



- › All control functions are integrated
- › Integrated realtime grid measurement
- › Gigabit Ethernet, Serial RS232/RS422/RS485
- › Direct integration with safety system
- › Advanced data collection and storage
- › Mechanically compatible with WP3x00
- › Maintenance free - no fans and no batteries that need replacement

**The WP3x00 MK II Controller**

The WP3x00 MK II controller is specifically designed to replace existing WP3x00 controllers in the market, and to give our customers the benefits of state-of-art communication interfaces and protocols. The WP3x00 MK II controller ensures optimal operation, active security and advanced data collection. The on-board grid interface makes it possible to calculate main grid parameters by precise and reliable DSP algorithms, according to IEC 61400-21 standard. The controller is equipped with two high-speed gigabit ethernet interfaces working as separate network interfaces. The controller also features safety chain relay logic.

The controller is equipped with internal maintenance-free power back-up, ensuring that all data is stored in the event of system power failure (UPS shutdown/failure) and program update.

The controller uses the advanced OS1xx Operating System software, featuring the Failsafe Flash file system, TCP/IP protocol stack, WEB-server, plug-and-play identification/configuration of all WP-Line modules, status code system, 30-year summation structure, menu system and log systems.

The controller handles the executing of up to 10 different synchronous/asynchronous applications running in parallel. As an example this can be: turbine control application, standard communication protocols, customer specific communication protocols, CoDeSys RTS, etc. The controller supports the IEC 61131-3 (CoDeSys) PLC programming languages, as well as advanced programming in C and C++, using PEPTOOL or other programming tool of your choice.

**Technical Data**

Supply Voltage	
Nominal	24VDC
Allowed range	21.6 to 26.4VDC

Current Consumption	
Typical	0.856A DC
Maximum	1.22A DC

Power Dissipation	
Typical	25W

Digital Input	
No. of points	43
Number of groups	6
Points per group	5x8/1x3
Isolation	Optocoupler
Nominal voltage	24VDC
Signal "1"	15 to 30VDC
Signal "0"	0 to 5VDC
Input current	25mA max.
Input impedance	1500Ω
Minimum pulsewidth	21ms

Highspeed Input	
No. of points	7
Isolation	Optocoupler
Nominal voltage	24VDC
Signal "1"	15 to 30VDC
Signal "0"	0 to 5VDC
Input impedance	1500Ω min.
Input frequency	5x0.01Hz-10kHz/2x0.01Hz-80kHz

Thermistor Input	
No. of points	4
Number of groups	1
Points per group	4
Isolation	Optocoupler
Signal "1"	>2800Ω
Signal "0"	<1300Ω

Digital Output	
No. of points	24
Number of groups	9
Points per group	5x4/4x1
Isolation	Relay contact

**Technical Data**

Operation voltage	24 - 250VAC 24 - 250VDC
<i>Output current, Signal "1"</i>	
Rated current pr point	8A
Rated voltage pr point	250V
Rated breaking capacity	1250VA
Max. per group	5x15A/4x8A
<b>Grid Measurement Input</b>	
No. of current inputs	3
Current input range	1A RMS
Current input impedance	40mΩ
Current accuracy	±0.5% of full scale, within measurement frequency and operating temperature range
No. of voltage inputs	3
Voltage input range	18V RMS
Voltage input impedance	100kΩ
Voltage accuracy	±0.3% of full scale, within measurement frequency and operating temperature range
Measurement frequency bandwidth	40Hz to 9kHz
<b>Analog Input</b>	
No. of points	4
Number of groups	4
Points per group	1
Input configuration	per input
Input voltage	+/- 10V
Measurement precision	+/- 50mV
Input frequency	0-100Hz
Resolution	12 bit
Input impedance	37.5 kΩ
Input current	0-20mA
Measurement precision	+/- 50μA
Input frequency	0-100Hz
Resolution	12 bit
Input impedance	250Ω
<b>PT100 Input</b>	
No. of points	11
Number of groups	11
Points per group	1
Resolution	0.1°C
Accuracy	0.5% of full scale
Range for group	-40°C to 211°C

