KOSMOS SERIES

INSTRUCTIONS MANUAL
INDICATOR FOR PROCESS CONTROL

C E

JUNIOR-PRC
JUNIOR20-PRC

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 philosophy 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 instruments from s/n 232851

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.
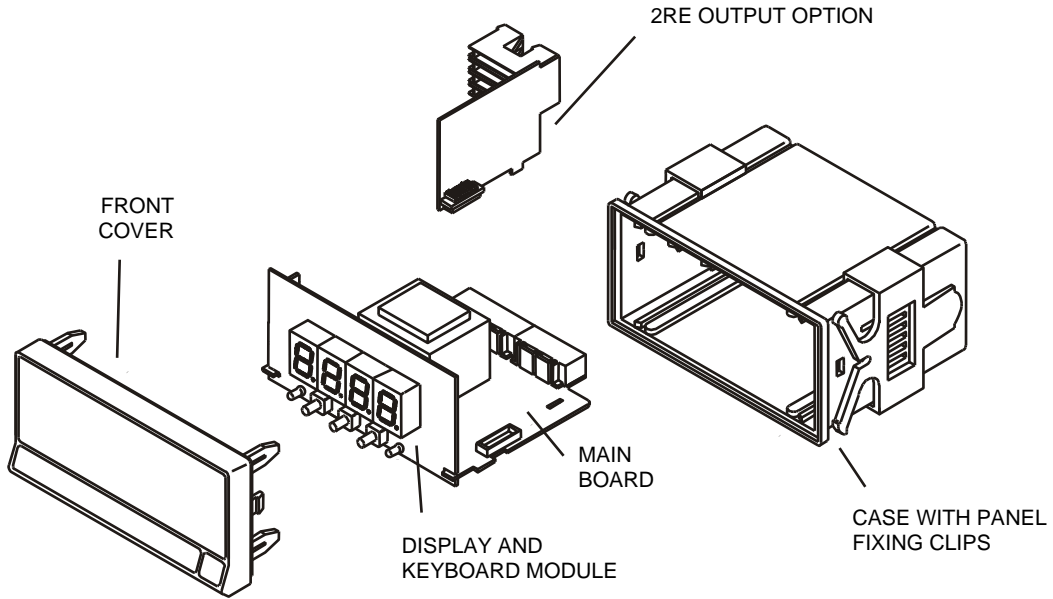
Other features of the KOSMOS family include :

- 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.

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DIGITAL PANEL INSTRUMENT   *JUNIOR FAMILY*

JUNIOR-PRC & JUNIOR20-PRC

INDEX

2RE OUTPUT OPTION

FRONT
COVER

MAIN
BOARD

DISPLAY AND
KEYBOARD MODULE

CASE WITH PANEL
FIXING CLIPS

1. MODELS JUNIOR-PRC AND JUNIOR20-PRC

This manual describes the models JR-PRC and JR20-PRC, both instruments are small format.

The difference between both models is the size of the digits of the display and the range of display (-1999 to 9999 on JR20-PRC and -9999 to 9999 on JR-PRC). Model JR20-PRC 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-PRC.

The models JR/JR20-PRC are designed specially to measure process signals coming from transducer with signals like 4-20mA or 0-10V. The instrument gives 24V DC supply for transducers excitation or 10V for **Potentiometer**.

Software configuration allows input type selection.

Two programming modes allow scaling the display to match desired units.

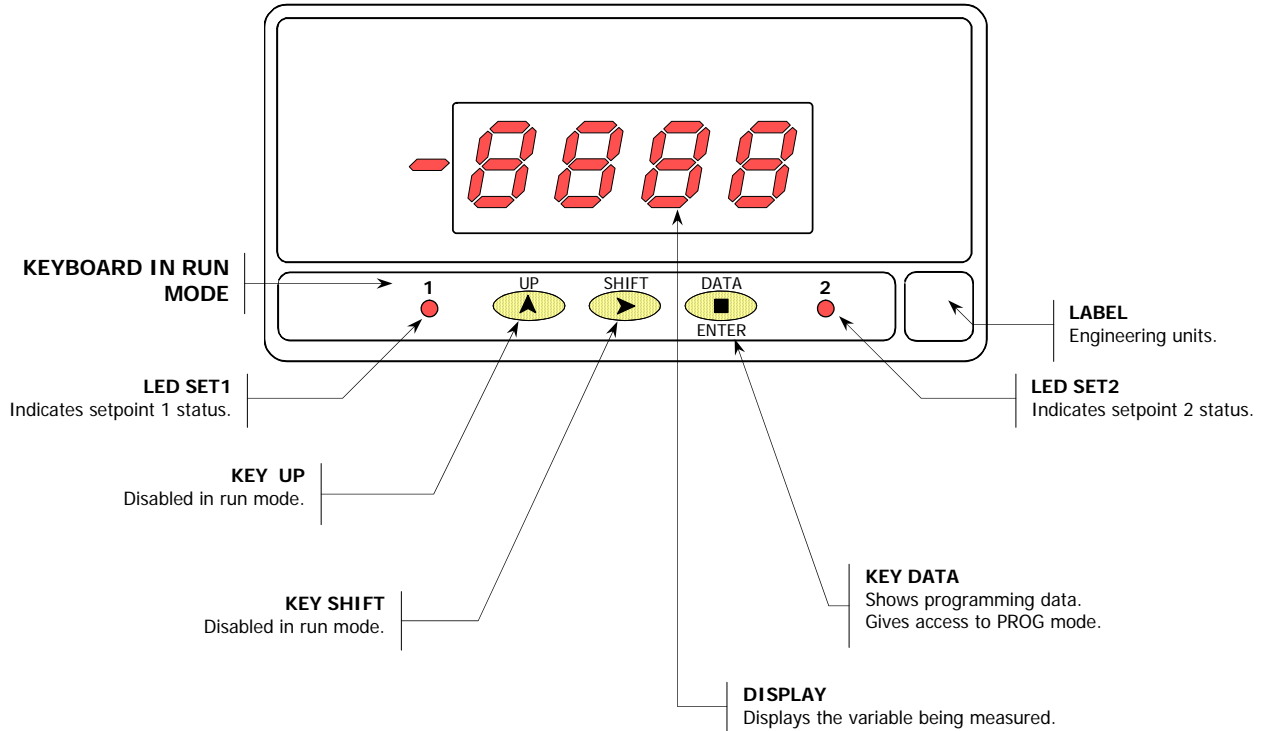The basic instrument is a soldered assembly composed of the main board, and the display and keyboard module.

