

DKM-405 NETWORK ANALYSER WITH THD MEASUREMENT

The DKM-405 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 optional digital input accepts both AC and DC signals and has programmable functions.

The optional relay output is programmable. Relay function is selected through a list.



SAFETY NOTICE
Failure to follow below instructions will result in death or serious injury

* Electrical equipment should be installed only by qualified specialist. No responsibility is assured by the manufacturer or any of its subsidiaries for any consequences resulting from the non-compliance to these instructions.

* Check the unit for cracks and damages due to transportation. Do not install damaged equipment.

* Do not open the unit. There is no serviceable parts inside.

* Fuses of fast type (FF) with a maximum rating of 6A must be connected to the power supply and phase voltage inputs, in close proximity of the unit.

* Disconnect all power before working on equipment.

* When the unit is connected to the network do not touch terminals.

* Short circuit terminals of unused current transformers.

* Any electrical parameter applied to the device must be in the range specified in the user manual.

* Do not try to clean the device with solvent or the like. Only clean with a dry cloth.

* Verify correct terminal connections before applying power.

* Only for front panel mounting.

INSTALLATION

Before installation:

- Read the user manual carefully, determine the correct connection diagram.
- Remove all connectors and mounting brackets from the unit, then pass the unit through the mounting opening.
- Put mounting brackets and tighten. Do not tighten too much, this can brake the enclosure.
- Make electrical connections with plugs removed from sockets, then place plugs to their sockets.
- Note that the power supply terminal is separated from measurement terminals, with common neutral point.

Below conditions may damage the device:

- Incorrect connections.
- Incorrect power supply voltage.
- Voltage at measuring terminals beyond specified range.
- Current at measuring terminals beyond specified range.
- Overload or short circuit at relay output
- Voltage applied to digital input over specified range.



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

Below conditions may cause abnormal operation:

- Power supply voltage below minimum acceptable level.
- Power supply frequency out of specified limits
- Phase order of voltage inputs not correct.
- Current transformers not matching related phases.
- Current transformer polarity incorrect.

Detailed user manual of this product may be downloaded at:
www.datakom.com.tr

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.

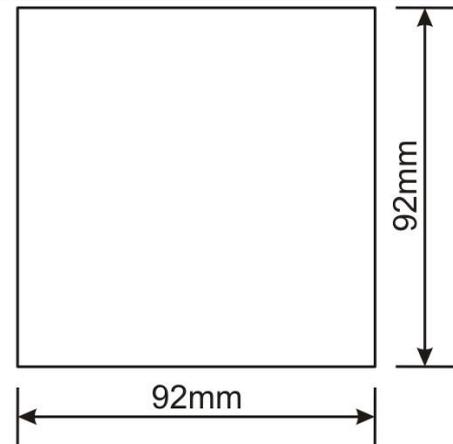
Although the unit is protected against electromagnetic disturbance, excessive disturbance can affect the operation, measurement precision and data communication quality.

- 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.

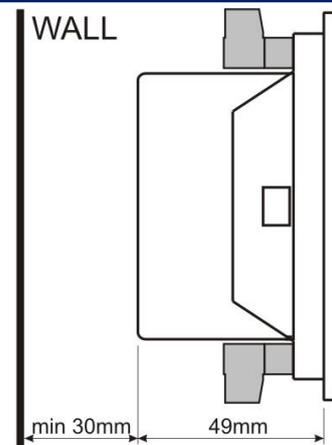


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PANEL CUTOUT



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%+1 digit

Current: 0.5%+1 digit

Frequency: 0.5%+1 digit

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

Power factor: 2.0%+2 digit

Measurement Range:

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

VT range: 0.1/1 to 200.0/1

kW range: 0.1 kW to 6.5 MW

Power Consumption: < 4 W

Voltage burden: < 0.1VA per phase

Current burden: < 1VA per phase

Relay Output: 5A @ 250VAC

Digital Input:

Active level: 5 to 30V-DC or AC

Min pulse duration: 250ms.

Isolation: 1000V AC, 1 minute

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

PUSHBUTTON FUNCTIONS

Three buttons on the front panel provide access to configuration and measurement screens.

BUTTON	FUNCTION
	<p>Selects display context</p> <ul style="list-style-type: none"> • THD display • Min/ Max values • Demand display • Measurements
	<p>HELD PRESSED 5 SEC: resets min-max values</p>
	<ul style="list-style-type: none"> • Upper screen • Increase related value (config mode)
	<ul style="list-style-type: none"> • Lower screen • Decrease related value (config mode)
	<p>NO BUTTON PRESSED FOR 5 MINUTES: returns to the main display screen</p>

DEVICE CONFIGURATION

BUTTON	FUNCTION
 	<p>In order to enter/exit the configuration menu, hold both MENU buttons pressed for 2 seconds.</p>
	<p>Press SET button to save the current parameter and display the next parameter</p>
	<p>Hold pressed SET button for 2 seconds to save the current parameter and display the next parameter</p>

PROGRAM PARAMETERS

DISPLAY	FUNCTION
dEnd CLr	0: No action 1: Reset Demand values
EngY CLr	0: No action 1: Reset kWh and kVArh
hour CLr	0: No action 1: Reset hour counter
ALAr CLr	0: No action 1: Reset alarms
diSP SEL	Selects the default display screen(see user manual)
curr trF	Current transformer primary rating (as xxx/5A)
voLt trF	Voltage transformer ratio (as xxx.x/1)
voLt high	High voltage alarm limit. If zero then alarm disabled.
volt Lo.	Low voltage alarm limit. If zero then alarm disabled.
Frq high	High frequency alarm limit. If zero then alarm disabled.
Frq Lo.	Low frequency alarm limit. If zero then alarm disabled.
Curr high	Overcurrent limit. If zero then alarm disabled.
Act high	Excess active power limit. If zero then alarm disabled.
Act Lo.	Low active power limit. If zero then alarm disabled.
rAct high	Excess reactive power limit. If zero then alarm disabled.
rAct Lo.	Low reactive power limit. If zero then alarm disabled.
coS high	High cos ϕ limit. If zero then alarm disabled.
coS Lo.	Low cos ϕ limit. If zero then alarm disabled.
inPt tYPE	See user manual.
inPt dLY	See user manual.
inPt FnC	See user manual.
rELY FnCI	See user manual.
rELY LoJt	See user manual.

CONNECTION DIAGRAM

