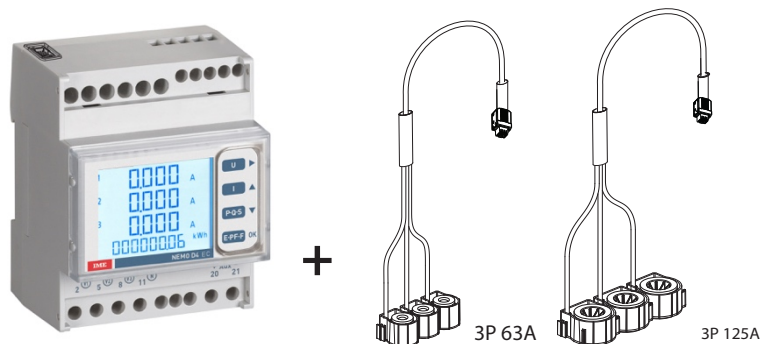


## Multifunction instrument with 1 input "Easy Connect" for 3 Rogowski probes

Code: MKD4R63FC001 – MKD4R125FC001

Model: NEMO D4 EC



Contents	Pages
1. Use .....	1
2. Range .....	1
3. Installation .....	1
4. Dimensions .....	1
5. Connections .....	2
6. Operating data .....	3
7. General features .....	3
8. Conformity and certifications .....	5

### 1. USE

Multifunction in 4 DIN module instrument with 1 quick-connect input for 3 probes current Rogowski.

The instrument measures in 4 quadrants up to 63A/125A, is equipped with diagnostics and phase sequence correction for low voltage networks.

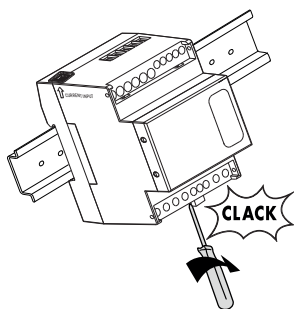
### 2. GAMMA

Code. Art.	Output	Type connection	Weight
MKD4R63FC001	-	Screw terminals + "Easy Connect" connection for currents	0,225 Kg
MKD4R125FC001	-	Screw terminals + "Easy Connect" connection for currents	0,250 Kg

### 3. INSTALLATION

#### Fixing:

On EN/IEC 60715 symmetric rail or DIN 35 rail.



#### Necessary tools:

For fastening the device on the DIN rail: 5.5 mm flat screwdriver (from 4 to 6 mm).

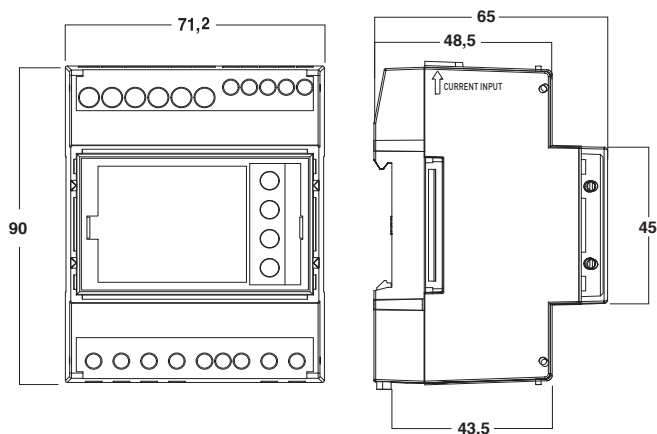
#### Operating position:

