# Cables for Home & Building Automation



IEC60332



T: 01279 871150 | F: 01279 871129 | www.belcom.co.uk

## Content

3	Belcom Cables	36	Data / LAN
4	Home & Building Automation	37	SureLAN® 5e U/UTP LSZH
5	Composite Cable Hybrid Cables	38	SureLAN® 5e F/UTP LSZH
6	Quality Management	39	SureLAN® 6 U/UTP LSZH
7	The importance of FireFighter®	40	SureLAN® 6 F/UTP LSZH
8	Audio Video & Home Entertainment	41	SureLAN® PATCH Cables
9	500 Series Speaker Cables	42	Satellite / CATV
10	510 Series Speaker Cables	43	Coax 75Ω 100F Type TV Satellite, CATV,
11	ZHP Proffesional Speaker Cables		Cable CAI Approved
12	Transparent LC OFC Parallel Speaker Cables	44	Coax 75Ω 100Series Type TV Satellite, C
13	Standard Parallel Speaker Cables		CCTV Cable
14-16	Digital Video SDV, HDTV, DTV	45	5021800 RG6/U 75Ω Type
17	Miniature 2core 75Ω S-VHS Coaxial Cable	46	Fire & Security
18	Home Automation & Lighting Control	47	Alarm Cables
19	Multimedia Power and Data Cable 600V	48	RG59 B/U 75Ω MIL-C-17F/17G LSZH
20	Multimedia Hybrid Control Cable 600V	49	RG59 B/U + 2core 75Ω MIL-C-17F/MIL-
21	Multimedia Hybrid Control Cable Data -	50	URM70 75Ω BS2316
	Power - Sense	51-53	NoBURN® Ventcroft Standard Fire Perform
22-23	EIB/KNX Cables		Cables
24-25	C.O/M.E.T Colour Coded Lighting Control	54	Fibre Optic Cable
	BUS LSZH FireFighter 600V	55	Fibre Optic Cable
26-27	DALI Cables		
28-29	BEMS/BMS/HVAC Control Cables suitable		
	for TREND system use		

- 30-33 LonWorks® Cables
- 34-35 HART (Highway Adressable Remote Transducer) Cables



00

#### Cable excellence engineered through quality

0850-01 0850-01 50005031

## Cable Excellence Engineered Through Quality

Belcom Home & Building Automation cables are produced to perform to industry standards and beyond, they don't "just do the job" they comfortably meet the most demanding of requirements both in electrical performance and physical construction. These cables are designed and manufactured by experts with practical experience for professionals in the field.



**BB** 



## Home & Building Automation

M odern web enabled homes now have a myriad of automation accessories available to them, mostly accessible from smart phones with world wide access. You can answer the front door whilst on your summer holiday and you can ramp up the heating 24 hours before returning from your winter ski trip in the Alps, all through your phone and the web. Belcom have teamed up with the major home and building automation systems to provide fully approved automation systems cable for Ethernet, CCTV, Audio /Video, and device actuator systems giving system lifetime reliability.



## **Composite Cable Custom made Hybrid Cables**

hrough bespoke composite cables the required installation space can be significantly reduced and fitting simplified. It is often necessary to combine various cables for specific installations. At Belcom, in order to meet your demand we can design various composite types to suit your application. These can be delivered cut to length and available with LSZH FireFighter<sup>®</sup> performance and DataGuard<sup>®</sup> armours with a distinctive outer jacket colour or special printing for ease of identification.

For more information or to speak with one of our sales team please call 01279 871150 for your requirements.







## Quality Management

#### **Quality Assurance/Environmental**

Belcom recognise the importnace of quality control and constantly monitor our quality performance to ensure compliance with relevant standards whether they are self imposed, satutory or regulatory.

Our management system is approved by DNV to BS-EN-ISO 9001:2008 standard and is an imperative part of our organisation.

Environmental documentation is available at ww.belcom.co.uk/qa-environmental





#### **Trade Membership**

Belcom have teamed up with the industry's leading organisations to ensure that we are always at the forefront of developing technologies and have a constant dialogue with our customers in order to understand their ever changing needs.

<b>CEDIA</b> ®
KNX®
Plasa®
CAI®
FIA®











## The Importance of **Frefighter**

F ireFighter cables are produced to exacting IEC standards for fire performance covering 60332-1 flame resistance for single cables and section 3 for bunched cables as well as low smoke generation (61034) and negligible halogen gas emission (60754-1). In addition to these, all FireFighter<sup>®</sup> cables are sheathed according to IEC60092-359 where applicable for electrical installation in ships as well as being 600 V rated for Tray Cable applications.

In order to meet demanding and diverse customer applications, FireFighter® performance materials are used in conjunction with other brands including DataGuard® (Armoured Cables), Armada® (MOG Cables), SureLAN® (Local area network cables), SureLIGHT® (Fibre Optic) and EventSeries® (Audio & Broadcast).

Whatever the application or installation, where public safety and reliability are concerned, FireFighter<sup>®</sup> Low smoke zero halogen properties have been proven to perform. It's not just LSZH sheath, It's a FireFighter<sup>®</sup> Cable.

## FireFighter

## Fire Performance Cables





## Audio Video & Home Entertainment

Bringing the cables professionals use to your home

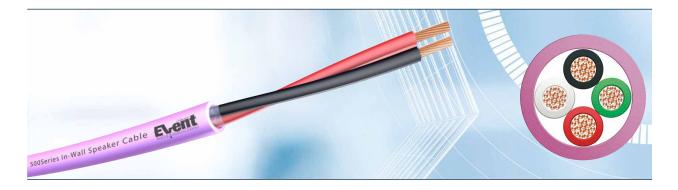
Belcom have worked in partnership with professionals in the industry matching the technical expertise of our manufacturing partners to develop a range of AV cables of the highest quality.

Due to our continuing commitment to provide innovation and adaptation of cables to meet new requirements you can be confident of the highest quality product, suitable for use in any high end audio visual installation.





#### 500Series Speaker Cables 600V LSZH FreFighter



#### Description

High performance installation speaker cables with LSZH FireFighter<sup>®</sup> outer sheath. They are designed to deliver high levels of performance in most multi-room and home cinema installations.

#### **Technical Description**

Cores	Flexible Stranded Oxygen Free Copper wire. LSZH FireFighter® Insulated IEC 60332-1
Formation	2 or 4 cores
Outer Jacket	LSZH FireFighter® IEC 60332-1
Colour	Pink

#### **Specification**

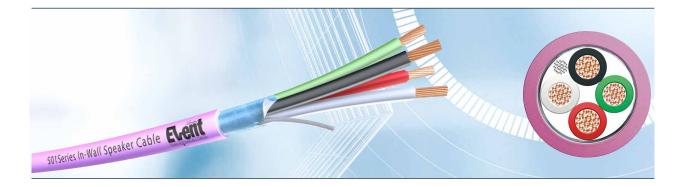
Part Number	Construction	Overall Diameter (mm)
5002C1644-07	2 x 16 awg	6,0
5002C1444-07	2 x 14 awg	7,20
5002C1244-07	2 x 12 awg	9,80
5002C1044-07	2 x 10 awg	10,1
5004C1644-07	4 x 16 awg	7,15
5004C1444-07	4 x 14 awg	9,20
5004C1244-07	4 x 12 awg	12,1
5004C1044-07	4 x 10 awg	12,4



Also available with an additional HDPE Outer Jacket for Duct Grade applications.



#### 510 Series Speaker Cables 600V LSZH FreFighter



#### Description

510 series shielded installation cables can be used in normal "in-wall" installations ,the additional shield offers some protection where cables are laid near power cables. These cables are LSZH as standard and offer good levels of performance in most multi-room and home cinema installations.

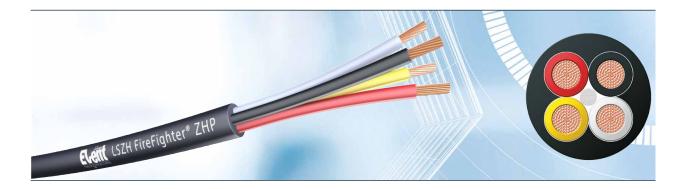
#### **Technical Description**

Cores	Flexible Stranded Oxygen Free Copper wire. LSZH FireFighter® Insulated IEC 60332-1
Formation	4 cores Overall Screened with Aluminium/polyester tape + TC drain wire
Outer Jacket	LSZH FireFighter® IEC 60332-1
Colour	Pink

Part Number	Construction	Overall Diameter (mm)	
5104C1644-07	4 x 16 awg	7,13	



#### ZHP Professional Speaker Cables 600V LSZH Frefighter



#### Description

This range of speaker cables are specially designed for fixed installation in public buildings where LSZH cables are specified. The use of extra supple compounds give them good flexibility and good mechanical resistance. May also be used as 100V line speaker cable.

