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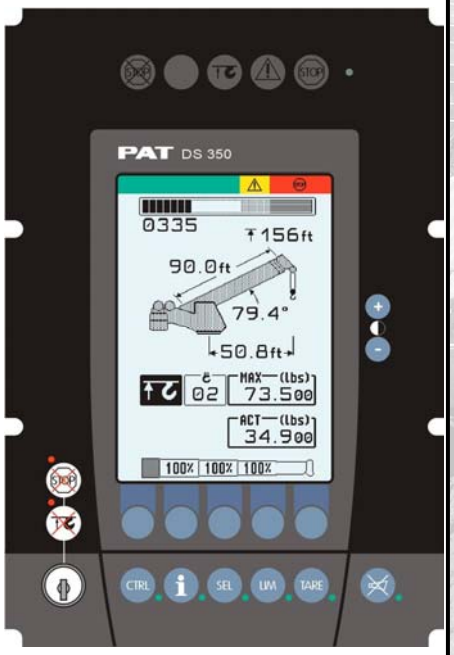
PAT

LOAD MOMENT INDICATOR

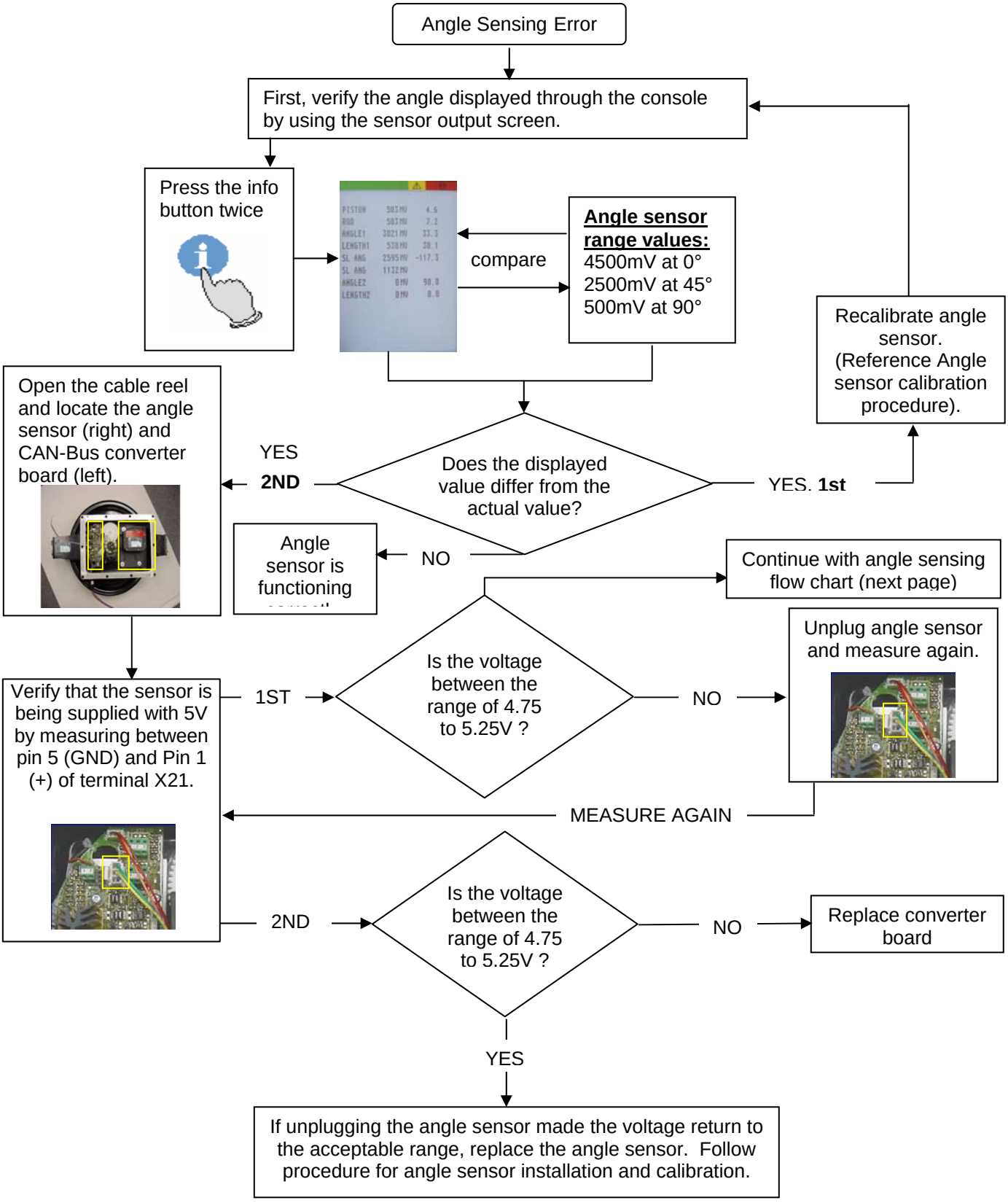
iFLEX5



SERVICE

9333104130 REV G 06/05/2006

5.1 ANGLE SENSING ERROR - FLOW CHART



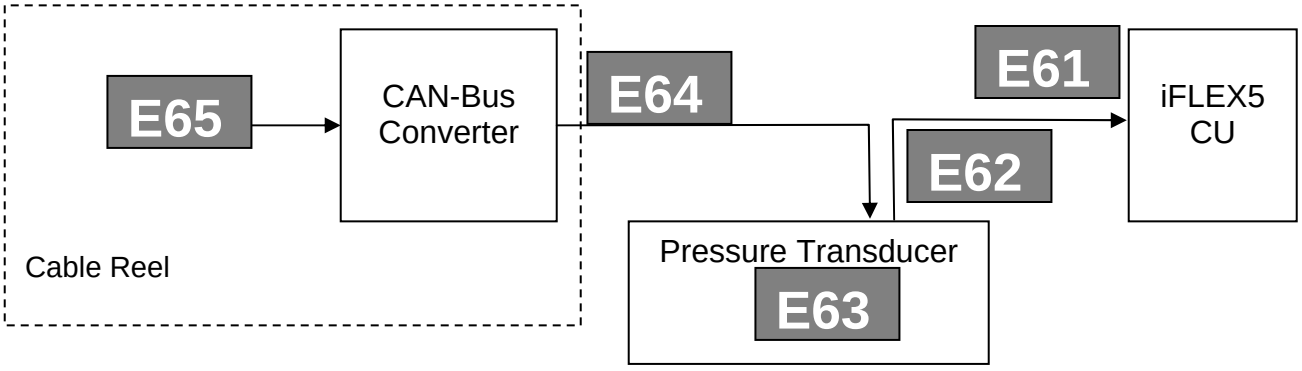
12 CANN-BUS COMMUNICATION

The System measures the length of the main boom, the angle of the main boom, the pressures of the lift cylinder, and the A2B state of the machine via a CAN-Bus connection. Since this is a digital bus connection, it is not possible to measure the signals on the bus with a multimeter. Instead, the LMI provides you with error codes that give you an indication of the bus state.

The error codes are one of the following:

E61 Error in the CAN bus data transfer for all CAN units
E62 Error in the can bus data transfer of the pressure transducer sensor unit
E63 Error in the can bus pressure transducer sensor unit
E64 Error in the can bus data transfer of the length/angle sensor unit
E65 Error in the can bus length/angle sensor unit

Block Diagram



The block diagram tries to clarify that: If the CU does not see any CAN-Bus component, it will report an E61. If it sees only the cable reel, it will report an E62 (pressure transducer missing). If it sees only the pressure