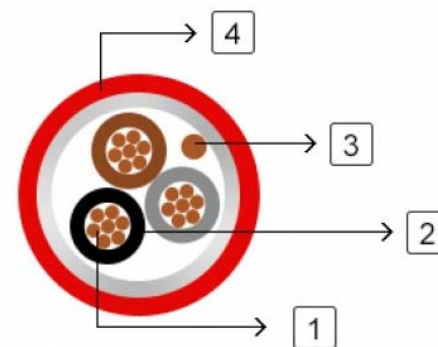


300/500V sR Insulated & Overall screened
control cables (2-4 cores & Multicores)



FR200P 052GSH-U (PH30/60) (CU/SR/OS/LSZH 300/500V Class 1)

FR200P 052GSH-R (PH30/60) (CU/SR/OS/LSZH 300/500V Class 2)

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.

Application:

STANDARDS:

Basic design to 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(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Note: Asterisk * denotes superseded standard.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

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

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.

3. 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 0.5mm² tinned copper conductor is provided in cables of more than 4 conductors.

4. 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 Thickness	Insulation	Nominal Thickness	Sheath	Nominal Diameter	Overall	Approx. Weight
	mm2	mm		mm		mm		kg/km
2 core								
FFX200 (PH30/60)	05SOZ1-U 2x1.0	0.6		0.9		7.1		80
FFX200 (PH30/60)	05SOZ1-U 2x1.5	0.7		0.9		8.0		95
FFX200 (PH30/60)	05SOZ1-U 2x2.5	0.8		1.0		9.4		135
FFX200 (PH30/60)	05SOZ1-R 2x1.5	0.7		0.9		8.4		106
FFX200 (PH30/60)	05SOZ1-R 2x2.5	0.8		1.0		9.9		145
FFX200 (PH30/60)	05SOZ1-R 2x4.0	0.8		1.1		11.5		210
3 core								
FFX200 (PH30/60)	05SOZ1-U 3x1.0	0.6		0.9		8.0		95
FFX200 (PH30/60)	05SOZ1-U 3x1.5	0.7		0.9		8.5		115
FFX200 (PH30/60)	05SOZ1-U 3x2.5	0.8		1.0		10.0		170
FFX200 (PH30/60)	05SOZ1-R 3x1.5	0.7		0.9		8.9		134
FFX200 (PH30/60)	05SOZ1-R 3x2.5	0.8		1.0		10.3		180
FFX200 (PH30/60)	05SOZ1-R 3x4.0	0.8		1.1		12.2		260
4 core								
FFX200 (PH30/60)	05SOZ1-U 4x1.0	0.6		1.0		8.3		115
FFX200 (PH30/60)	05SOZ1-U 4x1.5	0.7		1.0		9.4		150
FFX200 (PH30/60)	05SOZ1-U 4x2.5	0.8		1.1		11.0		210
FFX200 (PH30/60)	05SOZ1-R 4x1.5	0.7		1.0		9.8		166
FFX200 (PH30/60)	05SOZ1-R 4x2.5	0.8		1.1		11.8		250
FFX200 (PH30/60)	05SOZ1-R 4x4.0	0.8		1.2		13.5		330
7 core								
FFX200 (PH30/60)	05SOZ1-U 7x1.0	0.6		1.0		10.0		165
FFX200 (PH30/60)	05SOZ1-U 7x1.5	0.7		1.1		11.3		225
12 core								

FFX200 (PH30/60)	05SOZ1-U	12x1.0	0.6	1.1	12.5	255
FFX200 (PH30/60)	05SOZ1-U	12x1.5	0.7	1.2	14.5	350
19 core						
FFX200 (PH30/60)	05SOZ1-U	19x1.0	0.6	1.2	15.0	380
FFX200 (PH30/60)	05SOZ1-U	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 (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	
	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 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
mm2	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
mm2	mV/A/m	mV/A/m	mV/A/m
1.5	31	31	27
2.5	19	19	16
4	12	12	10