



RONDOFLEX (C)-FC

(N)GRDGCGOEU-J

Overall Screened Festoon Cable
for FC-Drives



Technical Data

	Type	RONDOFLEX (C) - FC
	Type designation	(N)GRDGCGOEU-J
	Approvals/ standards	Based on DIN VDE 0250, Part 814 VDE Reg. No. 7841; GOST R
	Application	For use on festoon systems, e.g. on gantry cranes, hall gantry cranes, rack material handling equipment, transportation systems or machine tools. Especially where some danger interference of data cables produced by power cables can be expected or max. emission values acc. to EN 55011/55022 must be achieved. The cables are used for high mechanical stresses and frequent bending. Also suitable for use as a flexible motor power supply cable.
Electrical parameters	Rated voltage	U ₀ /U = 0.6/1 kV
	Maximum permissible operating voltage in AC systems	U max (eff) = 1.2 kV
	AC test voltage	5 kV, 5 min
	max. permissible peak AC voltage	U [^] = 2.4 kV
	For connection on frequency converter	U max = 690V
	Current-carrying capacity	According to DIN VDE 0298, Part 4
	EMV	Given because of a special cable design
Thermal parameters	Ambient temperature	
	- Fully flexible operation	-35°C to +80°C
	- Fixed installation	-50°C to +80°C
	Maximum permissible operating temperature of the conductor	90°C
	Short-circuit temperature of the conductor	250°C
Mechanical parameters	Tensile load	Up to 15 N/mm ²
	Torsional stresses	No application
	Minimum bending radii	According to DIN VDE 0298, Part 3
	Travel speed	
	- Trolley	Guidance value: up to 240m/min comment: The trouble free operation is influence by a number of factors (e.g. space, cable weight, loop length, number of motor driven carriers). It is recommended to consult the cable manufacturer at travel speeds beyond 240 m/min.
	Additional tests	Bending test
Chemical parameters	Resistance to oil	DIN VDE 0473, Part 811-2-1, Para. 10
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture



Design features

Type	RONDOFLEX (C)-FC
Conductor	finely stranded copper conductor (bare electrolytic copper), class 5
Earth conductor	Tinned, extremely finely stranded copper conductor, class FS
Insulation (refer also to DIN VDE 0207)	PROTOLON, basic material EPR, rubber compound 3GI3
Core identification	black, blue, brown, earth conductor green-yellow
Core arrangement	up to 10 ² mm: 4-core design from 16mm ² on: Three main conductors, earth conductor splitted into three parts and placed into the interstices
Inner sheath	Basic material EPR, compound type GM1b, color: black
Overall shield	Braid screen made of tinned copper wires, surface covered: >80%, transfer impedance <100mOhm/m at <= 30MHz
Outer sheath	Basic material PCP, rubber compound 5GM3, colour: black
Marking	RONDOFLEX (C)-FC (N)GRDGCGÖU-J (number of cores)x(cross section) 0,1/1 kV VDE-Reg.- No. 7841
Remark at short circuit	Caused by external damages a short circuit current can occur between phase conductor and the screen or between a phase conductor and a protective conductor. In these cases only the cross section of the screen or the cross section of on protective conductor is available to carry the fault current. The effective resistance of the screen or protective conductor is given by the distance between the point of the fault and the ground connection!

Selection and ordering data

Number of cores and nominal cross-section	Order No.	electr. Shield cross-section	Conductor diameter	Overall diameter of cable Min. value	Overall diameter of cable Max. value	Approx. net weight for 1000 m	Maximum permissible tensile force
		[mm ²]	[mm]	[mm]	[mm]	[kg/km]	[N]

(N)GRDGCGOEU - J - power cables with overall screen

4x4	5DG6 682	8,0	2,45	14,8	17,8	485	240
4x6	5DG6 683	10,7	2,93	17,2	20,2	700	300
4x10	5DG6 684	12,7	3,90	19,7	22,7	925	600
3x16+3x2,5	5DG6 685	13,3	5,72	22,2	25,2	1150	720
3x25+3x4	5DG6 686	15,9	6,75	25,3	28,3	1610	1125
3x35+3x6	5DG6 687	21,4	8,05	29,3	32,3	2160	1575
3x50+3x10	5DG6 688	24,9	9,60	35,0	38,0	3090	2250
3x70+3x10	5DG6 690	29,8	11,5	40,9	43,9	4100	3150
3x95+3x16	5DG6 679	36,9	14,0	44,2	47,2	5040	4275
3X120+3X16	5DG6 680	45,9	15,8	48,7	51,7	5900	5400
3x150+3x25	5DG6 650	53,3	17,8	55,1	58,1	7620	6750

Especially for festoon application we do not recommend cross section beyond 3x50²!

Electrical data

Number of cores and nominal cross-section	Order No.	Conductor resistance	Inductance (core/core) at 10 kHz	Capacitance (guidance value) at 1 kHz	Transfer impedance at 1 MHz	Transfer impedance at 10 MHz	Transfer impedance at 30 MHz
[mm ²]		[Ohm/km]	[μH/km]	[nF/km]	[mOhm/m]	[mOhm/m]	[mOhm/m]
4x4	5DG6 682	4,95	550	180	follows	follows	follows
4x6	5DG6 683	3,3	530	190	follows	follows	follows
4x10	5DG6 684	1,91	510	230	0,4	1,3	3,5
3x16+3x2,5	5DG6 685	1,21	480	225	0,2	0,6	1,5
3x25+3x4	5DG6 686	0,78	450	275	0,2	0,4	1,3
3x35+3x6	5DG6 687	0,55	430	325	0,1	0,4	0,9
3x50+3x10	5DG6 688	0,39	410	400	0,1	0,2	0,7
3x70+3x10	5DG6 690	0,27	390	475	0,1	0,2	0,5
3x95+3x16	5DG6 679	0,21	375	600	0,1	0,2	0,4
3X120+3X16	5DG6 680	0,16	360	700	0,1	0,1	0,3