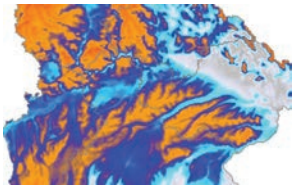
Ammonit

Wind and Solar Energy Assessment. SCADA. Power Curve Measurement.

Ammonit Meteo-40 Data Logger

Accurate. Reliable. Efficient.

Wind and Solar Maps



Wind Resource Assessment

Solar Resource Assessment

Solar Power Plant Monitoring

Wind Farm Monitoring (SCADA)

Climate Research

Site Assessment in Cold Climate

Power Curve Measurement

measuring wind and solar power
Parto System Co.

www.ammonit.com
www.partosystem.com

Benefit from latest technology

Various inputs and outputs for different measurement purposes

USB | Ethernet connection
USB-A ports for modem, wireless adapter or memory device; USB-B port for PC; Ethernet port for LAN or SCADA

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

Analog Current
for sensors with output current

RS485 master / RS485 slave
for ultrasonic anemometers and smart sensors; SCADA applications

Analog Voltage
for barometric pressure sensors, temperature humidity sensors, pyranometers, etc.

5V | Switches
for modem and sensor heating, etc.

Pulse Counter
for anemometers, precipitation sensors, etc.

Digital / Serial / Status
for serial wind vanes (e.g., Thies TMR), precipitation monitor, ext. activation, etc.

User-friendly configuration via protected web interface

You can easily configure measurement devices and communication methods using wizards in the Meteo-40 web interface. Conveniently access the web interface in your browser via **encrypted HTTPS connection**.

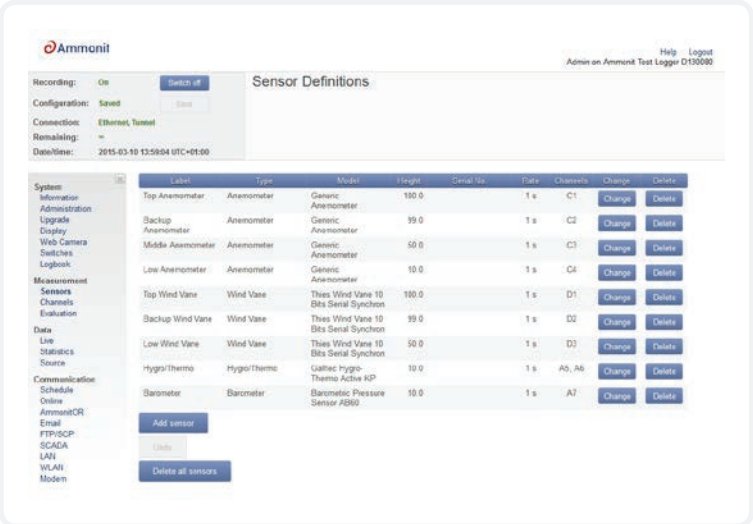
System configuration
- System administration, e.g., time
- Heating manager

Sensor library and channel overview
- Sensor configuration via wizards
- Real-time electric values

Statistics and source data
- Configuration of statistics interval
- 1-sec data list

Data transfer and online availability
- Scheduler for data transmission
- Modem configuration via wizard

SCADA integration
- Configurable Modbus register map
- Selectable statistics interval

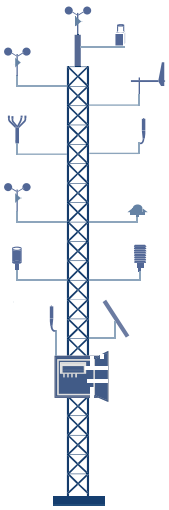


All you need for reliable and secure communication and data transfer

Various communication and data transfer options

Select your preferred communication method with Meteo-40: wired or wireless, via GSM or SAT modem, local or remote. You can choose from a range of different options for data transfer, e.g., statistics file upload to a server of your choice or sending files via e-mail.

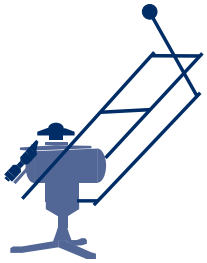
Individually decide which communication and data transfer method you prefer.



