HITRONIC® HDH Mini Breakout Cable

DB_HDH_EN (version 2.1)
valid from: 01.03.2013

1. Product Description

Cable designation: J-V(ZN)H

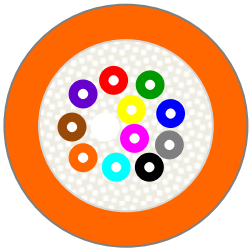
Indoor mini breakout cable designed for direct connector assembly, with up to 12 tight-buffered fibres, flame-retardant and halogen-free sheaths, high flexibility

2. Application

For use in indoors, suitable for broadcasting industries and events management

Methods of deployment: laying in trunking, ducts, trays, building riser, empty plastic pipes

3. Product Design



Cable core	Up to 12 tight-buffered fibres, central element, enclosed by aramid yarns and LSZH sheath
Cable inner sheath	-
Cable outer sheath	LSZH, low smoke, halogen-free, flame-retardant
Colour of inner sheath	-
Colour of outer sheath	Violet for OM4, Aqua (RAL 6027) for OM3 Orange (RAL 2003) for OM2 and OM1 Yellow (RAL 1021) for single-mode OS2
Identification of fibres	Red, green, grey, yellow, blue, natural, white, brown, violet, orange, pink, black
Strain relief	Reinforced glass yarns
Type of armouring	-

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4. Optical and Physical Properties of Cabled Fibre (and Bare Fibre)

Multimode fibre			**50/125 µm**	**50/125 µm**	**50/125 µm**	**62.5/125 µm**
			OM4	**OM3**	**OM2**	**OM1**
Attenuation	@ 850 nm	dB/km	≤ 3.5 (2.5)	≤ 3.5 (2.5)	≤ 3.5 (2.5)	≤ 3.5 (3.0)
	@ 1300 nm	dB/km	≤ 1.5 (0.7)	≤ 1.5 (0.7)	≤ 1.5 (0.7)	≤ 1.5 (0.7)
Bandwidth	@ 850 nm	MHz-km	≥ 3500	≥ 1500	≥ 500	≥ 200
	@1300 nm	MHz-km	≥ 500	≥ 500	≥ 500	≥ 500
Numerical aperture			0.2 ± 0.015	0.2 ± 0.015	0.2 ± 0.015	0.275 ± 0.015
Core diameter		µm	50 ±2.0	50 ±2.0	50 ± 2.0	62.5 ± 2.5
Cladding diameter		µm	125 ± 1.0	125 ± 1.0	125 ± 1.0	125 ± 2
Primary coating diameter		µm	242 ± 5	242 ± 5	242 ± 5	245 ± 10

Single-mode fibre			**9/125 µm**
			(ITU-T G.652.D)
Attenuation	@ 1310 nm	dB/km	≤ 0.4 (0.35)
	@ 1550 nm	dB/km	≤ 0.4 (0.21)
Chromatic dispersion	@ 1310 nm	ps/(nm-km)	≤ 3.0
	@ 1550 nm	ps/(nm-km)	≤ 18
Zero dispersion wavelength		Nm	1300 – 1322
Cut-off wavelength		Nm	≤ 1260
PMD		ps/km	≤ 0.1
Mode field diameter		µm	9.0 ± 0.4
Cladding diameter		µm	125 ± 1
Primary coating diameter		µm	242 ± 7

5. Thermal Properties

Operating temperature	-20°C to +70°C
Installation temperature	0°C to +50°C
Storage temperature	-20°C to +70°C

6. Mechanical Properties

Max. number of fibres		12
Outer cable diameter (mm)		refer to range overview
Cable weight		refer to range overview
Min. bending radius (mm)	without tensile load	15 x D
	with tensile load	20 x D
Max. tensile strength (N)	long-term	refer to range overview
	short-term	
Max. crush resistance (N)		1300

7. Chemical Properties

LSZH sheath	Flame-retardant (IEC 60332-3), halogen-free, low smoke

8. EC Directives

Not applicable for fibre optic cables

9. Approvals

- RoHS
- Environmental and mechanical tests comply to EN 187000 and IEC 60794
- Fire resistance tested according to IEC 60332-1, IEC 60332-3
- Halogen free according to IEC 60754-1, and low smoke emission complies with IEC 61034-1/2

10. Product Range Overview

Article number	Article designation	No. of Fibres	Outer Ø (mm)	Weight (kg/km)	Tensile Strength long/short (N)
Multimode 50/125 µm OM4					
26010402	HITRONIC® HDH 2G 50/125 OM4	2	6.0 ± 0.3	34	650/1100
26010404	HITRONIC® HDH 4G 50/125 OM4	4	6.3 ± 0.3	37	650/1100
26010408	HITRONIC® HDH 8G 50/125 OM4	8	7.5 ± 0.3	57	850/1450
26010412	HITRONIC® HDH12G 50/125 OM4	12	8.3 ± 0.3	69	850/1450
Multimode 50/125 µm OM3					
26010302	HITRONIC® HDH 2G 50/125 OM3	2	6.0 ± 0.3	34	650/1100
26010304	HITRONIC® HDH 4G 50/125 OM3	4	6.3 ± 0.3	37	650/1100
26010308	HITRONIC® HDH 8G 50/125 OM3	8	7.5 ± 0.3	57	850/1450
26010312	HITRONIC® HDH 12G 50/125 OM3	12	8.3 ± 0.3	69	850/1450
Multimode 50/125 µm OM2					
26010202	HITRONIC® HDH 2G 50/125 OM2	2	6.0 ± 0.3	34	650/1100
26010204	HITRONIC® HDH 4G 50/125 OM2	4	6.3 ± 0.3	37	650/1100
26010208	HITRONIC® HDH 8G 50/125 OM2	8	7.5 ± 0.3	57	850/1450
26010212	HITRONIC® HDH 12G 50/125 OM2	12	8.3 ± 0.3	69	850/1450
Multimode 62.5/125 µm OM1					
26010102	HITRONIC® HDH 2G 62.5/125 OM1	2	6.0 ± 0.3	34	650/1100
26010104	HITRONIC® HDH 4G 62.5/125 OM1	4	6.3 ± 0.3	37	650/1100
26010108	HITRONIC® HDH 8G 62.5/125 OM1	8	7.5 ± 0.3	57	850/1450
26010112	HITRONIC® HDH 12G 62.5/125 OM1	12	8.3 ± 0.3	69	850/1450
Single-mode 9/125 µm OS2					
26010902	HITRONIC® HDH 2E 9/125 OS2	2	6.0 ± 0.3	34	650/1100
26010904	HITRONIC® HDH 4E 9/125 OS2	4	6.3 ± 0.3	37	650/1100
26010908	HITRONIC® HDH 8E 9/125 OS2	8	7.5 ± 0.3	57	850/1450
26010912	HITRONIC® HDH12E 9/125 OS2	12	8.3 ± 0.3	69	850/1450