

## Troubleshoot/repair ROS sensors

### Does this solve the problem?

- 1] Yes
- 2] No
- 3] I don't know

- **Explanation**

Check the turbine alarm log for other instances of this or related alarms such as:

Relevant error's	
Description	ID
Rotor speed sensor 1 fault	<a href="#">262</a>
Sensor fault / direction TAC85	<a href="#">396</a>

Remove the outer plastic cover from the main bearing housing.

Check that the sensors are secure in the mounting bracket and are adjusted correctly:

Adjust the distance between the sensors and the scanning points to 1-2 mm

Rotor speed sensor mounting bracket:



Using a screwdriver, pass the metal portion past the inductive sensors. The sensors should light up at the moment the screwdriver is passed over them.

If they do not, ensure that the sensors are free of dirt and oil/grease. Retry passing the screwdriver over the sensors at varying distances.

If only one of the sensors emits a light, the other is likely faulty or has a faulty cable.

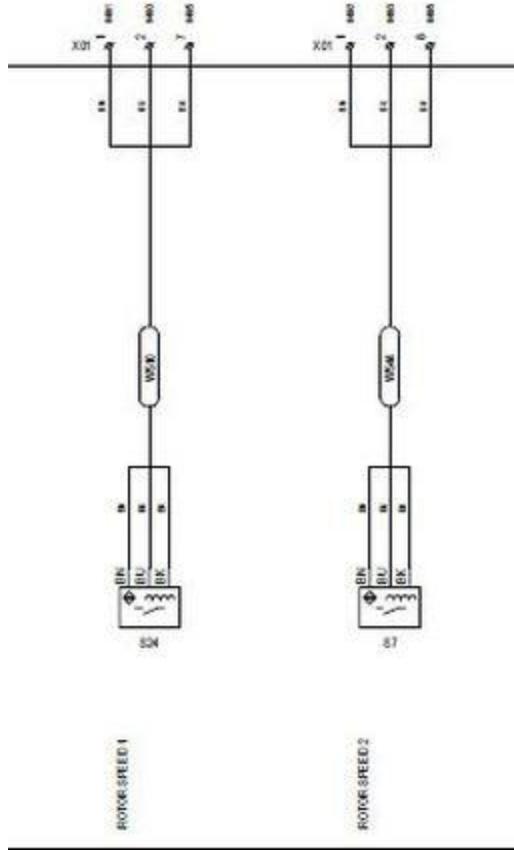
**Relevant spare parts**

Description	Item No.
PROXI SWITCH I1808PPOS1531 Ø18	<a href="#"><u>60009270</u></a>

