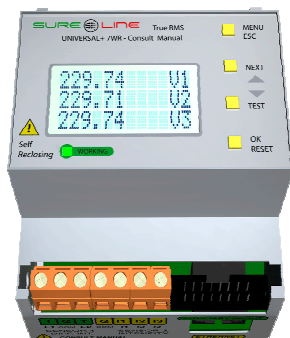
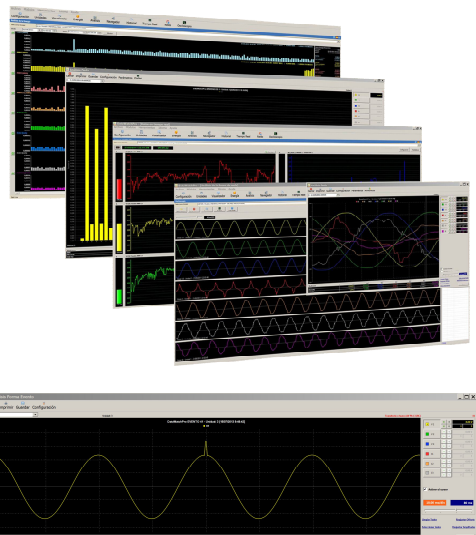


UNIVERSAL+ 7WR Rogowski M4 unit with electrical alarms with 10-output (relays) action, mains analysis, cutting-edge instrumentation, logging, input-output automation and control. Display, programming and control via WebServer over Internet/Intranet directly with Web browser + Modbus TCP/IP



Medidas		Tensión RMS		Tensión Pk		Tensión ante fase		Frecuencia	
V L1 = 231.71	V L2 = 227.92	V L3 = 230.46	VPL L1 = 231.86	VPL L2 = 216.17	VPL L3 = 218.90	V L12 = 397.66	V L23 = 396.31	V L31 = 400.37	Hz L1 = 50.0
Intensidad RMS	Intensidad Pk	Intensidad Neutra	Intensidad diferencial RMS	Intensidad diferencial Pk	Intensidad diferencial DC	IMA = 262.4	IMA PK = 427.0		
A L1 = 1.09	A L2 = 10.06	A L3 = 10.17	APL L1 = 1.75	APL L2 = 13.55	APL L3 = 15.17	A LN = 6.67			
Desbalance de tensión	%L1 = 1.0	%L2 = 0.2	%L3 = 0.2	%L1 = 1.4	%L2 = 1.4	%L3 = 1.5	%L1 = 84.6	%L2 = 41.6	%L3 = 15.2
Factor de corrección tensión	Factor de corrección intensidad	Impedancia	Temperatura y humedad						
L1 = 1.289	L2 = 1.390	L3 = 1.283	L1 = 1.612	L2 = 1.247	L3 = 1.492	Z L1 = 212.87	Z L2 = 22.89	Z L3 = 22.89	TC = 126.0
Potencia Activa	Potencia Activa	Potencia Reactiva	Potencia Reactiva	Potencia AC	Potencia DC				
VA L1 = 252.2	VA L2 = 2386.2	VA L3 = 2344.5	VA L12 = 4885.9	W L1 = 160.1	W L2 = 2386.2	W L3 = 2140.1	W L12 = 4668.1	W L3 = 2140.1	W L1 = 21.6
Potencia Reactiva Inductiva	Potencia Reactiva Capacitiva	Factor de Potencia	Máxima Potencia Activa						
VAR L1 = 0.0	VAR L2 = 0.0	VAR L3 = 0.0	VAR L12 = 0.0	W L1 = 196.3	W L2 = 0.0	W L3 = 0.0	W L12 = 0.0	W L3 = 0.0	W L1 = 0.0
Intensidad AC	Intensidad DC	Potencia AC	Intensidad diferencial AC						
VA L1 = 231.70	VA L2 = 227.21	VA L3 = 230.44	VA L12 = 488.5	AW L1 = 1.08	AW L2 = 10.06	AW L3 = 10.16	AW L12 = 100.0	AW L3 = 220.0	AW L1 = 0.0
Intensidad DC	Intensidad DC	Potencia DC	Intensidad diferencial DC						
VA L1 = 0.04	VA L2 = 0.44	VA L3 = 0.25	VA L12 = 0.53	AW L1 = 0.02	AW L2 = 0.12	AW L3 = 0.04	AW L12 = 0.0	AW L3 = 0.0	AW L1 = 0.0



