TECHNICAL SPECIFICATIONS

SIGNAL INPUT

Maximum frequency (tachometer rpm or rate modes) 12kHz
Maximum frequency (frequency meter mode) 9999Hz
Maximum frequency (duty mode) 100Hz
Minimum frequency (all modes) 0.01Hz
Excitation ..... 5V, 8V, 12V DC @ 60 mA (configurable by keyboard)
High input AC voltage ..... 10 to 600 V AC
Magnetic sensor ..... Vin > 30mVeff. (60Hz)
Vin > 300mVeff. (6kHz)

NAMUR sensor
Rc 1.5kΩ
I on ..... < 1mA
I off ..... > 3mA

NPN / PNP / PWM sensors
Rc ..... (NPN) 3k9Ω, (PNP) 1k5Ω
Logic levels ..... "0" < 2.4V, "1" > 2.6V DC

TTL/24 V DC (encoder)
Logic levels ..... "0" < 2.4V, "1" > 2.6V DC

Contact switch
Vc ..... 5V (internal)
Rc ..... 3,9kΩ (incorporated)
Fc ..... 20Hz (is automatically set when selecting contact switch input) (Ton, Toff > 25ms)

ACCURACY @ 23ºC±5ºC
Maximum error ..... ±(0.01% rdg +1 digit)
Temperature coefficient ..... 50 ppm/ºC
Warm-up time ..... 5 minutes

DISPLAY
Principal ..... 9999, 4 digits 8mm
Decimal point ..... Configurable
LEDs ..... 4, for functions and outputs
Display refresh rate 4/s
Input overrange indication ..... "**OuE**" or "**0**" flashing
Display overrange indication ..... "**OuE**"
Relays, maximum and minimum value refresh 10/s

RELAYS
2 Relays SPST (incorporated) ..... 5A@250V AC /30 V DC

ANALOG OUTPUT (0/4-20mA)
Resolution 5.5µA
Accuracy ..... ±(0.3%rdg+40µA)
EMI Max. influence ..... ±0.25mA
Temperature coefficient 3µA/ºC
Maximum load ..... ≤500Ω

POWER SUPPLY
PICA10X-F ..... 85-265 V AC / 100-300 V DC
PICA10X-F6 ..... 21-53 V AC / 10,5-70 V DC
Consumption (all models) 5W

FUSES (DIN 41661) (Not included)
PICA10X-F ..... F 0.2A / 250V
PICA10X-F6 ..... F 1A / 250V

ENVIRONMENTAL CONDITIONS
Working temperature ..... -10ºC to +60ºC
Storage temperature ..... -25ºC to +85ºC
Relative humidity (non-condensing) ..... <95% @ 40ºC
Maximum altitude 2000m
Frontal protection degree IP65

DIMENSIONS
Dimensions ..... 48 x 24 x 100mm
Panel cutout 45x22mm
Weight 100g
Case material ..... Polycarbonate s/UL 94 V-0

MAINTENANCE

Instrument repairs should only be carried out by the manufacturer or by its authorized partners. For frontal device cleaning, just wipe it with a damp cloth and neutral soap product. **DO NOT USE SOLVENTS!**.

WARRANTY

All products are warranted against defective material and workmanship for a period of 3 years from acquisition date. If a product appears to have a defect or fails during the normal use within warranty period, please contact the distributor from whom you purchased the product to be given proper instructions.
This warranty does not apply to defects resulting from action of the customer such as mishandling or improper interfacing. The liability under this warranty shall extend only to the repair of the instrument; no responsability is asumed by the manufacturer for any damage which may result from its use.

CONFORMITY DECLARATION

Manufacturer: DITEL - Diseños y Tecnología S.A.
Adress: Xarol, 8C P.I. Les Guixeres
08915 Badalona.
SPAIN

Declares, that the product:
Name: Digital panel indicator
Model: **PICA100-F/F6, PICA101-F/P6, PICA104-F/F6**
Conforms with Directives:
EMC 2004/108/CE
LVD 2006/95/CE
Applicable standards:

EN 61326-1	**Electrical equipment for measurement, control and laboratory use (EMC)**	
EN 61000-4-2	Electrostatic discharge (ESD) Air discharge 8kV Contact discharge 4kV	Criterion B
EN 61000-4-3	Electromagnetic fields 10 V/m	Criterion A
EN 61000-4-4	Fast transients (burst) Power lines 2 kV Signal lines 1 kV	Criterion B
EN 61000-4-5	Surge 1 kV L to N 2 kV L, N to Earth 1 kV Signal lines to Earth	Criterion B
EN 61000-4-6	RF conducted interference 3 Vrms	Criterion A
EN 61000-4-11	Voltage dips: 0% V during 1 cycle 40% V during 10/12 cycles 70% V during 25/30 cycles Short interruptions: 0% V during 250/300 cycles	Criterion B Criterion C Criterion C Criterion C
CISPR11	Emission limits Clase B	
EN 61010-1	**Safety requirements for electrical equipment for measurement, control and laboratory use.** General safety Overvoltage category II Pollution degree 2 Conductive pollution excluded Insulation type: Enclosure: Power/signal/relays:	 Double Basic

