# CS5000 FRAMES

# **Operators Manual**

Cargoscan A/S, October 1996



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#### Federal Communications Commission Radio Frequency Interference Statement

**WARNING:** This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing device pursuant to Subpart J or Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

**NOTE:** In order to meet Class A emission limits, the I/O cables that interconnect between the device and any peripheral must be shielded.

#### 1.0 Introduction

This Operators manual is written for those of you who will be using the CS5000 Frame in your daily routine of dimension measuring. The CS5000 Frame measures automatically the dimensions of all objects brought through it on a pair of conveyors. The apparatus does not produce any sound or visible light during operation.

The CS5000 Frame is easy to use and requires no special previous knowledge, but since there are some important topics you should be familiar with before you can carry out volume measurement we recommend that you read trough this manual before you start using the Frame.

The indicator CS2200 is used to operate the CS5000 Frame and to display the Measurements.

The Frame is equipped with two serial ports. One for connection to the indicator (IND port) and one for connection to an external computer (HOST port).

Immediately after finishing a measurement the results are displayed on the indicator unit and sent to the external computer port.



Figure 1.1: CS5000 Frame mounted in conveyor system.

#### **1.1 Technical Specifications**

The Frames exists in two versions:

Standard Frame CS5000 High speed Frame CS5000HS

The Frames are also manufactured in two sizes, Size 1 and Size 2, defined on the next page.



### Models and part numbers:

	SUPPLY	HOST	ORDER	PART
DESCRIPTION	VOLTAGE	INTERFACE	NO	NO
Standard Frame, Size 1,	120VAC	RS-232	CS5000 0001	550333
CS2200 Display,		RS-422	CS5000 0011	550337
Host Cable, and Power	220VAC	RS-232	CS5000 0002	550332
cable		RS-422	CS5000 0012	550334
Standard Frame, Size 2,	120VAC	RS-232	CS5000 0101	550443
CS2200 Display,		RS-422	CS5000 0111	550447
Host Cable, and Power	220VAC	RS-232	CS5000 0102	550442
Cable		RS-422	CS5000 0112	550444
High Speed Frame, Size 1,	120VAC	RS-232	CS5000 1001	550336
CS2200 Display,		RS-422	CS5000 1011	550339
Host Cable, and Power	220VAC	RS-232	CS5000 1002	550335
Cable		RS-422	CS5000 1012	550338
High Speed Frame, Size 2,	120VAC	RS-232	CS5000 1101	550446
CS2200 Display,		RS-422	CS5000 1111	550449
Host Cable and Power	220VAC	RS-232	CS5000 1102	550445
Cable		RS-422	CS5000 1112	550448

# Specifications

	CS5000 x0xx	CS5000 x1xx	
	(Size 1)	(Size 2)	
Weight	61 kg	77 kg	
Outside dimensions (cxd)	1340x1340 mm	1660x1660 mm	
Measuring field (axb)	960x960 mm	1280x1280 mm	
Maximum object size	94x94x200 cm	126x126x200 cm	
Minimum object size	100x50x2 mm		
Object spacing	50 mm		
Calculation time:	Time from object leaves frame until		
	dimensions are present:		
	Typical 40 mse	ec	
	Worst case 20	0 msec	
Object orientation	Place object with the r	nost stable side down.	
	No other orientation re	equirements.	
Operating temperature	-10° to +40°C.		
Voltage	230/115 AC + 10% volts, 50/60 Hz.		
Humidity	10-80% non condensing		
Power requirement	Max. 100W		

# Precision/Conveyor speed

Precision	Standar	d Frame	High spee	ed Frame
	Size 1	Size 2	Size 1	Size 2
	CS5000 00xx	CS5000 01xx	CS5000 10xx	CS5000 11xx
±5 mm	0-100 m/min	0-100 m/min	0-180 m/min	0-150 m/min
±10 mm	100-150 m/min	100-150 m/min	180-200 m/min	150-200 m/min
±20 mm	150-200 m/min	150-200 m/min	-	-

#### 2.0 Operation

Operating the Frame is very simple, and the operator is not needed during normal operation. A calibrated Frame is ready to use just seconds after the main power is switched ON. The power switch is placed on the connector panel.