transducer, it will report an E64 (cable reel missing). E63 means that the pressure transducer is available, but is reporting an internal error. E65 means that the cable reel unit is available, but is reporting an internal error.

So, what do you do when you are having a problem with one of those codes?

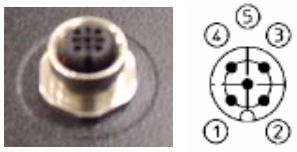
12.1 E61

In case of an E61, start by connecting the two cables on the transducer block together. If an E62 appears, the transducer block must be replaced. If an E61 appears, reconnect the cable from the from the central unit to the transducer block. At this point, if an E61 still appears check your cabling. You can verify that power is being supplied to the sensor by testing the CAN connectors per this layout:

Connector M12, 5 contacts

Pin Layout (CiA DR-303-1 7.2)

Pin 1 Shield
Pin 2 + U_b
Pin 3 Ground
Pin 4 CAN High
Pin 5 CAN Low



A convenient method to monitor digital inputs (DI) and digital outputs (DO) is utilizing the iTOOL5 or iFLASH terminal function. At the flashing command prompt press and hold “Ctrl” and “A” to enter the RTOS (an asterisk will display). Type “digshow” and press “Enter”. The result should be the screen shown below. The inputs and outputs are counted from right to left and top to bottom as illustrated below.

