

GM TT

Mini-Breakout Cables (Distribution)
Mobile, Tactical – Indoor/ Outdoor,
A/I-VQ(ZN)11Y

Ordering Information

Belden European Part Numbers

Fibre type / count	1	2	4	6	8	12	24
62.5/125-OM1	GM TT101	GM TT102	GM TT104	GM TT106	GM TT108	GM TT112	GM TT124
50/125-OM2 BW 600/1200	GM TT201	GM TT202	GM TT204	GM TT206	GM TT208	GM TT212	GM TT224
50/125-OM3	GM TT301	GM TT302	GM TT304	GM TT306	GM TT308	GM TT312	GM TT324
50/125-OM3 Flex	GM TTD01	GM TTD02	GM TTD04	GM TTD06	GM TTD08	GM TTD12	GM TTD24
50/125-OM2e	GM TT401	GM TT402	GM TT404	GM TT406	GM TT408	GM TT412	GM TT424
50/125-OM2 BW 500/500	GM TT501	GM TT502	GM TT504	GM TT506	GM TT508	GM TT512	GM TT524
50/125-OM4	GM TT601	GM TT602	GM TT604	GM TT606	GM TT608	GM TT612	GM TT624
50/125-OM4 Flex	GM TTE01	GM TTE02	GM TTE04	GM TTE06	GM TTE08	GM TTE12	GM TTE24
9/125 ITU G.655	GM TT701	GM TT702	GM TT704	GM TT706	GM TT708	GM TT712	GM TT724
9/125 ITU G.652D	GM TT801	GM TT802	GM TT804	GM TT806	GM TT808	GM TT812	GM TT824
9.125 ITU G.657A	GM TTA01	GM TTA02	GM TTA04	GM TTA06	GM TTA08	GM TTA12	GM TTA24
Std. plywood reel (non-returnable)	Ø 560 * 336 mm 4.25 kg			Ø 800 * 475 mm 7.65 kg			
Std. delivery length	2100 ± 100m						

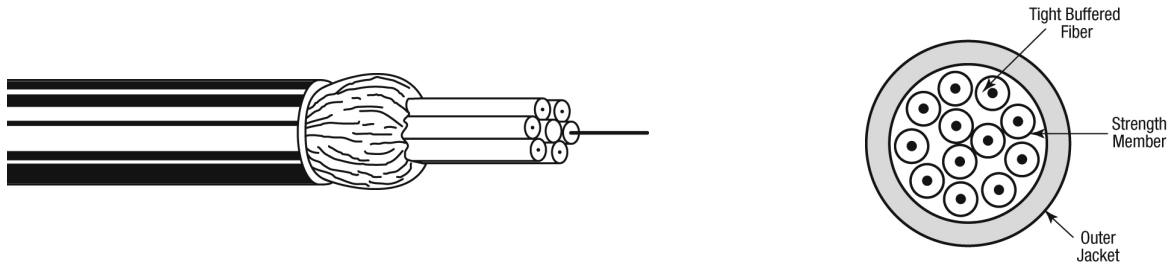
Applications

- These metal-free mobile cables have been designed for de-spooling and re-spooling repeatedly.
- Support computer network applications such as FDDI, Gigabit Ethernet and ATM.
- **Easy to install.** Not recommended for direct burial.

Features & Benefits

- Extremely strong, rugged, survivable tight-buffered cables for severe environments.
- These cables are halogenfree, flame retardant and watertight and therefore suitable for indoor and outdoor use.
- Helically stranded cable core for flexibility and outstanding mechanical protection for the fibers.
- Core-bonded Polyurethane jacket providing simple installation.
- **Predicted lifetime > 30 years.**

Construction & Dimensions



Cable Specifications (construction in accordance with IEC 60794)

1. Primary coated optical fibres: $\text{Ø } 280 \pm 15 \mu\text{m}$.
2. Tight buffered fibres: $\text{Ø } 0.9 \pm 0.1 \text{ mm}$. Colour coding of the buffered fibres:
white – red – blue – yellow – green – violet – brown – black – orange – turquoise – pink – grey.
3. Swellable aramid yarns as common strength members and for the longitudinal watertightness.
4. **Black Polyurethane** outer jacket with (polyester) rip cord.
Identification: BELDEN OFC – TACTICAL CABLE – "number x type of fibre" +date-, meter- and P/N-marking.

Mechanical Data

No. of fibres	1	2	4	6	8	12	24
Ø Outer jacket nom. (mm)	5.4	5.4	5.8	7.0	7.0	8.2	8.5
Max. pulling tension (N)							
Long term	700	700	800	950	1100	1300	1300
Short term	1500	1500	1600	2000	2200	2600	2600
Energy of flame (kJ/m)	440	470	580	725	780	1270	1567
Weight (kg/km)	26	27	31	40	41	60	71

Optical Characteristics

Characteristics (cabled) Single-Mode – Matched-Cladded optical fibres according to ITU.