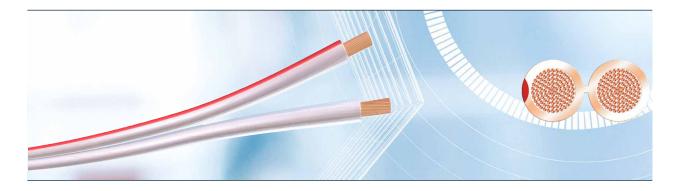
#### **Technical Description**

Cores	Flexible Stranded Oxygen Free Copper wire. LSZH FireFighter® Insulated IEC 60332-1
Formation	2, 4, 6 or 8 cores
Outer Jacket	LSZH FireFighter® IEC 60332-1
Colour	Black or White

Part Number	Construction	Colour	Overall Diameter (mm)
ZHP215-10	2 x 1,5 mm <sup>2</sup> (30/0,25mm)	White	6,25
ZHP225-10	2 x 2,5 mm² (50/0,25mm)	White	7,40
ZHP215	2 x 1,5 mm <sup>2</sup> (30/0,25mm)	Black	6,25
ZHP225	2 x 2,5 mm² (50/0,25mm)	Black	7,40
ZHP240	2 x 4,0 mm <sup>2</sup> (56/0,31mm)	Black	9,10
ZHP260	2 x 6,0 mm² (84/0,31mm)	Black	11,0
ZHP415	4 x 1,5 mm² (30/0,25mm)	Black	7,20
ZHP425	4 x 2,5 mm² (50/0,25mm)	Black	10,25
ZHP440	4 x 4,0 mm² (56/0,31mm)	Black	12,2
ZHP625	6 x 2,5 mm² (50/0,25mm)	Black	13,0
ZHP825	8 x 2,5 mm <sup>2</sup> (50/0,25mm)	Black	15,8
ZHP840	8 x 4,0 mm² (56/0,31mm)	Black	17,0



#### **Transparent LC OFC Parallel Speaker Cables**



#### Description

Translucent extra flexible PVC speaker cable consists of very fine oxygen-free copper strands (OFC) resulting in a very high quality product. This construction method offers optimum flexibility.

- High end domestic Hi-Fi Cables.
- 4mm & 6mm used for critical near field monitoring in recording studios

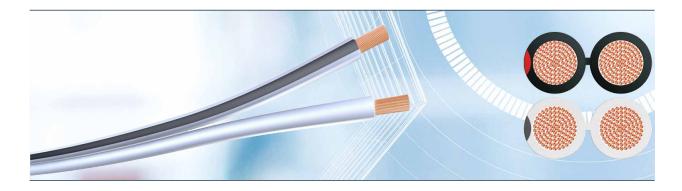
#### **Technical Description**

Cores	Flexible Stranded Oxygen Free Copper wire
Formation	2 cores sheathed in twin figure (shotgun) formation
Outer Jacket	Polyvinylchloride (PVC)
Colour	Translucent with Red polarity stripe

Part Number	Construction	Overall Diameter (mm)
40306075	2 x 0,75 mm² (96/0,10mm)	2,5 x 5,0
40306100	2 x 1,0 mm² (126/0,10mm)	3,4 x 6,8
40306150	2 x 1,5 mm² (189/0,10mm)	4,5 x 7,0
40306250	2 x 2,5 mm² (315/0,10mm)	5,5 x 11,5
40306400	2 x 4,0 mm² (511/0,10mm)	6,0 x 12,7
40306600	2 x 6,0 mm² (777/0,10mm)	6,1 x 12,5



#### **Standard Parallel Speaker Cables**



#### Description

Standard grade parallel speaker cable suitable for most domestic applications.

#### **Technical Description**

Cores	Stranded Bare Copper wire
Formation	2 cores sheathed in twin figure (shotgun) formation
Outer Jacket	Polyvinylchloride (PVC)
Colour	Grey with black polarity stripe   Black with white polarity stripe   White with black polarity stripe

Part Number	Colour	Construction	Overall Diameter (mm)
4702-51	grey with black polarity stripe	2 x 0.22mm <sup>2</sup> (7/0.2mm)	1,3 x 3,0
4702-110	black with white polarity stripe	2 x 0.22mm <sup>2</sup> (7/0.2mm)	1,3 x 3,0
4702-101	white with black polarity stripe	2 x 0.22mm <sup>2</sup> (7/0.2mm)	1,3 x 3,0
41302-51	grey with black polarity stripe	2 x 0.40 mm <sup>2</sup> (13/0.2mm)	2,0 x 4,3
41302-101	white with black polarity stripe	2 x 0.40 mm <sup>2</sup> (13/0.2mm)	2,0 x 4,3
41302-10	white with black polarity stripe	2 x 0.40 mm <sup>2</sup> (13/0.2mm)	2,0 x 4,3
42602-51	grey with black polarity stripe	2 x 0.81 mm <sup>2</sup> (26/0.2mm)	2,5 x 5,0
42602-101	white with black polarity stripe	2 x 0.81 mm <sup>2</sup> (26/0.2mm)	2,5 x 5,0
44202-110	black with white polarity stripe	2 x 1.32 mm <sup>2</sup> (42/0.2mm)	2,8 x 5,5
44202-101	white with black polarity stripe	2 x 1.32 mm <sup>2</sup> (42/0.2mm)	2,8 x 5,5
47902-110	black with white polarity stripe	2 x 2.50 mm <sup>2</sup> (79/0.2mm)	3,5 x 7,5
47902-101	white with black polarity stripe	2 x 2.50 mm <sup>2</sup> (79/0.2mm)	3,5 x 7,5





## **Digital Video** SDV, HDTV, DTV



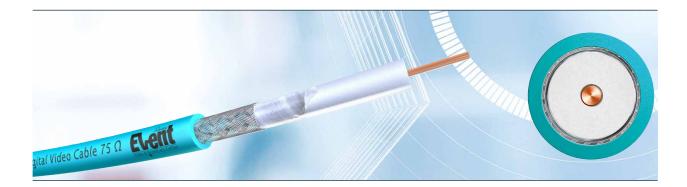
The digital revolution has created a demand for the fidelity that HDTV brings to radio and television broadcasters.

HDTV requires the highest technology advances in cable engineering. This is brought to you with Belcom's range of HD coaxial cables.





### HD Serial Digital Video Cable 75Ω LSZH Frefghter



#### Description

EventSeries HD Series 75 Ohm digital coaxial, small and light suitable for serial digital & analogue video signal transmission.

- Public buildings, schools, government & marine.
- Low Loss & Extremely Low Loss Versions

#### **Technical Description**

Conductor	bare copper wire		
Formation	Bare copper conductor with Foam Dielectric and shield		
	Type 1° - Aluminium/polyester/Aluminium screen + Tinned copper wire braid		
Screen Type	Type 2° - Tinned copper wire braid + Tinned copper wire braid (Dual braid)		
Outer Jacket	LSZH FireFighter® IEC 60332-1		
Colours	see specification table		

Part Number	Colour	Construction	Screen Type	Attenuation 100MHz/100m	Overall Diameter (mm)
HD300		1 x 0,30 mm	Type 1°	22 dB	2,54
HD600		1 x 0,65 mm	Type 1°	10 dB	4,50
HD720		1 x 0,80 mm	Type 1°	7,5 dB	5,90
HD850-01		7 x 0,29 mm	Type 2°	9,8 dB	6,00
HD1000		1 x 1,00 mm	Type 1°	6,4 dB	6,80
HD1300		1 x 1,30 mm	Type 1°	4,7 dB	9,00
HD1630		1 x 1,63 mm	Type 1°	4,2 dB	10,20

