

CALYPSO

Option 4

DMIS CNC DATA OUT

Operating Instructions



The design and delivered components of the CMM, its options, the program packages, and the relevant documentation are subject to change.

This manual must not be circulated or copied, or its contents utilized and disseminated, without our express written permission. Persons misusing this manual are subject to prosecution.

All rights reserved, especially in cases of granting a patent or registering a utility model.

This manual is subject to modification. All rights pertaining to changes in the CMM and its options reserved.

All product names are registered trademarks or trademarks of the corresponding proprietors.

Although utmost care has been taken in preparing the information given in this manual, we cannot assume any liability for its completeness and correctness, except in case of willful intent.

Table of contents

Preface

Information about these operating instructions	Preface 1
Configuration of safety instructions	Preface 3

Chapter 1 DMIS export (option)

Basics about DMIS Export	1-2
Exporting a measurement plan to DMIS.....	1-3
Procedure of the export to DMIS.....	1-3
Configuring the DMIS export.....	1-3
Requirements for the DMIS export	1-4
Exporting a measurement plan to DMIS	1-5

Alphabetic index

Preface

Information about these operating instructions

The CALYPSO program consists of a base module and additional options for special purposes. You can customize the scope of program to fit your requirements.

These operating instructions describe an option of CALYPSO and are based on the assumption that the user is familiar with the operating instructions for the base module of CALYPSO.

NOTE

The additional CALYPSO options are described in separate manuals.

Reference information about the windows and dialogs can be found in the dialog reference in the CALYPSO Online Help.

Simply Measure – And what you should know to do it right, A metrology primer

Carl Zeiss, Industrial Metrology Division,

Order no.: 612302-9002

Text conventions

The following text conventions are used in these instructions.

Example	Description
Features	Text element of the graphics screen display.
Comment	The Comment button on the screen.
<machine name>	Variable text or dummy for a name.
C:\windows\w.ini	The w.ini file in the windows directory on the C:\ drive.
<i>For this section...</i>	A passage containing important information.

Example

➤ *Preface* [⇒ *Preface-1*]

Description

This is a cross reference. When viewing this manual on the screen, you will be guided to the indicated text passage by clicking the reference.

Plan → CNC-Start → Run

The **Run** command in the **CNC-Start** submenu of the **Plan** menu.

CTRL+A

Press the CTRL key and the letter A at the same time.

Icons

Three special symbols containing important information are used in this manual. The icons appear in the marginal column next to the respective text.

You will find a detailed explanation of the safety instructions under Configuration of safety instructions.

Configuration of safety instructions

Safety instructions indicate a personal health hazard. We distinguish three different levels: Danger, warning and caution. All three safety instructions are marked with the same warning symbol. The designation of the safety instruction is shown beside the symbol. The safety instructions used are described below.

Configuration of a safety instruction

A safety instruction may have the following components:

- Warning symbol and designation of the safety instruction (signal word): Danger, warning or caution.
- Source and cause of the danger
- Consequences for the user due to non-observance of the safety instruction
- Required measures to be taken by the user to avoid possible consequences
- A measure may cause an intermediate result.
- At the end of all measures, a final result may be caused.

Personal health hazard



⚠ DANGER

A »danger« indicates an imminent risk to life and limb.

Non-observance of this safety instruction when the described risk occurs causes death or serious injuries.

Example: Electric shock due to high electric voltage.



⚠ WARNING

A »warning« indicates a possible risk to life and limb.

Non-observance of this safety instruction when the described risk occurs may cause death or serious injuries.

Example: Risk of severe crushing of the body caused by heavy loads.



⚠ CAUTION

A »caution« indicates a personal health hazard.

Non-observance of this safety instruction when the described risk occurs may cause slight to moderate injuries.

Example: Risk of minor crushing of the limbs caused by small loads.

Risk of material damage

If there is no personal health hazard, but the CMM or components may get damaged, this is pointed out by the following notice.



This symbol refers to possible damage to the CMM.

Non-observance of this safety instruction when the event occurs may cause damage to the CMM or one of its components.

Example: Collision of the ram with a workpiece.