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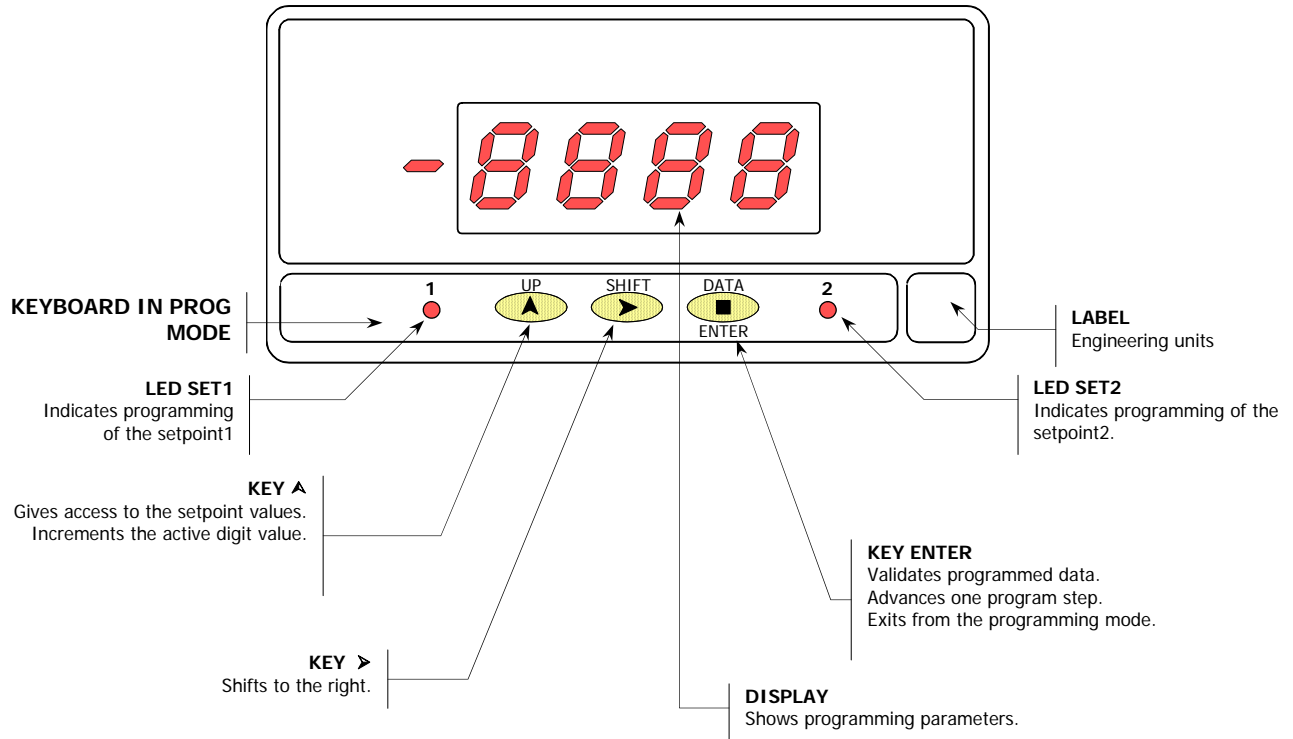
⚠ This instrument conforms the following community standards: 89/336/CEE and 73/23/CEE
WARNING: Refer to the instructions manual to preserve safety protections.

FRONT-PANEL FUNCTIONS DESCRIPTION (RUN MODE)

KEYBOARD IN RUN MODE

LABEL
Engineering units.

LED SET1
Indicates setpoint 1 status.

LED SET2
Indicates setpoint 2 status.

KEY UP
Disabled in run mode.

KEY DATA
Shows programming data.
Gives access to PROG mode.

KEY SHIFT
Disabled in run mode.

DISPLAY
Displays the variable being measured.

FRONT-PANEL FUNCTIONS DESCRIPTION (PROG MODE)

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.

2. OPERATING INSTRUCTIONS

PACKING CONTENTS

❑ Instructions manual in English including Declaration of Conformity.
❑ The digital panel instrument JR/ JR20-PRC.
❑ Accessories for panel mounting (sealing gasket and fixing clips).
❑ Accessories for wiring connection (removable terminal block connectors and fingertip).
❑ Wiring label stuck to the instrument's case JR/ JR20-PRC).
❑ Set of 4 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 parameters. If a two-relay output option is installed ref. 2RE (page. 23), the software detects it on power up enabling a specific routine for setpoints configuration.

