UPCOM

FR-LSZH | GRP central member | Aramid reinforced sub-units

Tight Buffer Breakout Cable 2-24F

I-V(ZN)HH Break SZ

SZ Stranded Tight Buffer Breakout Indoor Fiber Optic Cable

Direct termination route for LAN, building backbone and pre-terminated cable assemblies

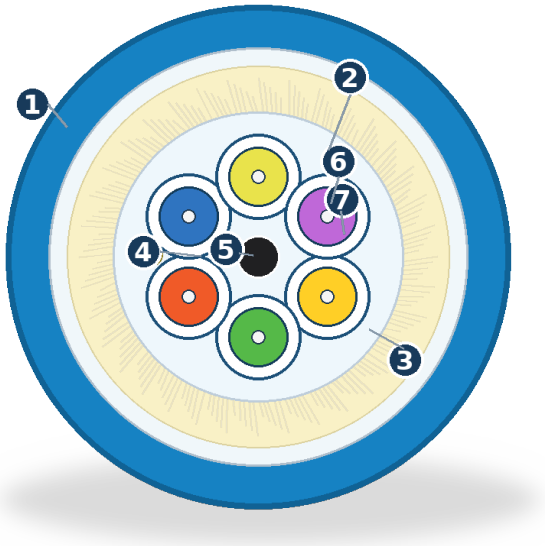
CORE PRODUCT DATA

Cable family	Indoor tight buffer breakout cable
Code designation	I-V(ZN)HH Break SZ
Fiber count range	2, 4, 6, 8, 12, 16 or 24 fibers
Sub-unit design	2.0 mm FR-LSZH breakout elements
Strength member	GRP central member and aramid yarns
Outer sheath	FR-LSZH, single jacket indoor design
Main use	LAN, riser, horizontal cabling, field termination

I-V(ZN)HH Break SZ is designed for indoor voice, data and LAN links where compact routing, direct termination and halogen-free fire performance are required.

Numbered Cable Cross Section

I-V(ZN)HH Break SZ - representative tight buffer breakout cable construction



Component legend

1. **FR-LSZH outer sheath**
   Halogen-free, flame-retardant indoor jacket
2. **S/Z twisted sub-units**
   2.0 mm breakout elements around GRP
3. **Aramid yarn**
   Tensile reinforcement and dry design support
4. **Rip cord**
   Opening aid below the outer jacket
5. **Central strength member**
   GRP dielectric central member
6. **900 µm tight buffer**
   Tight buffer inside each sub-unit
7. **Optical fiber**
   SM or MM fiber according to order

Layer order
outside to inside

1 → 2 → 3 → 4 → 5 → 6 → 7

Representative cross-section only. The number of 2.0 mm breakout sub-units follows the selected fiber count; the material stack and numbering logic remain the same.

Technical construction and performance

Construction and mechanical values are reorganized from the original UPCOM I-V(ZN)HH Break SZ datasheet for a cleaner technical reading.

Cable construction

Item	2F	4F	6F	8F	12F	16F	24F
Strength members	Aramid yarns	Aramid yarns	Aramid yarns	Aramid yarns	Aramid yarns	Aramid yarns	Aramid yarns
Sub-unit outer diameter	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm
Sub-unit jacket	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH
Identification	Numbers / colors	Numbers / colors	Numbers / colors	Numbers / colors	Numbers / colors	Numbers / colors	Numbers / colors
Central strength member	GRP	GRP	GRP	GRP	GRP	GRP	GRP
Outer jacket	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH	FR-LSZH
Cable weight	47 kg/km	54 kg/km	74 kg/km	96 kg/km	153 kg/km	186 kg/km	210 kg/km
Outer diameter	6.8 mm	7.0 mm	9.2 mm	11.0 mm	15.0 mm	14.8 mm	18.0 mm
Tensile load - perm./inst.	600 / 1000 N	800 / 1350 N	1200 / 2050 N	1600 / 2700 N	2400 / 3500 N	3200 / 3500 N	3500 / 4500 N

Mechanical and environmental characteristics

Test	Test standard	Specified value
Crush resistance	IEC 60794-1-2 E3	2000 N
Temperature range	IEC 60794-1-2 F1	-20 °C to +60 °C
Minimum bending radius	IEC 60794-1-2 E11	20 x cable outer diameter
Cable design	-	All dielectric, dry design with FR-LSZH jacket

Design notes

- 2.0 mm breakout elements support easier direct termination and field handling.
- SZ stranded sub-units around the GRP member help keep the cable compact while maintaining routing flexibility.
- FR-LSZH materials are used for indoor areas where low smoke and halogen-free fire performance are required.