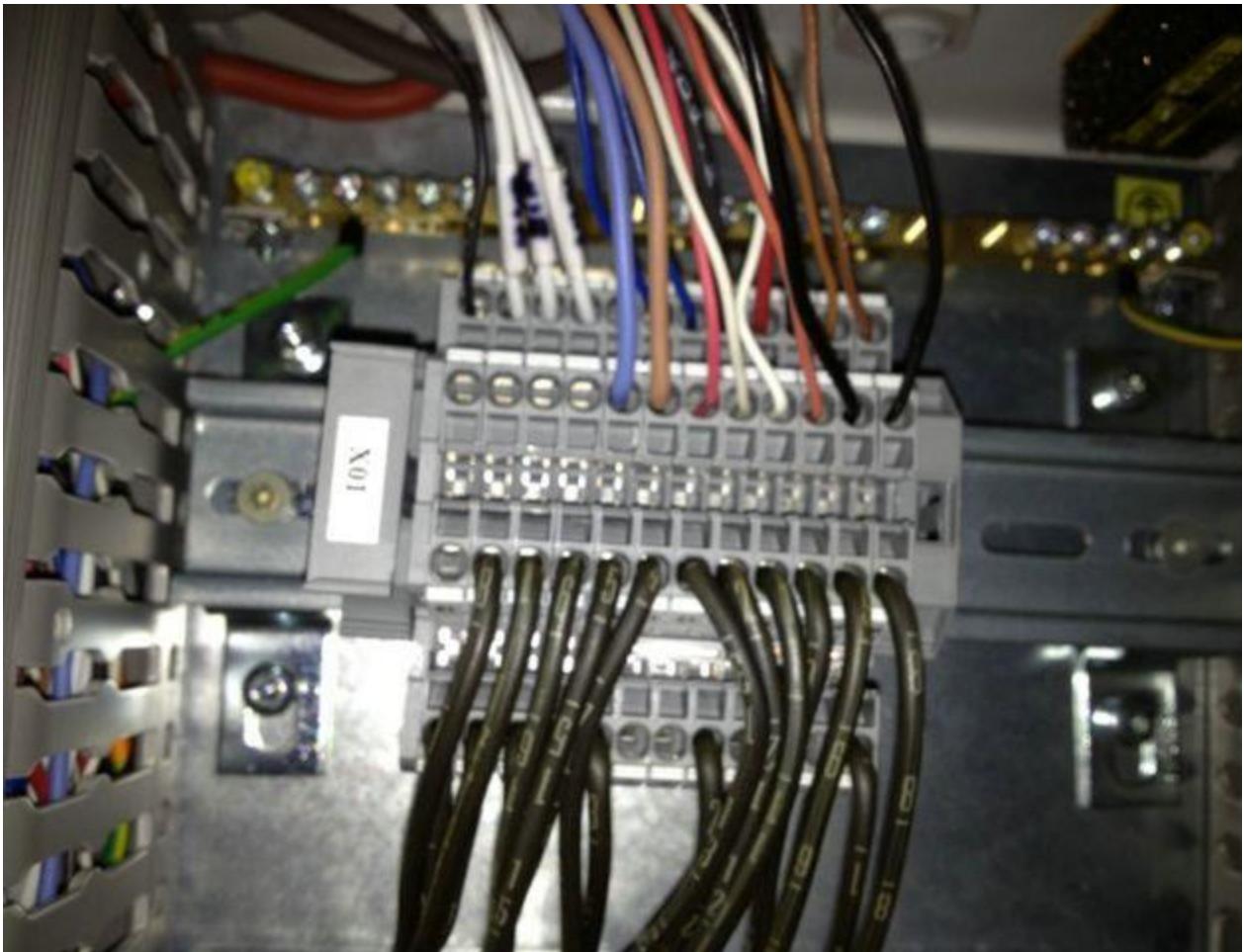
If neither sensors light up the cause could be an issue with the sensor supply via the TAC 85 overspeed guard module (the TAC 85 rotor overspeed and direction guard shares 24VDC supply with other sensors (VDC5). If other sensor faults are present, check the 24VDC5 circuit including power supplies G05 & G06 in the AN1 and F05 circuit breaker in the AN1.

Relevant spare parts	
Description	Item No.
TAC 85-1 DIRECTION GUARD	<a href="#"><u>60015773</u></a>
MCB 5SX2104-7 4.0A C 1P	<a href="#"><u>60005136</u></a>
PS ADC 5483R-3 10A-27,4 NM PIN	<a href="#"><u>188453</u></a>

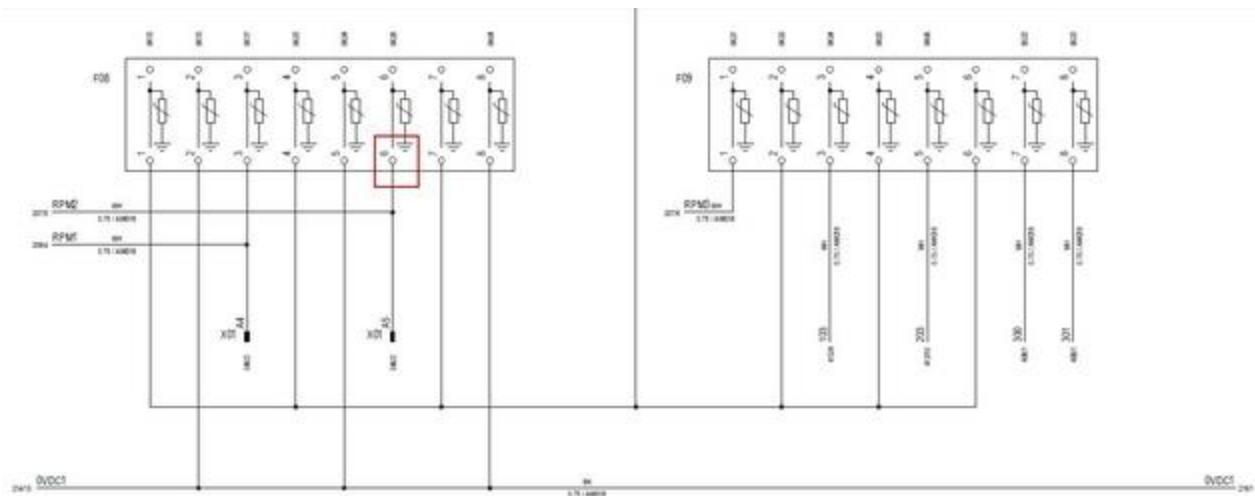
Check connections from the rotor overspeed sensors:



Check the rotor speed sensor connections at the X01 in the AN11 connection box (Terminals 1, 2, 7 & 8). Repair any loose or corroded connections.



