Perform the Blade Position Calibration as per the WKI

Does this solve the problem?

1] Yes

2] No

3] I don't know

- **Explanation**
  IN THE Nacelle:

  Do the blade calibration. Original calibration may be altered during component replacement like position sensors (Balluf), cables, proportional valves and hub computer.

  DMS: **0000-9925** section 5.10.9 Blade Position Calibration during manual pitching in the Nacelle Mode.

  also refer Blade Pitch System Test DMS: **0002-0467**

Replace the defective hub computer

Does this solve the problem?

1] Yes

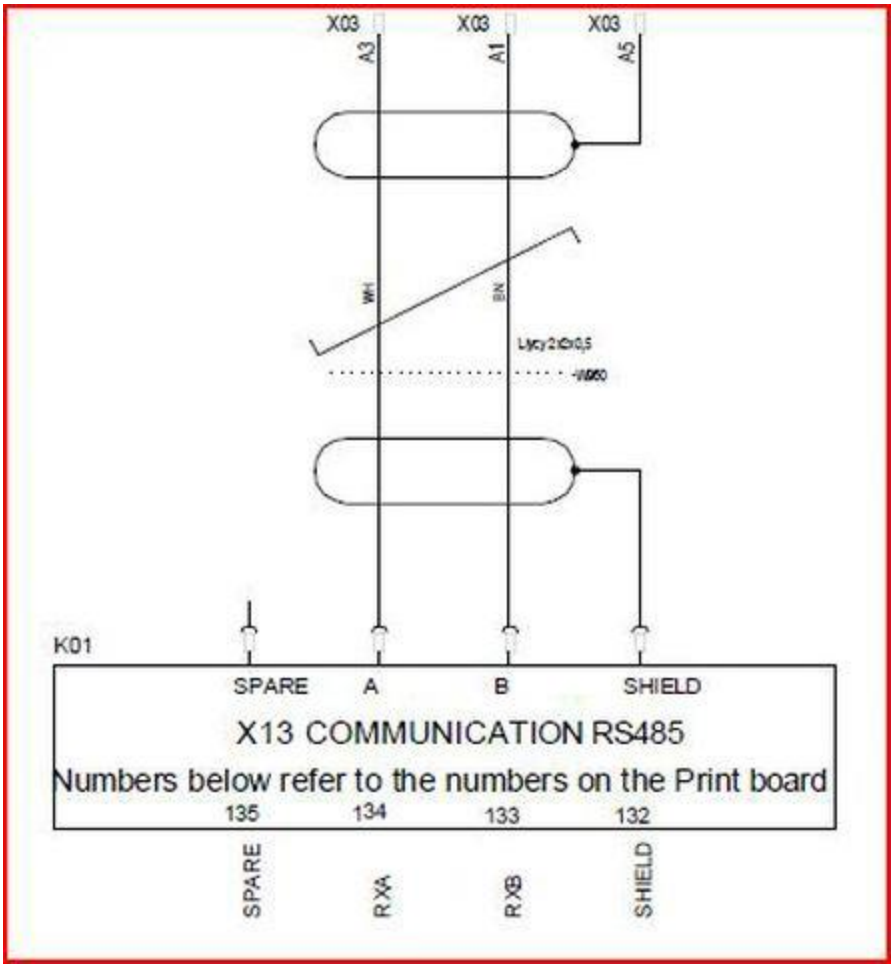
2] No

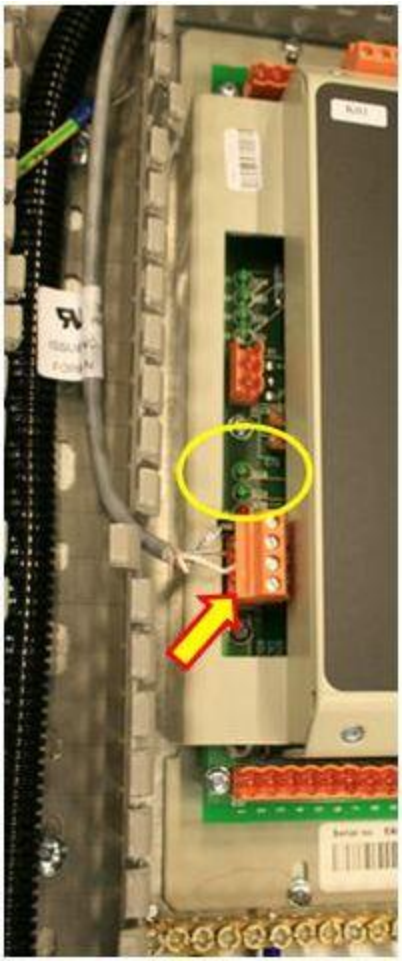
3] I don't know

- **Explanation**
  IN THE HUB:

  Check for any loose connections in the communication channel.

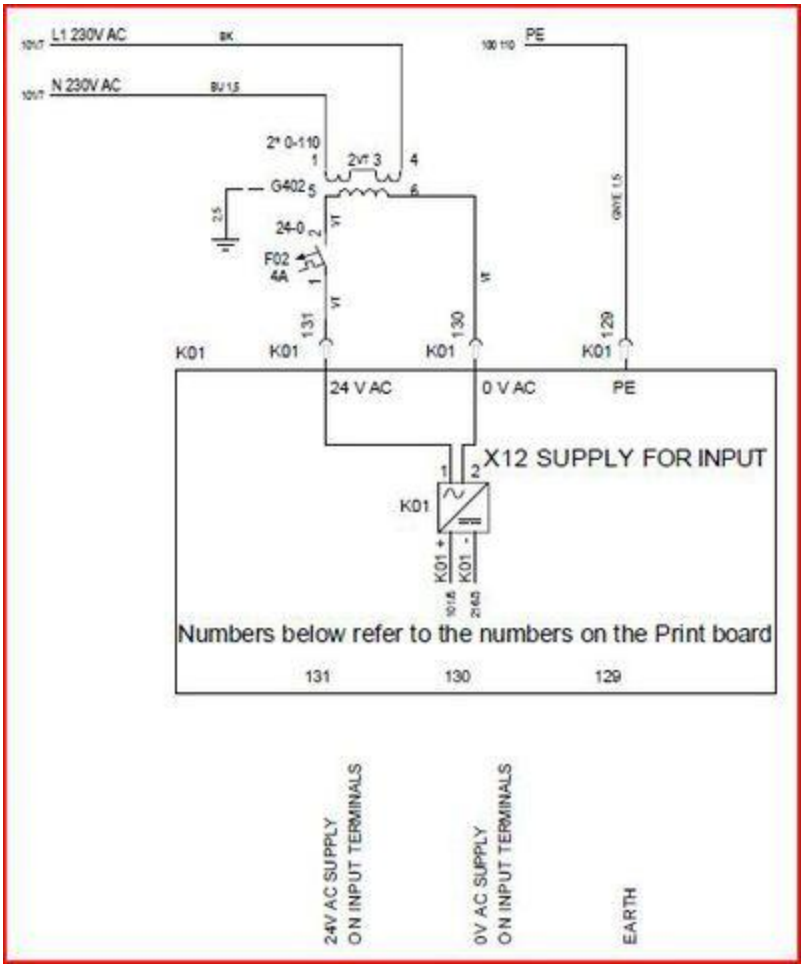
  Check the hub computer communication RX/TX signal.

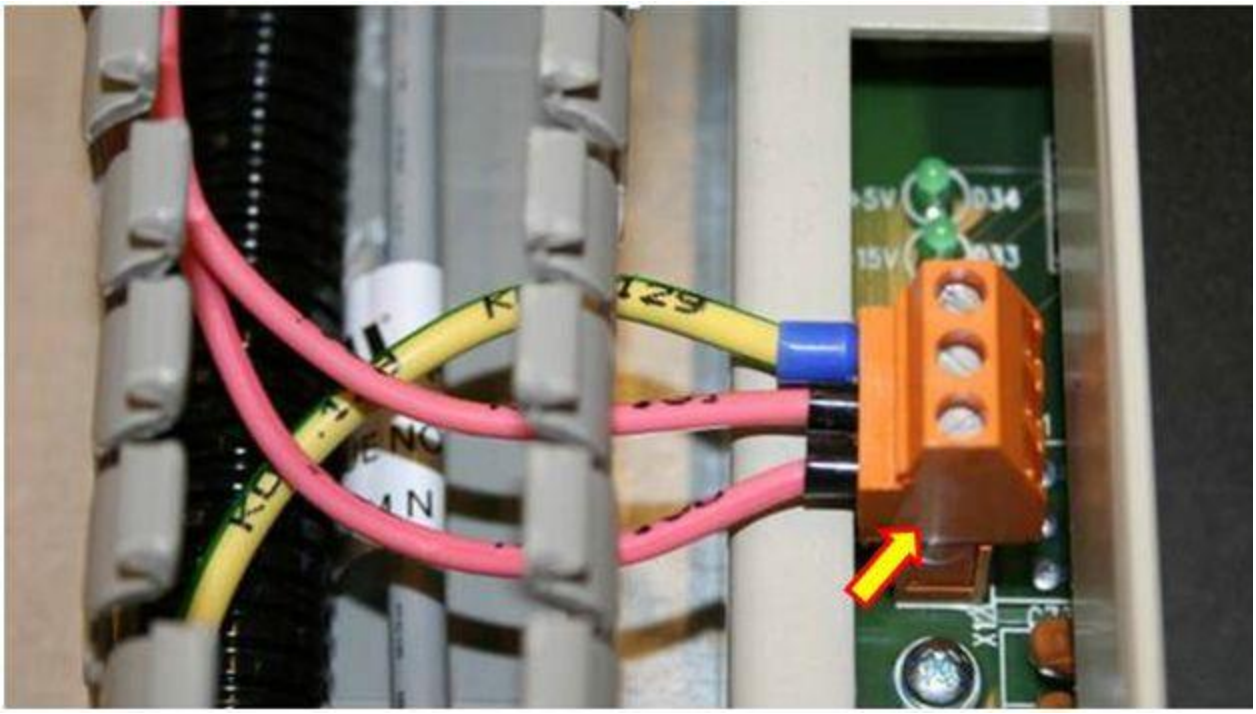

X03
X03
X03
A3
A1
A5
WH
BN
K01
SPARE
A
B
SHIELD
X13 COMMUNICATION RS485
Numbers below refer to the numbers on the Print board
135
134
133
132
SPARE
RXA
RXB
SHIELD



Check the Hub computer input supply.