Rogowski M4: Multi-range intensity, 3 and 4-pole. Scales: 250A, 500A, 1000A and 2000A. **With one sole probe model** (Rogowski flexible current transformer) multi-range

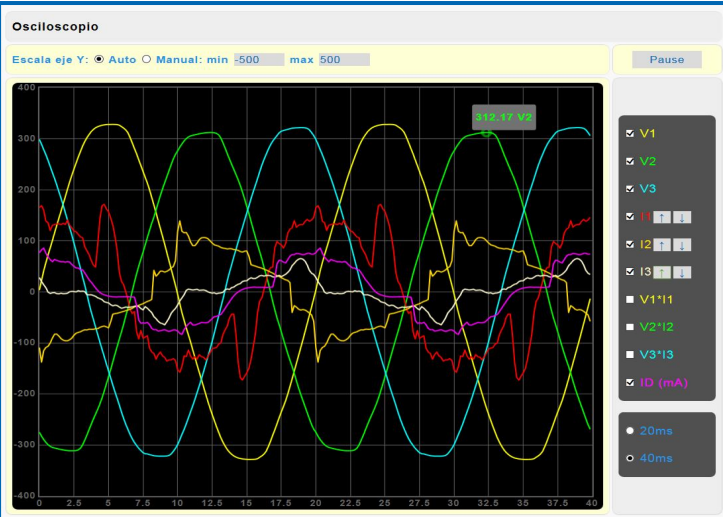
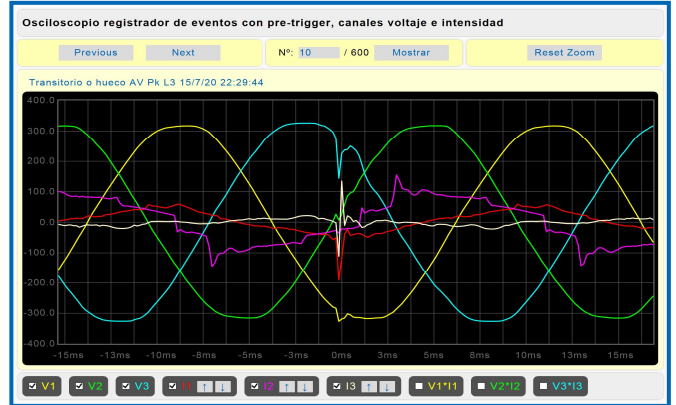
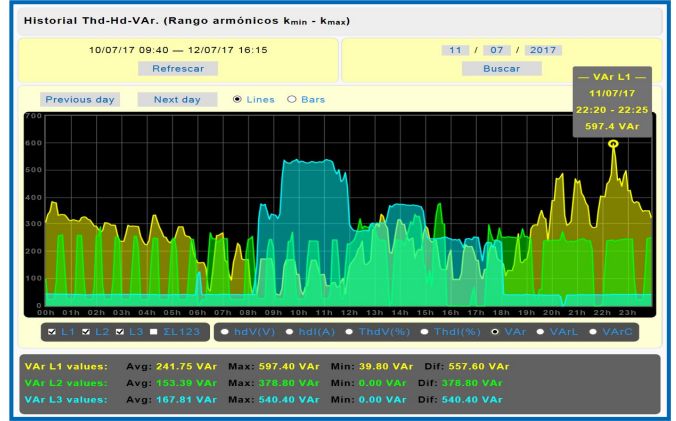
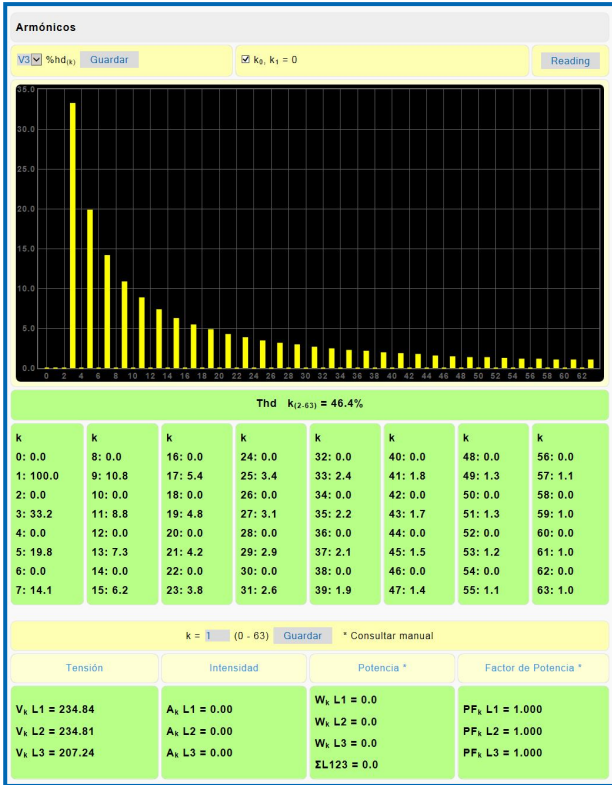
Other models:

