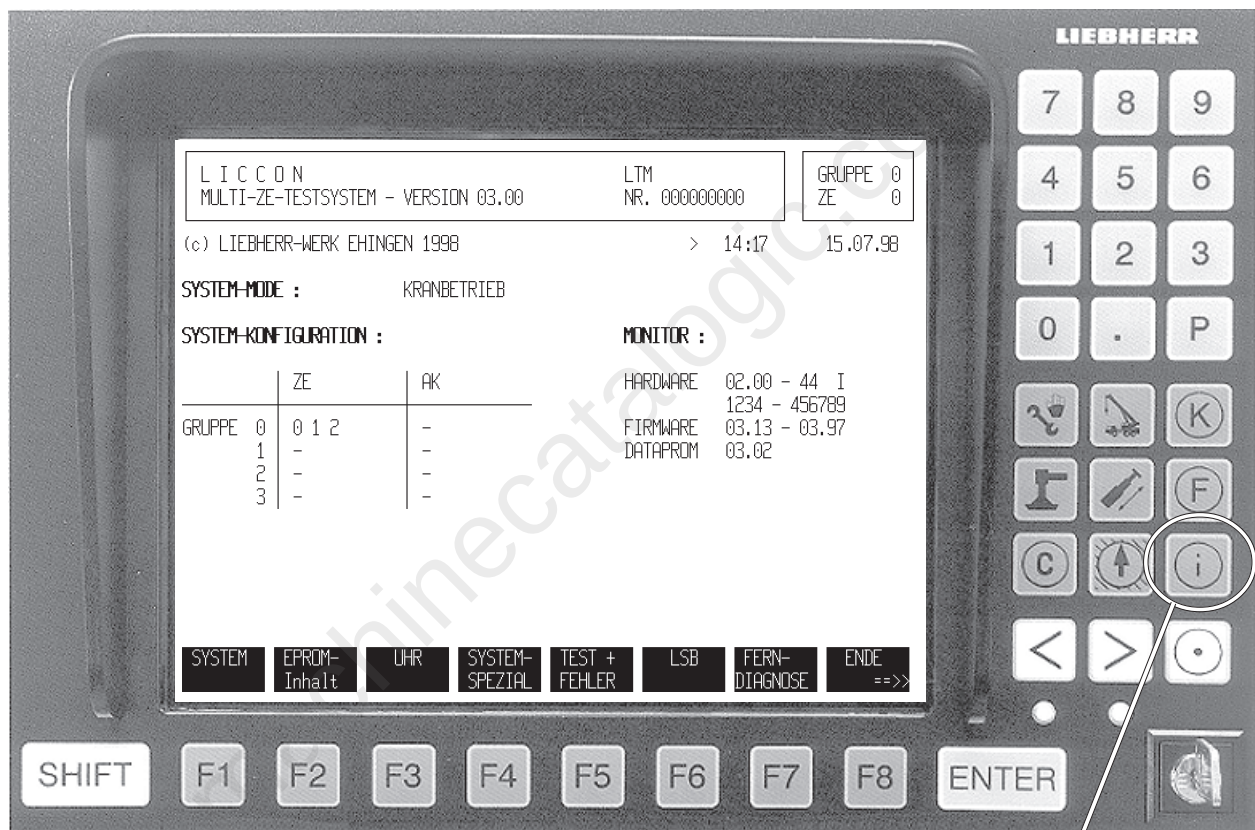


Service Manual

LICCON 1 - Testsystem



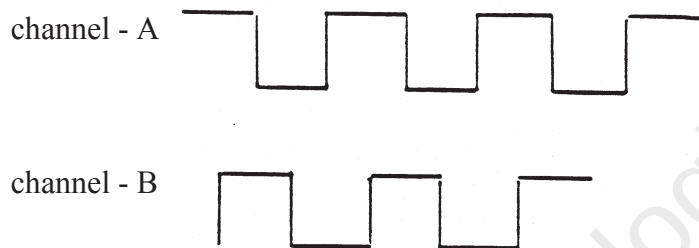
Testsystem starting

CU-Inputs for incremental sensors

Each CU avails of 2 incremental inputs, each input consists of channel A and channel B and can be connected directly to 24 V.

The phasing of channels A and B as well as the number of pulses enables to determine the direction and the number of pulses.

The pulse rate between channel A and B is always shifted by 90° phases.



The incremental inputs are processed globally:

By pressing key F6, the counter value can be displayed decimal or hexa.

AWL Disinterpreter

The access to the disinterpreter is possible by means of function „Test“ [key F5].

