

Datakom DKM-401

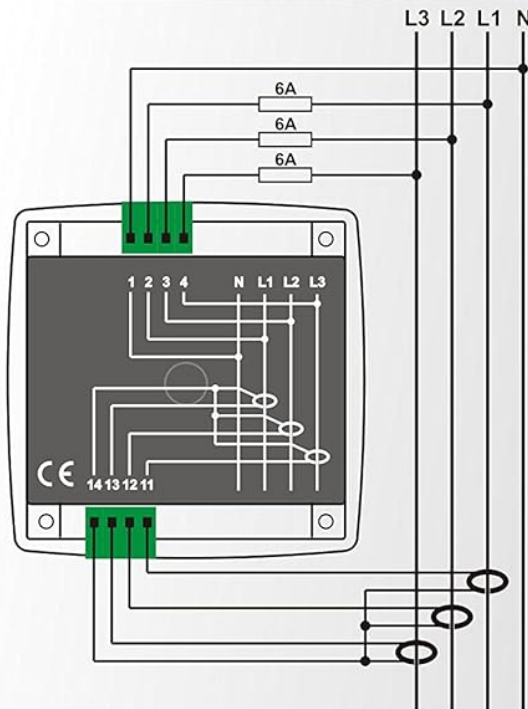
Datakom DKM-401 Digital Multimeter Panel User Manual

Model: DKM-401 | Brand: Datakom

1. INTRODUCTION

The DKM-401 is a low-cost precision instrument designed to display various AC parameters in a 3-phase distribution panel. The standard unit is designed for 230/400V networks. A different version is available for 120/208V systems. The unit fits into a standard 92x92mm panel opening.

CONNECTION DIAGRAM



TECHNICAL SPECIFICATIONS

Power Supply Input:

170 - 275VAC,
50 - 60Hz nominal ($\pm 10\%$)
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%+1 digit
Current: 0.5%+1 digit
Frequency: 0.5%+1 digit

Measurement Range:

CT range: 5/5A to 5000/5A

Power Consumption:

< 4 W

Voltage burden:

< 0.1VA per phase

Current burden:

< 1VA per phase

Operating Temperature:

-20°C to +80°C (-4 to +176 °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:

200 gr

EU Directives:

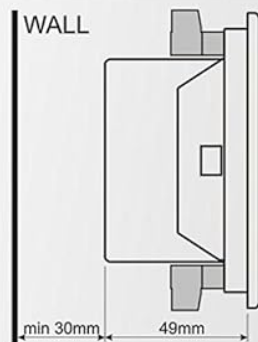
2006/95/EC (LVD)
2004/108/EC (EMC)

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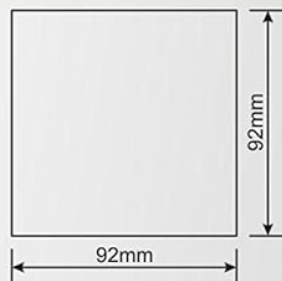
reference:

EN 61010 (safety)
EN 61326 (EMC)

MOUNTING TOLERANCES



PANEL CUTOUT DIMENSIONS



PACKAGING INFORMATION

Pieces per Package:

12 pieces

Package Size:

280 x 170 x 215mm

Package Weight:

2.6 kg



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Image: Front view of the DKM-401 Digital Multimeter, showing the display for L1, L2, L3 currents and frequency/voltage, along with menu buttons.

2. FEATURES

- True RMS measurements
 - Class 0.5 accuracy
 - Flush mount installation
 - Front panel programming
 - Reduced panel depth
 - Wide operating temperature range
 - Sealed front panel (IP54)
 - Plug-in connection system
 - Low cost
-

3. MEASURED PARAMETERS

- Phase to phase voltages: U12-U23-U31
 - Phase to neutral voltages: V1-V2-V3
 - Phase currents: I1-I2-I3
 - Frequency: F
-

4. INSTALLATION

4.1. Electrical Installation Guidelines

WARNING: Do not install the unit close to high electromagnetic noise emitting devices like contactors, high current busbars, switchmode power supplies, and the like.