Identification, applications and standards

Identification and marking

Field	Specification
Cable marking	UPCOM marking and cable description can be printed on the outer jacket according to order requirements.
Standard product description	UPCOM FO CABLE I-V(ZN)HH Break SZ, fiber type and fiber count according to order.
Code designation	I-V(ZN)HH Break SZ
Sub-unit identification	Number or color identification for breakout elements.
Outer sheath color	Selected according to fiber type and customer/order requirement.

Application areas

Application	Typical use
LAN / WAN cabling	Indoor voice, data and local area network links.
Inter-building / intra-building backbone	Building backbone routes where breakout construction and direct termination are needed.
Riser and horizontal routes	Vertical riser and general horizontal indoor cable paths.
Duct installation	Indoor duct routes where compact all-dielectric construction is preferred.
Pre-terminated assemblies	Multi-fiber pre-terminated cable assemblies and fan-out applications.
FTTx indoor cabling	Indoor distribution sections of FTTx networks.

Compliance standards

Standard	Scope
DIN VDE 0888 Part 6	Optical fiber cable construction reference.
IEC 61034	Smoke density of cables under defined fire conditions.
IEC 60332-1 & IEC 60332-2	Flame propagation behavior of single insulated cable/wire.
IEC 60754-2	Acidity and conductivity of evolved gases.
IEC 60794-1 & IEC 60794-2	Optical fiber cable generic and indoor cable requirements.

Optical characteristics and ordering codes

Optical characteristics

Fiber type	Wavelength	Attenuation max.
62.5/125 OM1	850 / 1300 nm	3.2 / 1.2 dB/km
50/125 OM2	850 / 1300 nm	3.0 / 1.0 dB/km
50/125 OM3	850 / 1300 nm	2.8 / 0.8 dB/km
50/125 OM4	850 / 1300 nm	2.7 / 0.7 dB/km
9/125 G.652-D	1310 / 1550 nm	0.34 / 0.25 dB/km
9/125 G.657A	1310 / 1550 nm	0.34 / 0.22 dB/km

Ordering code logic

Fiber family	Ordering code format	Sheath color suffix
G.652D SM	UP-I-V(ZN)HH-BSZ-GDx[2-24]	YL
G.657A SM	UP-I-V(ZN)HH-BSZ-GA2x[2-24]	YL
OM1 MM	UP-I-V(ZN)HH-BSZ-OM1x[2-24]	OR
OM2 MM	UP-I-V(ZN)HH-BSZ-OM2x[2-24]	OR
OM3 MM	UP-I-V(ZN)HH-BSZ-OM3x[2-24]	TQ
OM4 MM	UP-I-V(ZN)HH-BSZ-OM4x[2-24]	TQ

Example ordering codes

Fiber type	Fiber count	Ordering code
G.652D SM	4F	UP-I-V(ZN)HH-BSZ-GDx4-YL
G.652D SM	8F	UP-I-V(ZN)HH-BSZ-GDx8-YL
G.652D SM	12F	UP-I-V(ZN)HH-BSZ-GDx12-YL
G.652D SM	24F	UP-I-V(ZN)HH-BSZ-GDx24-YL
G.657A SM	12F	UP-I-V(ZN)HH-BSZ-GA2x12-YL
OM2 MM	12F	UP-I-V(ZN)HH-BSZ-OM2x12-OR
OM3 MM	12F	UP-I-V(ZN)HH-BSZ-OM3x12-TQ
OM4 MM	24F	UP-I-V(ZN)HH-BSZ-OM4x24-TQ

Other fiber types, jacket colors, cable marking text and delivery lengths can be configured according to project requirements. Final construction, printing and packaging should be confirmed at order stage.