KOSMOS SERIE

ECF

DIGITAL PANEL VOLTMETER

CE

JUNIOR-VAC
JUNIOR20-VAC

DITEL

INTRODUCTION TO THE KOSMOS SERIES

This manual does not constitute a formal agreement. All information given in this manual is subject to change without notice.

The KOSMOS SERIES brings a new phylosophy in digital panel instrumentation which is expressed by multipurpose, modular-concept devices providing a rich array of basic functions and advanced capabilities.

With a fully MODULAR DESIGN, it is possible to implement a wide variety of applications by only adding the adequate options.

Intelligence within allows the meter to recognize the options installed and ask for the necessary parameters to properly function within desired margins. The basic instrument without output options omits these data in the program routines.

The instruments CALIBRATION is realized at the factory eliminating the need for adjustment potentiometers. Any circuit or option liable to be adjusted incorporates a memory where calibration parameters are stored, making it possible the optional cards be totally interchangeable without need of any subsequent adjust.

Valid for panel meters #221769 and so on

Custom CONFIGURATION for specific applications can be made quickly and easily through five front panel keys, following structured choice menus aided by display prompts at each programming step.

Other features of the KOSMOS family include :

* CONNECTIONS via plug-in terminal blocks without screws and CLEMP-WAGO clips cable retention system.

* DIMENSIONS
  Models ALPHA & BETA 96x48x120 mm DIN 43700
  Models MICRA & JR/JR20 96x48x60 mm DIN 43700

* CASE MATERIAL UL-94 V0-rated polycarbonate.

* PANEL INSTALLATION by means of single part fingertip without screws.

To guarantee the meter's technical specifications, its is advised to check calibration parameters at periodical intervals according to the ISO9001 standards for the particular application operating criteria.

Recalibration of the meter should be made at the factory or in a qualified laboratory.

DIGITAL PANEL METER   JUNIOR FAMILY
JUNIOR-VAC & JUNIOR20-VAC

INDEX

2RE OUTPUT OPTION

FRONT
COVER

MAIN
BOARD

DISPLAY AND KEYBOARD
MODULE

CASE WITH PANEL FIXING CLIPS
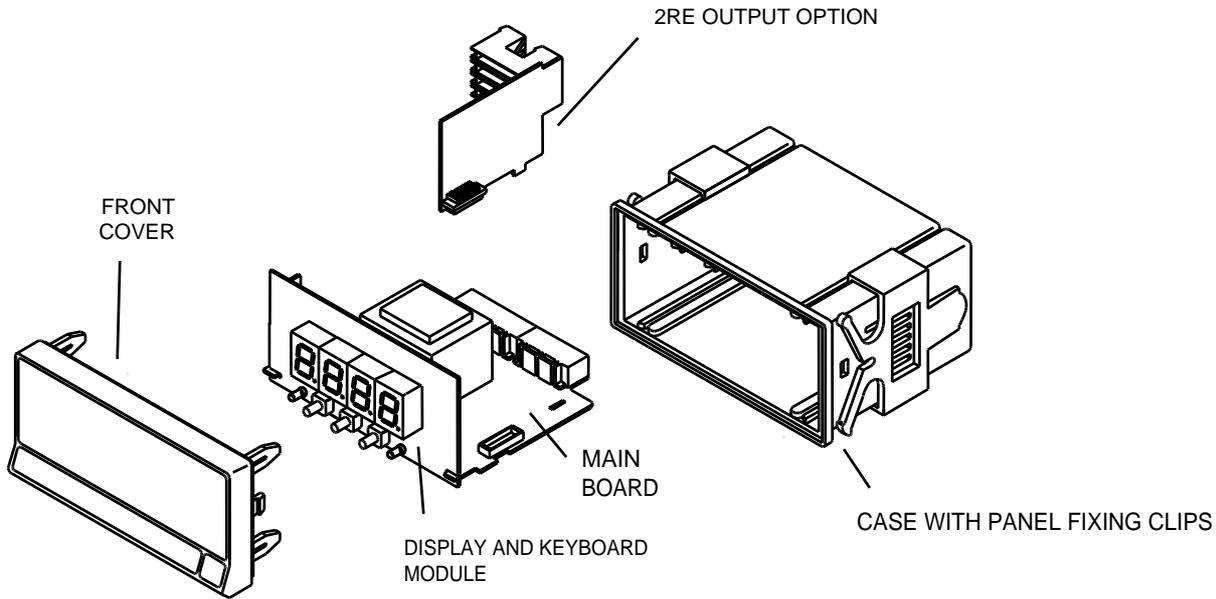
1. JUNIOR-VAC and JUNIOR20-VAC MODELS

This manual talks about the Junior-VAC and Junior20-VAC models.

Both instruments, small format, have a 4 digits display (0/9999) and are used to measure Volts AC.

The difference between both models is the size of the digits of the display. Model JR20-VAC provides 20mm-high digits which make it easy readable at long distances. In this manual both models are referred with the generic name of JR/ JR20-VAC.

The models JR/JR20-VAC are designed specially to measure DC voltages, full software configurable, with measurement range selection 600, 200 and 20V and two programming modes allow scaling the display to match desired units. (By keyboard or by entry levels "teach").

The basic instrument is a soldered assembly composed of the main board, and the display and keyboard module.

Optionally, it can be equipped with a 2-relay control output card (2RE). This option provides an output connector at the rear of the meter, status LED's visible from the front and specific programming routines which are enabled automatically once the card is installed.

The outputs are isolated from signal input and power supply.

⚠️ This instrument conforms the following community standards: 89/336/CEE and 73/23/CEE
WARNING: Refer to the instructions manual to preserve safety protections.

FRONT-PANEL FUNCTIONS DESCRIPTION (RUN MODE)

KEYBOARD IN RUN MODE

UP SHIFT DATA ENTER

1 2

LABEL
Engineering units.

