

Serial Number Management (LO-MD-SN)



HELP.LOMDSN

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Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax
	Tip

Contents

Serial Number Management (LO-MD-SN)	5
Serial Number Profile	6
Business Procedures: Overview.....	7
Entering the Serial Number Profile in the Material Master Record	8
Working With Serial Numbers	9
Serial Numbers in Inventory Management.....	10
Serial Numbers in Physical Inventory	12
Serial Numbers in Production Orders	14
Serial Numbers in Quality Management.....	16
Serial Numbers in Sales and Distribution	17
Serial Numbers in Handling Units.....	19
Serial Number Master Record	22
Example of Serial Numbers	23
Internal Number Assignment for Serial Numbers	24
Locking for Number Assignment.....	25
Serial Number History	26
Status Management.....	27
Partner Data	28
Copying the Partner into the Serial Number.....	29
Creating Master Records for Serial Numbers.....	30
Creating an Individual Serial Number.....	31
Creating Several Serial Numbers	33
Selecting Existing Serial Numbers	35
Changing Stock Information.....	36
Serialization Data in the Piece of Equipment.....	37
Entering Serialization Data in the Piece of Equipment.....	38
Maintenance of Configuration Data	39
Configurable Material	40
Variant.....	41
Configuring a Serialized Material Item as a Variant	42
Configuring Simultaneously Several Material Items as Variants	43
Configuring a Serialized Material Item Individually	44

Serial Number Management (LO-MD-SN)

Purpose

You can use this component to identify and differentiate between individual items of material. This component therefore ideally supplements the material master record, which may contain all data for describing and managing a piece of material, but which does not enable you to differentiate between individual items of that material.

[Example of Serial Numbers \[Page 23\]](#)

You can use serial numbers in various business procedures within Logistics. In each case, a transaction history is created for the individual serialized material item and its status is maintained automatically.

Integration

You can use serial numbers when working with the following business procedures and objects:

Component involved	Business procedure or operation
Plant Maintenance	Equipment Refurbishment order Maintenance contract When using maintenance processing and history
Production orders	Production order
Sales and Distribution	Sales order, inquiry, quotation Delivery and returns delivery Completeness check for deliveries and returns deliveries
Quality Management	Original value recording of inspection lots
Inventory Management and Physical Inventory	Goods movements Entering the physical inventory count Posting inventory differences
Repetitive manufacturing	Inward movements from repetitive manufacturing

Constraints

Uniqueness of the serial number within a client, therefore cross-material, is not supported at present.

Serial Number Profile

Serial Number Profile

Definition

A group of data, summarized by a four-digit identification code, that defines the conditions and business procedures involved when assigning serial numbers to items of material.

You enter the serial number profile in the master record at plant level for the material whose individual pieces are to be managed using material numbers. This means that an individual serial number profile can be assigned to a piece of material per plant. In this way a certain material can require serial numbers at one plant, and not at others.

If you use different profiles for a material, the plants must be logistically independent of one another, because it is only possible to transfer stocks from one plant to another if the profiles are the same at both.

Serial number profiles are defined during system configuration in Customizing for Plant Maintenance.

Structure

The serial number profile contains the following information:

- The business procedures for which serialization
 - Can be performed
 - Must be performed
 - Is performed automatically
 - Is not performed
- Information on whether for a particular business procedure
 - Serial numbers can be assigned, for which a master record does not yet exist in the system
 - Serial numbers that already exist in the system as a master record must be specified
- Information on whether for a particular business procedure, a stock check should take place, and how the system should react in the event of inconsistencies
- The business procedures for which an equipment master record should or should not additionally be created for each serial number
- The equipment category that the system uses when assigning serial numbers automatically in the case of equipment master records.

Business Procedures: Overview

Because serial numbers are used in different application components, the [serial number profile \[Page 6\]](#) is used to define the business procedures during which serial numbers can be assigned. The individual procedures refer to the respective application component.

The following table provides an overview of the individual procedures and their business meaning.

Procedure	Business meaning
HUSL	This procedure enables you to assign serial numbers in handling unit management.
MMSL	This procedure enables you to assign serial numbers for goods receipts, goods issues, stock transfers and stock transport orders. You can also assign serial numbers for physical inventory.
PPAU	This procedure enables you to use serial numbers in production and refurbishment orders.
PPRL	This procedure enables you to assign serial numbers when production and refurbishment orders are released.
QMSL	This procedure enables you to assign serial numbers when entering the original value in an inspection lot.
SDAU	This procedure enables you to use serial numbers in sales orders, inquiries, and quotations.
SDCC	This procedure enables you to assign serial numbers when performing completeness checks for deliveries.
SDCR	This procedure enables you to assign serial numbers when performing completeness checks for returns deliveries.
SDLS	This procedure enables you to assign serial numbers for deliveries.
SDRE	This procedure enables you to assign serial numbers for returns deliveries.

Entering the Serial Number Profile in the Material Master Record

Entering the Serial Number Profile in the Material Master Record

Prerequisites

The serial number profile must be defined in Customizing for Plant Maintenance.

Procedure

1. Call up the material master record in change mode (for example, *Logistics* → *Materials management* → *Material master* → *Material* → *Change* → *Immediately*).
2. Choose the view and the organization levels, in which the block *General plant parameters* is found. The view and organization levels depend on how the material master record is structured by Customizing in your system.
3. Enter the serial number profile here.

As long as no serial numbers exist for the material you are able to cancel or change the serial number profile.