Local communication
- **LAN, link-local** or **USB**
- **Wireless** access via WiFi USB stick

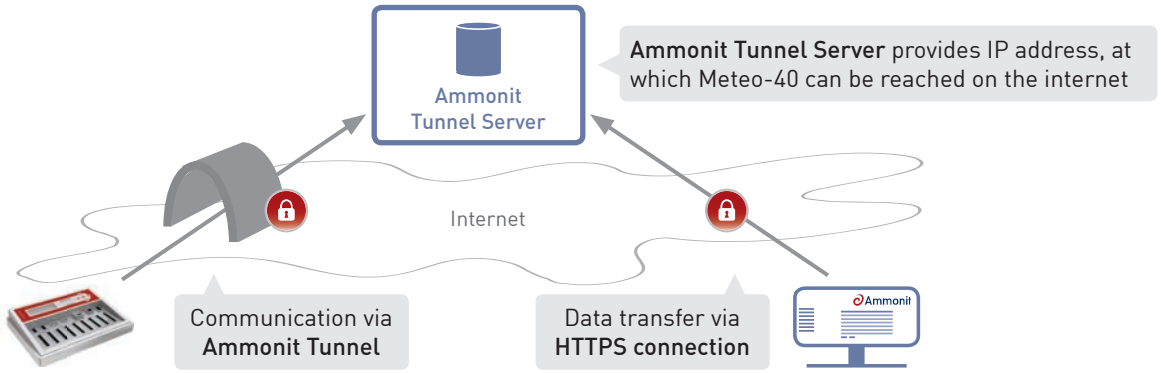
Remote communication
- **UMTS**, **GSM** or **SAT modem**
- **SMS**
- **RS485** or **Ethernet** e.g. for SCADA applications

Reliable and secure 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 **RTU**
- Data download on **USB memory stick**



Working cost-effective and secure in the field with the Ammonit tunnel server

Securely work on your Meteo-40 in the field via our **Ammonit Tunnel Server** using an **encrypted HTTPS connection**, which cannot be accessed illegally. Thus Meteo-40 automatically obtains a **unique subdomain** from the tunnel server. You can use a standard SIM card with dynamic IP address in your modem. The **tunnel server automatically manages the subdomains**. Just enter the subdomain, e.g., https://serialnumber.tunnel.ammonit.com, to access the Meteo-40 web interface. An expensive **SIM card with static IP address is not necessary**.



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

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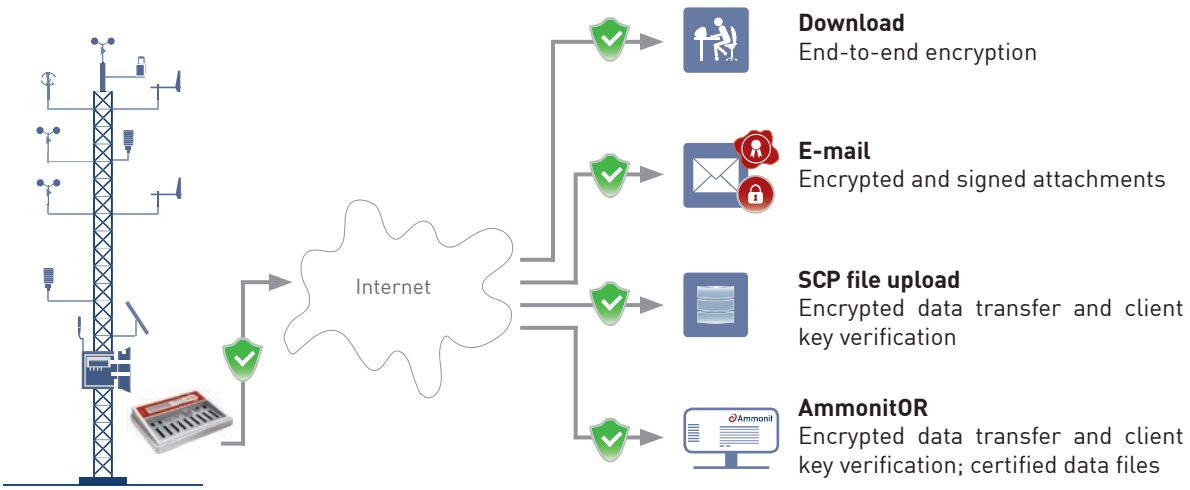
Ammonit Meteo-40 Data Logger: 100% Traceability. 100% Protection.

Ensuring data authenticity and integrity by using digital signatures and encryption

Measurement data is valuable and irreplaceable. To protect your data, we use **public key cryptography** acc. to the **OpenPGP standard** on Meteo-40 data loggers. Hence, Meteo-40 can encrypt and digitally sign data.

A valid digital signature indicates that the message was created by a known sender (authentication) and that the message was not manipulated on transit (integrity).

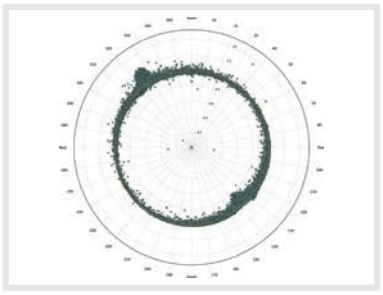
Encryption is a process of encoding information in a way that only authorized parties can read it. Only an authorized recipient can easily decrypt the message with the key provided by the originator.



