CSM 5120 Bench

Operation Guide

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2.0.2/Draft	10.10.2001	Revised status/error messages and added some descriptions
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Document Reviewed By

Version	Department/Function	Reviewer Name(s)

Software Version History

Version	Release Date	Comments

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CONTENTS

1   INTRODUCTION

CSM 5120 Bench Software is a registration system for package's identity, dimensions and weight.

The CSM 5120 Bench Software offers:
- CargoAMS Software:
  - Alibi storage on local hard-disk according to WELMEC.
  - Audit trail records for all changes in configuration
  - Error log for all errors/status during operation.
  - Interface to **CARGOSCAN** CS5120 Measuring Arm
  - Interface to **METTLER/TOLEDO** Panther/Spider/Digitol/ID20 scales and others
  - Interface to Barcode readers connected on serial port
- CSM Software:
  - Barcode verification, pattern check and/or checksum check (option)
  - Operator interface for sequential registration/input of information
  - Transfer of information to host (option)

The CSM 5120 Bench registration system has this layout from the top
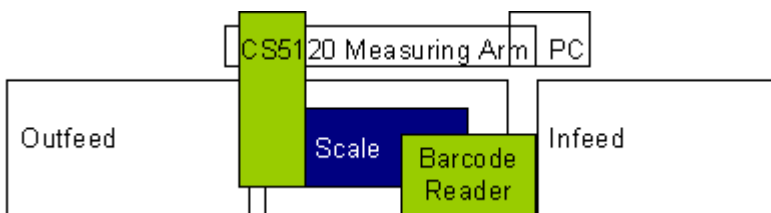
and this layout from the front
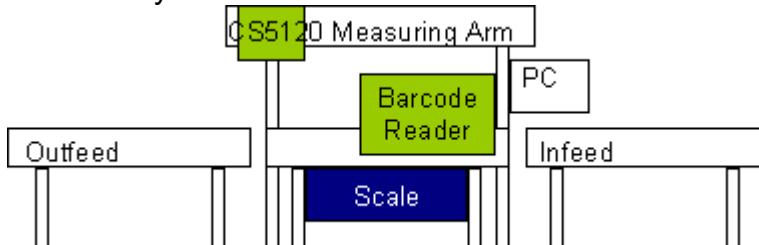
The measuring sequence is started whenever the barcode reader sees a barcode that is validated by the CSM software. Then the scale is to be stable before the CS5120 Measuring Arm is triggered to measure the dimensions.

2   OPERATION

Operation of the CSM 5120 Bench is easy. Below is a description on how the CSM 5120 Bench is operated.
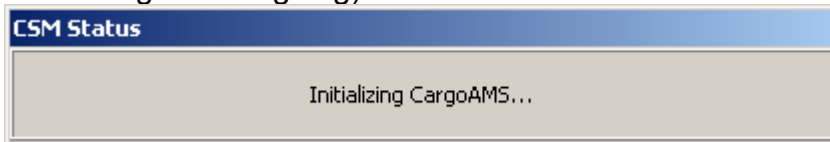
2.1   START REGISTRATION

The CSM 5120 Bench starts automatically when the PC is power-up or re-booted. If the CSM 5120 Bench is terminated manually, it can be started again by clicking on

the icon

or selecting "Start" -> "Programs" -> "CSM" -> "CSM" program (with the same icon as above).

The CSM then connects itself to the program CargoAMS (which is responsible for measuring and weighing):

2.2   STATUS MESSAGE/WARNING/ERROR

When a status messages/warning/error is reported to the operator, a dialog box is shown including the status to be shown. Depending on the severity of the status/warning/error the status will either dissappear by itself after a configured number of seconds, or stay on the screen until the operator takes some action. All status messages/warnings/errors are explained in separate chapter

Below is an example of a status message
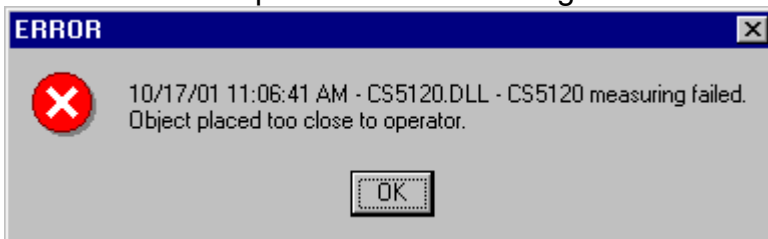
The status message will disappear when pressing the Ok button or pressing Enter button. Some status message of informational type will disappear by themselves after configured number of seconds.

