

Notes:



Test plan configuration

Notes:

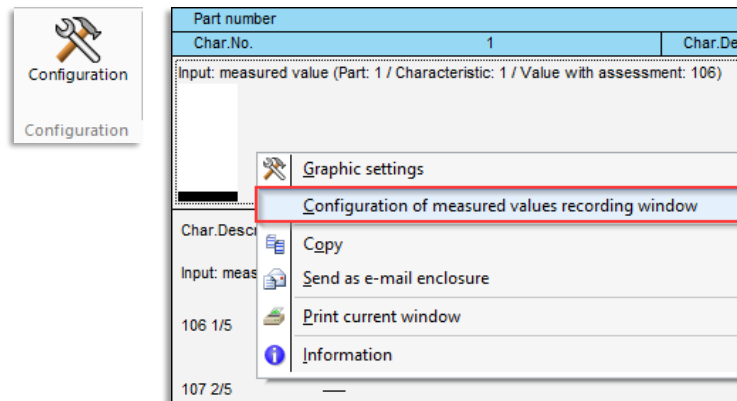
Contents

- Data collection control and data collection levels
- Parts/characteristics list
- Comparison of data set / standard settings
- Inspection interval
- Input sequence / group measurement
- Operating instructions / Notes
- Additional data
- Alarms
- Repeat measurements
- Close test plan / Save
- Summary / Input
- Measurement finalization

Notes:

Control of data collection

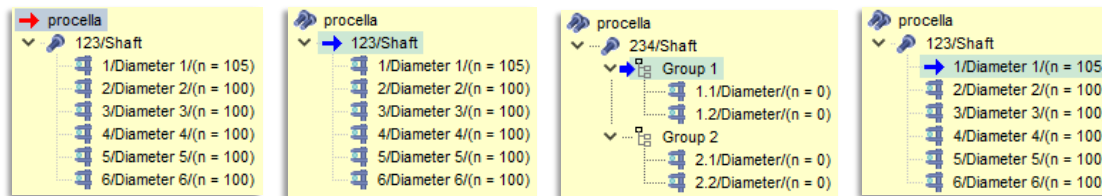
- Right-click on the input window or | Settings | Configuration
 - Always pay attention to the active configuration level (!)
- Can be saved to the data set
 - This then only applies to this data set
 - Save as "Default "Applies to exactly this user or group
 - As configuration user then for all users (factory setting)



Notes:

Configuration levels

- The superordinate setting level is the standard
- The standard is inherited by the system (ConfigurationUser)
- The subordinate levels are part level, group level and characteristics level
- The active level of configuration can be inherited from the superior element (=level)

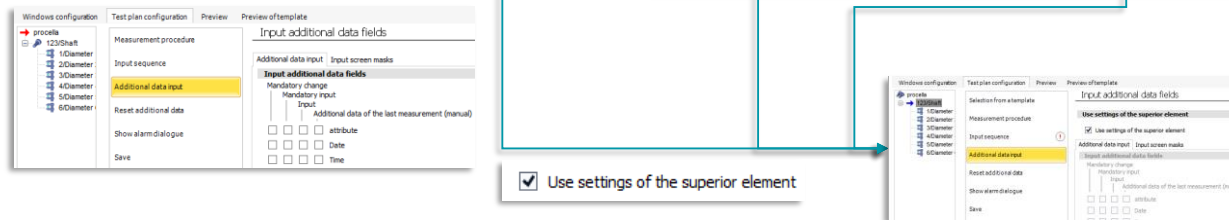


Standard level

Part level

Group level

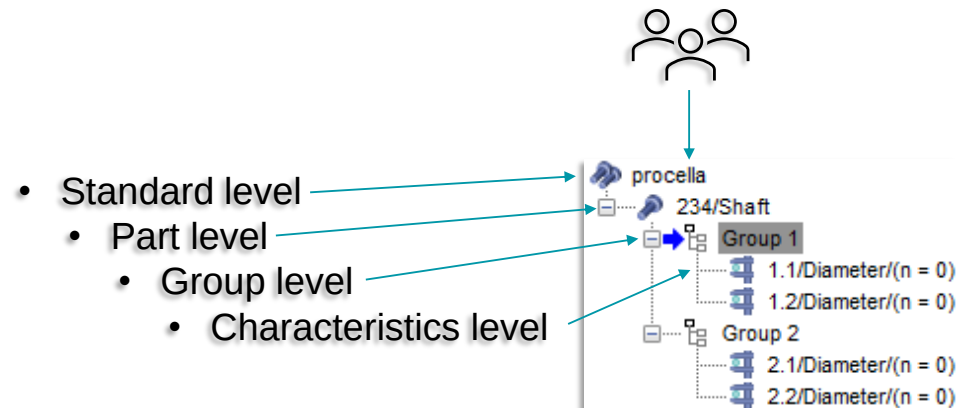
Characteristics level



Notes:

