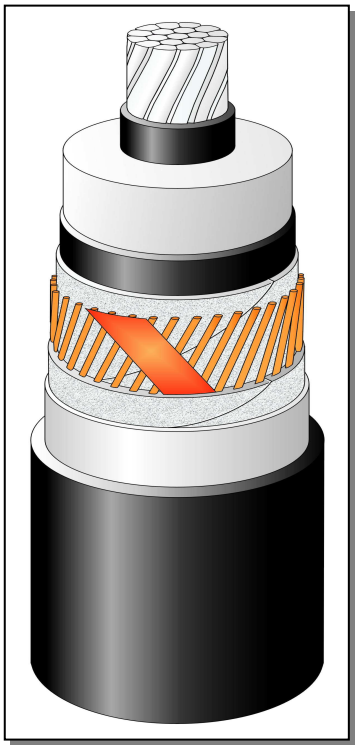
TECHNICAL SPECIFICATION
A2XS(FL)2Y 1x120RM/25 40/69kV IEC 60840

CONSTRUCTION (x)

- Round, stranded and compacted aluminum conductor. Class 2.
- Extruded semi-conducting conductor screen
- Insulation XLPE – dry cured
- Extruded semi-conducting insulation screen
- Semi-conducting swelling tapes
- Metallic screen:
  copper wires screen and
  copper equalizing tapes
- Semi-conducting swelling tapes
- Longitudinal aluminum foil
- Sheath – Black HDPE type ST7

MARKING

TF KABLE, product name, date of manufacture, standard, meter marking



The picture is informative only – not in scale

APPLICATION

- Laying in ground (wet or dry locations)
- Laying in air
- Laying in ducts

Highest permissible conductor temperature

- Continuous operation 90°C
- Overload 105°C
- Short circuit 250°C (duration max 5s)

Laying is possible without any special measures at natural cable temperatures and ambient temperature not lower than -5°C, with Tele-Fonika supervising

DESCRIPTION	UNIT	DETAILS	
CONSTRUCTION DATA	**$U_0/U/U_m$**	**40/69 (72,5) kV**	
Conductor ❑ material ❑ number of wires	 No	 Aluminum 18	
Nominal cross sectional area	mm^2	120	
Conductor diameter and tolerance	mm	$12.5^{+0.2}$	
Min./Nom. thickness semi-conducting XLPE on conductor	mm	0.3 / 0.6	
Nominal insulation thickness XLPE	mm	12.0	
Insulation thickness: minimum at a point	mm	10.8	
Diameter over insulation – nominal	mm	37.7	
Min./Nom. thickness semi-conducting XLPE on insulation	mm	0.3 / 0.6	
Thickness of semi-conducting swelling tape	No x mm	1 x ~ 0.35	
Metallic screen ❑ Copper wires ❑ Copper equalizing tape	mm^2 No x mm No x mm x mm	25 30 x 1.04 2 x 10 x 0.10	
Mean diameter over metallic screen	mm	41.2	
Thickness of semi-conducting swelling tape	No x mm	1 x ~ 0.35	
Thickness of aluminum foil	mm	0.2	
Diameter over aluminum foil	mm	42.4	
Nominal thickness of outer sheath / min.	mm	2.5 / 2.03	
Approximate overall diameter completed cable (D_e)	mm	47.6	
Weight of complete cable (approx.)	kg/km	2080	
DELIVERY DATA			
Diameter of wooden drum ❑ type	m	2.4 24	3.0 30
Maximum length per drum	m	1000	2000
Weight of heaviest reel, including cable	kg	2900	6000