Although the unit is protected against electromagnetic disturbance, excessive disturbance can affect its operation, measurement precision, and data communication quality.

- Use cables of appropriate temperature range.
- Use adequate cable section, at least 0.75mm² (AWG18).
- For current transformer inputs, use at least 1.5mm² section (AWG15) cable.
- The current transformer cable length should not exceed 1.5 meters. If longer cable is used, increase the cable section proportionally.
- Current transformers must have 5A output.

CAUTION: Current Transformers must be used for current measurement. No direct connection allowed.

4.2. Panel Cutout and Mounting

The DKM-401 is designed for flush mounting into a standard 92x92mm panel opening. Ensure sufficient depth for

ELECTRICAL INSTALLATION



Do not install the unit close to high electromagnetic noise emitting devices like contactors, high current busbars, switchmode power supplies and the like.

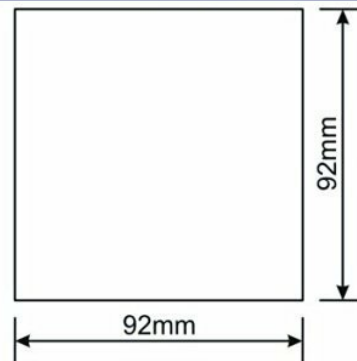
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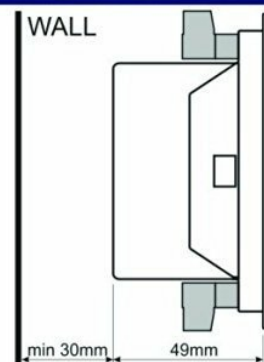


Current Transformers must be used for current measurement.
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PANEL CUTOUT



REQUIRED PANEL DEPTH



TECHNICAL SPECIFICATIONS

Power Supply Input:

170 - 275VAC, 45 – 66 Hz
Different AC supply voltages available.

Measurement Input Range:

Voltage inputs:

10 - 300 V AC (L-N)
20 - 520 V AC (L-L)

Current inputs: 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

Measurement Range:

CT range: 5/5A to 5000/5A

Power Consumption: < 4 W

Voltage burden: < 0.1VA per phase

Current burden: < 1VA per phase

Operating Temperature:

-20°C to +80°C (-4 to +176 °F).

Maximum humidity:

95% non-condensing.

Degree of Protection:

IP 54 (Front Panel) ,
IP 30 (Back panel)

Enclosure:

Non-flammable, ROHS compliant,
ABS/PC (UL94-V0)

Installation:

Flush mounting with rear retaining
brackets

Dimensions:

102x102x53mm (WxHxD)

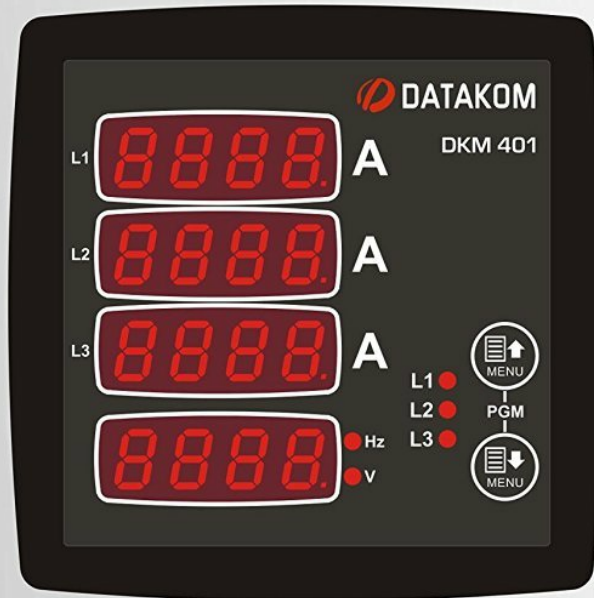
Panel Cutout: 92x92mm

Weight: 200 gr

Image: Panel cutout dimensions, indicating a 92x92mm square opening.

