AMS Module Charging

Seamless Documentation through Software-Supported System Furnace Logbook

With the AMS module Charging, the production personnel records the load composition from job items, the (heat) treatment carried out, and charging media used. When using the planning table, feedback is given to the planner that the intended production planning has been implemented as desired.

The added bonus: Thanks to the expert system from AMS, your employees receive suggestions for load composition for the respective system.
Functions for storing checklists, controls, and reactions to ensure compliance with the correct workflows support the production staff.

The load data can be transferred according to system and program selection from TAM to the process control systems. At the start, continuously during an active process and at the end of a process, the data is synchronized between AMS and the process control systems: All systems synchronously update the data in AMS.

The management of samples provided, customer samples, and their traceability as well as the management of auxiliary materials optimally complement the module.

"With AMS, you save resources thanks to the ideal composition of your loads!"

Your Benefits:

Document Loads Quickly and Easily
Saves time. No more handwritten furnace books.

Correct Work Steps
Employee guidance by the AMS expert system provides safety.

Efficient Use of Resources
The ideal planning and load composition saves process time and energy.

Optimally Matched Loads
Split the jobs into production items to best match your systems.

An Overview of the Functions of the Module Charging

General Functions:

- System overview incl. system selection (predefined restrictions possible)
- Selection or strict specification of the program to be used on the system
- Book employee processing time (piecework wages)
- Employee multi-system operation
- Document article requirements and consumption of operating materials
- Process reviews and process audits integrated into production
- Individually configurable lists, information with sales, and costs possible
- Powerful queries for filtering desired job items and components
- Integrated management and traceability of charging materials, system and customer samples
- Worksheet view/printout
- Time-temperature diagrams for load display
- Assign measurements retrospectively
- Combined scale connection for weight recording optionally available
- Arrangement of maintenance tasks for the maintenance personnel (license for AMS^{MB} Maintenance Book required)

Job Items and Loads:

- Create loads/cancel loads, remove item from load
- Separating/splitting job items into small production lots
- Correction of gross load weights
- Entry of comments and notes
- Switch to alternative work plan
- View information on a job item
- Display history of loads and processes run
- Image view/document view of the work instructions
- Blocking of items
- Quick logging of the end of the load by scanning a worksheet (for non-electronically controlled systems)
- Initiate Job rework
- Create malfunction message
- Document load composition visually, highlight details
- Search for loads/lists of loads in tabular form
- Create detailed search of loads/lists of loads
- Safeguarding the process through checks, questions, and checklists (license for AMS$^{Q\&A}$ Questionnaire required)
- Connection of mobile digital camera (USB)

Module AMS^{PT} Planning Table (Optionally Available)

With the AMS^{PT} Planning Table, loads, system occupancy, and job items can be precisely assembled and planned - for a quick, clear-cut scheduling process. Deadline or process issues are flagged at the moment of scheduling, aiding in ensuring delivery punctuality. Through mobile display within the operation, production staff are informed of changes in real-time. All involved parties can view the status at any time.

For further information, please refer to the AMS^{PT} Planning Table flyer.

Module AMS$^{Q\&A}$ Questionnaire (Optionally Available)

With the optional integration of the AMS$^{Q\&A}$ Questionnaire, you can support your employees with the correct implementation of the process steps. They contain, among other things: work instructions, individually adjustable question and answer options, checklist functions, mandatory image documentation, lists of permitted equipment.
Answering the questions can trigger actions such as further processing, blocking, notification, or a notice.

For further information, please refer to the AMS$^{Q\&A}$ Questionnaire flyer.

An Overview of the Functions of the Module Charging

The following functions are possible when using the TAM interface:

- Display of possible programs of the system
- Match suitable programs and process steps in AMS
- Display estimated process end (if supported by the process control system)
- Display system status: system ready, in operation, current program, linked AMS load, and additional information
- Transfer of load data to the process control system (job item data, process control system program, system)
- Linking an AMS load with a system process-status update
- With connected sensors, energy consumption can be compared and documented
- Automatic transfer of process times/programs run into an AMS load.
- Process control system alarms are assigned to the load.
- Critical alarms halt further processing
- Time-temperature graphs available

The Module Charging is also available as a mobile application in conjunction with the Process Data Capture AMS^{mPDC} for your mobile device or smartphone.

For further information, please refer to the AMS Mobile Applications flyer.

Supervisory Control or Validation Functions:

- Numerous process controls and validations support the staff.
- Approval of workflow/assembly before and after treatment
- Monitoring of active items and work steps already performed
- Signaling or rejection of process steps not present in the work plan
- Signal in case of unauthorized/unapproved system or exceeding capacity
- Verification of completeness and correct sequence of work steps
- Control when separating job items
- In low-pressure carburizing processes, the surface of all items is considered.
- Note: Target specifications of the component not achievable through the selected treatment
- Note: Work instructions from alternative work plan not considered
- Information in case of exceeding the maximum age of charging material

The control functions can be activated system-wide. Individual adjustment is possible and is done in AMS precisely to the needs of your production process.

Required Licenses:

The module Charging is part of the AMS basic installation.
Some functions require an additional license.

Recommended AMS extensions:

AMS^{PT}	Planning Table
AMS^{mIMGCH}	Mobile Image Generation Charging
AMS$^{Q\&A}$	Questionnaire
AMS^{mPDC}	Mobile Production Data Capture incl. Mobile Charging
AMS^{mPO}	Mobile Production Overview
AMS^{MB}	Maintenance Book

TTC Informatik GmbH
Stockumer Straße 28
D-58453 Witten
Tel. +49 (0)2302/1789280
E-Mail info@ttc-informatik.de
www.ttc-informatik.de