

ARS

Portable network and quality analyzer



Portable network and quality analyzer





Measurement and Control

The electrical efficiency in your hands



Innovative

adj. That changes something giving it new aspects.

Powerful

adj. That has power, effectiveness or virtue for something.

Versatile

adj. Capable of adapting itself easily and quickly to different functions.

Intuitive

adj. Relates to the facility of understanding things instantly, without a need for reasoning, without difficulty or complication.

Customised

adj. Adapted or modified to the desires or needs of each person.

Efficient

adj. That achieves an end with the most adequate means.
(carrying out several functions)

Complete

adj. Finished, perfect.



adj. Innovative, powerful,
versatile, intuitive, customised,
efficient and complete.



Portable network and quality analyzer



RMS data

Measure activated: efficient

19/10/2010 03:55:59 am

Voltage/Current – Inst

	A	B	C	ABC	N	K
Vpn	230.8	222.5	231.9	228.4	0	
Vpp	388.9	390.3	407.1	395.4		
A	2.61	2.59	2.44	2.55	0	0

Power – Inst

	A	B	C	ABC
kW	0.34 →	0.28 →	0.28 →	0.89 →
kvarL	0.46 →	0.48 →	0.47 →	1.41 →
kvarC	0 →	0 →	0 →	0 →
kVA	0.60 →	0.58 →	0.57 →	1.75 →
PF	0.56 →	0.48 →	0.49 →	0.51 →
cosphi	0.59 →	0.50 →	0.51 →	0.53 →

Frequency – Inst

Hz	
	0

Home ACTIONS VIEW GO TO

Display of RMS parameters

Quality data

Measure activated: efficient

Inst data selected

19/10/2010 03:56:38 am

Inst flicker, cresta and K factor, and PST

	A	B	C	N
Flicker Inst [WA]	2.3	1.7	2.3	
Flicker PST [%]	0	0	0	
Crest Factor	1.44	1.48	1.42	
K-Factor	1.32	1.05	1.17	
THD V [%]	3.8	8.9	9.9	0
THDeven V [%]	3.5	7.3	8.5	0
THDodd V [%]	1.5	5.0	5.1	0
THD A [%]	9.9	4.5	9.1	0
THDeven A [%]	8.4	3.9	7.6	0
THDodd A [%]	5.2	2.3	4.9	0

Inst Kd and Ka

	Kd	Ka
V [%]	3.4	0.3
A [%]	3.9	0.2

Home ACTIONS VIEW GO TO

Display of quality parameters

INNOVATIVE

portable analyzer

Portable network and quality analyzer developed with the latest technologies and state-of-the-art components, which places the analyzer **ELB** at the highest level in comparison with other portable analyzers.

5.7" screen

High resolution 5,7" VGA colour screen, which allows high resolution graphic representations of harmonics, phasors and waveforms.

new flexible sensors

New models of intelligent flexible built-in amplifier clamps.

simultaneous measurement

Measurement of leakage current simultaneously to the phases and neutral current measurement.

plug & play

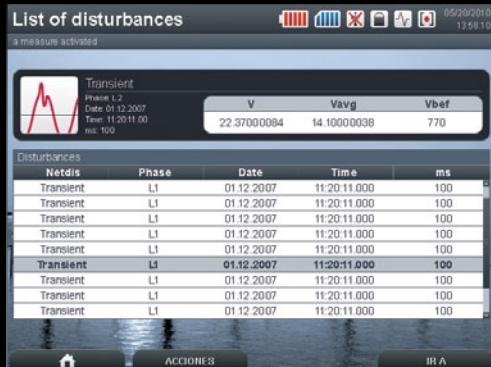
Automatic recognition of connected clamps.



