ORMAZABAL
velatia

ekorsys units: protection, telemanagement & communication

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Integrated control and monitoring unit

Reliable innovation. Personal solutions.

CA-419-EN-1603

www.ormazabal.com

Preface

Integrated control unit associated to **Ormazabal** feeder functional units.

» Control and command of switch
» Presence / absence of voltage
» Detection of phase-phase and phase-earth (directional and non-directional) and earth ultrasensitive overcurrent faults
» Zero-sequence voltage detection
» Web server

Microprocessor-based for the treatment of signals and the performance of integrated control functions: monitoring, automation and remote control of Transformer and Switching Substations.

» Communicable electronic relay
» Voltage and current sensors installed on cubicle bushings (1000/1)

Applications

» Remote controlled Transformer Substations
» Automatic sectionaliser
» Automatic line transfer
» Remote control

Most notable features

» IEC inverse time curves
» Directional earth fault
» Automatic sectionaliser
» V, P and Q without the need for Voltage Transformers
» Direct operation of cubicle from relay, display or remote controlled
» Phase metering from 5 A
» Earth current metering from 0.5 A
» Factory-installed toroidal-core current transformers: prevention of errors on site
» Neutral Directional Unit with configurable MTA to detect directional earth faults in any earthing system

Tests

Insulation
IEC 60255-5

EMC
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

Current Transformers

CT Ratio [A]	1000 / 1
Measuring accuracy	Cl 0.2s
Protection accuracy	5P
Measuring range for Cl 0.2s [A]	5-1200
Rated burden [VA]	1
Saturation current [A]	8000
Thermal current I_{th} [kA - s]	20 – 1
Dynamic current I_{dyn}	2.5 I_{th} (50 kA)
Standard	IEC 60044-1

Configurator

ekor.rci [ ] [ ] [B]

Protection functions:
10 - Phase-to-phase overcurrent detection
20 - Phase-to-phase and phase-to-earth overcurrent detection
30 - Phase-to-phase overcurrent and sensitive neutral detection

Inputs/Outputs:
0 - 5 inputs / 7 outputs
1 - 5 inputs / 7 outputs with O/I functions from the front keypad
2 - 8 inputs / 4 outputs
3 - 8 inputs / 4 outputs with O/I functions from the front keypad

Toroidal-core current transformers:
0 - Without toroidal-core current transformers
2 - Toroidal core current transformers with ratio of 1000/1 A

Power supply:
B - Auxiliary power supply (Battery, UPS, etc.)

Directionality of earth (isolated neutral)
ø - Non-directional
D - Directional

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)
Voltage sensors	3
Time synchronisation	Sí

Power Supply Options

A [Vac...Vac]	24 ... 110 ± 30%
DC [Vdc...Vdc]	24 ... 125 ± 30%
Consumption [VA]	< 1

Frequency

[Hz; Hz]	50; 60 ±1%

Current inputs

Primary phase [A ... A]	5 ... 1200
Earth [A ... A]	5 ... 480
Impedance [Ω]	0,1

Accuracy

Time delay	5% (minimum 20 ms)

Output contacts

Voltage [Vac]	250
Current [A]	5 (CA)
Switching power [VA]	750 (resistive load)

Measurements

Current	Amperimeter Function
Voltage	
Power (P, Q)	Opcional

Earth fault detection

Phase-to-phase overcurrent (DT) 50-51	
Phase-to-earth overcurrent (DT, NI, VI, EI) 50N-51N	Opcional
Ultrasensitive overcurrent (DT, NI, VI, EI) 50Ns-51Ns	Opcional
Phase-to-earth directional overcurrent 67N-67Ns (#)	Opcional

Voltage detection

Voltage presence/absence detection	
Zero-sequence voltage detection	

Automation and control

5 inputs / 7 outputs (*)	Opcional
8 inputs / 4 outputs (*)	Opcional
Switchgear condition	
Switch operation	
Switch operation from the front keypad	Opcional
Automatic sectionaliser	
Reset display	

Communications

Front port configuration	DB9 RS232
Rear port remote control	RS485 (5kV) –RJ45
Protocol	MODBUS (RTU) PROCOME 60870-5-104 Web server
Setup and monitoring program	**ekor**.soft (Optional)

Indications

Fault display	
History Log	

(*) Both modules are not cumulative. The availability of one or the other depends on the model.
(#) For capacitive or resistive currents