M4: 2, 3 and 4-pole. Measurement from 5A up to 10.000A (standard XXXXA/5A transformer). From 5A/5A up to 10.000A/5A in 5A steps.

MINI M4: Single-phase :1 module, 18mm; Three-phase: 2 modules, 36mm). Measurement up to 10.000A. **6LIN:** Mains analysis – 2-pole, 6 intensity lines or sectors.

Electrical alarms, programmable in value and delay, Acting upon 10 outputs (relays) + 4 remote outputs (relays)	Mains analysis, electrical RMS, Peak, AC and DC metering Report generator for data stored in unit in EXCEL, PDF and DOC files
Overvoltage RMS and Pk L1, L2, L3	RMS, Pk, AC and DC voltage L1, L2, L3 ;
Low voltage RMS L1, L2, L3	RMS voltage phases L1-2, L2-3, L3-1
Line over-intensity: RMS and Pk L1, L2, L3	RMS, Pk, AC and DC intensity L1, L2, L3 (Measurement up to 10.000A)
Neuter intensity	Active power W RMS, AC and DC and apparent power L1, L2, L3, ΣL123
Power factor L1, L2, L3	Active power L1, L2, L3, (Maximeter-integration programmable 10 secs. to 15
Phase sequence and phase failure L1, L2, L3	Reactive, inductive and capacitive power L1, L2, L3, ΣL123
Voltage and Intensity THD (total harmonic distortion) L1, L2, L3	Voltage and intensity THD L1, L2, L3 as from harmonic 2 – 63, programmable by
From harmonic 2 – 63, programmable by harmonic and harmonics range	harmonic and harmonics range
Power 1 W L1, L2, L3	Requested and returned power L1, L2, L3, ΣL123 and neuter intensity
Power 2 W L1, L2, L3 (Maximeter-integration programmable 10 secs. to 15 mins.)	Imported and exported active and reactive energy counters L1, L2, L3, ΣL123
Voltage unbalance L1, L2, L3	Power factor, Line frequency and impedance L1, L2, L3
Intensity unbalance L1, L2, L3	Voltage and intensity unbalance and crest factor L1, L2, L3
Over and low frequency L1, L2, L3	Voltage %HD (harmonic distortion) L1, L2, L3 of harmonic k 0 to 63
Over and low temperature over and low humidity	Intensity %HD (harmonic distortion) L1, L2, L3 of harmonic k 0 to 63
Over and low humidity	Voltage and intensity L1, L2, L3, of harmonic k 0 to 63 (64 harmonics)
Remote input 1, Remote input 2. Programmable signal-action	Temperature, relative humidity + temperature, humidity of 6 remote sensors
Cutting-edge instrumentation for electrical parameters in mains analysis	
6-channel oscilloscope event-logger with pre-trigger and autoscale, voltage and intensity channels (6 capture channels for each event: V1, V2, V3, I1, I2, I3). Built-in 600-event memory	Three modes of record length in 6 channels 160ms, 320ms and 640ms (pre-trigger 40ms, 80ms and 160ms) + three modes in 6 channels 20s, 40s and 80s (pre-trigger 5s, 10s and 20s). With horizontal zoom functions, and value and time measurement cursor . 10 alarms-trigger programmable in value and delay, Chronological register per type of alarm.
6-channel oscilloscope , auto-refreshing (V1, V2, V3, I1, I2, I3)	with autoscale, auto-refreshing, axis scaling, automatic or manual, 3 V*I mathematical channels- Includes instantaneous value measurement cursor in all channels. Continuously refreshed display (every 1.5 secs.).