LED SET1
Indicates setpoint 1 status.

LED SET2
Indicates setpoint 2 status.

KEY UP
Disabled in run mode.

KEY SHIFT
Disabled in run mode.

TOUCHE DATA
Appel des données
Passage en mode PROG

DISPLAY
Displays the variable being measured.

KEYBOARD IN PROG MODE

LABEL
Engineering units

LED SET1
Indicates programming of the setpoint1.

LED SET2
Indicates programming of the setpoint2.

KEY ⋏
Gives access to the setpoint values.
Increments the active digit value

KEY ENTER
Validates programmed data.
Advances one program step.
Exits from the programming mode.

KEY ⋗
Shifts to the right.

DISPLAY
Shows programming parameters.

UP   SHIFT   DATA   ENTER

2. OPERATING INSTRUCTIONS

PACKING CONTENTS

- Instructions manual in English including Declaration of Conformity.
- The digital panel instrument JR/ JR20-VAC.
- Accessories for panel mounting (sealing gasket and fixing clips).
- Accesories for wiring connection (removable terminal block connectors and fingertip).
- Wiring label sticked to the instrument's case JR/ JR20-VAC
- Set of labels with different engineering units.

- ✓ **Check packing contents.**

CONFIGURATION

Power supply (pages 9 & 10)

- The instruments for 115/230V AC power supply, are set up at the factory for 230V AC. (USA market 115 V AC).
- The instruments for 24/48V AC power supply, are set up at the factory for 24V AC.
- If the instrument is supplied for 12V DC, 24V or 48V DC power supply, it is not necessary to make any change.

Check wiring label before connecting the instrument to the supply.

Programming instructions (page 11)

- The software inside the instrument allows configuring the input and display parameters. If a two-relay output option is installed ref. 2RE (page 19), the software detects it on power up enabling a specific routine for setpoints configuration.

- ✓ **Read carefully this parragraph.**

Input type (pages. 12-15)

- The instrument provides an input for several signals 20.00, 200.0 or 600V DC max.

- ✓ **Check the connection type and the level signal.**

Programming lockout (page 22)

- As shipped from the factory, the instrument allows full access to change programming parameters.
  To disable the possibility of making changes on the configuration, it is necessary to remove a plug-in jumper located on the main board.

- ✓ **Check jumper position.**

2.1 - Power supply and connectors

To change the meter's physical configuration remove the case as shown in figure 9.1.

115/230 V AC: The instruments with 115/230 V AC power are set up at fabrication for 230 V AC (USA market 115 V AC), see figure 9.2. To change power supply configuration to 115 V AC, make the jumpers indicated in figure 9.3 and table 1. The wiring label should be modified to match the new configuration.

24/48 V AC: The instruments with 24/48 V AC power are set up at fabrication for 24 V AC, see figure 9.2. To change power supply configuration to 48 V AC, make the jumpers indicated in figure 9.3 and table 1. The wiring label should be modified to match the new configuration.

Fig. 9.1. Démontage

Table 1. Jumper settings.

Pin	1	2	3	4	5
230V AC	-	▭▬▭		▭▬▭	
115V AC	▬▭		▬▭		-
48V AC	-	▭▬▭		▭▬▭	
24V AC	▬▭		▬▭		-

12, 24 or 48V DC: Instruments for DC power are set up for the supply voltage specified in the wiring label (12V, 24V or 48V according to the order reference).


Fig. 9.2. Jumper settings for 230 V or 48 V AC
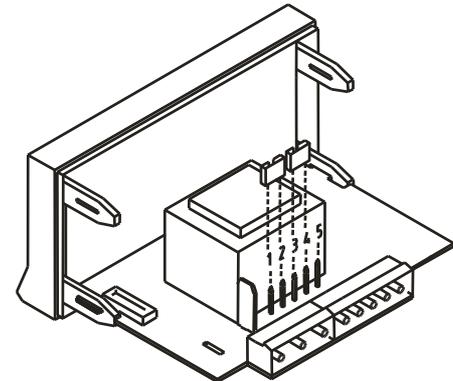

Fig. 9.3. Jumper settings for 115 V or 24 V AC

POWER CONNECTION
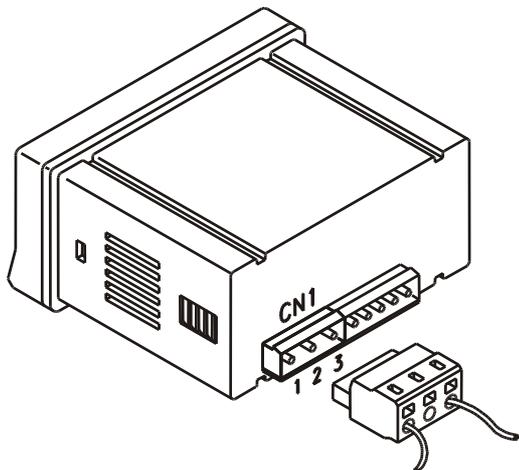
AC VERSIONS
PIN 1 – AC PHASE
PIN 2 – GND (GROUND)
PIN 3 – AC NEUTRAL

WARNING

DC VERSIONS
PIN 1 – DC POSITIVE
PIN 2 – Not connected
PIN 3 – DC NEGATIVE

If not installed and used in accordance with these instructions, protection against hazards may be impaired.

WARNING
In order to guarantee the electromagnetic compatibility, the following guidelines should be kept in mind :
- Power supply wires may be routed separated from signal wires. Never run power and signal wires in the same conduit.
- Use shielded cable for signal wiring and connect the shield to the ground of the indicator (pin2 CN1).
- The cables section should be ≥ 0.25 mm^2

INSTALLATION
To meet the requirements of the directive EN61010-1, where the unit is permanently connected to the mains supply it is obligatory to install a circuit breaking device easy reachable to the operator and clearly marked as the disconnect device.

