

ENGLISH

# Vip 396 485 Vip 396 4-20mA 485



## Energy Demand Meter

# ADDITION TO THE USER MANUAL

**WARNING** – Elcontrol Energy Net S.p.a. declines all liability for any damage to people or property caused by unsuitable or incorrect use of its products. Elcontrol Energy Net reserves the right to change product specifications without prior notice.

Vip 396 4-20mA 485  
Vip 396 ALM 485

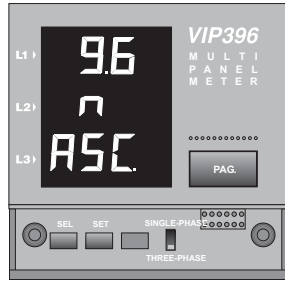


Fig. 1

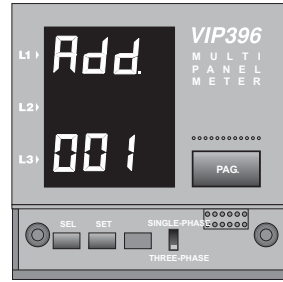


Fig. 2

Vip 396 4-20mA 485



Fig.3  
VIP396 4-20mA 485

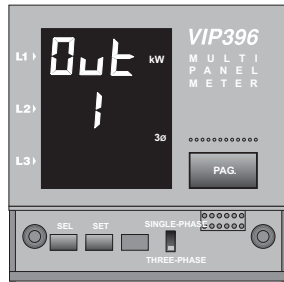


Fig.4  
VIP396 4-20mA 485

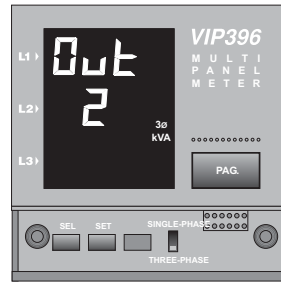


Fig.5  
VIP396 4-20mA 485

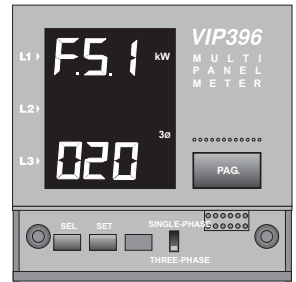


Fig.6  
VIP396 4-20mA 485

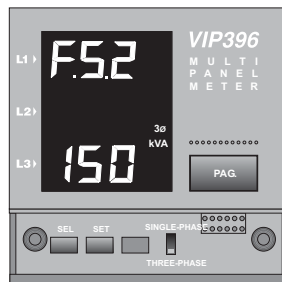
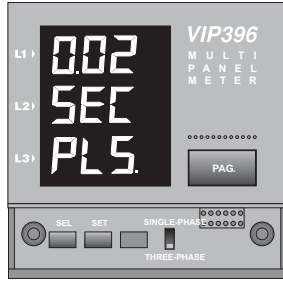


