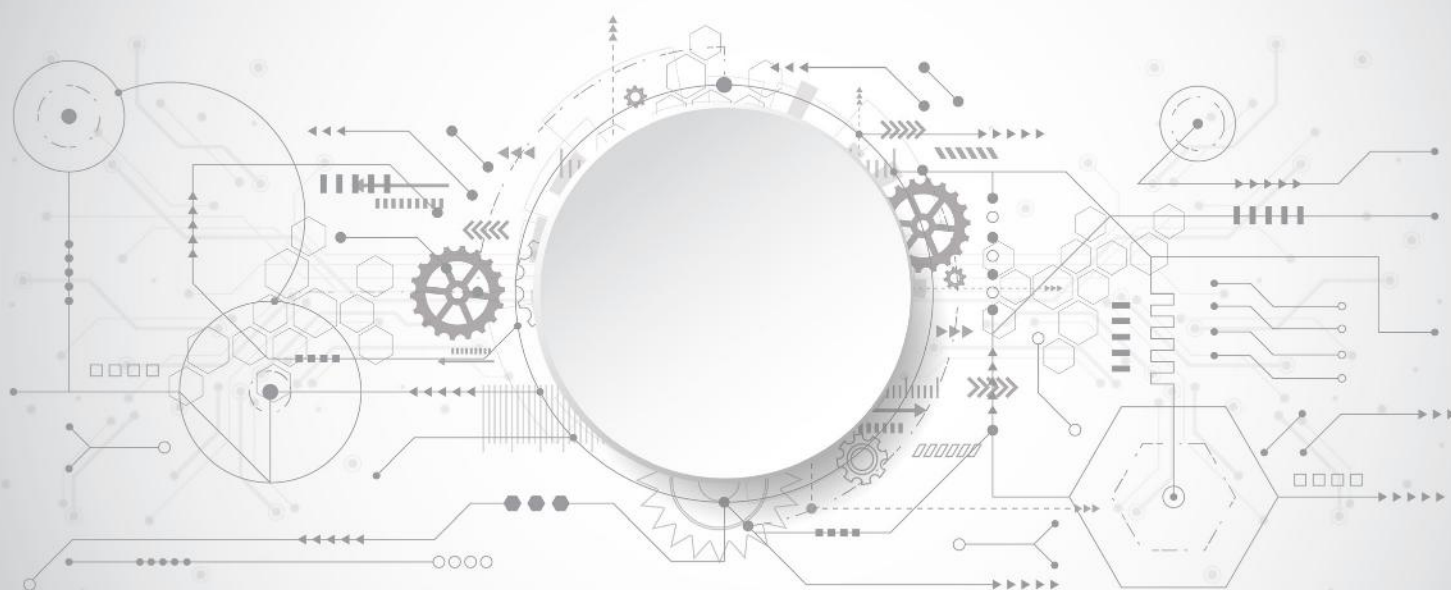




ELEKTRONIK
BEYOND CONNECTIONS



MD Group MD PRODUCT DRAWING SPECIFICATION

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1. Purpose and Objective

This specification regulates the information indicated on a MD product drawing and its validity. Furthermore, the release of the MD product drawing and all applicable documents are described.

2. Product Labeling

The labeling of the products delivered by the MD Group is defined and documented according to the printing information. Unless otherwise specified, the information shown in Fig. 1 is printed on the delivered products.

If coordinated between the customer and the MD Group, additional or deviating information can be implemented and has to be documented.

If OEM standards are used for labeling, the MD Group will check if they can be fulfilled entirely. Deviations (e.g. customer trademarks) have to be indicated on the product drawing. If standards cannot be fulfilled, the corresponding standard can be crossed out. Another labeling of the cable harnesses, e.g. by means of a label, has to be indicated on the drawing.

Deviating from the customer's drawing, the MD Group reserves the right to add color markings and 2D codes for manufacturing reasons.

VERMERKE/NOTES	
Bedruckung/Printing:	
Hersteller Land/country of origin	Made in **
Hersteller Code/manufacturer code	MDE
Kundenteilenummer 1/customer pn. 1	-
Kundenteilenummer 2/customer pn. 2	-
Kundenteilenummer 3/customer pn. 3	-
KW-Jahr/CW-year	Order-related data
MD Nummer/MD part no.	-
Änderungsstand/Issue	-
MD Auftragsnummer/MD order number	Order-related data
Phase	-
** MD Produktionsstandort / MD production site	

Fig. 1: Printing information

3. Dimensioning

Provided that no customer-specific tolerances are indicated, the standard tolerances specified in the title block of the MD product drawing apply. Dimensioning is carried out for the length of the goods on reels up to the housings or contacts. Tolerances always apply to the total length. In case of chain dimensioning, they must not be added up.

