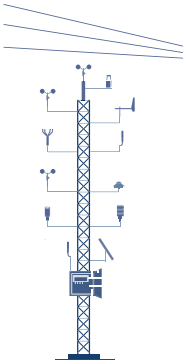
Data Logger Meteo-40: The Most Accurate Measurement for Your Projects

Flexible and efficient
Various channels for input and output. Automatic and interactive data retrieval, e.g., via modem, LAN, USB, RS485.

Accurate and powerful
High resolution 16 bit. Up to 2GB memory to record 1-sec measurement data. Compatible with SCADA systems.

User-friendly and secure
Configuration via web interface. Communication via HTTPS connection. Data transfer via SCP protocol. Encrypted data files.

Data logger Meteo-40 for wind and solar measurement and monitoring systems



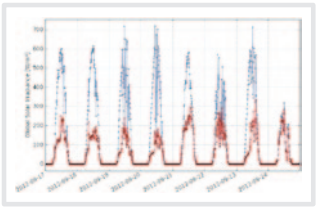
Meteo-40 is the heart of your measurement system. The data logger ensures accurate measurements to the high standards required by professional consultants, operators and climate research institutes.

The Meteo-40 series is designed for wind and solar resource assessment as well as for monitoring wind farms and solar power plants. Additionally, Meteo-40 can be implemented in traffic and agricultural meteorology. Meteo-40 data loggers are suitable for all climates and remote regions thanks to well-designed technology and low power consumption.

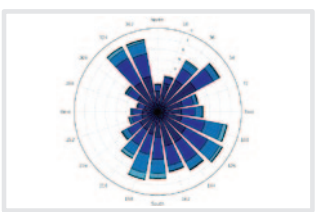
Accurate measurement under the toughest conditions.

AmmonitOR: Effective monitoring of remote measurement systems

AmmonitOR (Ammonit Online Report) simplifies data archiving and monitoring. In AmmonitOR you can reliably and securely manage your measurement campaigns. You can conveniently **verify the quality of measurement data** using plots, e.g., xy plots, wind speed curves, wind roses, or overlay graphs. By viewing the data calendar, you efficiently **detect problems** with your measurement system. **Check measurement data for plausibility with customisable filters**, e.g., to detect ice-effects. Stay informed about any technical problems with your measurement system using **messages** sent from AmmonitOR, e.g., low power supply.



Automatically generated **PDF reports** that summarise project and measurement data for a determined period. **Measurement data can be exported** easily for more detailed analysis in special software programs. Additionally, you can **monitor the communication behaviour** of Meteo-40 data loggers.



Effective monitoring of measurement systems - 24/7 wherever you are.

Data Logger Meteo-40: Benefit From Latest Technology

Various connections

USB | Ethernet connection
2 USB-A ports for modem, wireless or USB memory stick; 1 USB-B port for PC; 1 Ethernet port for LAN or SCADA.

Display & Keys
User-friendly menu to configure and check certain data logger settings.

Analog Current
Up to 2 channels for sensors with output current.

Analog Voltage
Up to 12 channels for barometric pressure sensors, temperature humidity sensors, pyranometers, etc.

RS485
RS485 master for up to 8 devices, e.g., ultrasonic anemometers, smart sensors; RS485 slave for SCADA applications.

5V | Switches
Up to 8 switches to operate modem and sensor heating, etc.

Pulse Counter
Up to 12 channels for anemometers, precipitation sensors, etc.

Digital / Serial / Status
Up to 8 channels for serial wind vanes (e.g., Thies TMR), precipitation monitor, etc.

User-friendly configuration and flexible communication

Meteo-40 is accessed and configured via a user-friendly web interface. You can easily configure sensors and communication methods using wizards. Conveniently access the web interface in our web browser via **secure HTTPS connection**.

Local communication
To configure Meteo-40 for operation, you can connect your data logger via **LAN** or **USB** to your PC, laptop, tablet PC or smartphone. **Wireless** access via USB W-LAN stick is also possible.

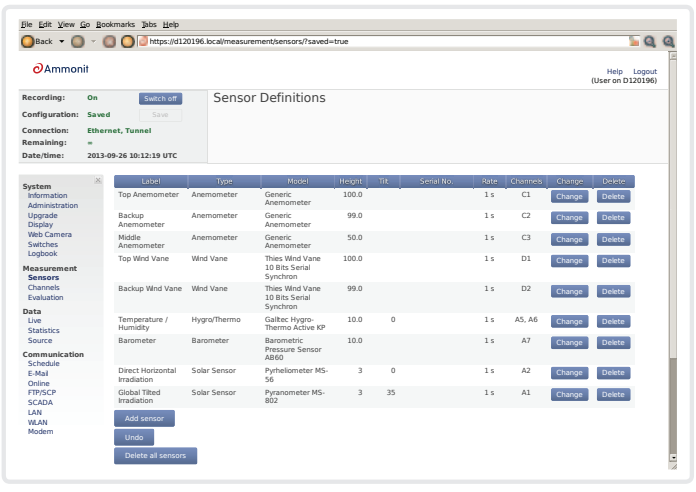
Remote communication
For remote access, connect Meteo-40 to a **GSM** or **SAT modem**. Additionally, **RS485** or **Ethernet** connections are available, e.g., for SCADA applications.

Reliable data transfer

- Data upload via **FTP / SCP** to your server.
- Data upload via **SCP** to AmmonitOR.
- **E-mail** data to your account.
- Data retrieval via **Modbus TCP/IP** or **Modbus RTU**.
- Data download on **USB memory stick**.

Date & time synchronization

- Synchronization via GPS.
- Synchronization via NTP (Internet).



