NYCY 0,6/1kV
(N)YCY 0,6/1kV*

VDE 0276-603, VDE 0276-627, HD 603 S1, HD 627 S1, IEC 60502-1
*** based on norm**

PVC insulated and PVC sheathed power and control cable with concentric copper conductor

APPLICATIONS

- PVC insulated and sheathed power and auxiliary control cables for the supply of electrical energy.
- Special for installations in the open air, in underground and water, indoors, in cable ducts. The concentric conductor may be used as a PE (protective earth) or PEN (protective neutral/earth) conductor or as a screen.

CONSTRUCTION

Conductors	annealed copper solid class 1(RE), circular or circular compacted stranded conductor class 2 (RM) or stranded sector – shaped conductor class 2 (SM) acc. to EN 60228
Insulation	special PVC compound type DIV4 acc. to HD 603.1
Inner covering	filling compound
Concentric conductor	round copper wires and copper tape + polyester tape
Sheath	special PVC compound type DMV5 acc. to HD 603.1

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CHARACTERISTIC

Colour of sheath	black (other colours, included in standard RAL pallet available at customer request as (N)YCY)
Core identification	HD 308 S2 (other colours available at customer request) 1-core: black 2-core: blue, brown 3-core: brown, black, grey 3-core:* blue, brown, black 4-core: blue, brown, black, grey 5-core: blue, brown, black, grey, black 6 and more: black with white numbering *For certain applications only.
Maximum conductor operating temperature	+70°C
Lowest ambient temperature for fixed installation	-40°C
Lowest installation temperature	-5°C
Maximum short-circuit conductor temperature	+160°C
Minimum bending radius	15 x D single core cables, 12 x D multicore cables, D – overall diameter
Max. permissible tensile stress with cable grip for Cu-conductor	50 N/mm^2
Test voltage	4 kV
Current of short-circuit (1 sec)	115 x nominal cross section conductor (A)

Fire performance

Flame retardant	EN 60332-1-2
CPR – class reaction to fire (acc EN 50575)	Eca above 1-core

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Standard length cable packing	500 or 1000m on drums. Other forms of packing and delivery are available on request
APPROVALS	VDE, GOST

Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
1x6RE/6	10,2	201	3,08/3,08
1x10RE/10	11,1	282	1,83/1,83
1x16RE/16	12,2	404	1,15/1,15
1x35RM/16	15,4	625	0,524/1,15
1x70RM/25*	18,9	1063	0,268/0,727
1x70RM/16*	18,4	972	0,268/1,15
1x95RM/16*	21,0	1262	0,193/1,15
1x120RM/16*	22,4	1505	0,153/1,15
1x185RM/25*	26,6	2249	0,0991/0,727
1x240RM/16*	29	2721	0,0754/1,15
1x240RM/25*	29,7	2825	0,0754/0,727
1x240RM/35*	29,5	2905	0,0754/0,524
1x240RM/70*	30,4	3248	0,0754/0,268
1x300RF/16*	34	3223	0,0641/01,15
1x300RM/35*	31,9	3522	0,0601/0,524
1x300RM/95*	35,0	4284	0,0601/0,193
1x400RM/35*	35,6	4448	0,0470/0,524
1x500RM/50*	39,2	5663	0,0366/0,387
2x1,5RE/1,5	11,8	198	12,1/12,1
2x1,5RM/1,5	12,2	209	12,1/12,1

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Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
2x2,5RE/2,5	12,6	241	7,41/7,41
2x2,5RM/2,5	13,1	256	7,41/7,41
2x4RE/4	14,7	338	4,61/4,61
2x4RM/4	15,3	360	4,61/4,61
2x6RE/6	16	420	3,08/3,08
2x6RM/6	16,3	433	3,08/3,08
2x10RE/10	17,7	577	1,83/1,83
2x10RM/10	18,3	602	1,83/1,83
2x16RE/16	19,5	794	1,15/1,15
2x16RM/16	20,3	833	1,15/1,15
2x25RM/16	24,2	1177	0,727/1,15
2x35RM/16	26,3	1446	0,524/1,15
2x70RM/35	33,5	2602	0,268/0,524
3x1,5RE/1,5	12,2	218	12,1/12,1
3x1,5RM/1,5	12,7	231	12,1/12,1
3x2,5RE/2,5	13,1	271	7,41/7,41
3x2,5RM/2,5	13,6	287	7,41/7,41
3x4RE/4	15,3	384	4,61/4,61
3x4RM/4	16	408	4,61/4,61
3x6RE/6	16,7	484	3,08/3,08
3x6RM/6	17,1	499	3,08/3,08
3x10RE/10	18,5	674	1,83/1,83
3x10RM/10	19,1	701	1,83/1,83
3x16RE/16	20,4	940	1,15/1,15

