- Stand-alone Ethernet to CANopen Master Interface, designed for the WP4x00 concept
- Up to 1Mbit/s CANopen
- CANopen LSS Support
- 2 x Ethernet 100 Base-FX (SC Optic Backbone with redundant option)
- 2 x RJ45 Ethernet 10/100 for display and service
- Flexible serial COM-Port (RS232/RS422/RS485)
- Supports removable LED matrix display
- +24 VDC supply voltage
- Intelligent thermal control

The WP4x00 MK II Control Concept

The WP-Line 511 MK II CANopen interface module is part of the WP4x00 MK II Control Concept which has been specially designed to control large wind turbines - on- and offshore. The WP4x00 MK II Control Concept ensures optimal operation, high security and advanced data collection.

The concept typical consists of a power supply/backbone module, a WP4x00 MK II controller, a grid measurement module as well as an analog/digital I/O module dependent on the specific configuration task. The WP4x00 MK II Control Concept makes it possible to have redundant solutions. The concept is constructed as a plug-and-play system with automatic module detecting and error reporting.

Advantages of the WP4x00 MK II Control Concept:

- Corrosion robust construction
- Fast and easy DIN-rail mounting
- Simplified module status indication
- Service-friendly

The WP-Line 511 MK II

High speed Ethernet to CANopen Master interface designed for stand alone operation and as a part of the WP4x00 MK II Control Concept.

Internal 10/100 Ethernet switch for routing and interfacing. Backbone Ethernet communication can be connected with optic fibre cables as double ring with one spare fibre cable for backup. This setup provides high communication safety, as this con-figuration allows operation despite of a defect optic fiber. The optic fibre cable type is 62.5/125µm or 50/125µm. Additional 2 x 10/100 Ethernet (RJ45) are on the module.

Up to 1MBit/s CANopen Master communication to other CANopen based devices. Galvanic isolated CANbus interface.

Internal condition monitoring, 7-segment display showing group number and 3-LED status indication facilitates fast servicing.

Automatic firmware update is managed by the WP4x00 MK II controller.

The module can easily be programmed as a CANopen Master, interfacing WP4x00 MK II controller to any CANopen device (frequency Converter, Pitch controller, etc.). Via generic CANopen application (in compliance with CiA301 and CiA DSP 302 specification standards) and user-friendly interface of Mita-Teknik "CANopen Configuration Tool" all CANopen network parameters can be easily configured and adjusted to meet the preset requirements.

The module supports Layer Setting Services (LSS) according to CANopen specification CiA DS-305.

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Technical Data

Supply Voltage	
Nominal	24 VDC
Allowed range	18 to 30 VDC
Power consumption	max 7.2 W

BUS Port Connectors	
CANopen	1
Ethernet	2 x RJ45
Ethernet	2 x SC
Serial COM-port	1

CANopen Communication Port	
Communication speed, max	10 kbit/s - 1 mbit/s
Max. cable length, examples	30 m @ 1 mbit/s 100 m @ 500 kbit/s 500 m @ 125 kbit/s
Connector	9-pin D-sub male (CiA 303)

ETHERNET RJ45 Communication Port	
Communication speed	10/100 mbit/s
Max. cable length	50 m

ETHERNET Optical Communication Port		
Communication speed	10/100 mbit/s	
Wave length	1300 nm	
Connector	SC	
Fibre types	50/100 µm	62.5/125 µm
Output Optical Power	-23.5 dBm avg.	-20 dBm avg.
Input Optical Power Minimum	-31 dBm avg.	-31 dBm avg.
Max. BBN cable length at -1.5 dBm/km	2000 m	4000 m
(incl. -4.5 dBm loss from up to 6 fibre cable connections)		

Port for RS232/RS422/RS485 Communication	
Isolation	Digital isolator
Communication speed	9.6 kBAUD to 230.4 kBAUD (software configuration)
Max. cable length	RS422 max. 1200 m @ 2 nodes RS485 max. 1200 m @ 9.6 kBAUD RS232 max. 30 m
Recommended cable type	Multi wire cable with shield
Termination	For RS422 and RS485 mount 120 Ω at line ends
Connector	6-pin 5.08 mm plugin terminal block with EARTH

Permissible Ambient Conditions	
Operation temperature	-30 to +60°C (fanless operation)
Storage temperature	-40 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)

Specifications subject to change

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Technical Data

Mechanical Information	
Dimensions (W x H x D)	85 x 165 x 65 mm
Required gap (top/bottom)	Min. 25 mm
Weight	325 g
Degree of protection	IP30

Applied Standards	
Damp heat	EN60068-2-78
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)

Mita-Teknik Ordering Information

Order Number	Order Name
978051102	WP-Line 511 MK II Backbone CANopen

Accessories	
9788080	WP-Line 80 LED module
9728106	Data Cable for CAN/CAN Interface 3.0 m with Female Connector UL
9728109	Data Cable CAN/CAN Interface 2 x 3.0m with Female Connector
9728108	Data Cable for CAN/CAN Interface 3.0 m with Male & Female Connector UL
9788106	Serial Cable RS232 WP4x00/N-Port 5 m
978810601	Serial Cable RS232 WP4x00/N-Port 1.5 m
9788108	Serial Cable RS232 WP4x00/Modem 2 m
9788109	Serial Cable RS232 WP4x00/PC 3 m
3389210	Ethernet Patch Cable RJ45 1 m
3389220	Ethernet Patch Cable RJ45 2 m
3389250	Ethernet Patch Cable RJ45 5 m
3310060	Gender Changer DB9 Female-Female
3370515	Fibre Optical Patch Cable 2 x 62.5µm SC/SC 1 m
3370525	Fibre Optical Patch Cable 2 x 62.5µm SC/SC 2 m
3370545	Fibre Optical Patch Cable 2 x 62.5µm SC/SC 5 m
978951101	Connector Kit Screw Black WP-Line 511

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