European Partnumber Coding, Position 5	Fibre-Type	Mode-Field /Cladding Diameter (um)	Wave-length (nm)	Attenuation average/ max. (dB/km)	Dispersion (ps/(nm-km))	PMD (ps/km)	Refractive Index	Cable Cut-off Wave-length (nm)
8	9/125 G.652D Patch cord quality	9.2 ± 0.4 125 ± 0.7	1310	0.32 / 0.40	≤ 3.5 ≤ 18	≤ 0.2	≤ 1260	9.2 ± 0.4 125 ± 0.7
			1383	0.32 / 0.40				
			1550	0.21 / 0.30				
			1625	0.21 / 0.30				
7	9/125 G.655	8.4 ± 0.6 125 ± 1	1550	0.25 / 0.30	3.5 – 8.5	≤ 0.1 ^A	1.470	≤ 1260
A	9/125 G.657A	8.9 ± 0.4 125 ± 0.3	1310	0.35 / 0.5	≤ 3.5 ≤ 18	≤ 0.2	1.467	≤ 1260
			1550	0.21 / 0.3				
			1625	0.24 / 0.4				

Note A- Link design value

Characteristics (cabled) Multi-Mode Graded-Index optical fibres according to IEC 60793

European Partnumber Coding, Position 5	Fibre-Type	Core/ Cladding Diameter (um)	Wave-length (nm)	Attenuation average/ max. (dB/km)	Bandwidth (MHz•km)	Ethernet Performance (m)		Num. Apert. (µm)
						1GBE	10 GBE	
1	62.5/125 OM1	62.5 ± 2.5 125 ± 1	850	2.7 / 3.2	≥ 200 ≥ 600	275 550	33 n.a.	0.275 ± 0.015
			1300	0.6 / 1.1				
5	50/125 OM2	50 ± 2.5 125 ± 1	850	2.4 / 3.0	≥ 500 ≥ 500	600 600	82 n.a.	0.20 ± 0.015
			1300	0.7 / 1.0				
2	50/125 OM2	50 ± 2.5 125 ± 1	850	2.3 / 2.8	≥ 600 ≥ 1200	600 600	82 n.a.	0.20 ± 0.015
			1300	0.6 / 0.9				
4	50/125 OM2e	50 ± 2.5 125 ± 1	850	2.3 / 2.8	≥ 600 ≥ 1200	750 2000	110 na	0.20 ± 0.015
			1300	0.6 / 0.9				
3	50/125 OM3	50 ± 2.5 125 ± 1	850	2.5 / 3.0	≥ 1500 ≥ 500	900 550	300 n.a.	0.20 ± 0.015
			1300	0.5 / 1.0				
D	50/125 OM3 Flex	50 ± 2.5 125 ± 1	850	2.5 / 3.0	≥ 1500 ≥ 500	900 550	300 n.a.	0.20 ± 0.015
			1300	0.5 / 1.0				
6	50/125 OM4	50 ± 2.5 125 ± 1	850	2.5 / 3.0	≥ 6000 ≥ 500	900 550	550 n.a.	0.20 ± 0.015
			1300	0.5 / 1.0				
E	50/125 OM4 Flex	50 ± 2.5 125 ± 1	850	2.5 / 3.0	≥ 6000 ≥ 500	900 550	550 n.a.	0.20 ± 0.015
			1300	0.5 / 1.0				

A test report (attenuation) is supplied with each delivery.

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Mechanical, Physical and/or Environmental Characteristics

Requirements	
Temperature range according to IEC 60794-1-2-F1 Transport/storage Installation Operation	-70 to + 85 °C -5 to + 50 °C -55 to + 85 °C
Pulling tension according to IEC 60794-1-2-E1	See table with dimensions
Bending radii for fibres Installation/operation (all fiber): Only for G657A: Only for OM3 Flex and OM4 Flex:	>25 mm Max. increase 0.02 dB/turn @1550nm with 32 mm Max. increase 0.20 dB/turn @1550nm with 20 mm Max. increase 0.20 dB/turn @850nm with 7.5 mm Max. increase 0.50 dB/turn @1300nm with 7.5 mm
Strippability Secondary coating only Secondary + primary coating	≤ 10 cm ≤ 10 mm
Watertightness according to IEC 60794-1-2-F5	Yes
Crush resistance according to IEC 60794-1-2-E3 Tight buffer Cable	≤ 4000 N/ m ≤ 4000 N/ m
Bending radii cable Static according to IEC 60794-1-2-E11 Dynamic according to IEC 60794-1-2-E6 Only for fibre G657A, OM3 Flex and OM4 Flex:	15 x Ø 20 x Ø 8 x Ø 4 x Ø
Flame retardancy according to: IEC 60332-2 (EN 50265-2-2)	Pass
Repeated bending according to IEC 60794-1-2-E6	> 700.000 times

Guide to installation and handling

- When laying and installing optical fibre cables **it is vitally important not to exceed the specified values** set for pulling tension, bending radii and temperature. The installation methods have to be in accordance with the common standards.
- If a cable needs to be fastened, constrictions ≥ 0.3 mm must be prevented.
- It is advisable to cap the cable-ends during storage.

Options

- Non-standard cable constructions with different colours, details and/or additional information regarding specifications are available on request.

Revision

Rev.	Description	Date	Init.
02	OM3+ changed to OM4	13/10/09	JW
03	Add OM3 Flex and OM4 Flex	30/08/10	SN
04	Add 16x	27/07/11	SN
05	Add 1383 and 1625 nm wavelength "8" fiber	07/08/12	SN
06	Add 24x, delete 16x	28/08/12	SN
07	Change OD 6x	30/08/12	SN
08	Add halogenfree	02/07/13	SN
Date: 19/01/09		Page 1 of 1	Part Number: GMTT
Orig.: SN		Review:	