**Technical Data**

Analog Output	
No. of points	8
Isolation	Optocoupler
<i>Setup as Voltage</i>	
Output voltage	+/-10V (10mA @ RL = 1kΩ)
Output tolerance	+/- 39mV
Resolution	12bit
Output impedance	100mΩ
Short-circuit protection	Yes
<i>Setup as Current</i>	
Output current	0 to 20mA max. 10V @ RL = 500Ω
Output tolerance	+/- 39μA
Resolution	12bit
Port for RS232/RS422/RS485 Communication	
No. of ports	2
Isolation	Optocoupler
Communication speed	300BAUD to 230.4kBAUD (software configuration)
Max. cable length	RS422 max. 1200m @ 2 nodes RS485 max. 1200m @ 1.2kBAUD RS232 max. 30m
Termination	For RS422 and RS485 mount 120Ω at line ends
Port for RS422/RS485 Communication	
No. of ports	2
Isolation	Optocoupler
Communication speed	300BAUD to 230.4kBAUD (software configuration)
Max. cable length	RS422 max. 1200m @ 2 nodes RS485 max. 1200m @ 1.2kBAUD
Termination	Mount 120Ω at line ends
Relay Output - Safety	
Isolation type	Relay contact
Nominal voltage	24VDC
Input current/signal "1"	10mA to 1A
Input impedance	2.4kΩ
Ethernet RJ45 LAN Port	
Number of ports	2
Communication speed	10/100/1000Mbit/s
Connector	RJ45 shielded
Permissible Ambient Conditions	
Operation temperature	-30 to 50°C
Transpotation / Storage temperature	-40 to 85°C
Max. relative humidity	Max. 95% RH (non-condensing @40°C)
Max. Operation height	Max. 2000m above sea level (up to 4000m at derated temperature)

**Technical Data**

Mechanical Information	
Dimensions (W x H x D)	375 x 310 x 162mm
Weight	7.8kg
Degree of protection	IP20
Applied Standards	
Damp heat	EN 60068-2-78
Vibration	EN 60068-2-6
Bump	EN 60068-2-27
Shock	EN 60068-2-27
Temperature	EN 60068-2-1, EN 60068-2-2 and EN 60068-2-14
EMC	EN 61000-6-2 (Immunity standard for industrial environments) EN 61000-6-4 (Emission standard for industrial environments) EN 61000-4-7:2002 + A1:2009 (Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto)
Power quality of wind turbine	EN 61400-21, Wind Turbines - Part 21: Measurement and assesment of power quality characteristics of grid connected wind turbines
Grid codes reference document	BDEW: Generating Plants Connected to the Medium - Voltage Network (June 2008)

**Mita-Teknik Ordering Information**

Order Number	Order Name
9723200xx (Different variants)	WP3000 MK II Controller
9723300xx (Different variants)	WP3100 MK II Controller
Accessories	
978405201	WP4052 Touch Display - Bacis - Mita-Teknik
978405202	WP4052 Touch Display - Cold Climate - Mita-Teknik
978405901	WP4059 Display - Mita-Teknik
9723090	WP3090 Transformer Interface Standard - 690V/18V
9788103	Serial Cable RS485 WP-Line 111/351 - WP4059 2.5 m
9788109	Serial Cable RS232 WP4X00 / PC 3 m
9788108	Serial Cable RS232 WP4X00 / Modem 2 m
3389210	Ethernet Patch Cable RJ45, Cat. 6 STP Shielded Grey 1 m
3389220	Ethernet Patch Cable RJ45, Cat. 6 STP Shielded Grey 2 m
3389250	Ethernet Patch Cable RJ45, Cat. 6 STP Shielded Grey 5 m



- › Mechanically compatible with NEG Micon Control Systems for NM52
- › Maintenance free - no fans and no batteries that need replacement
- › All control functions are integrated
- › Integrated realtime grid measurement
- › Ethernet and serial RS485
- › Direct integration with safety system
- › Advanced data collection and storage

### The WP3400 MK II Controller

The WP3400 MK II Controller is specifically designed to replace existing NEG Micon Control Systems for NM52 turbines in the market and to give our customers the benefits of state-of-art communication interfaces and protocols. The WP3400 MK II Controller ensures optimal operation, active security and advanced data collection. The on-board grid interface makes it possible to calculate main grid parameters by precise and reliable DSP algorithms according to IEC 61400-21 standard. The controller is equipped with high-speed Ethernet interfaces that work as separate network interfaces. The controller also features safety chain relay logic.