✓ *Read carefully this paragraph.*

Input type (page 12-15)

❑ The instrument provides an input for process signals from transducers with output levels of ±10V DC or ±20mA. In addition the instrument supply 24V DC for transducer excitation.

✓ *Check transducer type and signal level.*

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.

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. 9.1. Disassembly.

Tabla 1. Jumper settings
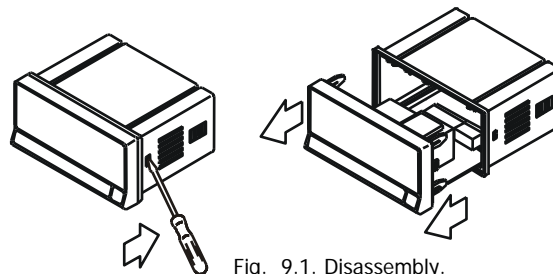
Pin	1	2	3	4	5
230V AC	-	▬		▬	
115V AC	▬		▬		-
48V AC	-	▬		▬	
24V AC	▬		▬		-

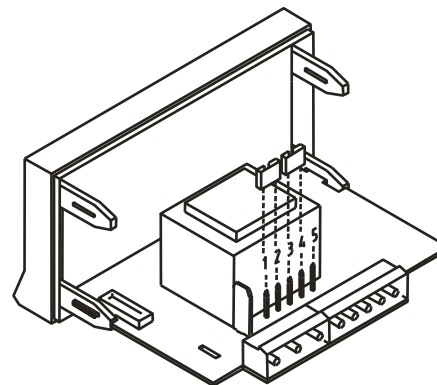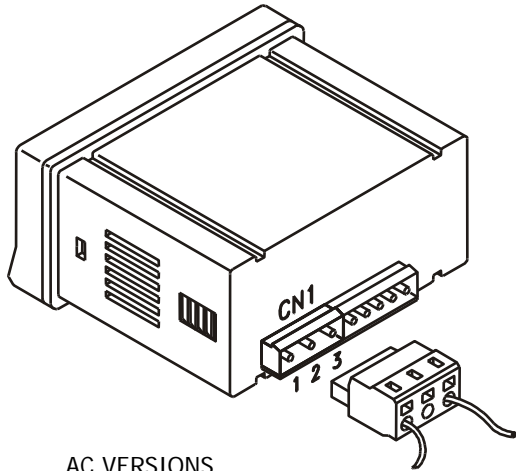Fig. 9.2. Jumper settings for 230 V or 48 V AC

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

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POWER CONNECTION

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

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

WARNING

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.

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

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

CONNECTORS
To perform wiring connections, remove the terminal block from the meter's connector, strip the wire leaving from 7 to 10mm exposed and insert it into the proper terminal while pushing the fingertip down to open the clip inside the connector as shown in the figure.

Proceed in the same manner with all pins and plug the terminal block back to the corresponding meter's connector.
Each terminal can admit wires of section between 0.08 mm² and 2.5 mm² (AWG 26 ÷ 14).
Some terminals have removable adaptors to provide proper fastening for wires of sections less than 0.5 mm².
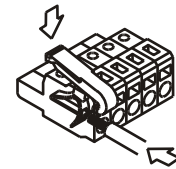
2.2 – Programming Instructions

To enter in the programming mode
Connect the meter to the main 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 for 5 seconds until 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
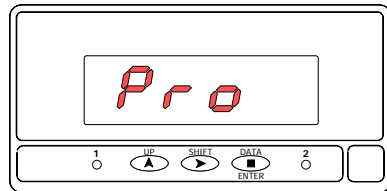
The programming instructions for each menu step are accompanied by a figure representing the display indication for the corresponding parameter. Pay special attention to the LED indications and active keys and follow the procedure described on the text to introduce correctly the desired data.
When the 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 setup
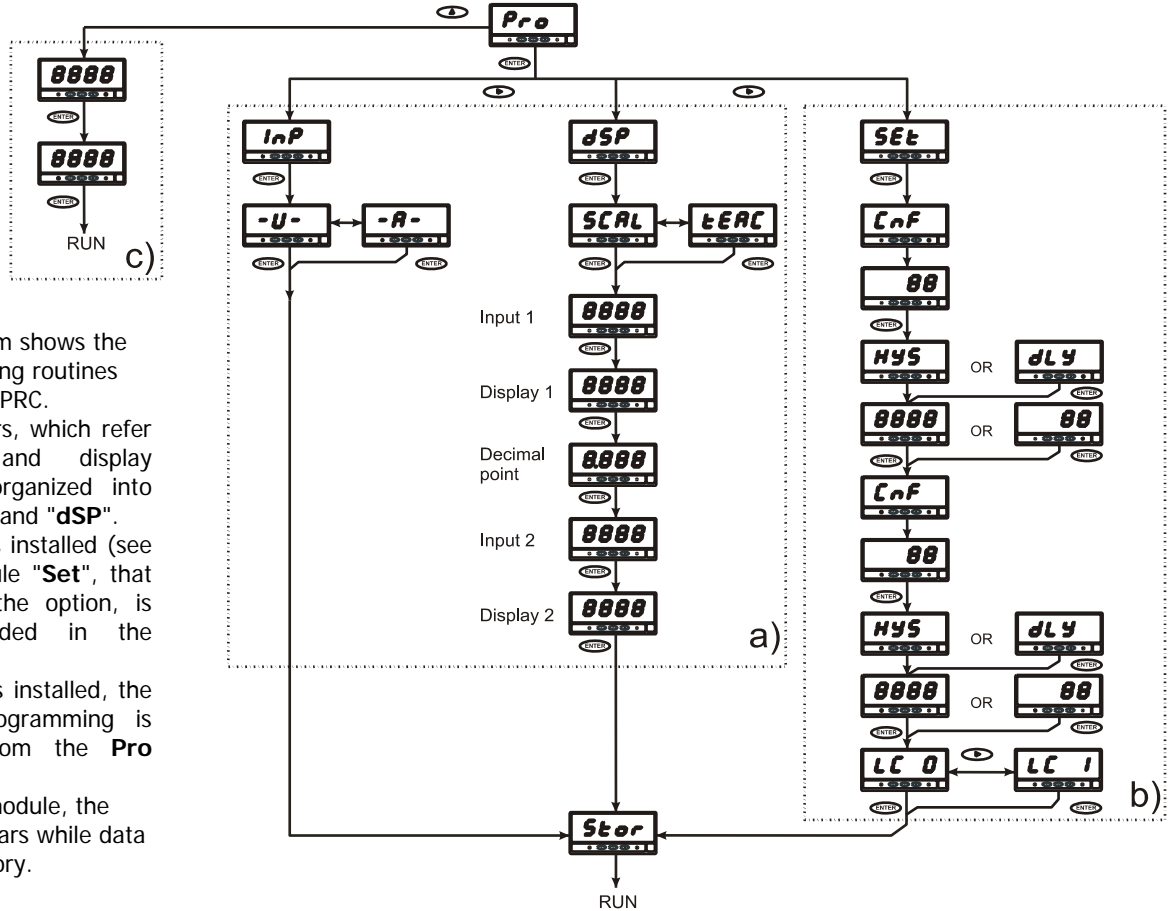
The enclosed diagram shows the complete programming routines for models JR/ JR20-PRC.

