	Flat receptacle fully insulated	0.5–1.0	6.3 x 0.8	20		A 82	**8KW 708 373-003**	50
	Flat receptacle	1.5–2.5	6.3 x 0.8	20		A 53	**8KW 044 022-003**	100
	Blade terminal	0.5–1.0	6.3 x 0.8	20		A 59	**8KW 702 796-003**	100
		1.5–2.5	6.3 x 0.8	20		A 60	**8KW 044 288-003**	100
	Ring connector	0.5–1.0	M4	20		A 67	**8KW 044 276-003**	100
		0.5–1.0	M5	20		A 69	**8KW 044 291-003**	100
		1.5–2.5	M4	20		A 68	**8KW 044 028-003**	100
		1.5–2.5	M5	20		A 70	**8KW 044 027-003**	100
		1.5–2.5	M6	20		A 72	**8KW 044 039-003**	100
		4.0–6.0	M5	20		A 71	**8KW 044 029-003**	50
		4.0–6.0	M6	20		A 73	**8KW 044 030-003**	50
	Insulating splice	1.5–2.5		20		A 80	**8KW 044 033-002**	100
	Open connector	1.5–2.5	M5	20		A 78	**8KW 044 037-003**	100
	Piggy back spade connector	1.5–2.5	2.8 x 0.5	20		A 58	**8KW 044 032-003**	50
	Branch cable connectors			20		I 50	**8KW 705 123-002**	25
	Coupling		6.3 x 0.8	20		A 84	**8KW 044 035-003**	25
	Crimping pliers			1			**8PE 002 006-001**	1

4. Cable connectors
4.1 Crimp connectors

Purpose:

Cable end ferrules prevent the individual wires of multi-wire copper cables from splaying-out, so making it easier to insert them into terminals. The ferrule is compressed onto the stripped end of the connector. The shape of the resulting ferrule may differ depending on the compression tool that was used.
The design and dimensions of range complies with DIN 46 228-4.
The material is made of copper with nickel-coated surface and a plastic sleeve made of PVC.

Advantages:

- Precise and well-fitting bundling of wire ends
- With insulating insertion guide
- Covers all standard cross-sections

4.1.4 Cable end ferrules	Colour	Cross-section mm²	overall length/ length of metal sleeve	Contents in pcs	Short designation	Part number	PU in pcs.
Cable end ferrules	■	0.5	14.0/8.0 mm	100	A 145	**8KW 744 839-003**	100
	■	0.75	14.0/8.0 mm	100	A 146	**8KW 744 840-003**	100
	■	1	14.6/8.2 mm	100	A 147	**8KW 744 841-003**	100
	■	1.5	14.6/8.2 mm	100	A 148	**8KW 744 842-003**	100
	■	2.5	15.2/8.2 mm	100	A 149	**8KW 744 843-003**	100
	■	4	16.5/9.0 mm	50	A 150	**8KW 744 844-003**	50
	■	6	20.0/12.0 mm	100	A 151	**8KW 744 845-003**	100
	□	10	21.5/12.0 mm	100	A 152	**8KW 744 846-003**	100
	■	16	22.2/12.0 mm	50	A 153	**8KW 744 847-003**	50

Purpose:

Alongside the various types of crimp connectors, solder connectors are another way of joining cables. This is done by inserting the stripped ends of the conductor into the connector and then treating it with pre-heated fluid solder. When the solder has cooled down you have a secure bonded connection.

For temperature-sensitive applications for which conventional soldering is not an alternative you can use a shrink solder connector, This is heated using a hot air gun, which causes the integrated solder ring to melt and the two lateral adhesive-coated ring seals to shrink.
After heating, the connection is soldered, fully insulated and subject to no mechanical strain.
This is suitable as a high-quality connection for individual conductors or for earthing coaxial cable shields.

Advantages:

- Wide range of products for all common cable cross-sections
- Reliable connection solution even for temperature-sensitive applications

4.2.1 CWT solder connectors	Colour	Cross-section mm²	Ø max. insulation mm	Contents in pcs.	Short designation	Part number	PU in pcs.
CWT solder connectors	transparent	2 x 0.3-0.8	1.7	50	A 177	**8KW 744 890-013**	50
	red	2 x 0.8-2.0	2.7	50	A 174	**8KW 744 887-013**	50
	blue	2 x 2.0-4.0	4.5	50	A 175	**8KW 744 888-013**	50
	yellow	2 x 4.0-6.0	6	50	A 176	**8KW 744 889-013**	50

4.2.2 Solder connectors compliant with DIN 46211	Cross-section mm²	Eyelet hole Ø mm	Nominal size acc. to DIN	Contents in pcs.	Short designation	Part number	PU in pcs.
Solder connectors compliant with DIN 46211	>1.0–2.5	5.3 (M5)	5–2.5	100	B 219	**8KW 177 784-002**	100
	>1.0–2.5	6.5 (M6)	6–2.5	100	B 220	**8KW 177 784-012**	100
	>2.5–6.0	6.5 (M6)	6–6	50	B 221	**8KW 177 784-102**	50
	>2.5–6.0	8.4 (M8)	8–6	50	B 222	**8KW 177 784-112**	50
	>2.5–6.0	10.5 (M10)	10–6	50	B 223	**8KW 177 784-122**	50
	>6.0–10.0	6.5 (M6)	6–10	25	B 224	**8KW 177 784-202**	25
	>6.0–10.0	8.4 (M8)	8–10	25	B 225	**8KW 177 784-212**	25
	>6.0–10.0	10.5 (M10)	10–10	25	B 226	**8KW 177 784-222**	25

4.2.2 Solder connectors compliant with DIN 46211	Cross-section mm²	Eyelet hole Ø mm	Nominal size acc. to DIN	Contents in pcs.	Short designation	Part number	PU in pcs.
Solder connectors compliant with DIN 46211	>10.0–16.0	6.5 (M6)	6–16	20	B 227	**8KW 177 784-302**	20
	>10.0–16.0	8.4 (M8)	8–16	20	B 228	**8KW 177 784-312**	20
	>10.0–16.0	10.5 (M10)	10–16	20	B 229	**8KW 177 784-322**	20
	>10.0–16.0	13.0 (M12)	12–16	20	B 230	**8KW 177 784-332**	20
	>16.0–25.0	8.4 (M8)	8–25	10	B 231	**8KW 177 784-402**	10
	>16.0–25.0	10.5 (M10)	10–25	10	B 232	**8KW 177 784-412**	10
	>16.0–25.0	13.0 (M12)	12–25	10	B 233	**8KW 177 784-422**	10
	>10.0–16.0	13.0 (M12)	12–16	20	B 230	**8KW 177 784-332**	20
	>25.0–35.0	8.4 (M8)	8–35	10	B 234	**8KW 177 784-502**	10
	>25.0–35.0	10.5 (M10)	10–35	10	B 235	**8KW 177 784-512**	10
	>25.0–35.0	13.0 (M12)	12–35	10	B 236	**8KW 177 784-522**	10
	>35.0–50.0	10.5 (M10)	10–50	5	B 237	**8KW 177 784-602**	5
	>35.0–50.0	13.0 (M12)	12–50	5	B 238	**8KW 177 784-612**	5
	>50.0–70.0	10.5 (M10)	10–70	5	B 239	**8KW 177 784-702**	5
	>50.0–70.0	13.0 (M12)	12–70	5	B 240	**8KW 177 784-712**	5

Product details

Purpose:

When you have to join up a number of different multi-wire cables it is all too easy to lose track of them. In situations like this, HELLA's **cable junction boxes** offer a secure and easy bundling solution to keep them tidy. Its lockable fireproof design gives the individual wires the necessary protection.

Advantages:

- Compact design
- Easy and reliable to use
- Various sizes and contact solutions

4.3 Cable junction boxes	Description	Protective class	Di mensions	Pin	Contents in pcs.	Part number	PU in pcs.
Cable junction boxes	Cable junction box, with threaded terminal end for cables up to 6 mm² = Ø 4.3 mm	IP 52	125 x 73 x 43	6-pole	1	**8KV 002 142-031**	1
	Cable junction box, with threaded terminal end for cables up to 6 mm² = Ø 3.5 mm	IP 52	125 x 73 x 43	8-pole	1	**8KV 002 143-031**	1

4. Cable connectors
4.3 Cable junction boxes

4.3 Cable junction boxes	Description	Protective class	Di mensions	Pin	Contents in pcs.	Part number	PU in pcs.
Cable junction boxes	Cable junction box with 8 x 2 blade terminal connections (6.3 x 0.8 mm)	IP 52	125 x 73 x 43	8-pole	1	**8KV 002 144-031**	1
	Cable junction box with 8 x 4 blade terminal connections (6.3 x 0.8 mm)	IP 52	125 x 73 x 43	8-pole	1	**8KV 002 145-031**	1
Cable junction boxes	Cable junction box, with threaded terminal end for cables up to 6 mm² = Ø 3.5 mm	IP 52	140 x 90 x 58	16-pole	1	**8KV 004 258-031**	1
	Cable junction box with 8 x 4 blade terminal connections (6.3 x 0.8 mm)	IP 52	140 x 90 x 58	8-pole	1	**8KV 004 259-031**	1

4. Cable connectors
4.4 Other cable connectors

4.4 Cable connectors	Colour	Cross-section mm²	Contents in pcs.	Short designation	Part number	PU in pcs.
Branch cable connectors	red	0.3–0.75	25	I 52	**8KV 715 923-003**	25
	blue	0.8–2.0	5	I 01	**8KV 705 123-813**	1
	blue	0.8–2.0	25	I 50	**8KV 705 123-002**	25
	blue	0.8–2.0	1000		**8KV 705 123-004**	2500
	yellow	3.3–5.2	10	I 51	**8KV 712 169-003**	10
	red	0.5–1.0	50	I 61	**8KV 744 858-003**	50
	blue	1.5–2.5	50	I 62	**8KV 744 859-003**	50
	yellow	4.0–6.0	25	I 63	**8KV 744 860-003**	25

	Description/Colour	Dimensions	Male connector dimensions mm	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
PVC male spade branch connector	transparent	54 x 21 x 7	6.3 x 0.8		10	I 57	**8KV 002 135-821**	1
Cable connectors	transparent	28 x 11.5 x 7.3	6.3 x 0.8	1-pole	25	A 84	**8KW 044 035-003**	25
	transparent	50 x 20 x 6.4	6.3 x 0.8	2-pole	10	56	**8KW 003 124-811**	1
	transparent	147.8 x 28 x 7	6.3 x 0.8	12-pole	10		**8KV 002 132-001**	10
		142 x 42 x 7	6.3 x 0.8	12-pole	10		**8KV 002 133-001**	10
	8 x 4 blade terminal connections (6.3 x 0.8 mm)	68 x 40 x 22	6.3 x 0.8		1		**8KV 003 284-001**	1
Lustre terminals	with solid brass terminals for cables up to 2.5 mm²			12-pole	10		**8KV 002 137-001**	10
	for cables up to 4 mm²			12-pole	10		**8KV 002 139-001**	10
	for cables up to 10 mm²			12-pole	10		**8KV 002 140-001**	10
	for cables up to 16 mm²			12-pole	10		**8KV 002 141-001**	10

Product details

Purpose:

SUPERSEAL plug-type connectors comply with IEC 529 regulations and with DIN ISO 40050 and come with protection class IP 67, which offers the maximum level of water and dust proofing. These qualities mean that SUPERSEAL connectors will be suitable wherever adverse pressure or moisture conditions take other connector systems beyond the limits of their usefulness.

