

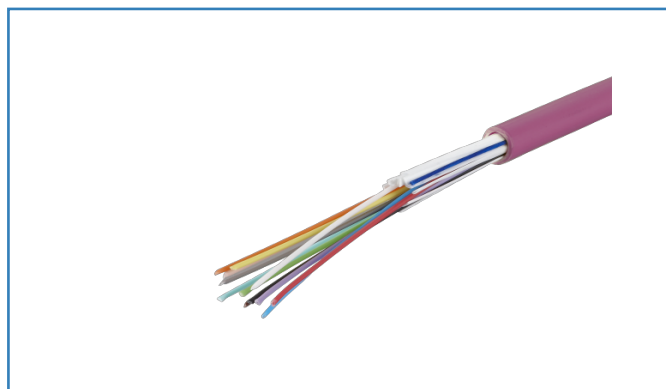
Data sheet

OpDAT mini breakout cable 12x1 OM4 - bend insensitive, class D_{ca} s1 d0 a1

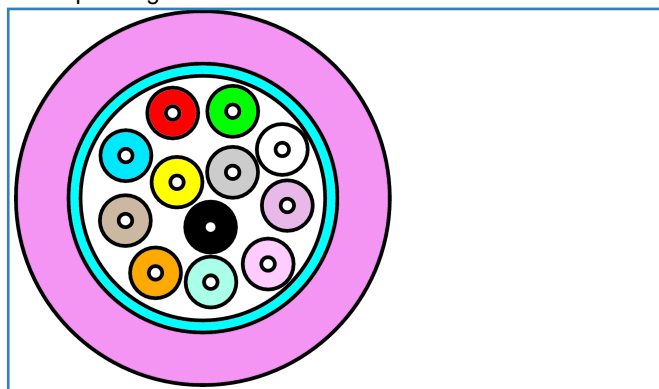
P/N 150M12700000M
EAN 4250184145448

2018-05-03

Illustrations



Principle diagram



See enlarged drawings at the end of document



Product specification

- mini-breakout installation cable U-VQ(ZN)H
- bend insensitive fiber
- UV-resistant, metal-free, waterproof and moisture-resistant
- longitudinally water blocked and suitable for operation down to -40 °C
- cable sheath: LSHF-FR (low smoke halogen free - flame retardant)
- cable structure: 4, 12 or 24 tight buffered fibers (dia. 0.9 mm)
- strain relief: glasroving elements
- to be laid in tubes and cable ducts indoors and outdoors
- applicable standards: EN 50173-1, ISO 11801 2nd edition, IEC 60794-2, IEC 60794-2-20, EN 187000
- fire behaviour: Class D_{ca} s1 d0 a1 acc. to EN 50399 (classification acc. to EN 13501-6)

variants:

number of OS2 fibers	4, 12 or 24
number of OM5 fibers	4 or 12
number of OM4 fibers	4, 12 or 24
number of OM3 fibers	4, 12 or 24



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Technical Data

General Data

Fields of application	Structured building cabling, Office Fiber to the Desk, Data center
Design	Installation cables
Transmission technology	Fiber optic
Color	violet
Color coding fiber/ wire(s)	see table
Mode type of the fiber	Multimode
Fiber class	OM4 (ISO/IEC 11801/EN 50173 & IEC 60793-2-10/EN 60793-2-10 A1.a.3)
Cable Type	Mini breakout
Number of cables/ cores	1
Number of fibres each cable/ wire	12
Fiber construction	50/125 µm
Weight	48.00 kg/km

Connections/interfaces

Connector technology interface 1	Free line end
Connector technology interface 2	Free line end
Cable sheath diameter (min. - max.)	
Cable sheath diameter	6.90 mm
Cable sheath diameter	0.272 in.

Optical characteristics

Attenuation of the fiber	
Attenuation of the fiber in the cable at 850 nm	max. 3.0 dB/km
Attenuation of the fiber in the cable at 1300 nm	max. 1.0 dB/km

Mechanical characteristics

strain relief	glasrooving elements
Maximum installation load (max.)	900 N
Maximum installation load	50.00 mm
Maximum installation load	1.969 in.
Impact resistance	10 J
Crush (compressive strength)	2000 N
Fire load	765 MJ/km



Technical Data

Materials and material properties

Material - Cable jacket	LSHF-FR
Bend insensitivity	yes
Flame retardancy	yes
Halogen free	yes
Metallfrei	yes
UV-resistance	yes
Longitudinal water tightness	yes

Environmental conditions

Temperature (min. - max.)	
Temperature - Storage °C	-40 - 70 °C
Temperature - Storage °F	-40 - 158 °F
Temperature - Operating °C	-40 - 70 °C
Temperature - Operating °F	-40 - 158 °F
Temperature - Installation °C	-20 - 60 °C
Temperature - Installation °F	-4 - 140 °F

Approvals

RoHS	compliant
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The product meets the following standards

Generic cabling systems	
General requirements	ISO/IEC 11801
Optical fibers: Product specifications	
Sectional specification for category A1 multimode fibres	ISO/IEC 60793-2-10 (A1a.3)
Optical fibers: Generic specification	
Cross reference table for optical cable test procedures	ISO/IEC 60794-1-2
Test on gases evolved during combustion of materials from cables	
Determination of the halogen acid gas content	IEC 60754-1
Determination of acidity (by measuring the pH value) and conductivity	IEC 60754-2

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The product meets the following standards

Tests on electric and optical fibre cables under fire conditions

Test for vertical flame propagation for a single insulated wire or cable	ISO/IEC 60332-1-2
Test for vertical flame spread of vertically-mounted bunched wires or cables	ISO/IEC 60332-3-24
Measurement of smoke density of cables burning	ISO/IEC 61034
Common test methods for cables under fire conditions	
Fire behaviour - class	fire behaviour: Class D _{ca} s1 d0 a1 acc. to EN 50399 (classification acc. to EN 13501-6)
ITU-T standard	G.651.1

Classifications

ETIM 5.0	EC000034
ETIM 6.0	EC000034

Packing details

Type of packaging	1 meter / plastic bag
Packaging dimension (W x H x D)	300.00 x 200.00 x 50.00 mm
Packaging dimension (W x H x D)	11.811 x 7.874 x 1.969 in.