64-harmonic spectrum analysis , 7 channels with auto-refreshment (distortion range in % and value V – A. + THD). Display auto-refreshed every 1.5 secs.)	Voltage V1, Intensity I1, Voltage V2, Intensity I2 Voltage V3, Intensity I3,
Graphic history of mean THD–HD–VAR at 5-min intervals with built-in 14-month memory. Analysis for harmonic compensation and reactive power L1, L2, L3, ΣL1,2, 3 y (ΣL1,2, 3) /3.	Logs: VAR, ThdV (%), ThdI (%), hdV (V) y hdl (A) From harmonic 2 to 63, programmable by harmonic and harmonics range
Graphic history (months, days, hours and minutes) of active and reactive energy with costs and emissions. Energy report generator permits unit-stored data to be exported to EXCEL, PDF and DOC files.	Bar and line graphic display. Active Imported - exported and reactive energy. (L1, L2, L3 and ΣL1,2 y 3). Includes measurement cursor. Active imported-exported energy consumption log as also reactive by months, days, hours and minutes. (L1, L2, L3 y ΣL1,2 y 3). Built-in memory: three-phase... 1.5 years, single-phase... 3 years
300-event graphic logger, 12 channels (46 measurements) with autoscale and variable refreshing (1-600 secs.) with temporary Max. Min. Avg measuring	Current, maximum, temporary maximum, temporary minimum, temporary mean values and value of difference between maximum and minimum values.
Log	
Historic LOG, logs ON, OFF and alarm information	Chronological register of alarms and power failure / start-up
Report generator for unit-stored data to EXCEL, PDF and DOC files	Year, month, day, hour and minute measurement value
Automatic data dispatch to a remote server via Internet/Intranet	Every 5 minutes to log all measurements and I/O in Safeline Web Service
Individual alarm counters	51 independent counters, counting from 0 to 65536
Maximum and minimum measurement log	44 independent logs
Chronological log of most recent alarm	Year, month, day, hour and minute measurement value
Automation and control of inputs-outputs (10 logic outputs [relays] and 10 logic inputs + 4 remote outputs [relays])	
Programmable enablement/disablement of 10 relays + 4 remote relays	For one or various alarms, reclosure block, internal time programmer,, 8 timers
Manual enablement/disablement of outputs and monitoring of inputs	10 logic outputs (relays) and 10 logic inputs + 4 remote outputs (relays)
Weekly astronomical programmer	for each geographical location up to 160000 ("Safeline Web Service" administration software)
Thousand of time programmers (up to 16000)	daily / monthly/ yearly, vacations, holidays ("Safeline Web Service" administration software)
Programmable enablement/disablement of 10 relays (DataWatchPro software)	Programmable automation of relays with level alarms in time-frame for each unit
High safety	
Programming protected by security code, default configuration exfactory, acoustic warnings, configurable in English or Spanish	
Standards: EN 6101-1:2011, UNE-EN 62053-23:2003 CLASE 2, UNE 20-600-77 (consultar manual)	
3-year guarantee Further information: consult instruction manual	

Display directly with Web browser via Internet/Intranet, with no need for software



