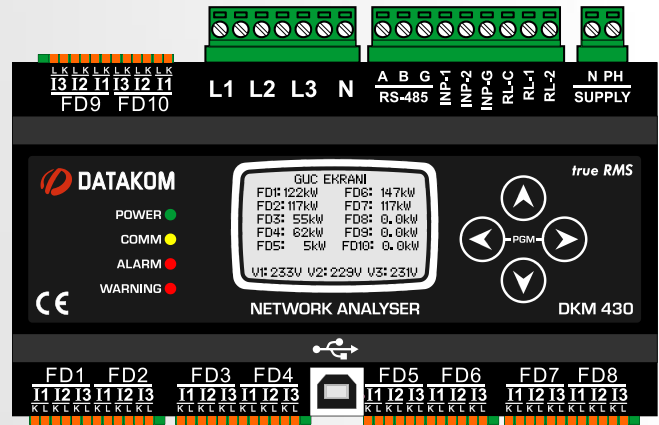


# DKM-430

## MULTIPLE NETWORK ANALYSER

- EQUIVALENT TO 10 ANALYSERS
- 30 x CT INPUTS
- 1MB RECORD MEMORY
- HARMONIC ANALYSIS
- INTERNAL GPRS MODEM



### DESCRIPTION

**DATAKOM DKM-430** is a precision instrument allowing the measurement, recording and remote monitoring of 10 3-phased or 30 single-phased feeders (or any combination of these two) in AC distribution panels. The number and flexibility of current inputs allow the unit to be used in a variety of applications like power distribution network monitoring, ISO50001 energy efficiency or home and factory automation.

The unit can be mounted on a DIN rail or backpanel. It can be easily adapted to existing panels.

Current inputs of the unit are designed for 0.1A output current transformers (CTs). CTs are shipped together with the unit and can be installed on cables in order to minimize space occupation in distribution cabinets.

Each CT can be assigned to any phase voltage and any virtual analyser. Inputs can be moved between analysers without modifying connections.

Independently adjustable current limits for each phase provide pre-alarms and help to reduce energy failures.

All measurement values and program parameters may be displayed on the graphic LCD screen.

The unit logs all fault conditions together with date and time information. The internal real time clock is capable of running 10 years without energy.

Any fault or warning signal can be connected to digital inputs of the unit. Input functions are selected from list.

Any function can be assigned to relay outputs of the unit. Relays may be remotely operated through the central monitoring program.

The isolated RS-485 MODBUS RTU data port is unaffected by ground potential differences and allows safe transmission of information to monitoring and automation systems.

The optional internal GPRS modem allows remote monitoring and control of the distribution panel without the use of any additional module.

Parameter setting of the unit is made either manually or through the USB port using the free PC program.

The unit records electrical parameters in its 1MB internal memory with programmed period. Records are read through Modbus.

### MEASUREMENTS

#### VOLTAGE INPUTS:

- P-N and P-P voltages: V1-V2-V3-U12-U23-U31
- Harmonics: Voltage inputs, 2-17 harmonics

#### EACH CT INPUT:

- Phase current: In
- Phase active/reactive/apparent powers: Pn-Qn-Sn
- Phase power factor: COSn
- Current harmonics 2-17

#### EACH VIRTUAL ANALYSER:

- Total active/reactive/apparent power:  $\sum P - \sum Q - \sum S$
- Total power factor:  $\sum \cos$
- Active and reactive counters: Pn-Qn