The controller is equipped with internal maintenance-free power back-up, ensuring all data is stored in the event of system power failure (UPS shutdown/failure) and program update.

The controller uses the advanced OS1xx Operating System software, featuring the Failsafe Flash file system, TCP/IP protocol stack, WEB-server, plug-and-play identification/configuration of all WP-Line modules, status code system, 30-year summation structure, menu system and log systems.

The controller handles the executing of up to 10 different synchronous/asynchronous applications running in parallel. As an example, this can be turbine control application, standard communication protocols, customer specific communication protocols, CoDeSys RTS, etc. The controller supports the IEC 61131-3 (CoDeSys) PLC programming languages as well as advanced programming in C and C++, using PEPTOOL or other programming tool of your choice.

The WP3400 MK II Control System consist of two boxes, one installed in the nacelle and at the tower base.

**Technical Data - WP3400 MK II Tower Base**

Supply Voltage	
Nominal	230 VAC 50/60 Hz
Allowed range	100-240 VAC
Current Consumption	
Typical	0.15A AC
Maximum	0.22A AC
Power Consumption	
Typical	35 W
Maximum	50 W
Digital Inputs	
Number of inputs	28
Galvanic Isolation	No
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	Min. 2.4 k $\Omega$ (modulated)
Minimum pulsewidth	21 ms
High Speed Counter Inputs	
Number of inputs	6
Galvanic Isolation	Yes
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	Min. 2.4 k $\Omega$
Input frequency	0.01Hz to 80 kHz
Relay Outputs	
Number of outputs	29
Number of groups	9
Outputs per group	4/3/1
Galvanic Isolation	No
<i>Output voltage</i>	
Low level ("0")	0 VDC
High level ("1")	230V / 24V
Rated load (resistive)	10A at 250VAC / 10A at 30VDC
Rated load (Inductive, $\cos\phi = 0.4$ ; L/R = 7 ms)	7,5A at 250VAC / 5A at 30VDC
Max. Switching Voltage	440VAC, 125VDC
Max. switching current	10 A for each output
Max. switching power (Resistive load)	2500VA, 300W
Max switching power (Inductive load, $\cos\phi = 0.4$ ; L/R = 7 ms)	1875VA, 150W
Short-circuit protection	Yes

Specifications subject to change

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**Technical Data - WP3400 MK II Tower Base**

Grid Measurement Inputs	
Number of current inputs	3
Current input range	1A RMS
Current input impedance	40 mΩ
Current accuracy	±0.5% of full scale, within measurement frequency and operating temperature range
Number of voltage inputs	3
Voltage input range	18V RMS
Voltage input impedance	100 kΩ
Voltage accuracy	±0.3% of full scale, within measurement frequency and operating temperature range
Measurement frequency bandwidth	40 Hz to 9 kHz

Analog Output	
Number of outputs	1
Galvanic Isolation	Yes
Output voltage	0 to 10 V
Analog bandwidth	0 to 300 Hz
Minimum load resistance	1 kΩ (max 10 mA @ 10 V)
Accuracy	±0.5% of full scale
Resolution	12 bit

PT100 Inputs (Plug - X300-312)	
Number of inputs	4
Galvanic Isolation	Yes
Temperature measuring range	-40 to +211°C
Accuracy	±0.5% of full scale
Resolution	0.1°C
Current for PT100 input	Max. 1 mA
Conversion time for each channel, max	250 ms

PT100 Inputs (Plug - X313-318 & P1 13,14,15,16)	
Number of inputs	4
Galvanic Isolation	Yes
Temperature measuring range	- 60 °C to 230 °C
Accuracy	±0.5% °C
Resolution	12 bit
Current for PT100 input	Max. 1 mA
Input impedance	10 kΩ

