

## AXLJ-F TT 12/20 (24) kV 3-core

### Medium voltage cable

### 12/20 (24) kV



### Application

Medium-voltage cable for fixed installations outdoors. May be buried directly in soil, also by ploughing. Cable is longitudinally and radially watertight and therefore it is suitable where wet soil and / or fresh water permanently occurs. Installations must be in accordance with national regulations and rules of installations. The cable is halogen-free, but without fire protection. The cable is not CPR-classified.

### Design

<b>Standards</b>	HD 620 10 M, SS 424 14 16
<b>Conductor</b>	Watertight, circular, stranded aluminium, EN/IEC 60228 class 2
<b>Conductor screen</b>	Semiconducting cross-linked polyethylene XLPE
<b>Insulation</b>	Cross-linked polyethylene XLPE
<b>Insulation screen</b>	Semiconducting cross-linked polyethylene XLPE
<b>Inner covering</b>	Semiconducting waterswellable tape against longitudinal water penetration
<b>Inner covering</b>	Semiconducting waterswellable tape against longitudinal water penetration
<b>Metal screen</b>	Layer of helically wound copper wires with a counter helix copper tape
<b>Oversheath</b>	UV-protected PE-plastic PELLD , Black

### Temperature limits

<b>Max. conductor temperature °C</b>	90
<b>Max. cond. temp. short circuit max. 5 s °C</b>	250
<b>Min. cable temperature during operation °C</b>	-50
<b>Min. cable temperature during handling °C</b>	-20
<b>Min. cable temperature during transport °C</b>	-40



ISO 45001, ISO 14001 and ISO 9001 certified  
company REACH and RoHS compliant products

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**Rip cord**

Two aramid cords



Technical information	3x50/16	3x95/16	3x95/25	3x120/16	3x150/25	3x240/25	3x240/35
<b>Product code</b>	<b>1187913</b>	<b>1187915</b>	<b>1187905</b>	<b>1187916</b>	<b>1187917</b>	<b>1187919</b>	<b>1187909</b>
Nominal cable diameter mm	53	60	60	63	66	76	76
Nominal cable weight kg/km	1783	2429	2481	2788	3176	4367	4447
Nominal weight of copper kg/km	143	143	213	143	215	214	283
Nominal weight of Aluminium kg/km	383	733	733	950	1145	1897	1901
Nominal diameter of conductor mm	8,0	11,1	11,1	12,6	13,9	17,8	17,8
Nominal thickness of conductor screen mm	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Nominal Insulation thickness mm	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Nominal diameter over the insulation without insulation screen mm	19,2	22,3	22,3	23,8	25,1	29,2	29,2
Nominal thickness of insulation screen mm	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Nominal size of metal screen mm <sup>2</sup>	16	16	25	16	25	25	35
Nominal thickness of PE-laminated aluminium foil mm	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Nominal thickness of oversheath mm	2,8	3,0	3,0	3,1	3,2	3,5	3,5
<b>Maximum forces during installation when pulling by</b>							
Max. pulling force by pulling-eye kN	7,5	14,3	14,3	18,0	20,0	20,0	20,0
Max. pulling force by pulling-stocking kN	2,3	4,3	4,3	5,4	6,8	8,5	8,5
<b>Minimum bending radii</b>							
Minimum bending radius, handling mm	637	718	723	761	795	910	915
Minimum bending radius, final bending mm	446	503	506	533	557	637	640
<b>Minimum bending radii</b>							
During handling and installation, phase conductor cm	30	35	35	37	39	45	45
During handling and installation, cable cm	64	72	72	76	80	91	91
In final installation, phase conductor cm	21	24	24	26	27	32	32
In final installation, cable cm	45	50	51	53	56	64	64
<b>Minimum bending radii</b>							
During handling and installation, cable m	0,64	0,72	0,72	0,76	0,80	0,91	0,92
In final installation, cable m	0,45	0,50	0,51	0,53	0,56	0,64	0,64
<b>DC resistance</b>							
Max. DC resistance of conductor at 20 °C Ω/km	0,641	0,320	0,320	0,253	0,206	0,125	0,125
Maximum DC resistance at 20 °C, metal screen Ω/km	1,2	1,2	0,8	1,2	0,8	0,8	0,6

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Technical information	3x50/16	3x95/16	3x95/25	3x120/16	3x150/25	3x240/25	3x240/35
<b>AC resistance of phase conductor, screen circuit closed</b>							
Conductor temperature 40 °C Ω/km	0,6927	0,3460	0,3460	0,2736	0,2229	0,1356	0,1356
Conductor temperature 65 °C Ω/km	0,7573	0,3782	0,3782	0,2991	0,2436	0,1482	0,1482
Conductor temperature 70 °C Ω/km	0,7702	0,3846	0,3846	0,3042	0,2478	0,1507	0,1507
Conductor temperature 90 °C Ω/km	0,8219	0,4104	0,4104	0,3246	0,2644	0,1607	0,1607
<b>Inductance per phase</b>							
In trefoil formation, cables touching each other mH/km	0,37	0,33	0,33	0,32	0,31	0,29	0,29
<b>Electrical values</b>							
Calculated operation capacitance μF/km	0,16	0,20	0,20	0,22	0,24	0,29	0,29
Calculated charging current with main voltage A/km	0,6	0,7	0,7	0,8	0,9	1,1	1,1
Calculated earth fault current with main voltage A/km	1,8	2,2	2,2	2,4	2,6	3,2	3,2
<b>Current ratings</b>							
<b>Cables in air (25 °C)</b>							
Trefoil, conductor 90 °C, closed screen A	160	230	230	265	305	400	400
<b>Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m</b>							
Trefoil, conductor 65 °C, closed screen A	145	205	205	230	260	340	340
Trefoil, conductor 90 °C, closed screen A	170	240	240	270	310	400	400
<b>Maximum thermal short circuit current during 1 s</b>							
Phase (initial 90 °C, final 250 °C) kA	4,7	8,9	8,9	11,3	14,1	22,6	22,6
Metal screen (initial 80 °C, final 250 °C) kA	2,3	2,3	3,4	2,3	3,4	3,4	4,7

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STANDARD PACKAGES	3x50/16	3x95/16	3x95/25	3x120/16	3x150/25	3x240/25	3x240/35
Product code	1187913	1187915	1187905	1187916	1187917	1187919	1187909
GTIN code	6438176215746	6438176215760	6438176216200	6438176215784	6438176215807	6438176215845	6438176216217
Package	500 K22	500 K24	500 K26	500 K24	500 K24	500 K26	500 K26