Check for any loose connections in the input supply pin.

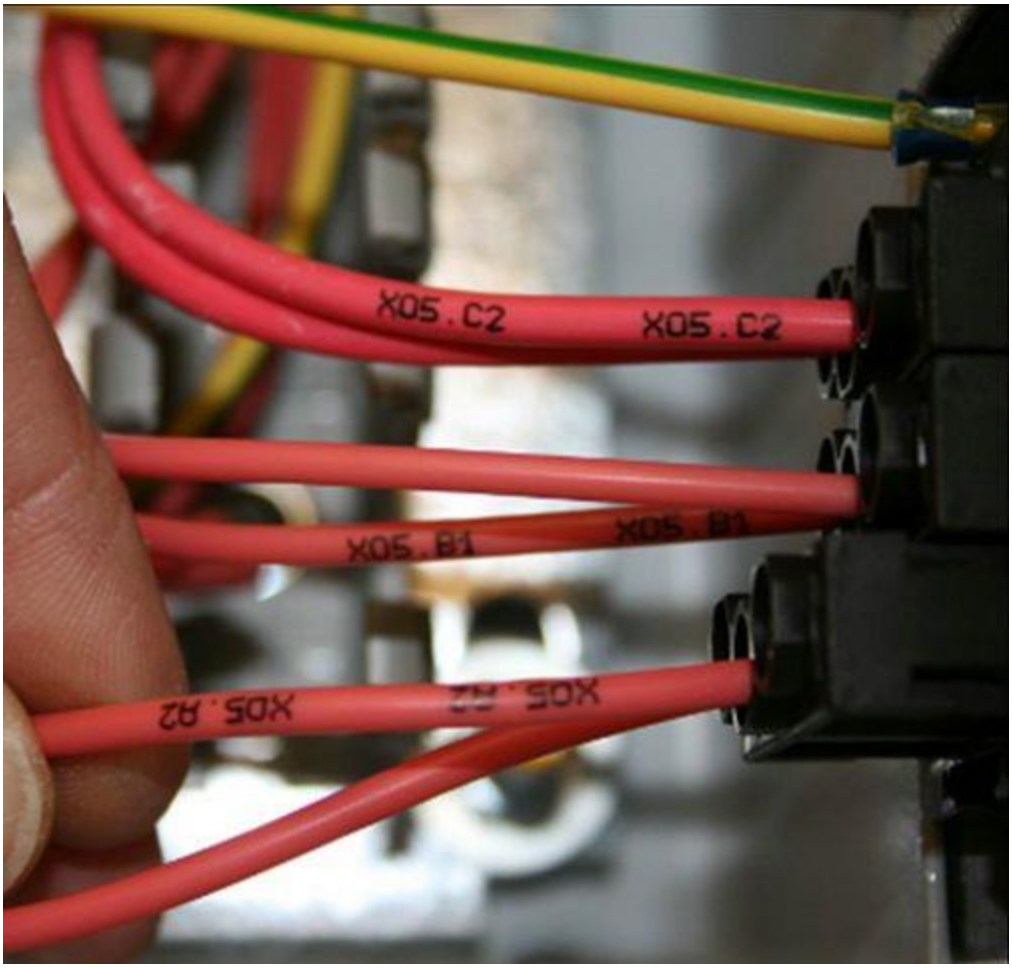

L1 230V AC
BK
N 230V AC
BU 1.5
PE
GN/YE 1.5
2* 0-110
1
2VT 3
4
G402
5
6
2.5
24-0
2
VT
F02
4A
1
131
130
129
K01
24 V AC
0 V AC
PE
X12 SUPPLY FOR INPUT
K01
K01 +
K01 -
Numbers below refer to the numbers on the Print board
131
130
129
24V AC SUPPLY ON INPUT TERMINALS
0V AC SUPPLY ON INPUT TERMINALS
EARTH



Check the control voltage port and plug for loose connections.

Check the communication cable for poor or loose connection.

Check the control voltage cable for poor or loose connections.



Replace the hub computer if it is found to be defective.

Hub Computer Part Number:

51701801 - SIF HUB COMPUTER CABINET EVOII

CIM **1594**

Check for the surge protector upgrade in the power net as per document-

DMS: **0013-3681** or **0033-3872**

Replace the defective power net

Does this solve the problem?

1] Yes

2] No

3] I don't know

- **Explanation**
  IN THE HUB:

Check for any loose connections at the power net (Pos: G401)

Check the input and output voltage 230/115VAC => 24VDC

Replace the power net if it is defective.

Part number for power net:

188453 PS ADC 5483R-3 10A-27,4 NM PIN

CIM **1390**

Clean the slip ring us per SWI

Does this solve the problem?

1] Yes

2] No

3] I don't know

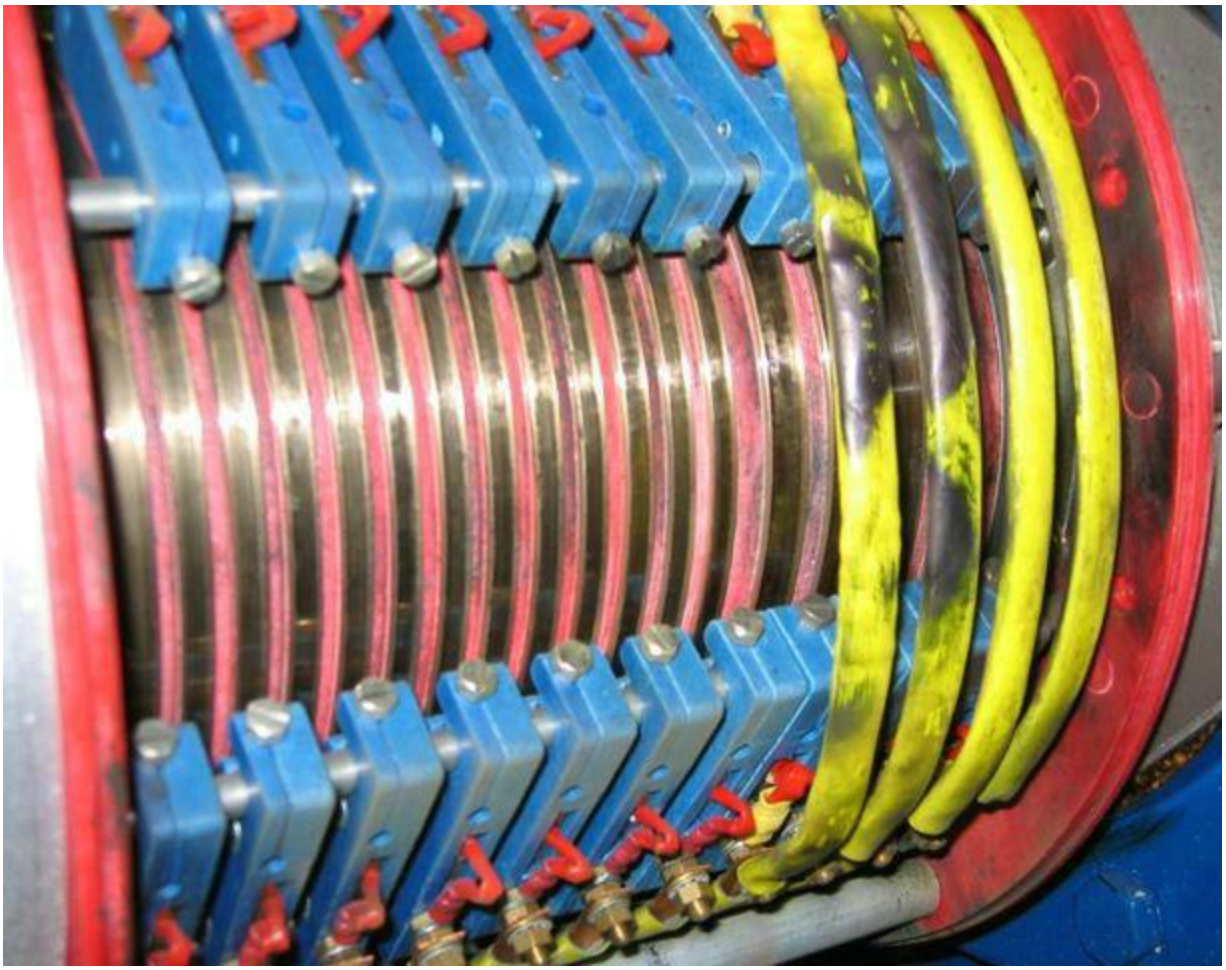
Explanation

IN THE HUB:

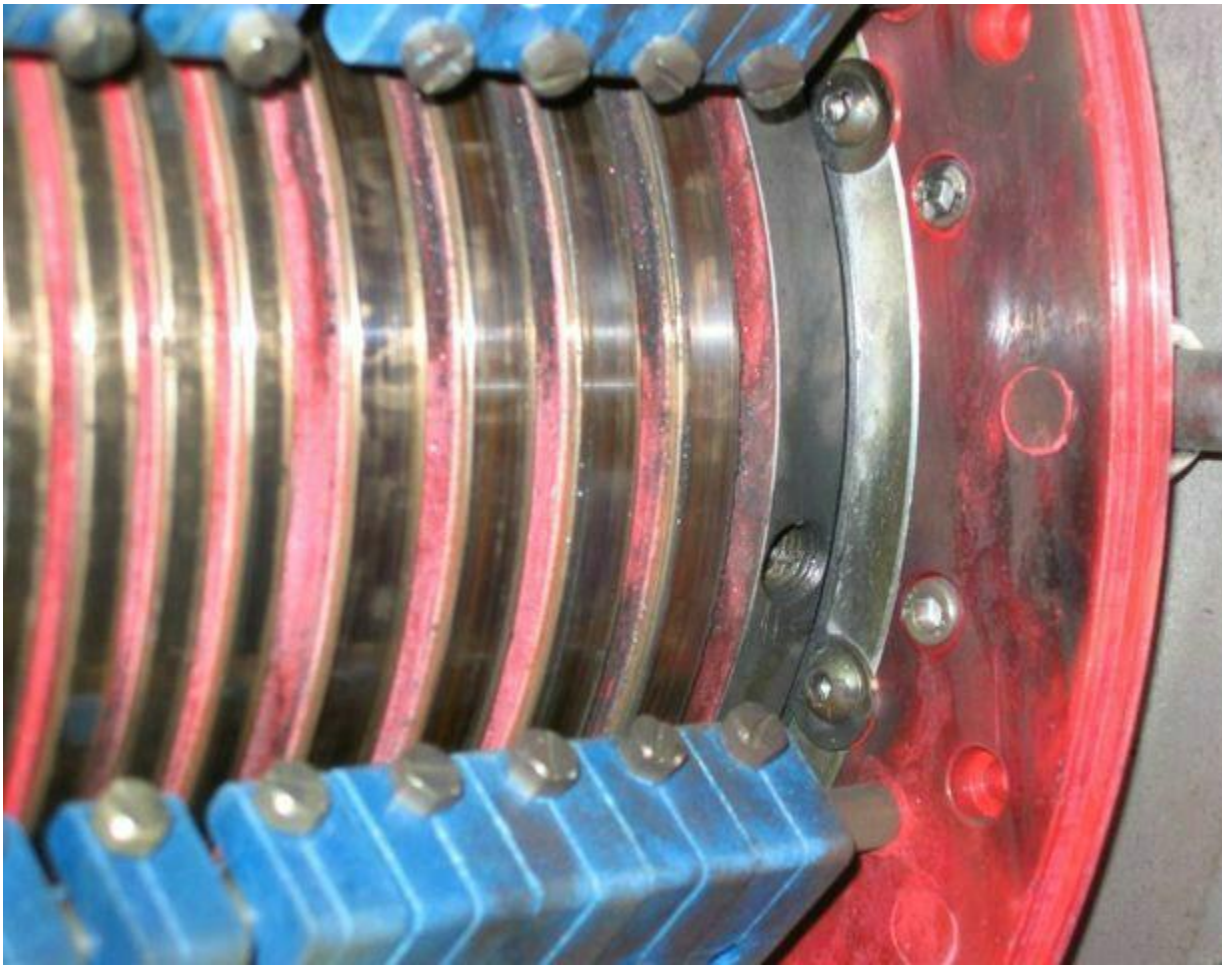
In most instances, a bad connection at the slip ring causes this alarm.

Investigate the slip ring for damage, dust or oil contamination.

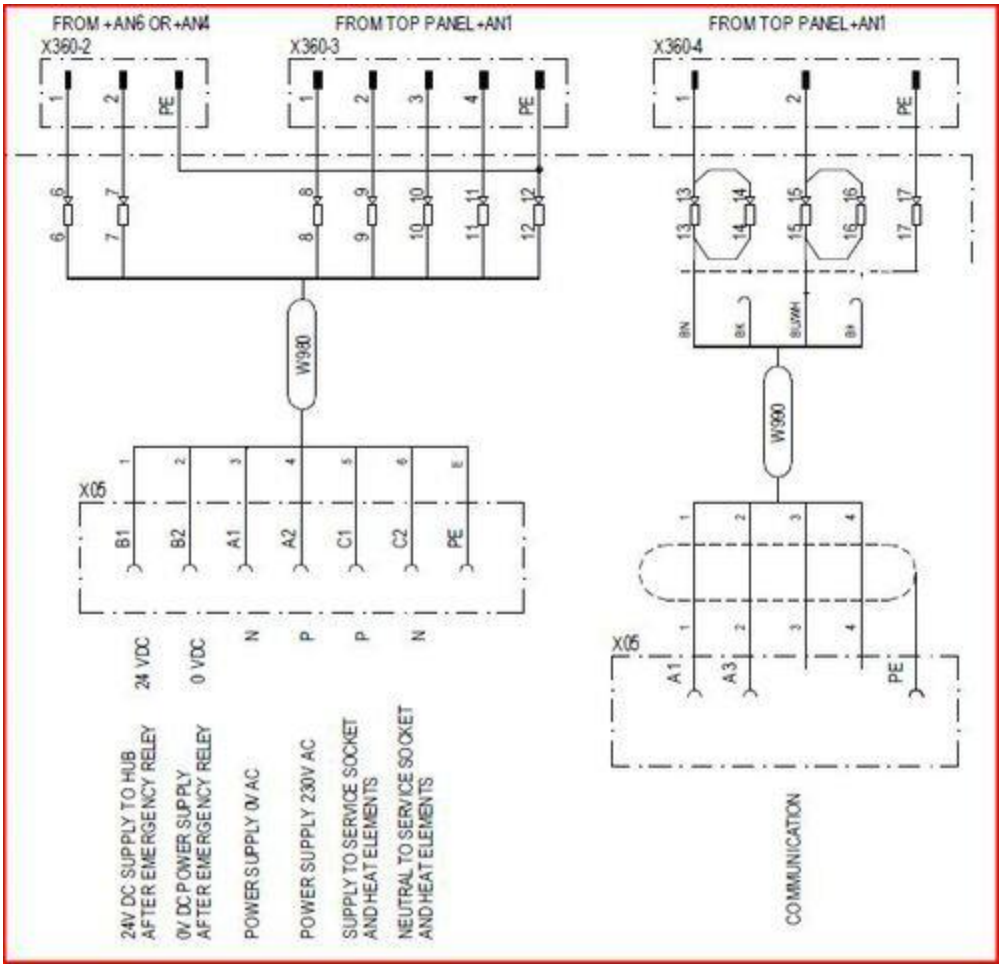
Use the document- DMS: **0001-4933** Cleaning Procedure for slip ring unit as a guideline.



Dust and oil accumulation on the slip ring short circuiting between the tracks which can cause this alarm.



Check the condition of the brushes on the slip ring. Check for 230VAC supply to the hub and hub communications:



Replace the brushes if worn, damaged or contaminated beyond repair.

If any cable problems or sleeve damages are found, use the following re-termination KIT to rectify.

