METZ CONNECT
We realize ideas

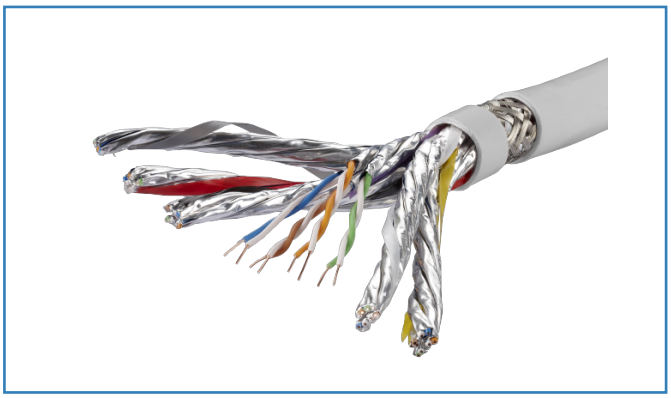
Data sheet

BTR DCCS 23/1 Cat.7 S/FTP 24P LSHF-FR, class D_{ca} s2 d1 a1

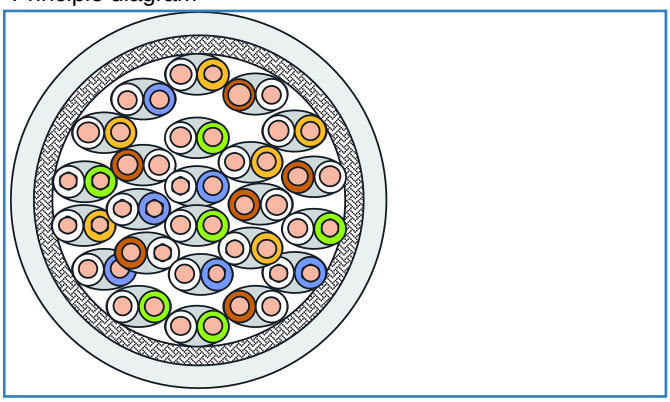
P/N 130DCL2M
EAN 4250184140092

2017-29-06

Illustrations



Principle diagram



See enlarged drawings at the end of document

Product specification

- 24-pair 10 GBit installation cable
- wires shielded in pairs, Cat.7 AWG 23 S/FTP 24P installation cable
- 24 pairs (PiMF)
- pair shield: plastic foil with aluminum coating
- overall shield: tinned copper braid
- coupling attenuation 85dB
- applicable standards: EN 50173-5:2011-09; ISO/IEC 11801 Ed.2.2:2011-06; EN 50288-4-1; IEC 61156-5
- flame-retardant to IEC 60332-1; IEC 60332-3-24; IEC 60754-2 and IEC 61034
- cable jacket: LSHF-FR (LSOH-FR)
- external cable diameter: 18 mm
- fire behaviour: Class D_{ca} s2 d1 a1 acc. to EN 50399 (classification acc. to EN 13501-6)

Data sheet

BTR DCCS 23/1 Cat.7 S/FTP 24P LSHF-FR, class D_{ca} s2 d1 a1

P/N
130DCL2M
EAN 4250184140092

2017-29-06

Technical Data

General Data	
Design	Installation cables
Shielding	shielded
Transmission technology	Copper
Cable Type	S/FTP
Number of twisting elements	24
Twisting element	Pair
Color coding fiber/ wire(s)	white, orange, white, green, white, brown, white, blue
Color coding of bundle	white, red, black, yellow, purple, grey
Color	gray

Transmission characteristics	
Category (ISO)	7
Transmission rate up to 10 GBit	IEEE 802.3an
Transmission values (nominal)	see table

Connections/interfaces	
Termination data, solid wire (min. - max.)	
Conductor cross section, solid wire	AWG 23/1
Cable sheath diameter (min. - max.)	
Cable sheath diameter	18 mm
Cable sheath diameter	0.709 in.

Electrical characteristics	
Loop resistance	max. 190 Ohm/km
Transfer impedance 1 MHz	max. 5 mOhm/m
Transfer impedance 10 MHz	max. 5 mOhm/m
Transfer impedance 30 MHz	max. 10 mOhm/m
Transfer impedance 100 MHz	max. 20 mOhm/m
Characteristic impedance 1-100 MHz	100+/-5 Ohm
Resistance unbalance	max. 2 %
Coupling attenuation	min. 85 dB
Capacitance at 800 Hz	Nom 44 nF/km
Capacitance unbalance pair to ground	max. 1600 pF/km
Nominal velocity of propagation	ca.76 %
Signal propagation delay	max. 425 ns/100 m

Data sheet

BTR DCCS 23/1 Cat.7 S/FTP 24P LSHF-FR, class D_{ca} s2 d1 a1

P/N
130DCL2M
EAN 4250184140092

2017-29-06

Technical Data

Electrical characteristics	
Delay skew	max. 9 ns/100 m
Dielectric strength conductor-conductor (primarily)	1000 V DC
Dielectric strength conductor-conductor (secondary)	1000 V DC
Dielectric strength conductor-shield	1000 V DC

Mechanical characteristics	
Bending radius without load	min. 100 mm
Bending radius without load	min. 3.94 in.
Bending radius with load	min. 200 mm
Bending radius with load	min. 7.87 in.

