



## **GOLDWIND S48/750 (50Hz)** **Technical Specifications**



# Content

1. <b>GOLDWIND S48/750 General Overview</b>	page 3 - 5
2. <b>Nacelle - Major Components Overview</b>	page 6 - 8
3. <b>Gearbox &amp; Main Shaft</b>	page 9 - 10
4. <b>Brake System &amp; Generator</b>	page 11
5. <b>Yawing System</b>	page 12
6. <b>Hydraulic System</b>	page 13 -15
7. <b>Lubrication System</b>	page 16 -17
8. <b>Sensor Controls</b>	page 18 -21
9. <b>Anemometer &amp; Wind Vane</b>	page 22
10. <b>Vibration Protection System</b>	page 23
11. <b>Safety &amp; Protection Components</b>	page 24
12. <b>Tower</b>	page 25
13. <b>Control System</b>	page 26 - 27
14. <b>Technical Parameters</b>	page 28 -30
15. <b>Weights &amp; Dimensions</b>	page 31

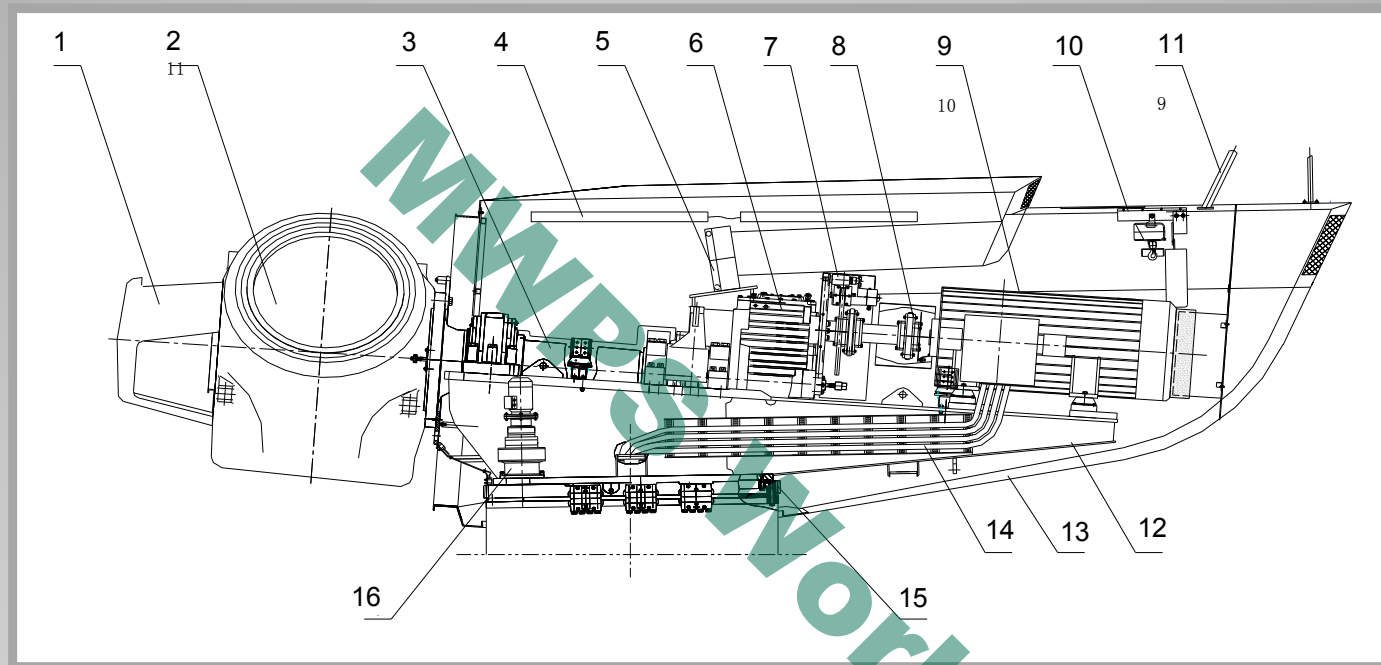
## ***GOLDWIND S48/750* General Overview**

### **Technical Specifications S48/750 (50Hz)**

- Rated Power: **750kW**
- Rotor Diameter: **50m**
- Hub Height: **50m**
- Type: **Stall - Upwind**
- Cut-in Wind Speed: **3.5m/s**
- Rated Wind Speed: **14 -15m/s**
- Cut-out Wind Speed: **25m/s**
- Survival Wind Wpeed: **70m/s**
- Life Expectancy: **20+ years**



## ***GOLDWIND S48/750 General Overview***



**Nacelle Arrangement Drawing**

- |                            |                  |                           |                    |
|----------------------------|------------------|---------------------------|--------------------|
| 1. Spinner Cap Support     | 2. Rotor         | 3. Main Shaft             | 4. Lighting System |
| 5. Gear Oil Cooling System | 6. Gearbox       | 7. Brakes                 | 8. Coupling        |
| 9. Generator               | 10. Chain Lifter | 11. Wind Vane, Anemometer | 12. Base Frame     |
| 13. Nacelle                | 14. Power Cable  | 15. Yaw Bearing           | 16. Yaw Drive      |

