



Labeling and serial number record of specified assemblies

## Labeling of specified assemblies

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## 1. Purpose and Scope of documents

The purpose of this guideline is to achieve uniform labelling and continuous traceability to meet the quality requirements of AVL SET GmbH and the requirements of ISO 9001:2015.


We ask you as a supplier and partner to comply with the requirements of the specified label guideline so that we can jointly develop and produce our products to meet the highest standards.


These instructions apply to suppliers of AVL SET GmbH.

The Purchasing Department of AVL SET GmbH is responsible for the definition, maintenance and further development of these process instructions. Each supplier is required to point out any necessary changes in the documentation as required.

## 2. Identification / Labelling

### 2.1 Labelling of circuit boards and flat modules (PCB and PCBA)

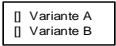
2.1.1 Labels for unassembled printed circuit boards (PCB)		
<b>Dimensions</b>	9 x 20mm	(size may vary)
<b>Type</b>	Label Ident	ERT-A025x008Z1 (if necessary, heat resistant for soldering process)
<b>Glue</b>	Non-detachable	
<b>Material</b>	Heat resistant material	(Suitable for soldering process)
<b>Color</b>	White	
<b>Font</b>	Black / ARIAL	Thermal transfer
<b>Lettering</b>	Module number	Format: 9999PCB9999-99 Example: 7017PCB2200-04
	Serial number	Format: SN: 99999.9999 Example: SN: 01334.0137 Manufacturer number at AVL-SET (5 digits). SNR (4 digits) The manufacturer number and serial number must be separated by a full stop! If the article has serial numbers, this will be indicated in the manufacturing documents. The manufacturer number (supplier number) is indicated in the order header.
	ERP article number	Format: Art: 99999 Example: Art: 14450
	Order number	Format: B: 999999999 Example: B: 203006644 Order number see order header
<b>Barcode</b>	QR Code accord. to ISO/IEC 18004:2006	QR Code should contain the serial number. Format: 99999.9999 Example: 01334.0137
<b>Example label for circuit boards (PCB)</b>		

2.1.2 Labels for flat modules, assembled (PCBA)		
<b>Dimensions</b>	9 x 20mm	(size may vary)
<b>Type</b>	Label Ident	ERT-A025x008Z1 (if necessary, heat resistant for soldering process)
<b>Glue</b>	Non-detachable	
<b>Material</b>	Heat resistant material	(Suitable for soldering process)
<b>Color</b>	White	
<b>Font</b>	Black / ARIAL	Thermal transfer
<b>Lettering</b>	Module number	Format: 9999BGR9999X99 Example: 7017BGR2200A04 <small>New developments from 01.2025 with XXX - PCA, please note article description</small>
	Serial number	Format: SN: 99999.9999 Example: SN: 01334.0137 Manufacturer number at AVL-SET (5 digits). SNR (4 digits) The manufacturer number and serial number must be separated by a full stop! If the article has serial numbers, this will be indicated in the manufacturing documents. The manufacturer number (supplier number) is indicated in the order header.
	ERP article number	Format: Art: 99999 Example: Art: 14450
	Order number	Format: B: 999999999 Example: B: 203006644 Order number see order header
<b>Barcode</b>	QR Code accord. to ISO/IEC 18004:2006 <b>Minimum 6mm x 6mm</b>	QR Code should contain the <b>ERP article number</b> , <b>serial number</b> and <b>optional: Design deviation (BAW)</b> . These are separated by comma. Format: 88888,99999.9999,BAW99 Example with BAW: 14450,01334.0137,BAW99 Example without BAW: 14450,01334.0137
<b>Example label for flat module (PCBA) with design deviation (BAW)</b>		

## 7 | Labeling of specified assemblies

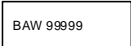
### 2.1.3 Additional labels for variant x: Definition of the variant

If the assembly number has an **x** as variant, the goods must be provided with a supplementary label.  
(Example variant x: 7017BGR2200x04)

<b>Dimension</b>	5 x 10mm	(Size may vary)
<b>Type</b>	N.n.	(If necessary, heat resistant for soldering process)
<b>Glue</b>	Not removeable	
<b>Material</b>	Heat resistant material	(Suitable for soldering process)
<b>Color</b>	White	
<b>Font</b>	Black / ARIAL	Thermal transfer
<b>Lettering</b>	Variant	[ ] Type of variant e.g. [ ] 36 V [ ] 48 V
<b>Example label variant x / embossing</b>		

### 2.1.4 Supplementary labels for design deviations

Construction deviations from product specifications must be notified in advance to the AVL SET Purchasing Department and approved by the AVL SET Product Manager. For traceability purposes AVL SET assigns a construction deviation number with the release of the construction deviation. The goods of the affected delivery as well as the delivery note must be provided by the supplier with a corresponding indication of the construction deviation.