As soon as serial numbers exist for the material and you want to cancel or change the serial number profile, you should note the following:

- The previously assigned serial numbers are no longer suited to the current serial number profile.
- The indicator for the stock check may have changed. If this is the case, you can copy the profile settings in the serial number using the executable report program RISERNR9. However, you should only start this program once the changes have been updated in the material master record.

4. Save the material master record.



If backflushing is defined for the material in the master record, you cannot enter a serial number profile that has serial number requirement for goods movements (see procedure MMSL in [Serial Numbers in Inventory Management \[Page 10\]](#)).

You can also create serial number master records if no serial number profile is entered in the material master record. However, use in business procedures is only possible if the serial number profile has been entered in the material master record.

Working With Serial Numbers

Purpose

You use serial numbers to identify items of material, which enables you to distinguish between the individual pieces.

Process Flow

1. You create a [serial number profile \[Page 6\]](#) in Customizing for Plant Maintenance and Customer Service.
2. You create a material master record and enter a serial number profile.
3. You create a batch master record for the material if it is to be managed in batches.
4. You can create [serial number master records \[Page 30\]](#) in advance if you want to have a pool of serial numbers.

From a technical perspective, an "incomplete" equipment master record is created for this.
5. You can create [configuration data \[Page 39\]](#) for serial number master records.
6. You assign serial numbers to the material when business procedures take place (for example, a goods receipt):
 - Either you assign manually serial number master records that you created in advance, or
 - The system assigns automatically new serial numbers and creates new serial number master records for this
7. You add to the data of a master record to make it a "complete" equipment master record if it involves a piece of equipment that:
 - You want to maintain within your company
 - You have a maintenance contract for with your customer

You can access all maintenance and service processing functionality via the equipment master record.



You can also create serial number master records if no serial number profile is entered in the material master record. However, use in business procedures is only possible if the serial number profile has been entered in the material master record.

Serial Numbers in Inventory Management

Serial Numbers in Inventory Management

Use

It is possible to assign serial numbers in the event of goods movements for individual pieces of material. It does not matter in which application these goods movements are triggered.

Furthermore, the system can perform a stock check, which in turn ensures correct inventory of individual stock. This check takes place at plant and storage location level, as well as for:

- All types of stock (for example, unrestricted-use stock, stock in quality inspection, blocked stock returns, stock in transfer, stock in transit, blocked stock)
- All special stocks (for example, open order quantity, project stock, customer stock and vendor consignment stock)

Integration

You must use the component *Inventory Management* to be able to post goods movements.

In order to assign serial numbers for goods issues from repetitive manufacturing, you also need the component *Repetitive Manufacturing*.

Prerequisites

A serial number profile with the procedure MMSL must be entered in the material master record.

If a **stock check** is to be performed, the indicator of the same name must be set in the serial number profile.

In order that the **individual stocks** are recorded correctly, you must define the indicator as follows:

- The serial number usage for the procedure MMSL must be 03, meaning that the assignment of serial numbers is obligatory for goods movements.
- The stock check must be 2, meaning that if the stock data is inconsistent, the system does not perform the posting and issues a corresponding error message.

In Customizing for inventory management you can sort the different types of goods movements into groups using **movement type groups**. By assigning movement type groups to a serialization procedure you define for the assigned movements whether:

- Serial number requirement exists for the materials assigned to the profile
- A serial number including an equipment master record is created in inventory management for a goods movement

Features

Serial numbers can be assigned for goods receipts, goods issues, stock transfers and stock transport orders.

You use the serial number usage in the serial number profile to control whether:

- The serial number must be entered for **every** goods movement, or
- The serial number cannot be entered for **any** goods movement

Serial Numbers in Inventory Management

The following information is recorded for the serial number for each goods movement:

- Plant and storage location
- Batch
- Valuation type
- Stock type
- Special stock indicator
- Sales order number and order item
- Account number of the vendor or customer
- Work breakdown structure element

This information regarding the serial number is also taken consideration in the [stock overview \[Ext.\]](#).

You can find further information about the features of goods movements in the component *Inventory Management* under [Serial Numbers in Goods Movements \[Ext.\]](#) and in the component *Repetitive Manufacturing* under [Assigning Serial Numbers at Goods Receipt \[Ext.\]](#).



If backflushing is defined for the material in the master record, you cannot enter a serial number profile that has serial number requirement for goods movement.

Serial Numbers in Physical Inventory

Serial Numbers in Physical Inventory

Use

When carrying out a physical inventory for materials that have serial numbers, you can enter the serial numbers while you are entering the results of the physical inventory count.

This is possible for the following transactions/events:

- Entering the physical inventory count (MI04)
- Entering the physical inventory count without reference to a document (MI09)
- Entering the count and posting differences in one step (MI08)
- Creating a physical inventory document, entering the count, and posting differences in one step (MI10)
- Changing the physical inventory count (MI05)

Prerequisites

Physical inventory with serial numbers is carried out for all materials that require serial numbers. You have to make the following settings for this:

- In the material master record, a serial number profile must be entered in which the indicator for serial number use is configured so that serial numbers have to be assigned for the serialization procedure *MMSL* (maintaining goods receipt and goods issue documents).
- The stock check indicator in the serial number profile should be configured so that an error message appears when there are inconsistencies in Inventory Management.

You maintain the basic settings for the serial numbers in the step *Serial Number Profiles* in Customizing for Serial Number Management.

You can configure serial number management for physical inventory in the *Settings for Physical Inventory* step in Customizing for Inventory Management.

Features

You cannot enter the serial numbers first and then deduce the counted quantity from that number. Inspection lot comparison (stock type 2) with serial numbers is not supported.