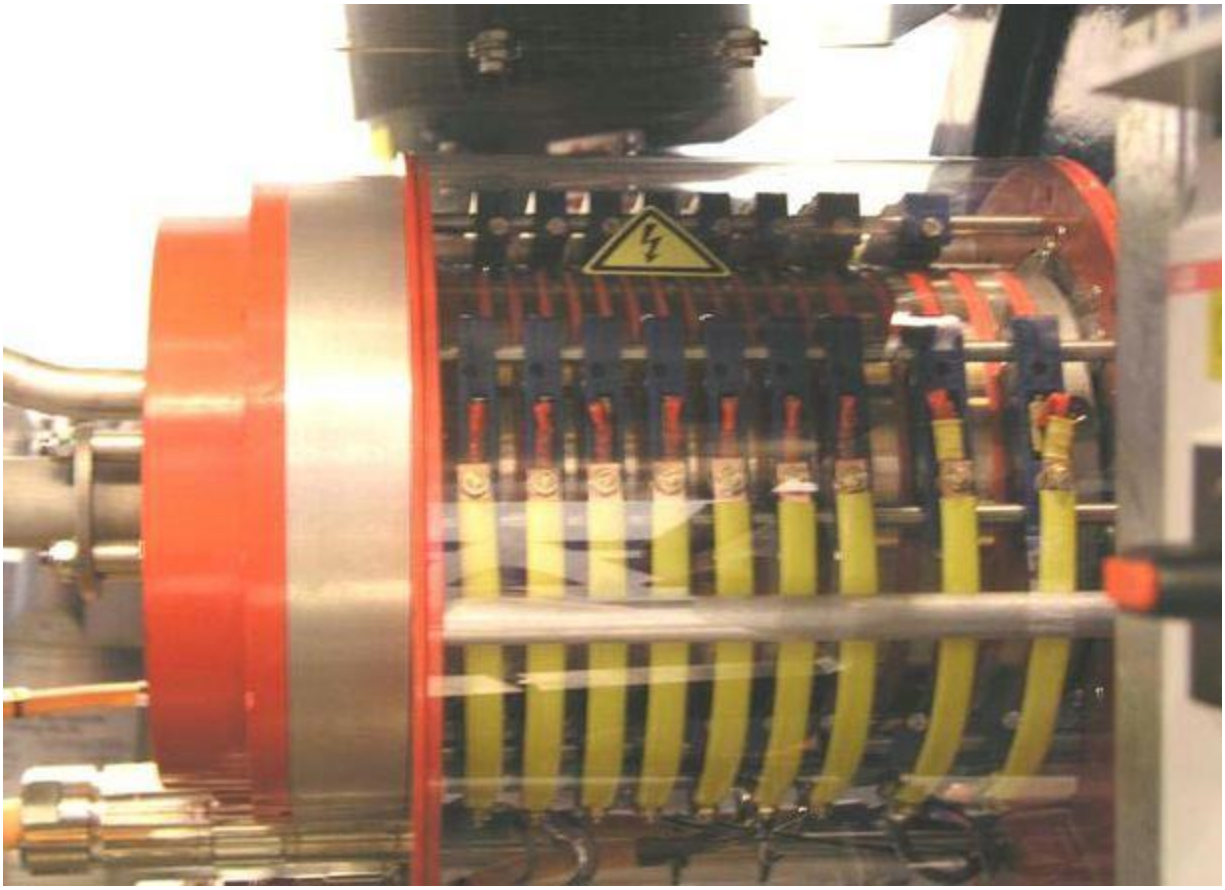
60095997 – CABLE MATERIAL

Part number for slip ring brushes:

60069225 - BRUSH HOLDER ASSEMB. SILVER GR (5A)

60069223 - 20A BRUSH HOLDER ASSEMB. COPPE

60093429 -SLIP RING GB 17 WAYS REV B (Whole Unit)



Check the cable connection, replace the defect cables

Does this solve the problem?

1] Yes

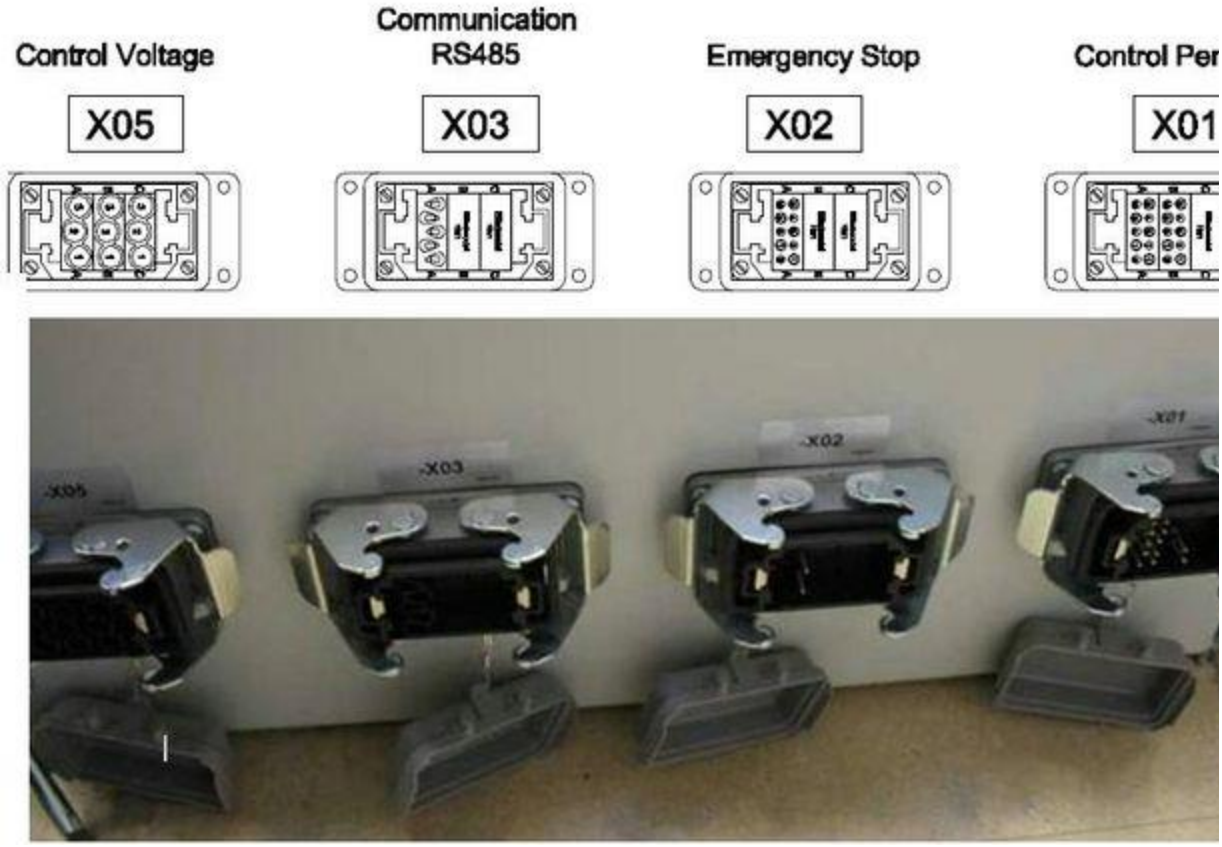
2] No

3] I don't know

Explanation

IN THE HUB:

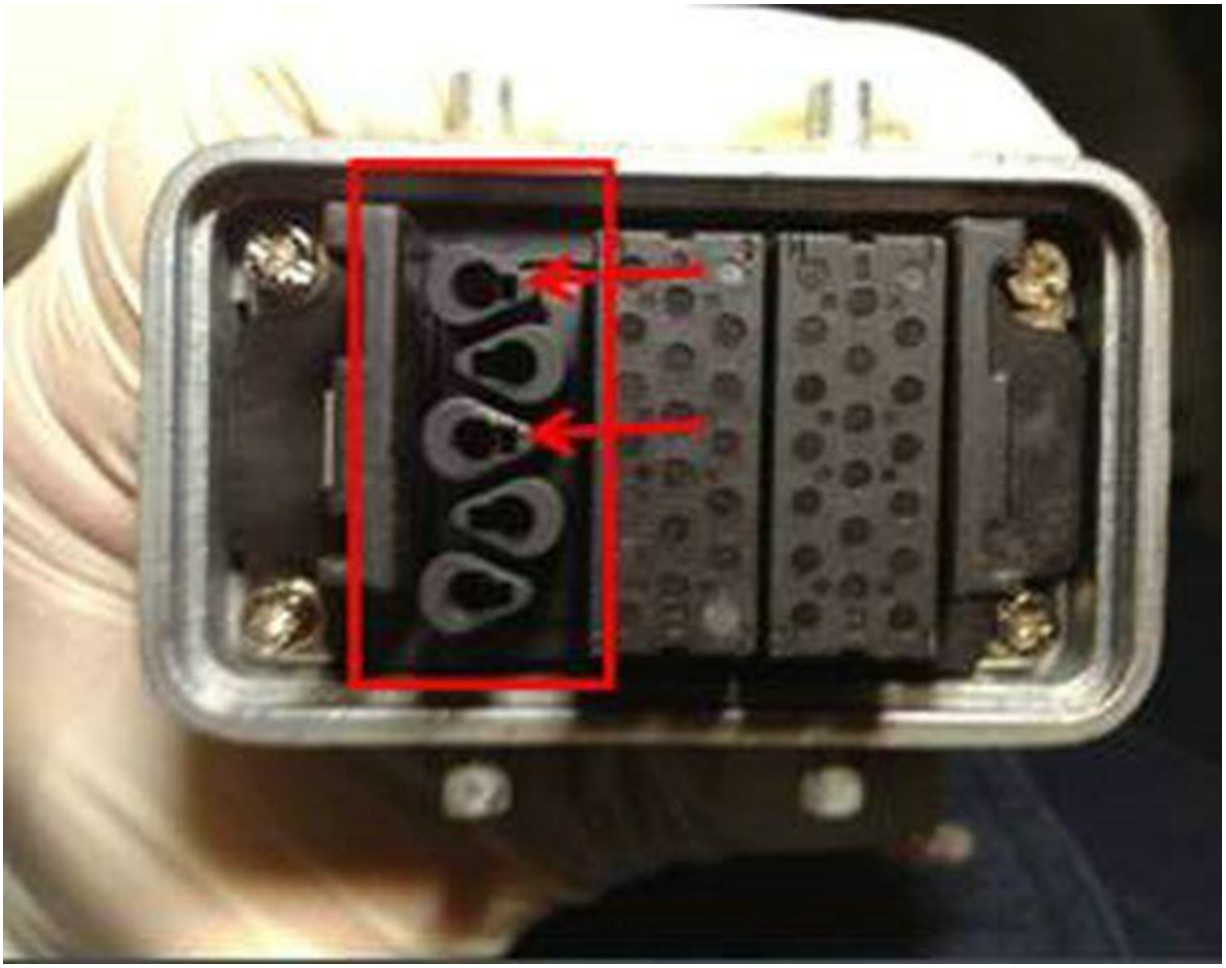
Check the condition of Plug -X03 (communication) on the AK4 panel in the hub.

