THE NEW DKM-411 MK3

- **COLOUR TFT SCREEN**
- **IP COMMUNICATIONS**
- **FLEXIBLE WITH PLUG-IN MODULES**
- **HARMONIC ANALYSIS**
- **SCOPEMETER**

The DKM-411 MK3 is an advanced precision metering device offering a 3.5” size, 320x240 pixel color TFT, together with unrivalled remote monitoring capabilities over internet in a compact and low-cost package.

The unit itself is a web server and can be opened through any browser for remote monitoring.

The central monitoring feature allows monitoring of thousands of meters from one central PC.

FEATURES

True RMS measurements, 0.2% accuracy
3.5” TFT LCD, 320x240 pixels
Harmonic distortion display (63 harmonics)
Oscilloscope, waveform display
Phasor diagram display
Internal battery backed-up real time clock
Max demand display
User configurable display screen
2 configurable relay outputs
Energy pulse output capability
2 opto-isolated, configurable digital inputs
Dual active-reactive power counters
Both mains/generator energy metering
4 quadrant energy counters
Configurable user counters
Voltage transformer ratio for MV applications
Password protected front panel programming
Universal supply input (both AC & DC)
Reduced panel depth
Sealed front panel (IP54)

SUPPORTED TOPOLOGIES

3 phases 4 wires, star
3 phases 3 wires, 3 CTs
3 phases 3 wires, 2 CTs (L1-L2)
3 phases 3 wires, 2 CTs (L1-L3)
3 phases 4 wires, delta
2 phases 3 wires, L1-L2
2 phases 3 wires, L1-L3
1 phase 2 wires

PLUG-IN MODULES

- ***GSM Modem (2G-4G)***
- ***Wi-Fi (802.11 b/g/n)***
- ***RS-485 (2400-57600baud)***

COMMUNICATION PORTS

- ***Ethernet 10/100Mb***
- ***RS-485 isolated (Modbus RTU)***
- ***USB Host for data recording on flash memory***
- ***USB Device for PC connection***

COMMUNICATIONS

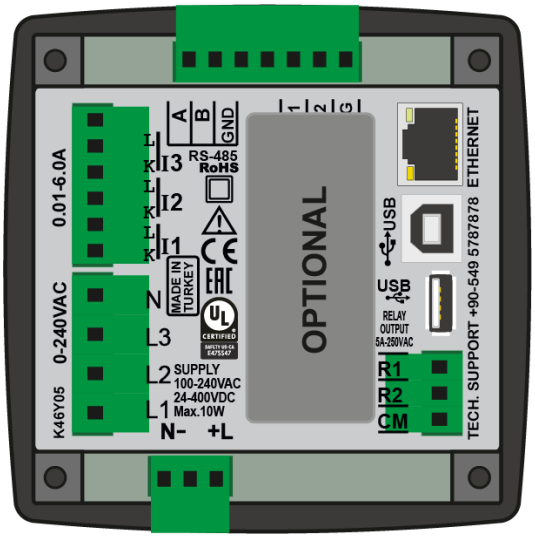
- ***Modbus RTU RS-485 and Modbus TCP/IP***
- ***SNMP***
- ***TCP/IP server / client***
- ***Embedded web server***
- ***Web monitoring and programming***
- ***GSM-SMS sending***
- ***e-mail sending***
- ***Central Monitoring through IP***
- ***Free configuration & monitoring software***

MEASUREMENTS

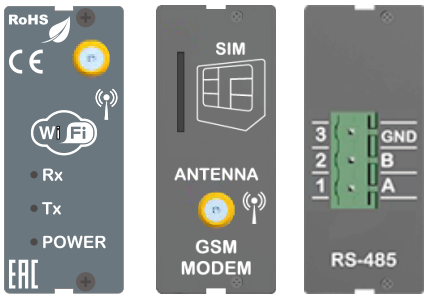
Phase to phase voltages: U12-U23-U31-Uavg
Phase to neutral voltages: V1-V2-V3-Vavg
Phase currents: I1-I2-I3-In-Iavg-Itot
Active power: P1-P2-P3-∑P
Reactive power: Q1-Q2-Q3-∑Q
Apparent power: S1-S2-S3-∑S
Power factor: cos1-cos2-cos3-∑cos
Active and reactive counters: Pimp1-Pexp1-Qcap1-Qind1, Pimp2-Pexp2-Qcap2-Qind2
User counters: USR1-USR2-USR3-USR4
2...63 Harmonics of any voltage or current
Phase to neutral voltages vector angles
Phase to phase voltages vector angles