This chapter describes all standard functions on the Frame.





The indicator unit is normally placed above the connector panel on the vertical bar.

#### 2.1 Indicator unit

Length		
Width		
Height		
Volume		
	CAL VER TEST ALT CM/IN	
	$\leftarrow 0.9 \rightarrow \text{ CLR ENT}$	O ON

Figure 2.1 indicator unit CS2200.

The purpose of the indicator unit is to display measured data and to allow operator to do various functions on the Frame.

The indicator must not be removed or changed by the user because the indicator also holds important calibration and set-up data for the instrument.

Functions are selected by pressing the corresponding function key. The name of the function key is written over each key. Available functions are:

- CAL Calibrations and set-up, used for service and installation only.
- VER Display software version.
- TEST Test functions, used for test, service and installation.
- ALT Display alternate measuring data.

CM/IN Convert between Metric and Imperial units (Inch/Cm).

# 2.2 Switching ON

Push ON/OFF switch on Frame (see chapter 2.0 operation).

Self test of Indicator display:

Length		
Width		
Height	8.8.8.8.8.	
Volume		
	CAL VER TEST ALT CM/IN	
	$\leftarrow$ 0-9 $\rightarrow$ CLR ENT	ON

Software versions are displayed:

Longth		ר
Lengin		
Width	5 160	
Height	220 I	
Volume		
	CAL VER TEST ALT CM/IN	
	$\leftarrow 0.9 \rightarrow CLR ENT \qquad \bigcirc$	) N

Wait about 10 seconds and the zeropicture will be displayed.

Length	C cm
Width	🔲 cm
Height	🔲 cm
Volume	dm <sup>3</sup>
	CAL VER TEST ALT CM/IN
	$\leftarrow$ 0-9 $\rightarrow$ CLR ENT ON

The Frame is now ready for measuring.

Software version

Software version, indicator

0 for CS5000 HS 1 for CS5000

#### 2.3 Volume measurement

Volume measurement is performed without any operator involvement, just place the object with

#### THE LARGEST AND MOST STABLE SURFACE DOWN ON THE CONVEYOR.

Results are displayed on indicator unit and sent to the external computer port just after the object has passed through the Frame. Length, Width, Height and Volume are displayed on the Indicator screen. Press the ALT key to display other measuring data, orientation etc (see chapter 2.1 Indicator unit).

Results from last measurement:

Length	<b>64.0</b> cm
Width	5 <b>3.5</b> cm
Height	<b>29.5</b> cm
Volume	<b>│</b>
	CAL VER TEST ALT CM/IN
	$\leftarrow 0.9 \rightarrow CLR ENI ON$

Next object enters the Frame:

Numerical field is erased

Length		
Width		
Height		
Volume		
	CAL VER TEST ALT CM/IN	
	$\leftarrow$ 0-9 $\rightarrow$ CLR ENT ON	

Object leaves the Frame:

Dimensions are computed and displayed.



The CS2200 Indicator displays length, width, height and cubic volume of the objects. These values appear just after the object has passed through the Frame. By pressing the ALT key, more information can be displayed.

#### 2.3.1 Display more measured data.

Press the ALT key to display more measurement data:



Please see chapter 7 for a definition of overall length, transverse position, overall width and orientation.

Press ALT once more to get back to the original picture.

#### 2.3.2 Display measuring results in other units

To display the measuring result in other units press the CM/IN key:



The next object will be measured an displayed in the default units. This function has no effect on the units for the data transmitted on the external computer port.

#### 2.3.3 Errors during volume measurement

In some cases, the Frame is not able to provide valid measurement data for the object measured. Possible reasons for this are:

- The object is to small to be measured. Refer to appendix A for specifications.
- Parts of the object was outside the Measuring field of the Frame.