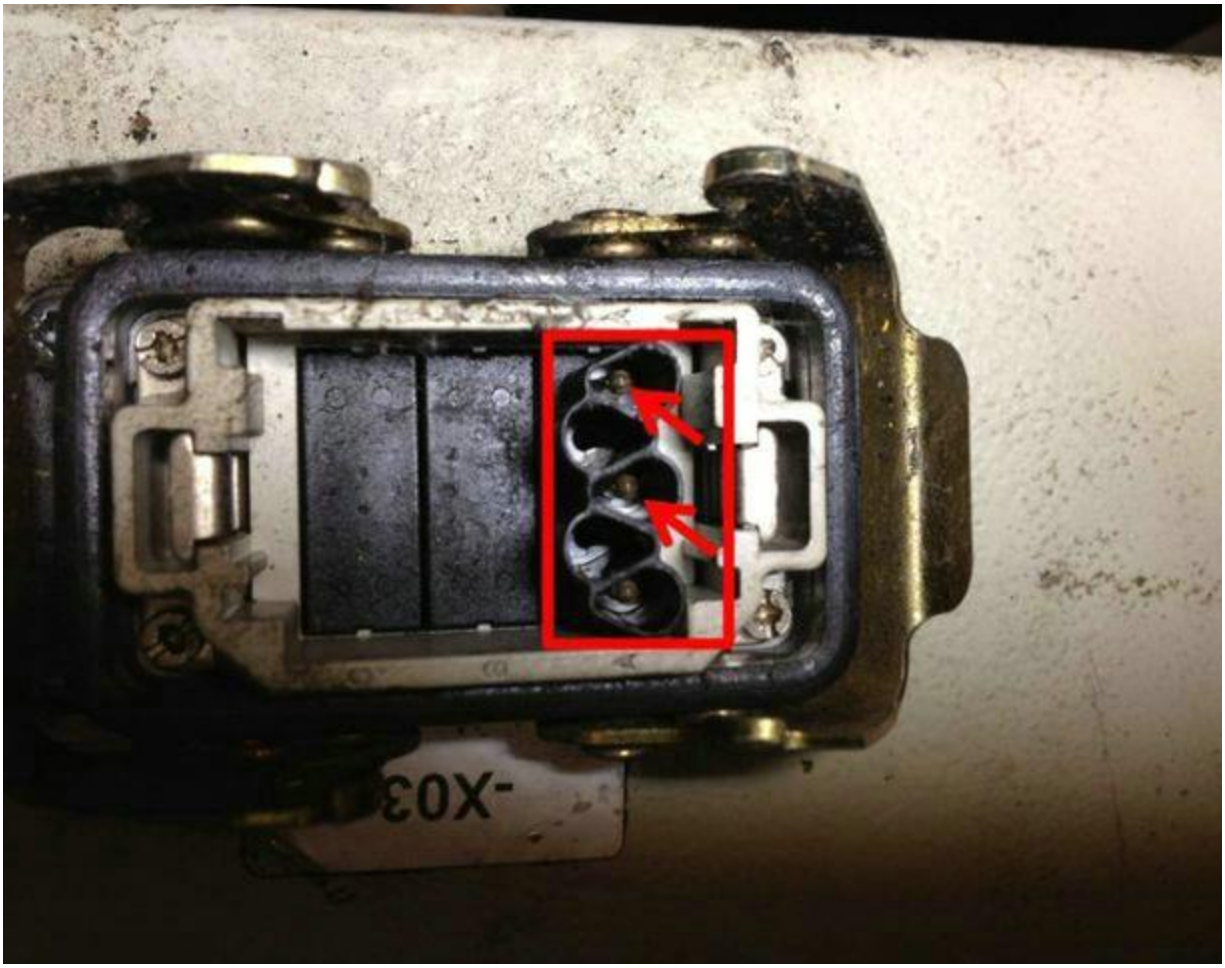


TO CHECK THE X03 COMMUNICATION CABLE:

Check that the -X03 Plug (communication from AN1 to HUB) is properly seated:

Check the -X03 plug female on module A pins 1 and 3.





Check the -X03 module A pins 1 and 3.

Check the condition of the Communication cable -W990

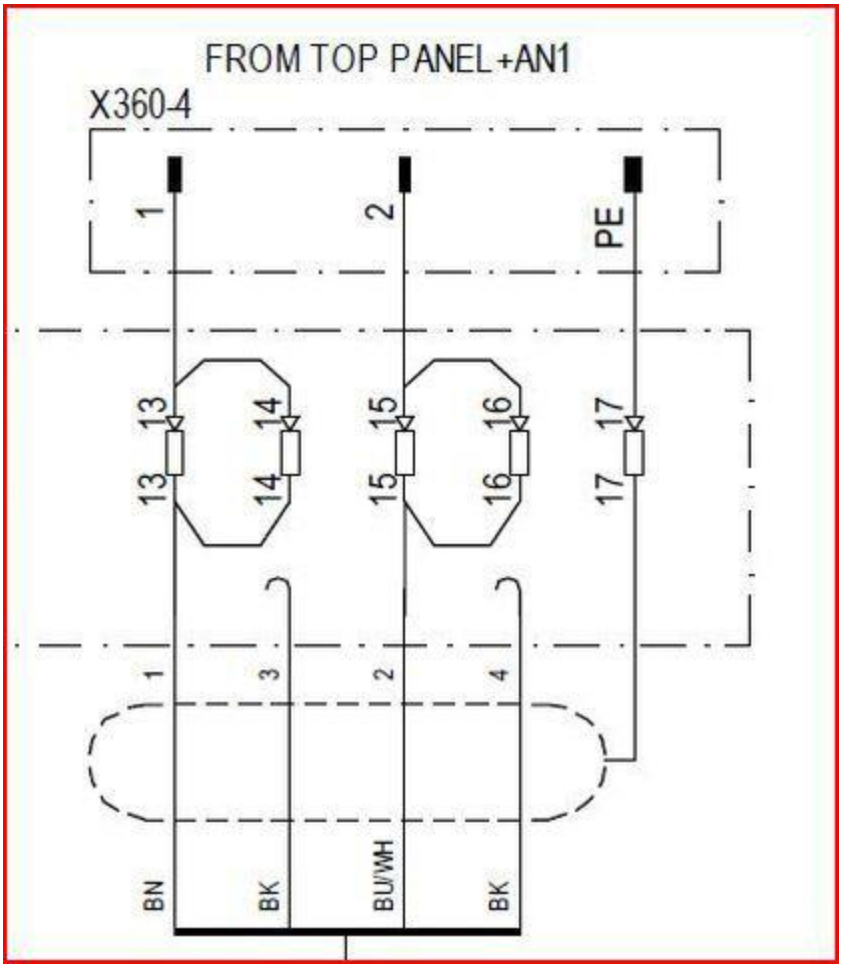
Check for any cracks or wear on the cable.

Perform a continuity to check on the -W990 cable:

Place a jumper between Pins 1 & 3 in module A of the plug on the -W990 cable.

IN THE NACELLE:

Remove the –X360-4 plug from the slip ring.