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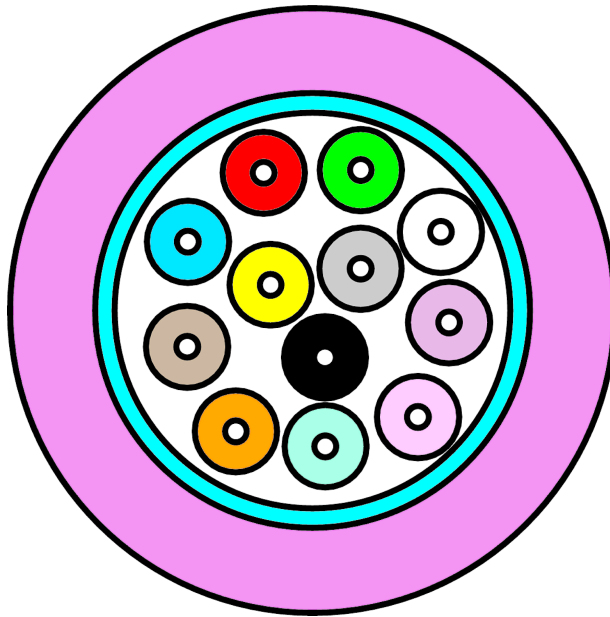
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Illustrations

Principle diagram



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Fiber color coding

Fiber color code		
	1	red
	2	green
	3	blue
	4	yellow
	5	white
	6	grey
	7	brown
	8	violet
	9	turquoise
	10	black
	11	orange
	12	pink



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Technical Data

General Data

Transmission technology	Fiber optic
Mode type of the fiber	Multimode
Fiber class	OM4 (ISO/IEC 11801/EN 50173 & IEC 60793-2-10/EN 60793-2-10 A1.a.3)
Fiber construction	50/125 µm

Transmission characteristics

Transmission rate up to 10 GBit (Gigabit-Ethernet)	IEEE 802.3an
Transmission rate up to 100 GBit	IEEE 802.3ba
Reach	
Reach 1000BASE LX	550 m
Reach 1000BASE SX	1100 m
Overfilled (OFL) modal bandwidth at 850 nm (min.)	3500 MHz * km
Overfilled (OFL) modal bandwidth at 1300 nm (min.)	500 MHz * km
Effective modal bandwidth (EMB) at 850 nm (min.)	4700 MHz * km

Connections/interfaces

Connector technology interface 1	Free line end
Connector technology interface 2	Free line end
Fiber core diameter	50 ± 2 µm
Core-/ Fiber cladding diameter	125.0 ± 1.0 µm
Primary coating diameter - colored	250 ± 15 µm
Primary coating diameter - uncolored	242 ± 5 µm

Optical characteristics

Attenuation of the fiber	
Attenuation of the fiber in the cable at 850 nm	max. 2.5 dB/km
Attenuation of the fiber in the cable at 1300 nm	max. 0.7 dB/km
Maximum value of cable attenuation at 850 nm	3.0 dB/km
Maximum value of cable attenuation at 1300 nm	1.0 dB/km

Mechanical characteristics

Proof stress level	min. 0.7 (~ 1 %) GPa
Typische durchschnittliche Abziehkraft	1.7 N
Strip force (peak)	1.3 ≤ F _{peak.strip} ≤ 8.9 N
Fiber cladding non-circularity	max. 0.7 %

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Technical Data

Mechanical characteristics

Core non-circularity	max. 5 %
Core (MDF)-cladding concentricity error	max. 1 µm
Primary coating concentricity error	max. 5 %
Primary coating-cladding concentricity error	max. 6
Inhomogeneity of OTDR measurement report at 1310 nm und 1550 nm	max. 0.1 dB/km
Group refractive index	
Gruppen-Brechungsindex bei 850 nm	1.482
Gruppen-Brechungsindex bei 1300 nm	1.477
Numerical aperture	0.200 ± 0.015

Materials and material properties

Bend insensitivity	yes
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Approvals

RoHS	compliant
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The product meets the following standards

Generic cabling systems	
General requirements	ISO/IEC 11801 cat. OM4 TIA/EIA 568-C
Data centers	ISO/IEC 24764
Optical fibers: Measuring methods and test procedures	
Fibre geometry	ISO/IEC 60793-1-20
Coating geometry	ISO/IEC 60793-1-21
Length measurement	ISO/IEC 60793-1-22
Fibre proof test	ISO/IEC 60793-1-30
Coating strippability	ISO/IEC 60793-1-32
Attenuation	ISO/IEC 60793-1-40
Bandbreite	ISO/IEC 60793-1-41
Numerical aperture	ISO/IEC 60793-1-43
Gruppenlaufzeitdifferenz	ISO/IEC 60793-1-49
Optical fibers: Product specifications	
Sectional specification for category A1 multimode fibres	ISO/IEC 60793-2-10 (A1a.3)
ITU-T standard	G.651.1
TIA/ANSI-492	AAAD