Complementos

Medidas personalizables remotas

Polícomparador energético remoto

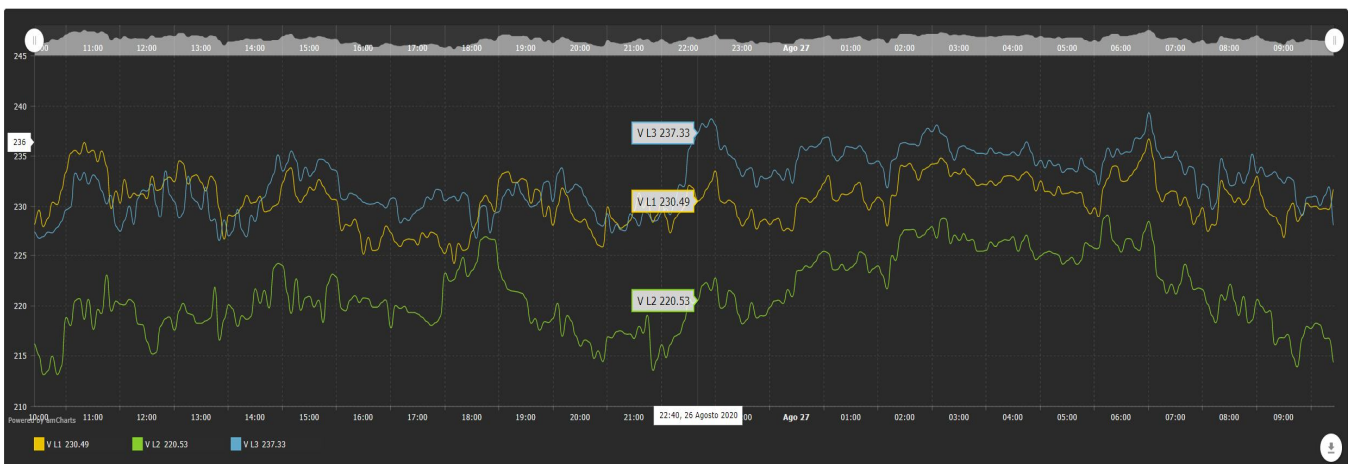
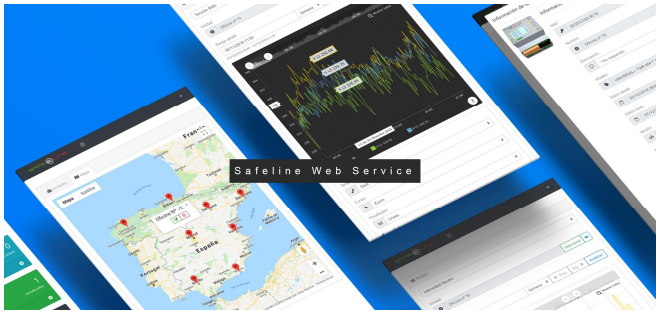
Generador de informes

Generador de informes energéticos

Multigenerador de informes energéticos

Software Safeline Web Service V1.1.0 (dedicated server)

- Administration and control software via Internet/Intranet for multiple Sureline Universal+ TWR units
- Storage of measurement and I/O status data sent by the units
- Unit register and geographical location management from map via Google Maps
- Weekly astronomical programmer for each geographical location (output relays) assignable to groups of units
- Thousands of independent hourly programmers (assignable to groups of units):
 - Daily / weekly
 - Daily / monthly / yearly
 - Daily / monthly/ yearly (vacations and holidays)
- Output relay management and logical input management
- Graphical analysis of measurements
- Management of measurement alarms and logical input for each unit, with notifications via e-mail
- Unit management by labels. Attribute search engine.
- Auto-register of units in the server
- Administration capacity: 16000 Sureline units. Configurable in English or Spanish



Tema	Cursor	Visualizador	Promediados
Dark	Zoom	Líneas suavizadas	Max V L1: 236.66 Min V L1: 224.21 Avg V L1: 230.58
			Max V L2: 229.06 Min V L2: 213.15 Avg V L2: 221.14
			Max V L3: 239.28 Min V L3: 226.47 Avg V L3: 232.42

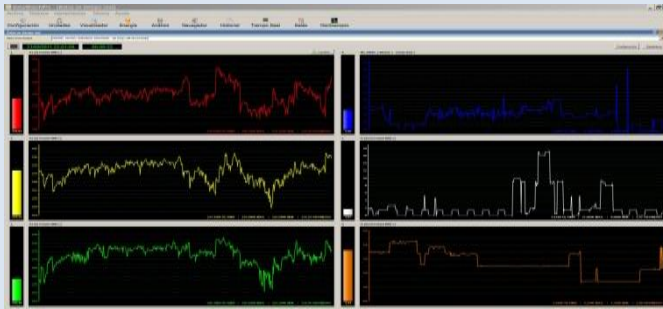
A screenshot of the Safeline Web Service dashboard. The dashboard features a sidebar menu with options like Dashboard, Units, Analysis, Alarms, Status and relay control, Input status, Astronomical programmer, Daily/weekly prog., Daily/monthly/yearly prog., Vacations/holiday prog., and Tags. The main area displays a grid of widgets: Registered units (8), Stored measures (22,698,564), Configured alarms (0), Active relays (11), Active input (1), Configured programs (0), Configured programs (0), Configured programs (0), Configured tags (10), and Unread notifications (0).