<b>Dimension</b>	5 x 10mm	(Size may vary)
<b>Type</b>	N.n.	(If necessary, heat-resistant material for soldering process)
<b>Glue</b>	Not removeable	
<b>Material</b>	Heat resistant material	(Suitable for soldering process)
<b>Color</b>	White	
<b>Font</b>	Black / ARIAL	Thermal transfer
<b>Lettering</b>	Deviation of dimension	Format: BAW 99999 Example: BAW 00044 Number of SPS - Deviation of dimension number
<b>Example Label Deviation of dimension</b>		

**2.2 Mechanical Parts (MET) & Specification Parts (BGR)**

<b>2.2.1 Labels for Mechanical Parts (MET) &amp; Specification Parts (BGR)</b>		
<b>Dimension</b>	25,4 x 50,8 mm	(Size may vary)
<b>Type</b>	Label Ident	ERT-J051X05Z1 (Removeable)
<b>Glue</b>	Removeable	
<b>Material</b>	Polypropylene	(Suitable for soldering process)
<b>Color</b>	White	
<b>Font</b>	Black / ARIAL	Thermal transfer
<b>Lettering</b>	Drawing number	Format: 9999MET9999-99 / 9999BGR9999X99 Example: 7017MET2200-04 / 7017BGR2200X04
	Serial number	Format: SN: 99999.9999 Example: SN: 01334.0137 Serial numbers are made up of: Manufacturer number for AVL SET (5 digits).SNR (4 digits) The manufacturer number and serial number must be separated by a period (!) If the article has serial numbers, this will be indicated in the manufacturing documents. The manufacturer number (supplier number) is indicated in the order header.
	ERP Article number	Format: Art: 99999 Example: Art: 14450
	Manufacturer number	Format: Art: 99999 Example: Art: 14450 Supplier number see order header For serial number-guided parts, the manufacturer number does not need to be listed again.
	Order number	Format: B: 999999999 Example: B: 203006644 Order number see order header.
<b>Example label mechanical part</b>	<i>Without serial number</i>	
	<div style="border: 1px solid black; padding: 5px;"> <p>7055MET2200-04 MAN: 01139 Art: 14452 B: 203008470</p> </div>	
<b>Example label mechanical part</b>	<i>With serial number</i>	
	<div style="border: 1px solid black; padding: 5px;"> <p>7055MET2200-04 SN: 01334.0137 Art:14452 B: 203008470</p> </div>	



**2.3 Labelling of units, components and products (BGR)**

<b>2.3.1 Labels for units, components and products (BGR)</b>			
<b>Dimension</b>	25,4 x 50,8 mm	(Size may vary)	
<b>Glue</b>	Not Removeable		
<b>Material</b>	Polypropylen	or comparable properties	
<b>Color</b>	White		
<b>Font</b>	Black / ARIAL	Thermal transfer	
<b>Lettering</b>	Module number	Format: 9999BGR9999X99 Example: 7017BGR2200A04	
	Serial number	Format: SN: 99999.9999 Example: SN: 01334.0137 Serial numbers are made up of: Manufacturer number for AVL SET (5 digits).SNR (4 digits) The manufacturer number and serial number must be separated by a period (!) If the article has serial numbers, this will be indicated in the manufacturing documents. The manufacturer number (supplier number) is indicated in the order header.	
	ERP Article number	Format: Art: 99999 Beispiel: Art: 14450	
	Order number	Format: B: 999999999 Example: B: 203006644 Order number see order header.	
<b>Example label for unit (BGR)</b>		<table border="1"> <tr> <td>7017BGR2200A04 SN: 01334.0137 Art: 14450 B: 203006644</td> </tr> </table>	7017BGR2200A04 SN: 01334.0137 Art: 14450 B: 203006644
7017BGR2200A04 SN: 01334.0137 Art: 14450 B: 203006644			