`*digshow` (RTOS command to display digital inputs and outputs)

```
    T E S T   D E R   D I G I T A L -  E I N -   U N D    A U S G A E N G E
    ==========================================================================
Baugr. |   Port   | Modus   | IN-Wert |  IN-Wert  | OUT-Wert | OUT-Wert | Status
       | :Taste   |         |  (Hex)  |   (Bin)   |  (Hex)   |  (Bin)   | =NoLoad
-------|----------|---------|---------|-----------|----------|----------|--------
 Basis | 0 : 1    | NORMAL  |    00   | 00000000  |    05    | 00000101 |  0000-1
 Basis | 1 : 2    | NORMAL  |    00   | 00000000  |    82    | 10000010 |  0011-0
 Basis | 2 : 3    | NORMAL  |    98   | 10011000  |    00    |          |
 Erw.  | 0 : 4    | NORMAL  |    00   | 00000000  |    00    | 00000000 |  1111-1
 Erw.  | 1 : 5    | NORMAL  |    00   | 00000000  |    00    | 00000000 |  1111-1
 Erw.  | 2 : 6    | NORMAL  |    00   | 00000000  |    00    | 00000000 |  1111-1
-------|----------|---------|---------|-----------|----------|----------|--------

Baugruppencodierung Basis       : 0F = 00001111


Baugruppencodierung Erweiterung: FF = 11111111
Hubendschalter UNTB/OFFEN/OK/KURZ:    0000


X:Exit   Blank:Redraw   S:Slow   F:Fast
```