This is indicated by an error message on the indicator unit.

Error message displayed on indicator:

Length Width	Error 12 I	
Height	16 1	
Volume		
	$\begin{array}{c c} \text{CAL VER TEST ALT CM/IN} \\ \hline \\ \leftarrow & 0.9 \rightarrow & \text{CLR ENT} \end{array}$	ON

Definition of parameters for measurement errors:

#### CODE REASON

- 120 Object was to small to be measured.
- 121 Object was outside measuring field on top or bottom of Frame
- 122 Object was outside measuring field on one of the sides
- 123 Combination of 121 and 122
- 124 Object was too long (>3000 mm).
- 125 Combination of 124 and 121
- 126 Combination of 122 and 124
- 127 Combination of 121, 122 and 124

Measurement errors with code 120 (To small object) is not displayed on the indicator unit. The display of the indicator is blanked when this error occurs.

#### 2.4 Readout of software version and Frame type

Press VER on the indicator unit to display the software version of the Frame and the indicator unit:

Length	[5]	
Width	5 160	Software version, Frame
Height	22D I	Software version, indicator unit
Volume	- []	Protocol no.
	CAL VER TEST ALT CM/IN $( \qquad \qquad$	J

The fourth row is used to displaying the set-up parameter "Protocol No." This parameter defines the communication format that the Frame uses on the HOST port. Please refer to the Service and Installation Manual for a detailed explanation.

#### 3.0 Hints for volume measurements

Objects to be measured must pass the Frame with no part of the object outside the sensor area. The sensor area can be seen as slits under the glasses. If anything intersect with the end of the sensor area, the measurement will be aborted. An error is displayed on the indicator.

Objects must not vibrate, fall or do any movement relative to the conveyor during measurement. That will cause incorrect results.

Sudden stops and start of the conveyor when the object is within the Frame, should be avoided. Starts and stops do not cause errors by itself, but the chance of relative movements between the object and the conveyor belt is obvious, and there is a great chance of failure.

#### HINTS TO MAKE GOOD MEASUREMENTS

- 1. Whole object must pass within Frame sensor area
- 2. Place the object in its most stable position
- 3. Avoid stopping/starting during measuring
- 4. Let distance between consecutive objects be minimum 10 cm

#### 4.0 Maintenance

The CS5000 Frame needs a minimum of maintenance. It contains no moving parts and so it is free from wear in its traditional meaning. The rugged aluminium Frame makes it resistant to environmental conditions.

The Frame executes several test cycles automatically without having the operator to ask for it. If an error is detected, it will be reported to the Indicator screen. Error messages should not occur if the user remember to do simple preventive maintenance.

#### DAILY MAINTENANCE

\* Dust/particles within the scanning area must be removed Use a soft brush to clean the scanning area.

#### 5.0 Test functions

The Frame and the indicator goes through a self test after power up. All LED segments on the indicator unit are tested, all sensors are tested and the internal microprocessor goes through a self test including memory test etc.

Sensors and computer are also doing self tests continuously during operation. Errors detected will be displayed on the indicator unit. The Frame will then stop measuring.

To activate the test of the indicator display press TEST + ENT:

Length	
Width	
Height	8.8.8.8.8.
Volume	
	CAL VER TEST ALT CM/IN
	$\leftarrow 0.9 \rightarrow \text{CLR ENT} \qquad \bigcirc \\ \text{ON} \qquad \end{pmatrix}$

Please refer to the Service and Installation Manual for a more detailed explanation of all test functions.

#### 6.0 Status and error messages

There exists several status messages with a numeric status code telling the reason for the message.

Some codes indicates error situations, and these will be displayed as error messages on the indicator:

Example of status message indicating error:

INDICATOR

Length Width Height Volume	h Error 142 t	
	$\begin{array}{c c} CAL \ VER \ TEST \ ALT \ CM/IN \\ \hline \\ \leftarrow \ 0.9 \ \rightarrow \ CLR \ ENT \ ON \end{array}$	J

The OA (Object Abort) message on the external computer port, indicating invalid measurement data, is also displayed as an error on the indicator unit.