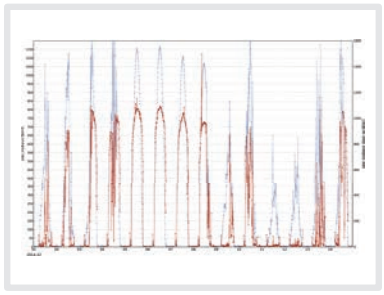
Transparency and traceability to fulfil data quality standards according to IEC, MEASNET and Germany's TR6.

AmmonitOR: Effective MEASNET-compliant campaign monitoring

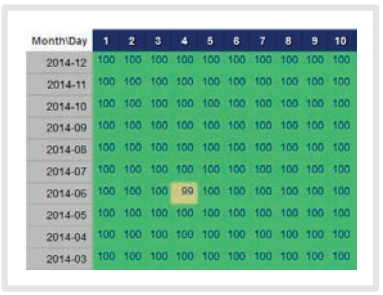
AmmonitOR (Ammonit Online Report) simplifies managing your measurement campaigns. Connect your Meteo-40 with AmmonitOR to conveniently monitor the quality of your measurement data according to the MEASNET site assessment guideline.



Shadow zone plot



XY plot



Month\Day	1	2	3	4	5	6	7	8	9	10
2014-12	100	100	100	100	100	100	100	100	100	100
2014-11	100	100	100	100	100	100	100	100	100	100
2014-10	100	100	100	100	100	100	100	100	100	100
2014-09	100	100	100	100	100	100	100	100	100	100
2014-08	100	100	100	100	100	100	100	100	100	100
2014-07	100	100	100	100	100	100	100	100	100	100
2014-06	100	100	100	99	100	100	100	100	100	100
2014-05	100	100	100	100	100	100	100	100	100	100
2014-04	100	100	100	100	100	100	100	100	100	100
2014-03	100	100	100	100	100	100	100	100	100	100

Data calender for completeness check

Your advantages

- Data verification using diagrams and curves
- Data plausibility check with customisable filters
- Data completeness check with calendar
- Campaign documentation in PDF reports
- Efficient problem detection
- Configurable alert messages, e.g., low power supply
- Configurable data exports for further data processing
- Certified data files and encrypted data transfer

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

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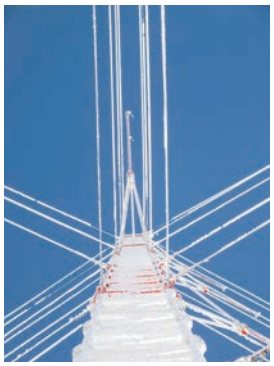
Ammonit measurement systems perform reliably around the world

Benefit from full-service packages provided by our global partner network

Wind energy assessment in Kenya

Solar measurement station in Brazil

Solar energy assessment in Turkey

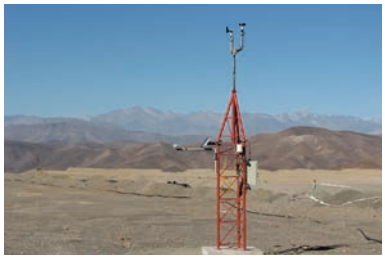

Wind measurement in Bulgaria

Wind measurement in Austria

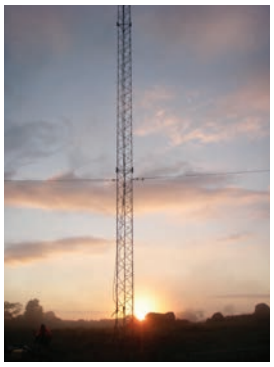
Wind farm monitoring in Spain

Wind farm monitoring in Portugal

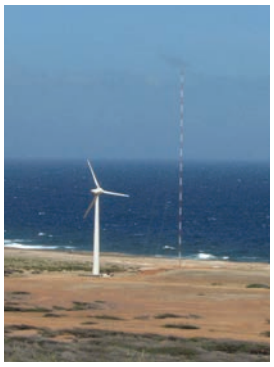
Wind measurement in Antarctica


Solar resource assessment in Chile

Wind resource assessment on Aruba


Wind measurement in Australia

Solar measurement in Mexico


Wind resource assessment on Curaçao

Wind energy assessment in Turkey

Thanks to our partners Australian Radio Towers, CLIMATIK, DESAMD, Ecosem, Energiewerkstatt, ENISOLAR, Eunivy Resources, IEM, SME Wind and WindUp for providing the photos for this brochure. For further Ammonit partners refer to www.ammonit.com

Ammonit Meteo-40 Data Logger: 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, ext. activation
	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, sat.modem, outdoor camera
Storage Size	**Source Data (1-sec data)**	1 GB	2 GB	2 GB	
	CSV Data (10-min data)	> 50 MB			
Display & Keys		(20x4) LC display with backlight, five keys			
Power Supply		9 ... 36 V DC			
Operat. temperature		-40 ... +65 °C			
Protection (Housing)		IP65			
Housing Dimensions		260x194x50mm			
Weight		950g			
Accessories		External modules, plug connector, mounting kit, steel cabinet			

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