2.3   REGISTRATION DIALOGUE

The registration dialogue when the CSM 5120 Bench is operated is shown below.

The registration dialogue box contains 2 fields:

- Current:	Contains the leading text for all information to be registered with fields where the data is shown. The fields are:
	AWB: The field with the AWB number
	Length: The measured length of the package
	Width: The measured width of the package
	Height: The measured height of the package
	Weight: The measured weight of the package
	Payable weight: The calculated payable weight of the package, which is the maximum of the volumetric weight and the weight itself.
- Last 50 packages:	Contains the AWB and the measured values for the last 50 measured packages. The fields are the same as for the Current package, with additional the Date&Time which is when the package was measured and the Idx which is an internal sequence number to keep track of the measurements.

The menu consists of:

Menu	Pop-up menu	Key	Description
Action	View messsages	F3	View messages and buffers
	Configure	-	Enter configuration
	Exit	Alt-X	Exit/Terminate CSM
Functions	About	F1	Show information about CSM
	Clear screen	F2	Clear the content of the "Current" fields
	Reset statistics	F4	Reset statistical counters
	Statistics	F5	Show the statistical counters at the bottom of the screen
	Measure	F6	Start a measurement
	Cancel	F7	Cancel ongoing measurement
	Exit	F8	Exit/Terminate CSM

The tool-bar consists of:

Button	Menu	Key	Description
	About	F1	Show information about CSM
	Clear screen	F2	Clear the content of the "Current" fields
	Reset statistics	F4	Reset statistical counters
	Statistics	F5	Show the statistical counters at the bottom of the screen
	Measure	F6	Start a measurement
	Cancel	F7	Cancel ongoing measurement
	Exit	F8	Exit/Terminate CSM

2.4 REGISTRATION SEQUENCE

CSM 5120 Bench follows the same registration sequence for all types of packages.

I-a.   The operator identifies the AWB of the package with the barcode reader.

I-b.   If the AWB of the package cannot be read with the barcode reader, the operator must enter the AWB manually.
While entering the AWB the field turns to red to indicate that the entered information so far is not correct. When the proper number of digitis and checksum is entered the fields turn to white to indicate that the reading is correct. Then press the Enter key to start the measurements.
To obtain alphabethic characters on the ID20 PC, use the down-arrow to open the alphabethic characters and use the arrows and then Enter to select the character.

I-c.   If there is no barcode on the package, use any default barcode or use

"Functions" -> "Measure" or the function key F6 with the icon .
(If CSM is configured to allow measurements without AWB).

> NB!:   Remember that if the previous package was measured WITH an AWB number then this AWB number is still present in the field AWB:.

Remember to clear this off with "Functions" -> "Clear screen" or the function key F2 with the icon ⬜ . If not this is done, then the next measurement will be using the same AWB number as the previous one. Only when AWB field is empty, the measurements will not belong to any AWB number.

II.   Measurement is now started, by first triggering the scale. When the scale is stable, the Measuring Arm is triggered.

III-a. If all measurements are Ok, all fields are greyed and will stay on the screen until the next AWB is read. However, the operator will see that the measurements have popped up in the Last 50 packages field.

III-b. If any measurement is wrong, a dialog box shows the reason for the measurement not beiing Ok.
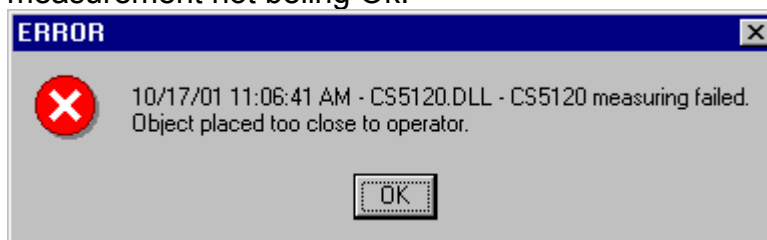
First the operator must clear this warning, and then the fields with error are populated with the text ERROR(n) where n is the error number.

