

# ELECTRICAL NETWORK ANALYSERS

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

## Serie DIVA



### DIVA 15/16

Output  
RS485/422

### DIVA 17

2 Outputs  
RS485/422

The DIVAs are insulated **measure analysers** which allow converting parameters from AC electrical networks. Universal : they can

measure up to **32 parameters**, which can be assigned on choice by programming on the output channels. Moreover, they can be fully configurable by the user with optional PC software.

Diva 15 / Diva 16 (400Hz) : Output RS422/485

Available options :

- (A) Insulated analog output 0/5mA, 0/10mA, 0/20mA, 4/20mA -5/5mA, -10/10mA, -20/20mA.
- (R) 2 Relay outputs, combinable by programming as setpoint or pulse output, or to be specified on order if you want 1 relay output and 1 logic input.
- (H) Harmonics analysis (Diva 15).

Diva 17 : 2 outputs RS422/485 independent and insulated.

Available options :

- (R) 1 Relay output, programmable as alarm or pulse output.
- (H) Harmonics analysis.

#### • Programmable input calibers :

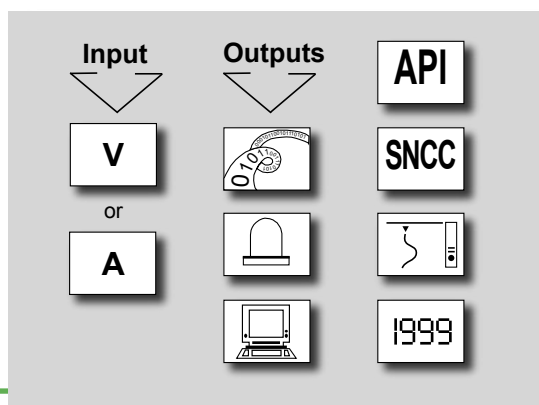
Current 1A and 5A<sub>AC</sub>, (safened by a screwed connector) Voltage 150V and 500V<sub>AC</sub>.

- Fast cycle time : 55ms

- Broad supply range.

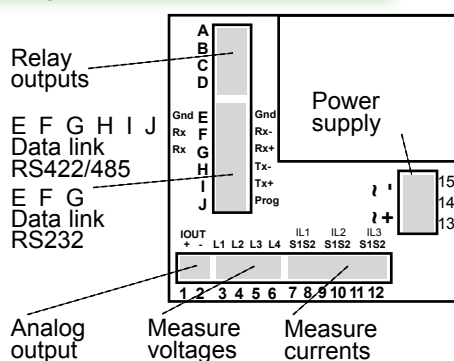
- **Galvanic partition :** Inputs/supply/outputs : 2 kV. Between outputs : 1 kV

## Functions

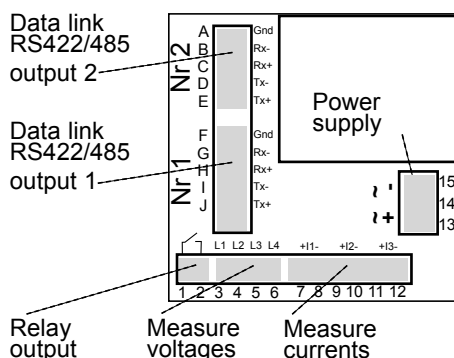


## External view

**DIVA 15**  
**DIVA 16**



**DIVA 17**

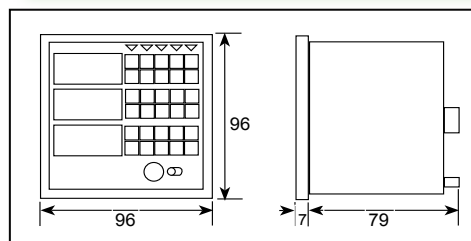


The friendly interface

**DIVA analysers** are especially designed for the measurement, the control and display of all the parameters of AC electrical networks : Single and mesh voltages, line currents, active, reactive and apparent powers, frequency, cosine per phase and total, leak current, active energies IN, OUT and reactive ...

The DIVAs are easy to programme, either directly from the front face, or by PC with the software MCVision.

## Dimensions



Environment :  
Operating T° : 0°C to +55°C.  
Storage T° : -25°C to +70°C.  
CE marking (89/336 rev.92/31).  
Weight : 510 g (with packaging)

Housing : Case of self-extinguishing black UL 94 V1 polycarbonate. 96x96x86mm (with terminals) Standardized DIN 43700

Tighten. : By 2 straps (located on choice : on the sides or above / under) Mounting on panel ; cut out 92x92mm

Connectors : Plug-off connectors on rear face for screwed connectings (2.5mm<sup>2</sup>, flexible or rigid)

Protection : Case/terminals:IP 20. Front face IP 40 (IP 65 optional)

Display : Three 1000 point high brightness indicators (14 mm high red digits).