4. Additional Customer Requirements

In coordination between the customer and the MD Group, the compliance with special product requirements or customer specifications (e.g. OEM standards, customer standards, product specifications) can be indicated on the drawing.

In case the requirements deviate from the currently valid specifications of the individual components, the compliance has to be checked in individual cases. If necessary, laboratory tests have to be carried out accordingly.

5. Electrical Test

Unless otherwise specified, all cables are tested by means of a 100 % electrical test according to Tab. 1. The details for carrying out the tests are specified by the MD Group. Information on the test specifications of the corresponding product can be requested from the MD Group. In

the case of prototypes, the test specifications can be indicated on the product drawing.

If coordinated between the customer and the MD Group, further tests can be carried out and have to be documented and confirmed in writing (e.g. information on the drawing, specification sheet or requirements specification).

Product Group	Continuity (Low voltage)	Short-circuit (Low voltage)	Insulation (High voltage)	Component (Low voltage)	Function	Attenuation	Reverse polarity or pinning in case of multi- pin housings
Coax	x	x	x				x
Data cables	x	x	x				x
Active customer cables	x	x		x	x		x
Passive customer cables	x	x		x			x
Chassis sensors	x	x	x				x
Optical fiber cables						x	x
Assistance sensors, comfort sensors					x		x
Electronic modules					x		

Tab. 1: End-of-line test overview

Note:

- For Coaxial and data cables assembled on one side which have been bluntly cut at the open side, MD ELEKTRONIK cannot warrant its function in required conditions as it cannot be tested electrically. The goods on reels must be gradually stripped for the electrical test.
- MD ELEKTRONIK is not performing a test for mispinning where technically no mispinning is possible (e.g. automated processes).

6. Drawing Release

By signing the drawing, the customers confirm that all components as well as the information on the length, tolerances and existing pin assignments are correct and complete and correspond to their requirements. A drawing without signature is not valid and cannot be used for production and for the end-of-line test.

As far as customer drawings are concerned, the MD Group checks the technical feasibility of the product and coordinates any required changes with the customer. The customer's signature on the customer drawing is not required.

As far as internal releases are concerned, the responsible employees check if all components as well as the information on the length, tolerances and existing pin assignments are correct and complete and correspond to their requirements. A drawing without signature cannot be used for production and for the end-of-line test.

7. Handling Instructions

In order to ensure the functional reliability of the products also in case of further processing, the valid instructions in their respective applicable version for the individual product groups (amongst others C30301 Application Instruction, C30655 Handling Instruction Multi-Core-Cables, C30279 Handling Instruction Coaxial Cables) have to be considered. These instructions can be requested from the MD Group or can be downloaded from the website.

<https://www.md-elektronik.com/de/produkt dokumente/>

8. Secondary Locking

A delivery with open secondary locking is subject to a separate agreement with the MD Group. The MD product drawing may include the agreement.

9. Special Characteristics

Special characteristics are product characteristics which may affect the functional safety (operational safety and safety of use), compliance with official regulations, function, performance, proper fit and appearance or the further processing of products (cf. IATF, chapter 3.1). The categories are neutral and informative designations but not normative ones.

Special characteristics are divided into the following categories:

BM-S = Related to safety

Directly next to the relevant characteristic, "S" is entered with a subsequent two-digit number in the basic symbol "Test label" (colloquially Zeppelin).

BM-Z = Related to approval

Directly next to the relevant characteristic, "Z" is entered with a subsequent two-digit number in the basic symbol "Test label" (colloquially Zeppelin).

BM-F = Related to function

Directly next to the relevant characteristic, "F" is entered with a subsequent two-digit number in the basic symbol "Test label" (colloquially Zeppelin).

Each special characteristic has to be indicated on the drawing by a separate two-digit number (e.g. F 01, F 02 ...). A blank space has to be entered between the letter and the number.

In general, all special characteristics are listed in a separate characteristics table. This table is preferably placed on the top right area of the drawing. If a special characteristic is omitted, it must not be deleted but it has to be crossed out in the characteristics table. In this characteristics table, the drawing coordinates are additionally listed for each characteristic. A customer-specific labeling of special characteristics is subject to a documented approval of the MD Group.

10. Additional Notes

Subject to errors and changes. The original version of this document was created in German. Additionally, other language versions can be made available. If the contents of two language versions differ from each other, solely the original version applies.

Legal Notice

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