DataWatchPro included for all the UNIVERSAL+ 7WR M1, M2, M3, M5, M4, Rogowski M4 and 7WR MINI range

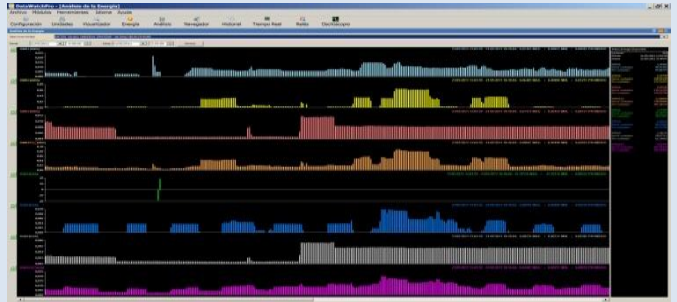
Professional software with database and graphic data analysis

- Multi-thread communication with a multitude of remote units via Internet/Intranet (reading and command)
- 200-parameter chronological logger in database for each unit.
- Independent notifications via e-mail of 249 programmable alarms for each unit
- Programmable automation/tele-control of relays with level alarms in time frame for each unit
- Module: numerical data analysis
- Module: graphic data analysis
- Module: history analysis
- Configurable in English or Spanish

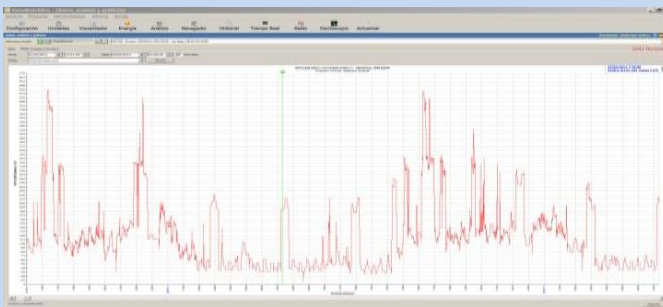
• Module: real time



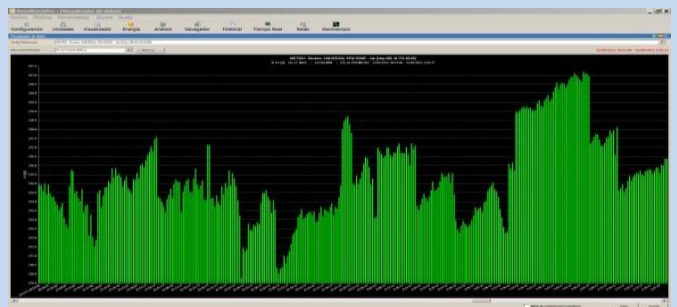
• Module: graphic energy analysis



• Module: graphic plotter (graphic long period analysis)



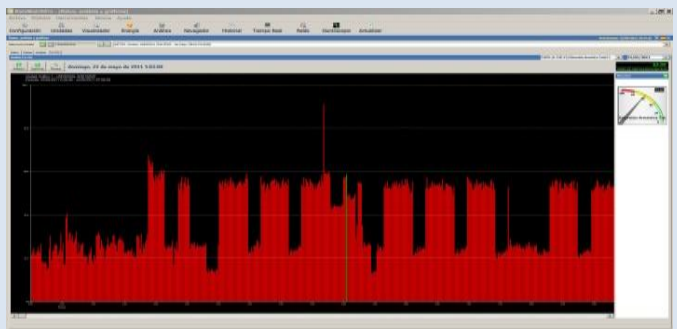
• Module: graphic display (rapid analysis)



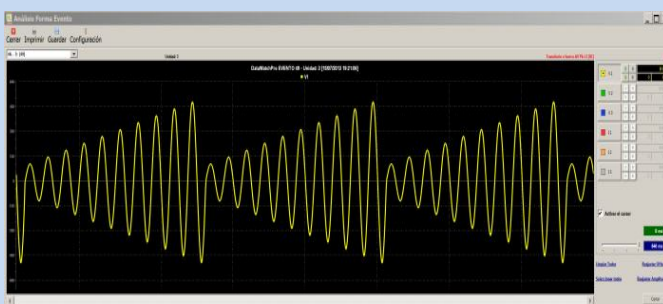
• Module: 7-channel oscilloscope. With autoscale and functions.