New flexible **AM54-Flex** clamps



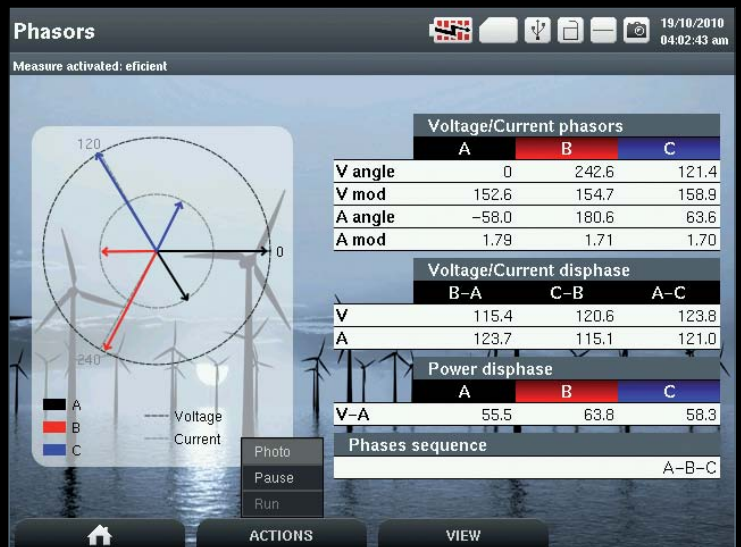
New flexible **AMS14-Flex** clamps



Display of transients



Data recording with date and time



Activation of the PHOTO function

POWERFUL

10 measurement inputs

- 5 voltage inputs (phases, neutral and ground) and 5 current inputs (phases and neutral) and simultaneous leakage measurement.
- 6400 records per second for each channel.

transients

Recording of transients and waveform, fully configurable.

class 0.5

Class 0.5 in Power and Energy measurement

recording with date and time

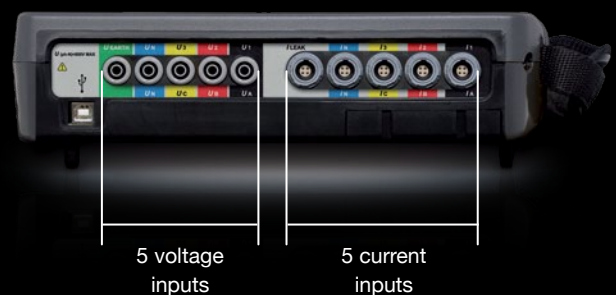
Internal clock for the recording of the maximum and minimum values with date and time.

PHOTO function

Captures of the electrical parameters and waveform of all channels by PHOTO function.

file management

The equipment distributes the recordings in folders, classified by measurements configuration types, accessible from the computer.



RMS data 19/10/2010 03:55:59 am

Measure activated: efficient

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Vpp	388.9	390.3	407.1	395.4	
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Power – Inst		
	A	B
kW	0.34	0.28
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PF	0.56	0.48
cosphi	0.59	0.50

Frequency – Inst	
Hz	

Home ACTIONS VIEW

Quality data 19/10/2010 03:56:38 am

Measure activated: efficient Inst data selected

Inst flicker, cresta and K factor, and PST			
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Flicker Inst [WA]	2.3	1.7	2.3
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THDeven A [%]	8.4	3.9	7.6
THDodd A [%]	5.2	2.3	4.9

Inst Kd and Ka		
	Kd	Ka
V [%]	3.4	0.3
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Home ACTIONS VIEW GO TO

Simultaneous measurement of power grids and control of power supply quality

Measure trigger interval 19/10/2010 04:04:05 am

Measure activated: efficient Building measure trigger interval screen

Start of interval

Date: 30/08/2007

Time: 08:00:00 am

Stop of interval

Date: 30/09/2007

Time: 08:00:00 am

Home ACTIONS GO TO

Trigger configuration screen (trigger)

VERSATILE

networks and quality

Power analyzer for simultaneous control of power network and voltage supply quality.

record

Record of basic and advanced electrical parameters.

standardisation

Measurement and recording according to the **EN 50160** standard, applied to recording data by **PowerVision plus** software.

configurable trigger

Totally configurable trigger condition for electrical variables and waveform capture.

compatible sensors

Compatible with current clamp meters of previous models (adapter required depending on model) (AR5-L).

easy browsing

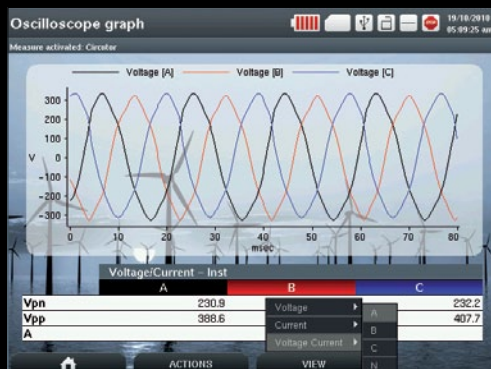
Dynamic menus with extra function buttons that facilitate browsing and configuration.