#### Maximum Transmission Length for HD Serial Digital Video Cable

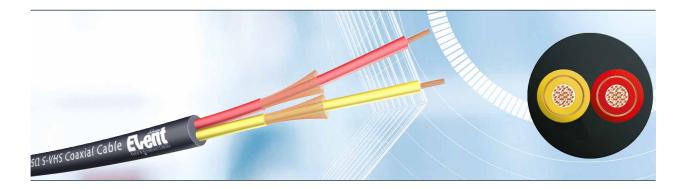
Data Rate	143 Mb/s	177 Mb/s	270 MB/s	1.5 Gb/s	3 Gb/s
Spec	SMPTE 259M	ITU-R BT601	SMPTE 259M	SMPTE 292M (SMPTE 372M)	SMPTE 424M
Application	Composite NTSC	Composite PAL	Composite SDI	720p -1080i (Dual Link 1080p)	1080p
Part No.	Calculated Transmission Length	Calculated Transmission Length	Calculated Transmission Length	Calculated Transmission Length	Calculated Transmission Length
HD300	152	137	116	34	24
HD600	320	311	261	87	52
HD720	436	326	338	94	67
HD850	366	415	253	66	44
HD1000	573	521	436	122	82
HD1300	740	665	537	146	100
HD1630	838	756	622	168	110

Application		Composite Video FBAS	S-Video S-VHS,Y/C	Component Video RGB , YUV
Part No.	Attenuation 100MHz/100m	Calculated Transmission Length	Calculated Transmission Length	Calculated Transmission Length
HD300	22dB	50	50	50
HD600	10dB	121	121	121
HD720	7.5dB	149	149	149
HD850	9.8dB	105	105	105
HD1000	6.4dB	208	208	208
HD1300	4.7dB	320	320	320
HD1630	4.2dB	329	329	329

The calculated transmission distances are based on a formula in the SMPTE standards , in many cases tested distances are greater. Please use calculated distances prior to testing and allow sufficient headroom.



#### Miniature 2core 75Ω S-VHS Coaxial Cable



#### Description

The EventSeries<sup>®</sup> S-VHS cables is a two core 75Ω coaxial for use with 4 pin mini-DIN connectors as used in S-Video Y/C connections. May also be suitable for unbalanced audio connections.

#### **Technical Description**

Conductor	Stranded bare copper wire	
Formation	2 cores FR-PVC insulated conductor, Bare copper LAP screened and FR-PVC sheathed.	
Outer Jacket	PVC Rubber	
Colour	Black	

Part Number	Construction	Overall Diameter (mm)
S-VHS	2 x 11/0,2 mm	5,60





# Home Automation & Lighting Control

Bringing the cables professionals use to your home

Belcom have developed our Home Automation and Lighting Control cables using the standards and technologies of the major home automation systems such as LON, DALI, HART, BACnet, LUTRON, CRESNET and EIB/KNX.

We are also members of KNX UK and KNX international, our european made FireFighter® KNX cables are KNX Certified (#330/11612/14)



DAL



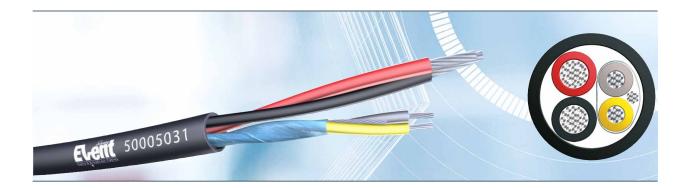


KNK LSZH FireFighter® 2x2x0.8 J-2Y(St)H 2101Q08S44

1434 Event Multimedia Control Cable 1100hm 600v LSZH Frefighter IEC60332-



#### Multimedia Power and Data Cable 600V LSZH Frefighter



#### Description

50005031 multimedia hybrid power & data cable. The data cable satisfies the requirements of DMX 512. It has a tray rated voltage of 600v and is Low Smoke Zero Halogen.

• DMX 512

• Colour Change (Lights)

• 600 V

#### **Technical Description**

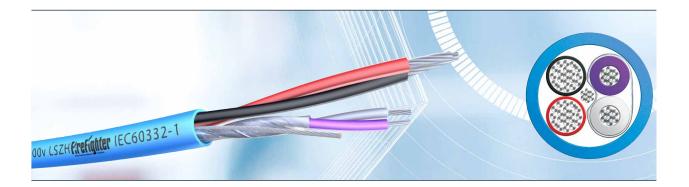
Power Cores	2 cores Stranded tinned copper wire, PE insulated, red and black cores.		
Data Pair	1 pair Stranded tinned copper wire, PE insulated grey and yellow cores. polyester tape wrapped and Aluminium/polyester tape screened (Alu. inside) with TC drain wire.		
Outer Jacket	LSZH FireFighter® IEC 60332-1		
Colour	Black		

Part Number	Construction	Overall Diameter (mm)
50005031	2 x 1,32mm <sup>2</sup> + 1x2x0,22mm <sup>2</sup>	7,0





#### Multimedia Hybrid Control Cable 600V LSZH FreFighter



#### Description

Hybrid multimedia control cable for use with Lutron \*GRAFIK EYE<sup>™</sup> 3000, 4000, 5000, 6000 systems and Crestron touchpanels, keypads, expansion modules and tuners with the added benefit of using LSZH FireFighter<sup>®</sup> sheath. The data cable is compliant with DMX512 digital & analogue as well as RS-422, RS-485 applications.

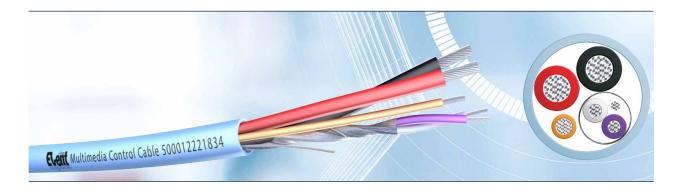
#### **Technical Description**

Power Cores	2 cores Stranded tinned copper wire, PP insulated, red and black cores.		
Data Pair	1 pair Stranded tinned copper wire, Foam skin PE insulated white and violet cores. polyester tape wrapped and Aluminium screened with TC drain wire.		
Outer Jacket	LSZH FireFighter® IEC 60332-1		
Colour	Light Blue RAL 5012		

EventSeries® Part Number	Lutron	Crestron	Construction	Overall Diameter (mm)
500182434	GRX-CBL-346S	CRESNET-NP	2 x 0,93mm <sup>2</sup> + 1x2x0,22mm <sup>2</sup>	6,5



#### Multimedia Hybrid Control Cable 600V LSZH Frefghter Data - Power - Sense



#### Description

Hybrid multimedia control cable for use with Lutron \*GRAFIK EYE<sup>™</sup> 4000, GRAFIK 5000, 6000, 7000, Digital \*microWATT, Softswitch 128, Softswitch5R and GRAFIK RPT Systems. Shielded data pair, power pair and sensor wire cabled on a common axis. RS-422, RS-485. 110Ω signal (DMX, data, digital & analogue audio) 22awg

2 DC-power 12 awg

1 Sensor 18 awg

#### **Technical Description**

Data Pair	1 pair Stranded tinned copper wire, Foam skin PE insulated white and violet cores. polyester tape wrapped and Aluminium screened with TC drain wire.		
Power Cores	2 cores Stranded tinned copper wire, PE insulated, red and black cores.		
Sensor Core	1 core Stranded tinned copper wire, PE insulated, Orange.		
Outer Jacket	LSZH FireFighter® IEC 60332-1		
Colour	Light Blue RAL 5012		

EventSeries® Part Number	Lutron	Construction	Overall Diameter (mm)
500012221834	GRX-CBL-46L	1x2x0,35mm <sup>2</sup> + 2 x 3,30mm <sup>2</sup> + 1 x 0,93mm <sup>2</sup>	10,50





## **EIB/KNX** Cables *Certified #330/11612/14*

KNX Certification is an approved International Standard (ISO/ IEC 14543-3), European Standard (CENELEC EN 50090 and CEN EN 13321-1) and Chinese Standard (GB/T 20965). KNX future proofed products are guaranteed in their interworking and the world's only certification for the control in both commercial and residential buildings.

KNX/EIB Bus Cable LSZH for intelligent integrated building control lighting, heating, air-conditioning, ventilation, energy management, blinds, time management and locking systems.

KNX products are used to build intelligent integrated building control solutions for domestic and commercial applications. As a result, owners, residents, or managers of these properties have control over the everyday working or living environment. This can cover all building services such as lighting, blinds / shutters, security systems, energy management, heating, ventilation and air-conditioning systems, signalling and monitoring systems, interfaces to service and building control systems, remote control, metering, audio / video control and white goods.