Materials and material properties	
Material - Conductor	Cu (copper)
Material - Cable jacket	LSHF-FR (LSOH-FR)
Material - Pair shield	plastic film
Material - Main shield	Cu (copper) braid
Material - Main shield finish	Sn (tin)
Flame retardancy	yes

Environmental conditions	
Temperature (min. - max.)	
Temperature - Storage °C	-20 - 60 °C
Temperature - Storage °F	-4 - 140 °F
Temperature - Operating °C	-20 - 60 °C
Temperature - Operating °F	-4 - 140 °F
Temperature - Installation °C	0 - 40 °C
Temperature - Installation °F	32 - 104 °F

Approvals	
RoHS	compliant

Data sheet

BTR DCCS 23/1 Cat.7 S/FTP 24P LSHF-FR, class D_{ca} s2 d1 a1

P/N
130DCL2M
EAN 4250184140092

2017-29-06

Technical Data

The product meets the following standards	
Generic cabling systems	
General requirements	ISO/IEC 11801 Ed.2.2: 2011-06
Data centers	DIN EN 50173-5: 2011-09
Multi-element metallic cables used in analogue and digital communication and control	DIN EN 50288-4-1
Common test methods for cables under fire conditions	
Fire behaviour - class	Klasse D_{ca} s2 d1 a1 nach EN 50399 (Klassifizierung nach EN 13501-6)
Test for vertical flame propagation for a single insulated wire or cable	IEC 60332-1
Test for vertical flame spread of vertically-mounted bunched wires or cables	IEC 60332-3-24
Measurement of smoke density of cables burning	IEC 61034
Determination of acidity (by measuring the pH value) and conductivity	IEC 60754-2

Classifications	
ETIM 5.0	EC000830
ETIM 6.0	EC000830

Packing details	
Type of packaging	meter / drum

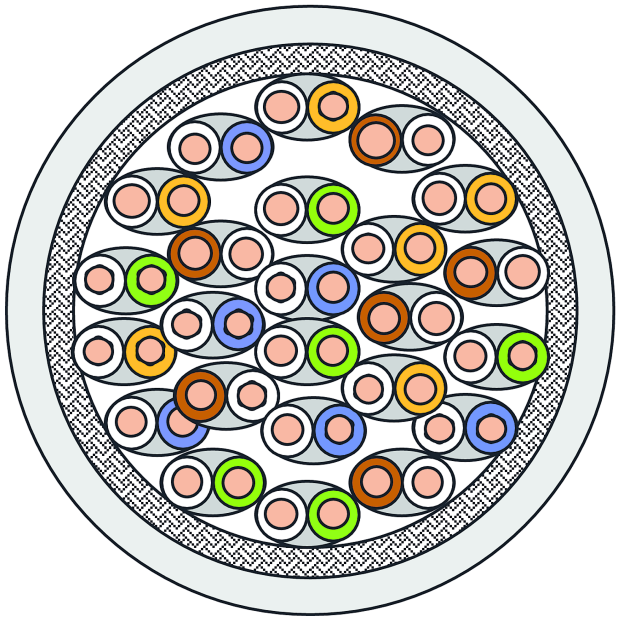
BTR DCCS 23/1 Cat.7 S/FTP 24P LSHF-FR, class D_{ca} s2 d1 a1

P/N
130DCL2M
EAN 4250184140092

2017-29-06

Illustrations

Principle diagram



METZ CONNECT
We realize ideas

Data sheet

BTR DCCS 23/1 Cat.7 S/FTP 24P LSHF-FR, class D_{ca} s2 d1 a1

P/N
130DCL2M
EAN 4250184140092

2017-29-06

Transmission values (nominal) as per Cat. 7 (at 20°C)

FREQ (MHz)	Attenuation (dB/100m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB)	PC-ACR (dB/100m)	ELFEXT (dB/100 m)	PS-ELFEXT (dB/100 m)	Return loss (dB)
1.0	1.8	100	97	98	95	105	105	-
4.0	3.4	100	97	97	94	105	102	27
10.0	5.4	100	97	95	92	97	94	30
16.0	6.8	100	97	93	90	93	90	30
20.0	7.7	100	97	92	89	91	88	30
31.2	9.6	100	97	90	87	87	84	30
62.5	13.7	100	97	86	83	81	78	30
100.0	17.4	100	97	83	80	77	74	30
125.0	19.5	95	92	75	72	75	72	26
155.5	21.9	94	91	72	69	73	70	26
175.0	23.3	93	90	70	67	72	69	25
200.0	25.0	92	89	67	64	71	68	25
250.0	28.1	90	87	62	59	69	66	24
300.0	30.9	89	86	58	55	67	64	24
400.0	38.3	87	84	48	45	64	61	23
500.0	43.0	86	83	43	40	61	58	22
600.0	44.8	85	82	40	37	60	57	22

METZ CONNECT GmbH | Im Tal 2 | 78176 Blumberg | Germany
Phone +49 7702 533-0 | Fax +49 7702 533-433

RIA CONNECT BTR NETCOM