Check the loose connection in Varistor Box-F08 at +AN1 panel and tighten, if found loose



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MOTOR SPEED

SIGHT & BRAKE PRESSURE

YAN BRAKE PRESSURE

AMBIENT TEMPERATURE

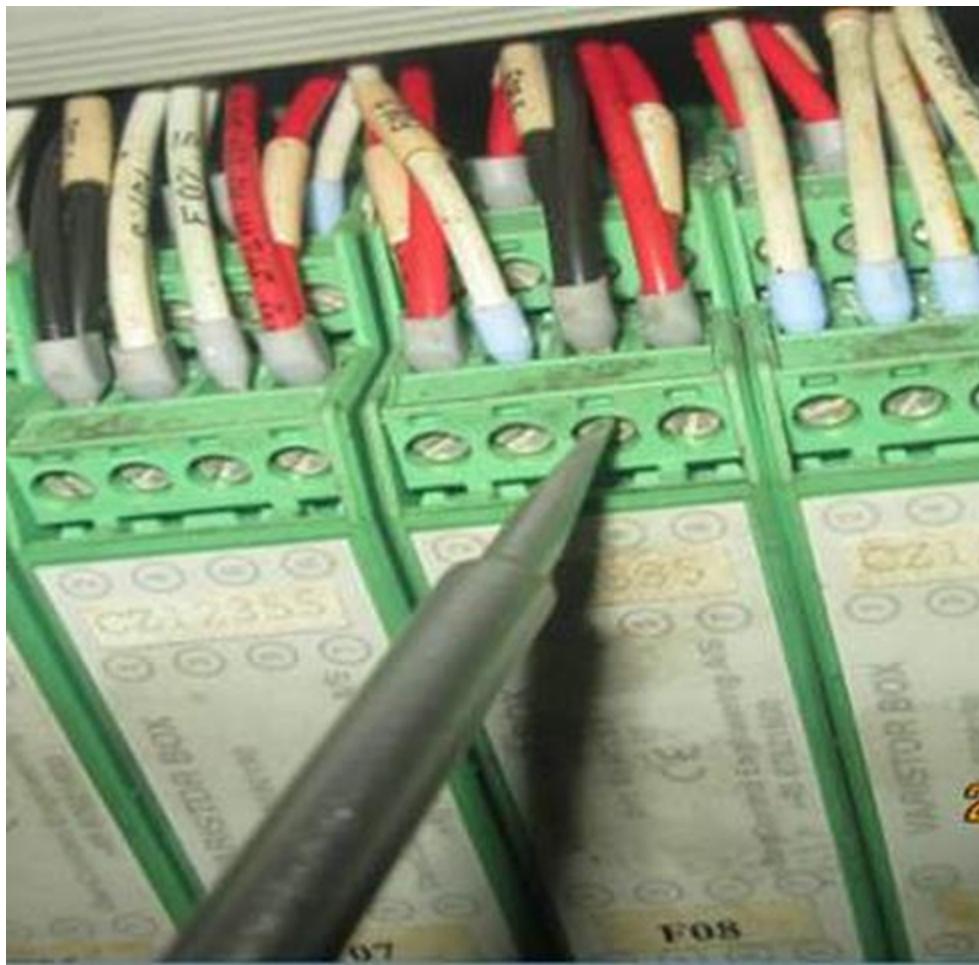
AMBIENT HUMIDITY



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**VESTAS PROPRIETARY NOTICE**

Date	Initials	Function	Varistor box F08-F09		
040610	CHO	Project no:	Top Panel +ANI		
		Comments	NM72 & NW82	Customer	Vestas Wind Systems A/S
041172	CHO	Rev.	-	Drawing no.	6015269
				Cont. sheet	216
				Sheet	2



Check the sensor cable entry portion for any damage/ loose connection:



### Upgrade sensor bracket & unshielded sensor

Does this solve the problem?