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Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
3x16RM/16	21,3	983	1,15/1,15
3x25RM/16	25,5	1411	0,727/1,15
3x25RM/25	26	1502	0,727/0,727
3x35RM/16	27,7	1762	0,524/1,15
3x35RM/35*	28,2	1946	0,524/0,524
3x35SM/16	25,2	1560	0,524/1,15
3x35SM/35	25,7	1744	0,524/0,524
3x50SM/25	28,7	2099	0,387/0,727
3x50SM/50	28,7	2322	0,387/0,387
3x70SM/35	32,3	2890	0,268/0,524
3x70SM/70	33	3219	0,268/0,268
3x95SM/50	36,4	3920	0,193/0,387
3x95SM/95	37,1	4336	0,193/0,193
3x120SM70	39,8	4892	0,153/0,268
3x120SM/120	40,8	5387	0,153/0,153
3x150SM/70	44,2	5897	0,124/0,268
3x150SM/150	45,4	6688	0,124/0,124
3x185SM/95	48,3	7347	0,0991/0,193
3x240SM/120	55,1	9569	0,0754/0,153
4x1,5RE/1,5	13	255	12,1/12,1
4x1,5RM/1,5	13,4	268	12,1/12,1
4x2,5RE/2,5	13,9	310	7,41/7,41
4x2,5RM/2,5	14,5	330	7,41/7,41
4x4RE/4	16,4	445	4,61/4,61

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Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
4x4RM/4	17,1	472	4,61/4,61
4x6RE/6	17,8	563	3,08/3,08
4x6RM/6	18,3	582	3,08/3,08
4x10RE/10	19,8	794	1,83/1,83
4x10RM/10	20,6	827	1,83/1,83
4x16RE/16	22	1116	1,15/1,15
4x16RM/16	23	1167	1,15/1,15
4x25RM/16	27,6	1695	0,727/1,15
4x25RM/25*	28,1	1787	0,727/0,727
4x35RM/16	30,2	2157	0,524/1,15
4x35RM/35*	30,7	2341	0,524/0,524
4x35SM/16	27,9	1964	0,524/1,15
4x35SM/35*	28,6	2161	0,524/0,524
4x50SM/25	32,5	2696	0,387/0,727
4x50RM/25	36,1	3012	0,387/0,727
4x50SM/50*	33,0	2954	0,387/0,387
4x70SM/35	36	3655	0,268/0,524
4x95SM/50	40,9	4977	0,193/0,387
4x95SM/95*	42,1	5439	0,193/0,193
4x120SM/70	45,4	6248	0,153/0,268
4x150SM/70	49,6	7506	0,124/0,268
4x185SM/95	54,5	9368	0,0991/0,193
5x1,5RE/1,5	13,8	291	12,1/12,1
5x1,5RM/1,5	14,3	307	12,1/12,1

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Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
5x2,5RE/2,5	14,8	358	7,41/7,41
5x2,5RM/2,5	15,5	382	7,41/7,41
5x4RE/4	17,5	517	4,61/4,61
5x4RM/4	18,3	550	4,61/4,61
5x6RE/6	19,1	660	3,08/3,08
5x6RM/6	19,6	682	3,08/3,08
5x10RE/10	21,4	938	1,83/1,83
5x10RM/10	22,2	976	1,83/1,83
5x16RE/16	23,8	1323	1,15/1,15
5x16RM/16	24,9	1385	1,15/1,15
5x25RM/25*	31,1	2163	0,727/0,727
5x35RM/16	33	2599	0,524/1,15
5x50RM/50*	39,5	3848	0,387/0,387
5x95RM/95*	51,4	7144	0,193/0,193
6x1,5RE/2,5*	14,6	327	12,1/7,41
6x2,5RE/2,5	15,7	407	7,41/7,41
6x4RE/4	18,7	592	4,61/4,61
6x6RE/6*	20,5	760	3,08/3,08
7x1,5RE/1,5*	14,6	338	12,1/12,1
7x1,5RE/2,5	14,6	338	12,1/7,41
7x1,5RM/2,5	15,2	357	12,1/7,41
7x2,5RE/2,5	15,7	425	7,41/7,41
7x2,5RM/2,5	16,5	453	7,41/7,41
7x4RE/4	18,7	621	4,61/3,08