1

DMIS export (option)

This chapter contains:

Basics about DMIS Export	1-2
Exporting a measurement plan to DMIS	1-3

Basics about DMIS Export

CALYPSO can export a measurement plan as a DMIS program. The formats DMIS, version 3.0, as well as the special format UMESS with some extensions are available for that purpose. To do so, an integrated DMIS preprocessor runs to create and correctly compile the DMIS commands.

The DMIS export is an option of CALYPSO. You can license this functionality and have it enabled in your system if you want to use it. Contact your ZEISS Service for more information.

What is DMIS?

DMIS is called *Dimensional Measuring Interface Standard*. DMIS is a programming language used for programming mechanical, optical, laser and video measuring systems. DMIS is designed to be a programming language for a large number of measuring machines.

The vocabulary of DMIS is very large and resembles that of a genuine programming language: there are language elements for declarations and definitions of variables, loops, conditional jumps, mathematical functions, and coordinate transformations. There are also commands for measuring machine control such as positional movements, probing, geometric elements, measurements, stylus system changes, temperature compensation, etc.

DMIS-compatible measuring machines read the DMIS commands from an ASCII file and then perform the measuring run.

CALYPSO and DMIS

DMIS-compatible measuring machines cannot run measurement plans generated by CALYPSO unchanged. CALYPSO measurement plans must first be converted to DMIS format so that they can be processed by DMIS-compatible measuring machines as well.

A translator suitable for this purpose is called a *preprocessor*, because it becomes active *before* the DMIS file it creates is processed.

The DMIS option described here is just such a DMIS post processor for CALYPSO.

Exporting a measurement plan to DMIS

Procedure of the export to DMIS

To export a measurement plan to DMIS, you first have to configure the DMIS export. After that, call the **Export DMIS** menu item and specify the desired file name of the DMIS file.

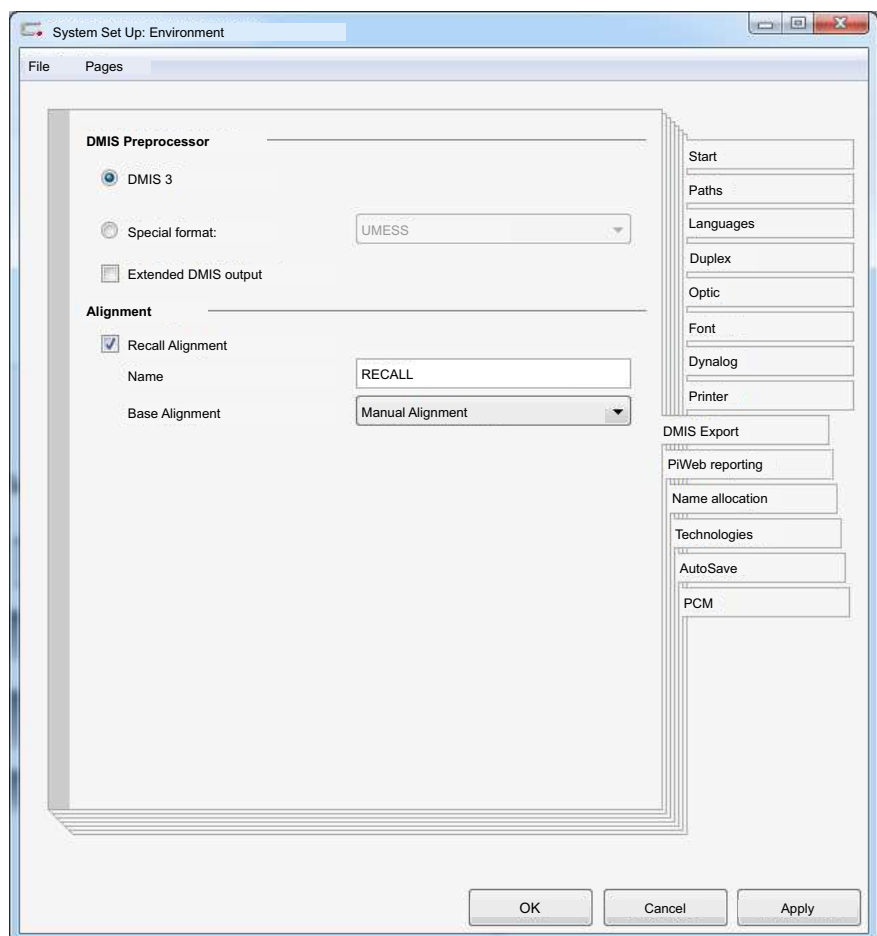
The **> requirements for DMIS export [⇒ 1-4]** must have been met.