- 1] Yes
- 2] No
- 3] I don't know

• **Explanation**

**Problem:**

Incorrect sensing due to old bracket design.

**Solution:**

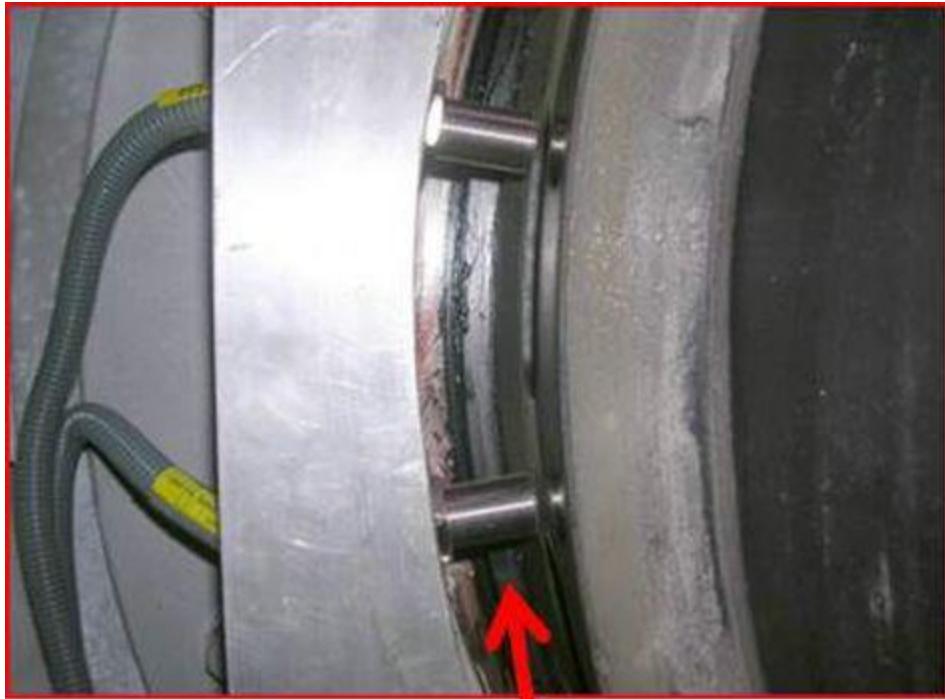
Upgrade sensor bracket & unshielded sensor

Upgrade the existing rotor sensing bracket along with unshielded proximity sensor which will resolve the sensing inaccuracy as per the SWI.

New Upgraded bracket



New Type Proximity Sensors



#### Relevant documentation

Description	DMS No.
SWI New rotor sensor bracket upgrade-V82	<a href="#">0044-9889</a>
RA for rotor sensor bracket upgrade	<a href="#">0044-9892</a>