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 20), 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.

2.4 – Input signal connection

Refer to the transducer's specifications and to the wiring advisements given in page 10.
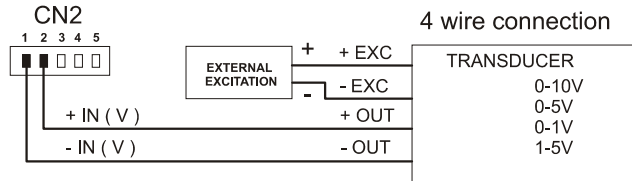
```
SIGNAL CONNECTION (CN2)

PIN 1 = -IN (signal negative, V/mA)
PIN 2 = +IN [ V ] (signal positive, V)
PIN 3 = +IN [mA] (signal positive, mA)
PIN 4 = +EXC (excitation positive) 24V or 10V
PIN 5 =  -EXC (excitation negative)
```
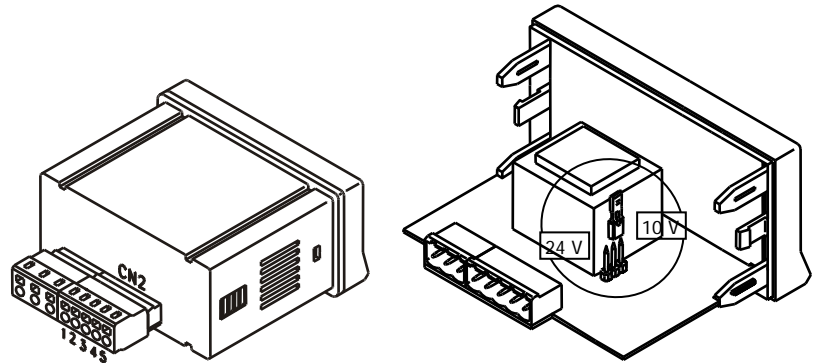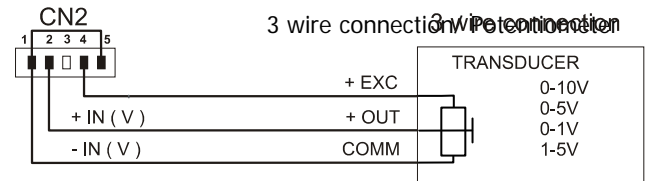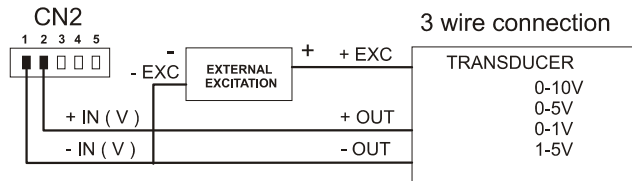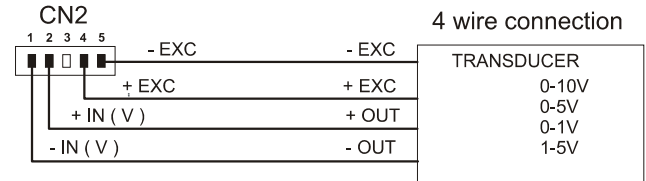