Relay Output - Safety	
<i>Module</i>	
Isolation type	Relay contact
Nominal voltage	24 VDC
Input current/signal "1"	10 mA to 1A
Input impedance	2.4 kΩ

Specifications subject to change

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**Technical Data - WP3400 MK II Tower Base**

<i>Auxiliary Relay</i>	
<i>Output voltage</i>	
Low level ("0")	0 VDC
High level ("1")	230V / 24V
Rated load (resistive)	10A at 250VAC / 10A at 30VDC
Rated load (Inductive, $\cos\phi = 0.4$ ; L/R = 7 ms)	7,5A at 250VAC / 5A at 30VDC
Max. Switching Voltage	440VAC, 125VDC
Max. switching current	10 A for each output
Max. switching power (Resistive load)	2500VA, 300W
Max switching power (Inductive load, $\cos\phi = 0.4$ ; L/R = 7 ms)	1875VA, 150W

Ethernet RJ45 LAN Port	
Number of ports	2
Communication speed	10/100 Mbit/s
Connector	RJ45 shielded
Recommended cable length	Max. 50 m

Ethernet Optical Communication Port	
Number of ports	1
Communication speed	100 Mbit/s
Connector	SC
Fibre type	62.5/125 $\mu\text{m}$
Wave length	1300 nm
Recommended cable length	Max. 2000 m

**Technical Data - WP3400 MK II Nacelle**

Supply Voltage	
Nominal	24 VDC
Allowed range	18 to 30 VDC

Current Consumption	
Typical	1,5A
Maximum	3,1A

Power Consumption	
Typical	35 W
Maximum	75 W

Digital Inputs	
Number of inputs	37
Galvanic Isolation	Yes
Nominal voltage	24 VDC

Specifications subject to change

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**Technical Data - WP3400 MK II Nacelle**

Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	Min. 1.65 k $\Omega$ (modulated)
Minimum pulsewidth	21 ms

High Speed Counter Inputs	
Number of inputs	1
Galvanic Isolation	Yes
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	1.5 k $\Omega$
Input frequency	0.01 Hz to 10 kHz

Relay Outputs	
Number of outputs	7
Number of groups	3
Outputs per group	2/3
Galvanic Isolation	No
<i>Output voltage</i>	
Low level ("0")	0 VDC
High level ("1")	230V / 24V
Rated load (resistive)	10A at 250VAC / 10A at 30VDC
Rated load (Inductive, $\cos\phi = 0.4$ ; L/R = 7 ms)	7,5A at 250VAC / 5A at 30VDC
Max. Switching Voltage	440VAC, 125VDC
Max. switching current	10 A for each output
Max. switching power (Resistive load)	2500VA, 300W
Max switching power (Inductive load, $\cos\phi = 0.4$ ; L/R = 7 ms)	1875VA, 150W
Short-circuit protection	Yes

Analog Voltage Inputs (Plug - X700-9) (Optional)	
Number of inputs	4
Galvanic Isolation	Yes
Input voltage	+/-10 V
Measurement precision	+/-50 mV
Input frequency	0-100 Hz
Resolution	12 bit
Input impedance	37.5 k $\Omega$

Analog Current Inputs	
Number of inputs	3
Galvanic Isolation	Yes
Input current	0-20 mA
Measurement precision	+/-50 $\mu$ A
Input frequency	0-100 Hz

Specifications subject to change

MT\_WP3400 MK II\_DataSheet\_R1\_0

**Technical Data - WP3400 MK II Nacelle**

Resolution	12 bit
Input impedance	250 Ω

PT100 Inputs	
Number of inputs	16
Galvanic Isolation	Yes
Measuring range	-60°C to +230°C
Accuracy	+/-0.5°C
Resolution	0.1°C
Input impedance	10kΩ (current max. 1 mA)

Ethernet RJ45 LAN Port	
Number of ports	1
Communication speed	10/100 Mbit/s
Connector	RJ45 shielded
Recommended cable length	Max. 50 m