## GOLDWIND S48/750 General Overview

Item	Components	Number	Weights (Unit: t)	
			Single Weight	Gross Weight
Rotor	Tip (HT24)	3	3.3	9.9
	Hub	1	5.0	5.0
Drive system	Main shaft	1	2.1	2.1
	Main bearing	1	0.5	0.5
	Gearbox	1	5.9	5.9
	High speed brake	2	0.14	0.28
	Generator	1	4.4	4.4
Base frame	Base frame	1	4.3	4.3
Yawing system	Yawing bearing	1	0.6	0.6
	Yawing drive	2	0.17	0.34
	Yawing brake dish	1	0.26	0.26
	Yawing brake	5	0.06	0.3
Nacelle	Nacelle overlay	1	1.3	1.3
Control system	Top box	1	0.08	0.08
	Main control box	1	0.48	0.48
Nacelle weight				22.5

## Nacelle – Major Components



### **Operational components:**

Control Box - Rotor Locking Pin

### **Installed components:**

Cable Twist Counter - Yawing  
Sensor, Rotor Sensor - Left Yawing  
Motor & Gear Redactor

### **Operational component:**

Generator Line-Box - Hydraulic Station  
Hydraulic System Line-Box

### **Installed components:**

Right Yawing Motor & Gear Redactor ,  
Hydraulic Station



## Nacelle – Upper Part Components

Generator – Gearbox - Main Shaft - Gearbox Oil Cooling Fan –  
Coupling - 2 High Speed Brakes



## Nacelle – Lower Part Components

Yawing bearing - Yawing brake pin - Yawing brake x 5





## Gearbox & Main Shaft



Gearbox



Main Shaft

## Main Shaft Components

Main Shaft - Front Sealing Ring - Back Sealing Ring - Rotating Bearing - Bearing Bracket - Canopy - Bearing Brackets



## Brake System & Generator

Brake Dish - High Speed Brake – Coupling - Generator





## Yawing System

Yawing Motor - Yawing Gear Redactor - Yawing Bearing - Yawing Brake Disc - Yawing Brake