#### **EIB/KNX** Cable Guide

KNX

		EIS/KWX Cable PVC 2101Q08511	.81-2Y(St)H 2101Q08S44	8.1-2Y(5t)H 2101 P08544	er <sup>w</sup> 2 pair 2102P08544P		
Part Number		2101Q08S11	2101Q08S44	2101P08S44	2102P08S44P	22101Q08544	142101Q08S44
Certified		-	$\checkmark$	$\checkmark$	-	-	-
Physical Characteristics	1						
Formation		1 x 4 x 0,8	1 x 4 x 0,8	1 x 2 x 0,8	2 x 2 x 0,8	1 x 4 x 0,8	1 x 4 x 0,8
Core Identification							
Conductor Diameter	mm	0,8	0,8	0,8	0,8	0,8	0,8
Overall Diameter	mm	6,1	6,1	5,6	6,1	9,1	10,0
Bending Radius	mm	45,75	45,75	55	45,75	-	-
Weight	kg/km	60	60	39	60	90	380
Conductor		bare copper	bare copper	bare copper	bare copper	bare copper	bare copper
Insulation		PVC	LSZH FireFighter®	LSZH FireFighter®	PE	LSZH FireFighter®	LSZH FireFighter®
Drain Wire		bare copper	bare copper	bare copper	bare copper	bare copper	bare copper
Screen		Alulaminate foil	Alulaminate foil	Alulaminate foil	Alulaminate foil	Alulaminate foil	Alulaminate foil
Inner Jacket		-	-	-	-	LSZH FireFighter®	LSZH FireFighter®
Armour		-	-	-	-	-	DataGuard® SWA
Outer jacket		PVC	LSZH FireFighter®	LSZH FireFighter®	LSZH FireFighter®	MDPE	LSZH FireFighter®
Electrical Characteristics							
Loop Resistance (max.)	Ω/km	73,2	73,2	73,2	73,2	73,2	73,2
Insulation Resistance (min.)	MΩxkm	100	100	100	100	100	100
Operating Voltage (peak)	V	300	300	300	300	300	300
Test Voltage (core-shield) 1 min.	kV 50 Hz	4	4	4	4	4	4



## **C.O/M.E.T** Colour Coded Lighting Control BUS *LSZH FireFighter 600V*

These FireFighter® Lighting Control BUS are intended for communication between the lighting distribution board, lighting control modules and luminaire plug wiring. The system utilises DALI BUS as the platform when installing the O-BUS/M-BUS cables . More information or DALI is avaible on pages 26 and 27.

#### Features

ШU

600V IEC 60332-

4001P1844-07 LSZH FIREFIGITER M-BUS 600V IEC 60332-1 CE

-SZH FILEF

001P1844-02 LSZH Rrefigiter E-BUS 600V IEC 60332-1

- Colour coded sheath colours for ease of identification between lighting control wiring and DALI BUS installation
- Flame retardant acc. to IEC 60332-1
- Low Smoke Zero Halogen
- 600 V rating





#### **C.O/M.E.T** Lighting Control Bus Cable Guide

Bus Type		E-Bus	M-Bus / O-Bus		T-Bus	T-Bus
Application		for connection of switches and sensors. Blue is suitable to use as a DALI pair	for connection of LCMs	for inter- connecting of area controllers and PC gateways	for interconnecting area controllers, PC gateway and automated DALI emergency testing equipment	for interconnecting area controllers, PC gateway and automated DALI emergency testing equipment
Physical Characteristics		1				
Construction		1x2x18 awg	1x2x18 awg	1 x 2 x 22 awg	2 x 2 x 22 awg	2 x 2 x 22 awg
Cross Section	mm <sup>2</sup>	0,80	0,80	0,35	0,35	0,35
Colour Code						
Screen type		-	-	Overall foil	Individual / Overall	Individual
Drain Wire		-	-	Tinned copper	Tinned copper	Tinned copper
Outer Jacket material		LSZH FireFighter®	LSZH FireFighter®	LSZH FireFighter®	LSZH FireFighter®	LSZH FireFighter®
Outer Jacket Colour		Blue or White	Pink	Grey	Grey	Black
Overall Diameter	mm	5,30	5,30	4,45	6,34	4,19
Electrical Characteristics	5					
Capacitance	pF/m	≤ 80	≤ 80	-	-	
Loop Resistance	Ω/100m	4,4	4,4	10,4	10,4	11,2
Voltage Rating	V	600	600	600	600	600
PART NUMBER		4001P1844-02 : Blue 4001P1844-10 : White	4001P1844-07	4101P2224	4602P2234	5822252THD







## Cables for **DALI** Applications

DALI (Digital Addressable Lighting Interface ) is an international standard communication protocol (IEC 62386), a global standard for dimming and digital lighting control. DALI is an open non-proprietary standard that makes genuine freely addressable lighting control a reality . DALI is very easy to install, extremely versatile and a much more cost-effective solution than many lighting control systems already on the market, despite its greater functionality.

Innovative DALI lighting solutions can be now be perfectly integrated in modern building control systems (BCS). Special gateways act as "translators" between building control systems (BCS) and DALI. They ensure that all the benefits of DALI can also be used in building management

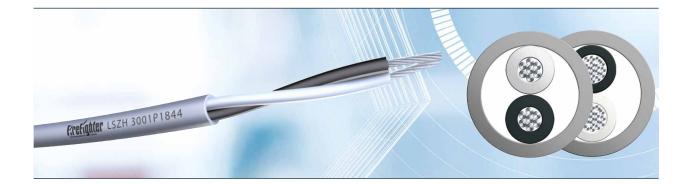






## DALI Cables 600V LSZH Frefghter





#### Description

Recommended minimum Dali cable conductor size and cable run lengths are as follows:

Up to 100 meters:	20awg
Up to 150 meters:	18awg
Up to 200 metres:	16awg
Up to 300 meters:	14awg (more than 300 meters: not recommended - avoid runs over 300 meters

#### **Technical Description**

Cores	Stranded Tinned Copper wire. LSZH FireFighter $^{\circ}$ Insulated IEC 60332-1, black/white cores.
Formation	2 cores twisted to a pair
Outer Jacket	LSZH FireFighter® IEC 60332-1 600 V
Colour	Grey

Part Number	Construction	Overall Diameter (mm)	Max. Installation Length
4001P2044-BW	1 x 2 x 20 awg	4,57	100 m
3001P1844	1 x 2 x 18 awg	6,00	150 m
4001P1644	1 x 2 x 16 awg	6,70	200 m
4001P1444	1 x 2 x 14 awg	8,64	300 m





## BEMS/BMS/HVAC Control Cables

## Suitable for TREND System use

These standard FireFighter<sup>®</sup> cables have been modified for Trend system use , they have the usual FireFighter<sup>®</sup> 600v tray cable rating as well as a special UV stable LSZH sheath according to < ISO 4892-2/A> .

This system adopts the technology of LonWorks  $^{\rm m}$  and BACnet  $^{\rm m}$  for RS-485 applicatins.

#### Features

- Violet sheath for ease of identification
- Flame retardant acc. to IEC 60332-1
- Halogen Free
- 600 V rating
- UV Stable Acc to ISO 4892-2/A







BEMS / BMS / HVAC Control Cable Guide		xCC.ISO 4892-2/A>	14CC ISO 4892-214>	V ACC. ISO 4892-2/A>	1000 100 100 100 100 100 100 100 100 10
Part Number		4001P1644-09	4101P2224-09	4202P2234-09	4401P2454-09
Application		LonWorks™	Current Loop LAN Input/Output Wiring	Current Loop LAN	BACnet™ RS-485
Electrical Characteristics					
Nom. Capacitance (cond./cond.)	pF/m	66,2	72,6	100	42
Nom. Capacitance (con./con./shield)	pF/m	-	140	180	75,5
Nom. Impedance:	Ohm	-	-	50	120
Nom. Velocity of Propagation:	%	-	-	-	67
Conductor DC Resistance:	0hm/km	13,6	52,0	51,9	82
Shield DC Resistance:	0hm/km	-	-	34,8	-
Nom. Inductance:	μH/m	0,56	-	-	0,56
Voltage Rating	V	600	600	600	600
Test Voltage : core / core	Vdcx1min	2000	2000	2000	2000
Test Voltage : core / screen	Vdcx1min	-	1000	1000	1000
Physical Characteristics					
Temperature range (Static)	°C	-20 ~ +80	-20 ~ +80	-20 ~ +80	-20 ~ +80
Temperature range (Installation)	°C	-5 ~ +80	-5 ~ +80	-5 ~ +80	-5 ~ +80
Insulation material		LSZH FireFighter®	Polyethylene	Polypropylene	Polyethylene
Core diameter over insulation	mm	2,70	1,60	1,20	1,62
Screen type		Unscreened	Alulaminate tape	Alulaminate tape	Alulaminate tape
Braid		-	-	-	ТСШВ
Sheath material		LSZH FireFighter®	LSZH FireFighter®	LSZH FireFighter®	LSZH FireFighter®
Sheath radial thickness	mm	0,80 ± 0,10	0,70 ± 0,10	0,50 ± 0,10	0,70 ± 0,10
Overall diameter (approx.)	mm	6,70 ± 0,10	4,50 ± 0,10	4,40 ± 0,10	5,0 ± 0,10
Colour Code					
Weight	kg/km	64	28	32	46 <b>29</b>





## LonWorks® Cables

LonWorks® (Local Operating Network) The Lon platform was created by Echelon Corporation in 1988, since then it has become the world's leading technology for networking building services devices. Lon is an international standard "Control Network" protocol (ISO 14908) as well as an American, Chinese and European standard for open data communication in building automation, controls & building management. Lon can be networked over twisted pair, power lines, fibre optic or RF.