CONNECTEURS BROCHABLES

Pour effectuer les raccordements insérer chacun des câbles dénudés sur 7 à 10mm dans le connecteur (non monté) sur la fiche de l'appareil. Utiliser pour cela le petit levier d'insertion qui permet l'ouverture facile de la pince automatique comme le montre la figure ci-contre.
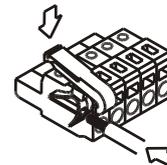
Brocher ensuite le connecteur sur l'appareil. Les points de raccordement du bornier admettent une section comprise entre 0.08 mm² et 2.5 mm² (AWG 26 ÷ 14). Les connecteurs possèdent des embouts plastiques montés dans chaque point de raccordement qui améliorent la tenue des câbles de section inférieure 0.5 mm². Pour les câbles de section supérieure à 0.5 mm² on devra éliminer ces embouts.

2.2 – Programming Instructions

To enter in the programming mode
Connect the meter to the mains supply, for approx. 1s a self-test routine automatically activates all the digits of the display. After, the instrument goes to the normal operating mode (RUN).
To enter in the programming mode press ⬭ENTER and the the indication **Pro** shown in figure 11.1 appears on the display.

To exit from the programming mode
To return to the run mode, it is necessary to pass through the different menu steps by successively pressing the ⬭ENTER key until the meter displays the indication **Stor** while internally stores the programmed parameters into the memory. After, it automatically goes to the normal operating mode.

How to interpret the programming instructions
The programming software routine is composed by a series of hierarchically organized menus, each allowing the setting of a specific parameter. In general, the normal sequence at each step is to push the ⬭▶ key a number of times to make changes and the ⬭ENTER key to store them in the memory and advance to the next step.

The elements used along the programming instructions are described following.

[11.1] Programming Method
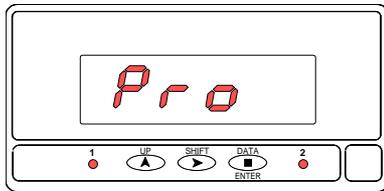
The programming instructions for each menu step are accompanied by a figure representing the display indication for the corresponding parameter. Pay special attention to the LED indications and active keys and follow the procedure described on the text to introduce correctly the desired data.When the display indication is represented with blank segments, it means that this is one of the possible options of this menu (normally the default one) depending on the previous selection.
A series of blanked '8' represents any numerical value that can be changed by use of keys ⬭▶ (change digit) and ⬭▲ (change value).

2.3 - Instrument configuration
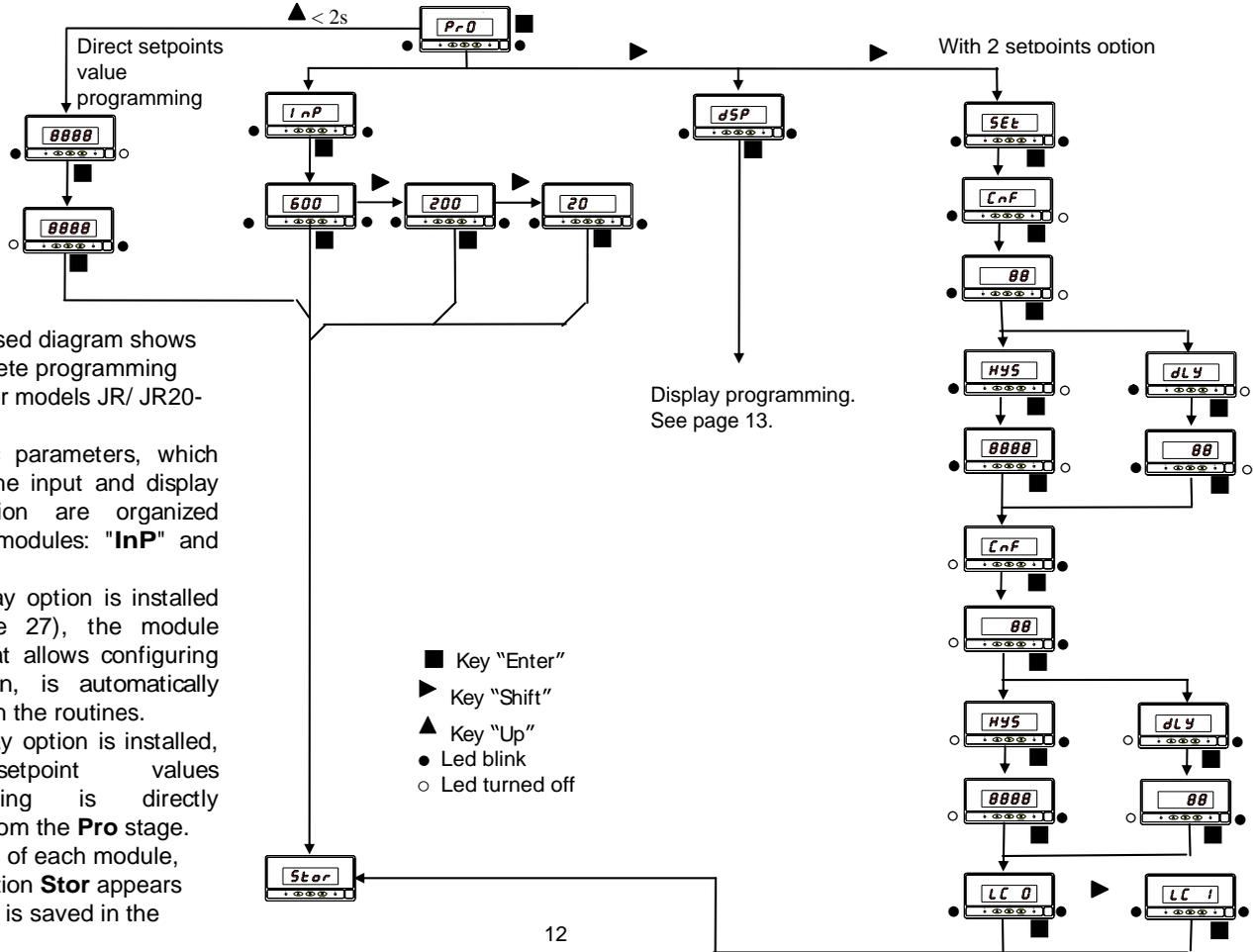
The enclosed diagram shows the complete programming routines for models JR/ JR20-VAC.