Fig.7  
VIP396 4-20mA 485

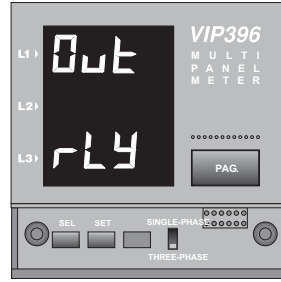
## Vip 396 ALM 485



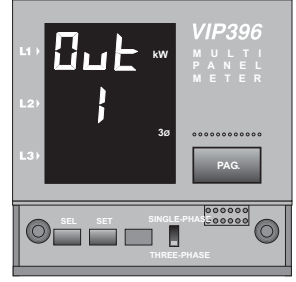
**Fig.3**  
VIP396 ALM 485



**Fig.4**  
VIP396 ALM 485



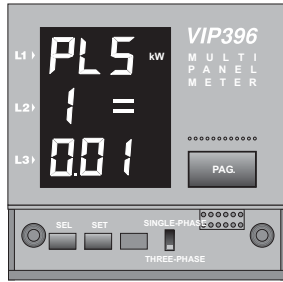
**Fig.5**  
VIP396 ALM 485



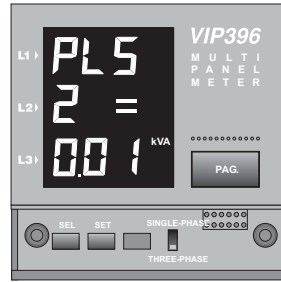
**Fig.6**  
VIP396 ALM 485



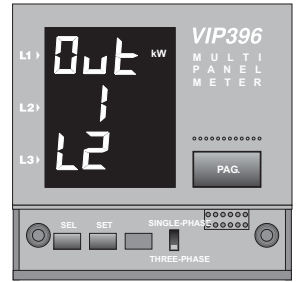
**Fig.7**  
VIP396 ALM 485



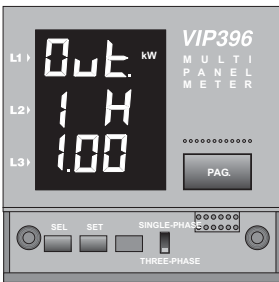
**Fig.8**  
VIP396 ALM 485



**Fig.9**  
VIP396 ALM 485



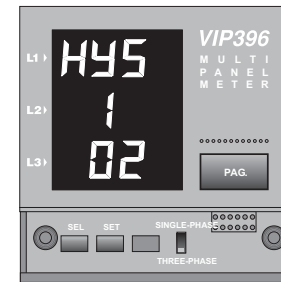
**Fig.10**  
VIP396 ALM 485



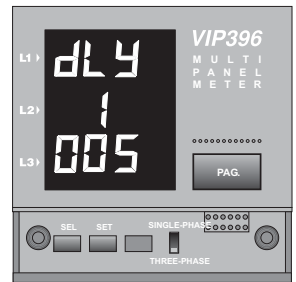
**Fig.11**  
VIP396 ALM 485



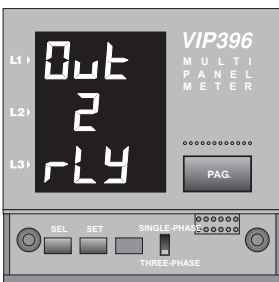
**Fig.12**  
VIP396 ALM 485



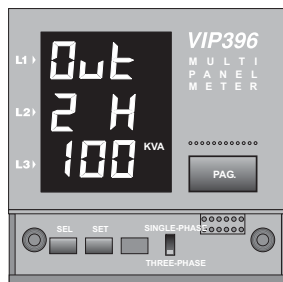
**Fig.13**  
VIP396 ALM 485



**Fig.14**  
VIP396 ALM 485



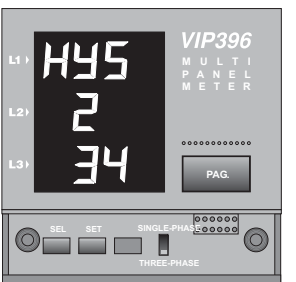
**Fig.15**  
VIP396 ALM 485



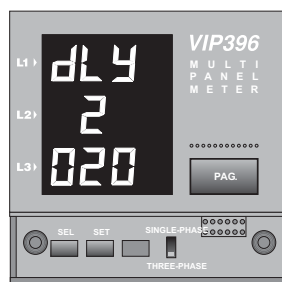
**Fig.16**  
VIP396 ALM 485



**Fig.17**  
VIP396 ALM 485



**Fig.18**  
VIP396 ALM 485



**Fig.19**  
VIP396 ALM 485

## VIP 396 – ADDITION TO THE INSTRUCTION MANUAL

### ADDITIONAL PAGES PROVIDED IN THE SET-UP MENU OF THE VIP396 MODELS EQUIPPED WITH OUTPUT OPTIONS

In the set-up menu of the models VIP396 485 (with Rs485 serial output), VIP396 4-20mA 485 (with two 4-20mA or 0-20mA analog outputs and a Rs485 serial port) and VIP396 ALM 485 (with two relay outputs which can be used as pulsated outputs or as alarm outputs or controlled in the remote mode via Rs485), the additional pages described here below are provided at the end of the standard model pages.

#### VIP396 ALM 485 - VIP396 4-20mA 485

##### [Fig. 1 ]

With the SEL key, the parameter to modify can be selected: the selected parameter will flash.

With the SET key, the selected parameter can be modified.

The PAG key enables to go to the next page.

The Baud rate (3 top digits) can have the following values: 2.4, 4.8, 9.6, 19.2 (kbaud).

The Parity (central) value can be : N(none), O(odd), E(even).

The type of communication protocol Modbus (3 bottom digits) can be:

ASCII = Modbus ASCII

BCD = Modbus BCD

IEEE = Modbus IEEE standard, INTEL format

Pressing the PAG key enables to go to the address selection page.

##### [Fig. 2 ]

With the SEL key, the (flashing) digit to modify can be selected.

With the SET key, the selected digit can be modified.

The permitted address field ranges between 1 and 247.

The PAG key enables to go to one of the following pages, according to the VIP396 model:

measurement page (model VIP396 485);

4-20mA set-up page (model VIP396 4-20mA 485);

relay set-up page (model VIP396 ALM 485).