Lon is supported worldwide by more than 4,000 companies representing 80% of the building controls market with more than 100,000,000 devices installed globally in a variety of sectors including motorway lighting, building lighting control, HVAC systems, security systems, fire detection and many more.

Lon open protocol technology frees clients from reliance on a single source of supply , they can select the best lighting controls , detectors , HVAC and access —control units leaving them confidant that they will have seamless integration with other building services systems.

Technically Lon is superior to other protocols on the market. Lon is eight times faster than KNX (EIB) – Lon's 78,000 bits per second (bps) compares to KNX's 9,600 bps – and incorporates acknowledgement handshakes which are not generated by KNX devices. Lon technology enables an entire system database to be created by reading back from the network devices – a feature not offered by any other technology. Coupled with distributed intelligence which guarantees no single point of failure, it is no surprise that Lon is the technology of choice for large, integrated projects where accurate, high-speed communication is important.





## LonWorks® Cables

#### Choose the best version for your environment

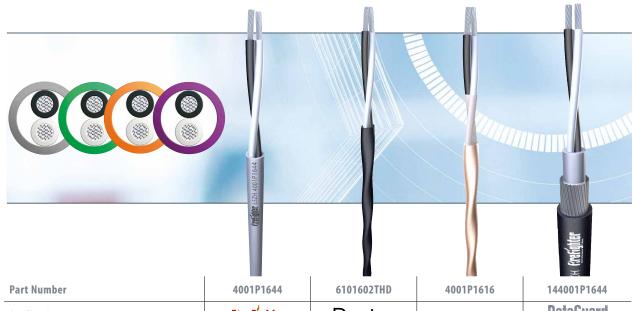
At Belcom we work with design engineers, consultants, our manufacturing partners as well as our customers to ensure that not only have or LonWorks cables been engineered to comply with LON applications but we are also well aware that every installation environment is different.

Belcom can offer a version of LON that will survive however harsh the conditions are.





#### LonWorks® Cable Guide 1x2x16awg



Part Number Application Construction		4001P1644 6101602THD		4001P1616	144001P1644	
		FtreFighter	Duct grade	-60 +150	DataGuard Armoured Network Cables	
		1 x 2 x 16awg	1 x 2 x 16awg	1 x 2 x 16awg		
Overall Diameter	mm	6,70 5,70		5,46	10,76	
Conductor		19/0,30 m Tinned Copper	19/0,30 m Tinned Copper	19/0,30 mm Tinned Copper	19/0,30 Tinned Copper	
Insulation		LSZH FireFighter®	SR-PVC	ETFE Tefzel®	LSZH FireFighter®	
Colour Code						
Fire Barrier		-	-	1	-	
Inner Jacket		-	-	-	LSZH FireFighter®	
Armour		-	-	-	DataGuard® (SWA)	
Outer Jacket		LSZH FireFighter®	HDPE	ETFE Tefzel®	LSZH FireFighter®	
Outer Jacket Colours						
Electrical Characteristics	1					
Capacitance (nom.)	pF/m	108	108	65,62	108	
Conductor DC Resistance (nom.)	Ω/km	14,7	14,7	14,0	14,7	
Inductance (nom.)	μH/m	0,56	0,56	0,56	0,56	
Voltage Rating	V	600	600	600	600	
Test Voltage (core/core)	V dc 1 min.	2000	2000	4600	2000	

## Frefghter



#### LonWorks® Cable Guide nx2x22awg

			re 600V 4101P22554		
Part Number		4001P22S54	4101P22S54	4002P22S54	4102P22S54
Construction		1 x 2 x 22 awg	1 x 2 x 22 awg	2 x 2 x 22 awg	2 x 2 x 22 awg
Overall Diameter	mm	4,50	5,60	6,20	7,50
Conductor		Solid Plain Copper	Solid Plain Copper	Solid Plain Copper	Solid Plain Copper
Insulation		PE	PE	PE	PE
Colour Code				/ 🖊 🖌	
Drain Wire		-	Solid Tinned copper		Solid Tinned copper
Screen		Unscreened	Alulaminate foil	Unscreened	Alulaminate foil
Outer Jacket			LSZH F	ireFighter <sup>®</sup>	
Outer Jacket Colours			V	Vhite	
Electrical Characteristics					
Impedance (nom.)	Ω	100	100	100	100
Velocity of Propagation (nom.)	%	68	68	68	68
Conductor DC Resistance	Ω/km	55	55	55	55
Capacitance	pF/m	46	80	46	40
Shield DC Resistance	Ω/km	-	34	-	17
Attenuation (20 MHz)	dB/100m	6,9	7,8	6,9	7,8





### HART Highway Addressable Remote Transducer Protocol

The Hart Communication protocol was originally a digital industrial automation protocol, an early implementation of fieldbus. This system is still one of the most popular industrial protocols today. Belcom's 430Series has been designed around the HART system and has been adopted by many Belcom customers as a digital lighting control BUS, this cable range follows the same parameters as BACnet and may also be used for this platform.

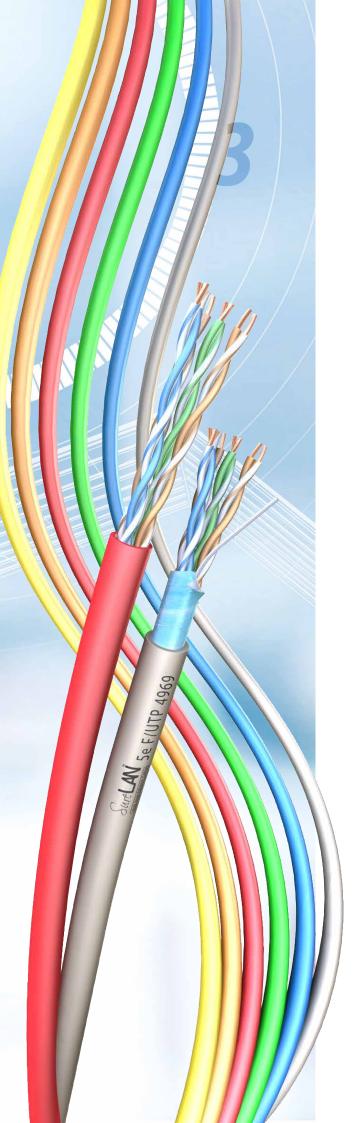
The protocol was developed by Rosemount Inc. a subsidiary of Emerson Electric Company as an early communication standard in the 1980's later in that decade evolving into HART as an open protocol for their smart field instruments. From January 2015 HART Communication Foundation merged with Fieldbus Foundation to form Fieldcomm Group.





#### HART Cable Guide

Data Wire for u envir were	available w Guard® Stee Armouring se in harsh ronments on e mechanica ection is req	el Arriente de la constante de	004 120 OHH R5485 EC 6032-1 CE	20 OHM R5485 IEC 60332-1 CE	HM R5485 IEC 60332-1 CE	IEC 60332-1 CE		
Part Number		4301P2254	4301.5P2254	4302P2254	4303P2254	4304P2254		
Physical Characteristics								
Construction		1 x 2 x 22 awg	1x2x22 + 1x22 awg	2 x 2 x 22 awg	3 x 2 x 22 awg	4 x 2 x 22 awg		
Overall Diameter	mm	7,20	8,00	9,10	10,60	12,63		
Weight	kg/km	65	78	108	126	143		
Conductor			Strar	nded tinned copper (2	2awg)			
Insulation				Polyethylene (PE)				
Colour Code				Z Z / Z Z				
Communication Core		-	22awg TC PE insulated	-	-	-		
Screen type				Overall foil				
Drain Wire			Strar	nded tinned copper (2	2awg)			
Braid				TCWB				
Braid Coverage	%			65				
Outer Jacket material				LSZH FireFighter®				
Outer Jacket Colour				Orange or Black				
Electrical Characteristics								
Shield DC Resistance	Ω/km	9,5	9,2	4,6	4,6	3,6		
Conductor DC Resistance	Ω/km			48,2	· · · · · · · · · · · · · · · · · · ·			
Capacitance cond./cond.	pF/m			36,1				
Capacitance cond./cond./scrn.	pF/m			65,6				
Velocity of Propogation	%		78					
Impedance	Ω			120				



### LAN



Belcom offer a range of SureLAN® cables covering standard installation environments using PVC or LSZH FireFighter® as well as strengthened DataGuard® steel wire armoured versions or other enhanced physical performance variants such as PE for use in ducts and are also available as HDBaseT compliant on request.