L I C C O N
MULTI-ZE-TESTSYSTEM - VERSION 04.95

LTM 1160/2
NR. 002259108

GRUPPE 0
ZE 0

(c) LIEBHERR-WERK EHINGEN 1995

> 14:24

03.04.96

SYSTEM-KONFIGURATION :

	ZE	AK
GRUPPE 0	0 1 2	-
1	-	-
2	-	-
3	-	-

MONITOR :

HARDWARE 01.00 - 06 F
0007 - 000000

FIRMWARE 01.30 - 03.95

DATAPROM 02.00

AWL DIS-INT

KRAN-TEST

ZURUECK <=>

F1

F2

F3

F4

F5

F6

F7

F8

The AWL disinterpreter with access by means of function key [F1] offers the possibility to observe the program sensitive treatment of any operand (input, output or data) within the LICCON system. This enables the experienced user to quickly and specifically analyse program flows or failures.

AWL-OPERANDENSPEZIFIKATION

GRUPPE 0
ZE 0

=>

1

A_

E_

M_

A_

X_

C_

Q_

2

AW_

EW_

MW_

AW_

XW_

CW_

QW_

3

DST

F_

T_

Z_

D_

4

FW_

TV_

TW_

ZV_

ZW_

FE_

R_

AAW_

IAW_

UAW_

AEW_

IZW_

DW_

5

P_

P_

P_

V_

V_

TXT_

V

^

>

<

AENDERN

GRP/ZE

ZURUECK <=>

F1

F2

F3

F4

F5

F6

F7

F8

Error Stack and Error Memory

Storage of errors during OW operation

From the operating picture at an error message:

-  Press key “horn signal” to switch off the bleeping sound.
-  Press the key to call the error message and the error description of the error stack.

From the operating picture without an error message:

-  Press key to open test system.
-  Press key “test and error” to change the key assignment in the test system.
-  Press key “error” to call error determination.
The error stack of the HX11 processor of the ZE0 is opened automatically.

Storage of errors:

-  Press keys simultaneously to activate the error storage.
-  Press key to start the error storage.

Storage routine:

That storage routine permits to process all error stacks of the processors and to store the error messages on the battery-backed RAMs of the common memory board of the power pack.

The purpose of the above is to permit the operator to permanently store an error condition or error in a given operating condition of the crane (date, time are equally recorded). An image of the current error condition is made.

The error messages are permanently stored, even if the ignition is switched off or the battery disconnected.

Up to 160 error messages can be stored. That fixed-error memory will not be overwritten as long as the storage routine is restarted again. Former errors will then be deleted or overwritten.

Storage routine: ZE0:HC11 – TMS – EAM 1 – 2 – 3 – 4 – 5 – 6, subsequently
ZE1:HC11 – TMS – EAM 1....., etc.
until all ZEs have been processed. The end is indicated by a bleeping sound.
The error memory then indicates all errors which were stored in the
error stacks at that moment.

Method C: Manual addressing of LSB sensors

Note:

- The manual addressing of LSB sensors permits the addressing of just one sensor.
When two or more sensors on the bus are unknown, they must be addressed one after another.
Consequently, one unknown sensor may always be connected to the bus.
- Manual addressing is possible only after the input of the day code.

Procedure - manual addressing

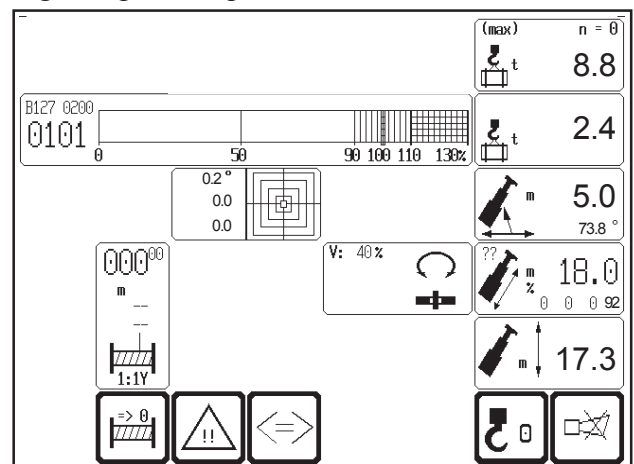
- Install the LSB sensor, or connect the LSB sensor to the respective input board by means of test cable set (LWE-Id.Nr. 961710108).
- Start LICCON computer system.
- The configuration picture (fig. 6) is displayed. Acknowledge by key **[F8]**.
- On the operation picture (fig. 7), press **[SHIFT]** + **[K]** simultaneously (should an error be active, acknowledge the error message before by **[F8]**).
- Enter day code:
- Press key **[F1]** „Modify“
- Press key **[i]** for test system
- Press key **[F2]** for access
- Enter access number **[0]** + **[3]** + **[9]**
- Press key **[F8]** „End“ 2x
- Press key **[ENTER]** for „accept“
- Start test system by **[i]**-key (should an error be active, acknowledge the error message before by **[F8]**).
- Select respective ZE by key **[0]** or **[1]** or **[2]** (fig. 1), of the input board to which the sensor is connected (see electr. circuit diagram).
- Initiate LSB outline picture by **[F6]**.