Our Expertise for Your Success

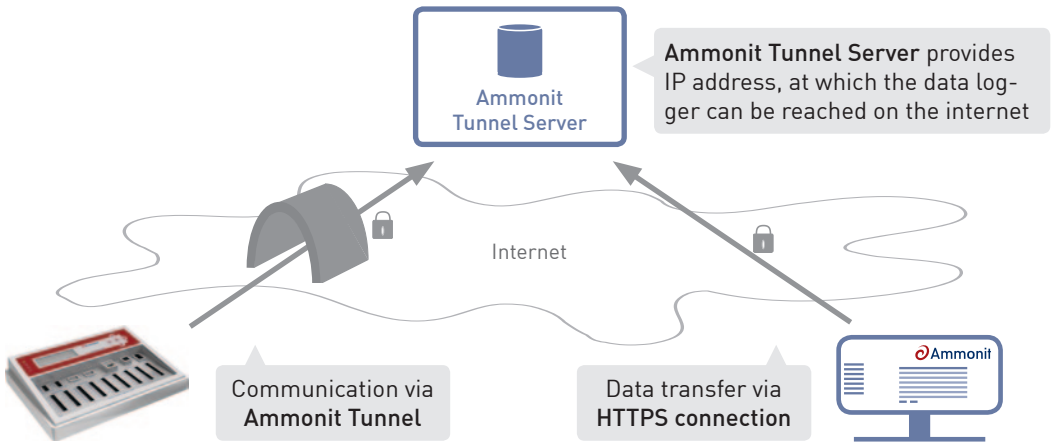
Encryption and digital signature for effective data protection

Secure: Measurement data is irreplaceable. In order to protect your data, you can access your Meteo-40 via Ammonit Tunnel Server. The tunnel between data logger and server is encrypted and cannot be accessed illegally. You access the server via secure HTTPS connection.

Data protection: Meteo-40 encrypts and digitally signs measurement data using public key cryptography. Thus Ammonit prevents data manipulation and ensures that only authorised users can access measurement data (available in 2014).

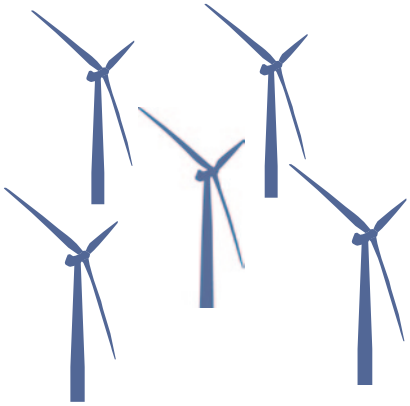
Cost-effective: Meteo-40 can be connected directly to a tunnel server (e.g., Ammonit Tunnel Server) to obtain a unique subdomain. In so doing, you can insert a standard SIM card with dynamic IP address in your GSM modem. The tunnel server automatically manages the subdomains. Access the Meteo-40 web interface by entering its subdomain, e.g., https://subdomain.tunnel.ammonit.com. An expensive SIM card with static IP address is not necessary.

Ammonit Tunnel Server: Advanced technology for higher security and cost effectiveness.



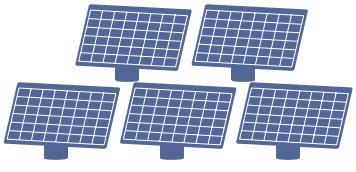
Integrating Meteo-40 in your SCADA monitoring system

Once the wind farm or solar power plant is up and running, the best performance has to be ensured. Meteo-40 can easily be integrated in SCADA (Supervisory Control and Data Acquisition) systems to provide reliable comparative meteorological data. Considering the measurement data recorded by Meteo-40, for example predictions about the annual production can be verified.



With its configurable Modbus Register Map, Meteo-40 is designed for operation in most SCADA system. The necessary parameters are configured via its user-friendly web interface. Meteo-40 uses the standard protocols Modbus TCP/IP and Modbus RTU for data transmission.

More flexibility for better integration.



Ammonit

Data Logger Meteo-40

Specifications

		Meteo-40S	Meteo-40M	Meteo-40L	Description
Order Number		M11010	M21010	M31010	
Input Channels	**Pulse Counters**	4	8	12	Anemometers, precipitation sensors
	Digital Serial (Status)	2	4	8	Wind vanes serial, precipitation monitors
	Analog Voltage	4 ± 0.1V, ± 1V, ± 10V 16bit	8 ± 0.1V, ± 1V, ± 10V 16bit	12 ± 0.1V, ± 1V, ± 10V 16bit	Barometric pressure, temperature, humidity sensors, pot. wind vanes, pyranometers, pyrheliometers
	Analog Current	1 ± 1mA, ± 10mA, ± 100mA 16bit	1 ± 1mA, ± 10mA, ± 100mA 16bit	2 ± 1mA, ± 10mA, ± 100mA 16bit	Sensors with DC output, e.g., temperature humidity sensor (0 ... 20mA)
	RS485 (M)	(1) RS485 Master for up to 8 smart sensors			Ultrasonic anemometers
Output Channels	**RS485 (S)**	(1) RS485 Slave			SCADA monitoring software
	5V | Switches	2	4	8	Sensor supply, relay for modem, heating supply.
	Current Source	1	1	2	Pt1000, Pt100
Connectivity	**USB**	(2) USB-A host (1) USB-B device			PC, modem, memory stick, Ethernet, WiFi, GPS, web cam
	Ethernet	(1) Ethernet			LAN, router, media converter
Storage Size	**Source Data (1sec data)**	1 GB	2 GB	2 GB	
	CSV Data (10min data)	> 50 MB			
Display & Keys		(20x4) LC display with backlight, five keys			
Power Supply		9 ... 36 V DC			
Protection (Housing)		IP65			
Housing Dimensions		260x194x50mm			
Weight		950g			
Accessories		Plug connector, mounting kit, steel cabinet			

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