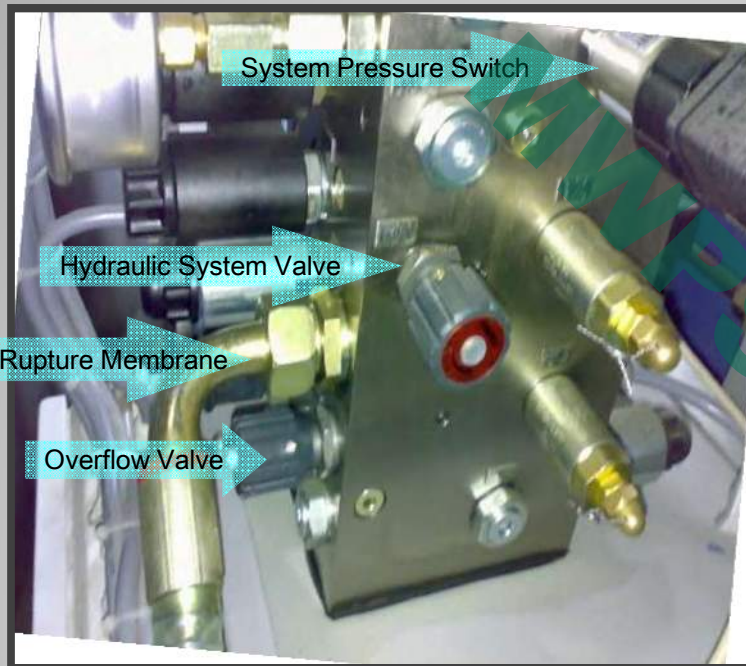
## Hydraulic System

Control Tip Brake - Yawing Brake - Drive Brake

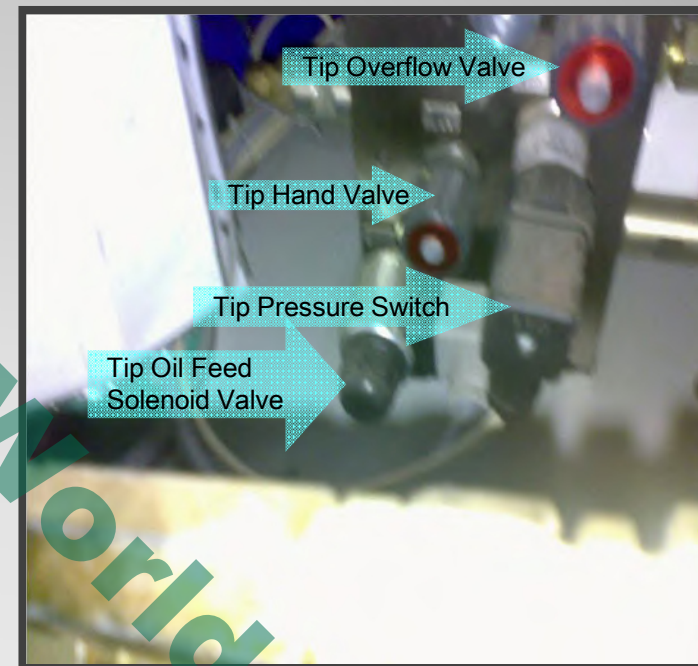




## Hydraulic Station

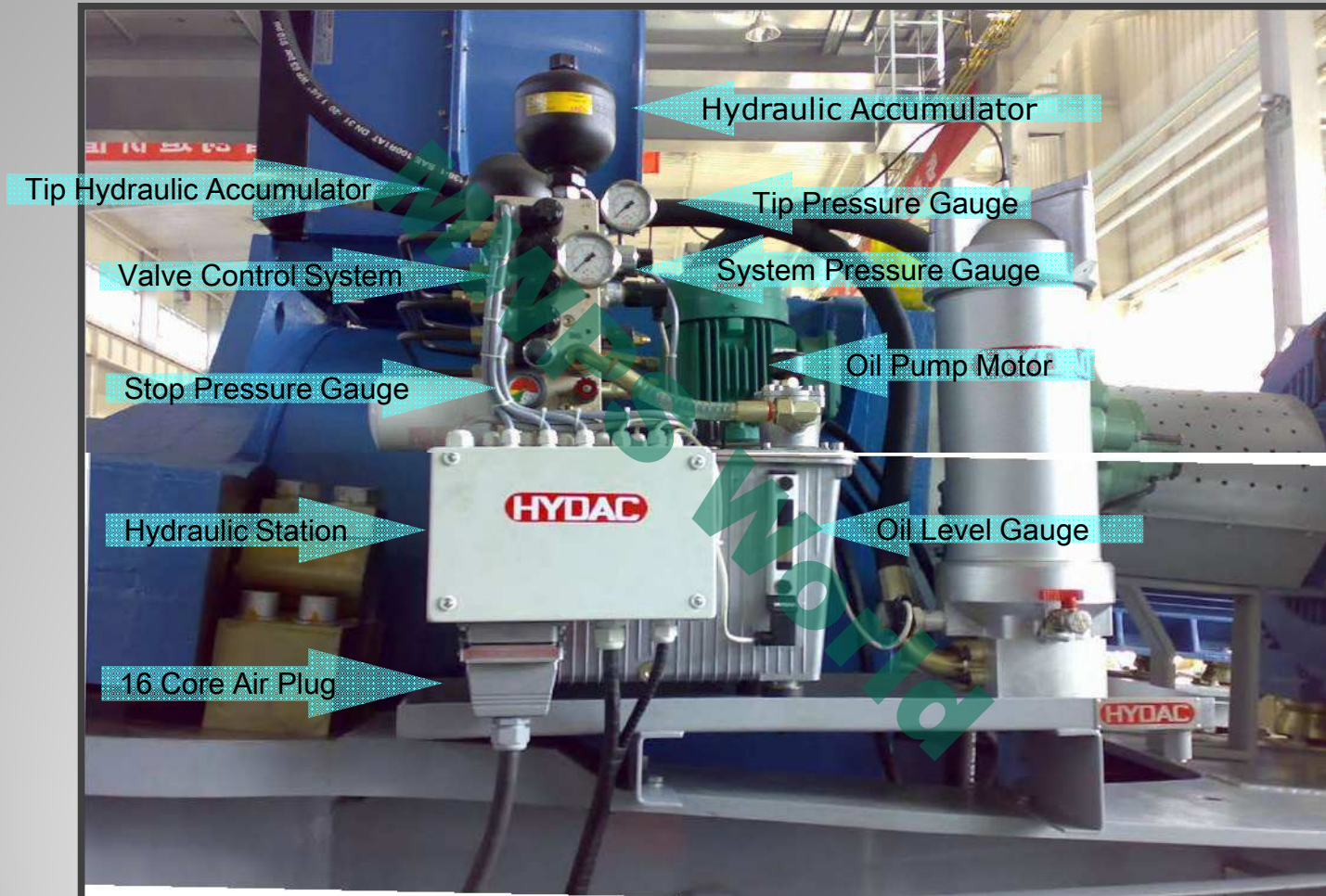


System circuit



Tip circuit

