ELECTRICAL NETWORK ANALYSER

Single or 3-phase balanced/unbalanced 3 or 4 wire networks

DIVA 21

Type

The **DIVA analyzers** are especially designed for the measurement, the control and the display of all the parameters from AC electrical networks: voltage, current, power, energy, frequency, …

Easy programming, accessible on front face or by PC via the software SlimSET.

Display

Graphical rear-lit LCD screen

Display of the energies on 9 digits with automatic switching to the upper unit.



Environment

Operating temperature: -10°C to +55°C.

Storage temperature: -25°C to +70°C.

CE marking (89/336 rev.92/31).

Functions

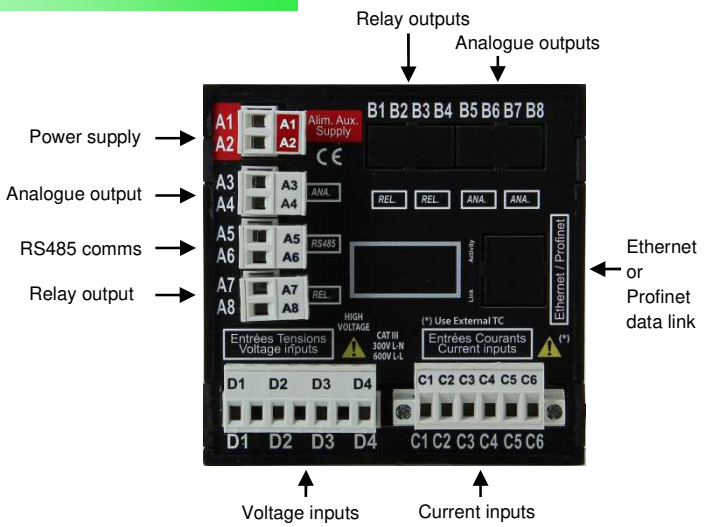
Measurement in true RMS values TRMS

- Universal, more than 35 measured parameters
- They accept as input by programming:
  Current: 1A and 5A AC
  Voltage: 100, 190, 440 and 600 V AC
- RS485 Modbus/Jbus output
- **Quick cycle time: 20 ms** (50Hz)
- Universal power supply

Options

- Ethernet Modbus/TCP output + embarked web server
- Harmonics analysis up to rank 50
- 1 to 3 isolated analogue outputs +/- 20 mA
- 1 to 3 relay outputs, programmable either as alarm output or as energy pulses.
- Profinet output
  2 analogue outputs and 2 relay outputs only.
- Profibus output
  1 analogue output and 2 relay outputs only.

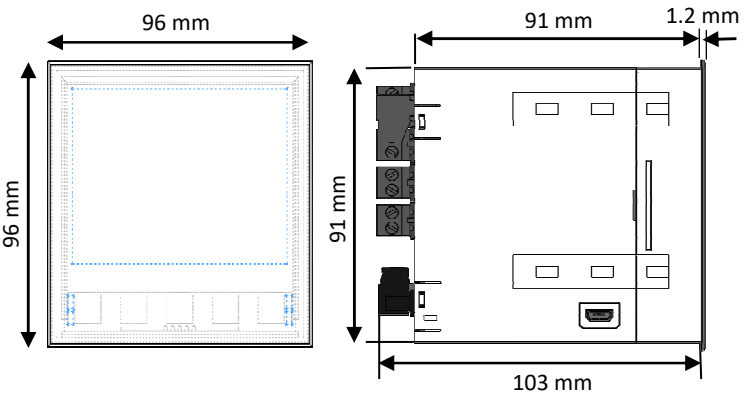
External features



Protection: housing / terminals IP20 – Front face IP65

Connectors: removable terminal blocks on the rear face for screwed connectings (2,5mm², flexible or rigid)

Dimensions



Housing: 96 x 96 x 103 mm (with terminals)
Self-extinguishing case of black UL94 V0 ABS

Mounting: on panel, cut out 91 x 91 mm

Tightening: with 4 screwable pads

Weight: 400 g

sfere

69510 SOUCIEU EN JARREST – France – Tél. 33 (0)4 72 31 31 30 – Fax. 33 (0)4 72 31 31 31

Technical features

►Inputs

- **Voltage** — 4 programmable ranges:
  Un = 60V L-N/100V L-L, 110V L-N/190V L-L
  250V L-N/440V L-L, 350V L-N/600V L-L
- **Current** — 2 programmable ranges: 1 and 5 A