Date: 21 October 2013
Signed: Alicia Alarcia
Charge: Technical Director

WARNING

To guarantee electromagnetic compatibility, the following guidelines should be kept in mind:
Power supply wires should be separatedly routed from signal wires and **never runned** in the same conduit.
Use shielded cable for signal wiring.
Cables section should be ≥0.25mm^2

INSTALLATION

To meet the requirements of EN 61010-1 standard, where the unit is permanently connected to main supply, its is obligatory to install a circuit breaking device easy reachable to the operator and clearly marked as the disconnecting device.
In the same way, a protective external fuse against overcurrents must be installed.

According to 2002/96/CE Directive, You cannot dispose of it at the end of its lifetime as unsorted municipal waste. You can give it back, without any cost, to the place where it was adquired to proceed to its controlled treatment and recycling.

You can extend this period up to **5 years** from the product commissioning, only by fulfilling the corresponding form.
Fill up the form in our website:
http://www.ditel.es/warranty

DISEÑOS Y TECNOLOGÍA, S.A.
Xarol, 8-C P.I. Les Guixeres
08915 Badalona (Barcelona) - Spain.
Tel. +34 933 394 758
Fax +34 934 903 145
Email: dtl@ditel.es ; web: www.ditel.es

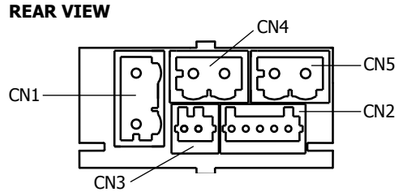
30727294 14.01.2014

DITEL PICA100-F

INSTRUCTIONS MANUAL

Valid for F2.00 version or higher.

REAR VIEW



DESCRIPTION

48x24mm (1/32 DIN) fully programmable panel meter, with 4 x 8mm-high red LED digits and **sensors supply excitation** incorporated, it is designed for measuring **lineal** or in **r.p.m speed** and **signal frequency**.

It provides two relays that allow this instrument not only to measure but also to be capable of controlling, regulating and detecting alarms for the mentioned signals.

Thanks to its RS4P (RS485) communication and analog ANAP options, it can be integrated to a measurement system providing information via MODBUS-RTU protocol or generating a 0/4-20mA signal respectively. These options are isolated from input and power supply.

Tachometer mode (tAC) entering the number of pulses per revolution or Rate mode (rAtE) defining 'input frequency/display' ratio (in desired engineering units).

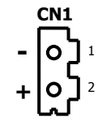
Display range from 0 up to 9999 with programmable decimal point. Controled by 3 keys located on the bottom of the frontal display to set all configuration parameters.

4-level brightness configuration is possible to adapt it to the light working conditions. Registers the minimum and maximum process values since its starting up or a resetting.

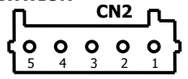
It is possible to set a total or partial configuration lock-out thanks to a code.

CONNECTORS DESCRIPTION

AC SUPPLY — **CN1**
PIN 1 Phase
PIN 2 Neutral
DC SUPPLY
PIN 1 Negative
PIN 2 Positive



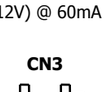
SIGNAL INPUT AND EXCITATION — **CN2**
PIN 1: 10-600V AC
PIN 2: Non connected
PIN 3: + Input pulses
PIN 4: Common
PIN 5: + Excitation (5, 8, 12V) @ 60mA



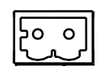
RS485 OUTPUT — **CN3**
PIN 1: B = TxD+ / RxD+
PIN 2: A = TxD- / RxD-

ANA OUTPUT
PIN 1: -
PIN 2: +

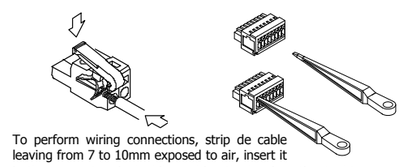
RELAY 1 OUTPUT — **CN4**
PIN 1: } N.O. Contact
PIN 2: }



RELAY 2 OUTPUT — **CN5**
PIN 1: } N.O. Contact
PIN 2: }



KEY TOOLS FOR CABLE INSERTION



To perform wiring connections, strip de cable leaving from 7 to 10mm exposed to air, insert it in the proper terminal while pushing the key insertion tool to open the clip inside the connector. Release the key to fix the wire.