## Hydraulic Station



## Gearbox Lubrication System

Gear Oil Pump

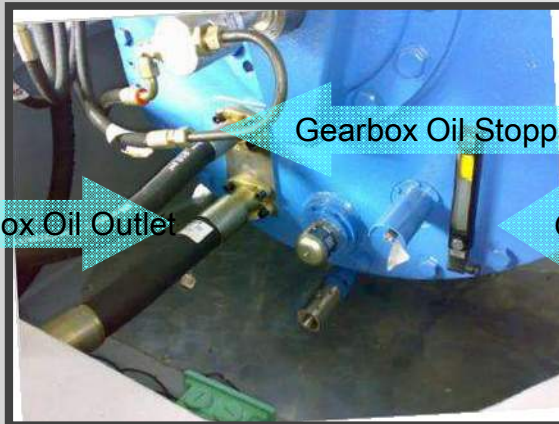


Gearbox Oil Circuit Filter



Gearbox Oil Stoppage Outlet

Gearbox Oil Outlet

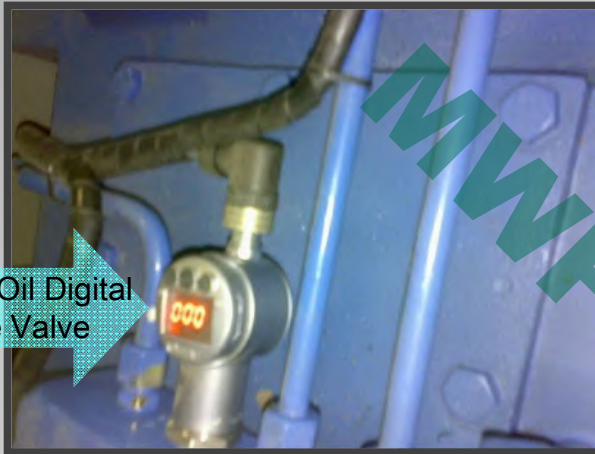


Gearbox Oil Level Gauge