Activities

Entering and Editing Serial Numbers

When entering or changing a count, you can edit the serial numbers entered for every item from collective processing or the overview by choosing *Edit* → *Change serial number*. To do this, place the cursor on the line number whose serial numbers you want to change.

Displaying Serial Numbers

You can display the serial numbers from the display of the physical inventory document item. Choose *Goto* → *Serial numbers*.

Serial Numbers in Physical Inventory

Solving Problems with the Status Management of Serial Numbers

If a serial number is not correctly assigned to an individual material because the serial number and the serialized material are assigned to two different stock types, you cannot post inventory differences.

If, for example, you mix up the serial number when you transfer a serialized material between two storage locations, the serial number is assigned to one storage location while the serialized material pertaining to it is located in the other storage location. In this case, the system does not allow you to post the inventory difference for this item and issues an error message.

To enable you to post the inventory difference, you have to create a new physical inventory document via a recount for the item concerned. Choose *Phys. inventory doc.* → *Recount*. After you create the new physical inventory document, you can carry out a transfer posting for the serialized material so that the serial number assignment is consistent again.

You can obtain an overview of the items for which you have initiated a recount by going to the inventory history of the original document. If you do not require information on the inventory history, you can proceed as follows:

Delete from the physical inventory document the item that cannot be posted. Carry out a transfer posting for the serialized material. Create a new physical inventory document for the serialized material you have transferred.

Difference Posting for Serial Numbers only

Even if you did not determine differences in stock during the count, the system may still determine differences for the relevant serial numbers in a stock type. This occurs when the available serial numbers differ from the counted serial numbers. The system may therefore post differences for the serial numbers concerned only.

See also:

[Serial Numbers in Inventory Management \[Page 10\]](#)

Serial Numbers in Production Orders

Serial Numbers in Production Orders

Use

It is possible to assign material numbers for individual pieces of material that are to be produced or refurbished when creating, changing or releasing production and refurbishment orders. The serial numbers always refer to the order item.

The serial numbers that are assigned to the production or refurbishment order are transferred to the document on goods receipt.

Integration

In order to use the serialization functionality in production orders, you must have implemented the *Production planning and control* component, and for refurbishment orders, the *Plant maintenance* component.

Prerequisites

A serial number profile with the procedures PPAU and PPRL must be entered in the material master record:

- The procedure PPAU makes possible the use of serial numbers in production and refurbishment orders and defines how they are assigned.
- The procedure PPRL makes possible the assignment of serial numbers when production and refurbishment orders are released. If serial number requirement exists and no or not all serial numbers have been assigned, the order cannot be released.



If the assignment of serial numbers is to be performed differently for production orders and refurbishment orders, you must create different serial number profiles. You must then assign these profiles to the respective finished product or refurbishment material.

Features

Features of the Production Order

When printing shop papers you can also print a label with barcode for each serial number.

If a production order is created with reference to a sales order item within the framework of make-to-order production, the system proposes all serial numbers assigned to this item in the production order.

See:

[Material Serial Numbers in Production Orders \[Ext.\]](#)

[Creating a Refurbishment Order \[Ext.\]](#)

[Serial Number Assignment during an Order Split \[Ext.\]](#)

Serial Numbers in Quality Management

Serial Numbers in Quality Management

Use

You can plan and perform inspections for serialized materials in the *Quality Management* component.

If an inspection lot is created on goods receipt or when a production order is released, the system copies existing serial numbers into the object list of the inspection lot.

During inspection lot processing, you can:

- Enter results for original values with reference to serial numbers
- Enter errors with reference to serial numbers
- Make a usage decision and perform inventory postings with reference to serial numbers

Integration

In order to perform inspection lot processing with serial numbers, you must have implemented the *Quality Management* component.

Prerequisites

A serial number profile with the procedure QMSL must be entered in the material master record.

The indicator for single unit inspection must be set in the inspection data in the material master record.

Further Information

[Results Recording for Units to be Inspected \[Ext.\]](#)

[Stock Postings for Serialized Material \[Ext.\]](#)

Serial Numbers in Sales and Distribution

Use

It is possible to assign serial numbers in sales orders, inquiries and quotations, as well as for deliveries and returns deliveries. This makes it possible to track individual objects when goods movements take place (for example, sale of goods to a customer).

Integration

In order to use the serialization functionality in sales orders, inquiries, and quotations, you must have implemented the *Sales* component, and to use the serialization functionality for deliveries, you need the *Distribution* component.

Prerequisites

A serial number profile with the following procedures must be entered in the material master record:

SDAU	This procedure makes possible the use of serial numbers in sales orders, inquiries and quotations.
SDLS	This procedure makes possible the assignment of serial numbers for deliveries.
SDCC	This procedure makes possible the assignment of serial numbers when performing completeness checks for deliveries.
SDRE	This operation makes possible the assignment of serial numbers for returns deliveries.
SDCR	This procedure makes possible the assignment of serial numbers when performing completeness checks for returns deliveries.



Profile Maintenance for Deliveries

Procedure SDCC checks the serial number on goods issue. The serial number usage for it should be *03 = must*.

Procedure SDLS defines that the serial number should be created on delivery. The serial number usage for it should be *02 = can*.

Procedure SDAU defines that the serial number should be created in the SD order for items that are delivered. The serial number usage for it should be *02 = can*.

In this way, it is ensured that the serial number is assigned at the latest when the goods issue is delivered.

