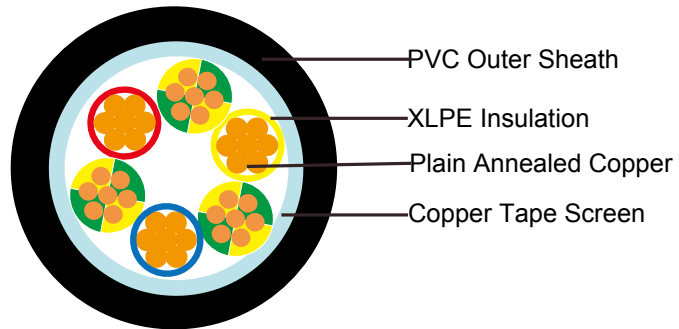




### 600/1000V XLPE Insulated, PVC Sheathed, Screened Power Cables (3C+3E)

#### FGD300 1RCV-R (CU/XLPE/CUTO/PVC 600/1000V Class 2)



### APPLICATION

The cables are designed specifically to suit the broad spectrum of requirements of Variable Speed Drives and also include features for reducing the transmission of electromagnetic interference. These range of cables are able to reduce capacitance of power conductors and have an electrically balanced construction which includes split earths and a copper screen.

This range of screened cables drastically reduce interferences from electrical noise, especially in Variable Speed Drive (VSD) applications and are manufactured with fixed conductors. With shield conductivity of 1/10th of phase conductor conductivity, this range of VSD cables effectively restrain radiated and conducted radio-frequency emissions.

### STANDARDS

Basic design adapted to IEC 60502-1

### FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)**	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)**	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Note: Asterisk \*\* denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

### VOLTAGE RATING

600/1000V

### CABLE CONSTRUCTION

**Conductor:** Plain annealed copper wire, stranded according to IEC(EN) 60228 class 2.

**Insulation:** Extruded cross-linked XLPE compound.

**Screen:** Copper Tape

**Outer Sheath:** Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

### COLOUR CODE

**Insulation Colour:** Red, Yellow, Blue, Green/Yellow (x3)

**Outer sheath:** Black or as order

### PHYSICAL AND THERMAL PROPERTIES

**Temperature range during operation:** Max.90°C for XLPE  
250°C in short-circuit for 5secs max.

**Minimum bending radius:** 10 x Overall Diameter

### CONSTRUCTION PARAMETERS

Conductor			FGD300 1RCV-R			
No. of Core X Cross Section	No./Nominal Diameter of Strands	Combined Earth Size	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
mm <sup>2</sup>	No./mm	mm <sup>2</sup>	mm	mm	mm	kg/km
3x1.5	7/0.53	4.5(3x1.5)	0.7	1.8	13.6	325
3x2.5	7/0.67	4.5(3x1.5)	0.7	1.8	14.8	380
3x4	7/0.85	4.5(3x1.5)	0.7	1.8	15.8	440
3x6	7/1.04	7.5(3x2.5)	0.7	1.8	16.9	550
3x10	7/1.35	12(3x4)	0.7	1.8	18.6	750
3x16	7/1.70	18(3x6)	0.7	1.8	20.8	1000
3x25	7/2.14	30(3x10)	0.9	1.8	24.0	1470
3x35	7/2.52	30(3x10)	0.9	1.8	25.6	1890
3x50	19/1.78	30(3x10)	1.0	1.9	31.1	2300
3x70	19/2.14	48(3x16)	1.1	2.0	34.6	3200
3x95	19/2.52	48(3x16)	1.1	2.2	39.3	4200
3x120	37/2.03	75(3x25)	1.2	2.3	44.0	5400
3x150	37/2.25	75(3x25)	1.4	2.5	49.0	6400
3x185	37/2.52	105(3x35)	1.6	2.6	54.0	7900
3x240	61/2.25	150(3x50)	1.7	2.8	61.0	10200
3x300	61/2.52	150(3x50)	1.8	3.0	67.0	12300



### ELECTRICAL PROPERTIES

**Conductor Operating Temperature : 90°C**

**Ambient Temperature : 30°C**

**Current-Carrying Capacities (Amp)**

Conductor cross-sectional area	Reference Method 4 (enclosed in conduit in thermally insulating wall etc)		Reference Method 3 (enclosed in conduit on a wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c.	3 or 4 cables, 3-phase a.c.	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables, 3-phase a.c. flat and touching or trefoil	Horizontal flat spaced	Vertical flat spaced	Trefoil
1	2	3	4	5	6	7	8	9	10	11	12
mm <sup>2</sup>	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701

### Voltage Drop (Per Amp Per Meter)

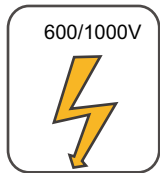
Size of conductor	2 cables d.c.	2 cables, single-phase a.c.						3 or 4 cables, 3-phase a.c.								
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1 and 11 (clipped direct or on trays touching)			Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)			Ref. Methods 1, 11 and 12 (in trefoil)			Ref. Methods 1 and 11 (Flat and touching)		
1	2	3			4			5			6			7		
mm <sup>2</sup>	mV/A/m	mV/A/m			mV/A/m			mV/A/m			mV/A/m			mV/A/m		
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.60	0.27	1.65	1.600	0.165	1.600	1.600	0.190	1.600
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.15	0.25	1.15	1.150	0.155	1.50	1.150	0.180	1.150
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.87	0.25	0.90	0.860	0.155	0.870	0.860	0.180	0.870
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.60	0.24	0.65	0.590	0.150	0.610	0.590	0.175	0.620
95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.44	0.23	0.50	0.430	0.145	0.450	0.430	0.170	0.460
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.35	0.23	0.42	0.340	0.140	0.370	0.340	0.165	0.380
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.29	0.23	0.37	0.280	0.140	0.310	0.280	0.165	0.320
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.23	0.23	0.32	0.220	0.140	0.260	0.220	0.165	0.280
240	0.19	0.21	0.26	0.33	0.20	0.160	0.25	0.185	0.22	0.29	0.170	0.140	0.220	0.170	0.165	0.240
300	0.155	0.175	0.25	0.31	0.16	0.160	0.22	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.210

Note :

r = conductor resistance at operating temperature

x = reactance

z = impedance



Rated Voltage



Standard



Flame Retardancy\*\*  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



Reduced Fire Propagation\*\*  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4