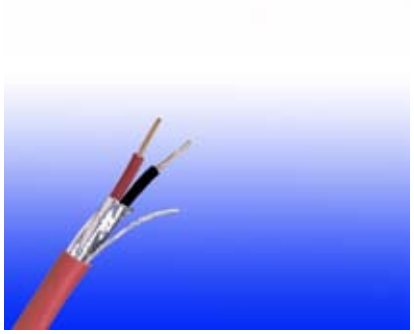
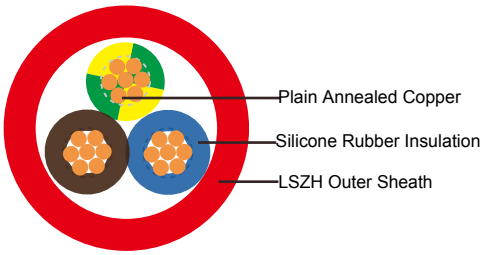
450/750V SR Insulated Control Cables (2-5 Cores)

FFX200 07SZ1-R (PH60) (CU/SR/LSZH 450/750V Class 2)





APPLICATION

The cables are designed, manufactured and tested for general application in power supply and signal wiring, for emergency circuit and fire circuit control.

STANDARDS

Basic design adapted from BS 7629-1

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); BS 8434-1 (30mins); BS 5839-1 Clause 26 2d; CEI 20-36/2-1; SS229-1; NBN C 30-004 (cat. F3); NF C32-070-2.3(CR1)
Circuit Integrity with mechanical shock	EN 50200(PH60); CEI 20-36/4-0
Circuit Integrity with mechanical shock & water spray	EN 50200 annex E
System circuit integrity	DIN 4102-12, E30 depending on lay system
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
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

450/750 V

CABLE CONSTRUCTION

Conductors: Plain annealed copper wire, stranded according to IEC(EN) 60228 class 2.
Insulation: Fire resistant silicone rubber compound type EI2 as per BS 7655-1.1.
Cabling: The cores are cabled together in concentric layers with suitable non-hygroscopic fillers.
Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

COLOUR CODE

Insulation Colour:
Without earth conductor
2 cores blue - brown
3 cores brown - black - grey
4 cores blue - brown - black - grey
5 cores blue - brown - black - grey - black
With earth conductor
3 cores yellow/green - blue - brown
4 cores yellow/green - brown - black - grey
5 cores yellow/green - blue - brown - black - grey
Sheath Colour: Colour red (other colours on request)

PHYSICAL AND THERMAL PROPERTIES

Temperature range during operation (fixed state): -30°C – +90°C
Temperature range during installation (mobile state): -20°C – +50°C
Minimum bending radius: 7.5 x Overall Diameter

ELECTRICAL PROPERTIES

Dielectric test:	2500 V r.m.s. x 5' (core/core)
Insulation resistance	≥300 MΩ x km (at 20°C)
Short circuit temperature	350°C

CONSTRUCTION PARAMETERS

Cable Code	No. of Core X Cross Section	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	mm^2	mm	mm	mm	kg/km
2 core					
FFX200 07SZ1-R (PH60)	2x1.5	0.8	1.0	7,8	96
FFX200 07SZ1-R (PH60)	2x2.5	0.9	1.1	9,2	138

FFX200 07SZ1-R (PH60)	2x4.0	0.9	1.2	10,5	189
3 core					
FFX200 07SZ1-R (PH60)	3x1.5	0.8	1.0	8,3	116
FFX200 07SZ1-R (PH60)	3x2.5	0.9	1.1	9,8	169
FFX200 07SZ1-R (PH60)	3x4.0	0.9	1.2	11,6	246
4 core					
FFX200 07SZ1-R (PH60)	4x1.5	0.8	1.1	9,3	147
FFX200 07SZ1-R (PH60)	4x2.5	0.9	1.2	11,3	222
FFX200 07SZ1-R (PH60)	4x4.0	0.9	1.3	12,5	299
5 core					
FFX200 07SZ1-R (PH60)	5x1.5	0.8	1.1	10,5	180
FFX200 07SZ1-R (PH60)	5x2.5	0.9	1.2	12,3	259
FFX200 07SZ1-R (PH60)	5x4.0	0.9	1.3	14,0	359

ELECTRICAL PROPERTIES

Conductor Operating Temperature : 90°C
Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

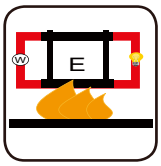
Conductor cross-sectional area	Reference Method 4 (enclosed in an conduit insulated wall etc)	Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray), or Reference Method 13 (free air)	
	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable singlephase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable singlephase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable singlephase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8
mm^2	A	A	A	A	A	A	A
1.5	16.5	22	19.5	24	22	26	23
2.5	22	30	26	33	30	36	32
4	30	40	35	45	40	49	42

Voltage Drop (Per Amp Per Meter)

Nominal Cross Section Area	2-core cable d.c.	2-core cable single-phase a.c	3-core or 4-core cable 3-phase a.c.
1	2	3	4
mm^2	mV/A/m	mV/A/m	mV/A/m
1.5	31	31	27
2.5	19	19	16
4	12	12	10

Rated Voltage

Standard

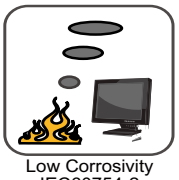


Circuit Integrity
IEC 60331/BS 6387
EN 50200
NF C32-070-2.3(CR1)


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

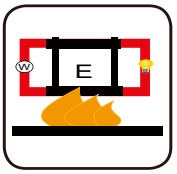

Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Low Toxicity
NES 02-713/NF C 20-454


Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074


Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

Halogen Free
IEC60754-1
EN50267-2-1



Functional Integrity
DIN 4102-12