Current clamp meters of previous models



Display of phasors



Display of waveforms



Main menu screen

Measure setup
Measure activated: Circutor

19/10/2010 04:55:31 am

Name:

Comment:

Circuit type:

Frequency: Hz

Comment: monophasic 50Hz

1 2 3 4 5 6 7 8 9 0
q w e r t y u i o p
a s d f g h j k l
a-A z x c v b n m
@ _ . ,

CANCEL DELETE DONE

Example of configuration using virtual keyboard

INTUITIVE

agile and clear interface

- Simple and intuitive icons menu for general options.
- Easy access to transients and power quality events information and numeric data.
- Display for the configuration screen of the clamp scales, when these are connected.
- Summary device configuration to validate before recording.
- Clear graphic representation of each phase quadrant.

display of graphics

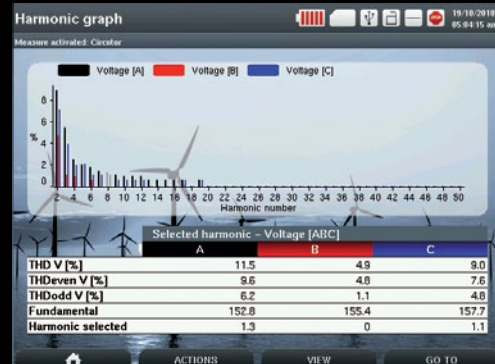
Graphic representations of phasors, waveform and harmonics, facilitating the interpretation of the recordings.

virtual keyboards

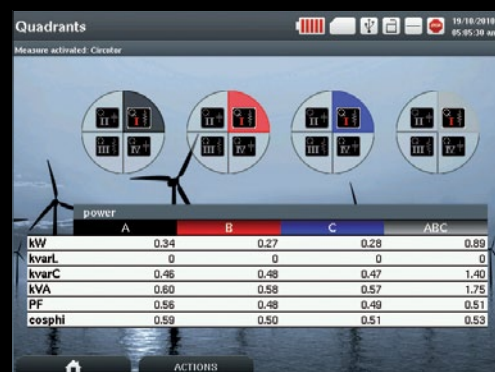
Virtual alphanumeric keyboard for all parameters configuration of the analyzer.

USB

USB connection for download the records to the computer.



