TECH-SEN
Measurement Technologies

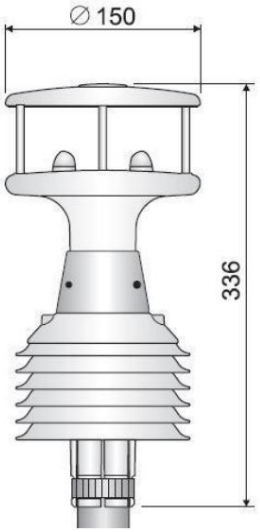
HAND-PORTABLE AUTOMATED METEOROLOGY OBSERVATION STATION (ETOMGI-1)

Features:

• Two-dimensional ultrasonic Anemometer
• Precise reading capacity of Wind Speed and Direction data with ultrasonic sensor • Temperature-humidity measurement • Precise pressure measurement • Instant control of measurements with the screen • Instant data monitoring from the phone via smartphone application
• Easy to carry and install • Integrated magnetic compass Ensuring correct data reading of the direction sensor with • At least 24 hours of use with a full charge

Usage areas:

• Weather Observation Stations
• Environmental Imaging Systems • Agricultural Measurement Stations • Airport Observation Stations • Renewable Energy Measurement Systems
• Building Automations • Construction Works • Measurements for Military Purposes • Railway and Highway Measurement Stations



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Technicial Specifications

Wind Speed Sensor	
Measurement	Ultrasonic
Principle	0…60m/s
Measurement	0.01
Range	±0.2 m/s or ±2% maximum (0…35 m/s), ±3% (<35 m/s)
Resolution Accuracy Wind Direction Sensor	
Measurement	Ultrasonic
Principle	0…360º
Measurement	0.1°
Range	±2°
Resolution Accuracy Compass	
Sensor Type	Magnetic
Measurement	0…360º
Range	0.1°
Resolution	±1°
Accuracy Temperature Sensor	
Sensor Type	Pt100
Measurement	-40...+70°C
Range	0.1°C
Resolution	±0.15°C within ±0.1% measuring range
Accuracy Relative Humidity Sensor	
Sensor Type	capacitive
Measurement	0…100%
Range	0.1%
Resolution Accuracy ±1.5% (0…90%), ±2% (90%…100%)	
Barometric Pressure Sensor	
Sensor Type Piezoresistive	
Measurement Range 300…1100 hPa	
Resolution	0.1hPa
Accuracy	± 0.5 hPa @ 20°C
General Specifications	
Supply Voltage	10…30Vdc
Power consumption	26 mA @12 Vdc for sensor, 50 mA @12 Vdc for Display While in use, 100 mA Bluetooth connection is active
Weight	About 1kg
Training Duration	Approximately 24 hours of operation on a single charge
Sensor Outputs	RS232, RS485, SDI-12 and RS422
Communication Protocols	NMEA, MODBUS-RTU, SDI-12, RS232 and RS485
Battery Specifications	12V 4Ah Battery
Battery Charger Adapter	Aküfix AF121, 15 Watt, Input 100-220V AC, Output 15V 1A
Tripod Features	Tripod with adjustable legs, maximum height 2m
Environmental Conditions	-40...+70°C temperature and 10% RH~95% RH
Reader Features	Connectivity via Bluetooth, LCD Display

Sensors and Equipment Used in ETOMGI-1

Sensor or Equipment	Brand Model
Sensor	Deltaohm HD52.3D147
Battery	Yuasa NP4-12 12V 4Ah
Battery Charger	Aküfix AF121
Reader	Tech-Sen ETOMGI-1 Reader
Mobile Phone Application	Tech-Sen ETOMGI (with Bluetooth 3.0 interface running Android app)
Tripod	Tech-Wind Adjustable Leg Aluminum Tripod
Carrying Bag	Safari Case SF-450S

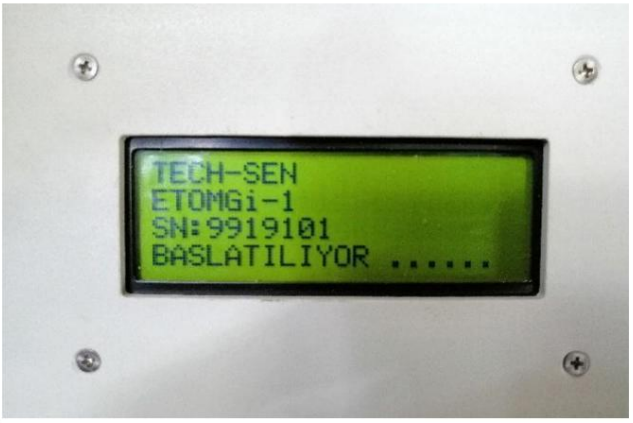
ETOMGI-1 Reader Screen Features and Screenshots

Screen Type: 4x20 Character LCD

Parameters that can be read on the screen:

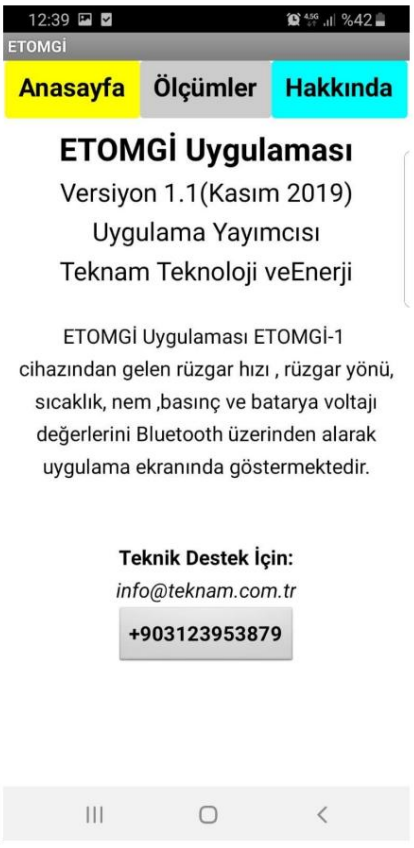
- Wind Speed,
- Wind Direction,
- Temperature,
- Relative Humidity,
- Pressure,
- Battery Voltage

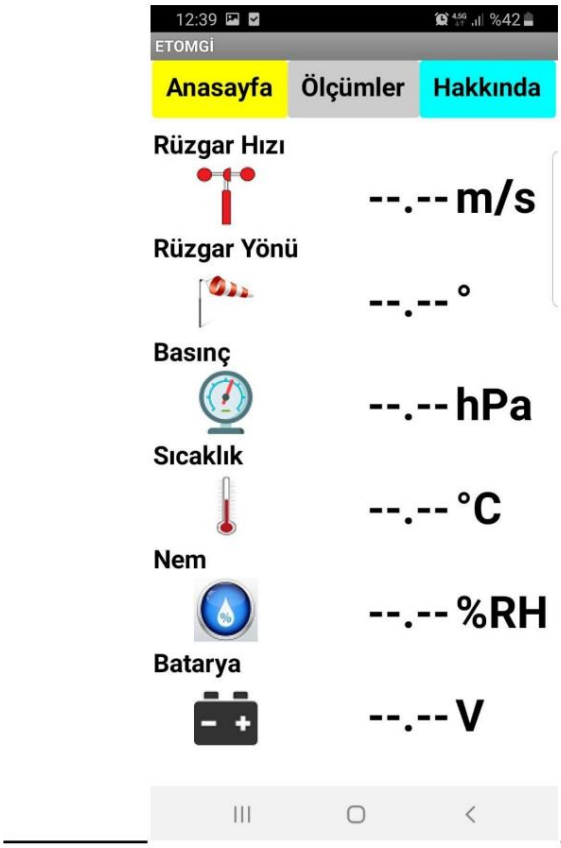
Display Language: Turkish



Mobile Phone App Screenshots

Wind speed, wind direction, pressure, temperature, humidity and battery data are instantly displayed through the application. Screenshots of the application to be downloaded from Google Play under the name ETOMGI are as follows.