## Gearbox Lubrication System

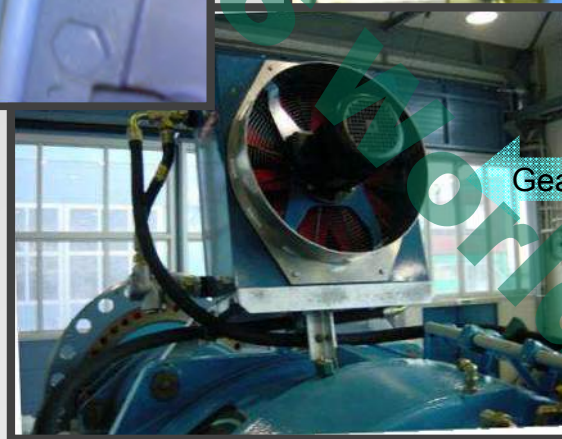
Gearbox Oil Digital Pressure Valve



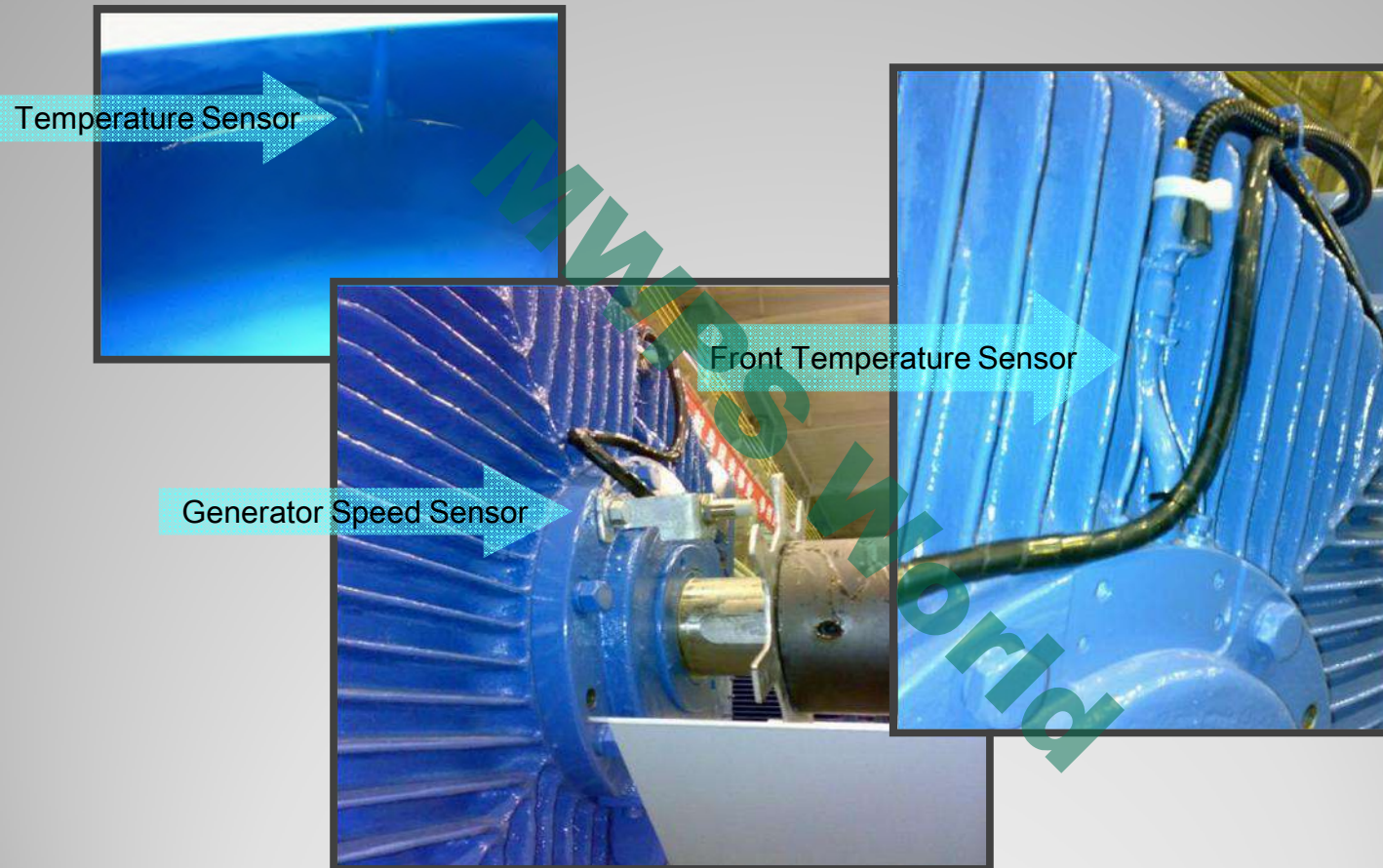
Gearbox Oil Pressure Valve



Gearbox Oil Cooling Fan

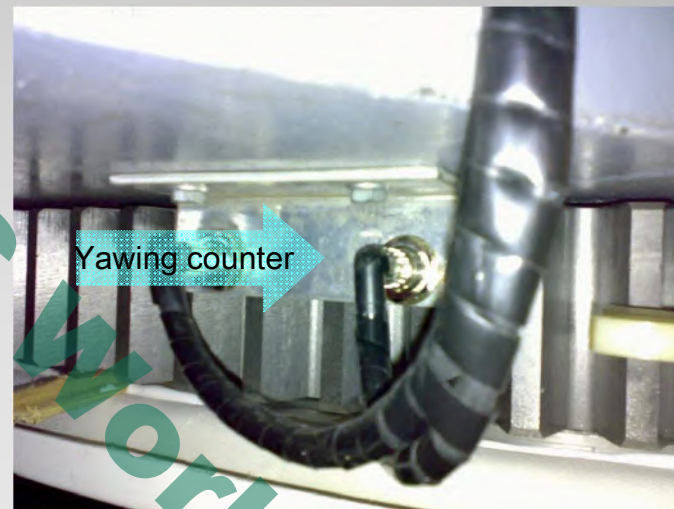
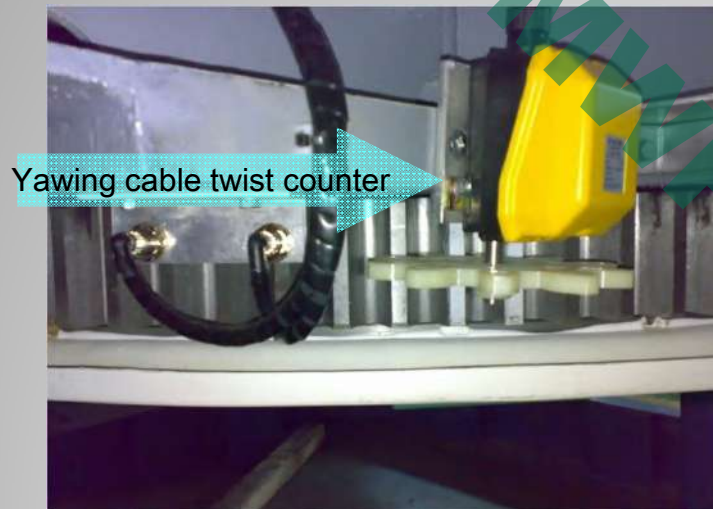