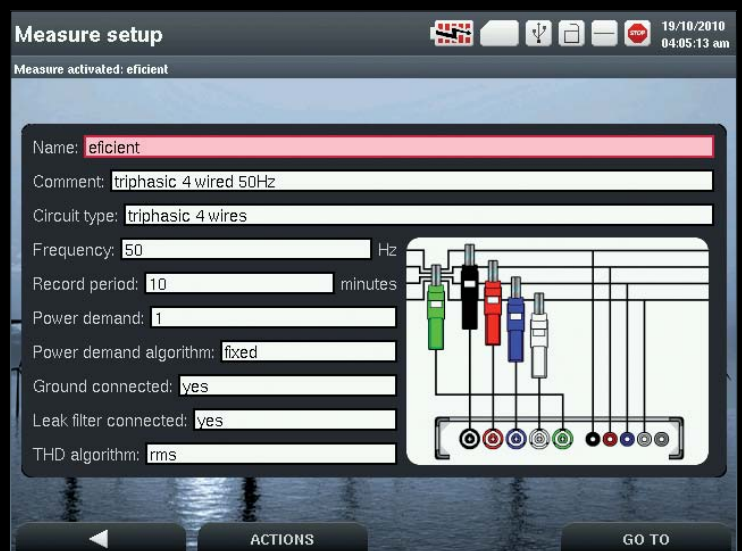
Display of harmonics



Display of quadrants



Measurements management screen



Phases configuration screen

CUSTOMISED

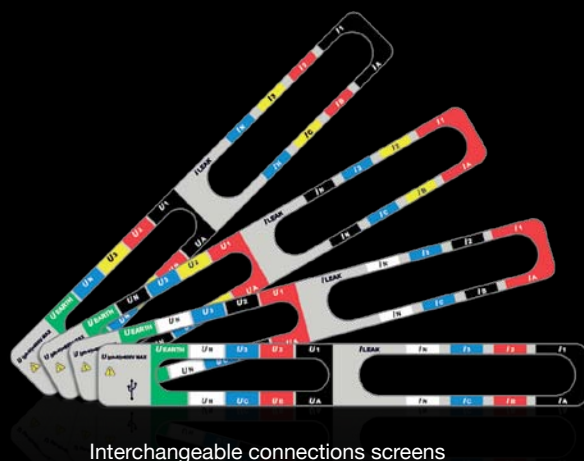
measurement profiles management

- Standard profiles creation to help and make easier the configuration of new records.
- Up to 5 different measurement installation circuit selection (AARON included).
- Decimals and units displayed for configurable for each variable.

configurable phases

Completely configurable according to the international standards for identifying phases.

- Language and phases colours configurable.
- Different screens and options for customising the analyzer.
- Voltage cables and current clamp colours adaptable to the international standards (colours).



Interchangeable connections screens



Bridles in various interchangeable colours



Gray clamps with colour bridles for customize

Measure trigger periodic 19/10/2010 04:58:47 am

Measure activated: Circutor Building measure trigger periodic screen

Start time: 12:00:00 am

Stop time: 12:00:00 am

Days of week triggered

Monday: no

Tuesday: no

Wednesday: no

Thursday: no

Friday: no

Saturday: no

Sunday: no

◀ ACTIONS GO TO ▶

Programming of recording in an interval of time

Photo condition manager 19/10/2010 05:02:09 am

Measure activated: Circutor

List of photo conditions

V (PN, ABC) < 230

I (corriente, ABC) < 26 AND I (corriente, ABC) >= 100

Kw (kW+, ABC) < 3888 OR Kw (kW-, ABC) >= 500

◀ ACTIONS GO TO ▶

Configuration of logical functions

EFFICIENT

wide display

Viewer, analyzer and recorder of electrical variables, measurement of leakage currents, transients and power quality events (cuts, gaps and voltage surges).

expansion modules

Expansion modules to increase the analyzer features (recording of the process signals, verification of meters, continuous measurement and other future functionalities).

energy management

- Configurable backlit screen time to extend battery life.
- Contrast screen selection.
- Smart battery charge and status management.

10-year record history

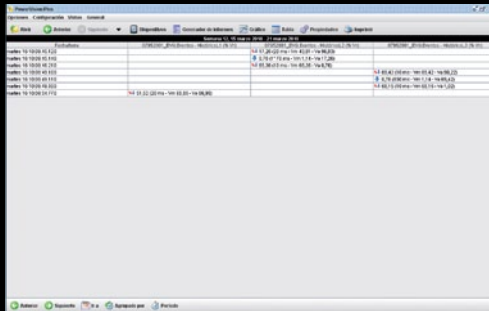
- 10-year memory capacity for recording electrical parameters *.STD (with factory settings).

programming

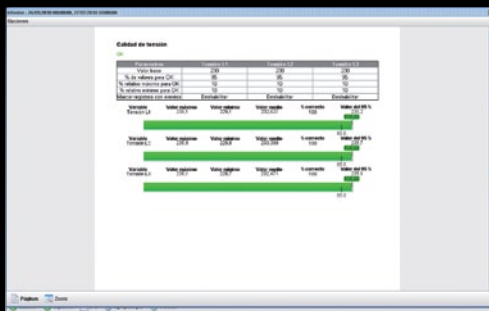
- Time on and time off recording period and repetitive recording ON and OFF times from Monday to Sunday.
- Equations (AND / OR functions) for automatic trigger recording and photo captures, optimising the analyzer's storage memory.