Advantages:

- OEM quality
- Reliable electrical connection
- Maximum protection against outside influences

4.5.1 SUPERSEAL connectors	Description/Colour	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
SUPERSEAL connector sets	2 each of male pin contacts 1.0–1.5 mm², female socket contacts 1.0–1.5 mm², plus 2 individual cable seals each	1-pole	10	B 03	**8KW 744 805-801**	1
	3 each of male pin contacts 1.0–1.5 mm² and female socket contacts 1.0–1.5 mm², plus 4 individual cable seals each and 2 blind plugs	2-pole	18	B 04	**8KW 744 806-801**	1

4.5.1 SUPERSEAL connectors	Description/Colour	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
	4 each of male pin contacts 1.0–1.5 mm² and female socket contacts 1.0–1.5 mm², plus 6 individual cable seals each and 4 blind plugs	3-pole	26	B 05	**8KW 744 807-801**	1
	5 each of male pin contacts 1.0–1.5 mm² and female socket contacts 1.0–1.5 mm², plus 8 individual cable seals each and 6 blind plugs	4-pole	34	B 06	**8KW 744 808-801**	1
	6 each of male pin contacts 1.0–1.5 mm² and female socket contacts 1.0–1.5 mm², plus 10 individual cable seals each and 8 blind plugs	5-pole	42	B 07	**8KW 744 809-801**	1
	7 each of male pin contacts 1.0–1.5 mm² and female socket contacts 1.0–1.5 mm², plus 12 individual cable seals each and 10 blind plugs	6-pole	50	B 08	**8KW 744 810-801**	1

4. Cable connectors
4.5 Female and male connector housings

4.5.1 SUPERSEAL connectors	Description/Colour	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
SUPERSEAL connector	Male pin housing	1-pole	10		**8JA 746 183-012**	10
	Female connector housing	1-pole	10		**8JA 746 184-012**	10
	Male pin housing	2-pole	10		**8JA 746 183-022**	10
	Female connector housing	2-pole	10		**8JA 746 184-022**	10
	Male pin housing	3-pole	10		**8JA 746 183-032**	10
	Female connector housing	3-pole	10		**8JA 746 184-032**	10
	Male pin housing	4-pole	10		**8JA 746 183-042**	10
	Female connector housing	4-pole	10		**8JA 746 184-042**	10

4. Cable connectors
4.5 Female and male connector housings

4.5.1 SUPERSEAL connectors	Description/Colour	Pin	Contents in pcs.	Short designation	Part number	PU in pcs.
SUPERSEAL connector	Male pin housing	5-pole	10		**8JA 746 183-052**	10
	Female connector housing	5-pole	10		**8JA 746 184-052**	10
	Male pin housing	6-pole	10		**8JA 746 183-062**	10
	Female connector housing	6-pole	10		**8JA 746 184-062**	10
	Male pin contact	1.0–1.5 mm²	50	B 143	**8KW 744 836-002**	50
	Female contact	1.0–1.5 mm²	50	B 144	**8KW 744 837-002**	50
	Strand insulation	Ø 1.8–2.4 mm	50	B 145	**9GD 746 185-002**	50
		Ø 2.6–3.3 mm	50	B 146	**9GD 746 186-002**	50
	Blind plug		50	B 147	**9GD 746 187-002**	50

4. Cable connectors
4.5 Female and male connector housings

SUPERSEAL connectors	Designation	Part number Case	PU in pcs.
Contents of assortment case SUPERSEAL plug housing assortment	Assortment case comprising various SUPERSEAL connectors, male/female contacts, individual cable seals and blind plugs (quantity delivered as refill set deviates from the quantity in the original set)	**8JA 009 256-801**	1

Contents of assortment case SUPERSEAL plug housing assortment	Designation	Cross-section mm²	Quantity in the assortment
	Individual wire seal	1.8–2.4	100
	Blind plug		100
	Male pin contact	1.0–1.5	100
	Female contact	1.0–1.5	100
	Male connector housing, 1-pole		5
	Female socket housing, 1-pole		5
	Male connector housing, 2-pole		5
	Female socket housing, 2-pole		5
	Male connector housing, 3-pole		5
	Female socket housing, 3-pole		5
	Male connector housing, 4-pole		5
	Female socket housing, 4-pole		5
	Male connector housing, 5-pole		5
	Female socket housing, 5-pole		5
	Male connector housing, 6-pole		5
	Female socket housing, 6-pole		5

Refill	Short designation	Part number	PU in pcs.
Spare parts	B 145	**9GD 746 185-002**	50
	B 147	**9GD 746 187-002**	50
	B 143	**8KW 744 836-002**	50
	B 144	**8KW 744 837-002**	50
		8JA 746 183-012	10
		8JA 746 184-012	10
		8JA 746 183-022	10
		8JA 746 184-022	10
		8JA 746 183-032	10
		8JA 746 184-032	10
		8JA 746 183-042	10
		8JA 746 184-042	10
		8JA 746 183-052	10
		8JA 746 184-052	10
		8JA 746 183-062	10
		8JA 746 184-062	10

Product details

Purpose:

Female and male connector housings offer an easy way of protecting uninsulated cable connections from external influences.
This assortment includes housings for standardised uninsulated crimp connectors with locking tag and for the round plug systems CONI and Mate'n'Lock.

Advantages:

- Simple protection solution for contact systems
- Easy and reliable to use

4.5.2 Female and male connector housings	Contacts	Pin	Contents (pcs)	Part number	PU in pcs.
Flat receptacle for female blade connectors	1 Flat receptacle 6.3 mm	1-pole	10	**8JD 008 151-001**	10
	2 female spade connectors 6.3 mm	2-pole	10	**8JD 008 151-011**	10
	2 female spade connectors 6.3 mm	2-pole	10	**8JD 008 151-021**	10

4. Cable connectors
4.5 Female and male connector housings

4.5.2 Female and male connector housings	Contacts	Pin	Contents (pcs)	Part number	PU in pcs.
Receptacle housing for flat receptacles	3 flat receptacles 6.3 mm	3-pole	10	**8JD 008 151-031**	10
	4 flat receptacles 6.3 mm	4-pole	10	**8JD 008 151-041**	10
	6 flat receptacles 6.3 mm	6-pole	10	**8JD 008 151-051**	10
	8 flat receptacles 6.3 mm	8-pole	10	**8JD 008 151-061**	10
Male connector for flat receptacles	1 male spade connector 6.3 mm	1-pole	10	**8JD 008 152-001**	10
	2 male spade connectors 6.3 mm	2-pole	10	**8JD 008 152-011**	10
	2 male spade connectors 6.3 mm	2-pole	10	**8JD 008 152-021**	10
	3 male spade connectors 6.3 mm	3-pole	10	**8JD 008 152-031**	10
	4 male spade connectors 6.3 mm	4-pole	10	**8JD 008 152-041**	10
	6 male spade connectors 6.3 mm	6-pole	10	**8JD 008 152-051**	10
	8 male spade connectors 6.3 mm	8-pole	10	**8JD 008 152-061**	10

4.5.2 Female and male connector housings	Description	Pin	Contents (pcs)	Part number	PU in pcs.
CONI round male connector system	Male pin housing	3-pole	10	**8KW 744 851-003**	10
	Male pin housing	6-pole	10	**8KW 744 852-003**	10
	Male pin housing	12-pole	10	**8KW 744 853-003**	10
	Male pin housing	15-pole	10	**8KW 744 886-003**	10
	Female connector housing	3-pole	10	**8KW 744 854-003**	10
	Female connector housing	6-pole	10	**8KW 744 855-003**	10
	Female connector housing	12-pole	10	**8KW 744 857-003**	10
	Female connector housing	15-pole	10	**8KW 744 856-003**	10

4. Cable connectors
4.5 Female and male connector housings

4.5.2 Female and male connector housings	Description	Pin	Contents (pcs)	Part number	PU in pcs.
Mate'n'Lock plug systems	Male pin housing	3-pole	10	**8JA 180 663-002**	10
	Male pin housing	6-pole	10	**8JA 180 663-012**	10
	Male pin housing	12-pole	10	**8JA 180 663-022**	10
	Male pin housing	15-pole	10	**8JA 180 663-032**	10
	Female connector housing	3-pole	10	**8JA 180 664-002**	10
	Female connector housing	6-pole	10	**8JA 180 664-012**	10
	Female connector housing	12-pole	10	**8JA 180 664-022**	10
	Female connector housing	15-pole	10	**8JA 180 664-032**	10

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5. Insulation & bundling
5.1 Cable straps with edge clips

Product details

Purpose:

Fixing a bundle of conductors often takes more than just a cable tie. Our cable straps with integrated edge clips offer a complete fast and easy solution with a high retaining force.

They are weatherproof, flame-resistant and resistant to dilute organic acids, oils, fuel, seawater, solvents and grease. They offer perfect support for even the tiniest cross-section bundle, so fixing calls for no additional padding other other aids.

Advantages:

- Complete fastening in a single product
- Suitable for numerous positionings and edge thicknesses
- Powerful specification with OEM references

Sample applications:

5. Insulation & bundling
5.1 Cable straps with edge clips

5.1 Cable straps with edge clips	L x W mm	Depth of profile	Colour	Capacity in mm	Contents in pcs.	Short designation	Part number	PU in pcs.
Cable straps	200 x 4.8	0.7 - 3.0 mm	■	Ø 48	100		**8HL 185 549-001**	100
	200 x 4.8	0.7 - 3.0 mm	■	Ø 48	100		**8HL 185 549-011**	100
	200 x 4.8	0.7 - 3.0 mm	■	Ø 48	100		**8HL 185 549-021**	100
	200 x 4.8	0.7 - 3.0 mm	■	Ø 48	100		**8HL 185 549-031**	100
	200 x 4.8	3.0 - 6.0 mm	■	Ø 48	100		**8HL 185 549-041**	100
	200 x 4.8	3.0 - 6.0 mm	■	Ø 48	100		**8HL 185 549-051**	100
	200 x 4.8	3.0 - 6.0 mm	■	Ø 48	100		**8HL 185 549-061**	100
	200 x 4.8	3.0 - 6.0 mm	■	Ø 48	100		**8HL 185 549-071**	100

5. Insulation & bundling
5.2 Cable straps

Purpose:

Cable straps facilitate the fast attachment and bundling of cables, wiring harnesses and numerous other components. Our system, which has remained virtually unaltered for decades, is simple, cheap and universal in equal measure.