### FEATURES

**Equivalent to 10 3-phase analysers**

**True RMS measurements**

**0.5% measurement precision**

**Internal record memory: 1MB**

**Internal battery backed-up real time clock**

**Isolated RS-485 serial port**

**MODBUS-RTU communication**

**Internal GPRS modem (optional)**

**2 programmable relay outputs**

**2 optically isolated programmable inputs**

**Active-reactive energy counters**

**USB port for programming**

**Free programming software**

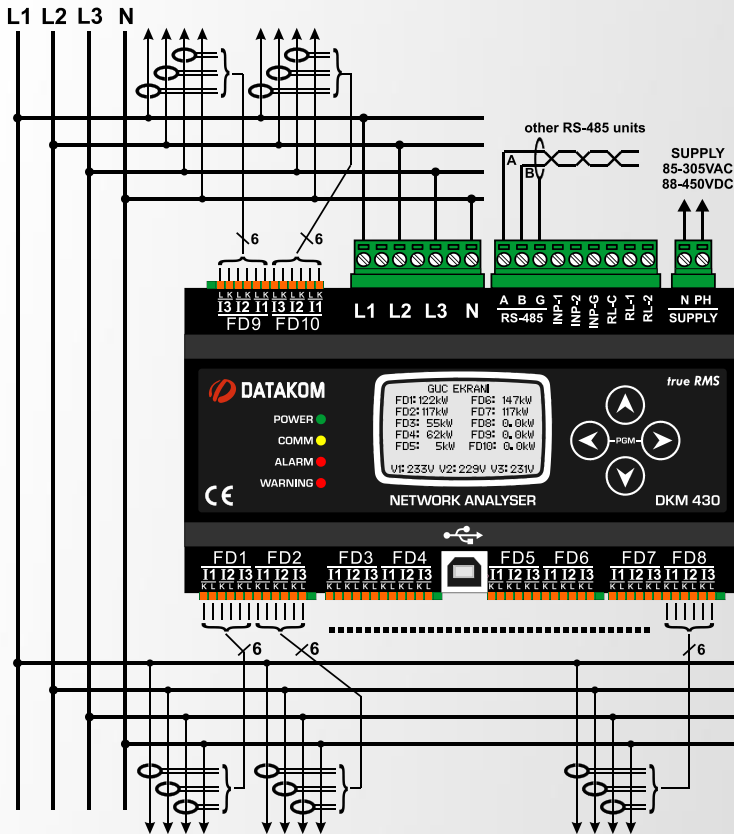
**Graphic LCD, 128x64 pixels**

**Wide supply range: 85-305VAC / 88-450VDC**

**DC supply version available**

**Wide operating temperature range**

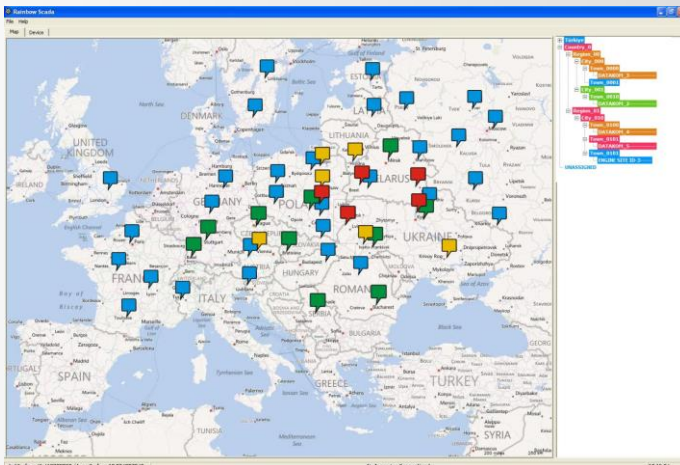
## CONNECTION DIAGRAM



## CENTRAL MONITORING

The unit may be remotely monitored and controlled through the DKG-210 Gateway or optional internal GPRS modem using the Rainbow Scada web service.

The Rainbow Scada software allows up to 60'000 units monitored by the same server.



## TECHNICAL SPECIFICATIONS

### Supply Input:

85 - 305VAC, 50/60Hz, 88 - 450VDC  
Optional 19-150VDC

### Measurement Inputs:

**Voltage:** 7 - 300 V AC (P-N)  
14 - 520 V AC (P-P)

**Current:** 0.001 - 0.12 A AC

**Frequency:** 30 - 100 Hz

### Accuracy:

**Voltage:** 0.5% + 1 digit

**Current:** 0.5% + 1 digit

**Frequency:** 0.5% + 1 digit

**Power (kW,kVAr):** 1.0% + 2 digit

**Cos:** 0.5% + 1 digit

### Measurement Range:

**CT range:** 5A to 6500A

**VT range:** 1.0/1 to 5000.0/1

**kW range:** 1.0 kW to 5000 MW

### Power Consumption:

< 5 VA

### Loading:

**Voltage Input:** < 0.02VA per phase

**Current Input:** < 0.02VA per phase

### Relay Outputs:

5A @ 250V AC

### Digital Inputs:

**Active level:** 85 - 305VAC

**Min pulse:** 250ms.

**Isolation:** 1000V AC, 1 minute

### Serial Port:

**Signal type:** RS-485

**Protocol:** Modbus RTU

**Data Rate:** 2400-115200b adjustable

**Isolation:** 500V AC, 1 minute

### Operating Temp. Range:

-20°C to +70 °C (-4°F to 158°F)

### Max Relative Humidity:

95%, non-condensing

### Case Material:

Flame retardant, ROHS compliant, high temp. ABS/PC (UL94-V0)

### Installation:

DIN rail or backpanel

### Dimensions:

158x90x60mm (WxHxD)

### Weight:

350 gr

### AB Directives:

2006/95/EC (LVD)

2004/108/EC (EMC)

### Reference Standards:

EN 61010 (safety)

EN 61326 (EMC)

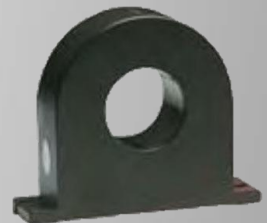
## CURRENT TRANSFORMERS



**50 A**

25x27x40mm

φ 10mm



**250A**

78x63x22mm

φ 25mm

