

### INTRODUCTION

DFC-0108 is a high technology controller allowing the power factor of the installation to be stabilized to the requested value by switching capacitor banks through contactors. The unit allows also the visualization of various AC parameters like a network analyzer.

The unit makes harmonic analysis up to the 31th component. The THD values of all voltages and currents are available.

Stepping algorithms are selectable between various types. Thanks to the automatic setup function, the commissioning and programming are made easy.

The optimal stepping program provides longest contactor and capacitor life cycles.

The unit fits into a standard 96x96mm panel opening.

### MEASURED PARAMETERS

Phase to phase voltages: L12-L23-L31

Phase to neutral voltages: L1-L2-L3

Phase currents: I1-I2-I3

Network frequency: Fr

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:  $\Sigma P$

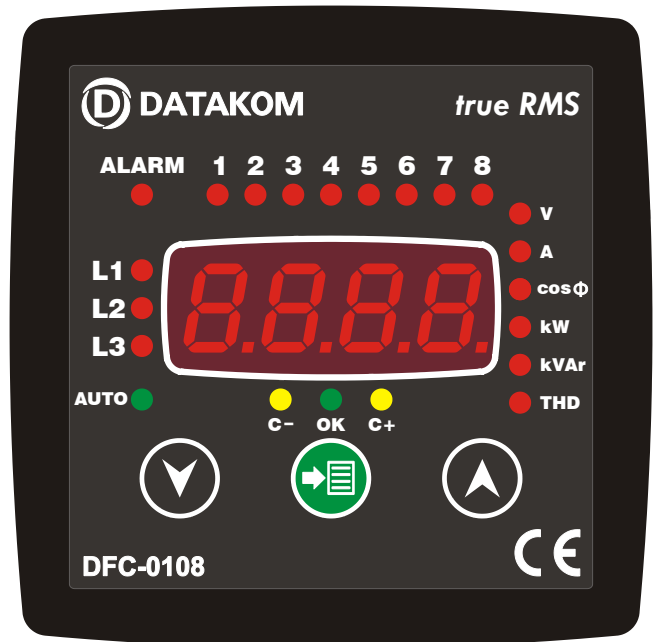
Total reactive power:  $\Sigma Q$

Total apparent power:  $\Sigma S$

Total power factor:  $\Sigma \cos$

Total Harmonics of any voltage or current

Step bank ratings: CAP1...CAP8



### FEATURES

**Small size**

**Cost effective and high performance**

**True RMS AC measurements, high accuracy**

**Easy commissioning through automatic setup**

**Automatic CT reverse polarity correction**

**Automatic detection of faulty banks**

**Electronic/mechanical power counter selection**

**Supports single-phase and tri-phase banks**

**Per-phase regulation capability**

**Connection/disconnection of all banks at once**

**Dynamic update of capacitor ratings**

**Adjustable delay timers**

**Equal aging of contactors**

**Per phase and total V-A-kW-kVAr-cos display**

**THD display of all V-I parameters (31 harmonic)**

**Generator phase input**

**VT ratio for MV applications**

**kW and kVAr tick output possibility**

**Front panel programmable**

**Low panel depth, easy installation**

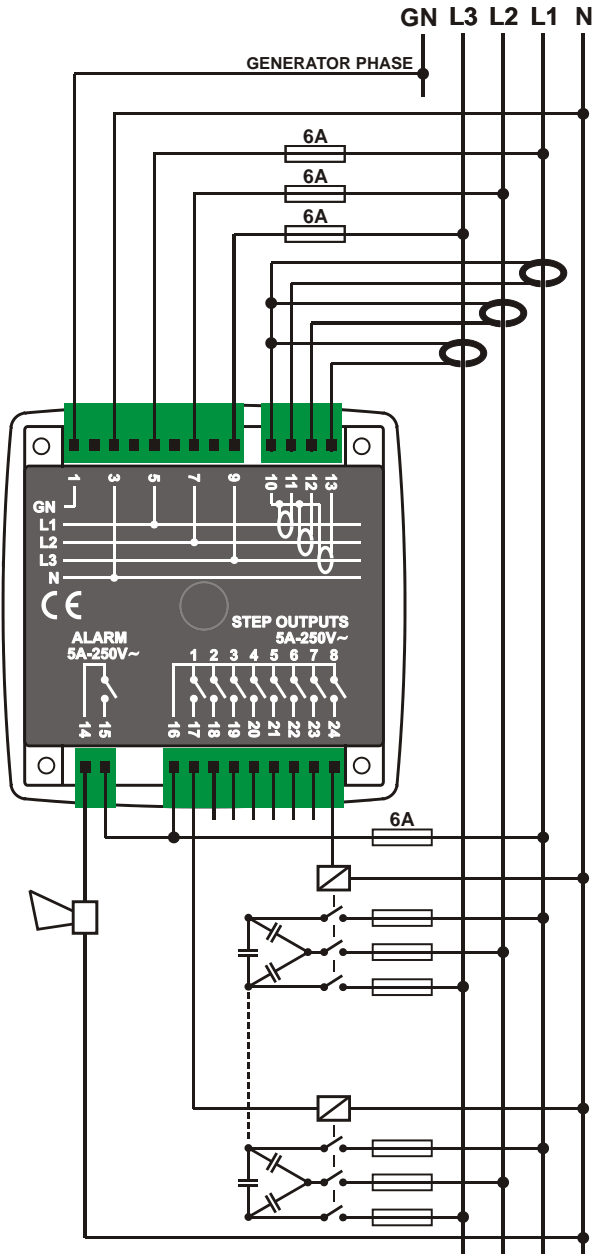
**Wide temperature range**

**Sealed front panel (IP54)**

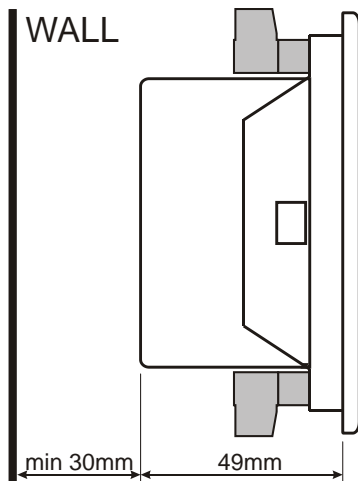
**Plug-in connection system, easy replacement**



## CONNECTION DIAGRAM



## MOUNTING TOLERANCES



## TECHNICAL SPECIFICATIONS

### Power Supply Input:

170 - 275VAC, between L1-N  
50 - 60Hz nominal ( $\pm 10\%$ )

**Generator Input:** 70-300 V AC

### 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

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

**Power factor:** 0.5% + 1 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 6.5MW

**Power Consumption:** < 4 W

**Voltage burden:** < 0.1VA per phase

**Current burden:** < 1VA per phase

**Step count:** 8

**Relay Outputs:** 5A @ 250V AC

### 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  
ABS/PC (UL94-V0)

**Installation:** Flush mounting with rear brackets

**Dimensions:** 102x102x53mm (WxHxD)

**Panel Cutout:** 92x92mm

**Weight:** 370 gr

### EU Directives:

2006/95/EC (LVD)

2004/108/EC (EMC)

### Norms of reference:

EN 61010 (safety)

EN 61326 (EMC)

## PACKAGING INFORMATION

**Pieces per Package:** 12 pieces

**Package Size:** 280 x 170 x 215mm

**Package Weight:** 4.6 kg

## PANEL CUTOUT