Vertical, Horizontal, Upside down, On the side



### 4. DIMENSIONS

Housing: 4 DIN43880 modules



# Multifunction instrument with 1 input "Easy Connect" for 3 Rogowski probes

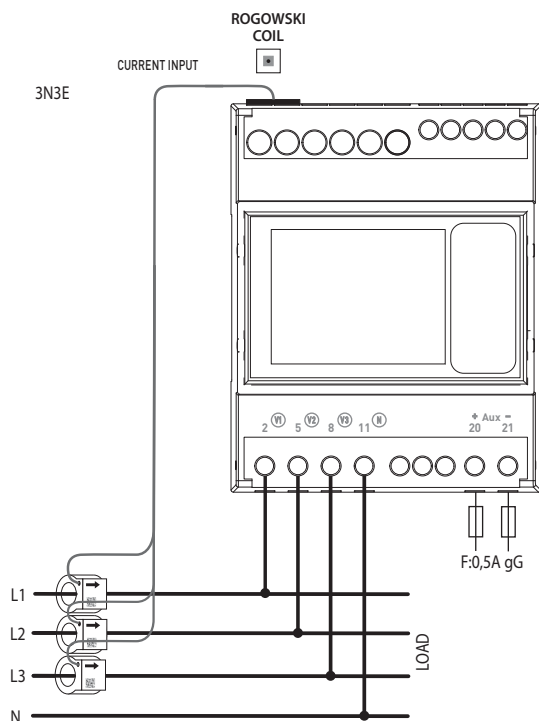
Code: MKD4R63FC001 – MKD4R125FC001

Model: NEMO D4 EC

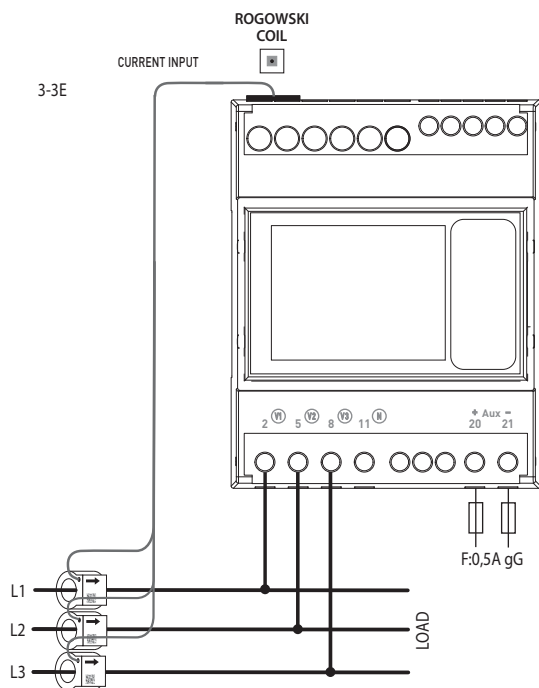
## 5. COMMISSIONNING - CONNECTION

### Wiring diagrams:

- 4 wires three-phase network, 3 Rogowski:



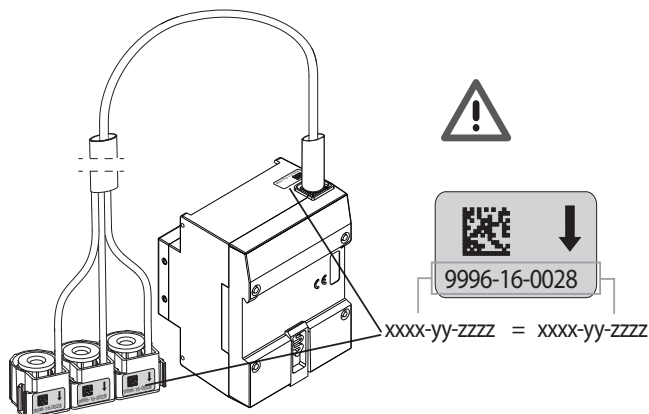
- 3 wires three-phase network, 3 Rogowski:



### Protection of the device:

- Recommended fuse 0,5 A type gG

## 5. COMMISSIONNING - CONNECTION



# Multifunction instrument with 1 input "Easy Connect" for 3 Rogowski probes

Code: MKD4R63FC001 – MKD4R125FC001

Model: NEMO D4 EC

## 6. OPERATING DATA

### 6.1 ELECTRIC

Currents:	MKD4R63FC001	MKD4R125FC001
Ref. Current	10A	20A
Min. Current	0,5A	1A
Max. Current	63A	125A

### Voltages:

- Three-phase voltage: 3x230V / 3x400V  $\pm 15\%$

### Rated frequency:

- $F_n$ : 50...60Hz
- Permitted variation: 47...63Hz

### Connectable section:

Terminals	Without bush
Rigid wire	0,05 + 4,5 mm <sup>2</sup>
Flexible wire	0,05 + 2,5mm <sup>2</sup>

### Necessary tools:

- Terminals: 2,5 mm flat or Phillips PH0 screwdriver

### 6.2 MECHANICAL

### Depth of the terminals:

- Terminal depth: 8mm
- Lengths of the wire stripping: 8mm

### Screw head:

- Phillips screw

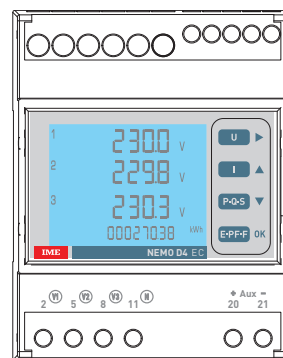
### Recommended torque:

- Voltage connection terminals (V1, V2, V3, N), auxiliary supply: 0,6 Nm

## 7. GENERAL FEATURES (continued)

### Cover and front marking:

Adhesive film and marking by indelible tampography



### Display:

- Type: backlit LCD
- Reading points: 10.000 4 digits (7mm digit height)
- Energy count: 8 digit numerator (5mm digit height)
- Resolution: automatic
- Decimal point: automatic
- Update time: 1 sec.