Then the operator can select between two alternatives:

Alt I: The operator can manually enter the values in the fields with ERROR, thus the dimensions or weight has to be manually obtained, which can be time consuming. On the other hand it could be that the item is not measurable, which means that the values must be manually keyed in.

Alt II: The operator can cancel out the existing measurements and ERRORs by using "Functions" -> "Cancel" or the function key F7 with the icon . Then all measurement fields are emptied, thus the AWB field is still populated with the entered AWB-number.
To re-measure the item, use the "Functions" -> "Measure" or the function key F6 with the icon .

2.5 CLEAR SCREEN

The fields in the Current section can be cleared for information when there is not any ongoing measurements. Use "Functions" -> "Clear screen" or the function key F2 with the icon . If there is any ongoing measurements (the button is greyed and is "pressed down" on the screen), first cancel the ongoing measurements with the "Functions" -> "Cancel" or the function key F7 with the icon .

2.6 RESET STATISTICS

The CSM 5120 Bench makes statistical records of the measurements.
These are viewed with "Functions" -> "Statistics" or the function key F2 with the icon (see next chapter). To reset the statistical records, use "Functions" -> "Clear statistics" or the function key F4 with the .

2.7 STATISTICS

The CSM 5120 Bench makes statistical records of the measurements.

Use "Functions" -> "Statistics" or the function key F2 with the icon to turn the viewing of the statistical records on and off. When the statistical records is on the button looks like it is "pressed down" on the screen.
It is therefor possible to select if the statistical records are shown at all times or only when wanted to be seen.

The statistical records includes number of packages in the time period given, and the throughput of packages pr last hour and last day.

2.8 CANCEL ONGOING MEASUREMENTS
The measurements can be cancelled by the operator.
If the operator sees that something is wrong, the operator can cancel the measurements rather than wait until the masurements times out with an error.
To cancel the measurements, use "Functions" -> "Cancel" or the function key F7 with

the icon .

2.9 RE-MEASURE
If the measurements reported some error, maybe that the package was outside the measurement borders, the operator can move the package inside the measurement borders and re-measure the object instead of clearing off the measurements and re-read the AWB or re-enter the AWB manually.
To re-measure use "Functions" -> "Measure" or the function key F6 with the icon

, but this is only possible after the measement fields have been cleared with the

"Functions" and "Cancel" or the function key F7 with the icon .

2.10 SHOW MESSAGES AND BUFFERS

This function is more for installation and service operators and will show this window:
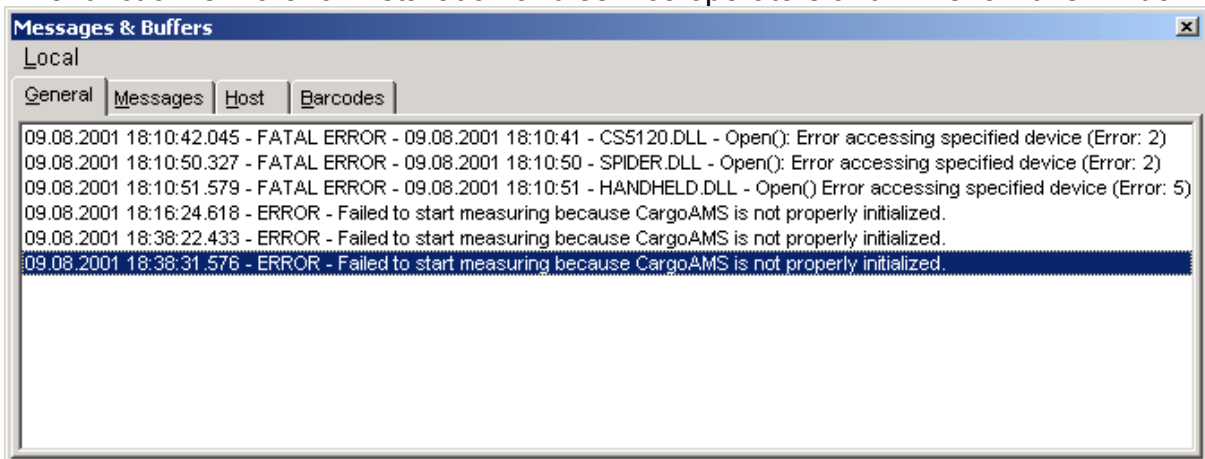
This window shows:

I. The general status/warnings/errors in the tab-sheet "General"
II. The activity between the CargoAMS software and the CSM software in the tab-sheet "Messages"
III. The entered AWB numbers that will not be repeated in the tab-sheet "Barcodes
IV. The status of the host protocol in the tab-sheet "Host" (only valid when any Host is enabled, which is an option for the system)

This window is good for reporting any errors or finding out what is happening in the CSM 5120 Bench application.

