



Data loggers made by **Wilmers Messtechnik** are rugged data acquisition systems for longterm measurements in harsh environments. Universal measurement inputs and a simple formula language ensure flexible integration of virtually any type of sensors. Our data loggers are easy to use and reliable.

**wilog303/306** is our standard system for wind site assessment and for small weather stations. Combined with GSM modem and a solar power supply it ensures maintenance-free measurements in remote sites.

**blueberry NDL 485** is a modular data logging system for complex wind measurements, wind turbine power curve measurements, environmental monitoring and meteorological research. It features high sampling rates and a big data memory for recording of high resolution measurement data, e.g., from turbulence measurements with ultrasonic anemometers. The RS485 bus provides an interface for „intelligent“ sensors (ultrasonic anemometers, present weather sensors, cloud ceilometers) and extension modules. The Ethernet port enables the integration into a PC network (LAN). The integrated web interface offers local access by means of an Internet browser as well as global access via the Internet. The **NDL 485** sends measured data automatically via eMail and FTP. It is used as a base for online weather stations that display graphics of measured data in the Internet. The switching outputs of the **NDL 485** are used for simple control tasks. The **NDL 485** is characterized by a broad range of communication options (GSM, GPRS, DSL) that ensure permanent control over remote measurement stations.

## Technical Data

Model	wilog303	wilog306	NDL 485 basic	NDL 485 research
PartNo.	0123	0131	0102	0103
				
<b>Measuring Inputs</b>				
Digital inputs	3	3	6	6
Analogue inputs	3	6	6	6
Additional inputs	-	-	via <b>INPUT Modules</b> (8 x AIN/DIN per module)	
Serial inputs	-	-	RS485, half-duplex, optional RS232	
<b>Digital Measuring Inputs</b>				
Measuring range	frequency 2 .. 1,500 Hz counter 0 .. 1 Hz		frequency 0 .. 2,000 Hz counter 0 .. 2,000 Hz status HI / LO	
Resolution	0.01 Hz		0.01 Hz	
Accuracy	frequency $\pm 0.1\%$ counter $\pm 1$ pulse		frequency $\pm 0.1\%$ counter $\pm 1$ pulse	
Signal level	HI = $>3.0$ V LO = $<0.7$ V or potential free switch closure		HI = $>2.5$ V LO = $<0.7$ V or potential free switch closure	
Input impedance	$>10$ k $\Omega$		$>20$ k $\Omega$	
<b>Analogue Measuring Inputs</b>				
Measuring range	0 .. 6 V		0 .. 10 V	
Resolution	12 Bit (1.5 mV)		16 Bit (0.2 mV)	
Accuracy	$\pm 0.1\%$ of reading $\pm 1.5$ mV		$\pm 0.1\%$ of reading $\pm 1$ mV	
Input impedance	300 k $\Omega$		1 M $\Omega$	

Measuring Functions	wilog303	wilog306	NDL485 basic	NDL485 research
Measuring interval	1 s .. 24 h		1 s .. 24 h	0.1 s .. 24 h
Statistic interval	1 s .. 24 h		1 s .. 24 h	0.1 s .. 24 h
Statistic functions	mean value (arithmetic + vectorial), standard deviation (arithmetic + vectorial), minimum, maximum		mean value (arithm. + vectorial), standard deviation (arithm. + vectorial), minimum, maximum, sum	mean value (arithm. + vectorial), standard deviation (arithm. + vectorial), minimum, maximum, sum, median
Data memory for statistic time series	510 kB (up to 240,000 values) non-volatile ring buffer		32 MB, expandable to up to 1 GB, non-volatile ring buffer	128 MB, expandable to up to 1 GB, non-volatile ring buffer
Data memory for samples	-		32 MB non-volatile ring buffer	
<b>Communication</b>				
Data interface	RS232 serial interface, 9,600 baud		RS232 serial interface, 1,200 .. 115,200 baud, RS485 serial interface, half-duplex, 1,200 .. 115,200 baud, Ethernet interface (LAN), 10 MBit/s, optional <b>MODBUS TCP</b> protocol	
Remote data transmission	GSM, fixed network modem, satellite modem		GSM, GPRS, DSL, ISDN router	
Automatical data transmission	-		via eMail	via eMail and FTP
Internet integration	-		via GPRS or DSL	
User interface	PC software <b>witerm</b>		web interface, Internet browser	
Graphical data display	-		-	realtime diagrams of measured values, optional custom speci- fic graphical display
Display	LCD displays measured values, measurement parameters and power supply voltage		-	
<b>Power Supply</b>				
External power supply	9 .. 24 VAC/DC		5 .. 24 VDC	
Internal power supply	3 alkaline batteries LR20 Mono 1.5 V		-	
Current consumption	internal 1 .. 5 mA, external 5 mA		typ. 600 mW (50 mA @ 12 V)	
Sensor excitation	5 VDC switched, max. 20 mA		5 .. 24 VDC switched, max. 500 mA	
Switching outputs	1 output for time-scheduled operation of a GSM modem ( <b>TC35i</b> )		4 switching outputs, max. 300 mA, HI = supply voltage, LO = 0 V, time or event triggered	
<b>Mechanics and Operating Conditions</b>				
Casing	200 x 120 x 90 mm, IP65 polycarbonate		65 x 105 x 127 mm, IP20 top-hat rail housing, anodized aluminium	
Connections	circular connectors IP67		terminal strips, connectors	
Temperature range	-40 .. +70 °C		-40 .. +70 °C	

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Your Distributor



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