DATAKOM

PLUG-IN MODULES

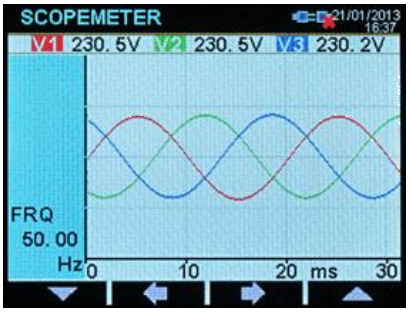


Backpanel view

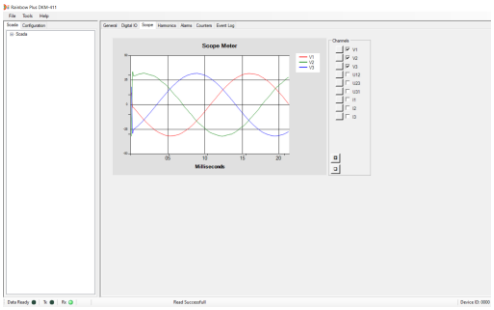


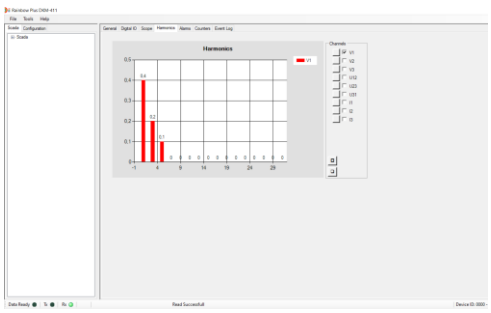
Plug-in modules

SCOPEMETER & HARMONICS

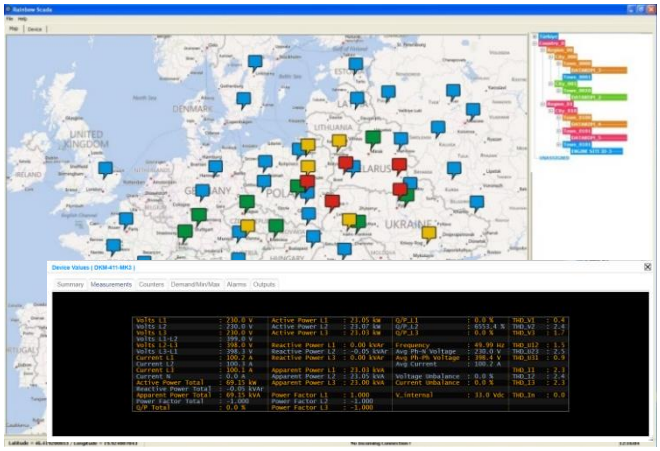


RAINBOW PLUS PROGRAM

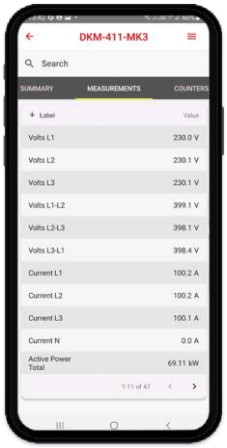




RAINBOW SCADA CENTRAL MONITORING

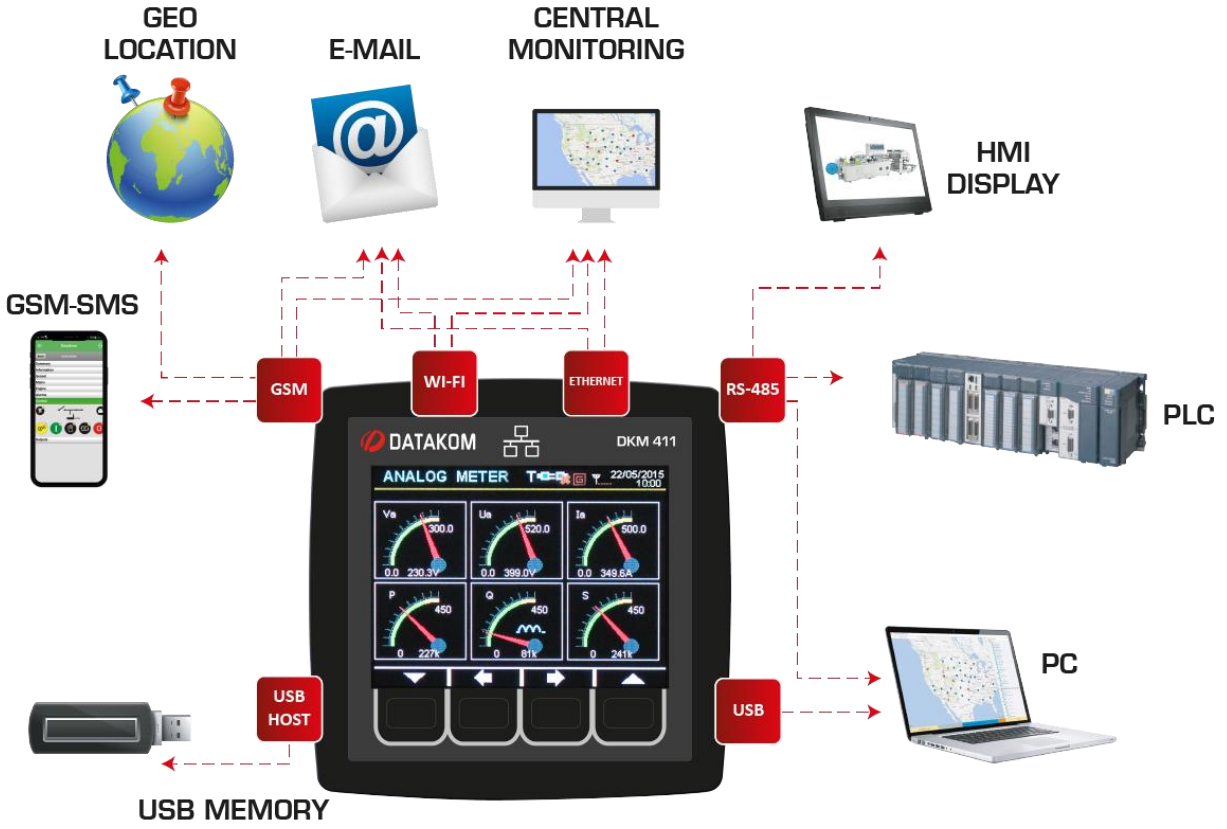


Display on Map, online monitoring



Smartphone Support

COMMUNICATIONS



TECHNICAL SPECIFICATIONS

Power Supply Input: Isolated universal input
50-305 VAC (45-500Hz)
19–400 VDC
Power Consumption: < 10 W
Measurement Input Range:
Voltage: 5 - 300 V AC (L-N)
10 - 520 V AC (L-L)
Current: 0.1 - 5.5 A AC
Frequency: 30 - 500 Hz
Accuracy:
Voltage: 0.2%+1digit
Current: 0.2%+1 digit
Frequency: 0.1%+1 digit
Power(kW,kVAr): 0.4%+2digit
Power factor: 0.2%+1digit
Measurement Range:
CT range: 5/5A to 10'000/5A
VT range: 0.1/1 to 200.0/1
kW range: 0.1 kW to 6.5MW
Voltage burden: < 0.1VA per phase
Current burden: < 1VA per phase
Relay Outputs: 5A @ 250V AC
Digital Inputs:
Active level: 5 to 30V-DC or AC
Min pulse: 250ms.
Isolation: 1000V AC, 1 minute

Operating Temperature:
-20°C to +50°C (-4 to +176 °F).
Maximum humidity: 95% non-condensing.
Degree of Protection: IP 65 (Front), IP 30 (Back)
Enclosure: Non-flammable, ROHS compliant
Installation: Flush mounting with rear brackets
Dimensions: 102x102x53mm (WxHxD)
Panel Cutout: 92x92mm
Weight: 350 gr

CONFORMITY

UL-CSA Certification: UL 61010-1, 3rd Edition, 2012-05, CAN/CSA-C22.2 (File: E475547, Vol. D1)

EU Directives:
-2014/35/EC (low voltage)
-2014/30/EC (electro-magnetic compatibility)

Norms of reference:
EN 61010 (safety)
EN 61326 (electro-magnetic compatibility)

TYPICAL CONNECTIONS