DO 1

DO 16

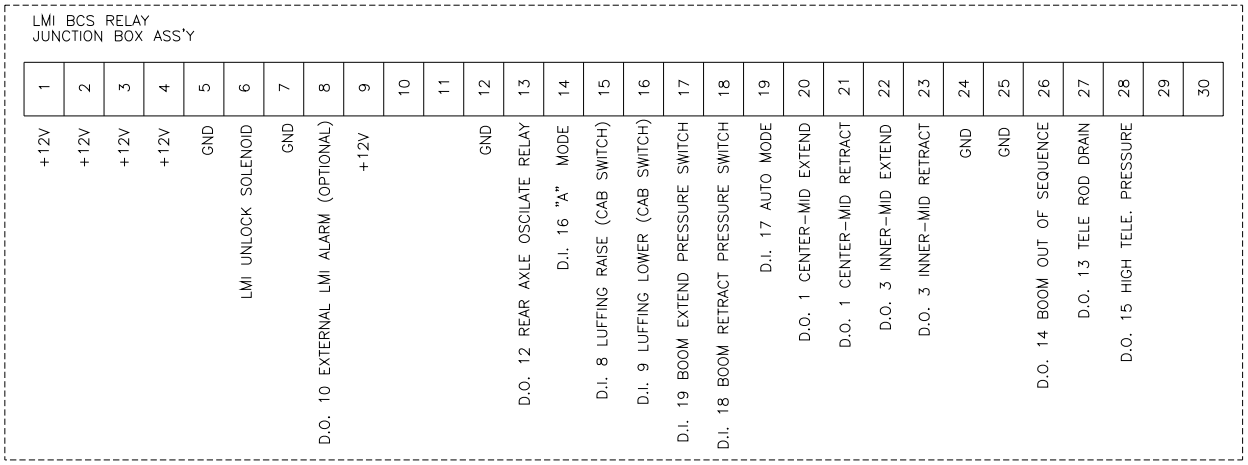
DI 9

DI 1

DI 8

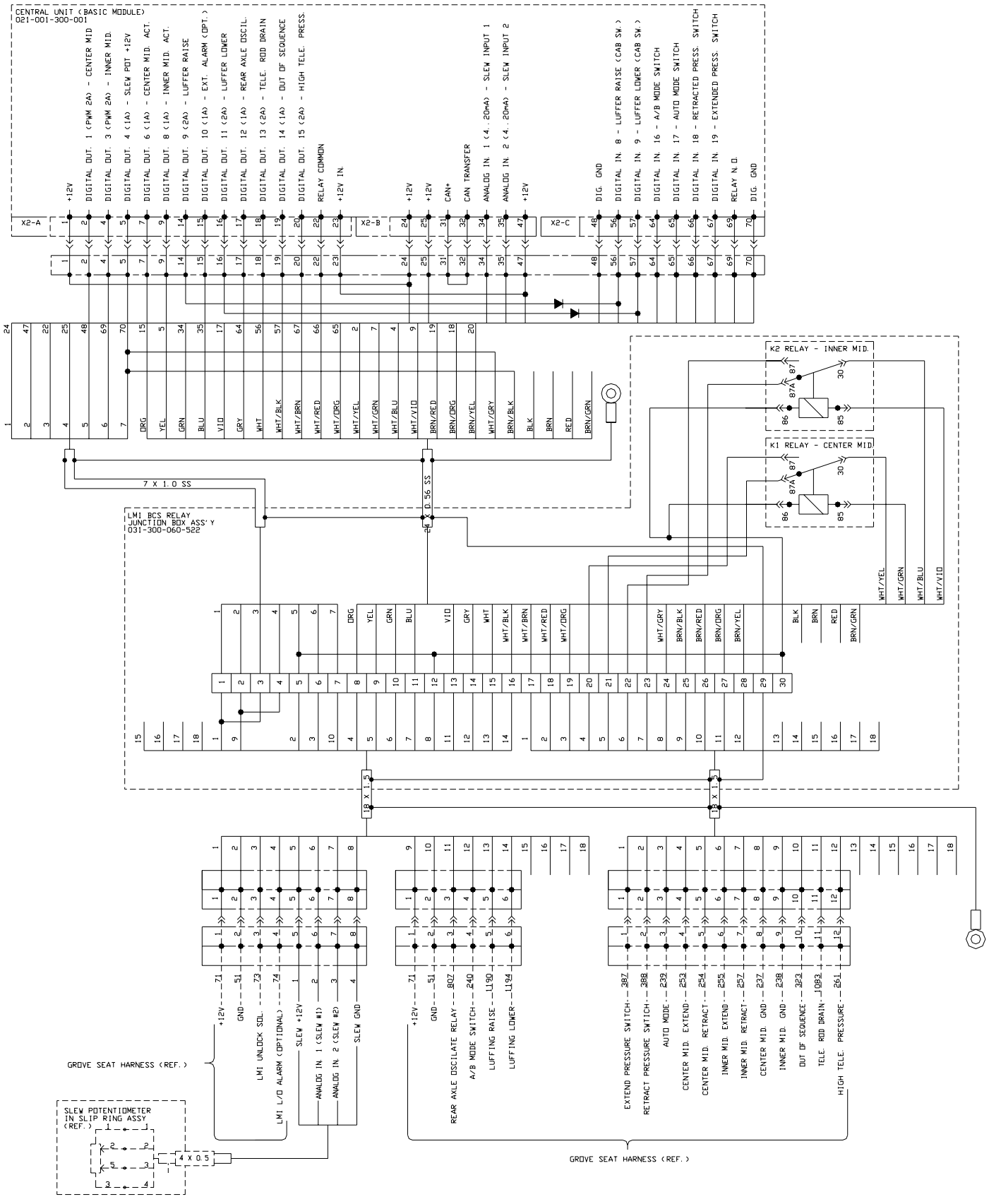
Other methods to determine digital input and output states is by probing the junction box mounted on the rear of the cab, the C.U. 70-pass connector pins (X2), or specific resistors on the main board, or terminal strip in the. See table above and sketches below. Be cautious not to short the probe across connector pins.