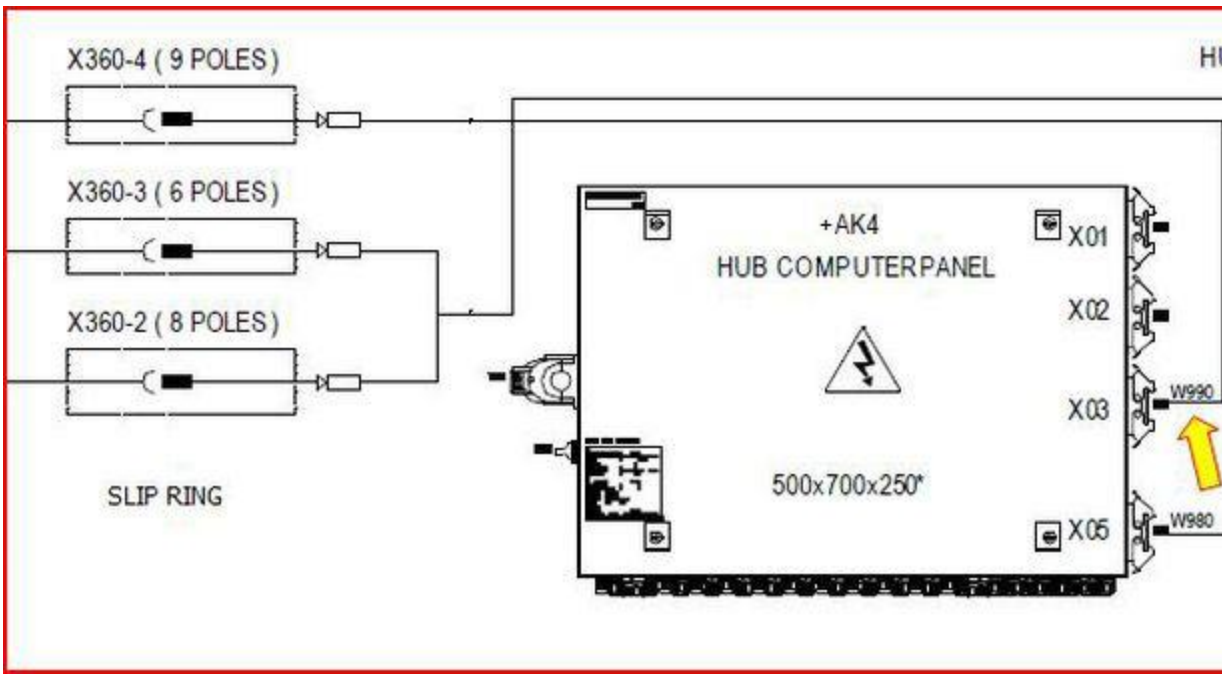
With a multimeter set to read Ω, measure between pins 1 & 2.

With the jumper in the hub, there should be a very low resistance value read by the meter.

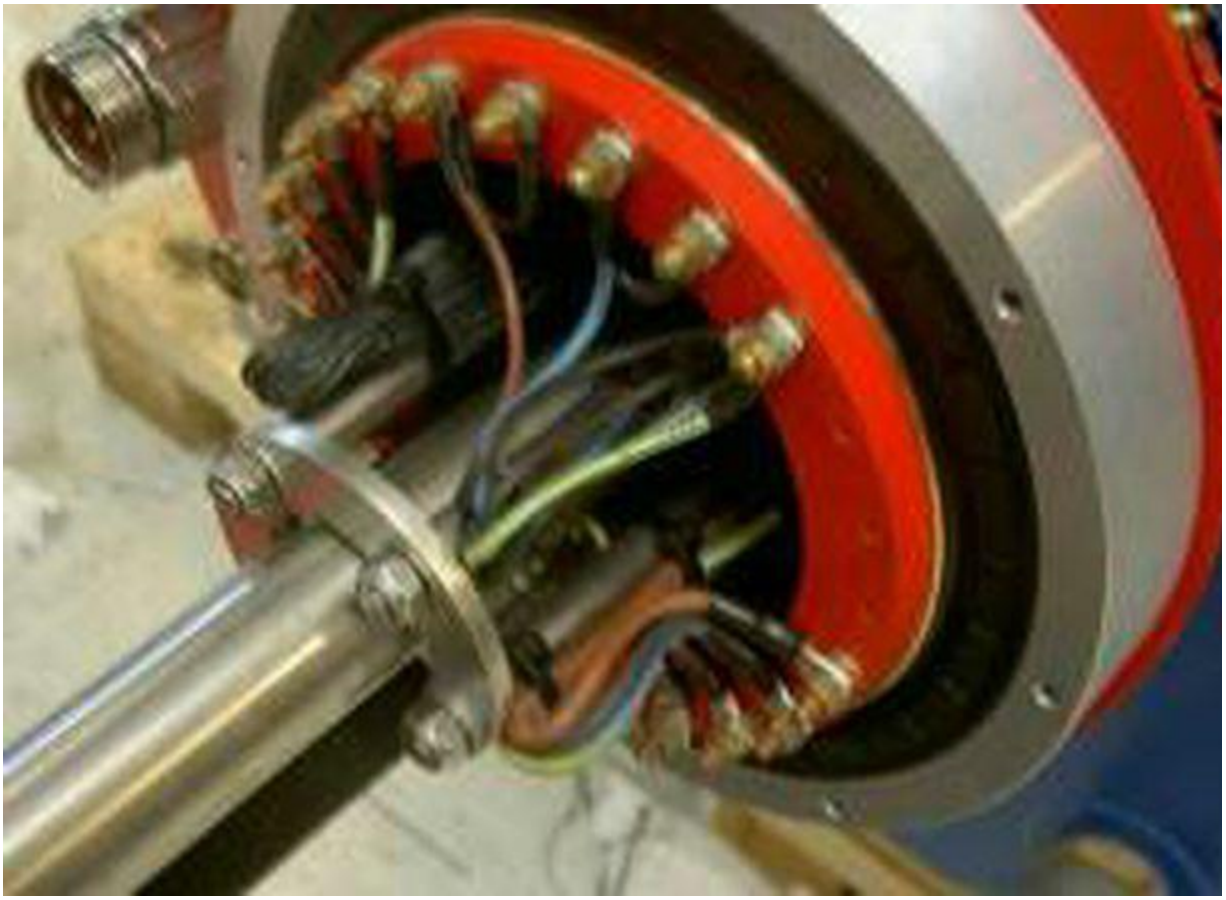
Perform continuity checks on the -W360-3 and -W360-4 cables between the slipring to AN1 the cabinet. Replace any defective cables.

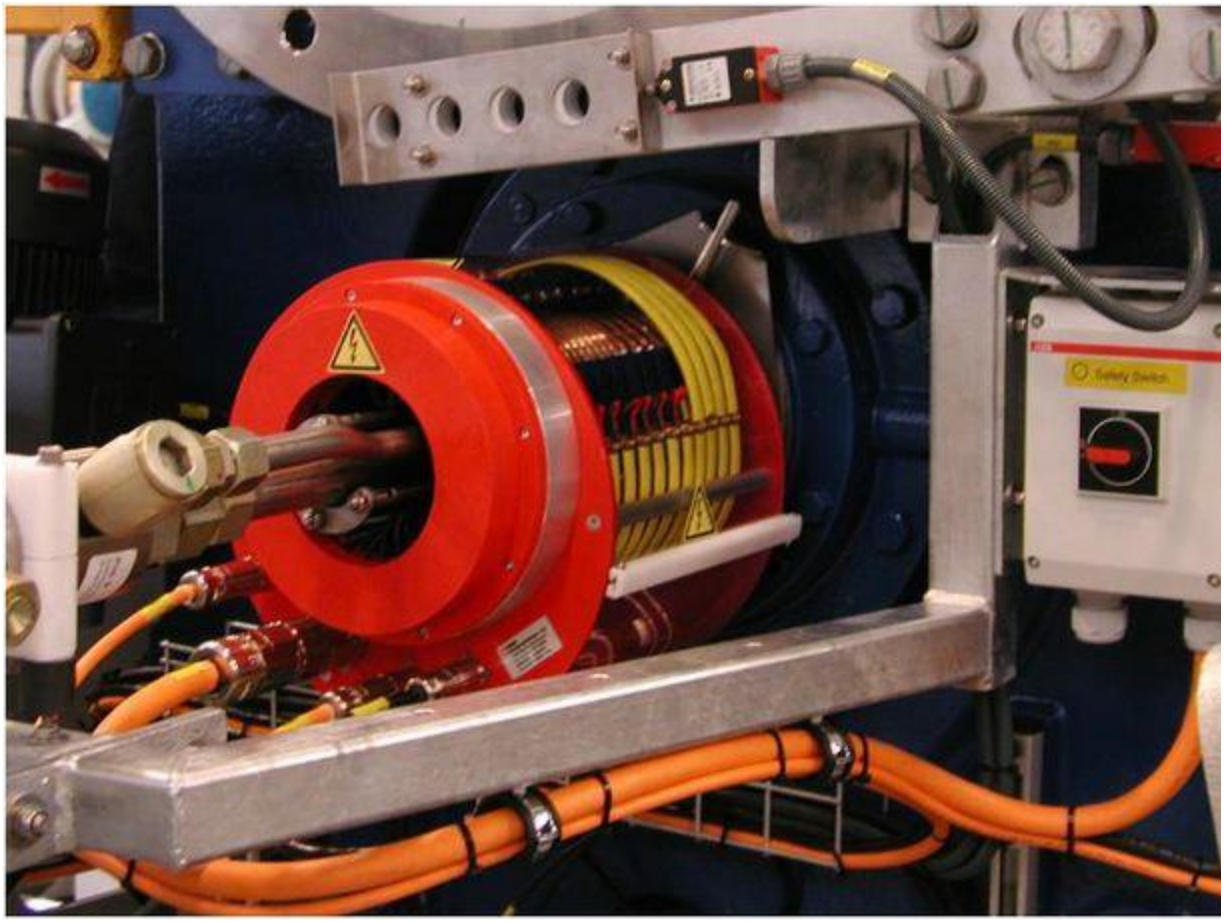
Cable part number for SLIP RING to HUB:

60021559 - CABLE -W990 COM CABLE


X360-4 (9 POLES)
X360-3 (6 POLES)
X360-2 (8 POLES)
SLIP RING
+AK4
HUB COMPUTERPANEL
500x700x250*
X01
X02
X03
X05
W990
W980

Check the cable terminations for any arc flash or loose connections.