Standard level

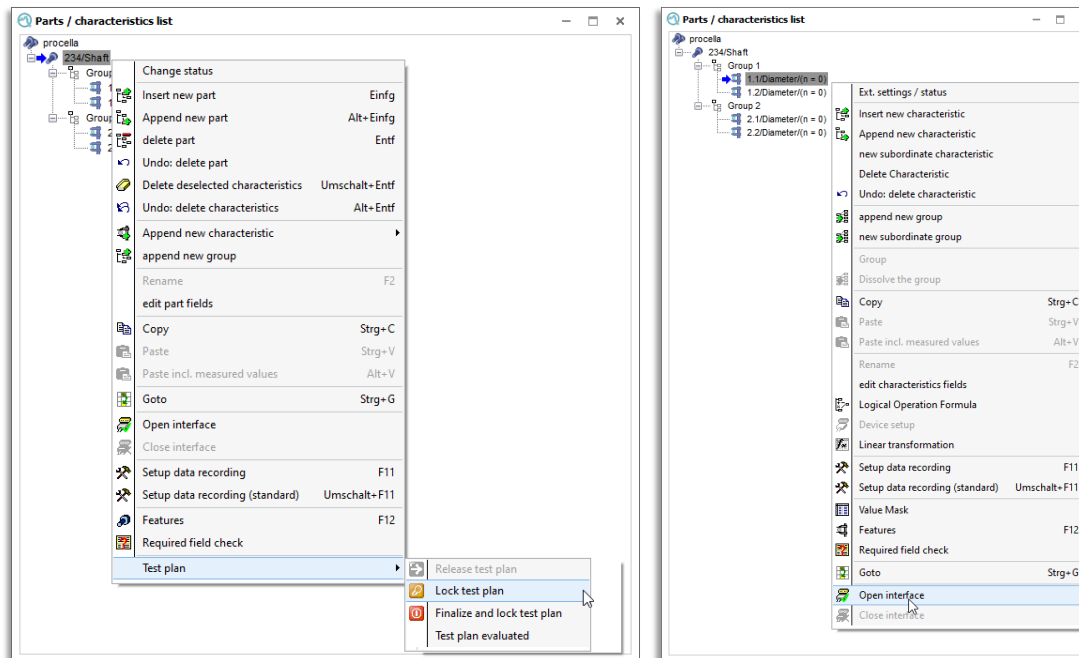
- The standard level is inherited from the user profile setting
 - It can be inherited from the group settings or via the ConfigurationUser
- The part level only applies exactly to the loaded file or data set
 - Settings that deviate from the standard are set here
- Changes on the standard level can be changed by the user depending on the authorization
- Changes on the part level are possible with the user right "Create/change test plan"
- The lowest configured level in each case is used for data acquisition(!)



Parts / characteristics list

- Depending on the level, different settings are possible
- E.g. the user cannot enter any more measured values after “Lock test plan” on the parts level
- This setting is not possible on the characteristic level

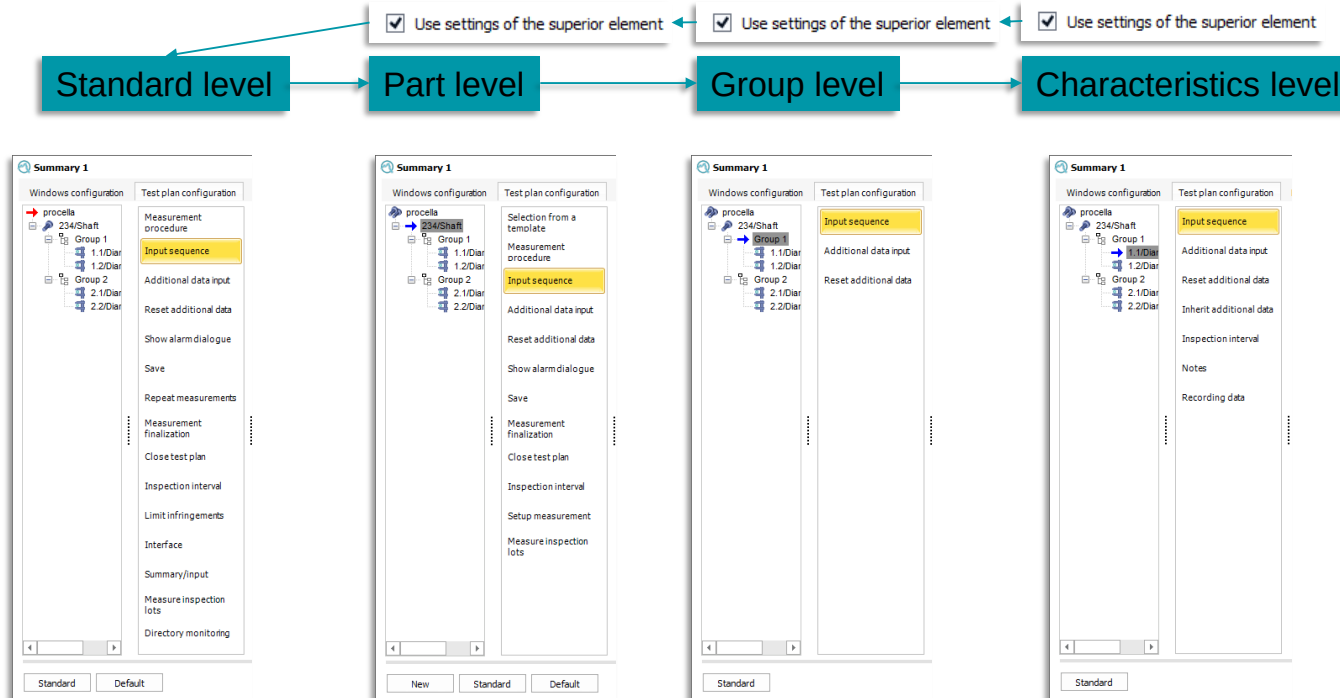
Notes:



Notes:

Configuration level settings

- Depending on the level, other context menus are offered in the configuration
- The lowest level of a setting will be used, if “use settings of the superior element” is not set



Notes:

Comparison of data set / standard settings*

- Standard level is used to make the same setting to a default setting for many users
- Best practice: the default level is distributed by configuration management or ConfigurationUser
- As few exceptions as possible ⇒ The default should match most test plans
- If exceptions are necessary for groups of users: use the configuration management
- If not feasible with the above options: special settings per data set (additional data, alarms...)