Refer to the appendix for description of all status messages.

# 7.0 Principles of measurements

Infrared light is used to register the dimensions of the object. This light is absolutely harmless to people. The light intensity is much less than that from a standard light bulb. When light is emitted from the Frame, it defines a light grid with 5 mm resolution horizontally and vertically. Two sides of the Frame have emitter elements, and the other two sides have receiver elements all with 5 mm spacing.

The shadow of the object in horizontal and vertical direction is registered by the Frame. This registration is repeated on every 5 mm movement of the conveyor. The Frame uses these shadows to build two silhouette pictures of the object, seen from above and from the side, as it passes through the Frame. When the object has passed the Frame, these silhouette pictures are used to calculate the measuring results.



Figure 7.1: CS5000 Frame is put together of two emitter modules and two sensor modules. Infrared light is emitted to make a grid with 5 mm between each light beam in both directions.

#### Definition of measurements

The Frame detects and calculates a standard set of results that is automatically sent to the external computer port immediately after the object has left the Frame. The data is also displayed on the indicator unit.

Metric units (cm, dm3) or Imperial units (inch, ft3) can be selected with a strap inside the indicator unit.

COMMENTS
Length of the longest side of the object. Defined as: Longest side in the smallest rectangle that contains the vertical projection of the object (Object seen from above).
Width of the object (Length of the shortest side of the object). Defined as: Shortest side in the smallest rectangle that contains the vertical projection of the object (Object seen from above).
Maximum height of the object
The product of length, width and height as defined above.
Angle of the object on the conveyer. Defined as: Angle of the longest side in the rectangle that contains the vertical projection of the object. Direction of transport is defined as 0°. Knowledge of transport direction and position of the connections of the frame is necessary to define the orientation.
The overall length occupied by the object on the conveyor measured in the direction of movement. See page 18
Distance between object and one side of the Frame (The side where the connections are). See page 18.
The overall width occupied by the object in the transverse direction. See page 18.
The measured objects largest deviation from an ideal rectangular box as described in page 18. R-value is not shown on the display, but may optionally be transmitted on the HOST port. Transmission of R-value is controlled by set-up of the frame.

These results are explained in more detail on the next pages.

The values listed above follows the definitions given below.

LENGTH, WIDTH, HEIGHT Length, width and height are measured as the dimensions of the smallest rectangular container that can hold the object as it is placed on the conveyor belt. Length and width are measured horizontally while height is always the vertical dimension.



Figure 7.2 Object with length (L), width (W) and height (H) as shown.

The product of length, width and height as defined above.

VOLUME

ORIENTATION

The orientation of the object is defined as the direction of the longest side of the rectangle that contains its vertical projection. This direction is given within ±90° following the definition:

- < 0°: Object is oriented with front end closest to connector plate.
  - 0°: Object is oriented with the longest side along the conveyor.
- > 0°: Object is oriented with front end away from the connector plate, as on the figure below.



Figure 7.3 Definition of the orientation (v) of the object.

OVERALL LENGTH TRANSVERSE POSITION OVERALL WIDTH The overall length of the object and its position and overall width in transverse direction are defined as shown by the figure.

Origo of the co-ordinate system lies in the lower corner of the Frame near the connectors.



Figure 7.4 Definition of the object's overall dimensions in the direction of transportation and transverse to this.

TP = Transverse position OW = Overall width OL = Overall length

Measurement of the objects largest deviation from a rectangular box as the frame can see the object. The R-value is given in mm or 0.1 inch, and indicates the largest normal distance from one of the sides of the rectangular container that can hold the object in to a point on the objects surface. This is illustrated below:



The R-value is highly dependent of orientation for various object shapes.