## 2.4 Labels for packaging / outer packaging

2.4.1 Labels for packaging / outer packaging		
<b>Dimension</b>	25,4 x 50,8 mm	(Size may vary)
<b>Type</b>	Label Ident	ERT-J051X05Z1 (Removeable)
<b>Material</b>	Polypropylene	(Suitable for soldering process)
<b>Color</b>	White	
<b>Font</b>	Black / ARIAL	Thermal transfer
<b>Lettering</b>	ERP Article number	Format: Art: 99999 Example: Art: 14450
	Quantity of packaging	Format: Quantity: 99 pieces Quantity depends on delivery quantity
	Order number	Format: 99999999 Order number see order header
<b>Example label packaging / outer packaging</b>		<div style="border: 1px solid black; padding: 5px;">                     Art:14452                      Menge: xx Stück                      B: 203008470                 </div>

## 2.5 Labeling quality management / functional testing

Articles that are subjected to a functional test should be clearly labeled for the following reasons:

1. **Trustworthiness and credibility:**  
A label indicates that the article has been checked and is based on reliable information. This strengthens readers trust in the content.
2. **Quality management:**  
Labels act as seal of quality, confirming that the article meets specified standards. This helps to ensure the high quality of the content.
3. **Transparency and traceability:**  
The labeling makes it clear according to who which criteria and by which authority the article was tested. This promotes transparency and avoids misunderstandings
4. **Reader Focus:**  
Labels make it easier for readers to quickly recognize high-quality and trustworthy articles without having to carry out their own checks.
  - In addition, a different color coding is used to differentiate between internal and external functional testes, which is defined in the marking guidelines.

Overall, labelling helps to increase the quality of information and reduce the spread of misinformation.

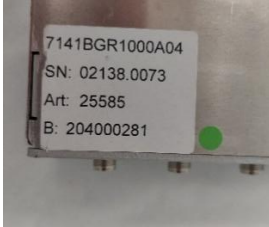
### 2.5.1 Procedure for the labeling of inspected articles

1. **General labeling specification:**  
AVL SET defines a differentiated color coding to clearly distinguish between intern and extern performed functional tests. As far as possible the marking is applied in the immediate vicinity of the article label.
2. **Labeling of articles with supplier functional test:**  
Articles that have only been checked at the supplier's premises are marked with a **yellow dot**.



**3. Labeling of articles with internal functional testing at AVL SET:**

Articles that only undergo a functional test at AVL SET are marked with a **green dot**.



**4. Labeling of articles with double testing (supplier and AVL SET):**

Articles that have been tested by the supplier and AVL SET:

- If both tests are passed, they are marked with a **green dot** next to the supplier's **yellow dot**.
- If the test at AV SET is not passed, the article is marked with a **red dot** next to the supplier's **yellow dot**. If the test is not passed at AVL SET, a **red dot** is displayed next to the supplier's **yellow dot**.



### 3. Serial number recording

#### 3.1 Information on the delivery note

If parts are supplied with serial numbers, these must be indicated on the delivery note. It must be ensured that the information corresponds to the form on the labels.

Format: SN: 99999.9999  
Example: SN: 01334.0137

Serial numbers are composed of the 5-digit AVL SET manufacturer number and the 4-digit serial number. The manufacturer number and serial number must be separated by a dot (.). The manufacturer number (supplier number) is indicated in the order header.

### 3.2 Serial number recording of units and products

#### 3.2.1 Which serial number must be recorded?

AVL SET defines units and products as all assemblies in which subassemblies and individual parts (specified or purchased externally) have been installed.