EXCITATION VOLTAJE SELECTION: 24 V or 10 V

Signal wiring schematics for transducers with voltage output

CONNECTION WITH EXTERNAL EXCITATION

CN2

4 wire connection

EXTERNAL EXCITATION

+ EXC
- EXC
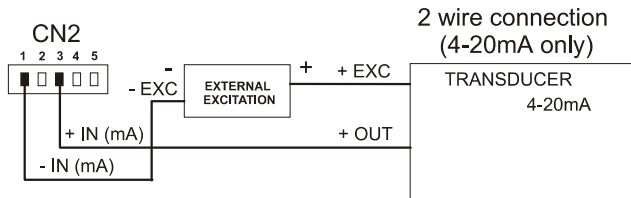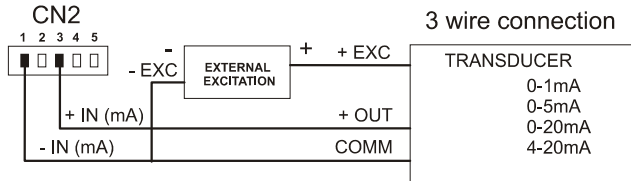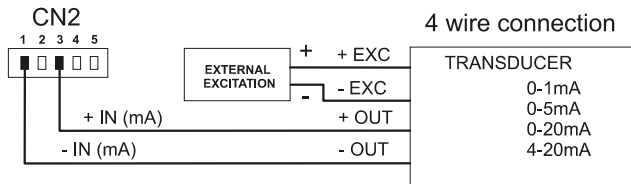+ IN (V)
- IN (V)

TRANSDUCER
0-10V
0-5V
0-1V
1-5V

+ EXC
+ OUT
- OUT

EXCITATION SUPPLIED BY Jr/ Jr20-PRC

CN2

4 wire connection

- EXC
+ EXC
+ IN (V)
- IN (V)

- EXC
+ EXC
+ OUT
- OUT

TRANSDUCER
0-10V
0-5V
0-1V
1-5V

CN2

3 wire connection

- EXC
EXTERNAL EXCITATION
+ IN (V)
- IN (V)

+ EXC
+ OUT
- OUT

TRANSDUCER
0-10V
0-5V
0-1V
1-5V

CN2

3 wire connection with Potentiometer

+ IN (V)
- IN (V)

+ EXC
+ OUT
COMM

TRANSDUCER
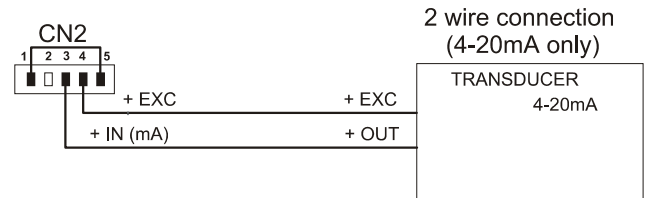0-10V
0-5V
0-1V
1-5V

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Signal wiring schematics for transducers with current output

CONNECTION WITH EXTERNAL EXCITATION

4 wire connection

CN2
1 2 3 4 5

EXTERNAL EXCITATION

+ / + EXC
− / − EXC
+ IN (mA) / + OUT
− IN (mA) / − OUT

TRANSDUCER
0-1mA
0-5mA
0-20mA
4-20mA

3 wire connection

CN2
1 2 3 4 5

EXTERNAL EXCITATION

− EXC
+ / + EXC
+ IN (mA) / + OUT
− IN (mA) / COMM

TRANSDUCER
0-1mA
0-5mA
0-20mA
4-20mA

2 wire connection (4-20mA only)

CN2
1 2 3 4 5

EXTERNAL EXCITATION

− EXC
+ / + EXC
+ IN (mA) / + OUT
− IN (mA)

TRANSDUCER
4-20mA

EXCITATION SUPPLIED BY Jr/ Jr20-PRC

4 wire connection

CN2
1 2 3 4 5

− EXC / − EXC
+ EXC / + EXC
+ IN (mA) / + OUT
− IN (mA) / − OUT

TRANSDUCER
0-1mA
0-5mA
0-20mA
4-20mA

3 wire connection

CN2
1 2 3 4 5

+ EXC / + EXC
+ IN (mA) / + OUT
− IN (mA) / COMM

TRANSDUCER
0-1mA
0-5mA
0-20mA
4-20mA

2 wire connection (4-20mA only)

CN2
1 2 3 4 5

+ EXC / + EXC
+ IN (mA) / + OUT
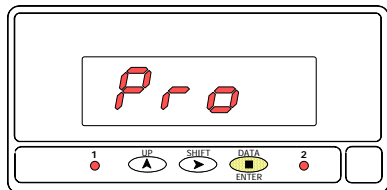
TRANSDUCER
4-20mA

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).
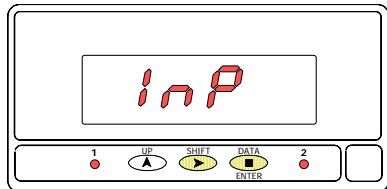
Press ENTER to access the programming mode.
The display shows the indication given in fig. 15.1. The LED's 1 and 2 will flash during the programming mode (except when programming the setpoints).
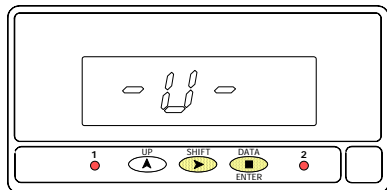Press ENTER to have access to the programming parameters.

2.5 - INPUT CONFIGURATION

[15.2] Input Module

Press   to access to the input configuration module (fig. 15.2).

Other modules (dSP = display, and, if option installed, SEt = setpoints) are selected by pressing the   key.

[15.3] Input type

The display shows the indication corresponding to the previously selected input type (see fig. 15.3). Available options are -U- = voltage input (volts) and -A- = current input (miliamperes) which alternate on the display by successively pressing the   key. When desired option is presented on the display, press   to validate the choice and return to the run mode. The indication Stor is viewed while data is being saved in the memory.