(x) Diameters are calculated values and subject to manufacturing tolerances

ELECTRICAL DATA at 50Hz			
Maximum D.C. conductor resistance at 20°C	Ω/km	0.2530	
Maximum A.C. conductor resistance at 90°C	Ω/km	0.3250	
Maximum D.C. metallic screen resistance at 20°C	Ω/km	0.700	0.399
Maximum D.C. aluminum foil resistance at 20°C	Ω/km	0.930	
Operating inductance ❑ trefoil formation ❑ flat formation (*)	 mH/km mH/km	 0.461 0.646	
Induction reactance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.145 0.203	
Capacitance	μF/km	0.135 (+ 8 %)	
Capacitance reactance	kΩ/km	24.17	
Impedance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.356 0.383	
Zero sequence reactance	Ω/km	0.092	
Max. electric stress at conductor screen / (at insulation)	kV/mm	5.8 / 2.1	
Dielectric losses (tgδ = 0.001) – per phase	W/m	0.066	
Partial discharge test – at 1.5Uo	pC	≤ 5	
Charging current – per phase	A/km	1.66	
Charging power	kVA/km	66	
Earth fault current – per phase	A/km	4.97	
MECHANICAL DATA			
Recommended min. bending radius for laying	m	1.20	
Recommended permissible bending radius at final installation	m	0.97	
Maximum permissible pulling force:	kN	3.6	
SHORT CIRCUIT CURRENTS			
Maximum permissible thermal short-circuit (IEC 60949) *Current for 1.0 sec.* Phase conductor 90 → 250°C Metallic screen 80 → 350°C	 kA kA	 11.6 5.2	
AMPACITY (**) – Bonding of the metallic screens		**Single-point / Both-ends**	
in earth ❑ flat formation (*) ❑ trefoil formation in air ❑ flat formation ❑ trefoil formation	 A A A A	 301 / 294 288 / 286 364 / 357 321 / 320	
TESTS			
Test voltage – (3Uo; 30min) Partial discharge test	kV kV	120 60	

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(*) Distance between cable axes laid in flat formation D_e+D_e mm

(**) Current rating guideline (Calculated with Cymcap 5.3 based on IEC Pub. 60287 and the following conditions)

- ❑ Ground temperature 20°C
- ❑ Laying depth 1.0 m
- ❑ Ground thermal resistivity 1.0 K · m/W
- ❑ Air temperature 35°C