Standard:
Little effort
Few errors
User “knows how”



Exception:
Much effort
Many errors
User must be trained

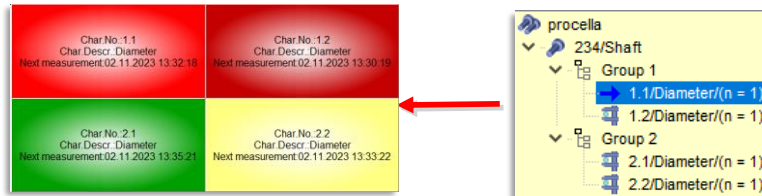


Notes:

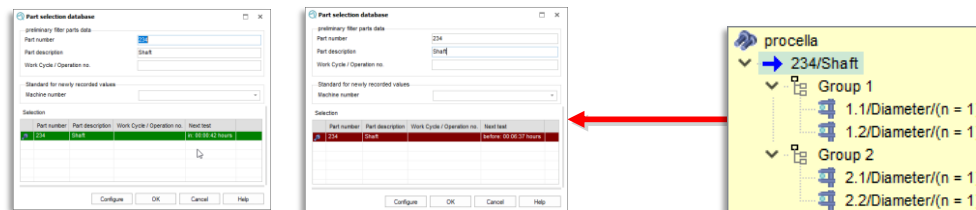
Inspection interval

- Inspection interval at characteristic and part level
- Display when measurements are due
 - Part level can be displayed in the part selection (database/file)
 - Characteristic level can be displayed with a timetable in summary input (data set must be loaded)
- When must "adjustment measurements" be carried out

Timetable for all characteristics



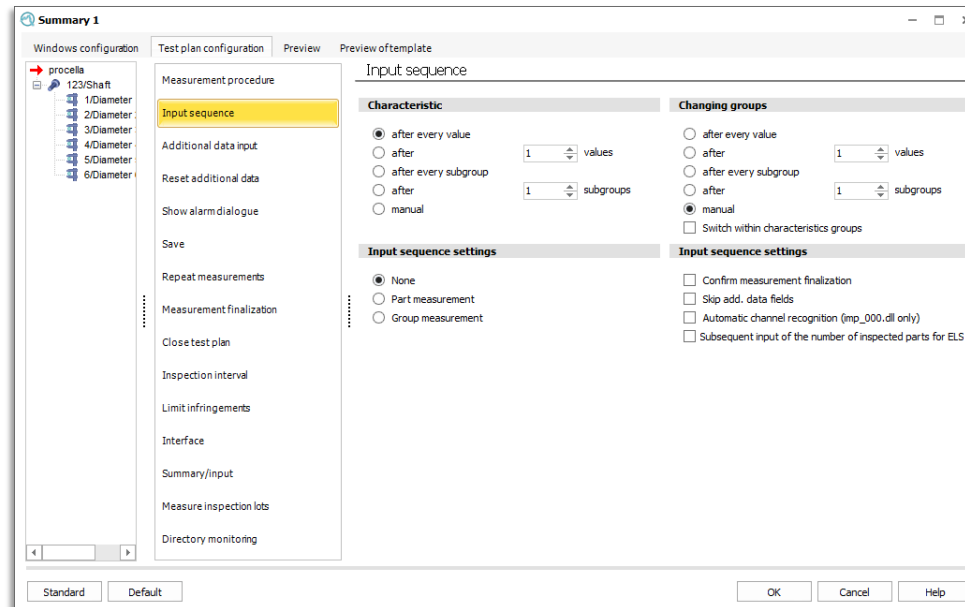
Part selection (database/file)



Input sequence

- The input sequence is defined at characteristic, part, group or standard level
- Changing the input sequence influences the behavior of the input window directly

Notes:



Notes:

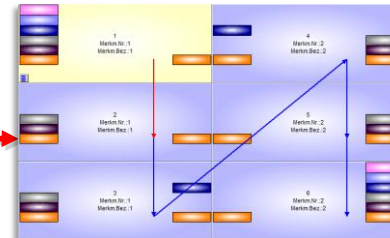
Input sequence

- The characteristic input change is intended to represent the real inspection sequence
- If the user measures all characteristics of the 1st part and then all characteristics of the second part, the characteristics change is set to after each value
- If the user first measures characteristic 1 for all parts of the sample and then the second characteristic for all parts, the characteristics change is set after each sample
- The sample size is taken from the characteristics mask

☐ after every value
☐ after
☒ after every subgroup
☐ after
☐ manual

1 values
 1 subgroups

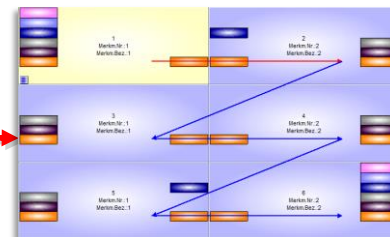
Characteristics change after each sample (here n=3)



☒ after every value
☐ after
☐ after every subgroup
☐ after
☐ manual

1 values
 1 subgroups

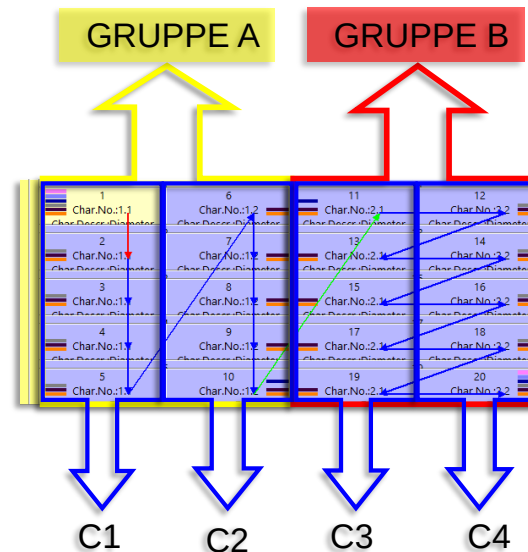
Characteristics change after each value (here n=3)



Notes:

Difference between characteristics change / group change

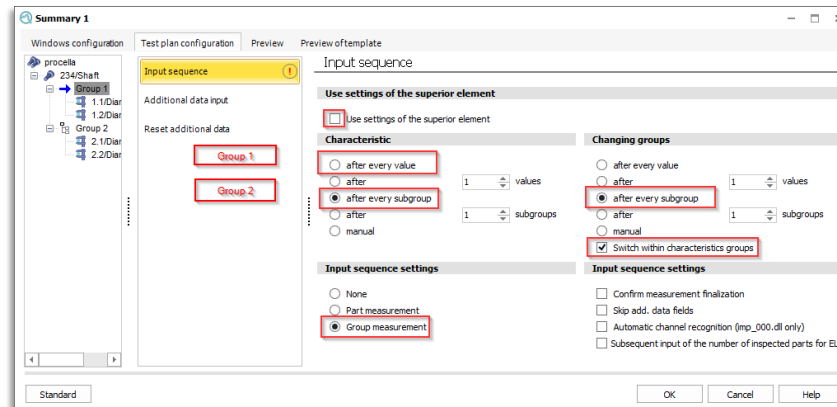
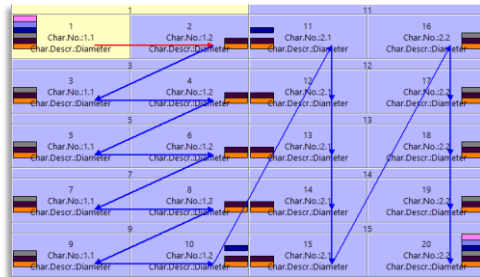
- Let's imagine data entry as a table:
 - Characteristic change means: "jump from column to column" or "from row to row"
 - Group change means: "jumps from the characteristics of the 1st group to those of the 2nd group" (green arrow = manual change)
 - Manual means: The user can change the characteristic/group how it is necessary



Notes:

Input sequence according to group settings

- Set the feature change at group level
- The options “Group measurement” and Change within feature groups are necessary
- If the group change is not set, a group change will only take place manually (recognizable when an arrow is shown in green in the diagram).

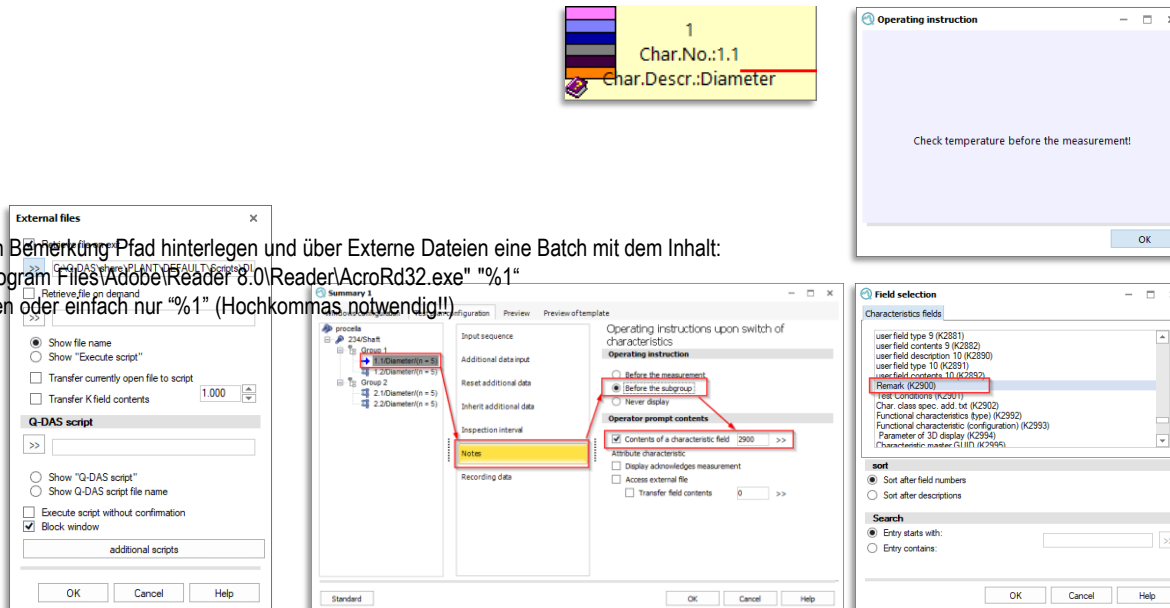


Notes

- Notes are set at the feature level
- All information from the characteristics mask can be displayed
- Do not set too many measurement notes as the input sequence will be interrupted!
- K-fields can be transferred to "batch" files

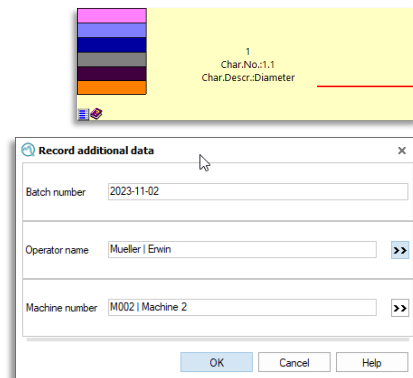
Notes:

z.B.: in Bemerkung Pfad hinterlegen und über Externe Dateien eine Batch mit dem Inhalt:
 "C:\Program Files\Adobe Reader 8.0\Reader\AcroRd32.exe" "%1"
 anlegen oder einfach nur "%1" (Hochkommas notwendig!!)



Additional data

- Additional data are set on characteristic, group, part or standard level
- The request for additional data is shown in the test plan as a list symbol
- Depending on the importance, a distinction can be made between
 - input (possibility)
 - Mandatory input
 - Mandatory change



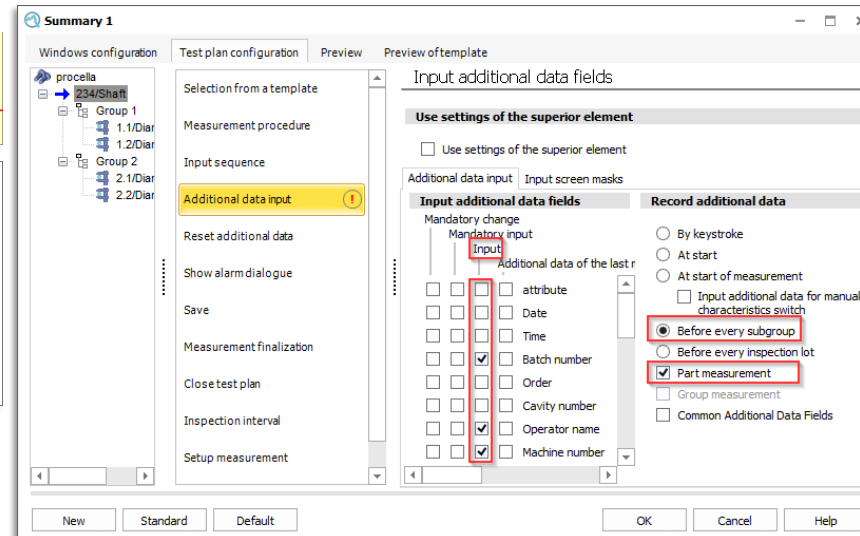
Record additional data

Batch number: 2023-11-02

Operator name: Mueller | Erwin

Machine number: M002 | Machine 2

OK Cancel Help



Summary 1

Windows configuration | Test plan configuration | Preview | Preview of template

procella

- 234/Shaft
 - Group 1
 - 1.1/Diar
 - 1.2/Diar
 - Group 2
 - 2.1/Diar
 - 2.2/Diar