The basic parameters, which refer to the input and display configuration are organized into two modules: "**InP**" and "**dSP**".

If a 2-relay option is installed (see page 27), the module "**Set**", that allows configuring the option, is automatically included in the routines.

If a 2-relay option is installed, the setpoint values programming is directly entered from the **Pro** stage.

At the end of each module, the indication **Stor** appears while data is saved in the memory.

Direct setpoints value programming

With 2 setpoints option

Display programming. See page 13.

■ Key "Enter"
▶ Key "Shift"
▲ Key "Up"
● Led blink
○ Led turned off

Display programming (comes from page 12).

| CAL | ▶ | USEr | ▶ |

| Stor |

| SCAL | ▶ | tEAC | ▶ |

| InP2 | | InP2 |

2s o ■   2s o ■

Edit with ▶▲ | 8888 | | 8888 |

| dSP2 | | dSP2 |

2s o ■   2s o ■

Edit with ▶▲ | 8888 | | 8888 |

Select   ▶ | 8888 | | 8888 |
decimal
point
position

| Stor | | Stor |
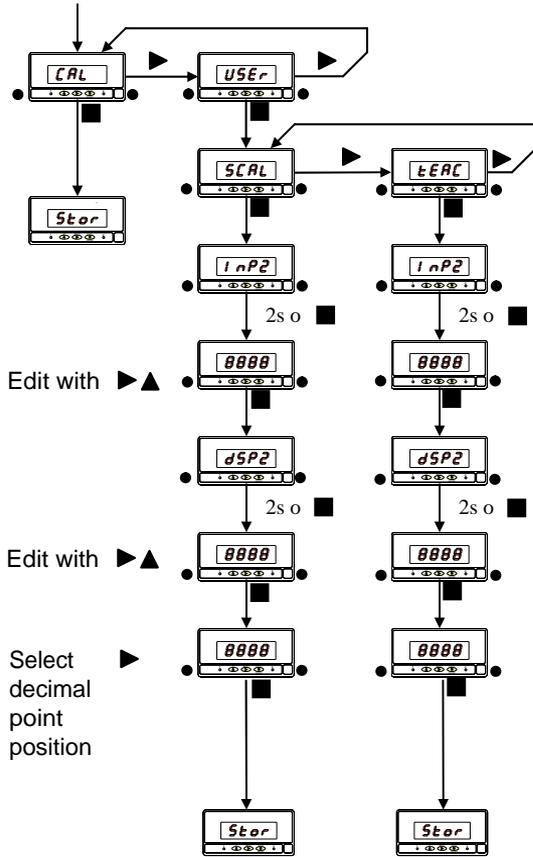
2.4 – Input connection

Refer to the transducer connection schematics and
the connection recomendations on page 10.

Input signal connection (CN2)
PIN 1 = IN (common)
PIN 2 = IN [20.00V AC]
PIN 3 = IN [200.0V AC]
PIN 4 = Non connected
PIN 5 = IN [600V AC]
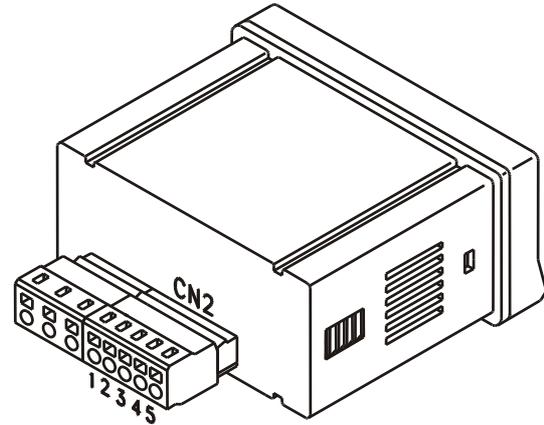
**Input signal connection depending on the desired range**
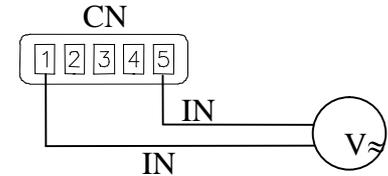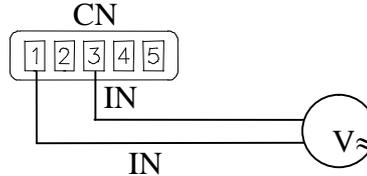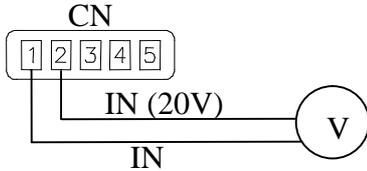
Example: Tachometric dynamo connection 60V/1000rpm
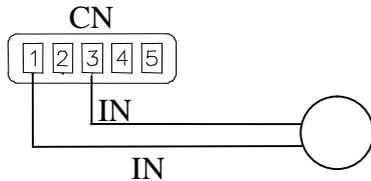
Tachometric alternator 60V/1000rpm

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ACCESS TO THE PROGRAMMING MODE

[15.1] Programming mode
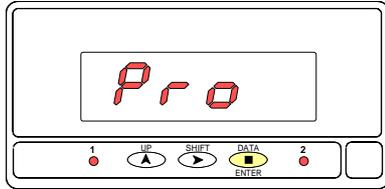
Connect the instrument to the main supply, it automatically enters in a self-test routine which briefly illuminates all segments and LED's then shows the software version and finally goes to the normal reading ("RUN" mode).
Press ENTER to access the programming mode.
The display shows the indication given in fig. 15.1. The LED's 1 and 2 will flash during the programming mode (except when programming the setpoints).
Press ENTER to have access to the programming parameters.