60096029 - CABLE W360-3 IEC/UL W PLUG (Control Plug)

60096037 - COM CABLE W360-4 IEC/UL W PLUG (Communication plug)

60096028 - CABLE SERVER SOCKET (Service socket plug)

Check the cable connections/replace the defective cables

Does this solve the problem?

1] Yes

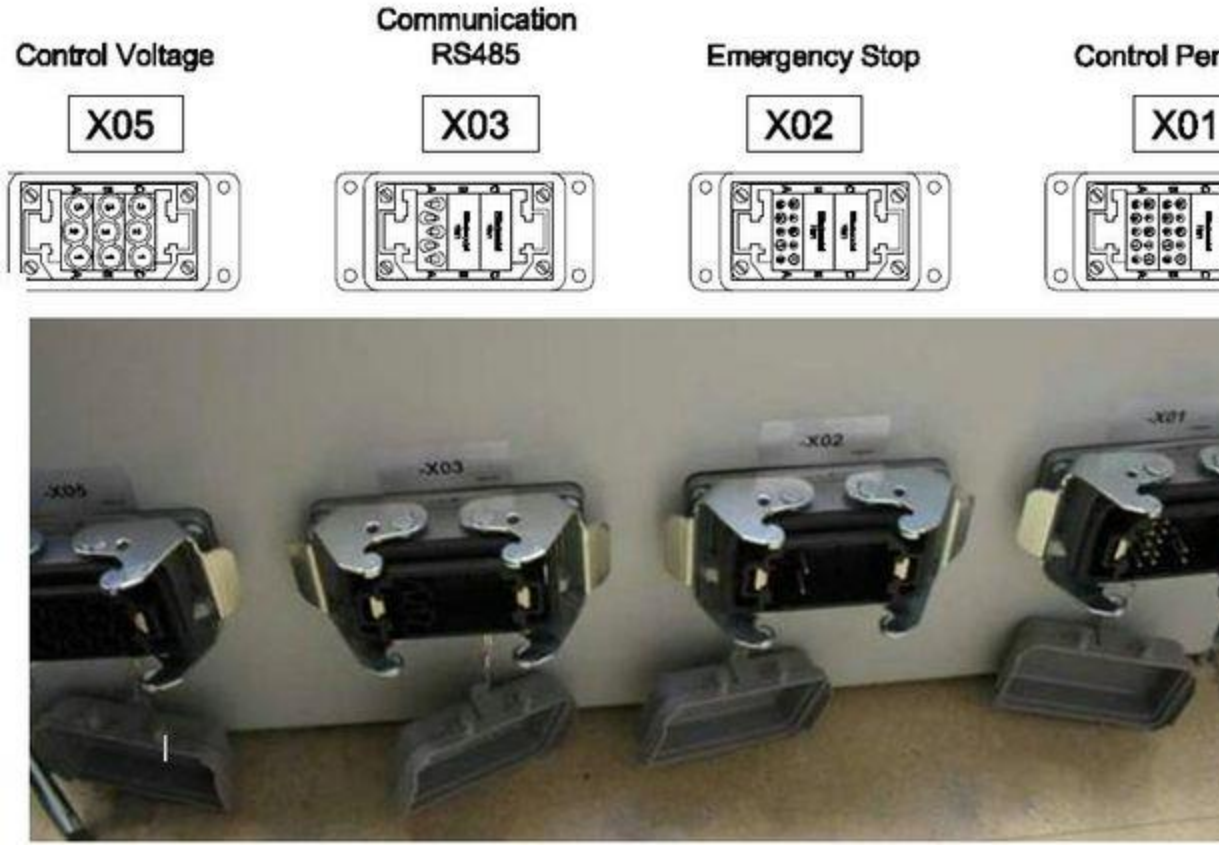
2] No

3] I don't know

Explanation

IN THE HUB:

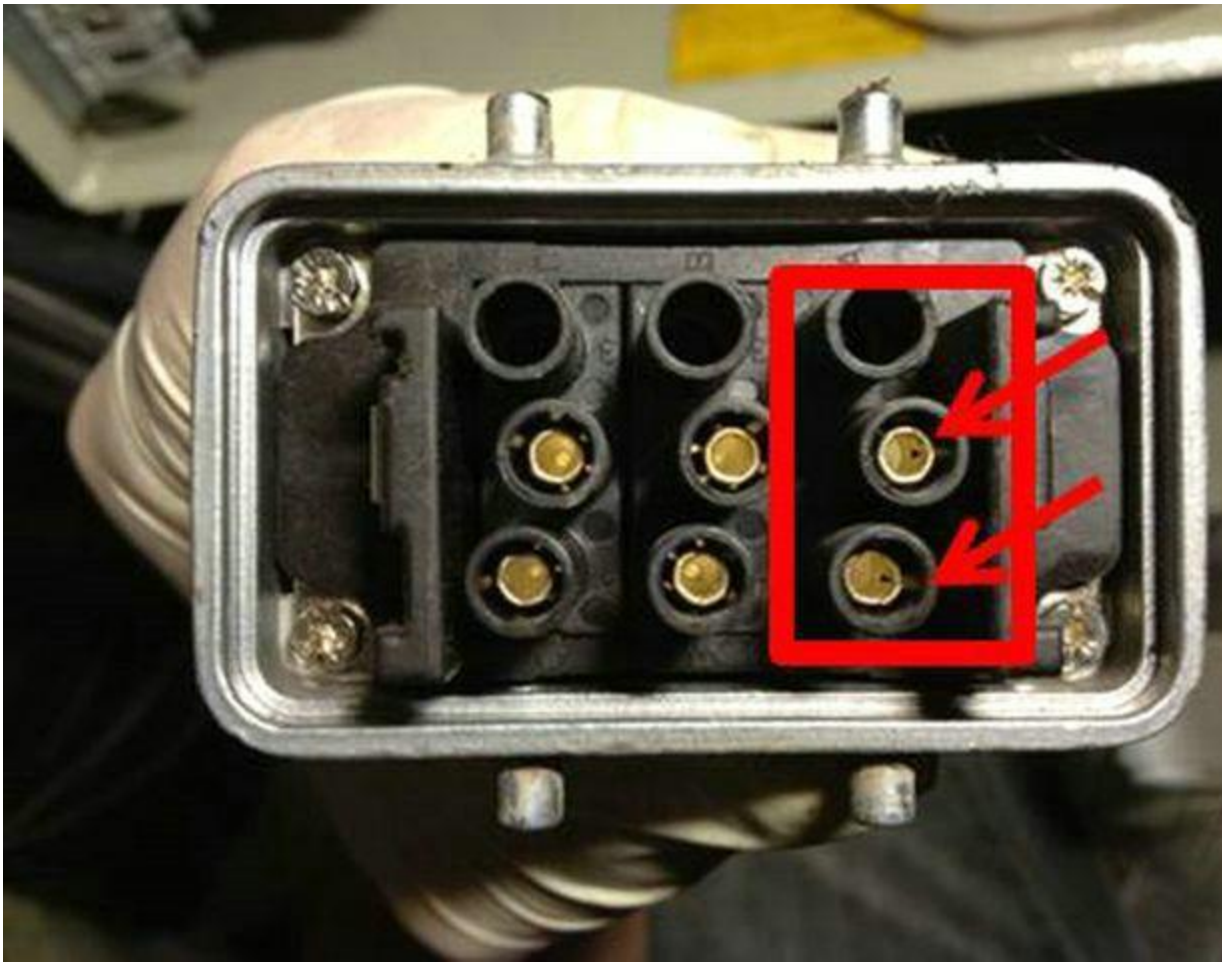
Check the condition of Plugs X05 (supply) on the AK4 panel in the hub.