Selection from a template

Measurement procedure

Input sequence

Additional data input

Reset additional data

Show alarm dialogue

Save

Measurement finalization

Close test plan

Inspection interval

Setup measurement

Input additional data fields

Use settings of the superior element

☐ Use settings of the superior element

Additional data input | Input screen masks

Input additional data fields

Mandatory change

Mandatory input

Additional data of the last r

attribute

Date

Time

Batch number

Order

Cavity number

Operator name

Machine number

Record additional data

☐ By keystroke

☐ At start

☐ At start of measurement

☐ Input additional data for manual characteristics switch

☒ Before every subgroup

☐ Before every inspection lot

☒ Part measurement

☐ Group measurement

☐ Common Additional Data Fields

New Standard Default

OK Cancel Help

Notes:

Notes:

Reset additional data

- Reset additional data is available at characteristic, group, part and standard level
- After the reset the additional data field is displayed empty and can directly be filled with a barcode scanner for example

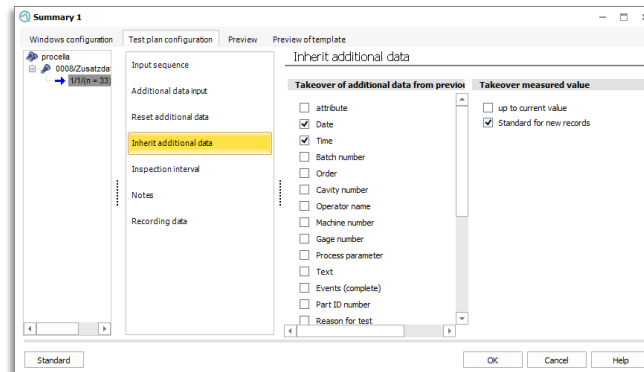
Without reset

With reset

Notes:

Inherit additional data

- Only available at characteristics level
- Information is always updated from the last additional data input of the same column without user interaction
- A use case: Data input of date/time from the past without an actual timestamp
- This functionality is mainly available because older Versions of the Software could not automatically write the additional data in the same way a modern procella can
- Disadvantage: if, for example, "Time" is taken over, the time entered in the column never changes! To circumvent this simply reset additional data after the sample
- If the user manually enters new additional data, the new content is then used
- If this option is used without knowledge, it can become a source for errors



Notes:

Alarm (general)

- The word alarm comes from the French "à l'arme" which means "to the arms!"
- Alarms in O-QIS are defined in the evaluation strategy
- There are "single value alarms" (e.g. value outside the tolerance)
- There are "sample alarms" (e.g. UCL of the quality control chart violated)
- Alarms only make sense for features whose alarms are not classified as "false alarms" (oh, tolerance limit violations don't matter for this characteristic...)



Notes:

Alarms in procella/O-QIS

- Alarms are defined with the evaluation strategy
- There are basically two main types: Single value alarms and sample alarms
- The QCC defined under "Preliminary QCC calculation" is used for the sample alarms

Evaluation

Positional tolerance
2. (p. 11/15)

Evaluation: Q-DAS Process Capability (2012)

Requirements variable
diameter100

Requirements attribute
diameter100

OK

Cancel

Print

Help

New

Change

Delete

Zoom in

Alarm and QCC configurations

General QCC warning messages Alarms Attribute alarms Preliminary QCC calculation

Alarm conditions

Only fields containing information are used.

Charact. Class	unimportant	of sec. Importance	important	significant	critical
Single value outside n% of a bilateral tolerance	100	100	100	100	100
Warning limit from n% of a bilateral tolerance	80	80	80	80	80
Single value outside n% of a tolerance with natural boundary	100	100	100	100	100
Warning limit from n% of a tolerance with nat. boundary	90	90	90	90	90
Single value outside a unilateral tolerance					
Acceptance criteria violated					
Individual value outside the scrap limits					
Control limit violation in location chart					
Alarm limit violation in location chart					
Warning limit violation in location chart					
Specification limit violation in location chart					
Run, trend or middle third in location chart					
Variation below control limit					
Variation above control limit					
Variation below warning limit					
Variation above warning limit					
Run, trend or middle third in variation chart					
Requirements according to evaluation method					
Average outside n% of a tolerance with trend process					
Warning limit from n% of a tolerance with trend process					
Eliminate individual values using a method					
Western Electric Rules location chart					
Western Electric Rules variation chart					
non plausible measured value (attribute 290)					
TSAP Confidence level of forecasted values outside tolerance					

☒ Identify measurement uncertainty alarms at specification limits

Location of the permitted interval within a bilateral tolerance

☐ centre around nominal

☒ centre around tolerance middle

☐ centre around target value

Acceptance Limits - alarms

☐ send AKG alarms only, if acceptance limits are expanded

OK Cancel Print Help

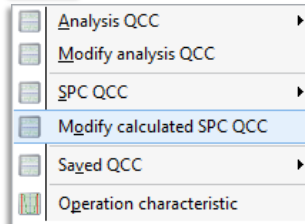
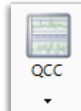
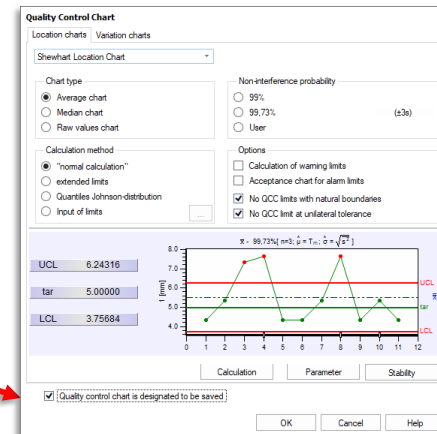


