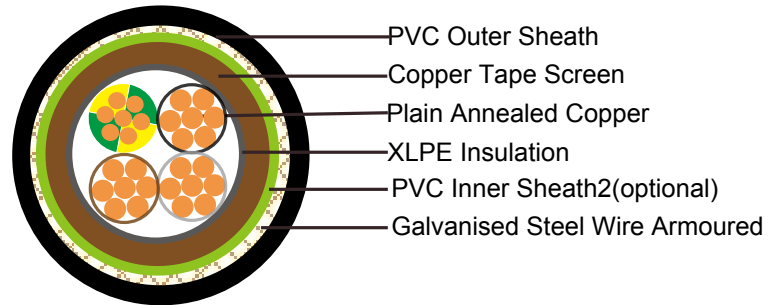




600/1000V XLPE Insulated, PVC Sheathed, Screened Power Cables (4 Cores)

FGD400 1RCVMV-R (CU/XLPE/CUTO/PVC/SWA/PVC 600/1000V Class 2)



APPLICATION

This cables are designed specifi cally to suit the broad spectrum of requirements of Variable Speed Drives and also include features for reducing the transmission of electromagnetic interference.

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.

Inner sheath1: PVC Compound

Screen: Copper Tape

Inner sheath2: PVC Compound

Armouring: Galvanised Steel Wire

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 as per BS7671

	With Earth Conductor	Without Earth Conductor
2Cores	-	Brown, Blue
3Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

PHYSICAL AND THERMAL PROPERTIES

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

Minimum bending radius: 12 x Overall Diameter (for 1.5mm² to 300mm²)

CONSTRUCTION PARAMETERS

Conductor		FGD400 1RCVMV-R						
No. of Core X Cross Section	No./ Nominal Diameter of Strands	Nominal Insulation Thickness	Nominal Sheath Thickness	Diameter Under Screen	Diameter Over Inner Sheath	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
mm ²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
4x1.5	7/0.53	0.7	1.8	9.7	12.1	13.9	17.7	640
4x2.5	7/0.67	0.7	1.8	10.7	13.1	14.9	18.7	730
4x4	7/0.85	0.7	1.8	12.0	14.4	16.2	20.0	870
4x6	7/1.04	0.7	1.8	13.4	15.8	18.3	22.1	1180
4x10	7/1.35	0.7	1.8	15.6	18.0	20.5	24.3	1490
4x16	7/1.70	0.7	1.8	18.1	20.5	23.7	27.5	2070
4x25	7/2.14	0.9	1.8	22.3	24.1	27.3	31.1	2790
4x35(S)	7/2.52	0.9	1.8	25.0	26.8	30.0	33.8	2940
4x50(S)	19/1.78	1.0	2.0	27.8	29.6	32.8	37.0	3500
4x70(S)	19/2.14	1.1	2.2	31.6	33.4	37.4	42.0	5000
4x95(S)	19/2.52	1.1	2.3	35.4	37.2	41.2	46.0	6300



4x120(S)	37/2.03	1.2	2.5	39.0	40.8	45.8	51.0	8200
4x150(S)	37/2.25	1.4	2.6	42.0	43.8	48.8	54.2	9600
4x185(S)	37/2.52	1.6	2.8	47.8	49.6	54.6	60.4	11500
4x240(S)	61/2.25	1.7	3.0	54.0	55.8	60.8	67.0	14400
4x300(S)	61/2.52	1.8	3.0	58.0	59.8	64.8	71.4	17200

(S) : Sectoral Stranded Conductors.

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable tray or Reference Method 13 [free air])		In single-way ducts		Laid direct in ground	
	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm ²	A	A	A	A	A	A	A	A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530

300	698	599	732	628	590	495	700	590
-----	-----	-----	-----	-----	-----	-----	-----	-----

Voltage Drop (Per Amp Per Meter)

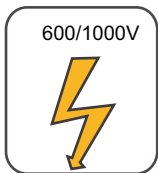
Conductor cross-sectional area	2-core cable d.c.	2 cables, single-phase a.c.			3 or 4 cables, 3-phase a.c.			2 cables, single-phase a.c.	3 or 4 cables, 3-phase a.c.
								In ducts or in ground	In ducts or in ground
1	2	3			4			5	6
mm ²	mV/A/m	mV/A/m			mV/A/m			mV/A/m	mV/A/m
1.5	31.0	31.0			27.0			31.0	25.0
2.5	19.0	19.0			16.0			19.0	15.0
4	12.0	12.0			10.0			12.0	9.7
6	7.9	7.9			6.8			7.9	6.5
10	4.7	4.7			4.0			4.7	3.9
16	2.9	2.9			2.5			2.9	2.6
		r	x	z	r	x	z		
25	1.850	1.350	0.160	1.900	1.600	0.140	1.650	1.900	1.600
35	1.350	1.350	0.155	1.350	1.150	0.135	1.150	1.350	1.200
50	0.980	0.990	0.155	1.000	0.860	0.135	0.870	1.000	0.870
70	0.670	0.670	0.150	0.690	0.590	0.130	0.600	0.690	0.610
95	0.490	0.500	0.150	0.520	0.430	0.130	0.450	0.520	0.450
120	0.390	0.400	0.145	0.420	0.340	0.130	0.370	0.420	0.360
150	0.310	0.320	0.145	0.350	0.280	0.125	0.300	0.350	0.300
185	0.250	0.260	0.145	0.290	0.220	0.125	0.260	0.290	0.250
240	0.195	0.200	0.140	0.240	0.175	0.125	0.210	0.240	0.210
300	0.155	0.160	0.140	0.210	0.140	0.120	0.185	0.210	0.190

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