- For rectangular boxes, a high R-value indicates that there is something wrong with the measurement. The most probable reason is either that the object vibrated as it was brought through the Frame, or that two objects was brought through the Frame simultaneously.
- For irregular boxes, the irregularity measurement will in general get a high value. The irregularity measurement will depend on object orientation.

The R-value should be used for indication of object shape and measurement quality only. There is no accuracy specification for the R-value.

**R-VALUE** 

## 8.0 List of Service centres

The equipment is produced by: Cargoscan A/S Grenseveien 65/67 N-0663 OSLO, NORWAY Tel.+472272 2222, Telefax +47 2272 2211

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#### **APPENDIX A Status codes and error messages**

This is a complete list of all status codes displayed on the indicator unit and transmitted on the host port. In general the codes are transmitted to the host as a message with an identity and the code as a three digit parameter to the message. A message identity is listed along with each code. The messages are displayed as an error message with the code on the indicator unit.

Message identities are:

- MS General message identity for messages from Frame to external computer.
- OA Object abort, measurement of an object is terminated due to an error in measurement. Codes are described below.
- ST Status message. These messages are an immediate response to a "status request" (ST message) received on the host port.

Some codes has both MS and ST listed as identity. The MS identity is used when the Frame is reporting an event that has happened (error detected in Frame etc.), while the ST identity is used when the message is response to a status request on the host port.

Some codes has no identity (-), these messages indicate errors in operator entry on the keys on the indicator unit, and they are reported on the indicator only.

Γ	Code	ld.	Explanation	Action
	3	MS	Internal error: Contact problems	Please write down the message
		ST	between neighbour RX cards or	and call for service.
			TX cards, corner cables or	
			connections between RX/TX cards	
			and CPU unit.	
	4	MS	Internal hardware error on CPU	Please write down the message
		ST	unit	and call for service.
	50	MS	The Frame has received an	Check cables.
			unknown message.	Call for service if error reports.
			This message is received on one	
			of the two serial lines, or it is	
			generated internally by software.	
			This error may sometimes occur	
			during test procedures.	
	51	MS	General ASCII decoding error on	Please write down the message
			message received on serial line.	and call for service.

Message codes:

		1	
100	MS ST	Sensors OK. Transmitted when the Frame detects that the sensors are OK. This message cancels the error message with error code 102 indicating bad sensors. This message is not displayed on the indicator unit. The error message with code 102 is removed when the situation occurs. This is the response to a status request when the Frame is working normally.	
102	MS ST	Sensor error. One or more sensors are defect. The light path between one or several transmitters and their corresponding receiver may be blocked, or defect electronics may be the reason. It is also possible that the cards has moved physically inside the aluminium, so that the light path is blocked by the aluminium covers of the Frame.	Check that the light path across the Frame is not blocked by dust etc. Refer to test procedures.
110 to	OA	Internal software error during volume calculations.	Please write down the message and call for service.
119			
<u>119</u> 120	OA	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs.	Ignore object. It was so small that it should be regarded as noise.
119 120 121	OA OA	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame.	Ignore object. It was so small that it should be regarded as noise. Measure object over again
119 120 121 121	ОА ОА ОА	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides.	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again
119 120 121 122 123	ОА ОА ОА ОА	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides. Combination of 121 and 122	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again Measure object over again
119 120 121 121 122 123 124	OA OA OA OA	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides. Combination of 121 and 122 Object was too long to be measured. (>3000 mm)	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again Measure object over again Measure object over again
119 120 121 122 123 124 125	ОА ОА ОА ОА ОА	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides. Combination of 121 and 122 Object was too long to be measured. (>3000 mm) Combination of 124 and 121	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again Measure object over again Measure object over again Measure object over again
119 120 121 122 123 124 125 126	ОА ОА ОА ОА ОА ОА	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides. Combination of 121 and 122 Object was too long to be measured. (>3000 mm) Combination of 124 and 121 Combination of 124 and 122	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again Measure object over again Measure object over again Measure object over again
119 120 121 121 122 123 124 125 126 127	OA OA OA OA OA OA OA	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides. Combination of 121 and 122 Object was too long to be measured. (>3000 mm) Combination of 124 and 121 Combination of 124 and 122	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again
119 120 121 121 122 123 124 125 126 127 128	OA OA OA OA OA OA OA OA	Object was to small to be measured. This message is not displayed on the indicator unit. The indicator unit will be blanked when this situation occurs. Object was outside measuring field on top or bottom of Frame. Object was outside measuring field on one of the sides. Combination of 121 and 122 Object was too long to be measured. (>3000 mm) Combination of 124 and 121 Combination of 124 and 122 Combination of 124 and 122 Combination of 121, 122 and 124 The object dimensions was calculated too late (Possible when set-up parameter 3 has a non zero value).	Ignore object. It was so small that it should be regarded as noise. Measure object over again Measure object over again