Modify calculated QCC in qs-STAT

- Open the data set in qs-STAT
- Open | Graphics | Control chart | Calculate SPC control chart
- Tick “Quality control chart is designated to be saved”
- Repeat for each characteristic (alternatively: | Results | Characteristics | Design 6)
- Save the file or data set from the database

Notes:

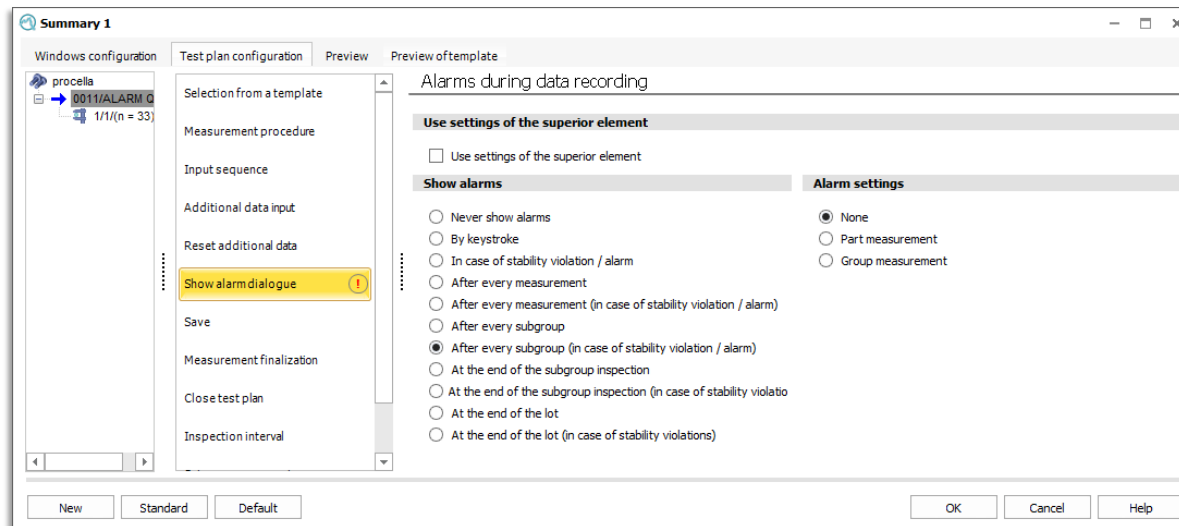
Graphics


☒ Quality control chart is designated to be saved


Notes:

Control of the alarm display

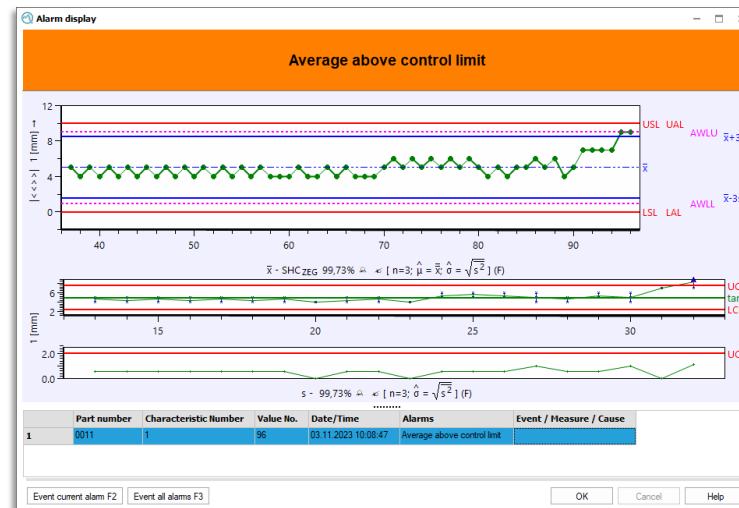
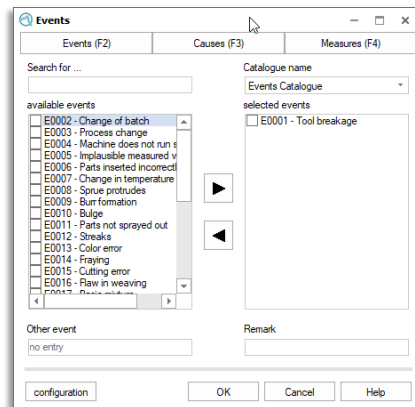
- Setting at standard or part level
- Use sparingly as each alarm represents an interruption to the workflow
- Alarm conditions must be understood by the user
- It must be clear: "What has to be done when the alarm occurs?"



Alarm display

- The reason for the alarm is displayed in the alarm display window
- The alarm can be provided with additional information via configurations/alarms/additional texts (saved for the evaluation strategy)
- Events/measures/causes can or must be entered
- A standard event must be defined to save the comment