Ethernet Optical Communication Port	
Number of ports	1
Communication speed	100 Mbit/s
Connector	SC
Fibre type	62.5/125 μm
Wave length	1300 nm
Recommended cable length	Max. 2000 m

**Technical Data - WP3400 MK II General**

Permissible Ambient Conditions	
Operation temperature	-30°C to +50°C
Storage temperature	-40°C to +85°C
Relative humidity	Max. 95% RH (non-condensing @40°C)
Operation altitude	Max. 2000m above sea level (up to 4000m at derated temperature)

Mechanical Information - WP3400 MK II Nacelle	
Weight	4.2 kg
Dimensions (W x H x D)	468 x 237 x 118 mm
Degree of protection	IP20

Mechanical Information - WP3400 MK II Tower Base	
Weight	6.7 kg
Dimensions (W x H x D)	504 x 600 x 88 mm
Degree of protection	IP20

Specifications subject to change  
 MT\_WP3400 MK II\_DataSheet\_R1\_0

**Technical Data - WP3400 MK II General**

Applied Standards	
Certifications	CE
Damp heat	EN 60068-2-78
Vibration	EN 60068-2-6
Bump	EN 60068-2-27
Shock	EN 60068-2-27
Temperature	EN 60068-2-1, EN 60068-2-2 and EN 60068-2-14
EMC	EN 61000-6-2 (Immunity standard for industrial environments) EN 61000-6-4 (Emission standard for industrial environments) EN 61000-4-7:2002 + A1:2009 (Testing and measurement techniques)
Power quality of wind turbine	EN 61400-21, Wind Turbines - Part 21: Measurement and assesment of power quality characteristics of grid connected wind turbines
Grid codes reference document	BDEW: Generating Plants Connected to the Medium - Voltage Network (June 2008)

**Mita-Teknik Ordering Information**

Order Number	Order Name
E1614302	Retrofit WP3400 MK II Tower Base
E1614301	Retrofit WP3400 MK II Tower Nacelle

Accessories	
9723090	WP3090 Transformer Interface Standard - 690V/18V
972406001	WP4060 Delta PHI Connection Module, Standard
978405301	WP4053 Touch Display 7 " Mita-Teknik
E1614308	Retrofit V4X Base-Main Panel Cable W171.6



- › Mechanically compatible with Cotas Control Systems for Vestas V42, V44 and V47
- › Maintenance free - no fans and no batteries that need replacement
- › All control functions are integrated
- › Integrated realtime grid measurement
- › Ethernet and serial RS485
- › Direct integration with safety system
- › Advanced data collection and storage

### The WP3500 MK II Controller

The WP3500 MK II Controller is specifically designed to replace existing Cotas control systems for Vestas V42, V44 and V47 turbines in the market and to give our customers the benefits of state-of-art communication interfaces and protocols. The WP3500 MK II Controller ensures optimal operation, active security and advanced data collection. The on-board grid interface makes it possible to calculate main grid parameters by precise and reliable DSP algorithms according to IEC 61400-21 standard. The Controller is equipped with high-speed Ethernet interfaces that work as separate network interfaces. The Controller also features safety chain relay logic.

The Controller is equipped with internal maintenance-free power back-up, ensuring all data is stored in the event of system power failure (UPS shutdown/failure) and program update.

The Controller uses the advanced OS1xx Operating System software, featuring the Failsafe Flash file system, TCP/IP protocol stack, WEB-server, plug-and-play identification/configuration of all WP-Line modules, status code system, 30-year summation structure, menu system and log systems.

The Controller handles the executing of up to 10 different synchronous/asynchronous applications running in parallel. As an example this can be: turbine control application, standard communication protocols, customer specific communication protocols, CoDeSys RTS, etc. The Controller supports the IEC 61131-3 (CoDeSys) PLC programming languages as well as advanced programming in C and C++, using PEPTOOL or other programming tool of your choice.

The WP3500 MK II Control System consist of two boxes, one installed in the nacelle and at the tower base.