Further Information

[Working with Serial Numbers \[Page 9\]](#)

Serial Numbers in Sales and Distribution

Serial Numbers in Handling Units

Use

If you are using the *Serial Numbers* application component (LO-MD-SN), you can assign materials with [serial numbers \[Ext.\]](#) in the items of handling units (HUs). If these handling units are used in deliveries or material documents, the serial numbers are copied automatically into the items of the subsequent documents.

HU requirement can be indicated for a storage location in Customizing. This means that only stocks that are in handling units can exist at this storage location. If a handling unit is at an HU-managed storage location, it has the movement status *Available with stock information*.

A serial number can only be found in a maximum of one handling unit with the movement status *Available with stock information* at any one time. The serial number can then only be reused via this handling unit.

A system status is set automatically in the serial number master record when the serial number is assigned to a handling unit at a HU-managed storage location. This status ensures that the serial number cannot be assigned again.

Prerequisites

In order to use serial numbers in handling units, the following prerequisites must be met:

- A serial number profile must have been created with the serialization procedure HUSL in Customizing for Serial Number Management.

We also recommend that you set the stock check indicator for this serial number profile. This has the effect that when the handling unit is at an HU-managed storage location, a serial number can only be moved with the assigned handling unit. This prevents use of the serial number in material documents that do not have any reference to the handling unit.
- The serial number profile that allows serialization in handling units must be entered in the appropriate material master record.
- If you are working with movement types, batches or configurable materials, the valuation type, batch and configuration must already have been defined at the time of the serial number assignment in the handling unit.

Features

Creating and Changing Handling Units

You can specify materials with serial numbers in the items of handling units when you create handling units.

If the serial number usage of the serial number profile is set to *Optional (02)*, you do not need to specify the full number of serial numbers. However, the full number of serial numbers must have been specified by the time the handling unit is used, meaning when a goods movement takes place. The system compares the number of assigned serial numbers with the quantity of items in the handling unit.

The system sets a system status of EHUZ automatically in the serial number master record when the serial number is assigned to a handling unit at an HU-managed storage location. If the serial

Serial Numbers in Handling Units

number is deleted from this handling unit (for example, repacked at a storage location without HU requirement) this system status is canceled. You can also see in the serial number history to which handling units the serial numbers are assigned.

You can also see in the handling unit which serial numbers are assigned. However, after deleting a serial number from the handling unit, it is no longer possible to see to which handling unit the serial number previously belonged.

Goods Issue of a Handling Unit

When you post the goods issue of a handling unit from a storage location with HU requirement, the serial numbers of the handling unit are copied into the material document. You cannot enter any serial numbers manually in the material document. The system cancels the system status EHUZ in the serial number master record. You can see with which handling unit goods issue was posted in the serial number history.

If, when posting the goods issue to a delivery, you make reference to a delivery in which you entered serial numbers manually when creating it, the serial numbers of the delivery are automatically overwritten with the serial numbers of the handling unit.

Goods Receipt of a Handling Unit

When you post the goods receipt of a handling unit to a storage location with HU requirement, the serial numbers of the handling unit are copied into the material document. In this case, you cannot enter any serial numbers manually in the material document. The system sets the system status EHUZ in the serial number master record.

For more information, see [Goods Receipt and Putaway \[Ext.\]](#).



The system supports serial numbers in handling units when posting goods receipts with reference to production orders. For more information, see [Packing in Discrete Manufacturing \[Ext.\]](#).

Repacking

You define a storage location without HU requirement for each storage location with HU requirement in Customizing for Handling Unit Management. This storage location is of significance when repacking handling units:

- Unpack

When unpacking a handling unit, the system transfers automatically the goods from the storage location with HU requirement to the storage location without HU requirement. The system status EHUZ is deleted in the serial number master record.

For more information, see [Unpack \[Ext.\]](#).

- Pack

When packing a handling unit, the system transfers automatically the goods from the storage location without HU requirement to the storage location with HU requirement. The system status EHUZ is set in the serial number master record.

For more information, see [Pack \[Ext.\]](#).

Serial Numbers in Handling Units

Stock transfer

When transferring a handling unit, the serial numbers of the handling unit are always copied to the material document. The following options are conceivable:

Transfer of	Transfer to	Effect in the serial number master record
Storage location with HU requirement	Storage location with HU requirement	The system status EHUZ remains set.
Storage location with HU requirement	Storage location without HU requirement	The EHUZ system status is deleted.
Storage location without HU requirement	Storage location with HU requirement	The EHUZ system status is set.
Storage location without HU requirement	Storage location without HU requirement	The system status EHUZ does not remain set.

Serial Number Master Record

Definition

Data record that contains information for serial number management. The serial number is given to an item of material in addition to the material number, in order to differentiate that individual item from all other pieces of this material. The combination of material and serial number is unique.

[Example of Serial Numbers \[Page 23\]](#)

Structure

The following information is contained in the serial number master record:

- Status information

You can establish here, which system and user statuses are valid for the master record. If necessary, you can set or delete the user status, display the authorized business procedures and set particular system statuses.
- Stock information

You can see here in which plant and warehouse the item of material is located, or to which batch it belongs. You can also see what type of stock and special stock is involved. The stock information is recorded automatically when goods movements are performed, and cannot be changed manually.
- Partner Data

Here, for example, you can use freely definable partner functions and partners to specify in Customizing which companies are responsible for the maintenance of the serialized material (see [Partner Data \[Page 28\]](#)).
- Configuration data

Here, you can configure a item of material according to its characteristics or make reference to a configured object.