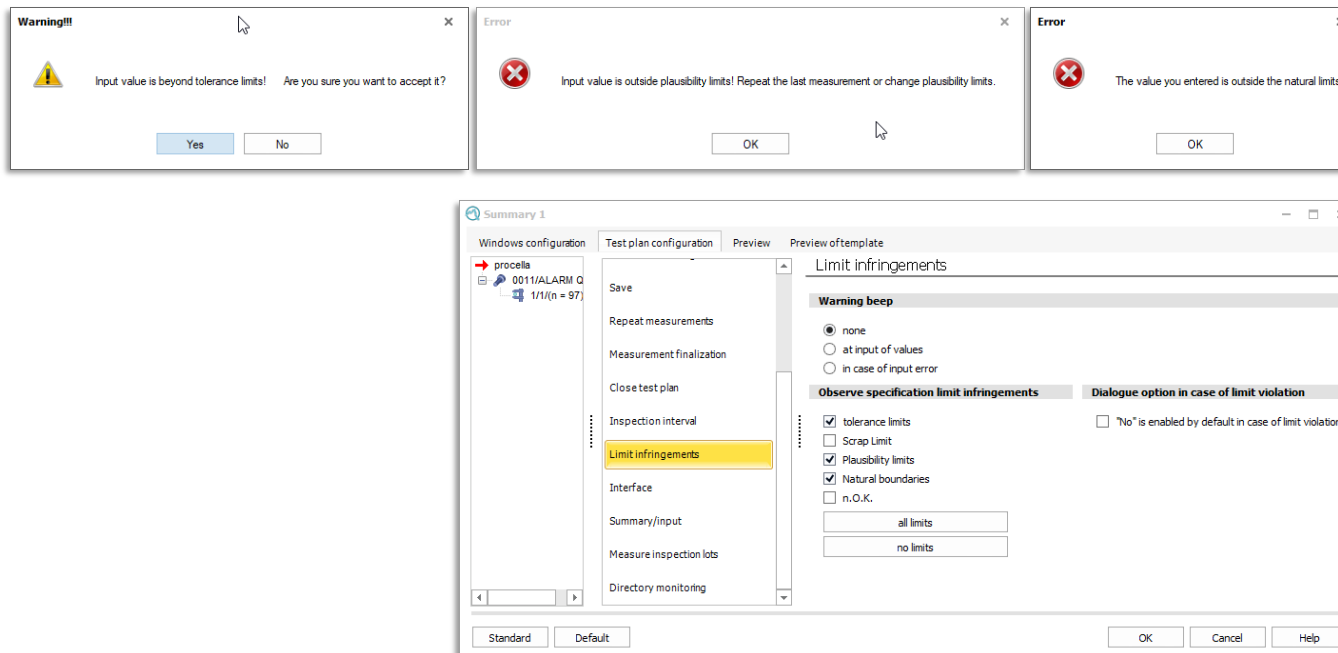
Notes:



Notes:

Limit infringements

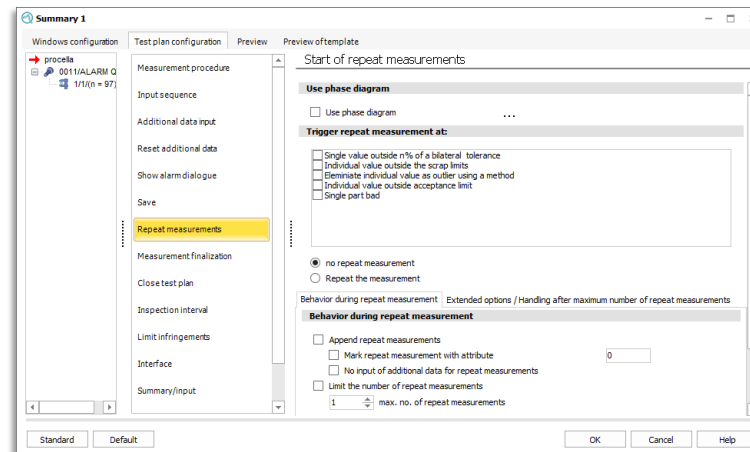
- Only available at standard level
- Used to prevent false alarms in the event of misspellings
- Limit violations will be displayed before an alarm triggers



Repeat measurements

- Repeat measurement at standard level
- Under what conditions should repeat measurements be taken (and how often)
- The number of repeat measurements can be limited
- Alarms must be active
- The repeat measurement is triggered automatically! (The user must be aware of this and recognize it)
- Phase diagram only active in projects with system integration

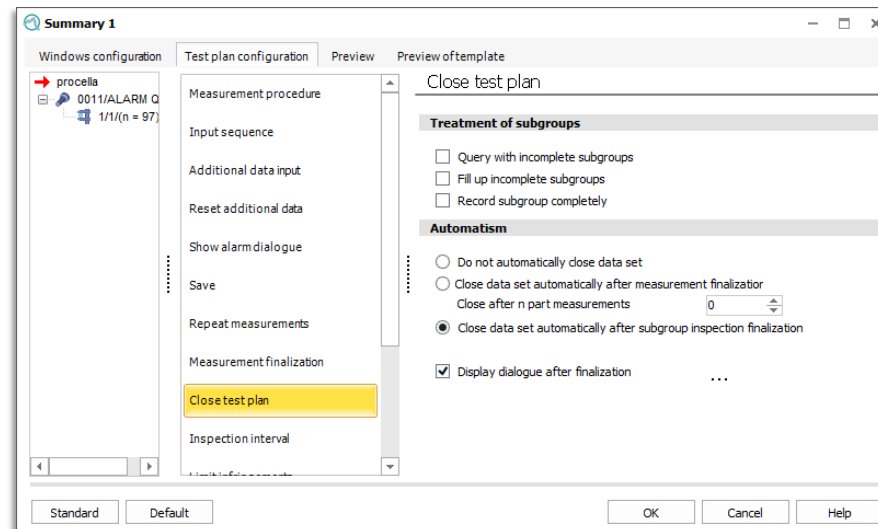
Notes:



Close test plan

- Close inspection plan at standard and part level
- Automatic closing of the data record
- Dialogues for subsequent measurements (open file etc.)

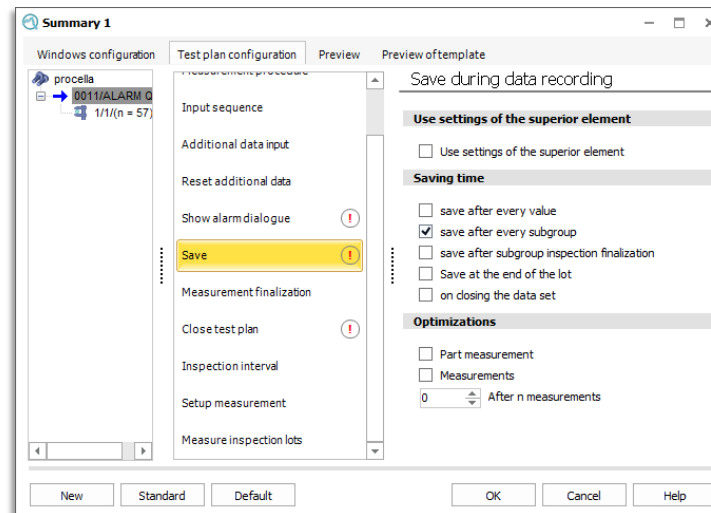
Notes:



Save

- Saving at part and standard level
- Protection against data loss
- The user must have “write” access to the "standard storage location"
- "Saving after each measured value may be the wrong solution depending on the network status or data set size"
- If the sample cannot be completed, it is saved incompletely

Notes:



Recording data

- Recording data is set at characteristic level (also: value mask)
- Display of "smileys" or "bars" in the graphical user interface are set in the graphical properties of the sample display (since V14)
- The Smiley/Bar display is only meant for the value mask since V14
- Different notations for the linear transformation

Char.Descr.:1

Input: measured value

67 1/3	4,000	
68 2/3	9,200	
69 3/3	10,010	

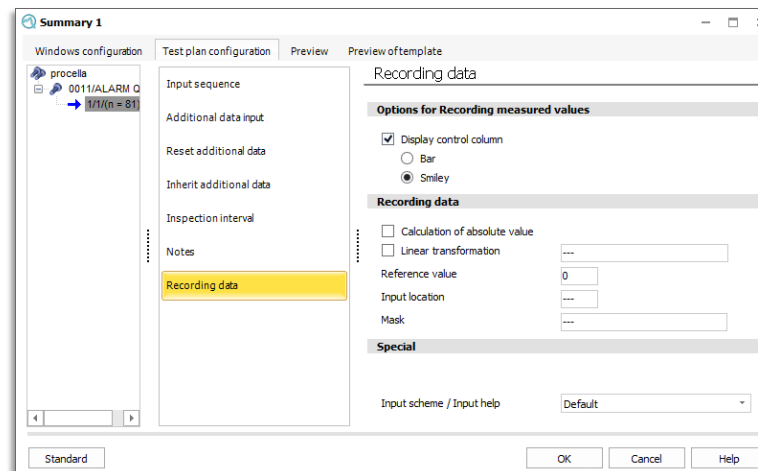
$\bar{x}_j$:7,7367 s_j :3,2613

Char.Descr.:1

Input: measured value

79 1/3	5,000	
80 2/3	9,200	
81 3/3	10,010	

$\bar{x}_j$:8,0700 s_j :2,6894

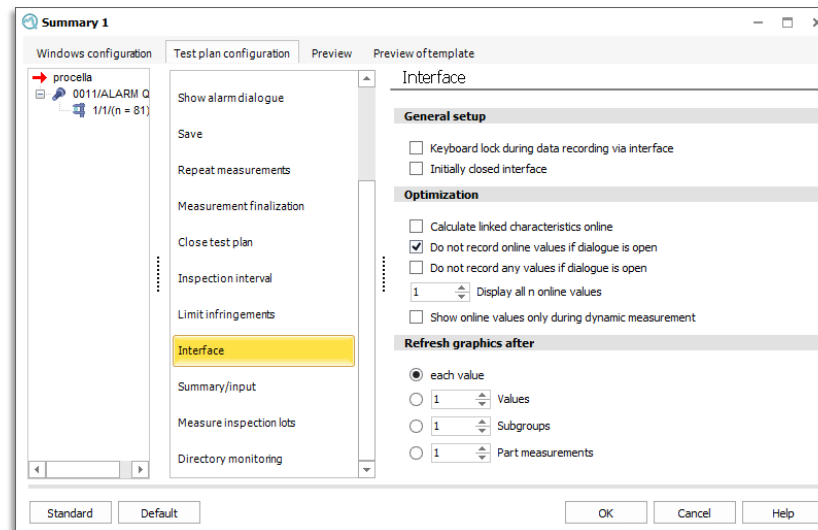


Notes:

Interface

- Interface is set at standard level
- Control of the graphical user interface when using RS232-based measuring devices
- Prevention of input errors with mixed keyboard and interface measurements
- Reduction of the display frequency for fast transfer of measured values (Necessary for slow PCs or very fast interfaces)

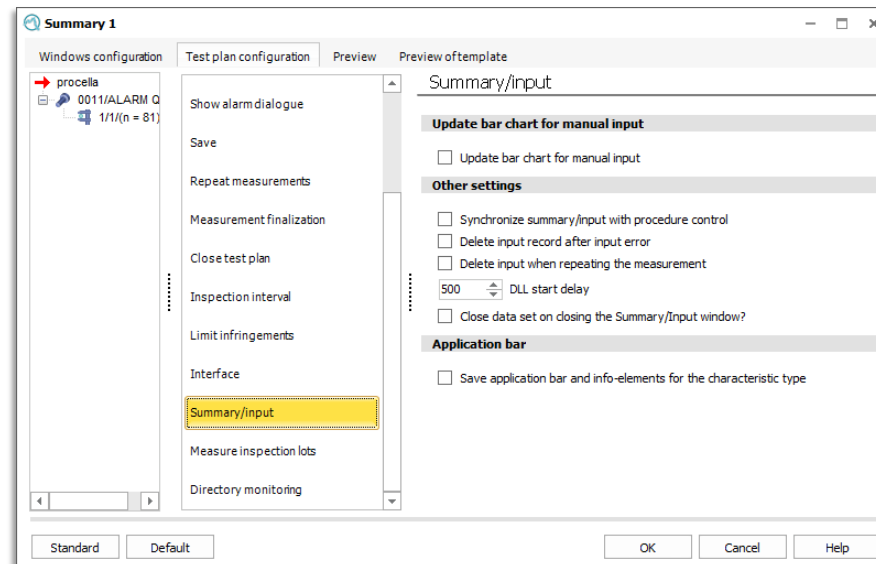
Notes:



Summary/input

- Summary / input is set at standard level
- Delete limit value violations (input errors) in the data record
- Influence the closing behavior of the input window

Notes:



Notes:

Measurement finalization

- Measurement finalization is set at standard and part level
- Main task: Keep data quality constant
- Activation in the input sequence (standard or part) is necessary
- The buttonbar of summary/input must include the button “Accept measurement”

