



LABELLING AND SERIAL NUMBER RECORD OF SPECIFIED ASSEMBLIES

Guide for suppliers

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AVL SET GmbH

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1. Object

The purpose of this guideline is to achieve uniform labelling and continuous traceability in order 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.

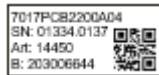
2. Scope

These instructions apply to suppliers of AVL SET GmbH.

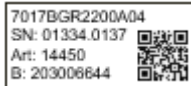
The Purchasing Department of AVL SET GmbH is responsible for the definition, maintenance and further development of these process instructions. Each supplier is required to point out any necessary changes in the documentation as required.

3. Identification / Labelling

3.1 Labelling of circuit boards and flat modules (PCB and PCBA)

| 3.1.1 Labels for unassembled printed circuit boards (PCB) | | |
|-----------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions | 9 x 20mm | (size may vary) |
| Type | Label Ident | ERT-A025x008Z1 (if necessary heat resistant for soldering process) |
| Glue | Non-detachable | |
| Material | Heat resistant material | (Suitable for soldering process) |
| Colour | White | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | 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 |
| Barcode | QR Code accord. to ISO/IEC 18004:2006 | QR Code should contain the serial number. Format: 99999.9999 Example: 01334.0137 |
| Example label for circuit boards (PCB) | |  |

Labelling of specified assemblies

| 3.1.2 Labels for flat modules, assembled (PCBA) | | |
|-------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions | 9 x 20mm | (size may vary) |
| Type | Label Ident | ERT-A025x008Z1 (if necessary heat resistant for soldering process) |
| Glue | Non-detachable | |
| Material | Heat resistant material | (Suitable for soldering process) |
| Colour | White | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | Module number | Format: 9999BGR9999X99 Example: 7017BGR2200A04 |
| | 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 |
| Barcode | QR Code accord. to ISO/IEC 18004:2006 Minimum 6mm x 6mm | QR Code should contain the ERP article number , serial number and optional: Design deviation (BAW) . These are separated by comma. Format: 88888,99999.9999,BAW99 Beispiel für BGR mit BAW: 14450,01334.0137,BAW99 Beispiel für BGR ohne BAW: 14450,01334.0137 |
| Example label for flat module (PCBA) with design deviation | |  |

Labelling of specified assemblies

3.1.3 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)

| | | |
|--------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension | 5 x 10mm | (Size may vary) |
| Type | N.n. | (If necessary heat resistant for soldering process) |
| Glue | Not removeable | |
| Material | Heat resistant material | (Suitable for soldering process) |
| Colour | White | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | Variant | [] Type of variant e.g. [] 36 V [] 48 V |
| Example label variant x / embossing | | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> [] Variante A [] Variante B </div> |

3.1.4 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.

| | | |
|---------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------|
| Dimension | 5 x 10mm | (Size may vary) |
| Type | N.n. | (If necessary heat resistant material for soldering process) |
| Glue | Not removeable | |
| Material | Heat resistant material | (Suitable for soldering process) |
| Farbe | Weiß | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | Deviation of dimension | Format: BAW 99999 Example: BAW 00044 Number of SPS - Deviation of dimension number |
| Example Label Deviation of dimension | | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> BAW 99999 </div> |

3.2 Mechanical Parts (MET) & Specification Parts (BGR)

| Labels for Mechanical Parts (MET) & Specification Parts (BGR) | | |
|---------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension | 25,4 x 50,8 mm | (Size may vary) |
| Type | Label Ident | ERT-J051X05Z1 (Removeable) |
| Glue | Removeable | |
| Material | Polypropylene | (Suitable for soldering process) |
| Colour | White | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | 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: 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. |
| Barcode | Later barcode if necessary 128 | |
| Example label mechanical part | | <p><i>Without serial number</i></p> <div> 7055MET2200-04 MAN: 01139 Art: 14452 B: 203008470 </div> <p><i>With serial number</i></p> <div> 7055MET2200-04 SN: 01334.0137 Art:14452 B: 203008470 </div> |

3.3 Labelling of units, components and products (BGR)

| Labels for units (BGR) | | |
|-------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension | 25,4 x 50,8 mm | (Size may vary) |
| Glue | Not Removeable | |
| Material | Polypropylen | or comparable properties |
| Colour | White | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | Module number | Format: 9999BGR9999X99 Example: 7017BGR2200A04 |
| | Serial number | Format: SN: 99999.9999 Example: SN: 01334.0137 Serial numbers are made up: 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. |
| Example label for unit (BGR) | | <div> 7017BGR2200A04 SN: 01334.0137 Art: 14450 B: 203006644 </div> |

3.4 Labels for packaging / outer packaging

| Labels for packaging / outer packaging | | |
|--------------------------------------------------|-----------------------|---------------------------------------------------------------|
| Dimension | 25,4 x 50,8 mm | (Size may vary) |
| Type | Label Ident | ERT-J051X05Z1 (Removeable) |
| Material | Polypropylene | (Suitable for soldering process) |
| Colour | White | |
| Font | Black / ARIAL | Thermal transfer |
| Lettering | ERP Article number | Format: Art: 99999 |
| | Quantity of packaging | Example: Art: 14450 |
| | | Format: Quantity: 99 pieces |
| | Order number | Quantity depends on delivery quantity |
| Example label packaging / outer packaging | | <div> Art:14452 Menge: xx Stück B: 203008470 </div> |

4. Serial number recording

4.1 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.

4.2 Serial number recording of units and products

4.2.1 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.

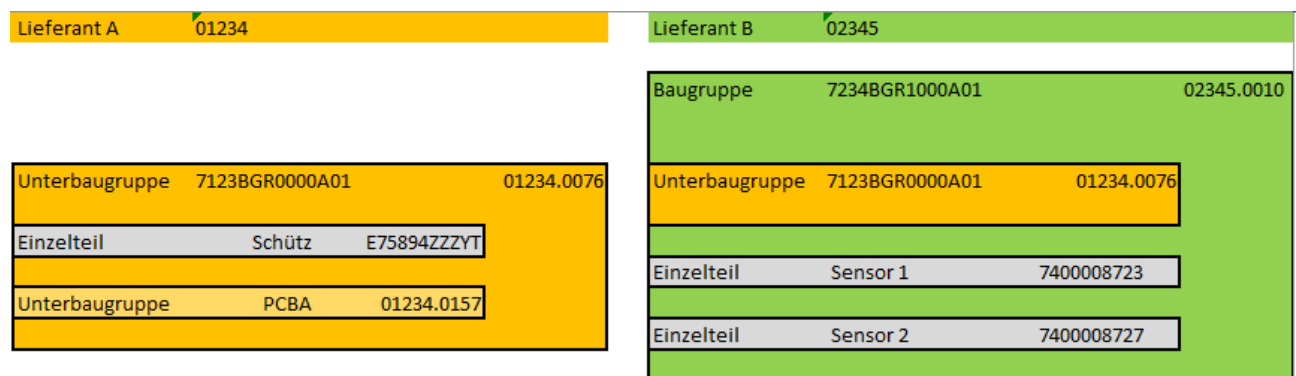
These integrated serial numbers must also be recorded in a CSV file and transmitted with the delivery.

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



4.2.2 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
 ...
 By the identification (H/E) a separation to the next main assembly takes place.
 I.e. 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

4.2.3 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 have to store the CSV file of the serial number recording as well as all agreed documentation like test reports and manuals.

For an 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 or contact your responsible AVL SET purchaser directly.

Change history

| Revision | Date | Reason for Change |
|----------|------------|------------------------------------------------------------------|
| 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 |