

CABLE DATA for NA2X2Y

General Information



Cable standard(s)

- HD 603 S1

Construction Product Regulation (CPR) Classification

- Regulation: Compliant with the EU Regulation (EU) No. 305/2011 on construction products.
- Intended Use: Suitable for general applications in construction works with fire safety requirements.
- Harmonized Standard: EN 50575:2014.
- Reaction to Fire Classification: Fca (according to EN 13501-6).
- Release of Dangerous Substances: N.P.D. (No Performance Determined).

Flame Retardant Properties

- The cable complies with the self-extinguishing requirements specified in EN 60332-1-2 (single vertical wire flame test).

Temperature Ratings

- Minimum installation and handling temperature: -5°C
- Maximum continuous conductor operating temperature: +90°C
- Maximum conductor temperature during short-circuit (≤ 5 seconds): +250°C
- Permissible ambient temperature range during operation: -30°C to +50°C

Minimum Bending Radius (D = external diameter of the cable)

- $15 \times D$ for single core cable.
- $12 \times D$ for multi-core cable

Application of the cable:

- The NA2X2Y is a robust power distribution cable designed for fixed installations, distinguished by its aluminum conductors and a durable Polyethylene (PE) outer sheath. This specific construction offers an optimal balance of low weight, mechanical strength, and environmental resistance.
- Superior Durability: The Polyethylene (PE) jacket provides exceptional resistance to mechanical abrasion and chemical stress, making this cable significantly more robust than standard PVC-sheathed alternatives.
- Moisture Resistance: Due to the hydrophobic nature of the PE sheath, the cable is ideally suited for direct burial underground, installation in damp environments, and permanent submersion in water.
- Installation Versatility: Suitable for use in cable ducts, outdoor applications (with UV-resistant black sheathing), and industrial facilities.
- Primary Use: It serves as a cost-effective and reliable solution for power stations, industrial distribution boards, and subscriber networks where long-distance durability is required.

Note: While the PE sheath offers superior mechanical protection, care should be taken regarding fire safety regulations when installing indoors, as PE is not flame retardant by default compared to PVC.

Cable Construction and Electrical Properties

Conductor(s)

- Aluminium conductor, Class 1 (solid), round (RE) and Class 2 (stranded), round (RM) or sector-shaped (SM), in accordance with IEC 60228.
- Copper conductor for signal core - optional.

Insulation:

- XLPE insulation compound DIX3, according to HD 603 S1.
- Wire cores concentrically stranded, with or without a yellow-green protective conductor.
- Insulation color coding according to HD 308 S2.

Filler:

- EPDM extruded elastomer or plastomer compound, or wrapped thermoplastic tape.

Sheath:

- HDPE outer sheath, compound type DMP2, according to HD 603 S1.
- Sheath color: Black.

Rated Voltage

- $U_0/U = 0,6/1$ kV

Test Voltage

- 4 kV AC for power cores
- 1,5 kV AC for the optional pilot core, according to HD 603-1 Table 3.1

Dimensional Specifications

Nº	Construction [n×mm ²]	Metal index [kg/km]	Weight (approx.) [kg/km]	Diameter (range) [mm]	Resistance at 20°C [Ω/km]
1	1×16 RM	46	117	8,0–10,5	1,910
2	1×25 RM	74	165	9,5–12,0	1,200
3	1×35 RM	103	202	10,5–13,5	0,868
4	1×50 RM	147	274	12,0–15,0	0,611
5	1×70 RM	206	352	13,5–17,0	0,443
6	1×95 RM	279	457	15,0–19,0	0,320
7	1×120 RM	353	543	16,5–20,5	0,253
8	1×150 RM	441	650	18,0–22,5	0,206
9	1×185 RM	544	800	20,0–25,0	0,164
10	1×240 RM	606	1009	22,0–27,5	0,125
11	1×300 RM	882	1246	24,5–30,5	0,100
12	3×16 RM	140	496	18,5–21,5	1,910
13	3×25 RM	218	711	21,5–24,5	1,200
14	3×35 SM	305	877	23,5–26,5	0,868
15	3×50 SM	435	924	25,0–28,0	0,611
16	3×70 SM	618	1224	28,0–32,0	0,443
17	3×95 SM	827	1583	32,0–36,0	0,320
18	3×120 SM	1044	1863	34,5–38,5	0,253
19	3×150 SM	1305	2276	38,0–42,0	0,206
20	3×185 SM	1610	2762	41,5–45,5	0,164
21	3×240 SM	2088	3506	46,5–51,0	0,125

Nº	Construction [n×mm ²]	Metal index [kg/km]	Weight (approx.) [kg/km]	Diameter (approx.) [mm]	Resistance at 20°C [Ω/km]
22	3×25+16 RM/RM	264	507	24,5–27,5	1,20/1,90
23	3×35+16 SM/RM	351	954	27,0–30,0	0,868/1,90
24	3×50+25 SM/RM	509	1174	31,5–34,5	0,611/1,20
25	3×70+35 SM/RM	721	1542	35,0–38,5	0,443/0,868
26	3×95+50 SM/RM	974	1955	38,5–42,0	0,320/0,611
27	3×120+70 SM/RM	1250	2375	43,0–47,0	0,253/0,443
28	3×150+70 SM/RM	1511	2793	47,5–51,5	0,206/0,443
29	3×185+95 SM/RM	1889	3423	53,0–58,0	0,164/0,320
30	3×240 +120 SM/RM	2441	4360	58,0–63,0	0,125/0,253
31	4×16 RM	186	581	23,0–26,0	1,91
32	4×25 RM	290	845	25,0–28,0	1,20
33	4×35 SM	406	979	28,0–31,5	0,868
34	4×50 SM	580	1275	32,0–35,5	0,611
35	4×70 SM	812	1642	36,5–40,0	0,443
36	4×95 SM	1102	2124	39,5–43,5	0,320
37	4×120 SM	1392	2573	44,0–48,0	0,253
38	4×150 SM	1740	3112	48,5–53,0	0,206
39	4×185 SM	2146	3856	55,0–60,0	0,164
40	4×240 SM	2784	4846	60,0–65,0	0,125
41	5×16 RE	245	711	26,0–29,0	1,91
42	5×25 RM	383	1068	29,0–32,5	1,20
43	5×35 RM	536	1336	32,5–36,0	0,868

Ampacity Chart

Cross section [mm ²]	Ampacity in air at 30 C in [A]			Ampacity in ground at 20 C in [A]		
						
16	68	58	52	73	65	60
25	110	87	82	160	106	102
35	135	107	100	193	127	23
50	166	131	119	230	151	144
70	210	166	152	283	185	179
95	259	205	186	340	222	215
120	302	239	216	389	253	245
150	345	273	246	436	284	275
185	401	317	285	496	322	313
240	479	378	338	578	375	364
300	555	437	400	656	425	419

Optional signal Cu core:

Nº	Cross section [mm ²]	Metal index [kg/km]	Nominal insulation thickness [mm]	Outer Diameter [mm]	Resistance at 20°C [Ω/km]
1	1,5	14,4	0,7	9,5	1,910
2	2,5	24,0	0,7	11,9	1,200