Further data and functions, such as maintenance data, location data, and classification, are only available if you add to the serial number master record to make it an equipment master record. For more information, see [Creating an Individual Serial Number \[Page 31\]](#) and [Entering Serialization Data in the Piece of Equipment \[Page 38\]](#).

Example of Serial Numbers

Company X manufactures solar collectors (panels). They produce three different types:

- Type A
- Type B
- Type C

A material master record exists in Company X's system for each type. For quality control reasons, the company wants to know for each solar collector delivery which customer has received which type of solar collector, and which serial number(s) of the collector type was/were delivered to the customer.

For this purpose, each solar collector that is produced is assigned a serial number that, together with the material number, uniquely defines it.

Object	Material number	Serial number
Solar collector 1	SP-A	94-05-01
Solar collector 2	SP-A	94-05-02
Solar collector 3	SP-A	94-05-03
Solar collector 4	SP-B	94-05-01
Solar collector 5	SP-B	94-05-02
Solar collector 6	SP-B	94-05-03
Solar collector 7	SP-C	94-05-01
...

In addition, company X wants to maintain and repair particular solar collectors that it sells directly to individual customers. For this reason, an equipment history is to be maintained for the collectors. Company X is able to do this by creating equipment master records for these serialized solar collectors.

Internal Number Assignment for Serial Numbers

Internal Number Assignment for Serial Numbers

Use

When the system assigns numbers internally for serial numbers, it always refers to numeric numbers, not to alphanumeric numbers. The system recognizes the highest numeric serial number that has been assigned for each material, and then counts onwards from this number when performing internal number assignment. Alphanumeric numbers have no influence on this assignment logic.



For this reason, only numerical serial numbers are displayed in the screen *Create MatSerialNo* in the field *Last SerNo*.

Features

The following situations arise during internal serial number assignment:

What exists	Result
Material number + no serial numbers	The system starts with serial number 1.
Material number + numeric serial numbers	The system counts on from the last serial number.
Material number + alphanumeric serial numbers	The system starts with serial number 1.
Material number + numeric and alphanumeric serial numbers	The system counts on from the last numeric serial number.

The system locks the serial number master record in the Standard system during number assignment. This prevents several users from creating serial numbers for the same material simultaneously.

Activities

If the number assignment is not continuous, because, for example, you have created serial numbers manually, you can fill these gaps by creating the missing serial numbers manually.

If you want to create several serial numbers using list editing, you can specify a starting point for the internal number assignment (a numeric number), that the system should count on from. To do so, enter this number and choose *Continue*, so that the system then recognizes this number. Afterwards, enter the number of serial numbers to be created and choose *Continue* again.

See also:

[Locking for Number Assignment \[Page 25\]](#)

Locking for Number Assignment

Use

The system locks the serial number master record in the Standard system during number assignment. However, you can deactivate this lock, and configure the system in such a way that several users can simultaneously create serial numbers for the same material.

Prerequisites

You have reset the lock in Customizing under *Plant Maintenance and Customer Service* → *Master Data in Plant Maintenance and Customer Service* → *Technical Objects* → *Serial Number Management* → *Deactivate Lock for Internal Serial Number Assignment*.

Features

If the lock has been deactivated, the system immediately updates the serial numbers created to the database during internal number assignment.

This means that as soon as you have canceled the creation operation **not saved**, numbers are not assigned continuously. However, you can fill these gaps at any time by manually creating the missing serial numbers.

Activities

For more information on manually creating serial numbers, see [Creating an Individual Serial Number \[Page 31\]](#).

Serial Number History

Serial Number History

Use

You can use the history of the serial number master record to ascertain which procedures have affected the serial number. You can find all documents that have been created for the serial number here:

- Production and refurbishment order
- Handling unit
- Maintenance and service notification
- Maintenance and service order
- Physical inventory
- Sales order
- Delivery (inbound delivery, outbound delivery)
- Inspection lot
- Goods document
- Maintenance plan
- Maintenance contract

Activities

Select *History* on the *SerData* tab in the serial number master record. You can branch directly from there to the relevant documents.

See also:

[Archiving Serial Number History \(LO-MD-SN\) \[Ext.\]](#)

Status Management

Use

Serial number processing is linked to status management. There are two different types of status:

- **System status**

System statuses are set when you execute a particular function for the serial number. For example, you post a goods receipt in the warehouse and set the status *In warehouse* by doing this.

- **User status**

User statuses enable you to further delimit functions allowed for a serial number on the basis of a system status. You can assign and delete user statuses yourself if you have the authorization to do this.

Prerequisites

The system statuses are preset by SAP and cannot be changed.

You define the user statuses in Customizing for Plant Maintenance as follows:

1. Define a user status profile under *Basic Settings*. You can also define here which user statuses are set automatically in the master record for which business procedures.
2. Assign the user status profile to the equipment category under *Technical Objects* → *Equipment*.

Features

You can determine which system and user statuses are set for the master record in the master record for the serial numbers.

You can set certain system statuses. You can also set and delete user statuses manually where necessary.

You can display for which business procedures system or user statuses are set.

Activities

In the serial number detail screen, choose *Extras* → *Status*. In the left column you see the system statuses, and in the right column the user statuses.

By selecting *All statuses* you can see which statuses can be assigned to the serial number, and by selecting *Only active statuses* you hide the statuses that are not active.