2.5 - INPUT CONFIGURATION

[15.2] INPUT menu
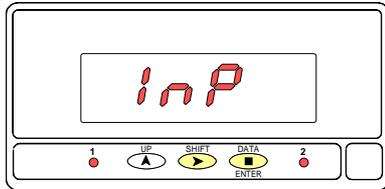
From the indication "Pro", press ENTER key to access to the input configuration menu (fig. 15.2).

▶ Selects other programming menu.

[15.3] Input configuration
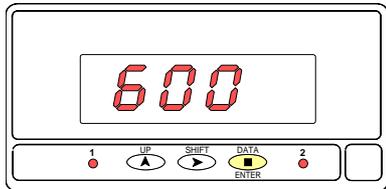
The figure 15.3 shows the indication corresponding to the selected input type. If you want to modify this parameter, press the ▶ key until the desired input type appears [600, 200, 20 V]. Press ENTER key to validate the selection. The indication **Stor** send the device to the run mode and save the programmed parameters.

2.6 – Display configuration

After the input configuration it is necessary to program the display range to adapt the meter to the particular application in the desired units.

Display range should be between -1999 and 9999.
Scaling the display consist on programming two points by introducing two input values (INP1, INP2) and their corresponding display values (DSP1, DSP2).
In this case **INP1** and **DSP1** are not programmable and are considered to be zero.
 The decimal point position will complete the indication in the required engineering units. For the best accuracy, point 2 should be approximately at the process limits value.

The figure shows how to program point 2.
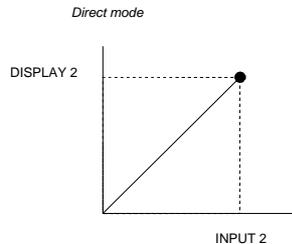
Direct mode:
If input signal increases display reading increases.
If input signal decreases display reading decreases.

In programmation menus for display configuration first will be introduced the input and display for point 2, since the point 1 is fixed to cero next the decimal point position.

When introducing the input values the decimal point position is automatically adjusted to get the best possible resolution.

The decimal point should be placed on any desired position and this position will remain during the rest of steps of programmation or when working. If the most right position has been choosed when the instrument is working the decimal point doesn't appears.

Direct mode

DISPLAY 2

INPUT 2

[17.1] Display menu
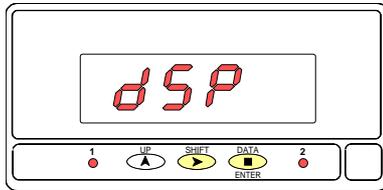
From the "Pro" indication, press (ENTER) and by pressing the (▶) key, select the display configuration menu (fig. 17.1).

(ENTER) to access to the display configuration

[17.2] Configuration method
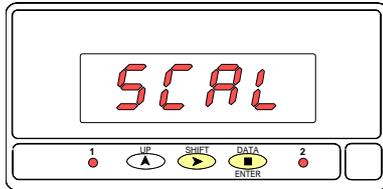
The figure 17.2 shows the indication corresponding to the display range configuration method. To modify this parameter, press the key (▶) until the desired display method apears [**SCAL** = Keyboard configuration method or **tEAC** = Keyboard configuration method with real input values] and press (ENTER) key to accept the selection and go to the next programming step.

[17.3] Input 2 value
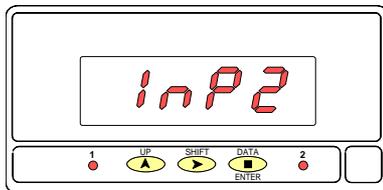
The figure 17.3 shows the indication "**InP2**" during 2s before the input programming value in point 2 appears (InP2). Depending on the configuration method you chose the indication would be as follows:

- SCAL method. Any numerical value with the first digit blinking. To modify the value (range from -1999 to 9999), press the (▲) key to change the active digit and the (▶) key to go to the next digit. Repeat this operations until you have the desired value. Accept this value as input in point 2 (InP2) by pressing the (ENTER) key.
- TEAC method. The real signal value in the input connection. Accept this value as input in point 2 by pressing the (ENTER) key.

[18.1] Display 2 value
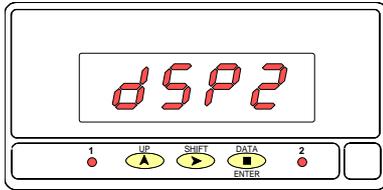
The figure 18.1 shows the indication "**DsP2**" during 2s before programming the display value for point 2 (Dsp2).

The display shows any numerical value with the first digit blinking. To modify the value (range from -1999 to 9999), press the ▲ key to change the active digit and the ▶ key to go to the next digit. Repeat the operation until composing the desired value.

Accept this value as point 2 display (dSP2) pressing the ENTER key.

After that , the decimal point will come to blink, this shows that its position can be modified by pressing the ▶ key. If you do not want decimal point, you must put the decimal point on the most right position in the display. Press ENTER to accept the value and go to the next programming step.

2.7 SETPOINT CONFIGURATION (accessible if 2RE option is installed)

If a two relay option is installed (see page 23) the instrument will allow to enter on the following routines: activation mode, delay or hysteresis and setpoint program lockout. From the **Pro** stage (see fig. 15.1), press the ▶ key to access to the setpoint configuration module, indication "**SET**". The setpoint numerical values, from the run mode press ENTER to recall the **Pro** stage and press ▲ to access the first setpoint value.