Advantages:

- Comprehensive assortment including numerous lengths and widths
- In each case either black or natural
- Additional fixing elements further broaden the range of possible applications

5.4 Cable straps	L x W mm	Colour	Capacity mm	Contents in pcs.	Short designation	Part number	PU in pcs.
	100 x 2.5	□	Ø 22	100	E 01	**8HL 707 877-002**	100
	100 x 2.5	■	Ø 22	100	E 02	**8HL 717 962-001**	100
	160 x 4.8	□	Ø 36	100	E 03	**8HL 707 877-081**	100
	160 x 4.8	■	Ø 36	100	E 04	**8HL 717 962-161**	100
	140 x 3.6	□	Ø 33	100	E 05	**8HL 707 877-012**	100
	140 x 3.6	■	Ø 33	100	E 06	**8HL 717 962-011**	100
	200 x 4.8	□	Ø 48	100	E 07	**8HL 707 877-022**	100
	200 x 4.8	■	Ø 48	100	E 08	**8HL 717 962-021**	100
	200 x 2.5	□	Ø 49	100	E 09	**8HL 707 877-121**	100
	200 x 2.5	■	Ø 49	100	E 10	**8HL 717 962-131**	100
	200 x 7.6	■	Ø 50	100	E 11	**8HL 717 962-061**	100
	200 x 3.6	□	Ø 55	100	E 12	**8HL 707 877-091**	100
	200 x 3.6	■	Ø 55	100	E 13	**8HL 717 962-171**	100
	292 x 7.6	■	Ø 77	100	E 14	**8HL 717 962-111**	100
	292 x 3.6	□	Ø 75	100	E 15	**8HL 707 877-101**	100
	292 x 3.6	■	Ø 75	100	E 16	**8HL 717 962-141**	100
	280 x 4.8	□	Ø 76	100	E 17	**8HL 707 877-041**	100
	280 x 4.8	■	Ø 76	100	E 18	**8HL 717 962-031**	100
	368 x 4.8	□	Ø 100	100	E 19	**8HL 707 877-032**	100
	368 x 4.8	■	Ø 100	100	E 20	**8HL 717 962-041**	100

5.4 Cable straps	L x W mm	Colour	Capacity mm	Contents in pcs.	Short designation	Part number	PU in pcs.
	368 x 7.6	□	Ø 102	100	E 21	**8HL 707 877-051**	100
	368 x 7.6	■	Ø 102	100	E 22	**8HL 717 962-051**	100
	430 x 4.8	□	Ø 120	100	E 23	**8HL 707 877-141**	100
	430 x 4.8	■	Ø 120	100	E 24	**8HL 717 962-181**	100
	580 x 13.0	□	Ø 152	50	E 25	**8HL 707 877-131**	50
	612 x 9.0	■	Ø 194	50	E 26	**8HL 717 962-121**	50

5.4 Cable straps	Designation	Contents (pcs)	Short designation	Part number	PU in pcs.
Accessories	Cable clip for cables up to Ø 7.1 mm, size 25.4 x 25.4 x 10.4 mm	100	E 27	**8HL 717 964-001**	100
	Natural colour adhesive pad for sticking harnesses to level, smooth, grease-free body parts and walls, for additional fixing you can use an M5 bolt; (without cable straps) size 27.7 x 27.7 x 5.7 mm	100	E 29	**8HL 707 879-012**	100
	Expansion bolts for cable straps up to 4.8 mm, hole diameter: 6.5 mm thickness of metal plate: 0.7 - 2.5 mm	100	E 52	**8HL 707 878-012**	100
	Expansion bolts for cable straps up to 4.8 mm, hole diameter: 6.5 mm thickness of metal plate: 2.5 - 4.0 mm	100	E 53	**8HL 707 878-022**	100

5. Insulation & bundling
5.3 Removable cable straps

Product details

Purpose:

Cable straps facilitate the fast attachment and bundling of cables, wiring harnesses and numerous other components. This special removable variant can be used a number of times and is ideally suitable for temporary fastenings, such as fixing irritating cable groups out of the way when servicing a vehicle.

Advantages:

- Multiple-use loadable fastener solution
- Various lengths

5.3 Removable cable straps	L x W mm	Colour	Capacity in mm	Contents in pcs.	Short designation	Part number	PU in pcs.
Removable cable straps	150 x 7.6	■	Ø 35	50	E47	**8HL 717 962-201**	50
	200 x 7.6	■	Ø 50	50	E48	**8HL 717 962-211**	50
	250 x 7.6	■	Ø 70	50	E49	**8HL 717 962-221**	50
	300 x 7.6	■	Ø 90	50	E50	**8HL 717 962-231**	50
	400 x 7.6	■	Ø 100	50	E51	**8HL 717 962-241**	50

5. Insulation & bundling
5.4 Driller / 5.5 Cable clips / 5.6 Corrugated pipes

The driller: Probably the fastest way to bundle and fasten cables.

5.4 Driller	Bundle Ø	Contents (pcs)	Short designation	Part number	PU in pcs.
Accessories	10.2	100		**8HL 177 884-002**	100
	14.0	100		**8HL 177 884-012**	100
	19.0	100		**8HL 177 884-022**	100

Chassis cable clips for frame thickness 3–6 mm, length of clip leg: 21 mm, contains no hexavalent chromium

5.5 Cable clips	Description	Contents (pcs)	Short designation	Part number	PU in pcs.
Chassis cable clips	Cable clip, 43 mm long	100		**8HS 071 414-001**	100
	Cable clip, 52.5 mm long	100		**8HS 071 415-001**	100

The **corrugated tubes** are used for bundling cables and protecting them from dynamic loads and other external influences. The slotted version makes it easier to thread the cable in, whereas the closed version provides better protection. The polyamide version also meets ADR requirements.

- Usage temperature: –40°C to +140°C (briefly +160°C)
- hardly flammable
- halogen-free
- UV-resistant

5.6 Corrugated pipes	Nominal ID	Inner diameter	Outer diameter	Material	Contents in pcs.	Part number	PU in pcs.
Slotted corrugates pipes	7.5	6.7	10	PP	50	**8JR 177 882-002**	50
	10	9.9	13	PP	50	**8JR 177 882-012**	50
	13	12.7	15.8	PP	50	**8JR 177 882-022**	50
	17	16.6	21.2	PP	50	**8JR 177 882-032**	50
	22	21.3	25.4	PP	50	**8JR 177 882-042**	50
	26	25.8	31.2	PP	50	**8JR 177 882-052**	50
	37	36	42.4	PP	25	**8JR 177 882-062**	25

5. Insulation & bundling
5.6 Corrugated pipes / 5.7 Spiral tape

5.6 Corrugated pipes	Nominal ID	Inner diameter	Outer diameter	Material	Contents in pcs.	Part number	PU in pcs.
Corrugated tubes, non-slit	7.5	6.7	10	PP	50	**8JR 177 883-002**	50
	10	9.9	13	PP	50	**8JR 177 883-012**	50
	13	12.7	15.8	PP	50	**8JR 177 883-022**	50
	17	16.6	21.2	PP	50	**8JR 177 883-032**	50
	22	21.3	25.4	PP	50	**8JR 177 883-042**	50
	26	25.8	31.2	PP	50	**8JR 177 883-052**	50
	37	36	42.4	PP	25	**8JR 177 883-062**	25
Corrugated tubes non-slit, ADR-suitable	7.5	6.7	10	PA	50	**8JR 178 252-002**	50
	10	9.9	13	PA	50	**8JR 178 252-012**	50
	13	12.7	15.8	PA	50	**8JR 178 252-022**	50
	17	16.6	21.2	PA	50	**8JR 178 252-032**	50
	22	21.3	25.4	PA	50	**8JR 178 252-042**	50
	37	36	42.4	PA	25	**8JR 178 252-052**	25

Spiral strips are used for the bundling of cables, wires or hoses. The advantage over corrugated pipes is their greater flexibility, allowing cables to be routed in and out of anywhere with no difficulty.

5.7 Spiral tape	Bundle range in mm	Inner diameter	Outer diameter	Helical width	Contents in pcs.	Part number	PU in pcs.
	10–50	4	5	7	10	**8JR 178 587-002**	10
	20–65	9	10.5	13.9	10	**8JR 178 587-012**	10
	25–100	15	17	18.2	10	**8JR 178 587-022**	10
	30–130	20	23	19.6	10	**8JR 178 587-032**	10

Purpose:

Adhesive insulating tape is made of non-conductive material, making it suitable for numerous application in the area of vehicle repairs without risking any deleterious effects on the onboard electrical system. Whether it be bundling, fastening, temporary insulation or simple colour coding – the traditional and well-tried all-purpose system always reliably does the trick. There are now numerous special variants that are especially suitable for some particular area of application.