What does the pre-processor do?

The preprocessor first internally converts the CALYPSO measurement plan into a sequential procedure and then translates it into DMIS format. The file created as a result can be used in any measuring machine with DMIS capability.

Configuring the DMIS export

- 1 Select **Extras** → **Settings** → **Environment** and click the **Export DMIS** tab.



- 2 Select the output format for your DMIS file:

- **DMIS 3** for DMIS Version 3.0
 - a **special format**, such as UMESS (with specific extensions)
- 3** Tick the **Activate extended DMIS output** check box if reconstruction of the original feature names shall be possible in case of a subsequent import of the DMIS program.
 - 4** Tick the **Recall Base Alignment** check box if you do not want to requalify the base alignment in the DMIS program to be exported but to have it loaded from the hard drive.

This makes sense, for example, if you intend to use different DMIS programs or measurement plans for qualifying the base alignment and for measuring the workpiece.
 - 5** Enter the name of the base alignment to be recalled and select the mode for alignment in the output DMIS program:
 - **Manual Alignment:** Alignment will be performed in the manual mode.
 - **CNC Alignment:** Alignment will be performed in the CNC mode.
 - **Existing Alignment:** No alignment will be performed during the DMIS run. The base alignment specified under **Name** will be loaded into the DMIS run.
 - 6** Accept the changes and close with **OK**.

Requirements for the DMIS export

To allow the preprocessor to transform the measurement plan into a valid DMIS run, the CALYPSO measurement plan must be complete and free of errors, i.e. it must be possible for CALYPSO to process the measurement plan.

This means, in particular, that the measurement plan must have the following elements that have been defined without errors:

- Definition of the styli
- Definitions of the features
- Definitions of the characteristics
- Runs (strategies)
 - Single points
 - Scanning paths
 - Intermediate positions
 - Navigation paths
 - Clearance distance
 - Retract distance

- Alignments
- Stylus system change (optional)
- Patterns (optional)
- Settings (optional)
- Loops (optional)

NOTE

DMIS recognizes only one single tolerance mode (“Number scale” in CALYPSO). The setting for “Amount” will therefore not be exported.

Exporting a measurement plan to DMIS

You can use the DMIS export to export a measurement plan to DMIS. For that purpose, it is necessary that you have configured the DMIS export and that the measurement plan meets the above mentioned [requirements for the DMIS export \[⇨ 1-4\]](#).

1 Select **File** → **Export** → **DMIS**.

Once all features have been defined in the measurement plan, a file selection window immediately appears.

If the measurement plan contains features that have not been defined fully, you will be asked whether you want to proceed.

2 Select the file name extension of the DMIS file to be created (*.dmi). *Note:* The DMIS file is a text file that you can view and edit, e.g. with WordPad.

3 Click **Save**.

The **Designator assignment Calypso - DMIS** dialog box appears on the screen. You see the names of the features in the CALYPSO measurement plan and the corresponding automatically generated DMIS designators (maximum 10 characters).

Note: Unlike CALYPSO, DMIS does not recognize any stylus systems. It only recognizes styli. Stylus names are furthermore automatically shortened to 10 characters, and their reference to the respective stylus system can thus be lost.

4 Select under **View** the method used by CALYPSO to automatically generate the DMIS designators from the CALYPSO names:

- **Normal:** All control characters are omitted.
- **Extended:** All control characters are omitted. If this results in empty designators, the English default names will be used.

5 If required, change the DMIS designators according to your wishes.

For example, you can specifically change the stylus name so as to restore the reference to the respective stylus system.

6 Press **OK** to confirm.

The export runs; in the **Progress... Translating to DMIS** window, you can follow the creation of the DMIS program.

A message confirming the end of the export appears.

7 After the export, click **End**.

8 Press **OK** to confirm.

Alphabetic index

D

DMIS export

Configuration 1-3

Procedure 1-3

Requirements 1-4

DMIS measurement plans

Basics 1-2

E

Export

Configuring to DMIS 1-3