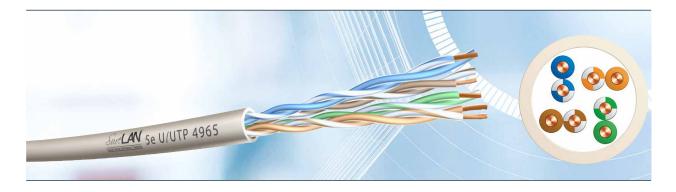
FireFighter Fire Performance Cables







# SureLAN® 5e U/UTP LSZH Frefghter



#### Description

High speed data transmission functionality designed typically for use in horizontal cable installation of local computer networks. IEEE 802.3, IEE 802.5, FDDI, ATM, RNIS. These cables operate to the protocol supported by Class D as set out in ISO/IEC 11801 although they can transmit at frequencies of up to 200MHz.

#### **Technical Description**

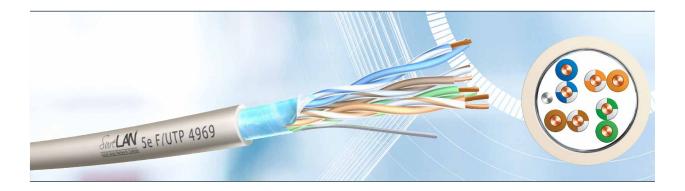
Cores	Solid Bare Copper wire. (Polyethylene) PE insulated	
Formation	4 Unscreened pairs	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colour	multiple	

Part Number Colour		Construction	Overall Diameter (mm)
4965		4 x 2 x 0,51 mm	5,10





# SureLAN® 5e F/UTP LSZH Frefghter



#### Description

High speed data transmission functionality designed typically for use in horizontal cable installation of local computer networks. IEEE 802.3, IEE 802.5, FDDI, ATM, RNIS. These cables operate to the protocol supported by Class D as set out in ISO/IEC 11801 although they can transmit at frequencies of up to 200MHz..

#### **Technical Description**

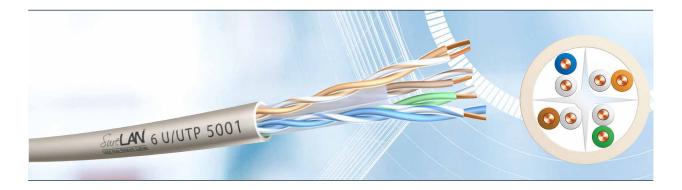
Cores	Solid Bare Copper wire. (Polyethylene) PE insulated	
Formation	4 pairs Overall Screened with Aluminium/polyester tape $+$ solid tinned copper drain wire	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colour	multiple	

Part Number	Part Number Colour		Overall Diameter (mm)
4969		4 x 2 x 0,50 mm	5,75





# SureLAN® 6 U/UTP LSZH Frefghter



#### Description

350 MHz Unscreened data transmission cable for high quality requirements, backward compatible with current data-services as well as Gigabit-Ethernet. Installation is easy because of a central element (cross) no individual shield is required. Usable for: 10Base-T; 100Base-T; 100Base-T; CDDI/TPDDI;ISDN;ATM 155 Mbit/s, TP-PMD 125 Mbit/s, Token Ring 4/16 Mbit/s, analogue telefony. Acc. to ISO/IEC 110801 2nd. ed., EN 50173-1, TIA/EIA 568-B.2, EN 50288-6-1, IEC 61156-5.

#### **Technical Description**

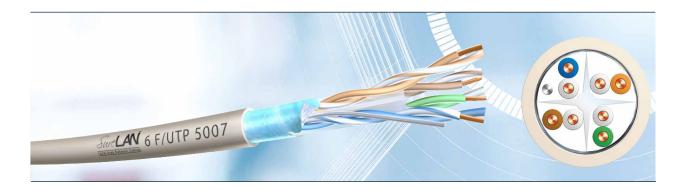
Cores	Solid Bare Copper wire. (Polyethylene) PE insulated	
Formation	4 Unscreened pairs with Central PE X-Filler	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colour	multiple	

Part Number	Colour	Construction	Overall Diameter (mm)
5001		4 x 2 x 24 awg	6,50
5001		4 x 2 x 23 awg	6,50





### SureLAN® 6 F/UTP LSZH Frefghter



#### Description

350 MHz overall screened data transmission cable for high quality requirements, backward compatible with current data-services as well as Gigabit-Ethernet. Installation is easy because of a central element (cross) no individual shield is required. Usable for: 10Base-T; 100BaseT:1000Base-T; CDDI/TPDDI;ISDN;ATM 155 Mbit/s, TP-PMD 125 Mbit/s, Token Ring 4/16 Mbit/s, analogue telefony. Acc. to ISO/IEC 110801 2nd.ed., EN 50173-1, TIA/EIA 568-B.2, EN 50288-5-1, IEC 61156-5.

#### **Technical Description**

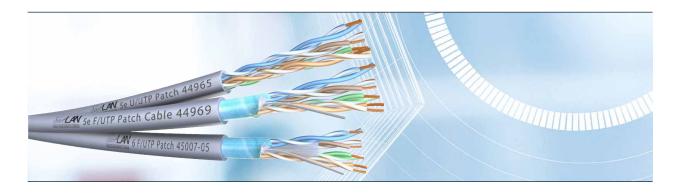
Cores	Solid Bare Copper wire. (Polyethylene) PE insulated
Formation	4 pairs and Central PE X-Filler Overall Screened with Aluminium/polyester tape $+$ solid TC drain wire.
Outer Jacket	LSZH FireFighter® IEC 60332-1
Colour	multiple

Part Number	Colour	Construction	Overall Diameter (mm)
5007		4 x 2 x 24 awg	7,0
5007		4 x 2 x 23 awg	7,0





# SureLAN® Patch Cables LSZH Frefghter



#### Description

High quality LAN patch cable for reliable high speed data transfer, according to category 5e and category 6. Available on bulk reels and ready to cut to any nominated length. LSZH FireFighter® as standard.

#### **Technical Description**

Cores	Stranded Bare Copper wire. (Polyethylene) PE insulated		
Formation	Unscreened : U/UTP Screened : F/UTP Overall Aluminium/polyester tape + TC drain wire		
Outer Jacket	LSZH FireFighter® IEC 60332-1		
Colour	multiple		

Part Number	Туре	Colour	Construction	Overall Diameter (mm)
44965	Cat5e U/UTP		4 x 2 x 26 awg	
44969	Cat5e F/UTP		4 x 2 x 26 awg	
45007-05	Cat6 F/UTP		4 x 2 x 26 awg	





# Satellite / CATV



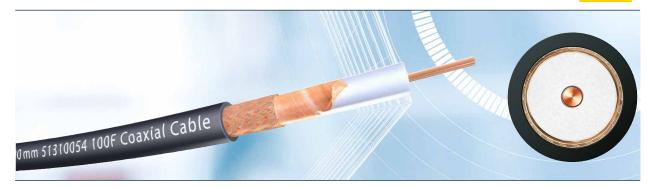
Belcom's range of foam filled coaxials for TV, Satellite, CATV, CCTV applications include PVC and LSZH versions which have been Independently certified and hold the CAI Benchmark approval CAI-007-C/100/09-2013.





#### Coax 75 $\Omega$ 100F Type TV Satellite, CATV, CCTV Cable

acc. to CAI Benchmark CAI-007-C/100/09-2013 BS EN 50117-1 : 2002



#### Description

Belcom's 61001 (PVC) and 61004 (LSZH) 100 series coaxials hold the CAI Benchmark approval CAI 007-C/100/09-2013.