To enter this window use "Functions" -> "Message&Buffer" or the function key F3 with the icon

2.11 ABOUT CSM 5120 BENCH

To show the information about the CSM 5120 Bench, use "Functions" -> "About" or

the function key F1 with the icon
This dialogue box is shown:

About CSM   ×

CSM 5120 Bench Scale

Copyright © Cargoscan, 2001-2002
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FileVersion: 1.0.2.13
Checksum: 0xBEAAAAEA

Total 2 packages measured since 10/29/2002 12:29:23 PM

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Close - F1

Close the window by pressing F1 again or Enter.

2.12 EXIT OPERATION

To exit the operation use "Functions" -> "Measure" or the function key F8 with the

icon [icon]. When exiting the application will confirm the operation with the dialog box:

Confirm   ×

? Are you sure you want to exit from CSM?

Yes   No
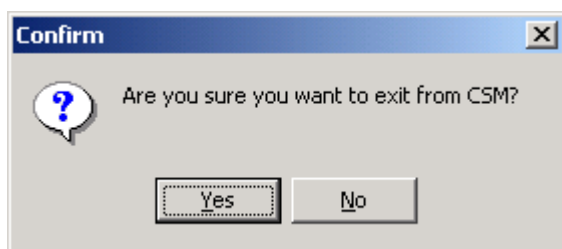
This is just to avoid any unwanted exit of operations, due to accidentally pushing the exit key.

3   STATUS MESSAGES

Below is the different status messages that can occur in the application.
These messages are supposed to be solved by the operator himself.
Any information in brackets as <*what*> means that the text *what* will include
information depending on the status received.

3.1   CS5120 MEASURING ARM

These are the status messages received from the CS5120 Measuring Arm.

CS5120 *GENERAL INFORMATION*	ACTION (*IF NO ACTION IS GIVEN*)
CS5120 is ready to measure	Check connections and power
CS5120 reported other status or error code: <number>	Look up the <number> in the CS5120 Measuring Arm manual
Wagon stopped by anti-collision mechanism.	Re-do measurements
Timed out while waiting for measurement results.	-
Timed out while waiting for zeroing results	-
Timed out while waiting for version	-
The polygon has stopped. Press START or ZERO. The polygon will start and the instrument will be ready after 2-3 seconds	-
CS5120 requests a ZERO command to do zeroing.	-
Operation cancelled	-

CS5120 *MEASUREMENT STATUS*	ACTION (*IF NO ACTION IS GIVEN*)
Object placed too close to stand	Re-do measurements
Object placed too close to operator	Re-do measurements
Object placed too far right	Re-do measurements
Object placed too far left	Re-do measurements
Object toohigh to be measured	-
Object too small	-
Object too large	-
Object in unstable position	Re-do measurements
Object in wrong size-defined area	-
Attempt to measure when no object or too small object on scale/table.	-
Package is too long to be measured	-
Object shape too complex for processing algorithms	-
Too high reflection on parts of the object	-
Too low reflection on parts of the object	-
Two objects beside each other	-
CS5120 measuring failed	Re-do measurements

CS5120 *ZEROING STATUS*	ACTION *(IF NO ACTION IS GIVEN)*
Warning during zeroing: Surface to place object on is below field of view	-
Warning during zeroing: Surface to place object on is so high that the highest parcel will go above field of view	-
Zeroing field not level	-
Zeroing field skewing down on operator side	-
Zeroing field skewing down on stand side	-
Zeroing field skewing down on right hand side	-
Zeroing field skewing down on left hand side	-
Ball units found when setup for plan surface	-
Setup for ball units on surface but none is found	-
CS5120 zeroing failed	Re-do zeroing

3.2 SCALE

These are the status messages received from the scale.