## Generator Sensor Components





## Yawing Sensor Components

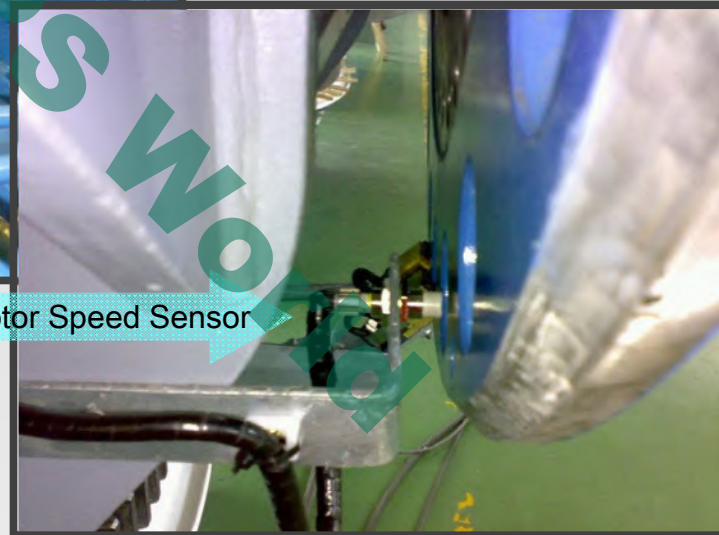


Twist Counter and Yawing Counter prevents nacelle from over turning

## Gearbox & Main Shaft Sensors



Gearbox Temperature Sensor



Rotor Speed Sensor

## Nacelle Temperature Sensors

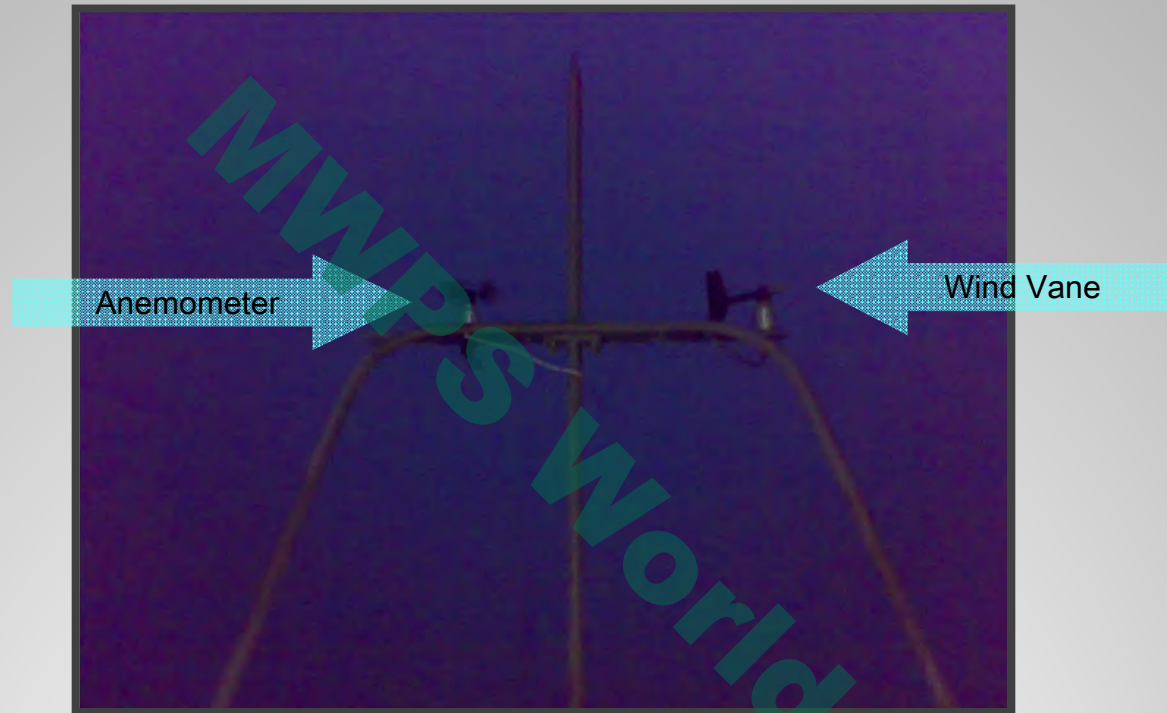


Nacelle Temperature Sensor



Outdoor Temperature Sensor