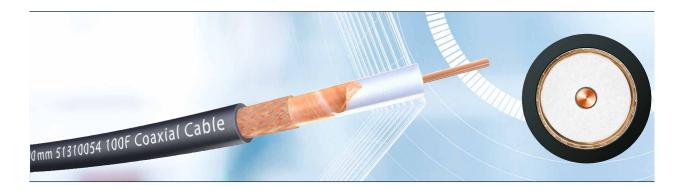
#### **Technical Description**

Conductor	Solid bare copper wire
Formation Bare copper conductor with Foam Dielectric, Bare Copper screen and Bare copper wir	
Outer Jacket	LSZH FireFighter® IEC 60332-1 or PVC
Colours	Black

Part Number	Туре	Construction	Overall Diameter (mm)
61001	PVC	1 x 1,0 mm	6,55
61004	LSZH FireFighter®	1 x 1,0 mm	6,55



#### Coax 75Ω 100Series Type TV Satellite, CATV, CCTV Cable



#### Description

These foam filled coaxials are the most popular in the UK for commercial and residential installations.

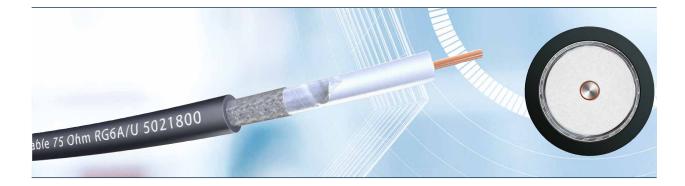
#### **Technical Description**

Conductor	Solid bare copper wire	
Formation	Bare copper conductor with Foam Dielectric, Bare Copper screen and Bare copper wire braid	
Outer Jacket	LSZH FireFighter® IEC 60332-1, PVC or Polyethylene (PE)	
Colours	see specification table	

Part Number	Туре	Colour	Construction	Overall Diameter (mm)
51310051	PVC	Black	1 x 1,0 mm	6,55
51310054	LSZH	Black	1 x 1,0 mm	6,55
51310052-3	HDPE Direct Burial	Green	1 x 1,0 mm	7,10
513210054	LSZH Shotgun	Black	2 x (1 x 1,0 mm)	6,8 x 13,6
51312552	PE Duct Grade	Black	1 x 1,25 mm	7,80
51312554	LSZH	Black	1 x 1,25 mm	7,80
51312552-3	HDPE Direct Burial	Green	1 x 1,25 mm	9,00
51316552	PE Duct Grade	Black	1 x 1,65 mm	10,10
51316554	LSZH	Black	1 x 1,65 mm	10,10
51316552-3	HDPE Direct Burial	Green	1 x 1,65 mm	11,80



#### 5021800 RG6/U 75Ω Type



#### Description

RG6/U Coax for TV and radio transmitters as well as low power video and broadband signals.

#### **Technical Description**

Conductor	Solid copper clad steel wire	
Formation	conductor with Foam PE Dielectric, AL-PET screen and Aluminium wire braid	
Outer Jacket	Polyvinylchloride (PVC)	
Colours	Black	

Part Number	Construction	Overall Diameter (mm)
5021800	1 x 1,02 mm	6,10



# Fire & Security



Belcom supply a range of connection cables for security and fire protection using LSZH FireFighter® as standard but also available in PVC sheath or enhanced physical performance versions such as PE for use in ducts or our steel wire armoured DataGuard® versions.

The range includes alarm cables for intruder alarm and detector connection according to the new BS 4737-3.30 Standard, CCTV cable for camera signal and security control systems as well as hybrid versions for camera and camera power supply.

We also stock a wide range of Fire Performance cable for use in fire alarms and emergency lighting circuits, compliant with BS5839-8 and BS7629-1.

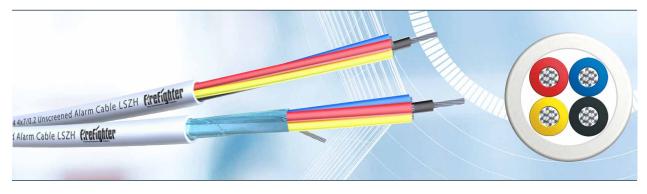
Frefighter





# Alarm Cable LSZH Frefghter

acc. to BS4737-3.30 Type I



#### Description

Alarm cables for intruder alarm, intercom and detector connection. LSZH FireFighter® as standard. Maunfactured according to BS 4737-3.30 Type I. Also available in PE Duct Grade versions.

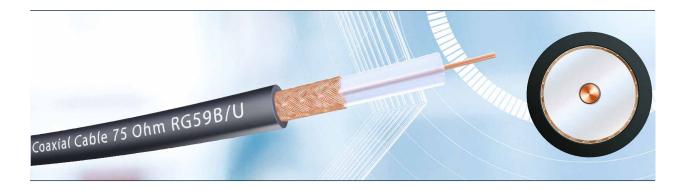
#### **Technical Description**

Cores	Stranded Tinned Copper wire. LSZH FireFighter® IEC 60332-1 Insulated	
Formation	Unscreened : 4, 6, 8 or 12 cores Screened : 4, 6, 8 or 12 cores Overall Aluminium/polyester taped + stranded TC drain wire.	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colour	White	

Part Number	Shield Type	# of Cores	Overall Diameter (mm)
404	Unscreened	4	3,4
604	Unscreened	б	4,0
804	Unscreened	8	4,3
1204	Unscreened	12	5,5
414	Screened	4	3,7
614	Screened	6	4,3
814	Screened	8	4,6
1214	Screened	12	6,2



# RG59 B/U 75Ω MIL-C-17F/17G LSZH Frefghter



#### Description

RG59B/U 75 $\Omega$  coaxial cable for low-power video and RF signal connections.

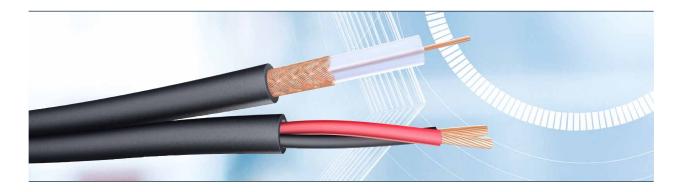
#### **Technical Description**

Conductor	Solid copper clad steel wire	
Formation	conductor with Solid PE Dielectric and Bare Copper Braid (95% coverage)	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colours	Black	

Part Number	Construction	Overall Diameter (mm)
RG59B/U MIL LSZH	1 x 0,59 mm	6,10



# RG59 B/U + 2core 75Ω MIL-C-17F/MIL-C-17G LSZH Frefighter



#### Description

Hybrid RG59 coaxial for camera and camera power supply. LSZH FireFighter® as standard.

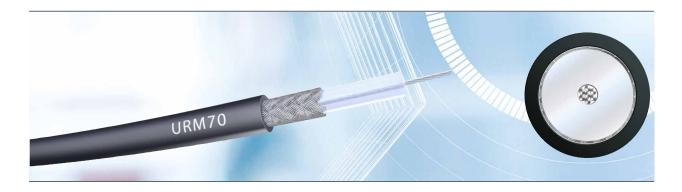
#### **Technical Description**

$75\Omega$ Solid copper clad steel, Solid PE Dielectric, Bare Copper Braid	
2 cores and coax sheathed in twin figure 8 (shotgun) formation	
LSZH FireFighter® IEC 60332-1	
Black	

Part Number	Construction	Overall Diameter (mm)
4825944	2 x 0,75mm <sup>2</sup> + 1 x 0,59 mm	6,0 x 5,40 x 12,0



# URM70 75Ω BS2316 LSZH Frefghter



#### Description

Uniradio 70 75Ω low loss coaxial for general VHF, UHF and RF applications. Stranded copper conductor for areas of increased vibration. LSZH FireFighter<sup>®</sup> sheath.

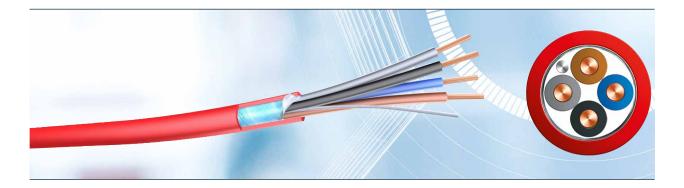
#### **Technical Description**

Conductor	Stranded tinned copper wire	
Formation	conductor with Solid PE Dielectric and Tinned Copper Braid (91% coverage)	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colours	Black	

Part Number	Construction	Overall Diameter (mm)
URM70LSZH	1 x 0,22mm <sup>2</sup>	5,80



# **NOBULE** Ventcroft Standard Fire Performance Cables



#### Description

Key applications include fire detection and fire alarm systems for buildings, Emergency lighting, Voice alarm systems and Voice communication systems (Risk assessment may demand mechanical protection). Approved by LPCB and BASEC to meet with BS5839-1:2013 Clause 26.2d. Standard, BS EN 50200:2006 + Annex E30 minutes & BS EN 50200:2006 class PH30, PH60 & PH120. Platinum's core twists will provide the highest level of dat protection, ideal for long cable runs and analogue addressable fire systems. Also certified by LPCB BASEC to BS7629-1:2008 & BS 6387:1994 Clause II CWZ including 3 hour burn test at 950°C.