Advantages:

- Varied assortment of different lengths, widths and materials
- Robust and reliable
- For numerous applications

5.8 Insulating tapes	Description/Material	Colour	Length	Width in mm	Thickness in mm	Temperature range °C	Contents in pcs.	Part number	PU in pcs.
	PVC	■	10 m	15	0.15	–10°C to +105°C	2	**9MJ 707 869-852**	1
	PVC	■	10 m	15	0.15	–10°C to +105°C	10	**9MJ 707 869-013**	10
	PVC	□	10 m	15	0.15	–10°C to +105°C	10	**9MJ 707 870-013**	10
	PVC	■	10 m	15	0.15	–10°C to +105°C	10	**9MJ 707 871-013**	10
	PVC	■	10 m	15	0.15	–10°C to +105°C	10	**9MJ 707 873-013**	10
	PVC	■	10 m	15	0.15	–10°C to +105°C	10	**9MJ 707 874-013**	10
	PVC	■	10 m	15	0.15	–10°C to +105°C	10	**9MJ 707 875-013**	10
	PVC	■	4.5 m	15	0.15	–10°C to +105°C	10	**9MJ 707 869-003**	10
	PVC	■	4.5 m	15	0.15	–10°C to +105°C	10	**9MJ 707 872-003**	10
	PVC	■	4.5 m	15	0.15	–10°C to +105°C	10	**9MJ 707 875-003**	10
	PVC	■	25 m	15	0.15	–10°C to +105°C	10	**9MJ 186 375-003**	10

5. Insulation/Bundling
5.8 Insulating tapes

5.8 Insulating tapes	Description/Material	Colour	Length	Width in mm	Thickness in mm	Temperature range °C	Contents in pcs.	Part number	PU in pcs.
	Self-sealing adhesive tape, tear strength >20.0 N/cm; for repairing damaged cable sheathing	■	5 m	19	1.0	–40°C to +105°C	1	**9MJ 735 430-001**	1
	Fabric tape (Teflon tape)	□	12 m	12	0.1	-20°C to + 125°C	10	**9XX 734 570-001**	10
	dirt-repellent, good media resistance polyester fabric	■	25 m	19	0.17	-40°C to +125°C	1	**9MJ 176 267-001**	1
	Flap/abrasion protection for taping harnesses nonwoven polyester fabric	■	25 m	19	0.3	-40°C to +105°C	1	**9MJ 176 269-001**	1
	especially suitable for repairs and insulating work in unfavourable weather conditions PVC	■	20 m	19	0.2	–20°C to +105°C	1	**9MJ 176 270-001**	1
	excellent media resistance, increased stability at high and low temperatures, suitable for working in the engine compartment PVC	■	33 m	19	0.15	–40°C to +125°C	1	**9MJ 176 271-001**	1
	High quality all-purpose assembly adhesive tape for masking, fastening and sealing PE fabric	■	50 m	19	0.18	–40°C to +80°C	1	**9MJ 186 375-011**	1

Product details

Purpose:

Heat-shrinkable tubing are an excellent way of sealing and insulating connections and crimp contacts or repairing damaged cable harnesses. Their wide range of colours means that they are also suitable for bundling and marking purposes. A variety of shrinkage factors are available, with or without adhesive pre-applied to the inner surface.

Advantages:

- Various lengths, diameters and shrinkage factors
- Wide range of applications
- Self-extinguishing

5.9 Heat shrink hoses	Shrink rate	Colour	Length	Diameter in mm	Minimum shrinkage temperature	Temperature range °C	Contents in pcs.	Part number	PU in pcs.
Heat shrink hoses off the roll	2 : 1	■	4.0 m	Ø 25.4	120°C	–55°C to +125°C	1	**9MJ 007 825-071**	1
		■	5.0 m	Ø 19.1			1	**9MJ 007 825-041**	1
		■	6.5 m	Ø 9.5			1	**9MJ 007 825-021**	1
		■	6.5 m	Ø 12.7			1	**9MJ 007 825-051**	1
		■	7.5 m	Ø 6.4			1	**9MJ 007 825-031**	1
		■	9.5 m	Ø 4.8			1	**9MJ 007 825-001**	1
		■	11.5 m	Ø 3.2			1	**9MJ 007 825-011**	1
		■	12.5 m	Ø 2.4			1	**9MJ 007 825-061**	1
Heat shrink hose sections with pre-applied adhesive inside	3 : 1	■	30 cm	Ø 3.0	135°C	–55°C to +85°C	20	**9MJ 008 039-001**	20
		■	30 cm	Ø 4.8			16	**9MJ 008 039-011**	16
		■	30 cm	Ø 6.0			13	**9MJ 008 039-021**	13
		■	30 cm	Ø 9.0			11	**9MJ 008 039-031**	11
		■	30 cm	Ø 12.0			9	**9MJ 008 039-041**	9
		■	30 cm	Ø 19.0			7	**9MJ 008 039-051**	7
		■	30 cm	Ø 24.0			5	**9MJ 008 039-061**	5

5. Insulation & bundling
5.9 Heat shrink hoses

	Colour	Length	Ø in mm	Temperature range °C	Contents in pcs.	Part number	PU in pcs.
Heat shrink hose sets Shrink factor 2:1	20 each of red, yellow, blue	50	2.4	–55°C to +125°C	60	**9MJ 178 458-002**	1
	30 each of black and transparent	50	2.4		60	**9MJ 178 458-012**	1
	20 each of red, yellow, blue	50	3.2		60	**9MJ 178 458-022**	1
	30 each of black and transparent	50	3.2		60	**9MJ 178 458-032**	1
	20 each of red, yellow, blue	50	4.8		60	**9MJ 178 458-042**	1
	30 each of black and transparent	50	4.8		60	**9MJ 178 458-052**	1
	20 each of red, yellow, blue	50	6.4		60	**9MJ 178 458-062**	1
	30 each of black and transparent	50	6.4		60	**9MJ 178 458-072**	1
	4 each of red, yellow, blue, black, transparent	100	9.5		20	**9MJ 178 458-082**	1
	4 each of red, yellow, blue, black, transparent	100	12.5		20	**9MJ 178 458-092**	1
	10 each of black and transparent	100	19.1		20	**9MJ 178 458-102**	1
	5 each of red, yellow, blue, black, transparent	200	9.5		25	**9MJ 178 458-112**	1
	black	200	5 each of 19.1 and 25.4		10	**9MJ 178 458-122**	1

7.1 Heat shrink hose assortment	Designation	Part number Case	PU in pcs.
Contents of assortment case of heat-shrinkable tubing 	Case containing an assortment of different heat shrink hoses with a shrink rate of 2:1, usage temperature -55 to +125°C, flame-retardant and self-extinguishing; UL224 shrinkage temperature min. 120°C	**9MJ 178 458-801**	1

7.1 Contents of assortment case of heat-shrinkable tubing	Colour	Ø in mm	Length	Quantity in the assortment	7.1 refill	Quantity in the assortment	Part number	PU in pcs.
	20 each of red, yellow, blue	2.4	50	60	Spare parts	60	**9MJ 178 458-002**	1
	30 each of black and transparent	2.4	50	60		60	**9MJ 178 458-012**	1
	20 each of red, yellow, blue	3.2	50	60		60	**9MJ 178 458-022**	1
	30 each of black and transparent	3.2	50	60		60	**9MJ 178 458-032**	1
	20 each of red, yellow, blue	4.8	50	60		60	**9MJ 178 458-042**	1
	30 each of black and transparent	4.8	50	60		60	**9MJ 178 458-052**	1
	20 each of red, yellow, blue	6.4	50	60		60	**9MJ 178 458-062**	1
	30 each of black and transparent	6.4	50	60		60	**9MJ 178 458-072**	1
	4 each in black, transparent red, yellow, blue,	9.5	100	20		20	**9MJ 178 458-082**	1
	4 each in black, transparent red, yellow, blue,	12.5	100	20		20	**9MJ 178 458-092**	1
	10 each of black and transparent	19.1	100	20		20	**9MJ 178 458-102**	1
	5 each in black, transparent red, yellow, blue,	9.5	200	25		25	**9MJ 178 458-112**	1
	black	5 each of 19.1 and 25.4	200	10		10	**9MJ 178 458-122**	1

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6. Other products
6.1 Battery terminals

Purpose:

Whether as a replacement or an OEM original component - the high material hardness and corrosion resistance of **HELLA's universal terminals** will give you optimum service. The programme is strictly geared to the agreed standards for **battery terminals**.

Advantages:

- Assortment closely based on DIN 72331
- Wide variety of variants permit them to be used in almost any installation space

6.1 Battery terminals	Designation	+/–	DIN	Contents in pcs.	Part number	PU in pcs.
	Form A, pole Ø 17.5 mm, for cables up to 70 mm²	+ left	following DIN 72331	1	**8KX 091 450-031**	1
				25	**8KX 091 450-032**	25
	Form B, pole Ø 15.9 mm, for cables up to 70 mm²	– right	following DIN 72331	1	**8KX 043 021-031**	1
				25	**8KX 043 021-032**	25
	Form C, pole Ø 17.5 mm, for cables up to 70 mm²	+ right	following DIN 72331	1	**8KX 091 451-031**	1
				25	**8KX 091 451-032**	25
	Form D, pole Ø 15.9 mm, for cables up to 70 mm²	– left	following DIN 72331	1	**8KX 091 452-031**	1
				25	**8KX 091 452-032**	25

6. Other products
6.1 Battery terminals

6.1 Battery terminals	Designation	+/–	DIN	Contents in pcs.	Part number	PU in pcs.
	Form E for cables from 50–120 mm² with lighting cable connection, pole Ø 17.5 mm	+ left	DIN 72331	10	**8KX 091 453-001**	10
	Form E for cables from 50–120 mm² without lighting cable connection, pole Ø 17.5 mm	+ left	DIN 72331	10	**8KX 707 911-001**	10
	Form F for cables from 50–120 mm² without lighting cable connection, pole Ø 15.9 mm	– right	DIN 72331	10	**8KX 707 911-011**	10
	Battery terminals for cables from 10–70 mm²					
	Pole Ø 17.5 mm	+ terminal		10	**8KX 716 405-001**	10
	Pole Ø 15.9 mm	– terminal		10	**8KX 716 405-011**	10
	Battery terminals for cables from 50–120 mm²					
	Pole Ø 17.5 mm with lighting cable connection	+ terminal		10	**8KX 707 912-001**	10
	Pole Ø 15.9 mm without lighting cable connection	– terminal		10	**8KX 707 912-011**	10
	Battery terminals for cables from 50–120 mm²					
	with screw M 12 x 1.75, pole Ø 17.5 mm	+ terminal		10	**8KX 707 913-011**	10
	with screw M 10 x 1.5, pole Ø 15.9 mm	– terminal		10	**8KX 707 913-001**	10
	Ford battery terminal	+ terminal		10	**8KX 742 695-032**	10
		– terminal		10	**8KX 742 695-022**	10
	QuickLock battery pole clamp	– terminal		10	**8KX 174 396-012**	10
	Starter cable with battery terminal and ring tongue M8, cable cross-section: 25 mm², 900 mm long, pole Ø 17.5 mm	+ terminal		5	**8KX 707 919-021**	5

6. Other products
6.2 Earthing straps

Purpose:

For decades now, these highly flexible conductors have been used in vehicles for a variety of electrical applications. As their name implies, they are used for such purposes as discharge or earthing EMC interference or static charges. Such an **earthing strap** needs to be able to safely withstand high currents, such as those occurring between the starter and the battery. Malfunctions in the electrical system are often caused by a defective or missing **earthing strap**.

