

Interface documentation

Production report in CSV format

Version 1.0

iret

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1 Introduction

This documentation explains the technical details of the data transfer of a production report for cable processing machines.

2 File and data formats

2.1 General File Format

The data transfer takes place in the form of CSV files that meet the following requirements.

Eigenschaft	Wert	Beschreibung
File name		<ul style="list-style-type: none"> Must comply with both POSIX and Windows conventions Are generally not case sensitive evaluated under Windows (Production.csv == production.csv)
Decimal separator	.	
Leading zeros		<ul style="list-style-type: none"> Expected for numbers < 1 Otherwise ignored
comment character	#	Lines beginning with this character will be ignored.
Blank lines		Are allowed and are ignored
Thousand separator characters		Not supported
Text limitation (quota arrangement)	"	Strings should always be enclosed in double quotation marks, for all other value types this is optional.
Separator (column delimiter)	;	
Headlines		The first line of the file that does not begin with a comment character is considered a header line. The field names used must be listed in this line, with the separator between 2 field names.
Character encoding	UTF-8	

2.1.1 Data types and ranges

Data type	Base type	/ Range / Standard	Comments
Date		ISO 8601	yyyy-mm-ddThh:mm:ss[.mmm]
Print position	Length	0.0 .. 2^30	A print position
Integer numberl		+/- 2^31	<ul style="list-style-type: none"> Digits 0-9 + - signs
Length	Number	+/- 2^30	<ul style="list-style-type: none"> Unit "mm" with a maximum of 1 decimal place A maximum accuracy of 1/10mm can be specified, but the actual accuracy depends on the machine.
Name			<ul style="list-style-type: none"> Any alphanumeric characters from 0-9, a-z, A-Z Special characters: - _ # ! Not case sensitive! Leading / following spaces are removed
Text			<ul style="list-style-type: none"> Any character 0x00 can lead to unexpected effects in the machine control (text is truncated)

Data type	Base type	/ Range / Standard	Comments
Number	Number	$5.0 \times 10^{324} \dots 1.7 \times 10^{308}$	<ul style="list-style-type: none"> Corresponds to "double". Decimal separator see above

2.2 Definition of file names and file operations

2.2.1 File names

File name		Server / Machine	Client	Comment
production.csv		Write & delete	Read & delete	Each row contains a production event.
subfeedback.csv		Write & delete	Read & delete	Optional! Only for Track&Trace applications (production of cables with unique identification of each individual cable) <ul style="list-style-type: none"> Supplement to production.csv Contains feedback of the individual unique identifiers

2.2.2 Atomic file operations

Both the client and the server must ensure that the files are exclusively available during access. The following procedure is implemented by the generating process:

Write files (create / modify)

- production.csv → rename to production_client.csv
- Subfeedback.csv → Rename to Subfeedback_client.csv
- production_client.csv & subfeedback_client.csv are modified under the client's responsibility
- subfeedback_client.csv → will be renamed to subfeedback.csv
- production_client.csv → will be renamed to production.csv

2.2.3 Field definitions production.csv

All relevant production events are reported back in this file.

	Name	Type	Digits / range	Comment
1	JobName	Name	60	Order number
2	Timestamp	Date		
3	EventID	Integer number	0...?	See 2.2.4
4	CableName	Name		Cable name
5	DataValue	Name or integer number		Depending on the type of event, the data value can be numeric (e.g. quantity report) or delivered as a name (e.g. material ID). Details see 2.2.4
6	Description	Text	255 characters	Optional explanation when reporting errors
7	EventName	Text	60 characters	EventID (see Tab.2.2.4) in plain text.

2.2.4 Event types

Event ID	EventName	Description	Associated data value or description
0	psAlive	„Alive“ Pure information that the software is running	
1	psCount	Quantity	Numeric: Total number of cables produced
2	psMaterial	Material change A change was made to another material or batch.	Name: The complete material number scanned by the user (including batch number).
3	psLogon	User login Operator has logged on to the client	Name: Identifier of the user currently logged on to the client (not a Windows-user!).
4	psJobLoad	Job successfully loaded	
5	psStart	Start of production Data was transferred to the machine and a start was initiated.	
6	psPause	Production interruption of the machine	E.g.: If the printer is not ready, or similar.
7	psJobAborted	The order was cancelled by the user, the specified number of pieces was not produced.	Text: Reason for termination (e.g. no material, machine error, work break)
8	psJobTerminated	The job was finished, all wires were produced.	
9	psMaterialCount	Report of actual material consumption	Length: Total material consumption of the order in mm
10	psImportError	Fatal error import	Text: Internal error number + brief description
11	psImportWarn	Warning import An uncritical error was detected during the import, but the request can still be started.	The same.
12	psImportInfo	Note import: For diagnostic purposes only	The same.
13	psJobInterrupted	The job is interrupted, but remains loaded on the machine. Example: Shift change	Interruption by the user
14	psInfo	Message with a detail of the production process. Example: Switch „CableMaterialReference“ adjustment on or off	Text: Brief description
5 ff.		** reserved **	
20	psBatch	Lot size reached, machine waiting for user	
24 ff.		** reserved **	



Additional information

psCount – It can be set in the program whether this event is delivered per finished cable, only during a production interruption (psPause) or at each stop (psPause & psBatch).

Currently every produced cable is logged.

psPause – This signal is not sent when the lot size is reached.

2.3

Field definitions subfeedback.csv

Optional file for Track&Trace applications!

This file contains one row of data for each SubJob ID printed serial number used.



Note!

It is only ensured that a serial number reported here will not be used again for this order.

- There is no guarantee that the serial number used will be legible on the product or that the product has been successfully cut.

Nr.	Name	Typ	Digits / range	Description
1	JobName	Name	60	
2	Timestamp	Date		
3	JobPositionName	Name	60	SubJob-number
4	CableName	Name	60	

2.4

Description of the event sequence of the responses

In the following several exemplary event sequences as they could be carried out via the file production.csv. The following names are used in the "Guaranteed" column:

yes - This event occurs at least once before the first production.

no - This event is only reported when it occurs.

2.4.1

Example 1

Program start and processing of two new jobs

EventName	Guaranteed	Description
psMaterial	no	Material change: New raw material detected in Cayman
psCount	no	Quantity message: N cables were produced Note: The message is not guaranteed because there may be an immediate abort after the start.
psPause	no	Production interruption / Stop:
psMaterialCount	no	Total material consumption of the order
....		

2.4.2 Example 2

Program start and resumption of the last job

EventName	Guaranteed	Description
psMaterial	no	Material change: New raw material detected in Cayman
psCount	no	Quantity message: N cables were produced
psPause	no	Production interruption / Stop:
psMaterialCount	no	Total material consumption of the order