Partner Data

Partner Data

Use

Serial number processing is linked to the partner functionality. This means that you can assign a partner function to the following functions:

Tab page	Serial number field	Example of a partner function:
General	Vendor	Vendor
Serial data	Current customer	Goods recipient
Sales and Distribution	Customer End customer Operator	Sold-to party Invoice recipient Goods recipient

Prerequisites

Make the following settings in Customizing for Plant Maintenance and Customer Service:

1. Define a partner determination procedure under *Basic Settings* → *Partner data*. When doing this you can define a partner function as a mandatory function.
2. Assign the partner determination procedure to the equipment category under *Equipment*. Define also which partner functions should appear on the individual tab pages in the serial number master record.

Features

If you have assigned a partner function to the serial number field, the block *Partner data* is displayed on the corresponding tab page (*Serial data*, *Sales* or *General*). Instead of the original field description (for example, *Customer*), the preset partner function (for example, *Sold-to party*) is displayed. The fields are ready for input.

The original field descriptions are displayed on the tab page *Other*; the fields are not ready for input.

If you have not assigned a partner function to a field, it does not appear on the corresponding tab page, but on the tab page *Other*. This time it is ready for input.

See also:

[Partner \[Ext.\]](#)

Copying the Partner into the Serial Number

Use

Within the framework of a delivery, partner data is automatically transferred from the delivery note into the master record of the serial number when goods issues are posted.

Prerequisites

You have set the indicator *Copy Partner* in Customizing for Plant Maintenance and Customer Service under *Plant Maintenance and Customer Service* → *Master Data in Plant Maintenance and Customer Service* → *Basic Settings* → *Partner Data* → *Copy Partner Functions to Master and Transaction Data*.

Furthermore, you have assigned the partner determination procedure and the corresponding functions to the equipment category under *Technical Objects* → *Equipment* → *Assign Equipment to Partner Determination Procedure*.

Features

The system copies the partner data from the delivery note into the serial number master record.

If partner data has already been specified in the serial number master record, this data is overwritten with the data from the delivery note. However, the system only overwrites partner data for which the indicator has been set in Customizing.

Creating Master Records for Serial Numbers

Creating Master Records for Serial Numbers

Use

You are able to create directly master records for serial numbers during the assignment of serial numbers for various business procedures, if the serial number profile allows this.

In addition, you can create master records for serial numbers in advance. This would make sense if you want to have a particular quantity of numbers in the system, that you can assign during a business procedure. In particular, this is the case when you are using serial number profiles that require serial numbers to already exist for certain business procedures.

Activities

You have two options for creating serial number master records for a material in advance:

- You create an [individual serial number \[Page 31\]](#) for a piece of material.
You use this option, for example, if in make-to-order production you manufacture one item per day.
- You create [several serial numbers \[Page 33\]](#) simultaneously for a piece of material.
You use this option, for example, if in repetitive manufacturing you manufacture several items per day.



You can also create serial number master records if no serial number profile is entered in the material master record. However, use in business procedures is only possible if the serial number profile has been entered in the material master record.

Creating an Individual Serial Number

1. Call up the processing mode for serial number master records. Depending on the application in which you are working, proceed as follows:

Component	Menu path
Plant Maintenance	<i>Logistics</i> → <i>Plant maintenance</i> → <i>Technical objects</i> → <i>Serial numbers</i>
Materials Management	<i>Logistics</i> → <i>Materials management</i> → <i>Material master</i> → <i>Environment</i> → <i>Serial numbers</i>
Quality Management	<i>Logistics</i> → <i>Quality management</i> → <i>Quality planning</i> → <i>Logistics master data</i> → <i>Serial numbers</i>
Customer Service	<i>Logistics</i> → <i>Service management</i> → <i>Technical objects</i> → <i>Serial numbers</i>
Sales and Distribution	<i>Logistics</i> → <i>Sales and distribution</i> → <i>Master data</i> → <i>Products</i> → <i>Serial numbers.</i>

Choose *Serial numbers* → *Create*.

The screen *Create Material Serial Number: Initial* is displayed.

Enter the necessary data and then choose *Continue*.

If you do not enter a serial number the system assigns automatically an internal number. When doing this, you should refer to the logic of [internal number assignment for serial numbers \[Page 24\]](#).


The screen *Create Material Serial Number: SerialNo.Detail* is displayed.

Enter the necessary data for the item of material to which you assigned the serial number.

If you want an equipment master record to be created from the serial number master record, choose *Edit* → *View selection* and select the checkbox *Equipment* in the dialog box. When you choose *Back*, the system assigns automatically an equipment number, that can be seen on the tabstrip *SerData*.

If you want to create further data, such as configuration, sales and production resource/tool data, select the appropriate fields and then choose *Back*. (You can find more information on configuration data under [Maintenance of Configuration Data \[Page 39\]](#).)

You return to the screen *Create Material Serial Number: SerNo.Detail* where you can enter data in the corresponding tab pages.

6. If required, maintain the status by choosing  *Status*, and the partner data by choosing *Goto* → *Partners*.
7. Save the serial number master record.



In the screen *Create Material Serial Number: SerialNo.Detail*, you can change the specified serial number by choosing *Edit* → *Special serial no. functions* → *Change*

Creating an Individual Serial Number

serial no. You can change the specified material number by choosing *Edit* → *Special serial no. functions* → *Change material...* When doing this, the system always checks whether the new combination of material and serial number already exists in the system. If the combination does exist, the change is not authorized.