SCALE *GENERAL INFORMATION*	ACTION *(IF NO ACTION IS GIVEN)*
Timed out while waiting for measurement results.	-
Timed out while waiting for zeroing results	-
Timed out while waiting for version	-
Negative weight value. The scale requires zeroing	-
Operation cancelled	-
Other scale error. Indicator: <information>	-
Device overload/positive.	Zero the scale

SCALE *MEASUREMENT STATUS*	ACTION *(IF NO ACTION IS GIVEN)*
Unstable/dynamic scale	-
Stable weight	-
Device underload/negative	-
Device overload/positive	-
Zero weight. Place the package onto the weighing platform or the scale requires zeroing	-

3.3 CSM

These are the status messages received from CSM application.

CSM *GENERAL INFORMATION*	ACTION *(IF NO ACTION IS GIVEN)*
A package with this AWB number is already measured. Do you really want to measure it again	-
CSM is already measuring. Wait until the current measurement is finished.	-
Received unexpected measuring results	-
Statistical counters reset due to overflow	-
The CSM is already running. Only one instance is allowed to run. Do you want to switch to the existing instance.	When selecting No, this instance of CSM is closed.

4 ERROR MESSAGES

Below is error messages that can occur in the application.
These messages are supposed to be solved by a supervisor or trained personel
Any information in brackets as <*what*> means that the text *what* will include
information depending on the status received.

4.1 CS5120 MEASURING ARM

These are the error messages received from the CS5120 Measuring Arm.

CS5120 *GENERAL ERROR*	ACTION *(IF NO ACTION IS GIVEN)*
Failed to execute <function> because DLL is busy	-
The driver is busy. Requested operation failed.	-
Module is already initialized	-

CS5120 *SERIAL PORT ERRORS*	ACTION *(IF NO ACTION IS GIVEN)*
Error accessing specified device (Error: 2)	Check serial port parameters
Error accessing specified device (Error: 5)	Check serial port parameters
Error updating DataControlBlock (Error: 6)	-
Communication port is not opened	-
Data buffer is full	-
Receive buffer is full. Data from CS5120 lost	-

CS5120 *PROTOCOL ERRORS*	ACTION *(IF NO ACTION IS GIVEN)*
Data telegram from CS5120 does not have expected length	Wrong device connected?
Unknown units in CS5120 data	Wrong device connected?
Failed to convert a value in CS5120 data telegram	Wrong device connected?
Illegal telegram from CS5120	Wrong device connected?
Wrong sequence number from CS5120. Expected <sequence>, but received <sequence>	-
The telegram from CS5120 has checksum error. Expected <checksum>, but received <checksum>	-

4.2 SCALE

These are the status messages received from the scale.

SCALE GENERAL ERROR	ACTION (IF NO ACTION IS GIVEN)
Failed to execute <function> because DLL is busy	-
The driver is busy. Requested operation failed.	-
Module is already initialized	-

SCALE SERIAL PORT ERRORS	ACTION (IF NO ACTION IS GIVEN)
Error accessing specified device (Error: 2)	Check serial port parameters
Error accessing specified device (Error: 5)	Check serial port parameters
Error updating DataControlBlock (Error: 6)	-
Communication port is not opened	-
Data buffer is full	-
Receive buffer is full. Data from scale lost	-

SCALE PROTOCOL ERRORS	ACTION (IF NO ACTION IS GIVEN)
Data telegram from scale does not have expected length	Wrong device connected?
Unknown units in scale data	Wrong device connected?
Failed to convert a value in scale data telegram	Wrong device connected?
Illegal telegram from scale	Wrong device connected?

4.3 BARCODE READER

These are the status messages received from the barcode reader:

READER GENERAL ERROR	ACTION (IF NO ACTION IS GIVEN)
Failed to execute <function> because DLL is busy	-
The driver is busy. Requested operation failed.	-
Module is already initialized	-

READER SERIAL PORT ERRORS	ACTION (IF NO ACTION IS GIVEN)
Error accessing specified device (Error: 2)	Check serial port parameters
Error accessing specified device (Error: 5)	Check serial port parameters
Error updating DataControlBlock (Error: 6)	-
Communication port is not opened	-
Data buffer is full	-
Receive buffer is full. Data from scanner lost	-

READER PROTOCOL ERRORS	ACTION (IF NO ACTION IS GIVEN)
Data telegram from scanner is shorter than expected	Wrong device connected?
Illegal telegram from scanner	Wrong device connected?