Measurable overrange: 1.2 In, 1.2 Un

Overloads	permanent: 750 V, 2 In during 10 s: 1000 V, 10 In
Power consumptions	voltage input: 1.5 MΩ resistances current input : < 0.2 VA (CT integrated)
Test voltage	3 Kv / 50 Hz / 1 min.
Frequency	10…50…65 Hz (other frequencies: consult with us)

►Outputs

- **RS485 output**

Type	2-wire with galvanic isolation
Baud rate	4800 / 9600 / 19200 bauds
Protocole	Modbus / Jbus RTU 8 bits parity programmable
Format of the data	Integer 16 bits (table of the units) or 32 bits dec.point and units fixed

- **Relay outputs (option R, 2R or 3R) ***

Type of contact	on pot. free contact (galvanic isolation 3 kV) output 1 make
Rated load	5 A – 250 VAC

- either **SETPOINTS OUTPUT**

Setting of the setpoints and hysteresis : 0 to 100% of the measure range
Time delay : 0 to 999,9 s (programmable)

- or **PULSES OUTPUT**

Count rate : 4 / 2 / 1 pulses per second according to the programmed width
Width of the pulses : 100 / 200 / 400 ms (programmable)

- **Analogue outputs (option A, 2A or 3A) ***

Galvanic isolation	1 kV between outputs
Output signal	programmable from -22 to +22 mA
Scale setting	0 to 100% of the measure range (programmable)
Admissible load	up to 500 Ω (20 mA)
Accuracy of the board	< 0.1% of the full scale
Max. residual ripple	< 25 mV (peak to peak) on 500Ω load
Response time	60 to 80 ms (input/output)
Thermal drifts	< 100 ppm / °C

- **Ethernet output (option F)**

Modbus/TCP data link + embarked web server
Female RJ45 footing

- **Profinet output (option PN)**

Female RJ45 footing
* 2 analogue outputs and 2 relay outputs only for the option Profinet.

- **Profibus output (option PB)**

Male DB9 footing
* 1 analogue output and 2 relay outputs only for the option Profibus.

- **Harmonics analysis (option H)**

Display of the voltage and current harmonics of the 3 phases up to rank 50.
Retransmission possible in Modbus.

►Supply

- **Universal power supply** 20 to 250 VAC / 21.5 to 250 VDC

Power draw	11 VA max. in AC, 6 W max. in DC

►Measure

- **35 measurable parameters**

Acccuracy rating	Voltages, currents: class 0.2 (IEC688-1) Powers: class 0.5 (IEC688-1) Active energy: class 1 (IEC62053-21) Reactive energy: class 1 (IEC62053-23)
Measuring method	Fast simultaneous sampling of the 3 voltages and the 3 currents. Digital calculation on 32 bits. TRMS measurement of deformed signals up to harmonic 50
Digital filtering	Programmable on several levels
Energies	Saved Display on 9 digits
Cycle time	20 ms (for all network types)

►Connectings

With detailed manual, delivered with the instrument.

Coding

Types:

DIVA 21	3U, 3V, 3 I, cos φ, cos φ/phase, F, P, Q, S, P/phase, Q/phase, leak current, E active, inductive and capacitive

Options

A	1 analogue output	**H**	harmonics analysis
R	1 relay output	**F**	Ethernet output
2A2R	2 analogue outputs + 2 relays	**PN**	Profinet output
3A3R	3 analogue outputs + 3 relays	**PB**	Profibus output

Order example :

For a DIVA21 with 3 analog outputs and 3 relay outputs (setpoint or pulses) request the reference: **DIVA21 3A3R**

For a DIVA21 with Ethernet output, 1 relay output with the option harmonics analysis request the reference: **DIVA21 FRH**

This appliance is dedicated to industrial applications. It must be installed in an electrical cabinet, or equivalent.

SFERE – CA IN66 - E 09/25 – Any data in this documentation may be modified without prior notice.

sfere

Route de Brindas - Parc d'activité d'Arbora N°2
69510 SOUCIEU EN JARREST - FRANCE
Tél : 33 (0)4 72 31 31 30 - Fax : 33 (0)4 72 31 31 31
E-mail : info@sfere-net.com - www.ardetem-sfere.com

Your representative