### Display of the value and programming:

- By means of the front keypad, 4 pushbuttons (please refer to the user manual).
- Access protected by identification code (**predefined code 1000**)

### Measurements and precision in conformity with EN/IEC 61557-12

- Current: cl.1
- Voltage: cl.0,5
- Frequency:  $\pm 0,1$  Hz
- Instantaneous total active power, phase, average value and max. average value : cl.1
- Instantaneous total reactive power, phase, average value and max. average value : cl.2
- Instantaneous total apparent power, phase, average value and max. average value : cl.1
- Power Factor : cl.1
- Total active energy, positive and negative: cl. 1
- Total reactive energy, positive and negative: cl.2

### Average power:

- Measurement: current-apparent, reactive, active power
- Calculation: moving average, on the selected period
- Average time: 5/8/10/15/20/30/60min.

### Hour meter:

- Counting of operating hours and minutes (**resettable meter**)
- Resolution 8 figures (6 for the hours + 2 for the minutes)
- Maximum display: 999999.99
- Programmable value : 0...50% Pn (Positive active power)

### Harmonic analysis (THD):

- Up to the 15<sup>th</sup> harmonic

# Multifunction instrument with 1 input "Easy Connect" for 3 Rogowski probes

Code: MKD4R63FC001 – MKD4R125FC001

Model: NEMO D4 EC

## 7. GENERAL FEATURES

### Diagnostic, Phase sequence correction:

In the software there is a diagnostic and correction algorithm of the voltmetric and amperometric connection sequence.

The function can be activated on request and password protected: it can display and modify the wiring sequence with the following limitations:

- 1) The neutral conductor (in the 4-wire connections) must be correctly positioned (terminal 11)
- 2) The power factor must be between 0.9cap and 0.7ind for each phase. See [www.imeitaly.com](http://www.imeitaly.com) "TECHNICAL SUPPORT".

### Auxiliary supply (terminals 20 and 21):

- Value  $U_{aux}$  ca: 230Vac  $\pm 15\%$
- Rated frequency: 50/60Hz
- Operating frequency: 47...63Hz
- Self consumption:  $\leq 2,5VA$  @230 Vca

### Operating room temperatures:

- Min. = - 5 °C Max. = + 55 °C.

### Room storage temperatures:

- Min. = - 25 °C Max. = + 70 °C

### Short-duration overcurrent:

$30I_{max}$  per 10ms

**Maximum dissipated thermal power for the thermal dimensioning of the panels:**  $\leq 5W$

### Protection class:

- Terminal protection index against solid bodies and liquids: IP 20 (IEC/EN 60529).
- Housing protection index against solid bodies and liquids: IP 54 (IEC/EN 60529).

### Protection of the device:

- By means of thermal-magnetic

**Room:** Mechanical M1 – Electric E2

**Housing material:** Self-extinguishing BLEND

**Packaged volume:** 1,170 dm<sup>3</sup>.

## **8. CONFORMITY AND CERTIFICATIONS**

### **Insulation**

- Measurement categories: III
- Level of pollution: 2
- Insulation voltage,  $U_i$ : 300V, Phase-Neutral

### **Dielectric rigidity:**

- Power supplies/ Outputs: 3kV / 50Hz / 1min
- Housing / Terminals: 4kV / 50Hz / 1min

### **Pulse:**

- Power supplies: 6.3kV / 1.2 – 50µsec / 0.5J

### **In compliance with the standards:**

- Precision class: Class 1 active energy (EN/IEC 62053-21)
- Precision class: Class 2 reactive energy (EN/IEC 62053-23)
- Electromagnetic compatibility: Tests in accordance with EN/IEC 62052-11 / EN 50470-1, -3
- Precision class according to IEC/EN61557-12
- 2014/35/UE 2014/30/UE

### **Respecting the environment – Conformity with the CEE directives:**

- Compliance with the 2100/65/EU Directive, as modified by the 2015/863 Directive (RoHS 2), on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- Conformity with the REACH Regulation (1907/ 2006): at the date of publication of this document no substance in the annex XIV is found in these products.
- RAEE Directive (2012/19/EU: the sale of this product includes a contribution to the appointed environmental bodies of each European country in charge of handling, at the end of their life, the products falling within the scope of the EU Directive on Electric and Electronic Equipment Waste.

### **Plastic materials:**

- Plastic materials without Halogens.
- Part marking according to standards ISO 11469 and ISO 1043.

### **Packaging:**

- Packaging designed and produced in accordance with Decree 98-638 of 07.20.98 and directive 94/62/CE