[19.1] Setpoint 1 Configuration
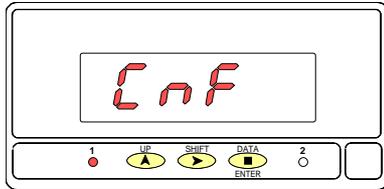
LEFT DIGIT VALUE	RIGHT DIGIT VALUE
MODE HI=0	DELAY=0
MODE LO=1	HYSTERESIS=1

The indication shown in figure 19.1 appears on the display to indicate that the next step is to program the setpoint1 operating parameters (led Setpoint 1 activated). After 2 seconds or by a press of ENTER, the meter allows access to this menu.

The display then shows two digits: the leftmost one corresponds to the output mode (HI or LO) and the rightmost one corresponds to the delay unit (time -delay- or counts of display -hysteresis-) according to the table below the figure. Use the ▲ key to change the active digit value (in flash) and the ▶ key to go to the next digit to be set.

Press ENTER to validate selections and advance to the next phase.

[19.2] SET1 Hysteresis/Delay
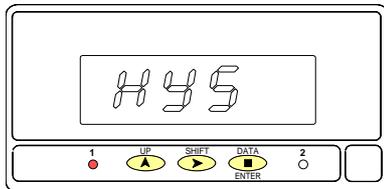
Depending on previous phase choice, the display will show for 2 seconds the indication corresponding to the selected delay units before giving access to the time delay or hysteresis magnitude programming (**dLY**) or (**HYS**). After 2 seconds or by a press of ENTER, the initially programmed numerical value appears on the display with the first digit in flashing. To program the desired value (from 0 to 9999 counts of hysteresis or from 0 to 99 seconds of time delay) use the ▲ key to increment the active digit value and the ▶ key to advance to the next digit to be modified. Repeat this procedure until desired value is completed on the display and press ENTER to validate and acceed to the programming of the setpoint 2 parameters.

[20.1] Setpoint 2 Configuration
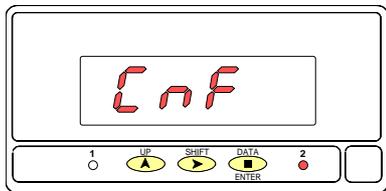
LEFT DIGIT VALUE	RIGHT DIGIT VALUE
MODE HI=0	DELAY=0
MODE LO=1	HYSTERESIS=1

The indication shown in figure 20.1 appears on the display to indicate that the next step is to program the setpoint 2 operating parameters (led Setpoint 2 activated). After 2 seconds or by a press of ENTER, the meter allows access to this menu.

The display then shows two digits; the one on left corresponds to the output mode (HI or LO) and the rightmost one to the delay unit (time -delay- or counts of display -hysteresis-). See table in figure 20.1. Use the ▲ key to change the active digit value (in flashing) and the ► key to go to the next digit to be modified.

Press ENTER to validate changes and advance to the next phase.

[20.2] SET2 Histeresis/Delay
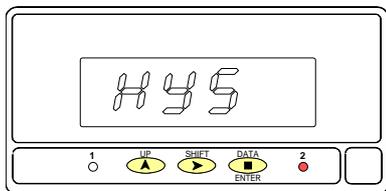
The display shows for 2 seconds the indication corresponding to the selected delay units before giving access of the time delay or hysteresis magnitude programming (**dLY**) or (**HYS**). After 2 seconds or by a press ENTER, the initially programmed numerical value appears on the display with the first digit in flashing. To change the value (from 0 to 9999 counts of hysteresis or from 0 to 99 seconds of time delay) use the ▲ key to increment the active digit value and the ► key to advance to the next digit to be modified. Repeat this procedure until desired value is completed on the display and press ENTER to validate and advance to the next step.

[20.3] Setpoint Program lockout
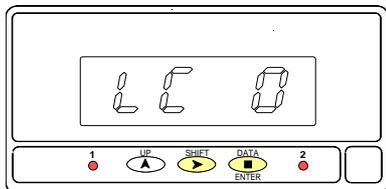
The figure 24.3 shows one of the two options available at this stage [**LC O** = setpoint values programming enabled (unlocked) or **LC 1** = setpoint values programming disabled (locked)].
If wanted to modify this parameter, use the ► key to switch to the desired option. If you decide to lock the setpoint values, it will be also necessary to lock out the entire program routines (see page 18).
Press ENTER to validate the choice, save programmed data and return to the run mode (indication **Stor**).

[21.1] Setpoints Programming
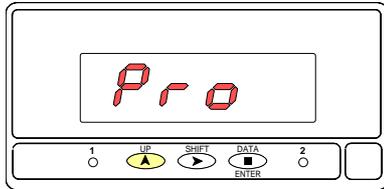
To program the setpoint values, press ENTER to access the programming mode (indication **Pro**, figure 21.1) and press ▲ to make the display show the previously programmed value of setpoint 1.

NOTE: The setpoint values should be programmed within the selected measurement range.

[21.2] Setpoint 1
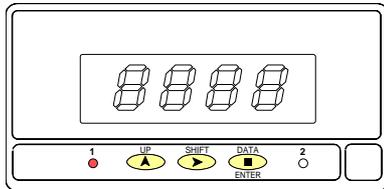
Program setpoint 1 value, LED 1 activated.

The initially programmed value appears on the display with the first digit flashing. Press repeatedly the ▲ key to increment the active digit from 0 to 9 until it takes the desired value and press ▶ to advance to the next digit to be modified. Repeat these operations to complete the desired setpoint value with sign.

Press ENTER to validate the entry and pass to the programming of setpoint 2.

[21.3] Setpoint 2
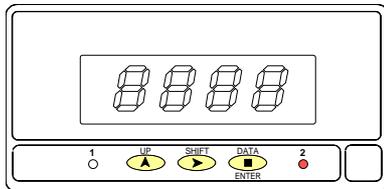
Program setpoint 2 value, LED 2 activated.