#### . VIP396 4-20mA 485

##### [Fig.3 VIP396 4-20mA 485]

By pressing the SET key, the type of output (either 4-20mA or 0-20mA) can be selected.

Pressing the PAG key enables to go to the measure selection page corresponding to output 1.

##### [Fig.4 VIP396 4-20mA 485]

Output 1 measure selection

By pressing the SET key one of the following measures can be selected for output 1:

V total (3 PH, 2 PH or 1 PH according to the instrument set-up)

A total (3 PH, 2 PH or 1 PH according to the instrument set-up)

Hz

kW total (3 PH, 2 PH or 1 PH according to the instrument set-up)

kVA total (3 PH, 2 PH or 1 PH according to the instrument set-up)

PF total (3 PH, 2 PH or 1 PH according to the instrument set-up)

Pressing the PAG key enables to go to the measure selection page corresponding to output 2.

##### [Fig.5 VIP396 4-20mA 485]

Output 2 measure selection

Pressing the SET key enables to select the same measures set for output 1.

Pressing the PAG key enables to go to the output 1 end value set-up page.

##### [Fig.6 VIP396 4-20mA 485]

Output 1 end value set-up

Pressing the SEL key enables to select the exponent or digit to modify.

Pressing the SET key enables to modify the selected exponent or digit.

**E.g.:** 20mA = 20 kA

Pressing the PAG key enables to go to the output 2 end value set-up page.

##### [Fig.7 VIP396 4-20mA 485]

Output 2 end value set-up

The programming procedure is the same as the output 1 end value programming.

**E.g.:** 20mA = 150 kVA

The PAG key enables to return to the measurement page.

## .VIP396 ALM 485

Digital output type set-up

Pressing the SET key enables to select the type of the 2 digital outputs out of 3 possible

### [Fig.3 - VIP 396 ALM 485]

100 ms. PULSE

### [Fig.4 - VIP 396 ALM 485]

20 ms. PULSE

### [Fig.5 - VIP 396 ALM 485]

RELAY output

Pressing the PAG key enables to go to one of the following pages:

selecting 100 ms. PULSE or 20 ms. PULSE enables to access the output 1 pulse weight selection page;

selecting the relay output enables to access the relay output 1 set-up page.

### [Fig.6 - VIP 396 ALM 485]

Measure set-up corresponding to output 1.

Pressing the SET key enables to select the measure corresponding to output 1:

kVA = kVAh 3 PH

kW = kWh 3 PH

E.g.: kWh 3 PH

### [Fig.7 - VIP 396 ALM 485]

Measure set-up corresponding to output 2. The programming procedure is the same as the output 2.

E.g. : kVAh 3PH

### [Fig.8 - VIP 396 ALM 485]

Output 1 pulse weight set-up

Pressing the SEL key enables to select the digit to modify.

Pressing the SET key enables to select the digit to modify.

E.g.: 1 pulse = 0.01 kWh

Pressing the PAG key enables to go to output 2 pulse weight set-up.

### [Fig.9 - VIP 396 ALM 485]

Output 2 pulse weight set-up

Pressing the SEL key enables to select the digit to modify or the measure to associate with the output 2 (same as for output 1).

E.g.: 1 pulse = 0.01 kVAh

Pressing the SET key enables to modify the selected measure or digit.

Pressing the PAG key enables to return to the measurement page.

### [Fig.10 - VIP 396 ALM 485]

Relay output 1 set-up

Pressing the SET key enables to select one of the following measures and to associate it with output 1:

V total (3 PH, 2 PH, 1 PH according to the instrument set-up)

V L1 (available if the instrument is set at 3 PH or 2 PH)

V L2 (available if the instrument is set at 3 PH or 2 PH)

V L3 (available if the instrument is set at 3 PH)

A total (3 PH, 2 PH, 1 PH according to the instrument set-up)

A L1 (available if the instrument is set at 3 PH or 2 PH)

A L2 (available if the instrument is set at 3 PH or 2 PH)

A L3 (available if the instrument is set at 3 PH)

kW total (3 PH, 2 PH, 1 PH according to the instrument set-up)

kW L1 (available if the instrument is set at 3 PH or 2 PH)

kW L2 (available if the instrument is set at 3 PH or 2 PH)

kW L3 (available if the instrument is set at 3 PH)

kVA total (3 PH, 2 PH, 1 PH according to the instrument set-up)

kVA L1 (available if the instrument is set at 3 PH or 2 PH)

kVA L2 (available if the instrument is set at 3 PH or 2 PH)

kVA L3 (available if the instrument is set at 3 PH)

PF total (3 PH, 2 PH, 1 PH according to the instrument set-up)  
PF L1 (available if the instrument is set at 3 PH or 2 PH)  
PF L2 (available if the instrument is set at 3 PH or 2 PH)  
PF L3 (available if the instrument is set at 3 PH)  
RLY = relay 1 remotely controlled via Rs485 instead of locally as an alarm

E.g.: Out 1 = kWL2

Pressing the PAG key enables to go to one of the following pages:

set-up of the upper threshold of output 1 if one of the measures has been selected;

set-up of the relay output 2 if the remote mode has been selected for output 1.

