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AXQJ-F TT D / AHXCAMK-HF D 12/20 (24) kV 1-core CAS

Medium voltage cable

12/20 (24) kV

Application

Medium-voltage cable for fixed installations indoors and outdoors. May be buried directly in soil. Installations must be in accordance with national regulations and rules of installations. The cable is halogen-free and flame-retardant according to CPR-class Dca-s2,d2,a2.

Design

Standards	SS 424 14 16:2024, HD 622 S1 Section 4B:2023
Reaction to fire	Dca-s2,d2,a2; EN 13501-6, EN 50575:2014+A1:2016
Conductor	Watertight, circular, stranded aluminium, EN/IEC 60228 class 2
Conductor screen	Semiconducting cross-linked polyethylene XLPE
Insulation	Cross-linked polyethylene XLPE
Insulation screen	Semiconducting cross-linked polyethylene XLPE
Inner covering	Semiconducting waterswellable tape
Inner covering	Semiconducting waterswellable tape
Metal screen	Copper wires and aluminium foil (CAS). Polyethylene laminated aluminium foil acts as a part of the metallic screen and needs to be connected in cable joints and terminations
Oversheath	UV-protected halogen-free polyolefin compound , Black

Temperature limits

Max. conductor temperature °C	90
Max. cond. temp. short circuit max. 5 s °C	250
Min. cable temperature during operation °C	-50
Min. cable temperature during handling °C	-15
Min. cable temperature during transport °C	-25

Longitudinal watertightness	Water swellable tape applied under and over metal screen
Transverse watertightness	Polyethylene laminated aluminium foil bonded to the sheath

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Technical information	1x240/35 CAS	1x300/35 CAS	1x400/35 CAS	1x500/35 CAS	1x630/35 CAS
Product code	**1181581**	**1181582**	**1181583**	**1181584**	**1181585**
Nominal cable diameter mm	38	40	43	46	50
Nominal cable weight kg/km	1759	2001	2259	2730	3318
Nominal weight of copper kg/km	198	198	198	195	195
Nominal weight of Aluminium kg/km	631	806	960	1298	1718
Nominal diameter of conductor mm	17,8	19,8	22,4	25,7	29,3
Nominal thickness of conductor screen mm	0,5	0,5	0,5	0,5	0,5
Nominal Insulation thicness mm	5,5	5,5	5,5	5,5	5,5
Nominal diameter over the insulation without insulation screen mm	29,2	31,0	33,6	36,9	40,7
Nominal thickness of insulation screen mm	0,5	0,5	0,5	0,5	0,5
Nominal size of metal screen mm²	35	35	35	35	35
Nominal thickness of PE-laminated aluminium foil mm	0,2	0,2	0,2	0,2	0,2
Nominal thickness of oversheath mm	2,2	2,3	2,4	2,5	2,6
Fire load					
Fire load MJ/m	30,839	33,272	36,555	41,014	46,889
Fire load kWh/m	8,566	9,242	10,154	11,393	13,025
Maximum forces during installation when pulling by					
Max. pulling force by pulling-eye kN	7,2	9,0	12,0	15,0	18,9
Max. pulling force by pulling-stocking kN	3,6	4,5	6,0	7,5	8,5
Minimum bending radii					
Minimum bending radius, handling mm	575	604	647	694	753
Minimum bending radius, final bending mm	402	423	453	486	527
Minimum bending radii					
During handling and installation, cable cm	57	60	65	69	75
In final installation, cable cm	40	42	45	49	53
Minimum bending radii					
During handling and installation, cable m	0,57	0,60	0,65	0,69	0,75
In final installation, cable m	0,40	0,42	0,45	0,49	0,53
DC resistance					
Max. DC resistance of conductor at 20 °C Ω/km	0,125	0,1	0,0778	0,0605	0,0469
Maximum DC resistance at 20 °C, metal screen Ω/km	0,524	0,524	0,524	0,524	0,524

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Technical information	1x240/35 CAS	1x300/35 CAS	1x400/35 CAS	1x500/35 CAS	1x630/35 CAS
AC resistance of phase conductor, screen circuit closed					
Conductor temperature 40 °C Ω/km	0,1356	0,1088	0,0850	0,0666	0,0522
Conductor temperature 65 °C Ω/km	0,1482	0,1188	0,0927	0,0726	0,0568
Conductor temperature 70 °C Ω/km	0,1507	0,1208	0,0943	0,0738	0,0577
Conductor temperature 90 °C Ω/km	0,1607	0,1288	0,1005	0,0786	0,0614
Inductance per phase					
In flat formation, free space between cables equal to one cable diameter mH/km	0,52	0,51	0,50	0,49	0,48
In trefoil formation, cables touching each other mH/km	0,34	0,33	0,31	0,30	0,29
Electrical values					
Calculated operation capacitance µF/km	0,29	0,31	0,34	0,39	0,43
Calculated charging current with main voltage A/km	1,1	1,1	1,3	1,4	1,6
Calculated earth fault current with main voltage A/km	3,2	3,4	3,8	4,2	4,7
Current ratings					
Cables in air (25 °C)					
Flat, conductor 90 °C, open screen A	570	650	790	920	1040
Flat, conductor 90 °C, closed screen A	515	580	680	755	840
Trefoil, conductor 90 °C, open screen A	505	580	695	800	915
Trefoil, conductor 90 °C, closed screen A	490	565	680	775	880
Cables in the ground (15 °C and 1,0 K.m/W), Installation depth 0,7 m					
Flat, conductor 65 °C, open screen A	435	485	570	645	720
Flat, conductor 65 °C, closed screen A	395	440	500	550	610
Flat, conductor 90 °C, open screen A	510	570	670	760	850
Flat, conductor 90 °C, closed screen A	465	515	590	650	715
Trefoil, conductor 65 °C, open screen A	395	445	525	590	665
Trefoil, conductor 65 °C, closed screen A	385	435	510	570	635
Trefoil, conductor 90 °C, open screen A	465	525	615	695	780
Trefoil, conductor 90 °C, closed screen A	455	510	600	670	745
Maximum thermal short circuit current during 1 s					
Phase (initial 90 °C, final 250 °C) kA	22,6	28,3	37,8	47,2	59,5
Metal screen (initial 80 °C, final 250 °C) kA	4,7	4,7	4,7	4,7	4,7

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STANDARD PACKAGES	1x240/35 CAS	1x300/35 CAS	1x400/35 CAS	1x500/35 CAS	1x630/35 CAS
Product code	1181581	1181582	1181583	1181584	1181585
GTIN code	6438176228159	6438176228180	6438176228210	6438176228241	6438176228272
Package	1000 K22	1000 K24	1000 K24	1000 K26	1000 K26
Product code	1181581	1181582	1181583	1181584	1181585
GTIN code	6438176228142	6438176228173	6438176228203	6438176228234	6438176228265
Package	500 K20	500 K20	500 K22	500 K26	500 K26