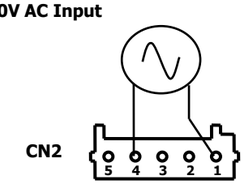
KEYBOARD

Keys detail (bottom view)

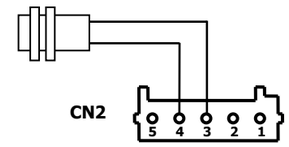
ENTER: Enters configuration and validates data and parameters.
SHIFT: Selects mode or shifts blinking digit in configuration.
UP: Increases value of blinking digit in configuration mode.

WIRING DIAGRAMS ACCORDING TO INPUT TYPE

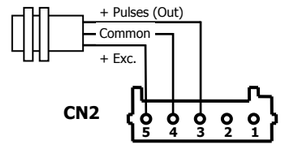
10-600V AC Input



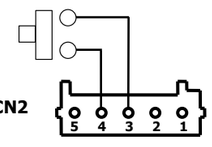
Magnetic sensor



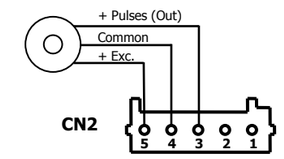
NPN / PNP / PWM sensors



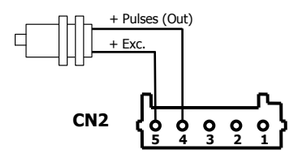
Contact switch



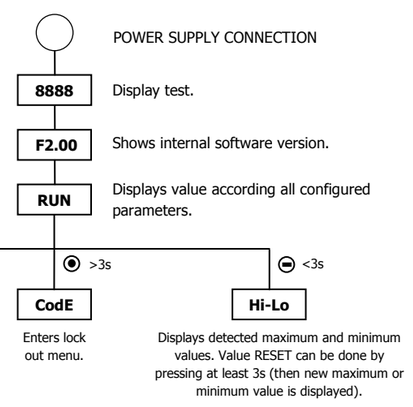
TTL/24V DC /Encoder input



Namur sensor

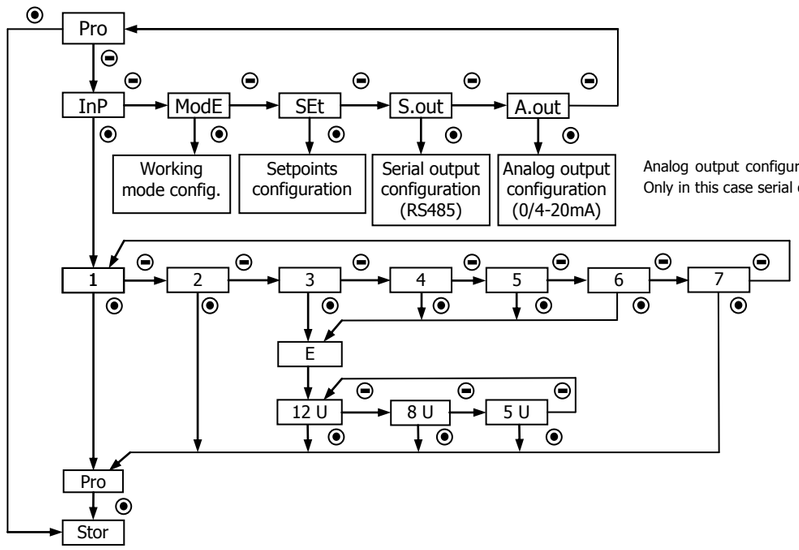


MAIN MENU



(1) If all parameters are locked out, display shows **dAtA**.

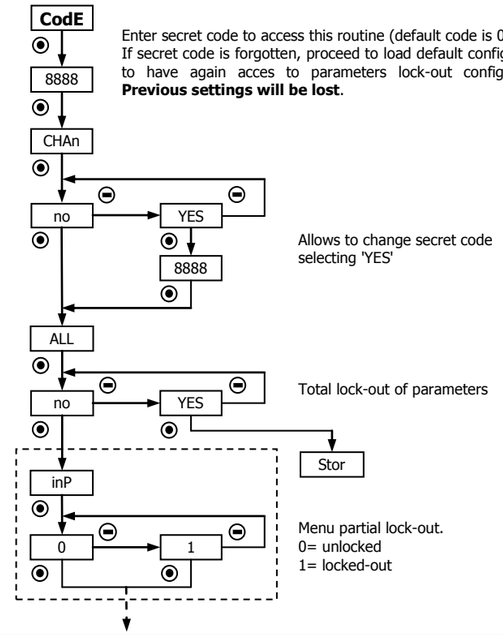
INPUT TYPE CONFIGURATION



Analog output configuration menu only appears if ANAP is installed. Only in this case serial output menu does not appear.