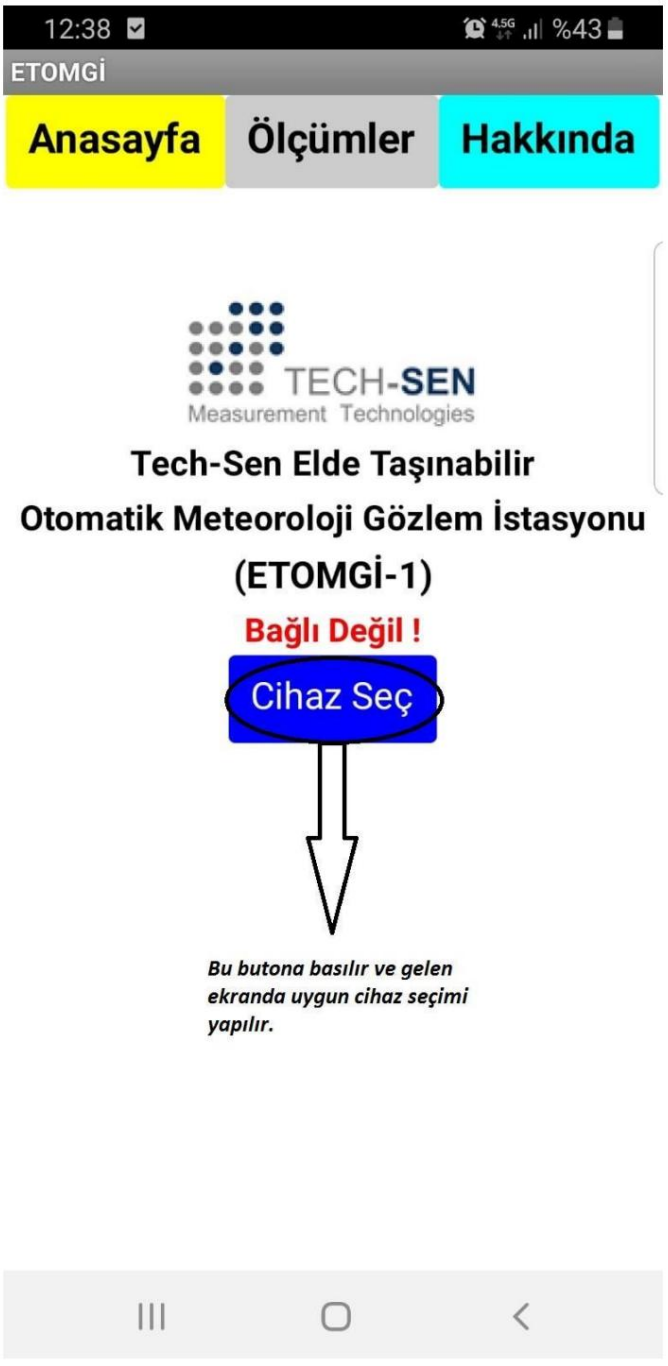




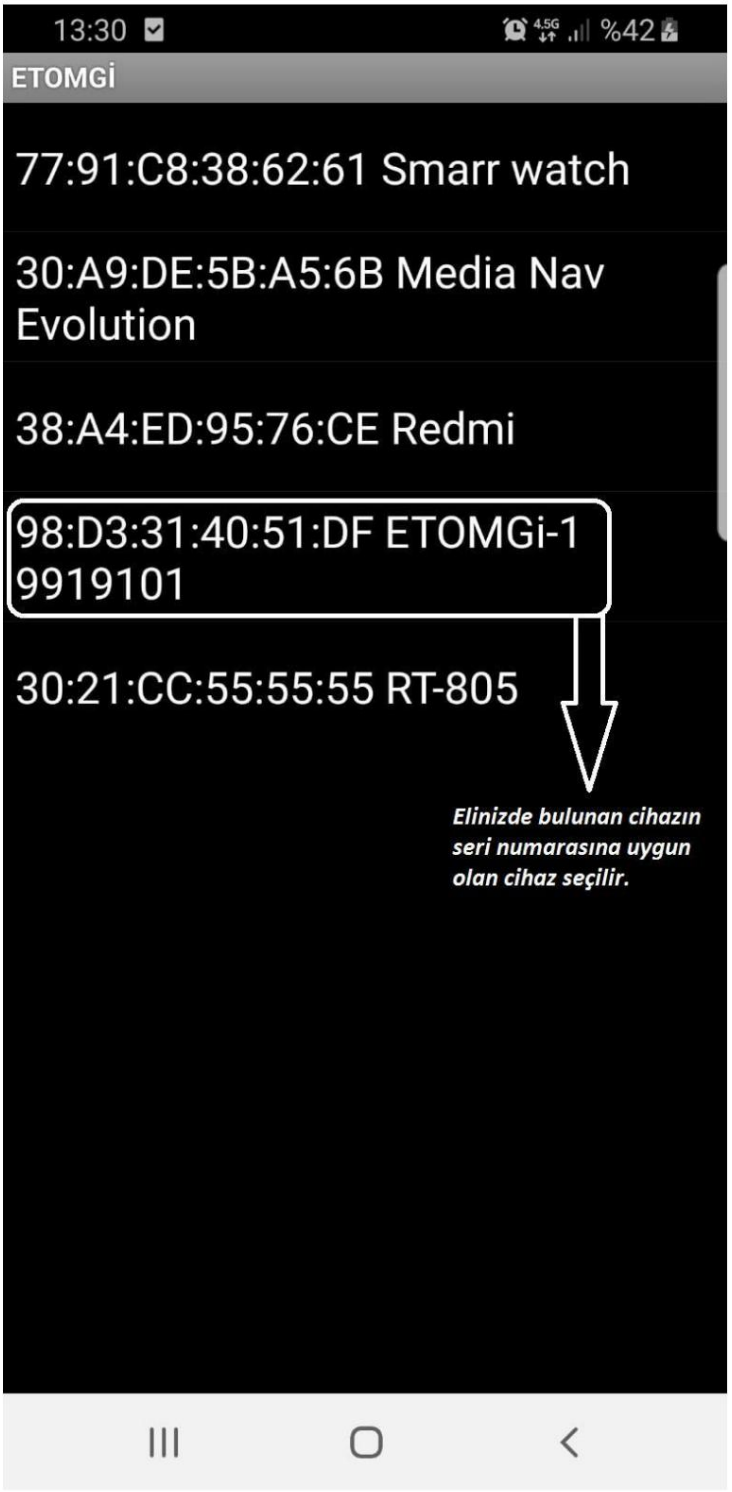
Usage of ETOMGI-1 Application:

The application connects to the ETOMGI-1 reader via Bluetooth. First of all, Bluetooth is activated from the settings of the smartphone. The reader is then connected to the battery and the device is powered. Afterwards, nearby Bluetooth devices are searched from the smartphone's Bluetooth settings menu. The device that writes the serial number of the ETOMGI-1 reader is found and matching is achieved.

After pairing the devices, the ETOMGI application is found and the following instructions are available.
is monitored.



The device selection screen is as follows. Since the serial number of the device we have on this screen is 9919101, the device numbered ETOMGI-1 9919101 is found on the screen and a connection is established with this device.



As a result of connecting to the device, you will be presented with the following screen. All data read from the sensor is available on this screen.