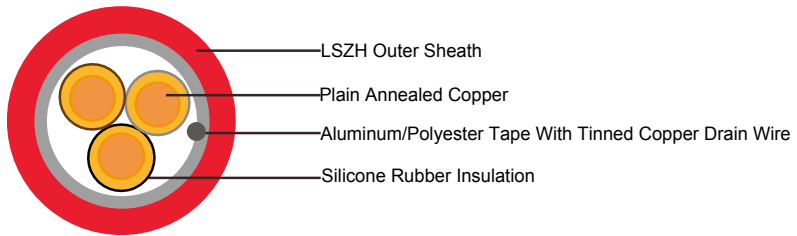
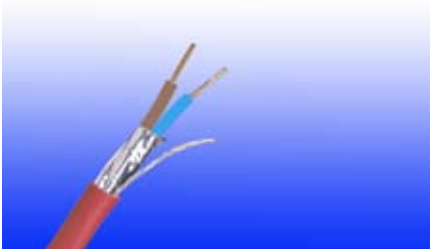




### 300/500V SR Insulated & Overall Screened Control Cables (2-4 Cores & Multicores)

FFX200 05SOZ1-U (PH30/60) (CU/SR/OSCR/LSZH 300/500V Class 1)

FFX200 05SOZ1-R (PH30/60) (CU/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 BS7629-1

### 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(PH30/60); 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:** 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 or Drain Wire:** 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 0.5mm<sup>2</sup> 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:** Orange (other colors upon 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:** 6 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 <sup>2</sup>             | mm                           | mm                       | mm                       | kg/km          |
| <b>2 core</b>             |                             |                              |                          |                          |                |
| FFX200 05SOZ1-U (PH30/60) | 2x1.0                       | 0.6                          | 0.9                      | 7.1                      | 80             |
| FFX200 05SOZ1-U (PH30/60) | 2x1.5                       | 0.7                          | 0.9                      | 8.0                      | 95             |
| FFX200 05SOZ1-U (PH30/60) | 2x2.5                       | 0.8                          | 1.0                      | 9.4                      | 135            |
| FFX200 05SOZ1-R (PH30/60) | 2x1.5                       | 0.7                          | 0.9                      | 8.4                      | 106            |
| FFX200 05SOZ1-R (PH30/60) | 2x2.5                       | 0.8                          | 1.0                      | 9.9                      | 145            |
| FFX200 05SOZ1-R (PH30/60) | 2x4.0                       | 0.8                          | 1.1                      | 11.5                     | 210            |
| <b>3 core</b>             |                             |                              |                          |                          |                |
| FFX200 05SOZ1-U (PH30/60) | 3x1.0                       | 0.6                          | 0.9                      | 8.0                      | 95             |
| FFX200 05SOZ1-U (PH30/60) | 3x1.5                       | 0.7                          | 0.9                      | 8.5                      | 115            |
| FFX200 05SOZ1-U (PH30/60) | 3x2.5                       | 0.8                          | 1.0                      | 10.0                     | 170            |
| FFX200 05SOZ1-R (PH30/60) | 3x1.5                       | 0.7                          | 0.9                      | 8.9                      | 134            |
| FFX200 05SOZ1-R (PH30/60) | 3x2.5                       | 0.8                          | 1.0                      | 10.3                     | 180            |
| FFX200 05SOZ1-R (PH30/60) | 3x4.0                       | 0.8                          | 1.1                      | 12.2                     | 260            |
| <b>4 core</b>             |                             |                              |                          |                          |                |
| FFX200 05SOZ1-U (PH30/60) | 4x1.0                       | 0.6                          | 1.0                      | 8.3                      | 115            |
| FFX200 05SOZ1-U (PH30/60) | 4x1.5                       | 0.7                          | 1.0                      | 9.4                      | 150            |
| FFX200 05SOZ1-U (PH30/60) | 4x2.5                       | 0.8                          | 1.1                      | 11.0                     | 210            |
| FFX200 05SOZ1-R (PH30/60) | 4x1.5                       | 0.7                          | 1.0                      | 9.8                      | 166            |
| FFX200 05SOZ1-R (PH30/60) | 4x2.5                       | 0.8                          | 1.1                      | 11.8                     | 250            |
| FFX200 05SOZ1-R (PH30/60) | 4x4.0                       | 0.8                          | 1.2                      | 13.5                     | 330            |
| <b>7 Core</b>             |                             |                              |                          |                          |                |
| FFX200 05SOZ1-U (PH30/60) | 7x1.0                       | 0.6                          | 1.0                      | 10.0                     | 165            |
| FFX200 05SOZ1-U (PH30/60) | 7x1.5                       | 0.7                          | 1.1                      | 11.3                     | 225            |
| <b>12 core</b>            |                             |                              |                          |                          |                |
| FFX200 05SOZ1-U (PH30/60) | 12x1.0                      | 0.6                          | 1.1                      | 12.5                     | 255            |
| FFX200 05SOZ1-U (PH30/60) | 12x1.5                      | 0.7                          | 1.2                      | 14.5                     | 350            |
| <b>19 core</b>            |                             |                              |                          |                          |                |
| FFX200 05SOZ1-U (PH30/60) | 19x1.0                      | 0.6                          | 1.2                      | 15.0                     | 380            |
| FFX200 05SOZ1-U (PH30/60) | 19x1.5                      | 0.7                          | 1.3                      | 17.0                     | 520            |

## ELECTRICAL PROPERTIES

**Conductor Operating Temperature : 90°C**

**Ambient Temperature : 30°C**

### Current-Carrying Capacities (Amp)

| Nominal Cross Section Area | Reference Method 4<br>(enclosed in an conduit insulated wall etc) | Reference Method 3<br>(enclosed in conduit on a wall or ceiling, or in trunking) |                                                   | Reference Method 1<br>(clipped direct)     |                                                   | Reference Method 11<br>(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 single phase a.c. or d.c.                                       | one 3-core cable or one 4-core cable 3-phase a.c. | one 2-core cable single phase a.c. or d.c. | one 3-core cable or one 4-core cable 3-phase a.c. | one 2-core                                                                             | one 3-core   |
|                            |                                                                   |                                                                                  |                                                   |                                            |                                                   | cable single phase                                                                     | cable or one |
|                            |                                                                   |                                                                                  |                                                   |                                            |                                                   | a.c. or                                                                                | 4-core cable |
|                            |                                                                   |                                                                                  |                                                   |                                            |                                                   | d.c.                                                                                   | 3-phase a.c. |
| 1                          | 2                                                                 | 3                                                                                | 4                                                 | 5                                          | 6                                                 | 7                                                                                      | 8            |
| mm <sup>2</sup>            | 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 <sup>2</sup>            | mV/A/m            | mV/A/m                        | mV/A/m                              |
| 1.5                        | 31                | 31                            | 27                                  |
| 2.5                        | 19                | 19                            | 16                                  |
| 4                          | 12                | 12                            | 10                                  |



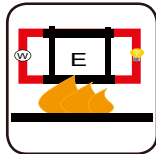
300/500V

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



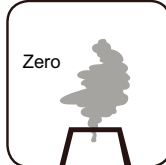
Low Toxicity  
NES 02-713/NF C 20-454



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

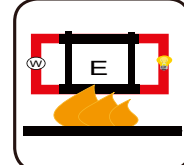


Low Smoke Emission  
IEC 61034-1&2  
EN 50268-1&2/NF C32-073



Zero

Halogen Free  
IEC60754-1  
EN50267-2-1



Functional Integrity  
DIN 4102-12