## Anemometer & Wind Vane



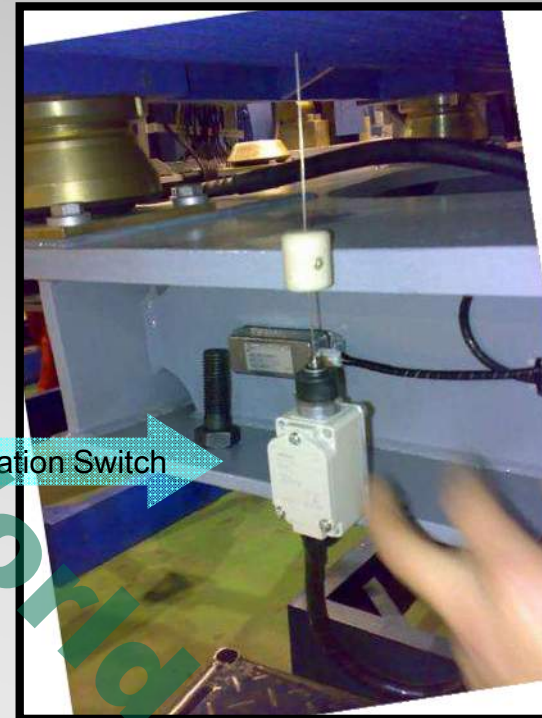
The Anemometer provides data to the Main Control System for wind speed reading and safety controls. The Wind Vane sends data to Yaw Control System to turn turbine into the wind at all times



## Vibration Protection System



Vibration Sensor



Vibration Switch

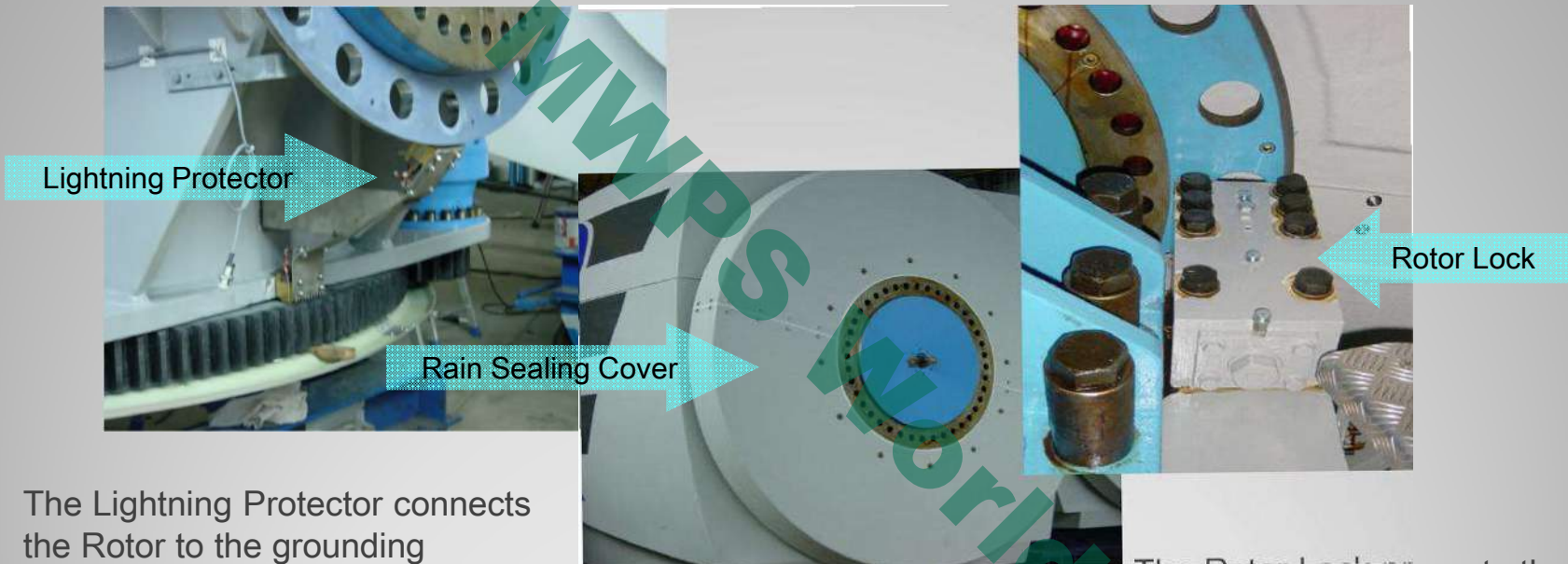
The Vibration Sensor monitors the wind turbine's vibration levels, frequency & width