DKM-401

DIGITAL MULTIMETER 96x96mm



INTRODUCTION

The DKM-401 is a low cost precision instrument designed to display various AC parameters in a 3-phase distribution panel.

The standard unit is designed for 230/400V network. A different version is available for 120/208V systems.

The unit fits into a standard 92x92mm panel opening.

MEASURED PARAMETERS

Phase to phase voltages: U12-U23-U31

Phase to neutral voltages: V1-V2-V3

Phase currents: I1-I2-I3

Frequency: F

FEATURES

True RMS measurements

Class 0,5

Flush mount

Front panel programming

Reduced panel depth

Wide operating temperature range

Sealed front panel (IP54)

Plug-in connection system

Low cost



Image: Side view illustrating mounting tolerances and the required panel depth of minimum 30mm and 49mm for the unit's body.

The unit is secured using rear retaining brackets. Ensure the panel thickness is within acceptable tolerances for a secure fit.

5. CONNECTION DIAGRAM

Refer to the diagram below for proper electrical connections of the DKM-401 Digital Multimeter. Ensure all connections are made securely and according to local electrical codes.

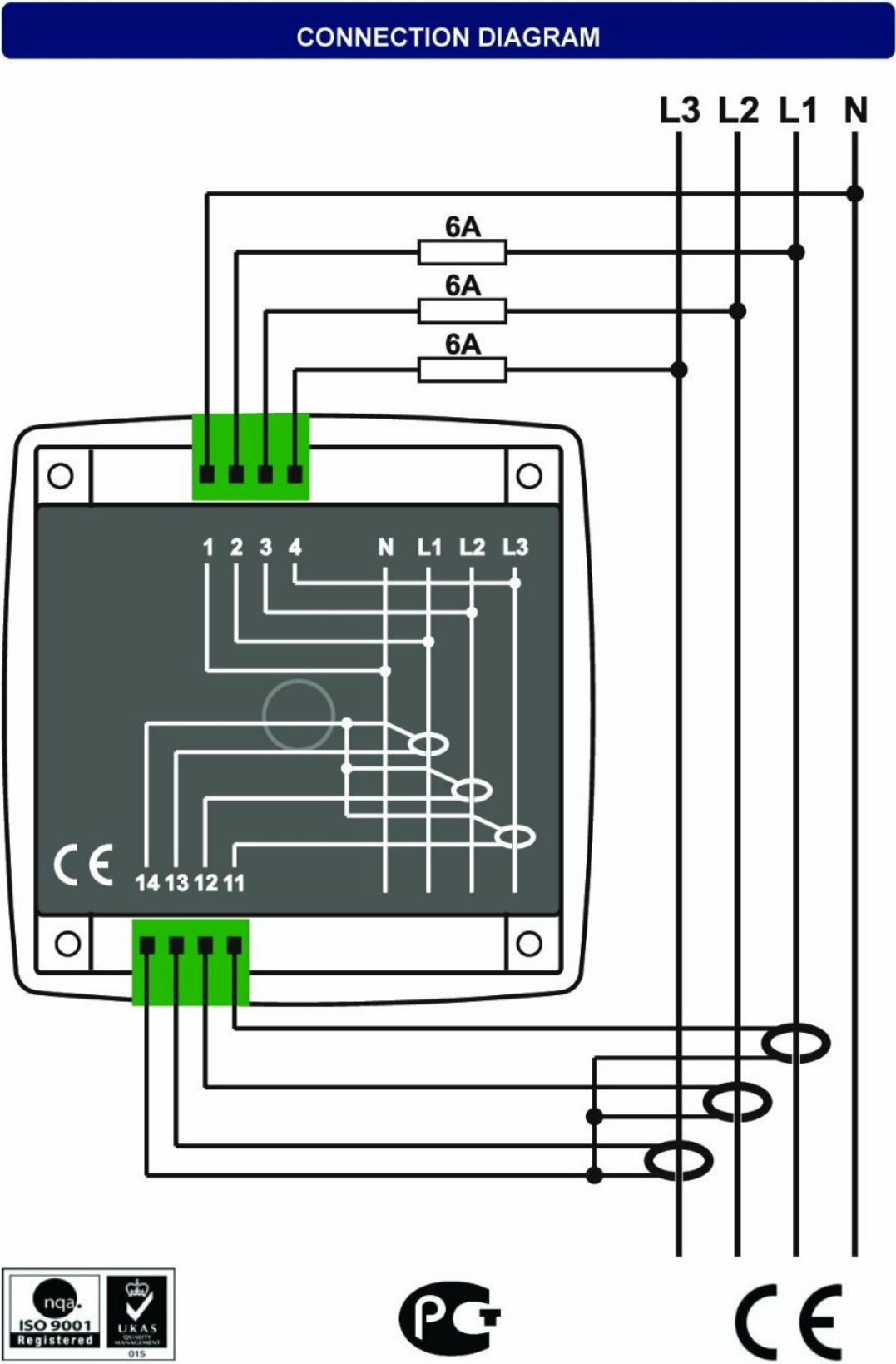


Image: Detailed connection diagram for the DKM-401, illustrating input terminals for voltage (L1, L2, L3, N) and current transformers (1, 2, 3, 4, 11, 12, 13, 14).

- Connect L1, L2, L3, and Neutral (N) to the corresponding terminals.
- Connect current transformers (CTs) to terminals 1-4, 11-14 as indicated. Ensure correct polarity.
- Fuses (6A) are recommended for protection on the voltage input lines.

6. OPERATION

6.1. Pushbutton Functions

The DKM-401 features three buttons on the front panel for configuration and measurement screen navigation.



Button	Function
	Upper screen, Increase related value (config mode)
	Lower screen, Decrease related value (config mode)
NO BUTTON PRESSED FOR 5 MINUTES:	Returns to the main display screen

Image: Table illustrating the functions of the DKM-401's front panel buttons.

6.2. Menu Navigation

To change the bottom display, press one of the MENU buttons until the desired value appears. The sequence of displayed values is as follows:

1. L-1 VOLTAGE
2. L-2 VOLTAGE
3. L-3 VOLTAGE
4. L1-L2 VOLTAGE
5. L2-L3 VOLTAGE
6. L3-L1 VOLTAGE
7. FREQUENCY



Image: Diagram showing the menu navigation flow and the order of parameters displayed on the DKM-401.

6.3. Adjusting the CT Ratio

To enter the CT ratio configuration menu, hold both MENU buttons pressed for 2 seconds. The display will show "Curr" and "ErrA" followed by the current CT ratio (e.g., "500").



Image: DKM-401 display in CT ratio adjustment mode, showing "Curr", "ErrA", and a numerical value.

Use the MENU buttons to adjust the desired CT primary rating. If no button is pressed for 30 seconds, the configuration mode automatically terminates. The configuration mode can also be exited by holding both MENU buttons pressed again.

7. TECHNICAL SPECIFICATIONS

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Different AC supply voltages available.

Measurement Input Range:

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EU Directives:

2006/95/EC (LVD)

2004/108/EC (EMC)

Norms of reference:

EN 61010 (safety)

EN 61326 (EMC)

Image: Compilation of technical specifications for the DKM-401 Digital Multimeter.

8. MAINTENANCE

The Datakom DKM-401 Digital Multimeter is designed for long-term, reliable operation with minimal maintenance. Follow these general guidelines:

- **Cleaning:** Periodically clean the front panel with a soft, dry cloth. Avoid using abrasive cleaners or solvents that could damage the display or casing.
 - **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage. Ensure the unit is free from dust and debris, especially around ventilation areas if any.
 - **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges to prevent premature failure.
 - **No User Serviceable Parts:** The DKM-401 contains no user-serviceable parts. Do not attempt to open the enclosure, as this may void the warranty and expose you to electrical hazards.
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9. TROUBLESHOOTING

This section provides solutions to common issues encountered with the DKM-401 Digital Multimeter. If the problem persists, contact technical support.