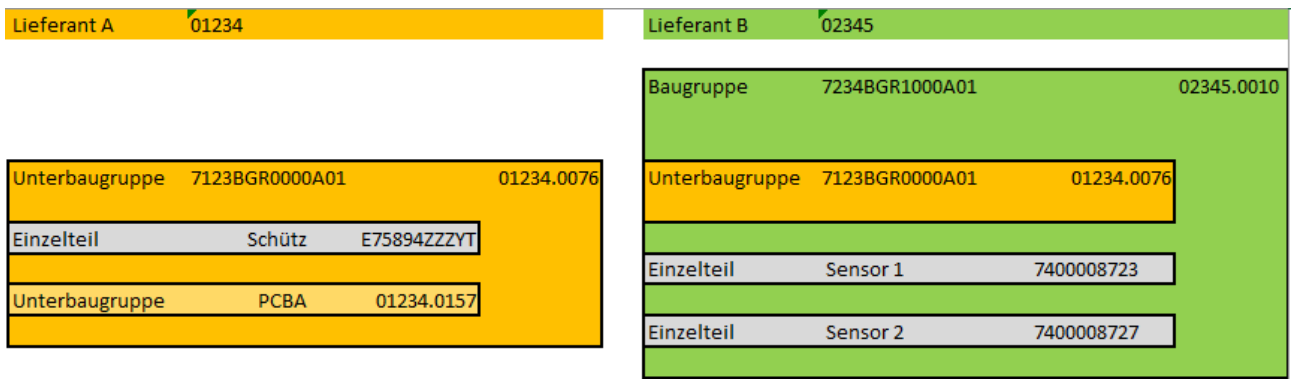
These integrated serial numbers must also be recorded in a CSV file and transmitted with the delivery.

All serial numbered components (identification; article; serial number), which are installed in the plug-in unit or the product, must be recorded.

In case you deliver AVL SET specified sub-assemblies to another supplier of AVL SET GmbH, the electronic transmission of the serial number recording to AVL SET is also required with delivery to supplier B (see following diagram).

As supplier B, you only must transmit the serial number of the subassembly to us, but not the individual parts installed in it and any further subassemblies.

The following diagram shows which serial numbers must be recorded and in which depth serial numbers must be recorded.



**3.2.2 In which form are serial numbers to be recorded?**

The following form is to be used for serial number recording:

H;14450;01334.0137 (AVL specified main assembly)  
 E;15731;01334.0017 (AVL specified sub-assembly)  
 E;20597;7ZY3BA123578991 (Externally purchased component)

Explanation

1. Specification:  
 Identification main assembly or subassembly/individual part  
 H  
 E  
 E  
 ...  
 H  
 E  
 E  
 ...  
 The identification (H/E) is used to separate the next main assembly.  
 This means that several main assemblies can be transmitted in one CSV file.
2. Specification:  
 Part number
3. Specification:  
 Serial number

The specifications must be separated by a semicolon (;).

Identifikation (H/E)	Artikelnummer	Seriennummer
H	14400	01378.0123
E	15730	01378.0017
E	20750	7TZ51389990012
H	14400	01378.0127
E	15730	01378.0022
E	20750	7TZ51389990031

Figure: Example of a serial number entry file

### 3.2.3 How should the recorded serial numbers be transmitted?

As a supplier of AVL SET you will receive an access for the AVL SET Supplier Extranet.

In this extranet you must store the CSV file of the serial number recording as well as all agreed documentation like test reports and manuals.

For a better overview we ask you to create a folder for each order.

If you have not yet received access to your extranet, please contact [einkauf-wangen@avl.com](mailto:einkauf-wangen@avl.com) or contact your responsible AVL SET purchaser directly.

## 4. Contact

<b>Address</b>	AVL SET GmbH Spinnerei 8 88239 Wangen im Allgäu GERMANY
<b>Created by</b>	Purchasing
<b>Telephone</b>	Zentrale: +49 7522 91609-0
<b>Mail</b>	creator: <a href="mailto:einkauf-wangen@avl.com">einkauf-wangen@avl.com</a> Central: <a href="mailto:info-wangen@avl.com">info-wangen@avl.com</a> Service: <a href="mailto:support-wangen@avl.com">support-wangen@avl.com</a>

## 5. Appendix

### 5.1 Issue

Rev.No.	Date	Reason of changes
06	14.01.2022	Splitting PCB and PCBA Adding QR-Code
07	04.08.2022	Adapting QR-Code requirements Change of adress to Spinnerei 8
07.1	14.12.2022	Adaption of text part
07.2	16.02.2023	Correction reference footer
08	24.04.2023	Addition of serial number registration
09	25.03.2024	Update Layout
10	14.10.2024	Adding chapter 2.5
11	10.03.2025	Changing the labelling of assembled circuit boards (PCBAs)



**FOR FURTHER INFORMATION; PLEASE CONTACT:**

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