Creating Several Serial Numbers

1. Call up the processing mode for serial number master records. Depending on the application in which you are working, proceed as follows:

Component	Menu path
Plant Maintenance	<i>Logistics → Plant maintenance → Technical objects → Serial numbers</i>
Materials Management	<i>Logistics → Materials management → Material master → Environment → Serial numbers</i>
Quality Management	<i>Logistics → Quality management → Quality planning → Logistics master data → Serial numbers</i>
Customer Service	<i>Logistics → Service management → Technical objects → Serial numbers</i>
Sales and Distribution	<i>Logistics → Sales and distribution → Master data → Products → Serial numbers.</i>

2. Choose *Serial numbers → List editing → Create*.

The screen *Create Material Serial Number: List Entry* is displayed.

3. Enter the required material and choose *Continue*.

You now have different options for creating serial numbers. When doing this, you should refer to the logic of [internal number assignment for serial numbers \[Page 24\]](#).

- You enter manually the serial numbers for the material in the block *Serial numbers*.
- You enter in the field *No. serial numbers*, the number of serial numbers that you want to create for the material, and choose *Continue*.

The system enters automatically the required quantity of new serial numbers in the block *Serial numbers*, starting from the last numeric number that was assigned.

- You enter a number in the field *From serial number*, from which the system should start creating serial numbers. Afterwards, enter the number of serial numbers to be created and choose *Continue*.

The system enters automatically the required number of new serial numbers in the block *Serial numbers*, starting from the number specified.

- You enter in the field *No. serial numbers*, the number of serial numbers that you want to create for the material. You also enter the number interval in which you want the serial numbers to be created. Then choose *Continue*.

The system checks whether the numbers that lie within the number interval have already been assigned. It then enters the new numbers in the block *Serial numbers*.

- You enter a number interval for the new serial numbers for the material and choose *Continue*.

The system enters all the numbers in this number interval in the block *Serial numbers*, as long as they have not already been assigned.

Creating Several Serial Numbers

4. You can create a detail profile where necessary. The data defined in this profile is valid for all serial number master records that you create in this work step.

To create a detail profile, choose *Extras* → *Detail profile...*

The dialog box *Create Material Serial Number: Detail Profile* is displayed, in which you can make the following entries for the individual material items to which you are assigning serial numbers:

- Master batch
- Customer information

By choosing *Continue*, you return to the screen *Create Material Serial Number: List Entry*.

5. If you want an equipment master record to be created from the serial number master record, choose *View selection...* and select the checkbox *Equipment* in the dialog box. When you choose *Back*, the system assigns automatically an equipment number, that can be seen on the tabstrip *SerData*.

If you want to create further data, such as configuration, sales and production resource/tool data, select the appropriate fields and then choose *Back*. (You can find more information on configuration data under [Maintenance of Configuration Data \[Page 39\]](#)).

You return to the screen *Create Material Serial Number: List Entry*.

6. Save the serial number master records.

Selecting Existing Serial Numbers

Use

You can select existing serial numbers in different application components for all [business procedures \[Page 7\]](#).

Prerequisites

You have already created serial numbers in the system.

You are in the *Maintain serial numbers* dialog box.

Procedure

1. Choose *Select serial numbers*.

The *Serial Number Selection* screen appears.

2. Enter the desired selection criteria, and choose *Execute*.

The screen *Serial Number List* in which all existing serial numbers are listed is displayed.

3. Select the serial numbers you want to copy, and choose *Choose*.

Result

The system returns to the dialog box, and copies the serial numbers you have selected.



If you choose *Select all* and then *Choose* in the serial number list, the system copies the first serial numbers in the dialog box in the quantity you requested.

Changing Stock Information

Changing Stock Information

Use

Under certain circumstances, you can manually change the stock information (for example, stock type, plant, storage location) in the serial number master record.



Manual changes to stock information may lead to inconsistencies in Inventory Management.

Prerequisites

The stock information can be changed if

- No plant has been maintained up to now (for example, when creating a new serial number)
- A plant has been maintained and no stock check has been defined in the serial number profile for the material, or the stock check causes the system to issue a warning

Note that you can only change the stock information *Plant* if no stock check has been defined in the serial number profile of the new plant, or the stock check causes the system to issue a warning.

Procedure

1. Call up the master record of the serial number in Display or Change mode.
The tab *SerData* is displayed.
2. Change the desired stock information and save the master record.

Serialization Data in the Piece of Equipment

If you want to manage a piece of equipment not only as an independent and individual object, but also as a piece of material within the framework of inventory management, you must provide it with serialization data. This comprises:

- A unique combination of material and serial number
- Stock information
- Warehouse information

By using this data, you describe the piece of equipment as an individual item of a particular material.

Features of Batches

It is conceivable that several serialized equipment master records were created for a material, to which an actual object is only assigned at a later date (for example, on delivery). On goods receipt, you also specify the batch for the required serial number of the material.

The system records the batch number as well as the *stock batch* and the *master batch*:

- The stock batch specifies in which batch stock the item of material is located. Once you post the goods issue for the material, the stock batch is canceled.
- The master batch still remains after the goods issue of the material. You document to which batch the material belongs.

Entering Serialization Data in the Piece of Equipment

Entering Serialization Data in the Piece of Equipment

1. Choose *Logistics* → *Plant maintenance* → *Technical objects* → *Equipment* → *Change* or *Service management* → *Technical objects* → *Equipment* → *Change*.
2. Choose *Ser.Data*. If the tabstrip is not displayed, you can obtain this view by choosing *Edit* → *View selection* and selecting the appropriate field.
3. In the Detail screen for serialization data, enter the material to which you want to assign the piece of equipment as an individual item.



When entering serialization details, you can only specify materials that have a serial number profile entered in their master record.