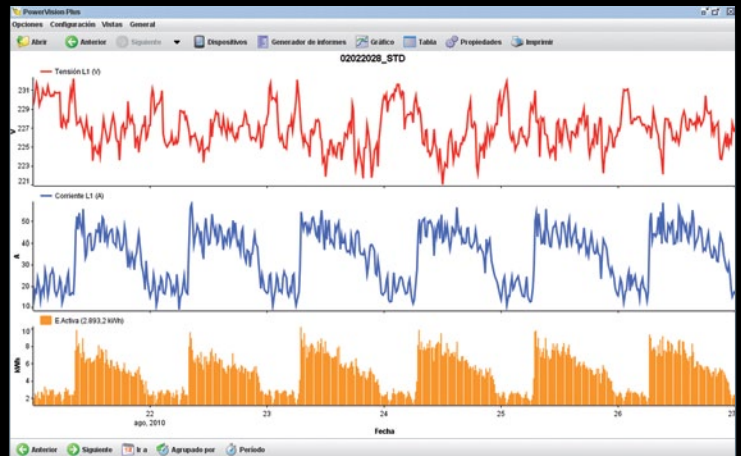
Capacity for storing
10-year recording history



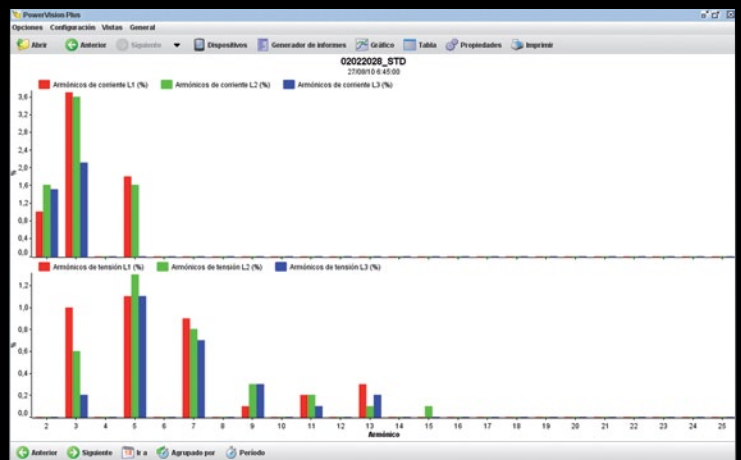
Events screen



Quality report



Display of graphics



Display of graphics

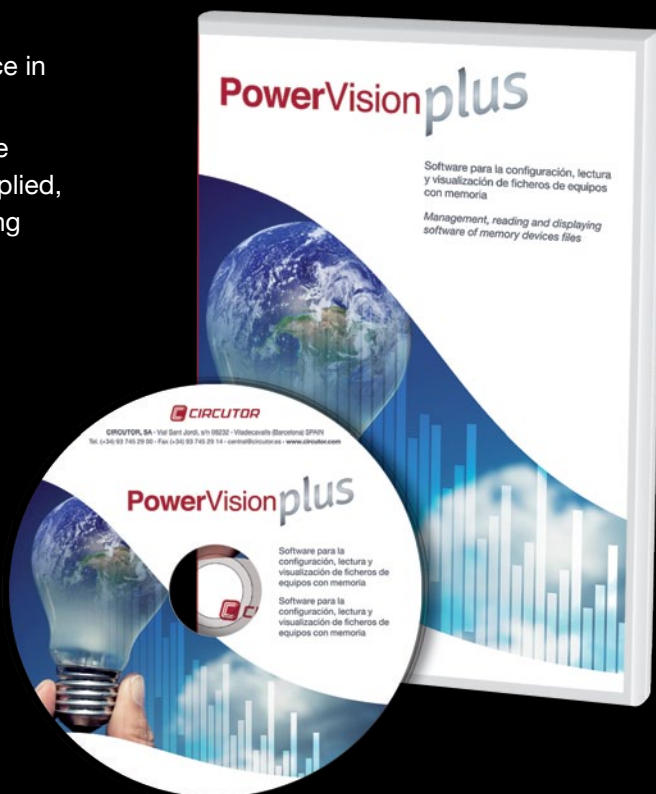
COMPLETE

The complete portable network analyzer **CIR 5** achieves its top performance together with its new and powerful software:

PowerVisionplus

- Powerful *software* for downloading, managing and using the data recorded by **CIRCUTOR** equipment.
- Allows the recorded electrical parameters information (*.std) to be displayed in graphic or table format.
- Display of the recorded quality events (*.evq) in sorted table or graphic format.
- Display of the waveform captures, by means of the device's PHOTO function (*.pho).
- Display of the history of the data recorded by the device in graphic or table format.
- Power network quality analysis with the reports module that allows many customised quality standards to be applied, or otherwise the regular (**EN 50160**) standards, generating the related reports.