4.4 CARGO**AMS**

These are the error messages received from CargoAMS software.

CARGO**AMS** GENERAL ERROR	ACTION (IF NO ACTION IS GIVEN)
The CargoAMS is not properly installed. Please re-install CargoAMS from the installation CD.	-
CargoAMS terminated due to Windows shut down	-
Received an invalid data record from the process module	-
Internal data buffer is not initialized	Re-start PC

CARGO**AMS** FILE ERRORS	ACTION (IF NO ACTION IS GIVEN)
Alibi memory is full	Re-configure the size of alibi memory
Audit Trail log is full	Re-configure the size of audit trail log
Error log is full	Re-configure the size of error log
Alibi memory does not exist or failed to open	Re-configure the alibi memory.
Failed to store changed parameters to the disk file	Re-configure audit trail log.
Failed to rename storage file	-
The storage file with name "filename" already exists. Do you want to use existing storage with its parameters or create new file with parameters you have specified? Press "Yes" to use existing storage or "No" to create new one	-
The file with name "filename" already exists. Do you want to overwrite it?	-
The storage is not ready. Failed to resize	-
Failed to get a temporay file name from OS	-

4.5 CSM

These are the error messages received from CSM application:

CSM GENERAL ERRORS	ACTION (IF NO ACTION IS GIVEN)
CSM failed to find the previous instance. Reason: <explanation>	Re-start the PC.
Failed to load library <library>. Reason: <explanation>	Re-start the PC.
Failed to get address of the function <library>. Reason: <explanation>	Re-start the PC.
Failed to initialize error handler. The application will shut down	Re-start the PC

CSM-CARGOAMS INTERFACE ERRORS	ACTION (IF NO ACTION IS GIVEN)
Failed to initiliaze CargoAMS. Try to start the CargoAMS alone and check the configuration and that CargoAMS works properly.	-
Failed to register the ReadNextBarcode() function. Check the CargoAMS configuration and restart CSM	-
Failed to start measuring because CargoAMS is not properly initialized	Re-initialize CargoAMS
Failed to read measurement data. Reason: <explanation>	-
Failed to write the measurement result to the Alibi memory. Reason: <explanation>	-
The result will be not saved to the ALibi memory	-

CSM BARCODE VALIDATION ERRORS (ONLY VALID IF BARCODE VALIDATION OPTION IS ENABLED)	ACTION (IF NO ACTION IS GIVEN)
Failed to initialize the barcode validation module Reason: <explanation> All barcodes will be accepted	-
Failed to initialize the barcode Unable to get address for the function <function> Reason: <explanation> All barcodes will be accepted	-
Failed to initialize the barcode The specified module is of a wrong type Reason: <explanation> All barcodes will be accepted	-

CSM *HOST MODULE ERRORS* *(ONLY VALID IF HOST OPTION IS ENABLED)*	ACTION *(IF NO ACTION IS GIVEN)*
Failed to initialize the host module Reason: <explanation> No data will be sent to the host neither saved locally	-
Failed to initialize the host module Unable to get address for the function "xxx" Reason: <explanation> No data will be sent to the host neither saved locally	-
Failed to initialize the host module The specified module is of a wrong type Reason: <explanation> No data will be sent to the host neither saved locally	-
Failed to delete backup file Reason: <explanation>	-
Failed to write data to backup file Reason: <explanation>	-
Host module rejected data Some fields may have illegal values	-

4.6   HOST MESSAGES

These are the status messages received from the host protocol driver for CSM.

CSM *HOST MODULE GENERAL ERRORS* *(ONLY VALID IF HOST OPTION IS ENABLED)*	ACTION *(IF NO ACTION IS GIVEN)*
Cannot open file <install directory>\<file>	-
Invalid host message	-
Host timed out	-

CSM *HOST MODULE SERIAL PORT ERRORS* *(ONLY VALID IF HOST OPTION IS ENABLED)*	ACTION *(IF NO ACTION IS GIVEN)*
Error accessing specified device (Error: 2)	Check serial port parameters
Error accessing specified device (Error: 5)	Check serial port parameters
Error updating DataControlBlock (Error: 6)	-