Specifications subject to change

MT\_WP3500 MK II\_DataSheet\_R3\_0

**Technical Data - WP3500 MK II Tower Base**

Supply Voltage	
Nominal	230 VAC 50/60 Hz
Allowed range	100-240 VAC
Current Consumption	
Typical	0.1A AC
Maximum	0.5A AC
Power Consumption	
Typical	25 W
Maximum	115 W
Digital Inputs	
Number of inputs	15
Galvanic Isolation	No
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	Min. 2.4 k $\Omega$ (modulated)
Minimum pulsewidth	21 ms
High Speed Counter Inputs	
Number of inputs	2
Galvanic Isolation	Yes
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	Min. 2.4 k $\Omega$
Input frequency	0.01Hz to 80 kHz
Digital Outputs	
Number of outputs	11
Number of groups	2
Outputs per group	8/3
Galvanic Isolation	No
<i>Output voltage</i>	
Low level ("0")	0 to 2 VDC
High level ("1")	0.95 x supply voltage
Output current	Max. 0.25 A for each output
Minimum load impedance	100 $\Omega$
Short-circuit protection	Yes
Grid Measurement Inputs	
Number of current inputs	3
Current input range	1A RMS
Current input impedance	40 m $\Omega$

Specifications subject to change

MT\_WP3500 MK II\_DataSheet\_R3\_0

**Technical Data - WP3500 MK II Tower Base**

Current accuracy	±0.5% of full scale, within measurement frequency and operating temperature range
Number of voltage inputs	3
Voltage input range	18V RMS
Voltage input impedance	100 kΩ
Voltage accuracy	±0.3% of full scale, within measurement frequency and operating temperature range
Measurement frequency bandwidth	40 Hz to 9 kHz

Analog Output	
Number of outputs	1
Galvanic Isolation	Yes
Output voltage	0 to 10 V
Analog bandwidth	0 to 300 Hz
Minimum load resistance	1 kΩ (max 10 mA @ 10 V)
Accuracy	±0.5% of full scale
Resolution	12 bit

Serial Communication Port - COM	
Number of ports	1
Port type	RS485
Galvanic Isolation	Yes
Communication speed	1.2 kBAUD to 230.4 kBAUD (software configuration)
Max. cable length	Max. 1200 m @ 1.2 kBAUD
Termination	Mount 120 Ω at line ends

Relay Output - Safety	
Isolation type	Relay contact
Nominal voltage	24 VDC
Input current/signal "1"	10 mA to 1A
Input impedance	2.4 kΩ

Ethernet RJ45 LAN Port	
Number of ports	2
Communication speed	10/100 Mbit/s
Connector	RJ45 shielded
Recommended cable length	Max. 50 m

Ethernet Optical Communication Port	
Number of ports	1
Communication speed	100 Mbit/s
Connector	SC
Fibre type	62.5/125 μm
Wave length	1300 nm
Recommended cable length	Max. 2000 m

Specifications subject to change

MT\_WP3500 MK II\_DataSheet\_R3\_0

**Technical Data - WP3500 MK II Nacelle**

Supply Voltage	
Nominal	230 VAC 50/60 Hz
Allowed range	100-240 VAC
Current Consumption	
Typical	0.5A AC
Maximum	1.5A AC
Power Consumption	
Typical	115 W
Maximum	340 W
Digital Inputs	
Number of inputs	38
Galvanic Isolation	Yes
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	Min. 1.65 k $\Omega$ (modulated)
Minimum pulsewidth	21 ms
High Speed Counter Inputs	
Number of inputs	3
Galvanic Isolation	Yes
Nominal voltage	24 VDC
Signal "1"	15 to 30 VDC
Signal "0"	0 to 5 VDC
Input impedance	1.5 k $\Omega$
Input frequency	0.01 Hz to 10 kHz
Digital Outputs	
Number of outputs	16
Number of groups	2
Points per group	8
Galvanic Isolation	Yes
<i>Output voltage</i>	
Low level ("0")	0 to 2 VDC
High level ("1")	0.95 x supply voltage
Output current	Max. 0.5 A for each output
Minimum load impedance	48 $\Omega$
Short-circuit protection	Yes
Analog Voltage Inputs	
Number of inputs	1
Galvanic Isolation	Yes
Input voltage	+/-10 V