Program the setpoint 2 value with sign by means of the ▲ (change value) and ▶ (change digit) procedure as described in previous phase.

Press ENTER to store programmed data in the memory and exit from the programming mode.

2.8 - Programming lockout

After completing the instrument's programming, it is recommended to lockout the access to the programming to prevent from accidental or unauthorized modifications.

This operation is made by taking off a plug-in jumper located on the main board circuit (see figure at right).

NOTE :   Disconnect power before changing
         the jumper position.

While the instrument is locked out it is however possible to acceed to the programming routines to check the current configuration, but it won't be possible to entry or modify data. In this case, a push of ⟨ENTER⟩ to acceed the programming routines will show the indication **dAtA** instead of **Pro**.

Remove jumper to
lock out the programming
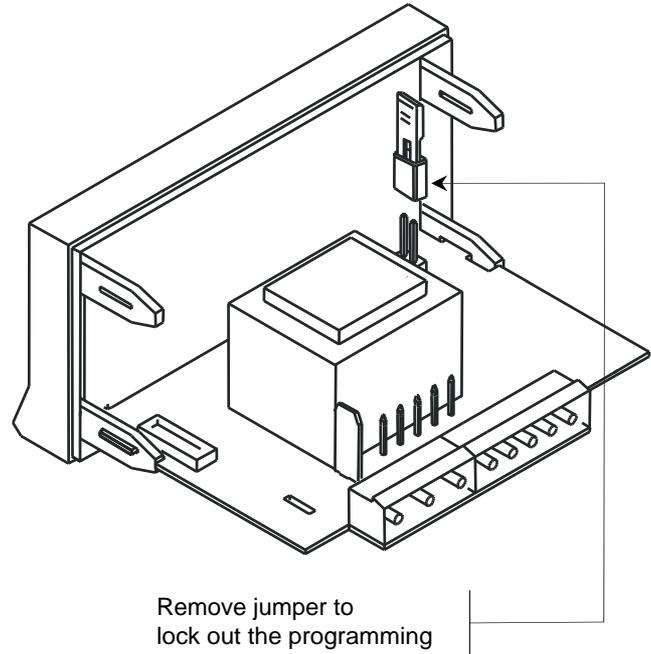
3. RELAY OUTPUT OPTION

As an option, the JUNIOR-VAC models can be equipped with the following output option:

• A control output card with two SPDT relay outputs rating 8 A @ 250 V AC / 150 V DC. The outputs can be programmed for HI or LO operation and selectable time delay or hysteresis action. **Ref. 2RE**

The 2RE option consists of an additional card installable to the meter's main board by means of a plug-in connector.

The option is supplied with a specific instructions manual describing installation and characteristics. Nevertheless, the programming instructions are given in the JR/ JR20-VDC manual.

For more detailed information on characteristics, applications and mounting, please refer to the specific 2RE instructions manual (code 30727012).

2-RELAY (2RE) OUTPUT OPTION
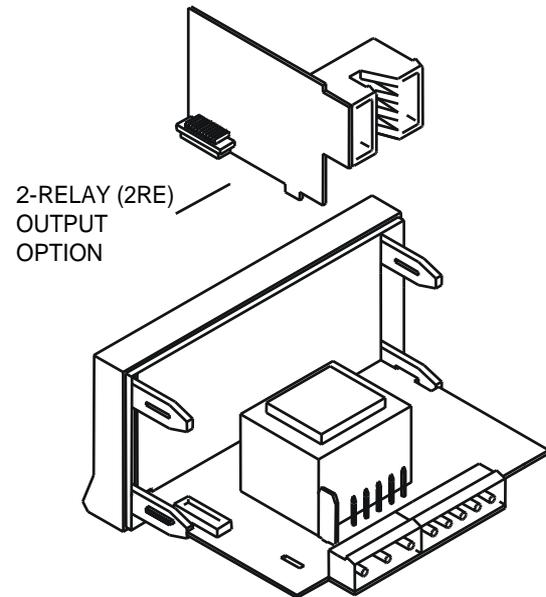
4. SPECIFICATIONS TECHNIQUES

INPUT SIGNAL
- Configuration............................differential asymmetrical
- Input .... 600V .... 200V 20V
- Resolution (internal) .... 39mV ...... 13mV 10mV
- Input Impedance 3MΩ   1MΩ   90KΩ

ACCURACY
- Max. error .... ± (0.1% rdg +3 digits)
- Temperature coefficient .... 100 ppm/ ºC
- Warmup time .... 5 minutes

POWER SUPPLY
- AC ....230/115 V, 24/48 V (±10%) 50/60 Hz AC
- DC 12V (10.5 to 16 V), 24V (21 to 32 V), 48V (42 to 64V)
- Consumption .... 3 W

FUSSES (DIN 41661) - (Recommended)
- JR/ JR20-VAC (230/115V AC) ....F 0.1A / 250 V
- JR/ JR20-VAC2 (24/48V AC) ....F 2A / 250 V
- JR/ JR20-VAC3 (12 V DC)............................F 1A / 250 V
- JR/ JR20-VAC4 (24 V DC)..........................F 0.5A / 250 V
- JR/ JR20-VAC5 (48 V DC)..........................F 0.5A / 250V

CONVERSION
- Technical .... Sigma-Delta
- Resolution .... 16 bits
- Rate...25/ s

DISPLAY
- Type .... 0/ 9999, 4 red digits 14 mm
- Junior-VAC .... 4 digits, 14mm high
- Junior20-VAC.................................... 4 digits, 20mm high
- Decimal point .... programmable
- LEDs .... 2 setpoint status
- Display rate .... 250 ms
- Display overflow ....OvE
- Input overflow ....OvE

ENVIROMENTAL
- Indoor use
- Operating temp. .... -10ºC to 60ºC
- Storage temperature .... -25 ºC to +85 ºC
- Relative humidity (non condensing) .... <95 % to 40 ºC
- Max. altitude... 2000 meters

DIMENSIONS
- Dimensions...96x48x60 mm
- Panel cutout .... 92x45 mm
- Weight .... 250 g
- Case material ....polycarbonate s/UL 94 V-0
- Front sealed IP65

4.1 - Dimensions and mounting

To install the instrument into the panel, make a 92x45mm cutout and insert the instrument from the front placing the sealing gasket between this and the front bezel.