- The non or incorrectly LSB sensor appears with a „ $\frac{-}{+}$ “ identification (fig. 2).
The destination address (setpoint) appears with an „ $\frac{-}{0}$ “ identification (fig. 2).
- By function keys **[F2]** - **[F3]** - **[F4]**, place the cursor (*) on the sensor with the identification „ $\frac{-}{+}$ “.

Fig. 6 - configuration picture

				CODE>0101<B127 0200.1(2)						
m		m>t		10,9	14,5	14,5	18,0	18,0	18,0	21,6
3,0	17,9	15,1	16,7	13,1	15,2	15,6				
3,5	14,7	12,5	14,0	10,9	12,9	13,3	10,1			
4,0	12,4	10,5	12,0	9,1	11,1	11,5	8,6			
4,5	10,5	9,0	10,4	7,8	9,6	10,0	7,4			
5,0	9,1	7,7	9,0	6,6	8,5	8,8	6,4			
6,0	6,9	5,7	7,0	4,9	6,6	7,0	4,8			
7,0	5,4	4,3	5,6	3,6	5,3	5,6	3,6			
8,0	4,2	3,3	4,5	2,6	4,3	4,6	2,6			
9,0		2,5	3,7		3,5	3,8				
10,0		1,8	3,0		2,9	3,1				
* n *	* 4 *	* 3 *	* 3 *	* 3 *	* 3 *	* 3 *	* 3 *	* 2 *		
1(41)								>>		
1	0 +	46 +	0 +	92 +	0 +	0 +	92 +			
2	0 +	0 +	0 +	0 +	0 +	0 +	46 +			
3	0 +	0 +	0 +	0 +	46 +	0 +	0 +			
4	0 +	0 +	46 +	0 +	46 +	92 +	0 +			
	%									
	T	—					O.K.			

Fig. 7 - operation picture



Inductive sensors of the telescoping mechanism

Replacement and addressing of the inductive sensors (IG)

- Initiate parameter picture (fig. 12.9):

operate key **ENTER**

- address new user:

operate key **F2** „LSB-address“

- enter LSB-address

0 + **0** + **0**
(e.g. address 16 of replaced sensor)

- acknowledge with **ENTER**

- LSB picture is redisplayed

- If, in the LSB picture, an “X” is shown at the block symbol, the default values have to be transferred, or the type marking of the set-point and actual values differs.

- with cursor keys **F2** - **F4** place cursor (*) on sensor with marking “X” (fig. 12.10)

- acknowledge with **ENTER**

- operate key **F1** “default values” and transfer values from “set-point” to “actual”

- operate key **F8** “return” or **ENTER** to return into LSB picture

feedback values and operating distance				12.9	
L S B (LIEBHERR-SYSTEM-BUS)	NR. 2	V4.2	GRUPPE 0		
SLAVE o.K. !	38400 bps	31 ms	ZE 1		
INFO	IST	SOLL	DATEN		
LSB-ADRESSE	16	16	1	DIGITAL	
TYP	49/IA	49/IA	2=1.6-1.9 mm		
SW	4.1	4.1	36	Grad (C)	
STATUS	0111 0000	0111 0000	010	STATUS	
P0	129	129	00	FEHLER	
P1	0	0			
P2	13	13			
P3	1	1			
P4	7	7			
P5	0	0			
P6	0	0			
P7	0	0			
Ident-Nr.	692308708				
Serien-Nr.	00781/L00				
Spezi-Nr.	00				
DEFAULT-WERTE	LSB-ADRESSE	TYP	NULLEN	PARAMET	SIMULAT EIN
					SIMULAT AUS
					ZURUECK <=>

SET-POINT – ACTUAL
VALUE
type marking of sensor

sensor with incorrect configuration

12.10		
L S B (LIEBHERR-SYSTEM-BUS)		
* M:01-210 SW4.2 ZE		
S:10 SW4.1 IA		
S:16 SW4.1 IA	S:17 SW4.1 IA	S:18 SW4.1 IA

Full Version Available

Liebherr LICCON 1 Load Moment Indicator Service Manual

Liebherr LICCON 1 load moment indicator service manual, with test system checks, adjustments and error stack troubleshooting. Instant PDF download.

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