130	MS	Measuring started. Transmitted after power up when	
		the Frame has successfully finished self testing and started	
		measuring.	
		This message is not displayed on	
		the indicator unit. A picture with	
		zero value for all dimensions and	
		indicator when measuring starts	
138		Illegal parameter entered during	
		set-up	
140	MS	No indicator connected. The	Check cable to indicator unit.
	ST	Frame is not able to get contact	Note message and call for service.
4.4.4	MO	with the indicator unit.	Disconstruction down the measure
141	M2	ASCII decode error when receiving	Please write down the message
		unit.	and call for service.
142	MS	Indicator has failed to store set-up	Please write down the message
		parameters in its non-volatile	and call for service.
		memory.	
143	MS	An attempt has been done to	Please write down the message
		change set-up parameters when	and call for service.
		not allow this	
144	MS	General ASCII decode error on	Please write down the message
		serial line from indicator unit.	and call for service.
145	MS	Indicator has received a message	Please write down the message
		from Frame with data errors in it.	and call for service.
146	MS	Indicator has received a message	Please write down the message
147	MC	With checksum error from Frame.	and call for service.
147	IVIS	with parity error from Frame	and call for service
148	MS	Illegal values for set-up-	Please write down the message
_	ST	parameters.	and call for service.
149	MS	Checksum error in non-volatile	Please write down the message
	ST	memory in indicator unit. This	and call for service.
		memory is used for holding the	
		values for the set-up parameters	
150	MS	Self test error on CPU unit. Error	Please write down the message
	ST	detected on Motorola 68000 CPU	and call for service.
		board.	
151	MS	Self test error on TMS part of CPU	Please write down the message
150	SI	unit or on RX/TX cards.	and call for service.
152	SINI ST	Sell lest error on CPU unit	Please while down the message
	01	between the two parts of the CPU	
		unit.	
154	MS	Self test error in read/write test of	Please write down the message
	ST	RAM in CPU unit during operation.	and call for service.
155	MS	Checksum error in PROM in CPU	Please write down the message
	31	Frame	
156	MS	Checksum error in PROM in	Please write down the message
	ST	indicator unit. Detected during	and call for service.
		operation.	

157	MS	Error in RAM detected on indicator	Please write down the message
	ST	unit during operation.	and call for service.
190	-	This errors is an immediate	Please write down the message
		response to the test function for	and call for service.
		testing the host port when this test	
		indicates that the port is not OK.	
191	-	Error message given when	Enter test over again. Refer to test
		operator enters an unknown test	procedures.
		code in test mode.	
192	-	An attempt to set the parcel	Refer to test procedures for syntax
		counter using test function 83 is	to be used when entering the
		done. However, the new value for	value.
		the counter was not entered	
		properly.	
193	-	The parcel counter in the Frame is	Set the parcel counter to wanted
		checksum controlled. There is	value.
		checksum error on this counter, so	
		it does not hold a valid value.	
198	ST	Status was requested while	
		Frame in test mode. Frame is set	
		in test mode by operator during	
		error searching, maintenance etc.	
199	ST	Status was requested while	
		calibration of the pulse-generator	
		is done on the Frame.	