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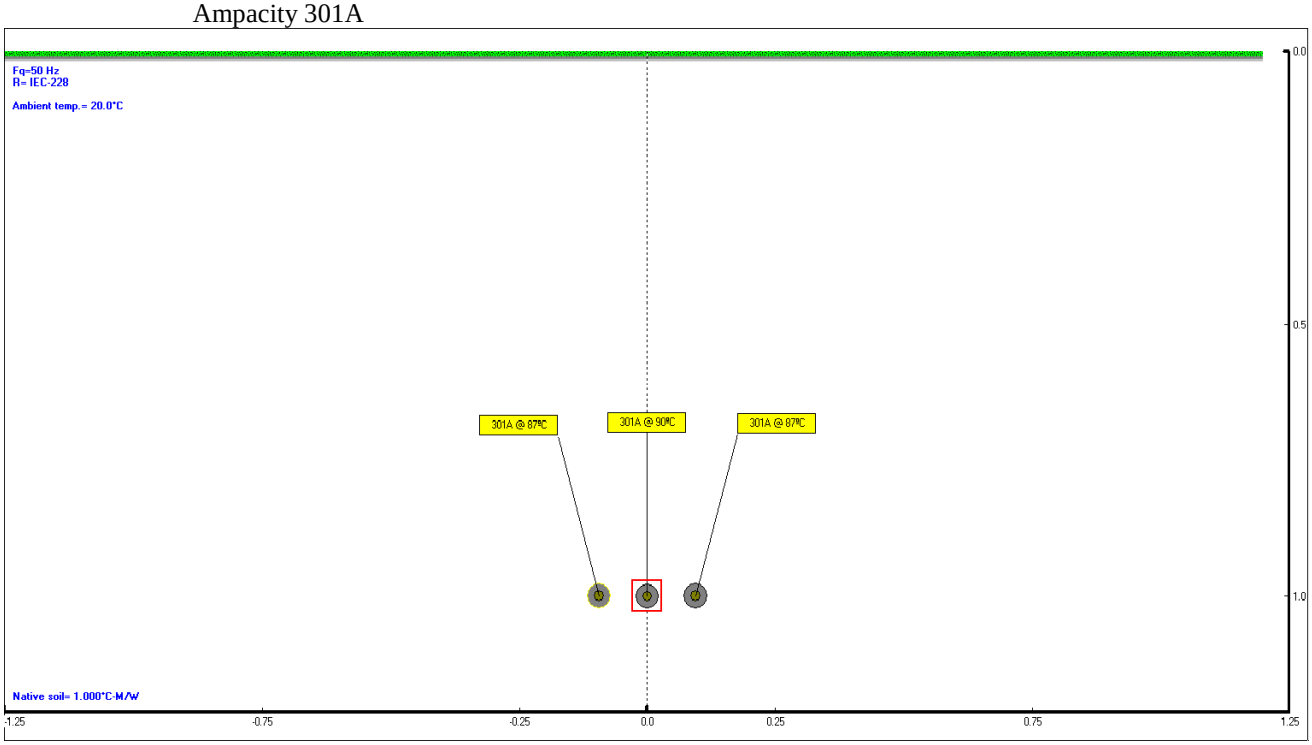
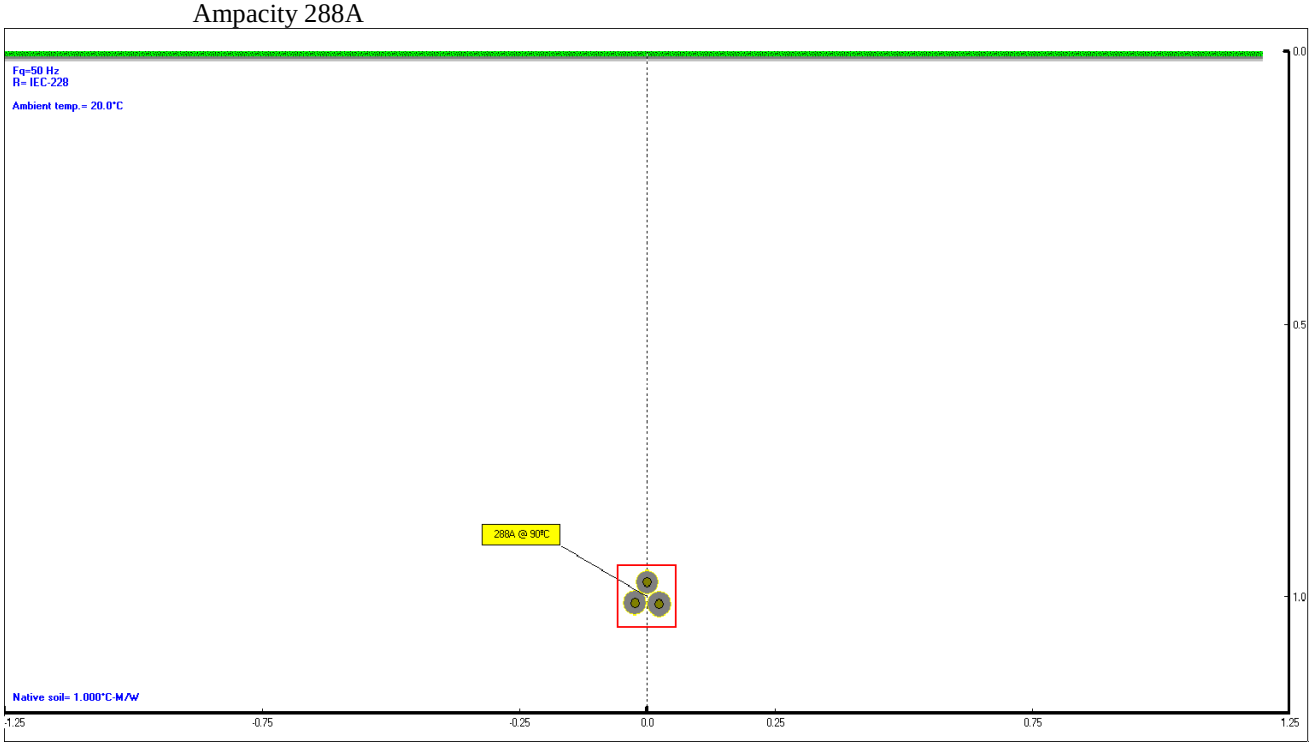
Single point
Ampacity 301A



Ampacity 288A



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