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 on JR20-PRC and between -9999 and 9999 on JR-PRC.

Scaling the display consist on programming two points by introducing two input values (INP1, INP2) and their corresponding display values (DSP1, DSP2). The decimal point position will complete the indication in the required engineering units. For the best accuracy, both points 1 and 2 should be approximately the process limits.

It is possible to set up the scale so that the display varies in reverse proportion to the input signal.
This is accomplished by programming the high display for the low input and the low display for high input. The figure shows how to program points 1 and 2 direct or reverse operation.
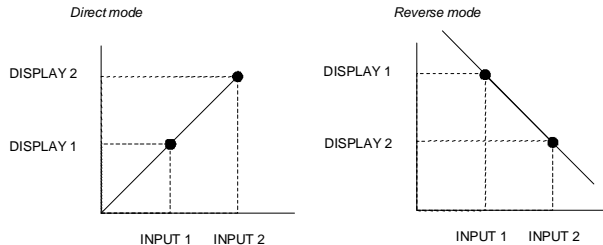
Direct mode:
- If input signal *increases* display reading *increases.*
- If input signal *decreases* display reading *decreases*.
Reverse mode:
- If input signal *increases* display reading *decreases.*
- If input signal *decreases* display reading *increases*.

In programming menus for display configuration first will be introduced the input and display for point 1, next the decimal position and finally the input and display for point 2.

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 programming or when working. If the most right position has been choose when the instrument is working the decimal point doesn't 't appears.
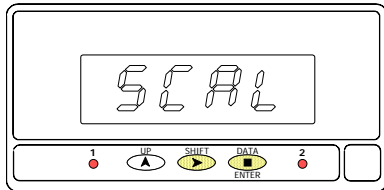

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[17.1] Display Module
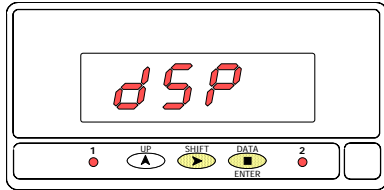
From the Pro stage (see fig. 17.1), press ENTER to access to the different configuration modules (InP = input, dSP = display, and, if option installed, SEt = setpoints). Select the display module by a press of ▶ (the indication given in figure 17.1 appears on the display).

Press ENTER to enter this module.

[17.2] Scaling method

The first step of this module is to select the scaling method (a description of each method is given in page 16). The display shows the previously selected method which can be changed by means of the ▶ key [**SCAL** = by key-in, **tEAC** = by applying signal levels]. When desired option is present on the display press ENTER to validate and advance to the next step.

## [17.3] Input 1
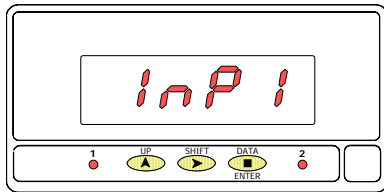
The indication "**InP1**" (fig. 17.3) is viewed for 2s before giving access to the programming of the input value for point 1 (InP1). Depending on the selected scaling method, the input value is programmed in one of the following ways:

- **SCAL method**. The previously programmed value appears on the display with the first digit in flashing. To change this value (allowable range is –1999 to 9999), use the ▲ key to increment the active digit value and the ▶ key to go to the next digit to be modified. Repeat these operations with all digits until desired InP1 value is registered on the display and press ENTER.
- **tEAC method**. Brings the process to the conditions of point 1. The display reads the actual input value present at the input connector. To accept this value as InP1 press ENTER.
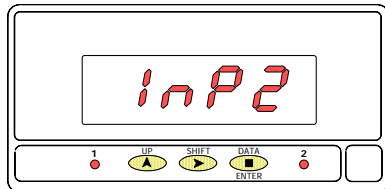
[18.1] Display 1
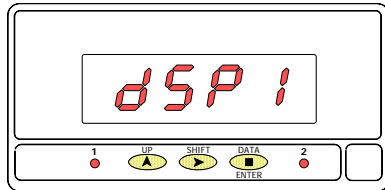
The indication "**dSP1**" (fig. 18.1) is viewed for 2s before giving access to the programming of the display value for point 1 (dSP1).
The previously programmed value appears on the display with the first digit in flash. To change this value, use the ▲ key to increment the active digit value and the ▶ key to go to the next digit to be modified. Repeat these operations with all digits until desired dSP1 value is registered on the display and press ENTER.
The decimal point flashes to indicate that it can be moved at this step. Press repeatedly the ▶ key to move it to the right until it takes desired location. If no decimal point is required, it must be placed to the rightmost digit of the display. Press ENTER again to validate programmed data and go to the next step.
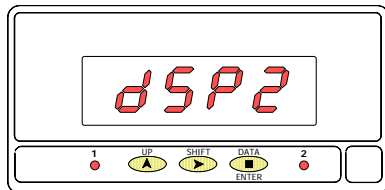
[18.2] Input 2

The indication "InP2" (fig. 18.2) is viewed for 2s before giving access to the programming of the input value for point 2 (InP2).

The procedure for programming this parameter is the same as described in section 17.3.

[18.3] Display 2

The indication "**dSP2**" (fig. 18.3) is viewed for 2s before giving access to the programming of the display value for point 2 (dSP2).
The display shows the previously programmed value with the first digit in flashing. To change this value follow the procedure described in section 18.1. The decimal point is fixed in the position selected in section 18.1. Press ENTER to validate changes and return to the run mode. The indication **Stor** is viewed while data is being saved in the memory.