Advantages:

- Construction optimally tailored to the appropriate field of application
- Dense braid facilitates reliable current discharge
- Durable specification dip-soldered with lead-free solder

6.2 Earthing straps	Designation	Cable cross-section in mm²	Load-carrying capacity	Length in mm	Contents in pcs.	Part number	PU in pcs.
Engine earthing straps	made of highly flexible copper braiding, pole Ø 10.5 mm, single-layer	16	65 A	150	5	**8KX 707 916-001**	5
		16	65 A	200	5	**8KX 707 916-011**	5
		16	65 A	250	5	**8KX 707 916-021**	5
		21	80 A	200	5	**8KX 707 917-011**	5
		21	80 A	250	5	**8KX 707 917-021**	5
		21	80 A	300	5	**8KX 707 917-031**	5
	2-layer	50		300	10	**8KX 175 422-002**	10
Suppressor earthing straps	made of highly flexible copper braiding, pole Ø 8.5 mm	10	48 A	180	5	**8KX 707 918-001**	5
		10	48 A	210	5	**8KX 707 918-011**	5
		10	48 A	280	5	**8KX 707 918-021**	5
		10	48 A	400	5	**8KX 707 918-031**	5
Battery earthing straps	made of highly flexible copper braiding, with brass clip, pole Ø 15.9 mm, single-layer	21	80 A	180	10	**8KX 091 391-001**	10
		21	80 A	250	10	**8KX 091 392-001**	10
		21	80 A	300	10	**8KX 091 394-001**	10
		21	80 A	320	10	**8KX 091 395-001**	10
		21	80 A	350	10	**8KX 719 756-001**	10
		21	80 A	400	10	**8KX 719 757-001**	10
		21	80 A	500	10	**8KX 719 757-012**	10
	2-layer	50		500	5	**8KX 175 421-002**	5

Product details

Purpose:

Hose and pipe clamps are typical attachments for fluid transport mechanisms. Their high tensile strength, high breaking torque and even tension distribution make our universal hose clamps particularly suitable for applications involving heavy mechanical loads. All sizes are available in a variety of alloys.

Advantages:

- Strong, durable attachment solution for fluid systems
- Wide ranging assortment including all the usual sizes for automobiles
- Hose clamps compliant with DIN 3017

6.3 Hose/ pipe clamps	Designation	Clamping range for Ø in mm	Strip width mm	Contents in pcs.	Part number	PU in pcs.
Hose clamps	Hose clamps in a slide-in container. Strip and housing in stainless steel, screw of galvanized steel	8–16	9	50	**8HK 710 701-111**	50
		12–20	9	50	**8HK 710 701-121**	50
		16–25	9	50	**8HK 710 701-131**	50
		20–32	9	50	**8HK 710 701-141**	50
		25–40	9	25	**8HK 710 701-151**	25
		32–50	9	25	**8HK 710 701-161**	25
	This slide-in container system is a flexible and compact storage solution. The individual elements can be combined.					
	Hose clamp for fuel lines, strip and housing made of stainless steel, screw made of galvanised steel	7–11	5	100	**8HK 713 394-001**	100

6.3 Hose/ pipe clamps	Designation	Clamping range for Ø in mm	Strip width mm	Contents in pcs.	Part number	PU in pcs.
Hose clamps	Hose clamp, strip and housing made of stainless steel, screw made of galvanised steel	8–16	9	100	**8HK 713 820-001**	100
		12–20	9	100	**8HK 713 820-011**	100
		16–25	9	100	**8HK 713 820-021**	100
		20–32	9	100	**8HK 713 820-031**	100
		25–40	9	100	**8HK 713 820-041**	100
		32–50	9	50	**8HK 713 820-051**	50
		40–60	9	50	**8HK 713 820-061**	50
		50–70	9	25	**8HK 713 820-071**	25
		60–80	9	25	**8HK 713 820-081**	25
		70–90	9	25	**8HK 713 820-091**	25
		80–100	9	25	**8HK 713 820-101**	25
	Hose clamp, all parts made entirely of galvanised steel	8–12	9	100	**8HK 748 452-002**	100
		10–16	9	100	**8HK 748 452-012**	100
		12–22	9	100	**8HK 748 452-022**	100
		16–27	9	100	**8HK 748 452-032**	100
		20–32	9	100	**8HK 748 452-042**	100
		25–40	9	100	**8HK 748 452-052**	100
		35–50	9	50	**8HK 748 452-062**	50
		50–70	9	25	**8HK 748 452-072**	25
		60–80	9	25	**8HK 748 452-082**	25
		70–90	9	25	**8HK 748 452-092**	25
		80–100	9	25	**8HK 748 452-102**	25
	Hose clamp, strip and housing made of stainless steel, screw made of galvanised steel	16–27	12	25	**8HK 748 453-102**	25
		20–32	12	25	**8HK 748 453-112**	25
		35–50	12	10	**8HK 748 453-132**	10
		40–60	12	10	**8HK 748 453-142**	10
		50–70	12	10	**8HK 748 453-152**	10
		60–80	12	10	**8HK 748 453-162**	10
		90–110	12	10	**8HK 748 453-192**	10
	Hose clamp, all parts made entirely of galvanised steel	16–25	12	20	**8HK 710 702-101**	20
		20–32	12	20	**8HK 710 702-111**	20
		32–50	12	10	**8HK 710 702-131**	10
		40–60	12	10	**8HK 710 702-141**	10
		50–70	12	10	**8HK 710 702-151**	10
		60–80	12	10	**8HK 710 702-161**	10
		90–110	12	10	**8HK 710 702-191**	10

6. Other products
6.3 Hose/pipe clamps

6.3 Pipe clamps	Designation	Inner diameter for Ø in mm	Strip width mm	Surface finish	Contents in pcs.	Part number	PU in pcs.
pipe clamps	Pipe clamp 12 W1	6	12	galvanised	100	**8HS 749 192-002**	100
		8	12	galvanised	100	**8HS 749 192-012**	100
		10	12	galvanised	100	**8HS 749 192-022**	100
		12	12	galvanised	100	**8HS 749 192-032**	100
		13	12	galvanised	100	**8HS 749 192-042**	100
		14	12	galvanised	100	**8HS 749 192-052**	100
		16	12	galvanised	100	**8HS 749 192-062**	100
		18	12	galvanised	100	**8HS 749 192-072**	100
		19	12	galvanised	100	**8HS 749 192-082**	100
		20	12	galvanised	100	**8HS 749 192-092**	100
	Pipe clamp 15 W1	6	15	galvanised	100	**8HS 749 193-002**	100
		8	15	galvanised	100	**8HS 749 193-012**	100
		10	15	galvanised	100	**8HS 749 193-022**	100
		12	15	galvanised	100	**8HS 749 193-032**	100
		15	15	galvanised	100	**8HS 749 193-042**	100
		18	15	galvanised	100	**8HS 749 193-052**	100
		20	15	galvanised	100	**8HS 749 193-062**	100
		23	15	galvanised	50	**8HS 749 193-072**	50
		25	15	galvanised	50	**8HS 749 193-082**	50
		26	15	galvanised	50	**8HS 749 193-092**	50
	Pipe clamp 20 W1	18	20	galvanised	50	**8HS 749 194-002**	50
		20	20	galvanised	25	**8HS 749 194-012**	25
		25	20	galvanised	25	**8HS 749 194-022**	25

6. Other products
6.4 Spring band clamps

Purpose:

Unlike ordinary hose clamps, these spring band clamps possess a flexible attachment mechanism. This makes them considerably more durable in applications where they are exposed to frequent temperature fluctuations (for example fuel or air circulation). If the fluid system becomes warmer and its diameter expands, these spring band clamps also expand; similarly, if cold temperatures cause the diameter to become smaller they will contract. In this way these attachments remain optimal.

Advantages:

- Strong, durable attachment solution for fluid systems
- Optimal support at all times thanks to dynamic spring properties
- Wide ranging assortment including all the usual sizes for automobiles
- as per DIN 3021

6.4 Spring band clamps	Designation	Rated diameter in mm	Strip width mm	Contents in pcs.	Part number	PU in pcs.
Depicted example spring band clamp, type “FBS”	Spring band clamps	13	12	100	**8HK 187 228-131**	100
		14 R	12	100	**8HK 187 228-141**	100
		15	12	100	**8HK 187 228-151**	100
		16 R	12	100	**8HK 187 228-161**	100
		17	12	100	**8HK 187 228-171**	100
		18	12	100	**8HK 187 228-181**	100
		19 R	12	100	**8HK 187 228-191**	100
	Spring band clamps	20	12	50	**8HK 187 228-201**	50
		21	12	50	**8HK 187 228-211**	50
		22	12	50	**8HK 187 228-221**	50
		23	12	50	**8HK 187 228-231**	50
		24	12	50	**8HK 187 228-241**	50
		25	12	50	**8HK 187 228-251**	50
		26	12	50	**8HK 187 228-261**	50
		27	12	50	**8HK 187 228-271**	50
		28	12	50	**8HK 187 228-281**	50
		29	12	50	**8HK 187 228-291**	50

6. Other products
6.4 Spring band clamps

6.4 Spring band clamps	Designation	Rated diameter in mm	Strip width mm	Contents in pcs.	Part number	PU in pcs.
 Depicted example: spring band clamp, type “FBSR”	Spring band clamps	30	12	25	**8HK 187 228-301**	25
		32 R	12	25	**8HK 187 228-321**	25
		35	12	25	**8HK 187 228-351**	25
		36	12	25	**8HK 187 228-361**	25
		38	12	25	**8HK 187 228-381**	25
		40 R	12	25	**8HK 187 228-401**	25
		42	12	25	**8HK 187 228-421**	25
		44	12	25	**8HK 187 228-441**	25
		46	12	25	**8HK 187 228-461**	25
		47	12	25	**8HK 187 228-471**	25
	Spring band clamps	50	12	10	**8HK 187 228-501**	10
		55	12	10	**8HK 187 228-551**	10

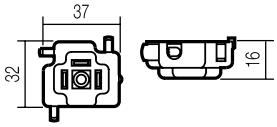
6. Other products
6.5 Pin base for headlights

Purpose:

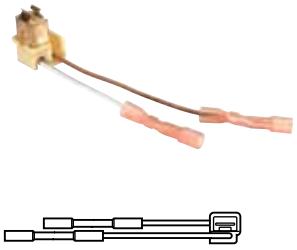
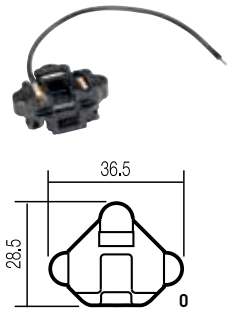
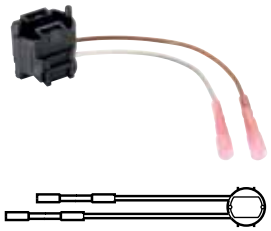
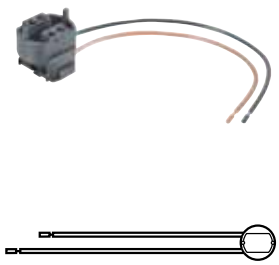
Pin bases for bulbs are used for special applications including auxiliary lights on agricultural and construction machinery. In addition they are used for repair alternatives for headlights based on current vehicle value, when the base has melted to the bulb or corrosion has occurred causing transition resistance.