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Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
7x6RE/6*	20,5	802	3,08/3,08
8x1,5RE/2,5	15,2	373	12,1/7,41
8x2,5RE/4*	16,8	494	7,41/4,61
8x4RE/4	20,3	726	4,61/4,61
8x4RE/6*	19,9	714	4,61/3,08
8x6RE/6*	21,5	901	3,08/3,08
10x1,5RE/2,5	17,3	448	12,1/7,41
10x2,5RE/4	19,3	595	7,41/4,61
10x4RE/6	22,7	861	4,61/3,08
10x6RE/6*	24,7	1094	3,08/3,08
12x1,5RE/2,5	17,8	491	12,1/7,41
12x1,5RM/2,5	18,6	521	12,1/7,41
12x2,5RE/4	19,7	655	7,41/4,61
12x2,5RE/6*	20,0	673	7,41/3,08
12x4RE/6	23,3	957	4,61/3,08
12x6RE/10*	25,8	1267	3,08/1,83
14x1,5RE/2,5	18,5	540	12,1/7,41
14x2,5RE/4*	20,6	726	7,41/4,61
14x2,5RE/6	20,9	745	7,41/3,08
14x4RE/6	24,4	1066	4,61/3,08
16x1,5RE/4*	19,7	616	12,1/4,61
16x2,5RE/6	21,8	822	7,41/3,08
16x4RE/4*	25,4	1174	4,61/4,61
16x4RE/10	25,9	1226	4,41/1,83

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Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20oC
n x mm²	**mm**	**kg/km**	**Ω/km**
19x1,5RE/4	20,5	684	12,1/4,61
19x2,5RE/6	22,7	918	7,41/3,08
19x4RE/10	27,1	1377	4,61/1,83
20x1,5RE/6*	21,6	756	12,1/3,08
20x2,5RE/10*	23,7	1026	7,41/1,83
21x1,5RE/6*	21,4	758	12,1/3,08
21x2,5RE/6	24,2	1046	7,41/3,08
21x2,5RE/10*	24,6	1086	7,41/1,83
24x1,5RE/6	23,3	849	12,1/3,08
24x2,5RE/10	25,9	1161	7,41/1,83
24x4RE/10*	31,7	1742	4,61/1,83
27x1,5RE/6	23,7	912	12,1/3,08
30x1,5RE/6	24,4	981	12,1/3,08
30x2,5RE/10	27,2	1352	7,41/1,83
37x1,5RE/10*	26,4	1184	12,1/1,83
37x2,5RE/10	29,3	1600	7,41/1,83
40x1,5RE/10	27,1	1260	12,1/1,83
40x2,5RE/10	30	1708	7,41/1,83
48x1,5RE/16*	29,9	1478	12,1/1,15
52x1,5RE/10	30,8	1531	12,1/1,83
52x1,5RE/16*	30,8	1586	12,1/1,15
52x2,5RE/10	34	2114	7,41/1,83
61x1,5RE/10	32,6	1749	12,1/1,15
61x1,5RE/16*	32,6	1804	12,1/1,15

**based on norm (N)YCY*

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Current ratings*

Operating temperature at conductor 70°C; ambient air temperature 30°C, ground temperature 20°C

Installation				
Number of loaded cores	3	3	3	3
	laying in ground		laying in air	
Cross-section, mm²	**Current ratings in Ampere (A)**			
1,5	27	31	19,5	22
2,5	36	40	26	29
4	47	51	34	39
6	59	63	44	49
10	79	84	60	67
16	102	108	80	89
25	133	139	108	119
35	160	166	132	146
50	190	196	160	177
70	234	238	202	221
95	280	281	249	270
120	319	315	289	310
150	357	347	329	350
185	402	385	377	399
240	463	432	443	462

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Current ratings for control cables – HD 627 S1

Number of loaded cores	3	3 3
	laying in ground	laying in air
Cross-section, mm²	**Current ratings in Ampere (A)**	
1,5	27	19,5
2,5	36	26
4	47	34

The values are referred to the following basic conditions:

Laying in ground		Laying in air	
Ground temperature at installation depth	20°C	Ambient temperature	30°C
Load factor	0,7	Load factor	1,0
Soil-thermal resistivity of moist area	1,0 K · m/W	Arrangement: free in air, protection against direct solar radiation, no external heat sources, unrestricted dissipation of heat.	
Soil-thermal resistivity of dry area	2,5 K · m/W		
Laying depth	0,7 m		

Correction factors for various ambient air temperatures

Ambient temperature, °C	10	15	20	25	30	35	40	45	50
Rating factor	1,22	1,17	1,12	1,06	1,00	0,94	0,87	0,79	0,71

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Number of loaded cores	Laying in ground	Laying in air
5	0,70	0,75
7	0,60	0,65
10	0,50	0,55
14	0,45	0,50
19	0,40	0,45
24	0,35	0,40
40	0,30	0,35
61	0,25	0,30

Note: valid for cross-section 1,5 to 10 mm^2

** As defined in DIN VDE 0276-603, HD 603 S1.*
Conversion factors for deviating ambient temperature defined in DIN VDE 0298 part 4.

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