**Troubleshoot the cable damage and use spare wire or replace cable**

**Does this solve the problem?**

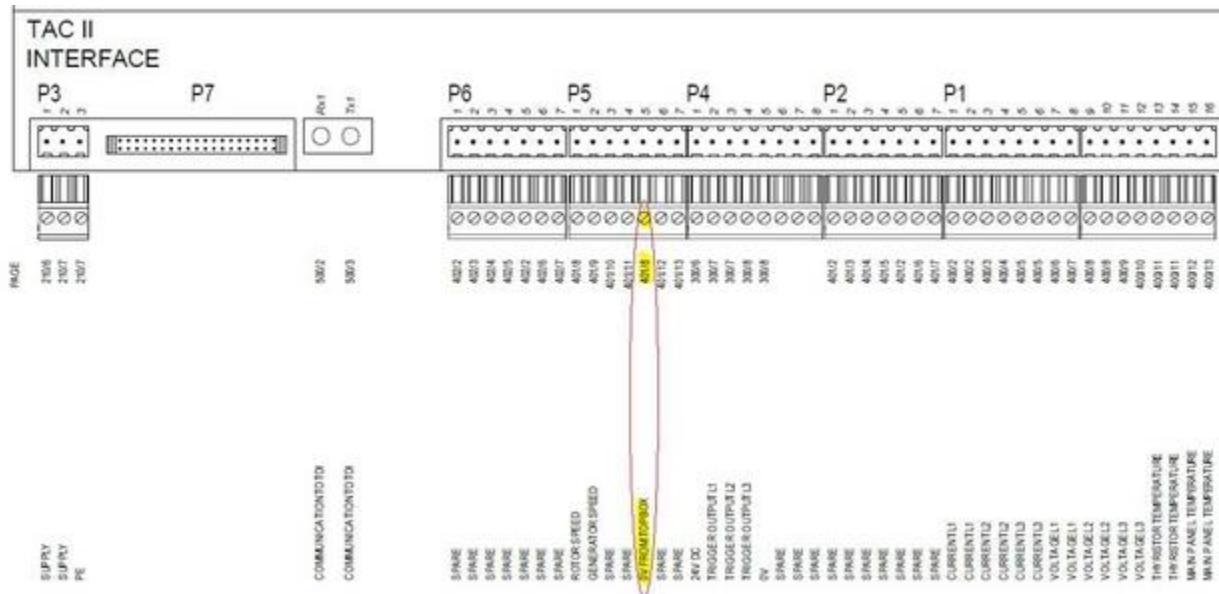
1] Yes

2] No

3] I don't know

- **Explanation**

Check the continuity of 0V DC IN TOP BOX (A6 core) in cable W500 and replace with spare core, if no continuity.



Relevant spare parts	
Description	Item No.
Cable -W500 93m IEC	<a href="#">60111780</a>

**Check and replace the broken Generator coupling**

### Does this solve the problem?

- 1] Yes
- 2] No
- 3] I don't know

- **Explanation**

Check and replace the Generator coupling which might be detached from drive train which causes this alarm.

Check generator – gearbox alignment before replace the defective coupling.

**NOTE:**

V82-2 speed turbines which has shorter length of coupling (309mm) when compared to single speed V82 turbine which is having 409mm length coupling. This is because of generator size is bigger in 2 speed turbines.

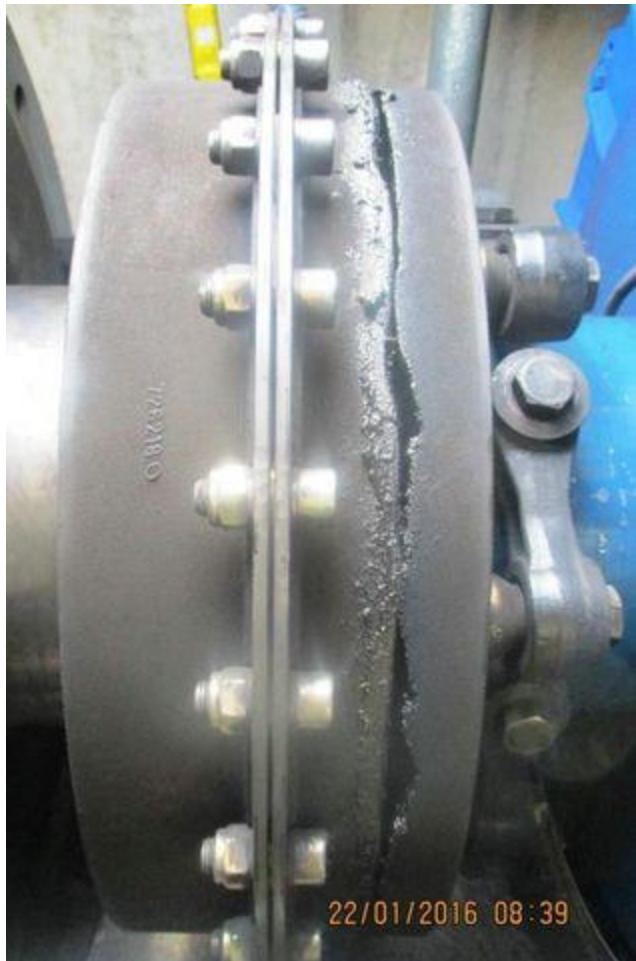
<b>Relevant spare parts</b>	
<b>Description</b>	<b>Item No.</b>
COUPLING CENTALINK NM82-1500/1	<a href="#">60100182</a>
COUPLING CENTALINK NM82 2-SP L	<a href="#">60100493</a>

<b>Relevant documentation</b>	
<b>Description</b>	<b>DMS No.</b>
SWI- Replacement of Coupling in V821.65 MW	<a href="#">0012-0270</a> V00

Failure view of coupling:



22/01/2016 08:39



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