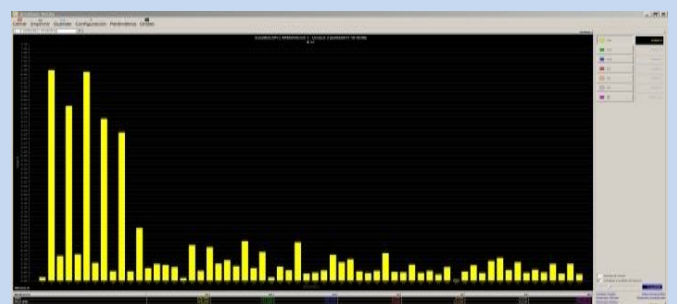
• Module: daily analysis



• Module: 6-channel oscilloscope event-logger in waveform with pre-trigger and autoscale



• Module: 7-channel harmonics spectrum with autoscale (63 harmonics, range in % and value V - A).



Wiring diagram

UNIDAD UNIVERSAL+ 7WR Rogowski M4

Modelo UNIVERSAL+ 7WR Rogowski M4 500E A

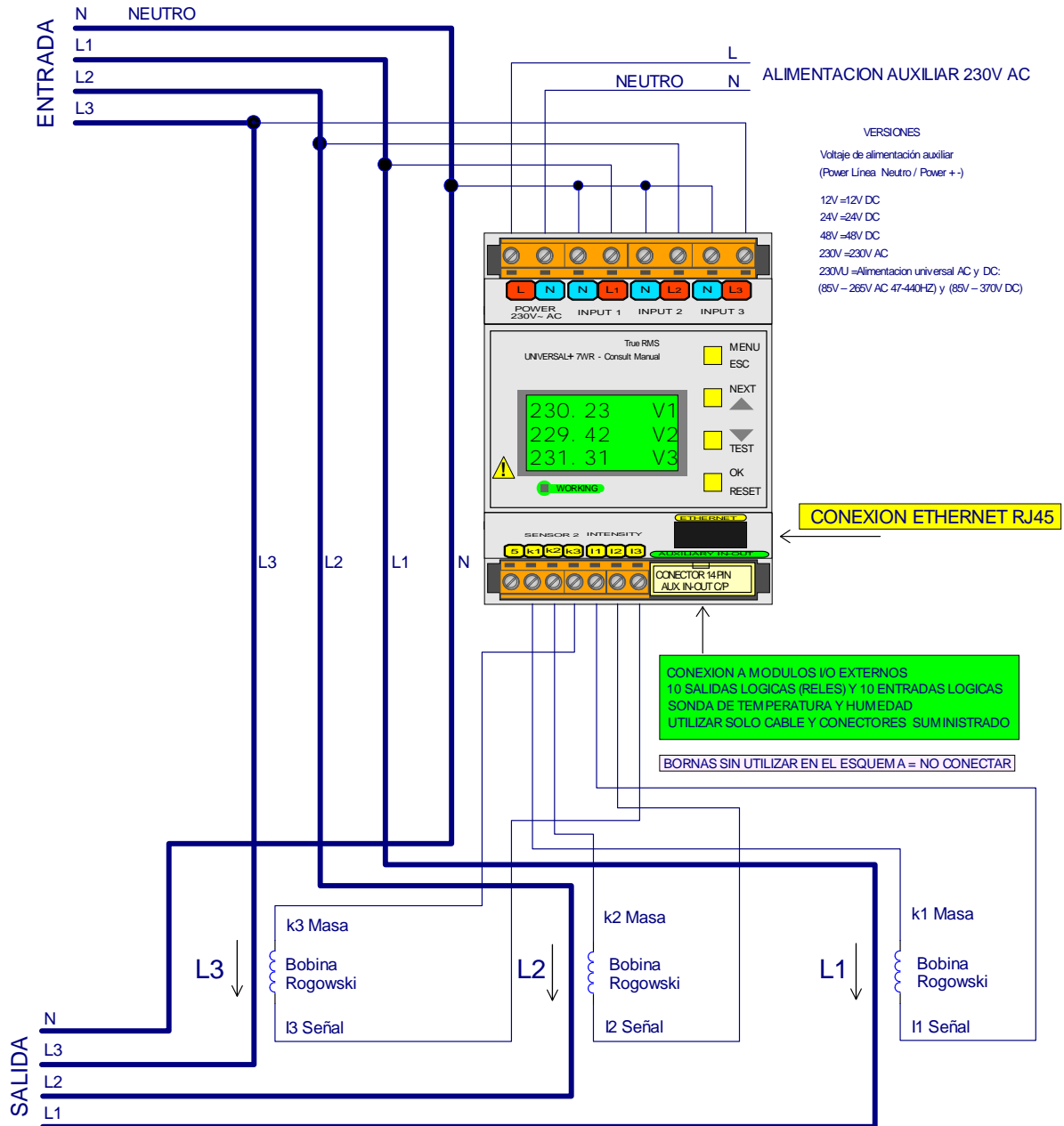
CONFIGURACION TRIFASICA 4 POLOS HASTA 2.000A.