45 mm

92 mm
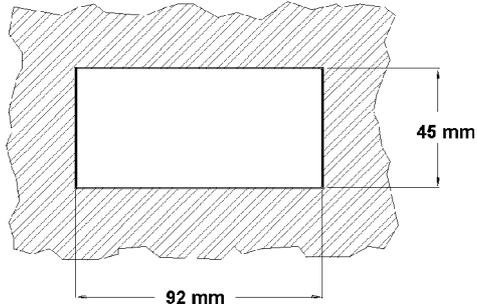
Place the fixing clips on both sides of the case and slide them over the guide tracks until they touch the panel at the rear side. Press slightly to fasten the bezel to the panel and secure the clips.

To remove the instrument from the panel, pull outwards the fixing clips rear tabs to disengange and slide them back over the case.
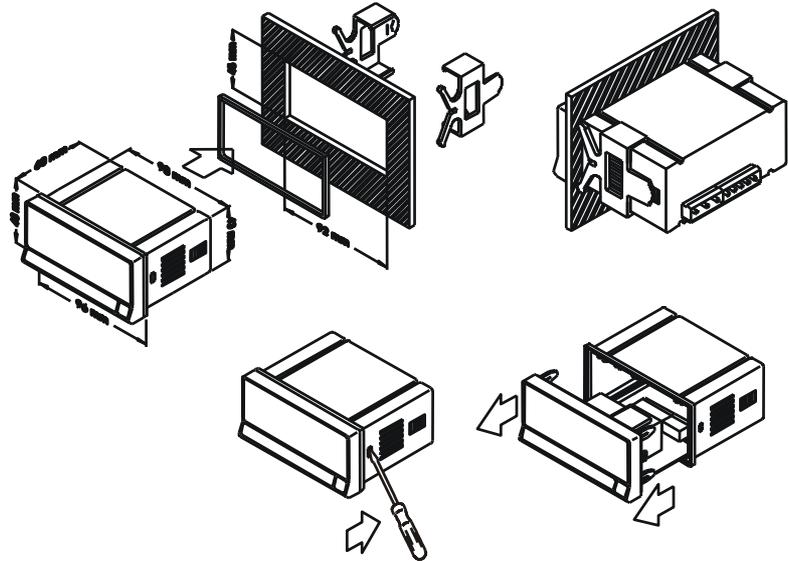
CLEANING: The front cover should be cleaned only with a soft cloth soaked in neutral soap product. DO NOT USE SOLVENTS

The instruments are warranted against defective materials and workmanship for a period of three years from date of delivery.

If a product appears to have a defect or fails during the normal use within the warranty period, please contact the distributor from which you purchased the product.

This warranty does not apply to defects resulting from action of the buyer such as mishandling or improper interfacing.

The liability under this warranty shall extend only to the repair of the instrument. No responsibility is assumed by the manufacturer for any damage which may result from its use.

All the DITEL products benefit from an unlimited and unconditional warranty of THREE (3) years from the date of their purchase. Now you can extend this period of warranty up to FIVE (5) years from the product commissioning, only by fulfilling a form.

Fill out the form in our website:
http://www.ditel.es/warranty

6 - DECLARATION OF CONFORMITY

Manufacturer :   DITEL - Diseños y Tecnología S.A.

Address :   Travessera de les Corts, 180
                       08028 Barcelona
                       ESPAÑA

Declares, that the product :

       Name : Digital panel meter

       Model : JUNIOR-VAC and JUNIOR20-VAC

Conforms with : EMC 89/336/CEE
                      LVD 73/23/CEE

Date: July 2 2001
Signed: José M. Edo
Charge: Technical Manager

Applicable Standards :   **EN50081-1** Generic emission
   EN55022/CISPR22   Class B

Applicable Standards :   **EN50082-1** Generic inmunity
   IEC1000-4-2   Level 3   Criteria B
                        Air Discharge 8kV
                        Contact Discharge 6kV

   IEC1000-4-3   Level 2   Criteria A
                        3V/m   80..1000MHz

   IEC1000-4-4   Level 2   Criteria B
                        1kV Power Lines
                        0.5kV Signal Lines

Applicable Standards :   **EN61010-1** Generic Safety
   IEC1010-1   Installation Category II
                        Transient Voltages <2.5kV
                        Degree of Pollution 2
                        Conductive pollution excluded
                        Insulation type
                        Enclosure :   Double
                        Inputs/Outputs :   Basic

INSTRUCTIONS FOR THE RECYCLING

This electronic instrument is covered by the **2002/96/CE** European Directive so, it is properly marked with the crossed-out wheeled bin symbol that makes reference to the selective collection for electrical and electronic equipment which indicates that at the end of its lifetime, the final user cannot dispose of it as unsorted municipal waste.

In order to protect the environment and in agreement with the European legislation regarding waste of electrical and electronic equipments from products put on the market after 13 August 2005, the user can give it back, without any cost, to the place where it was acquired to proceed to its controlled treatment and recycling.

DISEÑOS Y TECNOLOGIA, S.A.
Polígono Industrial Les Guixeres
C/ Xarol 8 C
08915 BADALONA-SPAIN
Tel : +34 - 93 339 47 58
Fax : +34 - 93 490 31 45
E-mail : dtl@ditel.es

 www.ditel.es