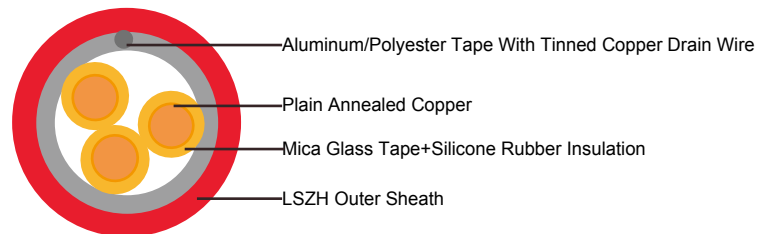
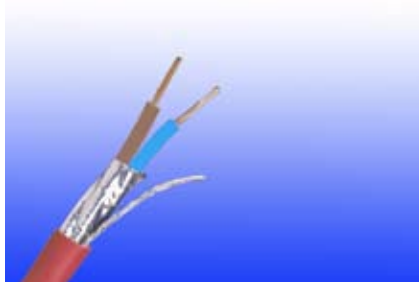


300/500V Mica+SR Insulated & Overall Screened Control Cables (2-4 Cores & Multicores)

FFX200E 05mSOZ1-U (PH120) (CU/MGT+SR/OSCR/LSZH 300/500V Class 1)

FFX200E 05mSOZ1-R (PH120) (CU/MGT+SR/OSCR/LSZH 300/500V Class 2)



APPLICATION

The cables are primarily intended for use in the following applications:

BS 5266-1 for emergency lighting of premises

BS 5839-1 for fire detection and fire alarm systems in and around building

BS 5839-8 for voice alarm systems

BS 5839-9 for emergency voice communication systems.

STANDARDS

Basic design to BS 7629-1

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); BS 8434-2 (120mins); BS 5839-1 Clause 26 2e; 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(PH120); 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Note: Asterisk * denotes superseded standard.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

300/500 V

CABLE CONSTRUCTION

Conductors: Plain annealed copper wire, solid according to IEC(EN) 60228 class 1, stranded according to IEC(EN) 60228 class 2.

Insulation: Mica glass fire resistant tape covered by 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.

Overall Screen: Aluminum/polyester tape with tinned copper drain wire.

Circuit Protective Conductor: Uninsulated tinned copper conductor of the same section and class as the insulated conductors in the 2-, 3- and 4-core cables. Drain wire of 0.5mm² tinned copper conductor is provided in cables of more than 4 conductors.

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

2 cores blue - brown

3 cores brown - black - grey

4 cores blue - brown - black - grey

(Colour Code Up To 4 Cores In Accordance to HD 308)

7 cores centre: brown 1st layer: brown - black - 4 cores white

12 cores centre: brown - black - white 1st layer: brown - black - 7 cores white

19 cores centre: brown 1st layer: brown - black - 4 cores white

2nd layer: brown - black - 10 cores white

(on request the cores can be one colour only, identified by printed numbers)

Sheath Colour: Colour red or white (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:	2000 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,					
FFX200E 05mSOZ1-U(PH120)	2x1.0	0.6	0.9	7.9	85
FFX200E 05mSOZ1-U(PH120)	2x1.5	0.7	0.9	8.8	105
FFX200E 05mSOZ1-U(PH120)	2x2.5	0.8	1.0	10.2	150
FFX200E 05mSOZ1-R(PH120)	2x1.5	0.7	0.9	9.2	110
FFX200E 05mSOZ1-R(PH120)	2x2.5	0.8	1.0	10.3	155
FFX200E 05mSOZ1-R(PH120)	2x4.0	0.8	1.1	12.2	220
3 core					
FFX200E 05mSOZ1-U(PH120)	3x1.0	0.6	0.9	8.4	105
FFX200E 05mSOZ1-U(PH120)	3x1.5	0.7	0.9	9.3	130
FFX200E 05mSOZ1-U(PH120)	3x2.5	0.8	1.0	10.8	190
FFX200E 05mSOZ1-R(PH120)	3x1.5	0.7	0.9	9.4	135
FFX200E 05mSOZ1-R(PH120)	3x2.5	0.8	1.0	10.9	190
FFX200E 05mSOZ1-R(PH120)	3x4.0	0.8	1.1	13.0	280
4 core					
FFX200E 05mSOZ1-U(PH120)	4x1.0	0.6	1.0	9.3	125
FFX200E 05mSOZ1-U(PH120)	4x1.5	0.7	1.0	10.3	165
FFX200EE 05mSOZ1-U(PH120)	4x2.5	0.8	1.1	12.0	240
FFX200E 05mSOZ1-R(PH120)	4x1.5	0.7	1.0	10.5	170
FFX200E 05mSOZ1-R(PH120)	4x2.5	0.8	1.1	12.1	250
FFX200E 05mSOZ1-R(PH120)	4x4.0	0.8	1.2	14.4	350
7 core					
FFX200E 05mSOZ1-U(PH120)	7x1.0	0.6	1.0	10.5	175
FFX200E 05mSOZ1-U(PH120)	7x1.5	0.7	1.1	12.1	230
12 core					
FFX200E 05mSOZ1-U(PH120)	12x1.0	0.6	1.1	14.5	300
FFX200E 05mSOZ1-U(PH120)	12x1.5	0.7	1.2	16.0	380
19 core					
FFX200E 05mSOZ1-U(PH120)	19x1.0	0.6	1.2	17.5	470
FFX200E 05mSOZ1-U(PH120)	19x1.5	0.7	1.3	17.5	470



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



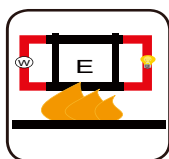
300/500V

Rated Voltage



BS 7629-1

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



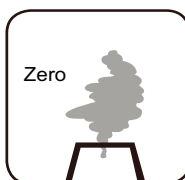
Low Toxicity
NES 02-713/NF C 20-454



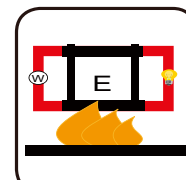
Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074



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