CA  
IN/27

ANALYSERS

# Technical features at 23°C

## DIVA 15 / 16 / 17

Inputs			
<u>Voltage</u>	2 Programmable ranges Un=150 and 500VAC	<u>Power draw</u>	Voltage input : 1 MΩ resistors Current input : < 0.2 VA
<u>Current</u>	2 programmable ranges : 1 and 5A In = 1.2 and 6 Aac	<u>Test voltage</u>	2 kV / 50 Hz / 1 min.
<u>Oversteppings</u>	measurable : 1.2 Un; 1.2 In	<u>Frequency</u>	<b>DIVA 15/17</b> : 45 ...50...65 Hz <b>DIVA 16</b> : 300...400...500 Hz (Other frequencies : consult)
<u>Overloads</u>	Permanent : 750 V, 10 A During 10 s : 1000 V, 50 A	<u>Type of network</u>	Single or 3 phase balanced / unbalanced with or without neutral
		<u>Thermic drifts</u>	< 200ppm
Digital outputs 422/485		Analog output (option <b>A</b> ) <b>DIVA 15/16</b>	
<b>DIVA 15/16</b>	<b>RS422/485 output</b>	<u>Galvanic partition</u>	2KV
<b>DIVA 17</b>	<b>2 Independent RS422/485 outputs</b>	<u>Output signal</u>	Programmable (in mA) : -20/20 -10/10 -5/5 0/5 0/10 0/20 4/20 mA
<u>Type</u>	2 or 4 wire. Speed:4800/9600/19200 bauds	<u>Scale setting</u>	0 to 100% of the measure range by progr.
<u>Galvanic partition</u>	2KV	<u>Admissible load</u>	Up to 600Ω (20mA)
<u>Protocole</u>	Modbus/Jbus RTU 8 bits with or without parity. 1 or 2 stop bits.	<u>Board resolution</u>	24000 points
<u>Format of the data</u>	Programmable, 16 bit integer.	<u>Board accuracy</u>	< 0.1% of the full scale on -20/+20mA (in relation to the display)
<u>Length of the data</u> <b>(DIVA 17)</b>	Output 1 : 200 bytes Output 2 : 50 bytes	<u>Residual ripple</u>	< 0.2% on -5/5mA
		<u>Output response time</u>	±2.5mV (peak to peak) on 50Ω load
		<u>Thermic drifts</u>	50ms (<120ms input -> output)
			<100ppm (±20mA) <200ppm (0/20mA)
Relay outputs (option <b>R</b> )		Harmonics analysis (option <b>H</b> ) <b>DIVA 15/17</b>	
<b>DIVA 15/16</b>	<b>2 combinable relay outputs</b> Either 2 setpoint outputs, or 2 pulse outputs, or 1 setpoint output and 1 pulse output	Display of the voltage and current harmonics of the 3 phases up to rank 50. Re-transmission possible in Modbus.	
<b>DIVA 17</b>	<b>Relay output</b> : 1 setpoint output, or 1 pulse output.	<b>32 measurable parameters</b>	
<u>Type of contact</u>	Potential free contact	<u>Accuracy rating</u>	Voltages, currents : 0.2 (IEC60688) Power : 0.5 (IEC60688)
<u>Galvanic partition</u>	2KV	<u>Energies</u>	Accuracy rating : Active energy:1 (IEC 62053-21) - Saved every 5 min. Reading on 6 digits
<u>Rated load</u>	5A - 250 VAC	<u>Cycle time</u>	55ms (for all network types)
<b>Pulse output</b>		<u>Measuring method</u>	Fast simultaneous sampling of the 3 volta- ges and the 3 currents. Digital calculation on 32 bits. Measurement of disturbed signals, pass band at 800Hz.
Count rate	1 to 4 pulses per second.	<u>Display update</u>	twice per second
Width of the pulses	100 to 400ms by programming	<u>Digital filtering</u>	Programmable on several levels
Weight of the pulses	programmable	<u>Measured parameters</u>	Single and mesh voltages, line curen- ts, active, reactive and apparent powers, fre- quency, cosine per phases and total cosine, leak current, active energies IN, OUT and reactive ...
<b>Setpoint output</b>			
Setting of the setpoints	0 to 100% of the measure range by progr.		
Switching hysteresis	0 to 15% of the setpoint by programming		
Time delay	0 to 15s by programming		

## Coding

**Types** : DIVA 15 / DIVA 16 / DIVA 17

**Options** : R A H

R : option relay outputs

A : option analog output

H : option harmonics analysis

**Power supply** : High or low voltage (specify)

(2) High voltage : 90...270 VAC or 88...350 VDC

(3) Low voltage : 20...53 VAC or 20...75 VDC

Power draw : 6 VA max. in AC

**Order example** :

For a DIVA 15 showing RMS values and powers, with 1 ana-  
log output and 2 alarm setpoints, supplied in 230 VAC, request  
reference :

DIVA15 A R 2

*This instrument is dedicated to industrial applications. It has to  
be installed in an electrical switchbox, or equivalent.*

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