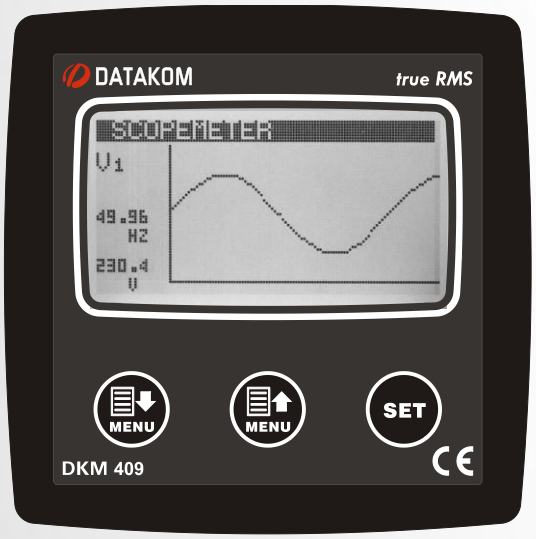
DKM-409

NETWORK ANALYSER
WITH HARMONIC MEASUREMENT AND SCOPEMETER



INTRODUCTION

The DKM-409 is a precision instrument designed for displaying various AC parameters in 3-phase distribution panels.

Thanks to its isolated RS-485 Modbus RTU communication port, the device is free from ground potential difference issues and measured parameters are safely transferred to factory and building automation systems.

The power supply of the unit is isolated, thus the same device can be used in both 230/400V and 120/208V systems.

The graphic screen allows display of waveforms and harmonic analysis graphs.

Various display screens can be scrolled automatically. The user configurable screen where any measured parameter set can be displayed, transforms the unit to a custom designed measurement panel.

The unit fits into a standard 92x92mm panel opening.

MEASUREMENTS

Phase to phase voltages: U12-U23-U31
Phase to neutral voltages: V1-V2-V3
Phase currents: I1-I2-I3
Phase active power: P1-P2-P3
Phase reactive power: Q1-Q2-Q3
Phase apparent power: S1-S2-S3
Phase power factor: cos1-cos2-cos3
Total active power: ∑P
Total reactive power: ∑Q
Total apparent power: ∑S
Total power factor: ∑cos
Active power counters: Pc1-Pc2
Reactive power counters: Qc1-Qc2
User counters: USR1-USR2-USR3-USR4
2...31 Harmonics of any voltage or current

FEATURES

True RMS measurements
Harmonic distortion display (31 harmonics)
Oscilloscope, waveform display
Max demand display
User configurable display screen
Fully isolated RS-485 serial port
MODBUS-RTU communication
2 configurable relay outputs
Energy pulse output capability
Optically isolated, configurable digital inputs
Switched dual active-reactive power counters
Independent mains/generator energy metering
Configurable user counters
Voltage transformer ratio for MV applications
Password protected front panel programming
High visibility, 128x64 pixels graphic LCD
Reduced panel depth
Wide operating temperature range
Sealed front panel (IP54)
Plug-in connection system

