



ekorsys units: protection,  
telemangement & communication

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Protection and metering unit for  
circuit-breaker protection cubicles

Reliable innovation. Personal solutions.

## Preface

Protection, metering and control unit, integrated in **Ormazabal** circuit-breaker cubicles for general protection.

Microprocessor-based with protection functions for timed (overload) and instant (shortcircuit) overcurrent of phases and neutral.

- » Communicable electronic relay
- » Current sensors (1000/1 or 300/1)
- » Power supply and test board
- » Selfpowered toroidal-core current transformers
- » Bistable trigger

## Applications

- » Protection of Medium Voltage customers.
- » Protection of Transformer Substations and industrial customers:
  - » Transformer protection (up to 15 MVA - 24 kV and up to 25 MVA - 36 kV)
  - » General and line protection
  - » Capacitor banks and motors
  - » Switching substations

## Most notable features:

- » Selfpowered from 5 A
- » IEC inverse time curves
- » External trip
- » Primary and secondary tests
- » Phase metering from 5 A
- » Earth current metering from 0.5 A
- » Factory-installed toroidal-core current transformers: prevention of errors on site

## Tests

### Insulation

IEC 60255-5

### Electromagnetic Compatibility

IEC 60255-11  
IEC 60255-22-1  
IEC 60255-22-2  
IEC 60255-22-3  
IEC 60255-22-4  
IEC 60255-22-5  
IEC 60255-22-6  
IEC 61000-4-8  
IEC 61000-4-12  
IEC 60255-25

### Climatic

IEC 60068-2-1  
IEC 60068-2-2  
IEC 60068-2-78  
IEC 60068-2-30

### Mechanical

IEC 60255-21-1  
IEC 60255-21-2  
IEC 60255-21-3

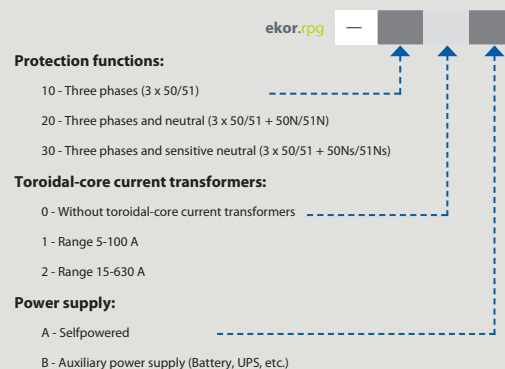
### Power

IEC 60265  
IEC 60056

### CE Conformity

CE-26/08-43-EE-1  
IEC60255

## Configurator



ⓘ Not all the combinations of this configurator are possible. Please ask our Technical-Commercial Department about availability of models.



## Technical characteristics

### General

Phase current sensors	3
Zero-sequence earth current sensor	1 (optional)
Digital Inputs	1 (external trip)
Digital outputs	2
<b>Power supply options</b>	
Selfpowered [A, Vca]	> 5, 230 ±30%
AC [Vac...Vac]	24 ... 110 ± 30%
DC [Vdc...Vdc]	24 ... 125 ± 30%
Consumption [VA]	< 1

### Frequency

[Hz; Hz]	50; 60 ±1%
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### Current inputs

Primary phase [A ... A]	5 ... 630 (acc/ model)
Earth [A ... A]	0,5 ... 50 (acc/ model)
I thermal/dynamic [kA/kA]	20 / 50
Impedance [Ω]	0,1

### Accuracy

Time delay	5 % (minimum 20 ms)
Metering / Protection	Class 1 / 5P20

### Output contacts

Voltage [Vca]	250
Current [A]	10 (CA)

Switching power [VA]	500 (resistive load)
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### Measurements

Current	Amperimeter Function
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### Protection Functions

Phase overcurrent	50-51
Earth overcurrent	50N-51N
Ultrasensitive earth leakage protection	50Ns-51Ns
Thermometer (external trip)	49T

### Communications

Front port configuration	DB9 RS232
Rear port remote control	RS485 (5kV) -RJ45
Protocol	MODBUS (RTU)
Setup and monitoring program	ekor.soft (optional)

### Indications

Tripping cause indication	
Error display	
History Log	

### Test

Test blocks for current injection	
Output contact for test	