Advantages:

- Time-saving repairs for the garage or end consumer
- H1 and H7 pin base with high-quality pre-fitted cables including butt joints

6.5 Pin base	Description	Connection	Part number	PU in pcs.
Plugs 	Plug for H4 or RL bulbs, 3-pole, clamped cable connection can be loosened by pressing buttons			
	without earth cable	up to max. 2.5	**8JA 001 909-001**	10
	with earth cable (130 mm)	up to max. 2.5	**8JA 001 909-011**	10

6. Other products
6.5 Pin base for headlights

6.5 Pin base	Description	Connection	Part number	PU in pcs.
Pin base for headlights 	Plug with pre-fitted cables and butt joints for H1 bulbs length of brown cable (earth): 60 mm length of white cable: 40 mm cable connections crimped	up to max. 1.0	**8KB 863 949-001**	1
Plugs 	Plug for H4 or RL bulbs, 3-pole, can be loosened by pressing buttons, with earth cable (130 mm)	up to max. 2.5	**8JA 001 914-011**	10
Plugs 	Plug with pre-fitted cables and butt joints for H7 bulbs Length of brown cable (earth): 120 mm length of white cable: 100 mm cable connections crimped	up to max. 1.0	**8KB 863 949-011**	1
Plugs 	Plug with pre-fitted cables and pre-cut cable ends length of black cable: 150 mm length of brown cable (earth): 130 mm	up to max. 1.0	**8KB 193 607-001**	1
		up to max. 1.0	**8KB 193 607-002**	10

6. Other products
6.6 Trailer connection devices, load compensation devices, voltage converters

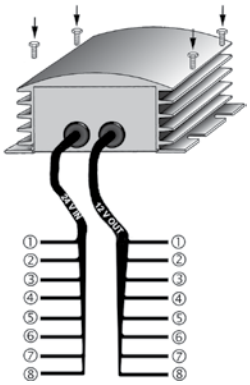
Purpose:

Allows the use of 12 V trailers on vehicles with 24 V operating voltage. The integrated voltage converter makes operation possible without a separate charge compensation device. The trailer connection device has 7 channels for the trailer lighting functions. Functional failure of a 12 V trailer indicator is indicated by the standard series telltale light C2.

Known vehicle restrictions:
not for Mercedes Benz Atego series MP2, not for DAF 75.360 CF

Load-carrying capacity:

Rated voltage: 24 V/12 V.
power per switch channel: 2 x 21 W
power per direction indicator: 1 x 21 W
operating temperature: -30°C to +80°C
polarity reversal protection: permanently protected
protection class: IP 5K9K as per DIN 50021-55
type approval: e1/CE

6.6 Trailer connection units	Description	Part number	PU in pcs.
	Cable colour: **24 V traction vehicle ISO 12 098** 1 yellow = indicator, left 2 green = indicator, right 3 blue = rear fog light 4 white = earth 5 black = taillight, left 6 brown = taillight, right 7 red = brake light 8 grey = reversing light		
	**12 V trailer** **ISO 11446 and ISO 1724** 1 yellow = indicator, left 2 blue = rear fog light 3 white = earth 4 green = indicator, right 5 brown = taillight, right 6 red = brake light 7 black = taillight, left 8 grey = reversing light		
	Voltage converter, 24 V/12 V	**5DS 008 125-011**	1

6. Other products
6.6 Trailer connection devices, load compensation devices, voltage converters

Product details

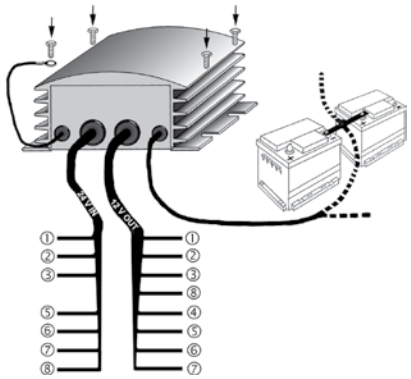
Purpose:

Allows the use of 12 V trailers on vehicles with 24 V operating voltage. The trailer connection device requires a separate charge compensation device or a separate voltage converter with 8 A/12 V.

The following devices can be used for this purpose: 8ES 008 124-001.

Load-carrying capacity:

Rated voltage: 24 V/12 V
quiescent current: 8 mA
control current of switch channels: 2.5 mA
power per switch channel: 2 x 21 W
power per direction indicator: 21 W
voltage drop of switch channels: 200 mV
operating temperature: -30°C to +80°C
polarity reversal protection: permanently protected
protection class: IP 5K9K as per DIN 50021-55
type approval: e1/CE

6.6 Voltage converter	Description	Part number	PU
	Cable colour: **24 V traction vehicle ISO 12 098** 1 yellow = indicator, left 2 green = indicator, right 3 blue = rear fog light 5 black = taillight, left 6 brown = taillight, right 7 red = brake light 8 grey = reversing light		
	**12 V trailer** **ISO 11446 and ISO 1724** 1 yellow = indicator, left 2 blue = rear fog light 3 white = earth 4 green = indicator, right 5 brown = taillight, right 6 red = brake light 7 black = taillight, left 8 grey = reversing light		
	Voltage converter, 24 V/12 V	**5DS 008 125-001**	1

6. Other products
6.6 Trailer connection devices, load compensation devices, voltage converters

Purpose:

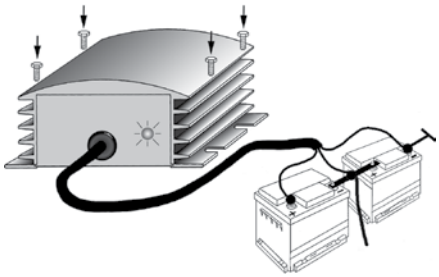
The charge compensation device determines the voltages of the two 12 V batteries. If the battery on the earth side has a lower voltage, the charge compensation device ensures a compensatory current flow. An LED indicates when the device is working. This means that 12 V consumers can be connected to the earth side of the battery.

The load balancing device is designed for the the average current drawn by all 12 V consumers. In the case of a conventional voltage converter, the device design must correspond to the maximum current drain of all 12 V consumers.

Add the average current consumption of all 12 V consumers.

Load-carrying capacity:

Rated voltage: 24 V
equalizing current: 8 A
quiescent current: 15 mA
switch-on voltage: 27 V
deactivation difference voltage: 0.5 V
operating temperature: -25°C to +65°C
polarity reversal protection and short-circuit-proof.
protection class: IP 5K9K

6.6 Charge compensation device	Description	Part number	PU
  	**Load compensation device** for vehicles with 24 V on-board electrical systems The connection uses three cables: one connected to 24 V, one to earth and one to the centre tap of the batteries (see sketch).		
	Charge compensation device "Plus"	**8ES 008 124-001**	1

	Chapter overview	Page
7.	**Product range and accessories**	
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7. Product range and accessories
7.1 Assortment case

Purpose:

The HELLA assortments contain a selection of the most popular products in each area – tidily and compactly arranged in a high-quality fully transportable case. Four such cases can be integrated into the practical "handy box", which offers numerous attachment options and comes with a carrying handle (for further information: see page 168).

Advantages:

- All the important sizes and current ratings tidily arranged in one place
- Modular case design offers numerous possibilities for free expansion and rearrangement (for further information: see page 168)

7.1 Assortment case	Designation	Part number Case	PU in pcs.
Fuse assortment case	The assortment comprises ATO (25 for each current rating) and MINI blade fuses (20 for each current rating) plus one MINI/ATO blade fuse tester/gripper. Quantity delivered as refill set deviates from the quantity in the original set.	8JS 009 257-801	1

7.1 Contents of fuse assortment case	Designation	Ampere	Colour	Quantity in the assortment
	ATO blade fuse	2 A		25
		3 A		25
		4 A		25
		5 A		25
		7.5 A		25
		10 A		25
		15 A		25
		20 A		25
		25 A		25
		30 A		25
		40 A		25
	MINI blade fuse	2 A		20
		3 A		20
		4 A		20
		5 A		20
		7.5 A		20
		10 A		20
		15 A		20
		20 A		20
		25 A		20
		30 A		20

7.1 refill	Short designation	Part numbers of fuses	PU in pcs.
Spare parts	D 129	**8JS 711 683-021**	50
	D 69	**8JS 711 683-002**	50
	D 188	**8JS 711 683-052**	50
	D 70	**8JS 711 684-002**	50
	D 71	**8JS 711 685-002**	50
	D 72	**8JS 711 686-002**	50
	D 73	**8JS 711 687-002**	50
	D 74	**8JS 711 688-002**	50
	D 75	**8JS 711 689-002**	50
	D 76	**8JS 711 690-002**	50
	D 130	**8JS 711 683-031**	50
	D 138	**8JS 728 596-081**	50
	D 139	**8JS 728 596-101**	50
	D 140	**8JS 728 596-121**	50
	D 141	**8JS 728 596-131**	50
	D 142	**8JS 728 596-111**	50
	D 143	**8JS 728 596-141**	50
	D 144	**8JS 728 596-151**	50
	D 145	**8JS 728 596-161**	50
	D 146	**8JS 728 596-091**	50
	D 147	**8JS 728 596-171**	50

7. Product range and accessories
7.1 Assortment case

7.1 Assortment case	Designation	Part number Case	PU i n pcs.
Contents of assortment case of uninsulated crimp connectors	Assortment case comprising various uninsulated connectors (quantity delivered as refill set deviates from the quantity in the original set, not all items can be refilled)	8KW 009 255-801	1