The Vibration Switch shuts down the wind turbine when measured vibration exceeds set safety levels



## Safety & Protection Components

Lightning Protector - Rain Sealing Cover - Rotor Lock System



The Lightning Protector connects the Rotor to the grounding system to prevent Rotor being damaged by lightning.

The Rain Sealing Cover is mounted between the Main Shaft and Rotor to prevent rain water entering the Nacelle

The Rotor Lock prevents the Rotor from turning after shut down in extreme weather conditions

## Tower

The tower is divided into two sections and includes two working platforms and one ladder.



**Note:** Three and four section tower versions also available for transportation to difficult or space restricted sites

## Control System

Nacelle

Yaw system

Hydraulic system

Lubricate and cooling system

Tower

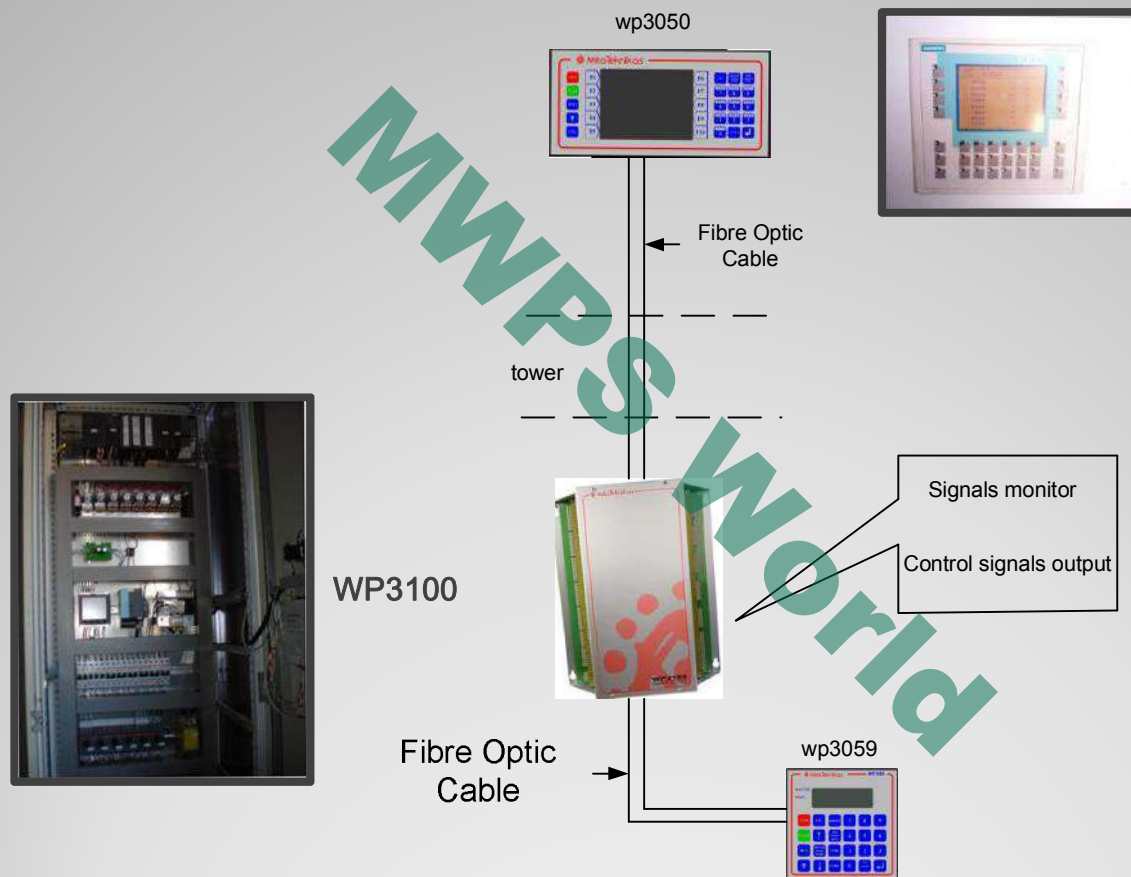
Control signals

Tower base

Soft grid connector module



## Controller Interface



**Goldwind S48/750 wind turbine technical parameter**

	Item	Unit	Specification
Wind turbine	Manufacturer		Goldwind science & technology Co., Ltd
	Safety class		IEC Class I
	Type		Goldwind S48/750(60Hz)
	Rated power	kW	750
	Power adjustable type		Stall
	Rotor diameter	m	48
	Hub height (suggestion)	m	50
	Cut-in wind speed	m/s	3.5
	Rated wind speed	m/s	14~15
	Cut-out wind speed (10 minutes average)	m/s	25
	Life	Y	20
	Survival wind speed (3 seconds average)	m/s	70
Grid	Voltage	V	690±10%
	Frequency	Hz	50±2%
	Voltage unstable extent		≤2%
	Max grid interruptive duration	Day	7
	Interruptive time	time/year	20
Rotor	Type		HT24
	Blade material		Reinforced Fiber Glass Resin
	Number		3
	Direction		Horizontal axis
	Rotational	r/min	21.7
	Inclination angle	°	5
	Cone angle	°	0
	Wind direction		Upwind
Gearbox	Rotational direction (upwind)		Clock-wise
	Type		FDG-00R1



**Goldwind S48/750 wind turbine technical parameter**

Item		Unit	Specification
	Steps		Two stage with planetary and spur gear
	Transmission ratio		1:83.916
	Rated power	kW	825
	Rated torque (input)	kN.m	363
	Lubrication		Mobil SHC XMP 320
	Lubricative type		Pressure-Forced
Generator	Type		3 phase Asynchronous Generator
	Rated power	kW	750
	Rated voltage	V	690
	Rated current	A	690
	Rated rotational speed	r/min	1822
	Rated power coefficient		0.90
	Connection		Δ
	Insulation level		H
	Protection level		IP54
	Cooling system		IC411
	Center height	mm	450
	Work style		S1
Yawing System	Type		Active yawing
	Driving system		1.5kW four stage planetary gearbox generator
	Bearing		External Gear Ring Four Points Ball Bearing
	Yaw generator	Rated power	kW 1.5
		Rated voltage	V 400/690
		Rated current	A 4.25/2.46
		Rated rotational speed	r/min 835
		Power factor	0.68
		Connection	Δ/ Y
		Insulation level	F
		Protection level	IP55
		Work style	S4
		Electromagnetic brake moment	N.m 30
	Reducer	Rated input power	kW 1.5

**Goldwind S48/750 wind turbine technical parameter**

		Rated input rotational speed	r/min	835
		Rated output rotational speed	r/min	1.116
		Transmission ratio		748
		Rated input torque	N.m	17.15
	Brake	Pressure range	bar	140~160
		Urn diameter	mm	80
		Item	Unit	Specification
		Frictional coefficient		≥0.4
Control system		Type		Computer control
Tower		Type		Conical tubular steel tower , three segments
	Height		m	47.28
Brake and lighting protection	Primary Brake System			3 Aerodynamic Tip
	Secondary Brake System			2 Brake Discs on High-Speed Shaft
	Lighting protection design standard			IEC61024/61312/61400,GB50057-1994
	Lighting protection			Blade tip arrester, nacelle arrester, electric element
High speed brake	Brake moment		N.m	6283.2
	Rated moment on high speed end of gearbox		N.m	3927
Hydraulic pump generator	Rated power		kW	1.27
	Rated voltage		V	690
	Rated current		A	1.7
	Rated rotational speed		r/min	1680
	System flux		L/min	3.7
Lubricant pump generator	Rated power		kW	4
	Rated voltage		V	690
	Rated current		A	6.3
	Rated rotational speed		r/min	1120
Radiator generator	Rated power		kW	1.73
	Rated voltage		V	690
	Rated current		A	2.4
	Rated rotational speed		r/min	1130

## Weights & Dimensions

Description	Dimension (m)	Weight (t)	Quantity	Total(t)
<b>Nacelle</b>	6.7 x 3.1 x 2.4	23	x 1	<b>23.00</b>
<b>Hub</b>	2.41x 2.15x 1.57	4.5	x 1	<b>4.50</b>
<b>Blade</b>	2.35 x 1.44 x 24	3.4	x 3	<b>10.20</b>
<b>Cabinet</b>	2.05 x 0.77 x 2.14	0.8	x 1	<b>0.80</b>
<b>Blade tip</b>	3.5x0.984 x 0.152	0.2	x 3	<b>0.60</b>
<b>Tower</b> (two sections)	23.5 x 2.17 x 2.43	16.21	x 1	<b>16.21</b>
	22 x 2.43 x 3.2	27.65	x 1	<b>27.65</b>
<b>Base ring</b>	<b>1.6 x 3.2 x 3.2</b>	<b>5.33</b>	<b>x 1</b>	<b>5.33</b>

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