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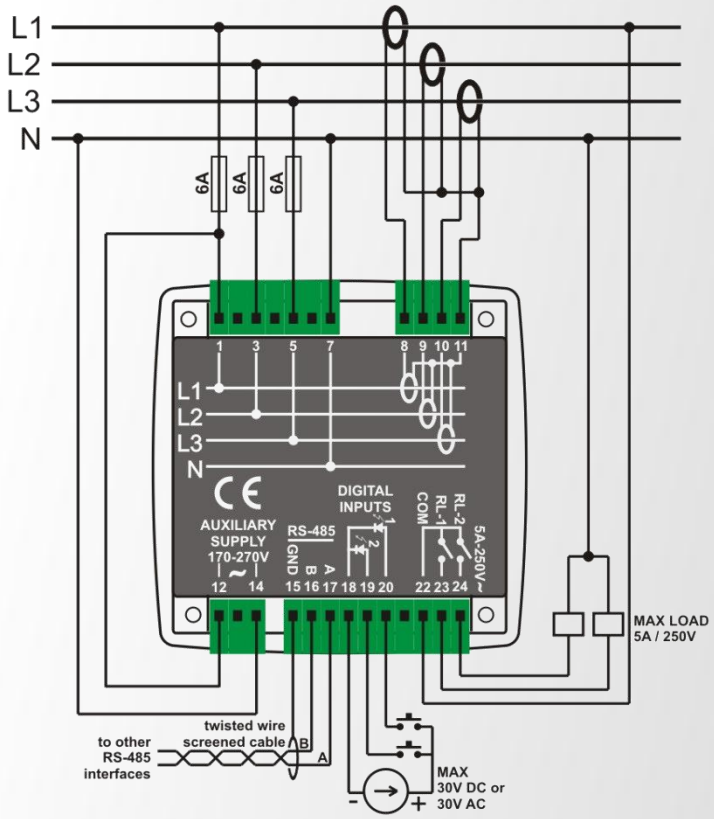
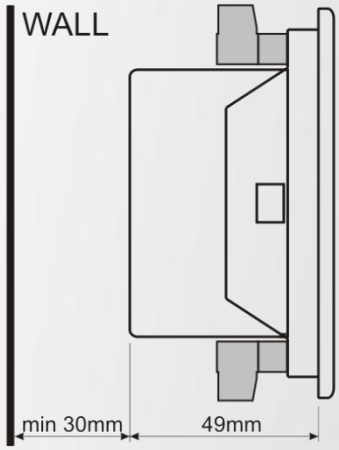
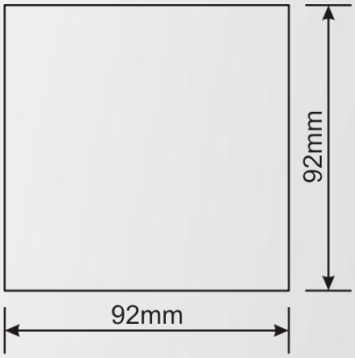
CONNECTION DIAGRAM



MOUNTING TOLERANCES



PANEL CUTOUT DIMENSIONS



TECHNICAL SPECIFICATIONS

Power Supply Input:
170 - 275VAC,
50 - 60Hz nominal (± 10%)
Different supply voltages available.

Measurement Input Range:

Voltage:	10 - 300 V AC (L-N)
	20 - 520 V AC (L-L)
Current:	0.2 - 5.5 A AC
Frequency:	30 - 100 Hz

Accuracy:

Voltage:	0.5%+1digit
Current:	0.5%+1 digit
Frequency:	0.5%+1 digit
Power(kW,kVAr):	1.0%+2digit
Power factor:	2.0%+2digit

Measurement Range:

CT range:	5/5A to 5000/5A
VT range:	1.0/1 to 5000.0/1
kW range:	1.0 kW to 50.0 MW

Power Consumption: < 4 VA
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

Serial Port:

Signal level:	RS-485
Protocol:	Modbus RTU
Data Rate:	9600 bauds
Isolation:	500V AC, 1 minute

Operating Temperature:
-20°C to +70°C (-4 to +158 °F).
Maximum humidity: 95% non-condensing.
Degree of Protection: IP 54 (Front Panel)
IP 30 (Back panel)
Enclosure: Non-flammable, ROHS compliant
Installation: Flush mounting with rear brackets
Dimensions: 102x102x53mm (WxHxD)
Panel Cutout: 92x92mm
Weight: 350 gr

EU Directives:	**Norms of reference:**
2006/95/EC (LVD)	EN 61010 (safety)
2004/108/EC (EMC)	EN 61326 (EMC)

PACKAGING INFORMATION

Pieces per Package:	12 pieces
Package Size:	280 x 170 x 215mm
Package Weight:	4.4 kg

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