## 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 programming mode (Pro stage, see fig. 15.1), press ▶ key to access to the setpoint configuration, indication "**SET**". To program the setpoint numerical values, from the run mode press ENTER to call the **Pro** stage and press ▲ to access the first setpoint value.

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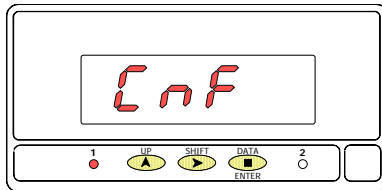
LEFT DIGIT VALUE	RIGHT DIGIT VALUE
MODE HI=0	DELAY=0
MODE LO=1	HYSTERESIS=1

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 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 flashing) 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
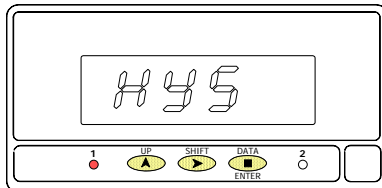
Depending on previous phase choice, the display will show for 2 seconds the indication corresponding to the selected delay units before giving access to the time delay or hysteresis magnitude programming (**dLY**) or (**HYS**). After 2 seconds or by a press of ENTER , the initially programmed numerical 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 access to the programming of the setpoint 2 parameters.

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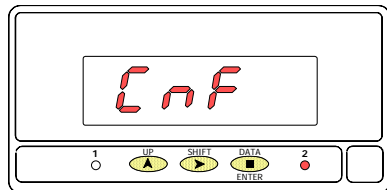
LEFT DIGIT VALUE	RIGHT DIGIT VALUE
MODE HI=0	DELAY=0
MODE LO=1	HYSTERESIS=1

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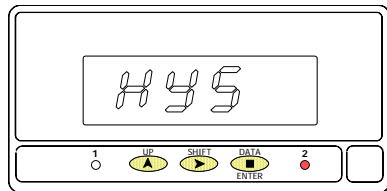
Press ENTER to validate changes and advance to the next phase.

[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
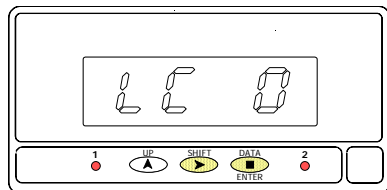
The figure 20.3 shows one of the two options available at this stage [**LC O** = setpoint values programming enabled (unlocked) or **LC 1** = setpoint values programming disabled (locked)].
If wanted to modify this parameter, use the ▶ key to switch to the desired option. If you decide to lock the setpoint values, it will be also necessary to lock out the entire program routines (see page 22).
Press ENTER to validate the choice, save programmed data and return to the run mode (indication **Stor**).

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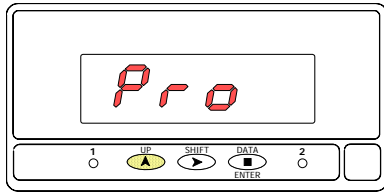
To program the setpoint values, press ENTER to access the programming mode (indication **Pro**, figure 21.1) and press ▲ to make the display show the previously programmed value of setpoint 1.

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

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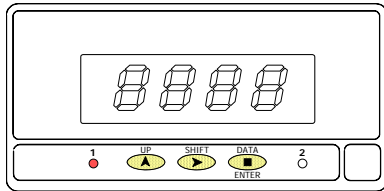
Program setpoint 1 value, LED 1 activated.

The initially programmed value appears on the display with the first digit flashing. Press repeatedly the ▲ key to increment the active digit value 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
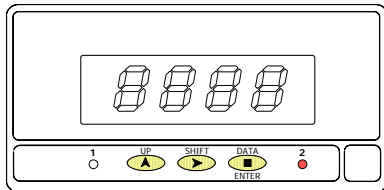
Program setpoint 2 value, LED 2 activated.

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 access 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 access the programming routines will show the indication **dAtA** instead of **Pro**.

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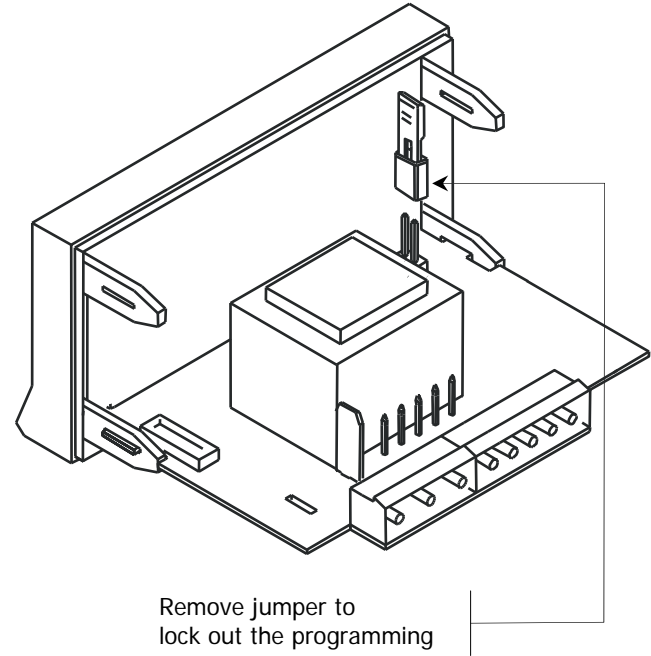
3. RELAY OUTPUT OPTION