4. Choose *Enter*.
The system displays the last numeric serial number that has been assigned for this material.
If you want to obtain an overview of the existing serial numbers for the material, choose *Extras* → *List of exist.SerNos*.
5. Assign a valid combination of material and serial number to the piece of equipment in the Detail screen for serialization data.
6. Enter the necessary data and then save the equipment master record.

Maintenance of Configuration Data

Purpose

You can maintain configuration data for serialized material items.

Prerequisites

The equipment category must be set up in Customizing for Plant Maintenance so that it can be configured.

Process Flow

You can maintain configuration data for serialized material items in one of the following ways:

- A** You configure the material item in the same way as you would for existing stock materials.

To do this, you use a [configurable material \[Page 40\]](#) to refer to a [variant \[Page 41\]](#).

You can find more information on how to do this in [Configuring a Serialized Material Item as a Variant \[Page 42\]](#) and in [Configuring Several Material Items as Variants \[Page 43\]](#).

- B** You define a specific configuration for the individual material item.

You have two options for doing this:

- a) You copy an existing configuration, for example, that of a variant, and modify it as required.
- b) You refer to a configurable material and create an individual configuration by evaluating the configuration parameters available.

For information on how to proceed in both cases, see [Configuring a Serialized Material Item Individually \[Page 44\]](#).



Configuration data can also be determined from a sales order. In this case, the user first assigns the serial number to the sales order. The system then enters the configurable material in the serial number master record and refers to the sales order, in which the configuration was defined.



The system always checks whether the configuration of the serial number agrees with the configuration of the object or reference (for example, variant, sales object) to which the serial number is assigned. It is possible that a particular serial number can not be used in an object at all.

For more information on configurations, refer to the SAP documentation *CA - Variant Configuration*.

Configurable Material

Configurable Material

Definition

Material, for which different [variants \[Page 41\]](#) are possible.

Configurable materials have a bill of material that contains all components that are used in at least one variant. Likewise, the task list for the configurable material contains all operations that are used to manufacture at least one variant. By using the material configuration, only the components and operations that are required for one variant are selected.

Configurable materials are either created in a material type that allows the configuration (in the standard system, the material type KMAT) or they are given the indicator *Configurable* in the material master record.

Use

You can select the components of the bill of material (for example, for use in an SD order or for variants) by assigning and valuating configuration parameters (characteristics of an assigned class) as well as through defined relationships (for example, for the selected items of a bill of material).

The valuation is checked for consistency and completeness at the time of configuration.

Variant

Definition

Product variant of a [configurable material \[Page 40\]](#), whose characteristics are already defined in the material master record. It is also referred to as a configured material, material variant, or type.

Configuring a Serialized Material Item as a Variant

Configuring a Serialized Material Item as a Variant

Use

You make reference in the serial number master record to a variant that already exists. This has the advantage that changes to the variant only have to be performed once centrally and are displayed directly in the serial number master record.

Procedure

1. Call up the master record of the serial number in Change mode.
2. Choose the tabstrip *ConfigData*.
3. Choose *Assign to ConfigMat*.
A dialog box is displayed.
4. Enter the variant and the plant and choose *Continue*.
You return to the tabstrip *ConfigData*.
If you want to display the configuration, choose *Display* and the screen *Characteristic Value Assignment* is displayed.
5. Save the serial number master record.

Configuring Simultaneously Several Material Items as Variants

Use

You make reference in the serial number master record to a variant that already exists. This has the advantage that changes to the variant only have to be performed once centrally and are displayed directly in the serial number master record.

Procedure

1. Enter the required number of serial numbers for the material as described in [Creating Several Serial Numbers \[Page 33\]](#) (steps 1 to 4).
2. In the list editing screen, choose *Edit* → *Assign to ConfigMat*.
A dialog box is displayed.
3. Enter the variant and the plant and choose *Continue*.
You return to the list editing screen.
4. Save the serial number master records.

Configuring a Serialized Material Item Individually

Configuring a Serialized Material Item Individually

Prerequisites

If you want to perform individual configuration for a serialized material item, you must first choose one of the following procedures:

- A You copy the configuration of a variant and then make any individual changes.
 - If you choose this option, proceed as described below in **Copying and Changing an Existing Configuration**.
- B You refer to a configurable material and create an individual configuration from its characteristics.
 - If you choose this option, proceed as described below in **Creating an Individual Configuration**.

Copying and Changing an Existing Configuration

1. Call up the master record of the serial number in Change mode.
2. Choose the tabstrip *ConfigData*.
3. Choose *Assign to ConfigMat*.
 - A dialog box is displayed.
4. Enter the variant and the plant and choose *Continue*.
 - You return to the tabstrip for the configuration.
5. Choose *Copy Ref*.
 - The system copies the configuration data of the variant. This means that the serial number master record no longer refers to the configuration of the variant. You are now able to maintain individually the configuration for the serial number.
6. Choose *Maintain*.
 - You return to the screen with the characteristic values for the variant.
7. Change the data according to your requirements and return to the tabstrip for the configuration.
 - The configuration data is now indicated as being *individually maintained*.
8. Save the master record.

Creating an Individual Configuration

1. Call up the master record of the serial number in Change mode.
2. Choose the tabstrip *ConfigData*.
3. Enter the required configurable material.
4. Choose *Edit* → *Maintain*.
 - You go to the screen for maintaining characteristic values for the configurable material.

Configuring a Serialized Material Item Individually

5. Change the data according to your requirements and return to the tabstrip for the configuration.

The configuration data is now indicated as being *individually maintained*.

6. Save the master record.