#### **[Fig.11 - VIP 396 ALM 485]**

Set-up of the upper threshold (H) of the selected measure, above which the output 1 is actuated (the relay is closed).

Pressing the SEL key enables to select the digit or exponent to modify.

Pressing the SET key enables to modify the selected digit or exponent.

**E.g.:** Upper threshold = 1 kW

Pressing the PAG key enables to go to the output 1 lower threshold set-up page.

#### **[Fig.12 - VIP 396 ALM 485]**

Lower threshold (L) set-up of the selected measure, below which output 1 is actuated (the relay is closed).

Pressing the SEL key enables to select the digit or exponent to modify.

Pressing the SET key enables to modify the selected digit or exponent.

**E.g.:** Lower threshold = 0.02 kW

Pressing the PAG key enables to go to the output 1 hysteresis set-up page.

#### **[Fig.13 - VIP 396 ALM 485]**

Output 1 hysteresis set-up

A value between 00 and 99 can be set in the 3 bottom digits, expressed as a % (percentage) of the alarm threshold

Pressing the SEL key enables to select the digit to modify.

Pressing the SET key enables to modify the selected digit.

**E.g.:** Hysteresis = 02%

Pressing the PAG key enables to go to the relay 1 operation delay time set-up page.

#### **[Fig.14 - VIP 396 ALM 485]**

Relay 1 operation delay time set-up

A delay figure between 000 and 999 can be set in the 3 bottom digits, expressed in seconds.

Pressing the SEL key enables to select the digit to modify.

Pressing the SET key enables to modify the selected digit.

**E.g.:** Delay = 5 seconds

The PAG key enables to go to one of the following pages:

set-up of the output 2 upper threshold if one of the measures has been selected for it;

measurement page if the remote mode has been selected for output 2.

#### **[Fig.15 - VIP 396 ALM 485]**

Set-up of the relay output 2

The SET key enables to select one of the following measures and associate it with output 2 in the same way as output 1.

**E.g.:** Out 2 = relay remotely controlled via Rs485 instead of locally as an alarm

The PAG key enables to go to one of the following pages:

set-up of the output 2 upper threshold if one of the measures has been selected;

measurement page if the remote mode has been selected for output 2.

#### **[Fig.16 - VIP 396 ALM 485]**

Set-up of the upper threshold (H) of the selected measure, above which the output 2 is actuated (the relay is closed).

The SEL and SET keys are used in the same way as for output 1.

**E.g.:** Upper threshold = 100 kVA

Pressing the PAG key enables to go to the output 2 lower threshold set-up page.

#### **[Fig.17 - VIP 396 ALM 485]**

Lower threshold (L) set-up of the selected measure, below which output 2 is actuated (relay closed).

The SEL and SET keys are used in the same way as for output 1.

**E.g.:** Lower threshold = 10 kVA

Pressing the PAG key enables to go to the output 2 hysteresis set-up page.

**[Fig.18 - VIP 396 ALM 485]**

Output 2 hysteresis set-up

Same set-up as in output 1.

**E.g.:** Hysteresis = 34%

Pressing the PAG key enables to go to the relay 2 operation delay time set-up page.

**[Fig.19 - VIP 396 ALM 485]**

Relay 2 operation delay time set-up

**E.g.:** Delay = 20 seconds

Same set-up as in output 1.

The PAG key enables to go to the measurement page.

**ELECTRICAL SPECIFICATIONS OF THE OPTIONAL OUTPUTS**

**SERIAL OUTPUT 485**

Standard Rs485, max 32 instruments on each line without repeater, up to 247 instruments with repeaters

**ANALOG OUTPUTS 4-20mA**

Max load impedance 500 ( output conversion from 0-20 mA to 0-10 V with 500 output impedance)

The output signal accuracy is the same as the correlative measure 10 A.

The output update time is 1 second.

**RELAY OUTPUTS**

Max load 250 VAC rms - 100mA rms