As an option, the Jr/Jr20-PRC 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-PRC 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
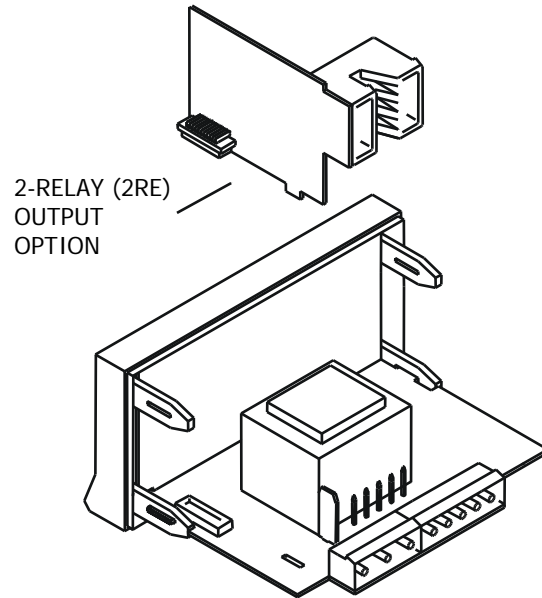
4. TECHNICAL SPECIFICATIONS

INPUT SIGNAL
- Configuration   differential asymmetrical

INPUT TYPE	VOLTAGE	CURRENT
Input .... ± 10 V DC	.... ± 20 mA DC	
Max. resolution .... 1 mV	.... 10 µA	
Input impedance .... 2 MΩ	.... 12.1 Ω	
Excitation .... 10 V ±0,1 V/ 20 V±5 V @30mA		

ACCURACY
- Max. error .... ± (0.1% of the reading +3 digits)
- Temperature coefficient .... 100 ppm/ °C
- Warm-up time .... 5 minutes

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

FUSES (DIN 41661) - (Recommended)
- JR/ JR20-PRC (230/115V AC) .... F 0.1A / 250 V
- JR/ JR20-PRC2 (24/48V AC) .... F 0.2A / 250 V
- JR/ JR20-PRC3 (12 V DC) .... F 1A / 250 V
- JR/ JR20-PRC4 (24 V DC) .... F 0.5A / 250 V
- JR/ JR20-PRC5 (48 V DC) .... F 0.5A / 250V

A/D CONVERSION
- Technique .... Sigma-Delta
- Resolution .... 16 bits
- Rate .... 25/ s

DISPLAY
- Type (JR-PRC) .... -9999/ 9999 4 digits 14mm red LED
- Type (JR20-PRC) ...... -1999/ 9999 4 digits 20mm red LED
- Decimal point .... programmable
- LEDs .... 2 for output status
- Reading rate .... 250 ms
- Display over range .... OvE
- Input over range .... OvE

ENVIRONMENTAL
- Indoor use
- Operating temp. .... -10°C to 60°C
- Storage temperature .... -25 °C to +85 °C
- Relative humidity, non condensing .... <95 % at 40 °C
- Altitude max. .... 2000 m

MECHANICAL
- Dimensions .... 96x48x60 mm
- Panel cut-out .... 92x45 mm
- Weight .... 250 g
- Case material .... UL 94 V-0 polycarbonate

4.1 - Dimensions and mounting

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

45 mm

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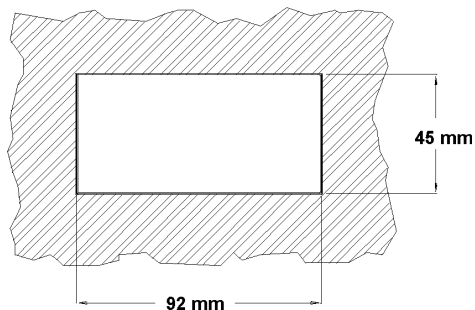
Place the fixing clips on both sides of the case and slide them over the guide tracks until they touch the panel at the rear side. Press slightly to fasten the bezel to the panel and secure the clips.

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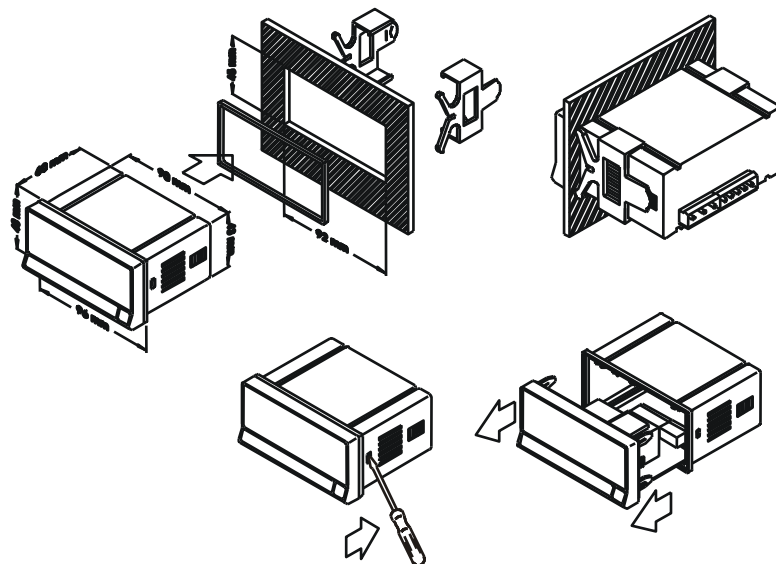
CLEANING: The front cover should be cleaned only with a soft cloth soaked in neutral soap product. DO NOT USE SOLVENTS

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 : JR-PRC and JR20-PRC

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

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

Date: 7 January 2000
Signed: José M. Edo
Position: Technical Manager

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.

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