Problem	Possible Cause	Solution
No Display / Unit Off	No power supply, incorrect wiring, blown fuse.	Check power connections (170-275VAC). Verify fuses are intact. Ensure wiring matches the connection diagram.
Incorrect Readings	Incorrect CT ratio setting, faulty wiring, external electromagnetic interference.	Verify the CT ratio setting (Section 6.3). Check all wiring for secure connections and correct polarity. Relocate the unit away from strong electromagnetic fields if possible.
Buttons Unresponsive	Temporary software glitch, physical button damage.	Power cycle the unit (turn off and on). If buttons remain unresponsive, contact support.
Display Freezes	Software error, power instability.	Power cycle the unit. Ensure stable power supply.

10. PACKAGING INFORMATION

- **Pieces per Package:** 12 pieces
 - **Package Size:** 280 x 170 x 215mm
 - **Package Weight:** 2.6 kg
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11. WARRANTY AND SUPPORT

Datakom products are manufactured under strict quality control standards. For warranty information, please refer to the documentation included with your purchase or visit the official Datakom website.




For technical assistance, troubleshooting, or service inquiries, please contact your authorized Datakom dealer or distributor. When contacting support, please have your product model (DKM-401) and serial number available.

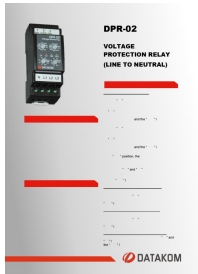
Legal Disclaimer: Please note that this Datakom item is not sold to USA and Canada. This manual is for informational purposes only and does not constitute a warranty or guarantee.

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For more information, visit www.datakom.com.tr

Related Documents - DKM-401

	<p>DKM-401 Digital Multimeter: Installation and Technical Specifications</p> <p>Comprehensive guide for the DATAKOM DKM-401 Digital Multimeter, covering installation, electrical safety, technical specifications, and operational functions for 3-phase distribution panels.</p>
	<p>DATAKOM DKM-0216 Alarm Anons Ünitesi - Teknik Özellikler ve Fonksiyonlar</p> <p>DATAKOM DKM-0216 Alarm Anons Ünitesi hakkında detaylı bilgiler, enerji ve otomasyon sistemleri için özellikler, teknik şartnameler, kurulum yönergeleri ve operasyonel fonksiyonlar.</p>
	<p>DKM-0216 Alarm Annunciator Unit User Manual</p> <p>Comprehensive user manual for the Datakom DKM-0216 Alarm Annunciator Unit, covering installation, operation, features, Modbus communication, and technical specifications.</p>



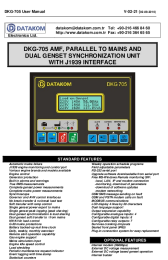
[DPR-02 Voltage Protection Relay \(Line to Neutral\) - Datakom](#)

The Datakom DPR-02 is a three-phase voltage protection relay for line-to-neutral applications. It protects against over-voltage, under-voltage, and phase rotation issues in distribution substations, generators, motors, transformers, and compensation systems. Features include adjustable voltage limits, trip and reset delays, and phase sequence protection.



[DATAKOM D-300 MK3 Advanced Genset Controller User Manual](#)

This user manual provides detailed information on the DATAKOM D-300 MK3 Advanced Genset Controller, covering its functionalities, communications, installation, programming, and technical specifications for industrial generator control.



[DKG-705 User Manual: Generator Synchronization and Control](#)

Comprehensive user manual for the DATAKOM DKG-705 Automatic Mains Failure (AMF), parallel-to-mains, and dual genset synchronization unit with J1939 interface. Learn about installation, features, operation, and troubleshooting.