Versión transformador de intensidad de línea. Sonda bobina Rogowski (Transformador de corriente flexible) multirango

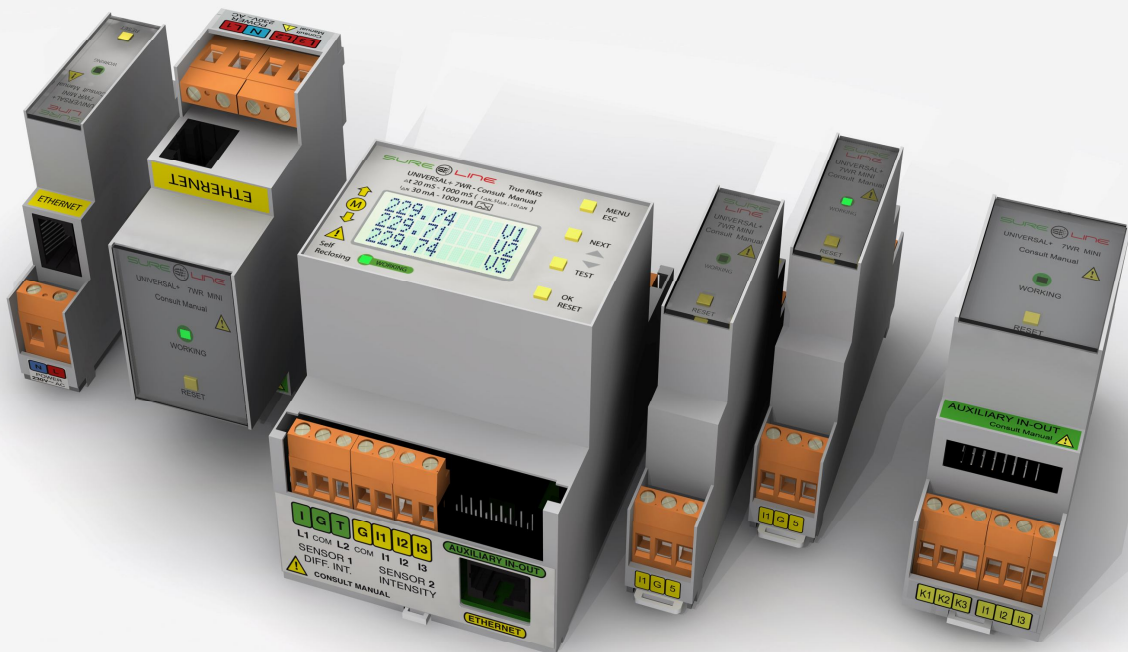
Escalas de Medidas configurables en la unidad, escalas 250A, 500A, 1000A y 2000A

Versión alimentación auxiliar

ENTRADA 230 V AC ENTRE NEUTRO Y LINEAS (L1, L2, L3)
ENTRADA 400 V AC ENTRE LINEAS (L1 Y L2, L1 Y L3, L2 Y L3)



CONSULTAR MANUAL DE INSTRUCCIONES



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