#### **Technical Description**

Cores	1.0, 1.5, 2.5mm <sup>2</sup> Solid or 4.0mm <sup>2</sup> Stranded Plain Copper wire. Fire Resistant Silicone insulated	
Formation	2, 3 or 4 cores. Brown, Blue, Grey, Black.	
Screen	CPC Circuit protection conductor under polyester back copolymer Aluminium foil (Alu. bonded to Jacket)	
Outer Jacket	LSZH FireFighter® IEC 60332-1	
Colour	Red, White or Black	

#### Standards

'Standard' Fire Cable	BS 5839-1:2013 Clause 26.2d		
Fire Resistance Standard	BS EN 50200:2006+Annex E 30 mins		
Fire Resistance Standard	BS EN 50200:2006 PH30, PH60 & PH120		
Fire Resistance Standard	BS 7629-1:2008		
Fire Resistance Standard	BS 6387:1994 Clause 11 CWZ		
Halogen Emission Standard	BS EN 50267-2-1:1999		
Low Smoke Standard	BS EN 61034-2:2005		





Continued on next page...



# **NOBULA** Electrical & Mechanical Characteristics

Working Voltage			Core to Core	500	V
			Core to Screen	300	V
			1,0 mm <sup>2</sup>	18,1	0hm/km
			1,5 mm <sup>2</sup>	12,1	0hm/km
Resistance			<b>2,5</b> mm <sup>2</sup>	7,41	0hm/km
			4,0 mm <sup>2</sup>	4,61	0hm/km
Minimum Bending Rad	ius			Radius	хØ
Operating Temperature				$-40^{\circ}C \sim +90$	°C
Installation Temperatu	re			0°C ~ +70	°C
Voltage Drop (DC or Single Phase AC)			1,0 mm <sup>2</sup>	44	0hm mV/A/m
			1,5 mm <sup>2</sup>	29	0hm mV/A/m
			2,5 mm <sup>2</sup>	18	0hm mV/A/m
			4,0 mm <sup>2</sup>	11	0hm mV/A/m
			1,0 mm <sup>2</sup>	15	A
		Cable Clipped (DC or Single Phase AC)	1,5 mm <sup>2</sup>	19,5	A
6 D I			2,5 mm <sup>2</sup>	27	A
Current Rating (Current Ratings listed	are at 30°C Refer to		4,0 mm <sup>2</sup>	36	A
BS7671/EE Wiring Regu factor.)	llations for de-rating	Enclosed	1,0 mm <sup>2</sup>	13	A
			1,5 mm <sup>2</sup>	16,5	A
		(DC or Single Phase AC)	2,5 mm <sup>2</sup>	23	А
			4,0 mm <sup>2</sup>	30	А
Capacitance Rating	2 and 3 Core & CPC	Core to Core	1,5 mm <sup>2</sup>	70	pF/m
		Core to Screen	1,5 mm <sup>2</sup>	130	pF/m
	4 Core & CPC	Core to Core	1,5 mm <sup>2</sup>	75	pF/m
		Core to Screen	1,5 mm <sup>2</sup>	150	pF/m
	2 and 3 Core & CPC	Core to Core	2,5 mm <sup>2</sup>	80	pF/m
		Core to Screen	2,5 mm <sup>2</sup>	145	pF/m
	4 Core & CPC	Core to Core	2,5 mm <sup>2</sup>	85	pF/m
		Core to Screen	2,5 mm <sup>2</sup>	165	pF/m

Continued on next page...





Product Code	Cores	Core Size	Approx. Overall Diameter	Approx. Overall Weight	Outer Sheath Colour
		<i>mm2</i>	mm	Kg/100m	
VFP-210ERH	2 Core + CPC	1,0	7,35	8,0	Red
VFP-310ERH	3 Core & CPC	1,0	7,95	9,5	Red
VFP-410ERH	4 Core & CPC	1,0	8,20	10,9	Red
VFP-215ERH	2 Core + CPC	1,5	7,60	9,5	Red
VFP-315ERH	3 Core & CPC	1,5	8,75	12,9	Red
VFP-415ERH	4 Core & CPC	1,5	9,00	14,5	Red
VFP-225ERH	2 Core + CPC	2,5	9,00	14,1	Red
VFP-325ERH	3 Core & CPC	2,5	9,50	19,1	Red
VFP-425ERH	4 Core & CPC	2,5	11,40	22,2	Red
VFP-S240ERH	2 Core + CPC	4,0	10,90	20,0	Red
VFP-S340ERH	3 Core & CPC	4,0	12,50	25,0	Red
VFP-S440ERH	4 Core & CPC	4,0	13,75	31,0	Red
				<u> </u>	
VFP-210EWH	2 Core + CPC	1,0	7,35	8,0	White
VFP-310EWH	3 Core & CPC	1,0	7,95	9,5	White
VFP-410EWH	4 Core & CPC	1,0	8,20	10,9	White
VFP-215EWH	2 Core + CPC	1,5	7,60	9,5	White
VFP-315EWH	3 Core & CPC	1,5	8,75	12,9	White
VFP-415EWH	4 Core & CPC	1,5	9,00	14,5	White
VFP-225EWH	2 Core + CPC	2,5	9,00	14,1	White
VFP-325EWH	3 Core & CPC	2,5	9,50	19,1	White
VFP-425EWH	4 Core & CPC	2,5	11,40	22,2	White
VFP-S240EWH	2 Core + CPC	4,0	10,90	20,0	White
VFP-S340EWH	3 Core & CPC	4,0	12,50	25,0	White
VFP-S440EWH	4 Core & CPC	4,0	13,75	31,0	White
				·	
VFP-215EBKH	2 Core + CPC	1,5	8,75	12,9	Black
VFP-415EBKH	4 Core & CPC	1,5	9,00	14,5	Black
VFP-225EBKH	2 Core + CPC	2,5	9,00	14,1	Black





# **Fibre Optic**

Bringing the cables professionals use to your home

A s demand for transmission distance data rates and network speed requirements increase, the ability of traditional copper cabling to deliver these requirements diminishes.

Fibre Optic cabling provides a secure future proof option for any installation even home install.

Belcom offer a wide range of internal/external cables including steel wire armoured DataGuard® options, LSZH FireFighter® as standard.

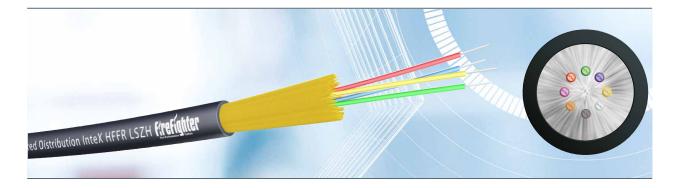
As members of the Fibre Optic Industry Association you can be sure that Belcom are the natural choice for fibre optic cabling







#### Fibre Optic Cable



#### Description

- High spec residential installations
- Network backbone between risers
- Future proof/pre-wire for updated TV's HD Video distribution

#### **Technical Description**

Fibre	900 $\pm$ 50 $\mu m$ tight buffered fibre, 50/125 OM3 multi-mode		
Strength Member	Glass fibre yarns (swellable for longitudinal watertightness)		
Outer Jacket	LSZH FireFighter® IEC 60332-1		
Colour	Black		

Part Number	No. of Fibres	Tensile Strength (N)	Overall Diameter (mm)
103024TB-01	2	850	5,0 ± 0,5
103044TB-01	4	1000	5,5 ± 0,5
103064TB-01	6	1200	6,2 ± 0,5
103084TB-01	8	1400	6,5 ± 0,5
103104TB-01	10	1600	6,7 ± 0,5
103124TB-01	12	1600	7,3 ± 0,5
103164TB-01	16	1800	8,0 ± 0,5
103244TB-01	24	2900	10,4 ± 0,5

Belcom Cables Ltd Warish Hall Takeley Bishops Stortford, Herts CM22 6NZ

> Tel: 01279 871150 Fax: 01279 871129 E-mail: sales@belcom.co.uk Website: www.belcom.co.uk