7.1 Contents of assortment case: uninsulated crimp connectors	Designation	Cross-section mm²	Male connector dimensions mm	Quantity in assortment
	Flat receptacle with locking tag	0.5–1.0	2.8 x 0.8	50
			4.8 x 0.8	50
			6.3 x 0.8	50
	Flat receptacle with locking tag	1.5–2.5	6.3 x 0.8	50
	Female spade connector with locking tag, claw across		6.3 x 0.8	20
	Male blade connector with locking tag	0.5–1.0	2.8 x 0.8	50
			6.3 x 0.8	50
	Male blade connector with locking tag	1.5–2.5	6.3 x 0.8	50
	Flat receptacle	0.5–1.0	4.8 x 0.8	50
		0.75–1.5	6.3 x 0.8	50
	Flat receptacle claw crosswise	0.5–1.5	6.3 x 0.8	20
	Flat receptacle	1.5–2.5	6.3 x 0.8	50
		4.0–6.0	9.5 x 1.2	50
	Blade terminal	1.5–2.5	6.3 x 0.8	50
	Male connector distributor, double		6.3 x 0.8	20
	Male connector distributor, triple		6.3 x 0.8	20
	Piggy back spade connector	1.5–2.5	6.3 x 0.8	20
	Male spade connector, 45°		6.3 x 0.8	20
	Male blade connector, Ø 5.3 mm			20
	Coupling			20

7.1 refill	Short description	Part number	PU in pcs.
Spare parts	B 100	**8KW 744 817-003**	100
	B 64	**8KW 733 815-003**	100
	B 103	**8KW 744 819-003**	100
	B 54	**8KW 701 235-033**	100
	B 105	**8KW 744 821-003**	100
	B 90	**8KW 744 834-003**	100
	B 88	**8KW 744 832-003**	100
	B 57	**8KW 048 056-033**	100
	B 94	**8KW 744 828-003**	100
	B 51	**8KW 043 629-013**	100
	B 93	**8KW 744 827-003**	100
	B 52	**8KW 043 630-013**	100
	B 95	**8KW 744 787-003**	50
	B 86	**8KW 744 823-003**	100
	B 59	**8KW 043 636-003**	100
	B 60	**8KW 700 144-003**	50
	B 82	**8KW 744 885-003**	100

7. Product range and accessories
7.1 Assortment case

Assortment case	Designation	Part number Case	PU in pcs.
Contents of assortment case assortment of Duraseal crimp connectors	Case containing an assortment of Duraseal crimp connectors (quantity contained in refill set differs from the quantity in the original set)	8KW 009 253-801	1

Contents of assortment case assortment of Duraseal crimp connectors	Designation	Cross-section mm²	Insertion width mm/eyelet	Short designation	Quantity in the assortment	Refill	Short description	Part number	PU in pcs.
	Insulating splice	0.5–1.0		A 113	15	**Spare parts**	A 113	**8KW 732 579-003**	25
		1.5–2.5		A 114	15		A 114	**8KW 732 580-003**	25
		4.0–6.0		A 115	15		A 115	**8KW 732 581-003**	25
	Flat receptacle	0.5–1.0	6.3 x 0.8	A 100	15		A 100	**8KW 732 566-003**	25
		1.5–2.5	6.3 x 0.8	A 101	15		A 101	**8KW 732 567-003**	25
	Blade terminal	0.5–1.0	6.3 x 0.8	A 102	15		A 102	**8KW 732 568-003**	25
		1.5–2.5	6.3 x 0.8	A 103	15		A 103	**8KW 732 569-003**	25
	Female bullet connector	1.5–2.5	Ø 5.0	A 168	15		A 168	**8KW 744 768-003**	25
	Male bullet connector	1.5–2.5	Ø 5.0	A 166	15		A 166	**8KW 744 766-003**	25
	Ring connector	1.5–2.5	M5	A 107	15		A 107	**8KW 732 573-003**	25
		1.5–2.5	M6	A 109	15		A 109	**8KW 732 575-003**	25
		1.5–2.5	M8	A 111	15		A 111	**8KW 732 577-003**	25
		4.0–6.0	M5	A 108	15		A 108	**8KW 732 574-003**	25
		4.0–6.0	M6	A 110	15		A 110	**8KW 732 576-003**	25
	Fork connector	1.5–2.5	M4	A 157	15		A 157	**8KW 744 757-003**	25
		1.5–2.5	M5	A 158	15		A 158	**8KW 744 758-003**	25

7. Product range and accessories
7.1 Assortment case

7.1 Assortment case of insulated crimp connectors	Designation	Part number Case	PU in pcs.
Contents of assortment case of insulated crimp connectors	Assortment case comprising: various crimping connectors, a branch connector, a coupling and crimping pliers (quantity contained in refill set is different from the quantity in the original set)	8KW 009 254-801	1

7.1 Contents of assortment case of insulated crimp connectors	Designation	Cross-section mm²	Insertion width mm/eyelet	Quantity in the assortment
	Female bullet connector	0.5–1.0	Ø 4.0	20
	Male bullet connector	0.5–1.0	Ø 4.0	20
	Flat receptacle	0.5–1.0	2.8 x 0.5	20
		0.5–1.0	6.3 x 0.8	20
	Flat receptacle fully insulated	0.5–1.0	6.3 x 0.8	20
	Flat receptacle	1.5–2.5	6.3 x 0.8	20
	Blade terminal	0.5–1.0	6.3 x 0.8	20
		1.5–2.5	6.3 x 0.8	20
	Ring connector	0.5–1.0	M4	20
		0.5–1.0	M5	20
		1.5–2.5	M4	20
		1.5–2.5	M5	20
		1.5–2.5	M6	20
		4.0–6.0	M5	20
		4.0–6.0	M6	20
	Insulating splice	1.5–2.5		20
	Open connector	1.5–2.5	M5	20
	Piggy back spade connector	1.5–2.5	2.8 x 0.5	20
	Branch cable connectors			20
	Coupling		6.3 x 0.8	20
	Crimping pliers			1

7.1 refill	Short designation	Part number	PU in pcs.
Spare parts	A 63	**8KW 045 145-003**	50
	A 61	**8KW 044 040-003**	100
	A 50	**8KW 705 393-003**	100
	A 52	**8KW 044 036-003**	100
	A 82	**8KW 708 373-003**	50
	A 53	**8KW 044 022-003**	100
	A 59	**8KW 702 796-003**	100
	A 60	**8KW 044 288-003**	100
	A 67	**8KW 044 276-003**	100
	A 69	**8KW 044 291-003**	100
	A 68	**8KW 044 028-003**	100
	A 70	**8KW 044 027-003**	100
	A 72	**8KW 044 039-003**	100
	A 71	**8KW 044 029-003**	50
	A 73	**8KW 044 030-003**	50
	A 80	**8KW 044 033-002**	100
	A 78	**8KW 044 037-003**	100
	A 58	**8KW 044 032-003**	50
	I 50	**8KW 705 123-002**	25
	A 84	**8KW 044 035-003**	25
		8PE 002 006-001	1

7. Product range and accessories
7.1 Assortment case

7.1 SUPERSEAL connectors	Designation	Part number Case	PU in pcs.
7.1 Contents of assortment case SUPERSEAL plug housing assortment	Assortment case comprising various SUPERSEAL connectors, male/female contacts, individual cable seals and blind plugs (quantity delivered as refill set deviates from the quantity in the original set)	8JA 009 256-801	1

7.1 Contents of assortment case SUPERSEAL plug housing assortment	Designation	Cross-section mm²	Quantity in the assortment
	Individual wire seal	1.8–2.4	100
	Blind plug		100
	Male pin contact	1.0–1.5	100
	Female contact	1.0–1.5	100
	Male connector housing, 1-pole		5
	Female socket housing, 1-pole		5
	Male connector housing, 2-pole		5
	Female socket housing, 2-pole		5
	Male connector housing, 3-pole		5
	Female socket housing, 3-pole		5
	Male connector housing, 4-pole		5
	Female socket housing, 4-pole		5
	Male connector housing, 5-pole		5
	Female socket housing, 5-pole		5
	Male connector housing, 6-pole		5
	Female socket housing, 6-pole		5

7.1 refill	Short designation	Part number	PU in pcs.
Spare parts	B 145	**9GD 746 185-002**	50
	B 147	**9GD 746 187-002**	50
	B 143	**8KW 744 836-002**	50
	B 144	**8KW 744 837-002**	50
		8JA 746 183-012	10
		8JA 746 184-012	10
		8JA 746 183-022	10
		8JA 746 184-022	10
		8JA 746 183-032	10
		8JA 746 184-032	10
		8JA 746 183-042	10
		8JA 746 184-042	10
		8JA 746 183-052	10
		8JA 746 184-052	10
		8JA 746 183-062	10
		8JA 746 184-062	10

7. Product range and accessories
7.1 Assortment case

7.1 Heat shrink hose assortment	Designation	Part number Case	PU in pcs.
Contents of assortment case heat shrink hose assortment	Case containing an assortment of different heat shrink hoses with a shrink rate of 2:1, usage temperature -55 to +125°C, flame-retardant and self-extinguishing; UL224 shrinkage temperature min. 120°C	9MJ 178 458-801	1

7.1 Contents of assortment case of heat-shrinkable tubing	Colour	Ø	Length	Quantity in the assortment
	20 each of red, yellow, blue	2.4	50	60
	30 each of black and transparent	2.4	50	60
	20 each of red, yellow, blue	3.2	50	60
	30 each of black and transparent	3.2	50	60
	20 each of red, yellow, blue	4.8	50	60
	30 each of black and transparent	4.8	50	60
	20 each of red, yellow, blue	6.4	50	60
	30 each of black and transparent	6.4	50	60
	4 each of red, yellow, blue, black and transparent	9.5	100	20
	4 each of red, yellow, blue, black and transparent	12.5	100	20
	10 each of black and transparent	19.1	100	20
	5 each of red, yellow, blue, black and transparent	9.5	200	25
	black	5 each of 19.1 and 25.4	200	10

7.1 refill	Quantity in the assortment	Part number	PU in pcs.
Spare parts	60	**9MJ 178 458-002**	1
	60	**9MJ 178 458-012**	1
	60	**9MJ 178 458-022**	1
	60	**9MJ 178 458-032**	1
	60	**9MJ 178 458-042**	1
	60	**9MJ 178 458-052**	1
	60	**9MJ 178 458-062**	1
	60	**9MJ 178 458-072**	1
	20	**9MJ 178 458-082**	1
	20	**9MJ 178 458-092**	1
	20	**9MJ 178 458-102**	1
	25	**9MJ 178 458-112**	1
	10	**9MJ 178 458-122**	1

7. Product range and accessories
7.2 Accessories

Purpose:

HELLA's handy box is a practical transport frame for up to four HELLA assortment cases.

- Ergonomic handle
- Assortment case latches securely into the retaining system

- Handy boxes can be combined together in a number of ways

- Can also be fastened to the wall
(e.g. for fastening/arranging in vehicle equipment or workshop use).