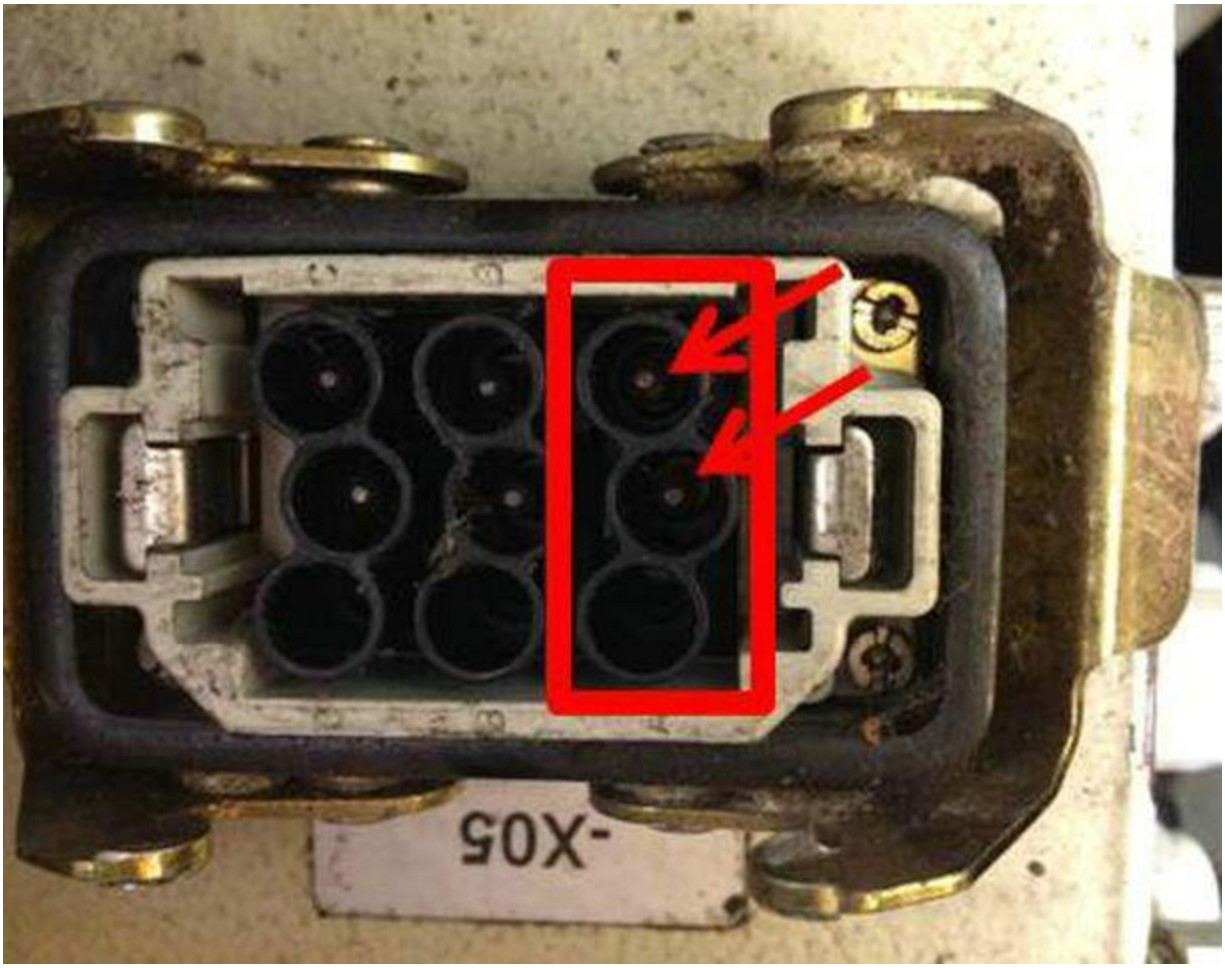
TO CHECK THE X05 SUPPLY CABLE:

Ensure that the X05 Plug (230VAC supply to the hub) properly seated:

Check X05 Plug female pins A- 1 and 2.



Check X05 Plug male pins A- 1 and 2.



Check the condition of the –W980 cable in the hub.

Check for any cracks or wear on the cable.

Replace the cable if it is defective.

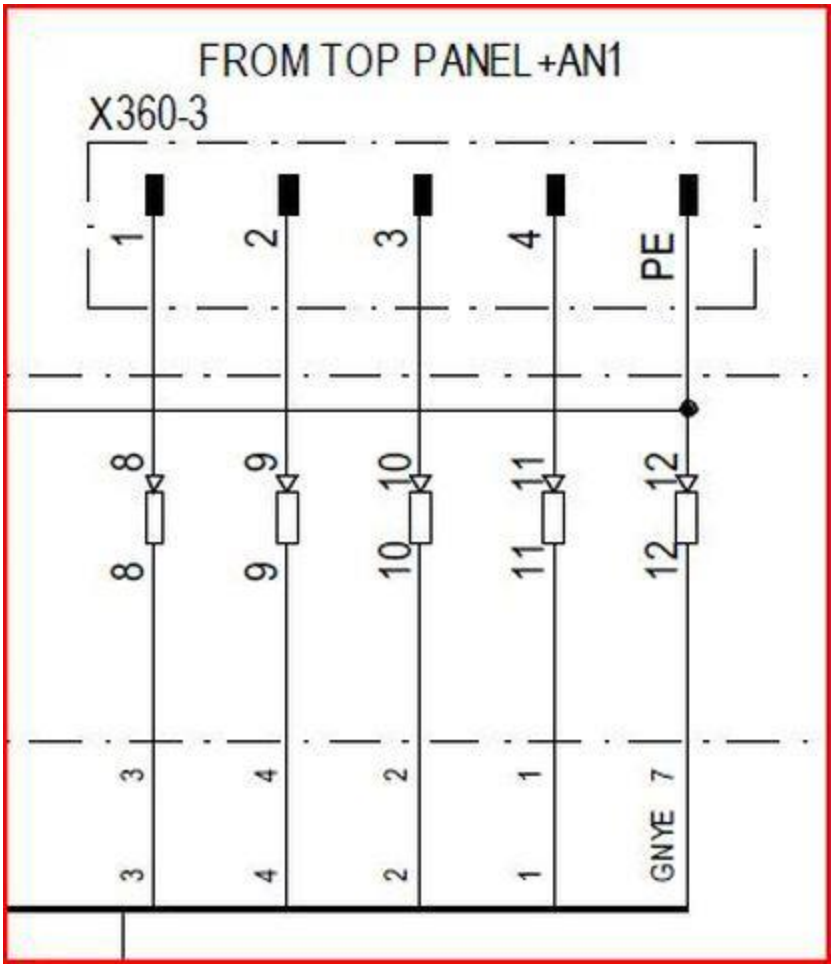
Perform a continuity check on the –W980 cable:

WARNING: Ensure that proper LOTO procedures have been followed and no voltage is present on the 230VAC circuit before testing the cable.

On the W980 cable place a jumper between Pins 1 & 2 in module A.

IN THE NACELLE:

Remove the –X360-3 plug from the slip ring.


FROM TOP PANEL +AN1
X360-3
1
2
3
4
PE
8
9
10
11
12
8
9
10
11
12
3
4
2
1
7
3
4
2
1
GNYE

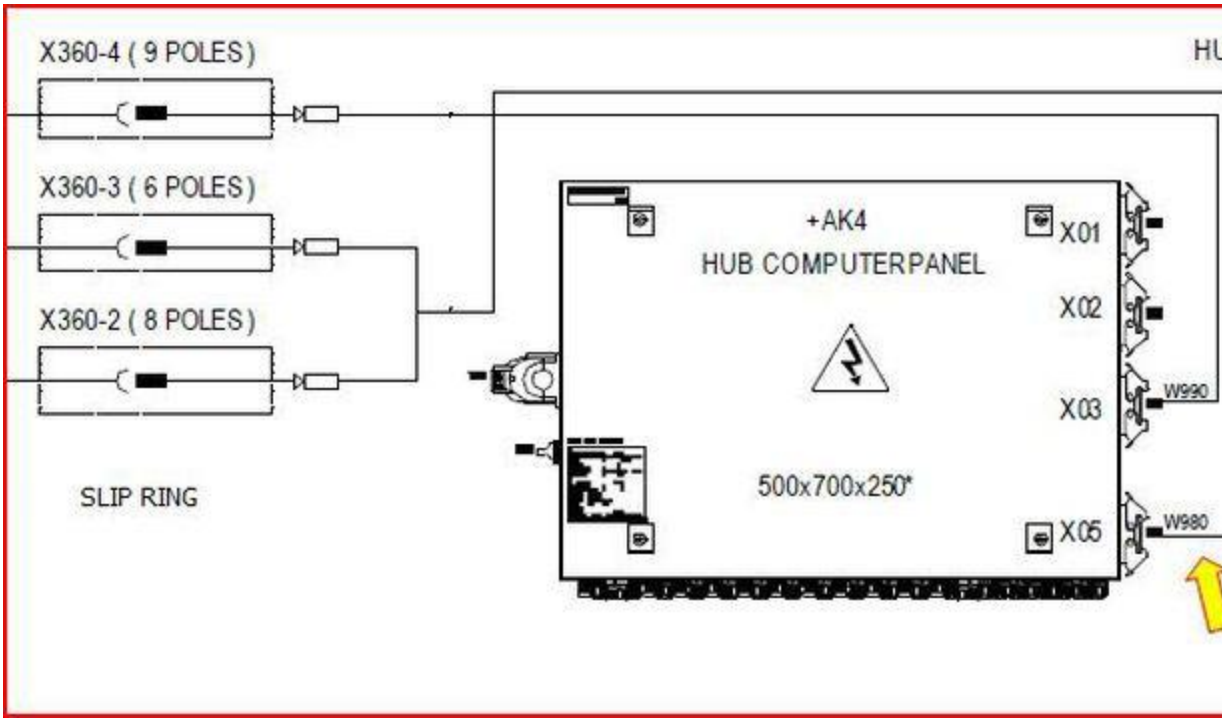
With a multimeter set to read Ω, measure between pins 1 & 2.

With the jumper in the hub, there should be a very low resistance value read by the meter.

Perform continuity checks on the - W360-3 and -W360-4 cables between the slip ring to AN1 cabinet. Replace any defective cables found.

Cable part number for SLIP RING to HUB:

60021557 - CABLE W980 IEC Supply


X360-4 (9 POLES)
X360-3 (6 POLES)
X360-2 (8 POLES)
SLIP RING
+AK4
HUB COMPUTERPANEL
500x700x250*
X01
X02
X03
X05
W990
W980