*Shipped with the equipment



Technical specifications

Voltage inputs	Measurement margin	$U_n = 10 \text{ a } 800 \text{ V}_{\text{rms}}$ phase-neutral
	Bandwidth	3,2 kHz
	Maximum measurement voltage	+ 30%
	Permanent allowable voltage surge	1000 V_{rms}
	Transient allowable voltage surge	2500 $V_{\text{pic.}} < 1\text{s}$
	Maximum power consumption	$\leq 0,04 \text{ V}\cdot\text{A}$
Current inputs	Measurement margin	from 1 to 120% of I_n
	Primary measurement current I_n	Depends on clamp
	Allowable overload	3 I_n
	Consumption	$\leq 0,0004 \text{ V}\cdot\text{A}$
Auxiliar power supply	External source	100...240 $V_{\text{a.c.}}$ / 50...60 Hz / 1 A
Measurement connection	Inputs for current measurement	$I_1, I_2, I_3, I_N, I_{\text{leakages}}$
	Inputs for voltage measurement	$U_1, U_2, U_3, U_N, \text{Ground}$
Interfaces	Communications	USB port (Type B)
Mechanical	External dimensions	283 x 168 x 80 mm
	Weight	1,54 kg
Battery life	Screen ON	4 hours
	Screen OFF	8 hours
Memory	Memory card SD / SDHC	Expandable up to 32 GB
Software	PowerVision Plus	Included with the device
Safety	Category III - 600 V, according to EN 61010	
	1000 V CAT III / 600 V CAT IV for altitudes below 2000 m.	
	1000 V CAT III / 600 V CAT III / 300 V CAT IV for altitudes above 2000 m.	
Standards	EN 61000-6-4 (2002), Industrial Emissions.	
	EN 55011 (1994), conducted (EN 52022 – Class B)	
	EN 55011 (1994), radiated (EN 55022 – Class A)	
	EN 61000-6-2 (2022), Industrial immunity	
	EN 61000-4-2 (1995), Electrostatic discharge	
	EN 61000-4-8 (1995), Rapid transient bursts	
	EN 61000-6-1 (2002), Domestic immunity	
	EN 61000-4-11 (1994), Power supply outages	

Clamps

Clamps	Measurement Range	Type	1 clamp	3 clamps kit	4 clamps kit
	1 ... 5 A	CFG-5	M810BD	-	-
	0,2 mA ... 10 A	CFG-10	M810BE	-	-
	0,05 A ... 5 A	CPG-5	M810B1	M810C1	M810D1
	1 ... 100 A	CPG-100	M810B2	M810C2	M810D2
	1 ... 500 A	CPRG-500	M810B3	M810C3	M810D3
	1 ... 1000 A	CPRG-1000	M810B4	M810C4	M810D4
	1 ... 200 A / 10 ... 2000 A	CPG-200/2000	M810B5	M810C5	M810D5
Flexible clamps	Measurement Range	Type	Description	Code	Sensor length
	100 / 200 A	kit 4 AMS14-FLEX	4 clamp Kit + 5 tie bar	M82539	14 cm
	100 / 1000 / 10000 A	kit 4 AM54-FLEX	4 clamp Kit + white tie bar	M82533	54 cm
	100 / 1000 / 10000 A	kit 3 AM54-FLEX	3 clamp Kit + white tie bar	M82532	54 cm
	100 / 1000 / 10000 A	AM54-FLEX clamp	AM54-FLEX clamp + all coloured tie bars	M82531	54 cm

www.circutor.com

19/10/2010
03:53:31 am

Circutor
monophasic 50Hz
transformation ratio: 1:1
transformation ratio: 5:1:1



POWER



REC / STOP



AR6





Portable network and quality analyzer

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www.circutor.com



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