Junction Box Assy – located on rear exterior of cab



15.5 ELECTRICAL SYSTEM DIAGRAM BOOM CONTROL SYSTEM

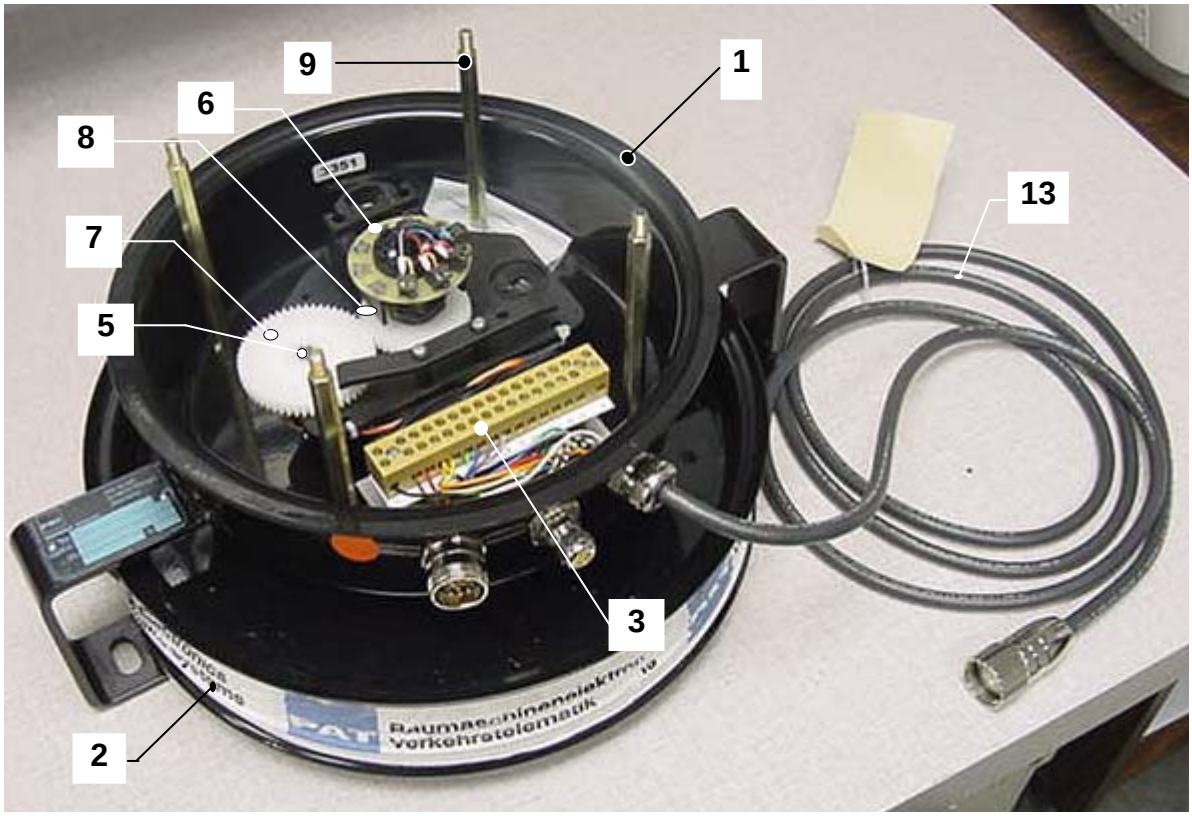
15.5.1 Central Unit to Crane Interface Wiring Diagram



16.6 CABLE REEL, LWG152 PART NO. 9333103963

NO.	PART NO.	QTY	DESCRIPTION
1	NSS	1	CABLE REEL ACCY, LG152 DRUM BODY W/LENGTH CABLE
2*	9333103775	87’	LENGTH SENSOR CABLE 3 CORE
3	9333101557	1	TERMINAL STRIP
4*	9333103967	1	BOARD, FILTER
5	9333103897	1	LENGTH POTENTIOMETER LWG
6	9333103756	1	SLIP RING ASSEMBLY 4 CONDUCTOR
7	9333103758	1	55T GEAR WHEEL ON POTENTIOMETER
8	9333103757	1	45T GEAR WHEEL ON CENTER SHAFT
9	9333102902	4	HARDWARE, STANDOFF 6MM X 117MM MM
10*	9333101965	1	HARDWARE, GASKET
11*	9333103762	1	SENSOR ACCY, COVER KT152
12*	9333101964	1	SENSOR ACCY, NUTS (4) & WASHER (4) FOR KT152 COVER
13	9333101968	1	CABLE ASSEMBLY, 2.5m

* ITEM NOT SHOWN



17.6 ZERO-SETTING THE SLEW POTENTIOMETER

NOTE: The only thing adjustable for the slew potentiometer is the zero point, which is complete when the boom is at the 0° position over the front of the crane.

Defining the crane zero position:
The zero setting consists of defining zero-point offset. To define the zero-point or the slew potentiometer the super structure must be positioned so the boom is in the zero degree position over the front and the house lock pin engaged.

Using graphic console for zero-setting of slew pot potentiometer:
Press return until the slew adjustment screen is displayed.
The display shows a scale from –10 to +10 degree, a horizontal mark shows the current position of the slew pot wiper.
By pressing the “+” and “-“ keys simultaneously, the zero setting occurs automatically. Note: The indicator line will move to zero on the bar graph.

When the operator is finished, pressing the ESC key returns the console display to normal.