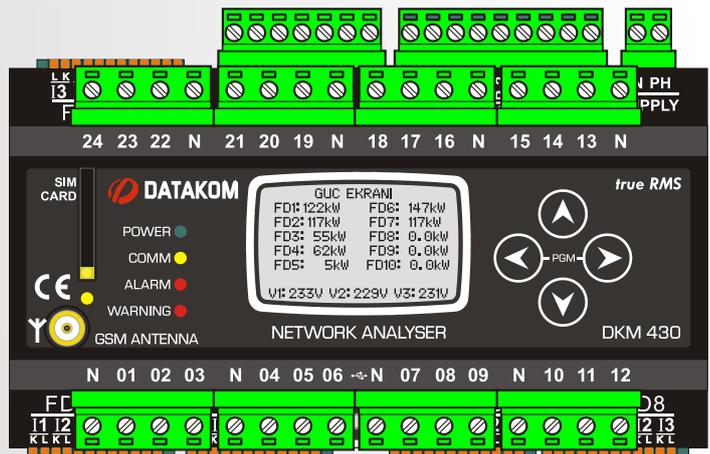


DKM-430-PRO

MULTIPLE NETWORK ANALYSER

- **EQUALS TO 10 ANALYSERS**
- **30 x CT INPUTS**
- **24 FUSE INPUTS**
- **HARMONIC ANALYSIS**
- **INTERNAL GPRS MODEM**



DESCRIPTION

The **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 module features 24 AC fuse inputs. These inputs monitor fuse statuses and generate fault condition once a fuse is blown.

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.

The astronomical relay function calculates sunrise and sunset times precisely for daylight based applications.

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: $\Sigma P - \Sigma Q - \Sigma S$
- Total power factor: $\Sigma \cos$
- Active and reactive counters: Pn-Qn

FEATURES

Equivalent to 10 3-phase analysers

24 fuse inputs

True RMS measurements

0.5% measurement precision

Internal record memory: 1MB

Internal battery backed-up real time clock

Astronomical relay function

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

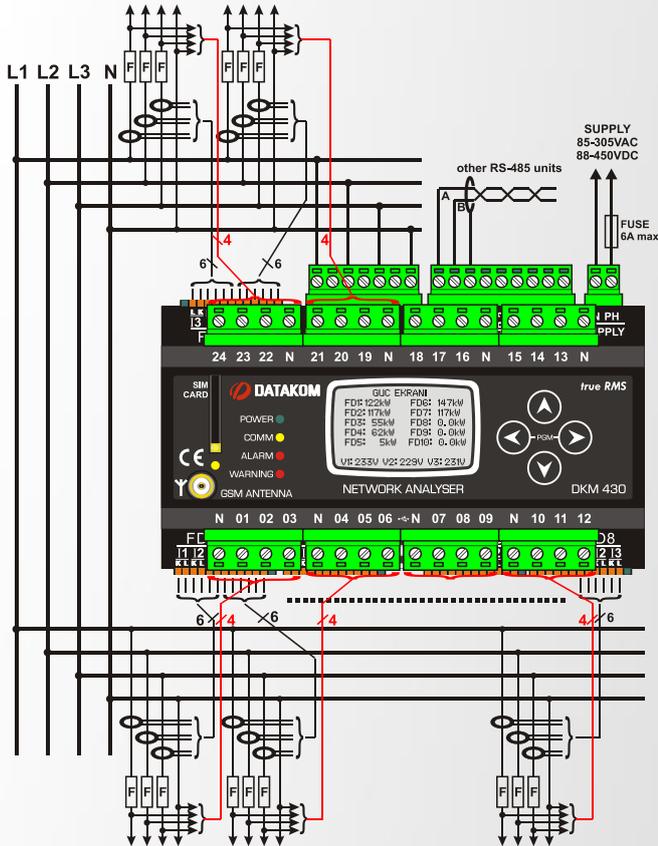
Graphic LCD, 128x64 pixels

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

Fuse Inputs:

Voltage: 10-300VAC (Ph-N)
Accuracy: 5%

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

UL-CSA Certification:

UL 61010-1, 3rd Edition, 2012-05, CAN/CSA-C22.2

File: E475547, Vol. D1

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