Specifications subject to change

MT\_WP3500 MK II\_DataSheet\_R3\_0



**Technical Data - WP3500 MK II Nacelle**

Measurement precision	+/-50 mV
Input frequency	0-100 Hz
Resolution	12 bit
Input impedance	37.5 kΩ

Analog Current Inputs	
Number of inputs	2
Galvanic Isolation	Yes
Input current	0-20 mA
Measurement precision	+/-50 μA
Input frequency	0-100 Hz
Resolution	12 bit
Input impedance	250 Ω

PT100 Inputs	
Number of inputs	10
Galvanic Isolation	Yes
Measuring range	-60°C to +230°C
Accuracy	+/-0.5°C
Resolution	0.1°C
Input impedance	10kΩ (current max. 1 mA)

Analog Voltage Outputs	
Number of outputs	1
Galvanic Isolation	Yes
Output voltage	+/-10 V
Analog bandwidth	0 to 300 Hz
Minimum load resistance	1kΩ (max 10 mA @ 10 V)
Accuracy	±0.39 mV
Resolution	12 bit
Short-circuit protection	Yes

Serial Communication Port - COM	
Number of ports	2
Port type	RS485
Galvanic Isolation	Yes
Communication speed	1.2 kBAUD to 230.4 kBAUD (software configuration)
Max. cable length	Max. 1200 m @ 1.2 kBAUD

Ethernet RJ45 LAN Port	
Number of ports	1
Communication speed	10/100 Mbit/s
Connector	RJ45 shielded
Recommended cable length	Max. 50 m

Specifications subject to change

MT\_WP3500 MK II\_DataSheet\_R3\_0

**Technical Data - WP3500 MK II Nacelle**

Ethernet Optical Communication Port	
Number of ports	1
Communication speed	100 Mbit/s
Connector	SC
Fibre type	62.5/125 µm
Wave length	1300 nm
Recommended cable length	Max. 2000 m

**Technical Data - WP3500 MK II General**

Permissible Ambient Conditions	
Operation temperature	-30°C to +50°C
Storage temperature	-40°C to +85°C
Relative humidity	Max. 95% RH (non-condensing @ 40°C)
Operation altitude	Max. 2000 m above sea level (up to 4000 m at derated temperature)

Mechanical Information	
Weight (WP3500 MK II Tower Base)	6.7 kg
Weight (WP3500 MK II Nacelle)	8.0 kg
Dimensions (W x H x D)	365 x 195 x 170 mm (for each unit)
Degree of protection	IP20

Applied Standards	
Certifications	CE
Damp heat	EN 60068-2-78
Vibration	EN 60068-2-6
Bump	EN 60068-2-27
Shock	EN 60068-2-27
Temperature	EN 60068-2-1, EN 60068-2-2 and EN 60068-2-14
EMC	EN 61000-6-2 (Immunity standard for industrial environments) EN 61000-6-4 (Emission standard for industrial environments) EN 61000-4-7:2002 + A1:2009 (Testing and measurement techniques)
Power quality of wind turbine	EN 61400-21, Wind Turbines - Part 21: Measurement and assesment of power quality characteristics of grid connected wind turbines
Grid codes reference document	BDEW: Generating Plants Connected to the Medium - Voltage Network (June 2008)

Specifications subject to change

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**Mita-Teknik Ordering Information**

Order Number	Order Name
E1402802	Retrofit WP3500 MK II Tower Base
E1402801	Retrofit WP3500 MK II Tower Nacelle
Accessories	
978405301	WP4053 Touch Display 7" - Mita-Teknik
8945985	Wireless Service Point - Flex, CHN - power cord type A
8945997	Wireless Service Point - Flex, EU - power cord type E
3389220	Ethernet Patch Cable RJ45, Cat. 6 STP Shielded Grey 2 m
3389250	Ethernet Patch Cable RJ45, Cat. 6 STP Shielded Grey 5 m

Specifications subject to change

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