Assortment case:

- Inserts can be used to subdivide the assortment case into variously sized sections as desired.
- Including sliding locks and ergonomic handle
- Latching system in the base prevents the contents from slipping

7.2 Accessories	Designation	Part number	PU in pcs.
Handy box	For the assortment case (without case) Dimensions: (H x W x D, in mm): 310 x 376 x 265)	**9XX 863 801-001**	1
Assortment case	(empty, with no inserts) Dimensions: (H x W x D, in mm): 57 x 338 x 261	**9XX 863 802-001**	1
Insert 7-1 for the assortment case	Dimensions: ((H x W x D, in mm): 47 x 79 x 109 max. Each case can hold 8 inserts	**9XX 863 800-021**	1
Insert 8-1 for the assortment case	Dimensions: ((H x W x D, in mm): 47 x 45 x 79 max. Each case can hold 16 inserts	**9XX 863 800-011**	1
Insert 9-1 for the assortment case	Dimensions: ((H x W x D, in mm): 47 x 39 x 55 max. Each case can hold 32 inserts	**9XX 863 800-001**	1

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8. Tools
8.1 Basic crimping and release tool

Purpose:

The **"Basic" crimping tool set** facilitates reliable processing of numerous crimp connections.
The inserts can be exchanged quickly and easily and therefore offer a fast, compact and cost-effective alternative to working with a number of separate tools.

The matching release set is here an appropriate counterpart for releasing existing connections.

Range advantages:

- Strong basic solution
- Broad coverage with six different crimping heads, nine release tools and three extension sockets

8.1 Basic crimping pliers	Designation	Part number Case	PU in pcs.
Basic crimping pliers set	The basic crimping pliers set comprises one tool plus six inserts.	**8PE 863 807-801**	1

Basic crimping pliers set inserts for reordering	Designation	Part number	PU in pcs.
	Insert A for insulated crimp connectors 0.5 – 6.0 mm²	**8PE 863 807-411**	1
	Insert B for uninsulated crimp connectors 1.5 – 10.0 mm²	**8PE 863 807-421**	1
	Insert C for uninsulated flat receptacles 0.5 – 6.0 mm²	**8PE 863 807-431**	1
	Insert D for wire nail receptacles, 0.5 – 4.0 mm²	**8PE 863 807-441**	1
	Insert F for cable end receptacles 6.0 – 16.0 mm²	**8PE 863 807-451**	1
	Insert H for pin contacts 0.5 – 10.0 mm²	**8PE 863 807-461**	1

8. Tools
8.1 Basic crimping and release tool

8.1 Release set	Designation	Part number Case	PU in pcs.
Basic release set	The basic release set consists of 9 release tools and 3 extension sockets	**8PE 863 807-811**	1

Inserts for basic release set*	Designation	Vehicle manufacturer	Part number	PU in pcs.
	Release tool for contacts with a cross section of 1.5 mm² and an extension socket	BMW, DaimlerChrysler, Fiat, MAN, Opel, Porsche, Seat, Skoda, VW/Audi	**HE01**	1
	Release tool for contacts with a cross section of 3.5 mm² and an extension socket	BMW, DaimlerChrysler, Fiat, MAN, Opel, Porsche, Seat, Skoda, VW/Audi	**HE02**	1
	Release tool for contacts with a cross section of 3.5 mm² and an extension socket	Ford, Opel, PSA, Renault	**HE05**	1
	Release tool for connectors with one release channel of 2.8 and 5.8 mm²	BMW, DaimlerChrysler, Ford, MAN, Opel, Porsche, PSA, Renault, Seat, Skoda, VW/Audi	**HE53**	1
	Extraction tool for micro timers II and III with a cross-section of 1.6 mm²	DaimlerChrysler, VW/ Audi	**HE56**	1
	Extraction tool for maxi-power timers with a cross-section of 9.5 mm²	All vehicle marques	**HE59**	1
	Release tool for pit-pod contacts	Fiat, Ford, Mazda, Opel, PSA, Renault, Saab, VW/Audi	**HE62**	1
	Release tool for micro timer I and ABS plug-in housing with a cross section of 1.6 mm²	Fiat, Ford, Mazda, Opel, PSA, Renault, Saab, VW/Audi	**HE53**	1
	Release tool for connectors with two release channels of 2.8 and 5.8 mm²	BMW, DaimlerChrysler, Fiat, Ford, MAN, Opel, PSA, Renault, Saab, VW/Audi	**HE91**	1

* Inserts cannot be ordered separately

8. Tools
8.2 Professional crimping and release tool

Purpose:

The special profile geometry of the **“Profi” crimping tool** facilitates especially precise radial contact processing. The patented fixing concept of this crimping set guarantees perfect positioning of the tool heads.
The handle of the pliers also incorporates an additional clip’n’strip unit making this tool set truly “universal”.
The whole kit is rounded off by a modular set of release blades on the back of the case.

Advantages:

- High-quality all-in solution
- Broad coverage with five different crimping heads, four release blades and the clip’n’strip unit
- Three different individually extensible configurations
- Ergonomic soft-handgrip with slip guard
- Optimized mechanical power transmission facilitates long-term unfatiguing use
- Made of hardened tool steel with special surface finishing of particularly stressed elements

8.2 Professional crimping and release tool	Designation	Part number Case	PU in pcs.
Crimping tool and release set	Crimping tool and release set “Profi type I”	**8PE 863 807-821**	1

Contents of crimping tool and release set “Profi type I”	Designation	Part number	PU in pcs.
	Basic pliers without inserts	**8PE 863 807-021**	1
	“Clip’n’strip” stripping tool	**8PE 863 807-201**	1

Contents of crimping tool and release set “Profi type I”	Designation	Part number	PU in pcs.
	Insert 441 0.5 – 6.0 mm² For DIN cable lugs and insulated crimp connectors	**8PE 863 807-211**	1
	Insert red / yellow / blue 0.35 – 6.0 mm² For fully insulated butt-joint connectors	**8PE 863 807-221**	1
	Insert JPT / TAB 2.8 / MCP 2.8 0.35 – 2.5 mm²	**8PE 863 807-231**	1
	Universal insert 0.25 – 6.0 mm² For uninsulated blade terminals and flat receptacles	**8PE 863 807-251**	1
	Basic grip for release	**8PE 863 807-301**	1
	Blade MCP 2.8 / FL 2.8 / JPT / SPT	**8PE 863 807-311**	1
	Blade MDK 5, DFK 2, AFK	**8PE 863 807-321**	1
	Blade FSH 6.3	**8PE 863 807-331**	1
	Blade F2.8 FS / H 1.58	**8PE 863 807-341**	1

8. Tools
8.2 Professional crimping and release tool

8.2 Crimping pliers set	Designation	Part number Case	PU in pcs.
Crimping pliers set	Crimping pliers “Profi type II”	**8PE 863 807-831**	1

Contents of crimping tool and release set “Profi type II”	Designation	Part number	PU in pcs.
	Basic pliers without inserts	**8PE 863 807-021**	1
	“Clip’n’strip” stripping tool	**8PE 863 807-201**	1
	Insert 441 0.5 – 6.0 mm² For DIN cable lugs and insulated crimp connectors	**8PE 863 807-211**	1
	Insert red / yellow / blue 0.35 – 6.0 mm² For fully insulated butt-joint connectors	**8PE 863 807-221**	1
	Insert AE 21 0.14 – 10 mm² For insulated and uninsulated end sleeves	**8PE 863 807-241**	1

8. Tools
8.2 Professional crimping and release tool

8.2 Crimping tool and release set	Designation	Part number Case	PU in pcs.
Crimping pliers set	Crimping pliers set “Profi type III”	**8PE 863 807-841**	1

Contents of crimping tool and release set “Profi type III”	Designation	Part number	PU in pcs.
	Basic pliers without inserts	**8PE 863 807-021**	1
	“Clip’n’strip” stripping tool	**8PE 863 807-201**	1
	Insert 441 0.5 – 6.0 mm² For DIN cable lugs and insulated crimp connectors	**8PE 863 807-211**	1
	Insert red / yellow / blue 0.35 – 6.0 mm² For fully insulated butt-joint connectors	**8PE 863 807-221**	1
	Universal insert 0.25 – 6.0 mm² For uninsulated blade terminals and flat receptacles	**8PE 863 807-251**	1
	Basic grip for release	**8PE 863 807-301**	1
	Blade MCP 2.8 / FL 2.8 / JPT / SPT	**8PE 863 807-311**	1
	Blade FSH 6.3	**8PE 863 807-331**	1

8. Tools
8.3 Superseal crimping pliers

Purpose:

Thanks to the positioning aid integrated into the tool head these **"Superseal" pliers** can offer maximum precision. By combining crimping and stripping in a single action it saves you valuable time.
The modular design facilitates separate replacement of basic pliers and tool head.

Advantages:

- High quality modular tool design
- Linear/parallel crimp technology with integrated contact positioning aid
- Ergonomic soft-handgrip with slip guard
- Optimized mechanical power transmission facilitates long-term unfatiguing use
- Made of hardened tool steel with special surface finishing of particularly stressed elements

8.3 Superseal crimping pliers	Designation	Part number Case	PU in pcs.
Crimping pliers	Superseal crimping pliers	**8PE 863 807-851**	1

Single parts	Designation	Part number	PU in pcs.
	Basic pliers	**8PE 863 807-011**	1
	Tool head for Superseal	**8PE 863 807-401**	1

Product details

Purpose:

Each of the application-specific tools is designed for a particular purpose.
All types are solidly built and guarantee a clean and precise result.

Advantages:

- Specialized tools for a number of purposes

4.6 Squeezing and crimping pliers	Description	Contents (pcs)	Part number	PU in pcs.
	Special crimping pliers "Profi I" for insulated crimping connectors, cable cross-sections from 0.5–6.0 mm² (red, blue, yellow)	1	**8PE 002 007-001**	1
	Special crimping pliers "Profi II" for uninsulated crimping connectors, cable cross-sections from 0.5–6.0 mm². Not suitable for crimping butt joints with insulation.	1	**8PE 002 007-011**	1
	Special crimping pliers "Expert" for insulated crimping connectors, cable cross-sections from 0.5–6.0 mm² (red, blue, yellow) suitable for cutting bolts with ISO threads from M2.6–M3.5 and shortening and stripping 0.75–6.0 mm² cables	1	**8PE 002 006-001**	1
	Handgrip "Quick Link" pliers for two-pole "Click-in" contact system (common e.g. in trailer and semitrailer construction)	1	**8PE 008 932-001**	1
	Professional crimping pliers "ABS-G system" Linear crimp design for crimp male contacts and receptacles with cross-sections 1.5 – 6.0 mm² (pages 71 and 75)	1	**8PE 863 807-001**	1

Notes