INPUT TYPES	
1	10-600 V
2	Magnetic sensor
3	NAMUR
4	PNP / PWM
5	NPN / PWM
6	TTL/24 V DC / Encoder
7	Contact switch

CONFIGURATION LOCK-OUT MENU

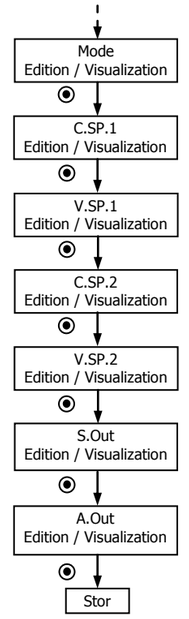


Enter secret code to access this routine (default code is 0000). If secret code is forgotten, proceed to load default configuration to have again acces to parameters lock-out configuration. **Previous settings will be lost**.

Allows to change secret code selecting 'YES'

Total lock-out of parameters

Menu partial lock-out.
0= unlocked
1= locked-out



MODE menu lock-out

SETPOINT1 menu lock-out

SETPOINT1 value menu lock-out

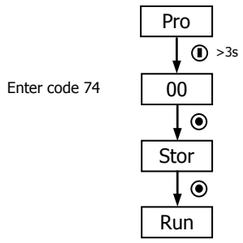
SETPOINT2 menu lock-out

SETPOINT2 value menu lock-out

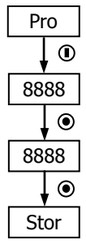
Serial output menu lock-out

Analog output menu lock-out.
(only appears if ANAP is installed. Only in this case serial output menu does not appear).

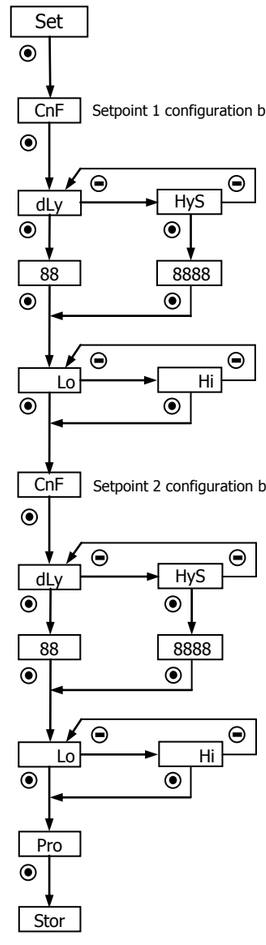
RETURN TO DEFAULT CONFIGURATION



DIRECT ACCESS TO SETPOINTS VALUE



SETPOINTS CONFIGURATION



Delay / Hysteresis selection

Delay: from **0** to **99s**
Hysteresis:
From **0000** to **9999** points of display.

Activating mode selection:
Lo: Low level activation
Hi: High level activation

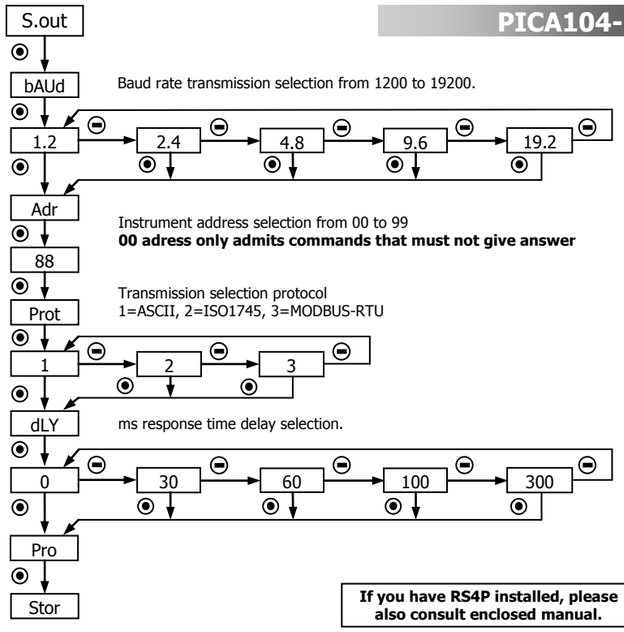
Delay / Hysteresis selection

Delay: from **0** to **99s**
Hysteresis:
From **0000** to **9999** points of display.

Activating mode selection:
Lo: Low level activation
Hi: High level activation

SERIAL OUTPUT (RS4P) CONFIGURATION

PICA104-F



Baud rate transmission selection from 1200 to 19200.

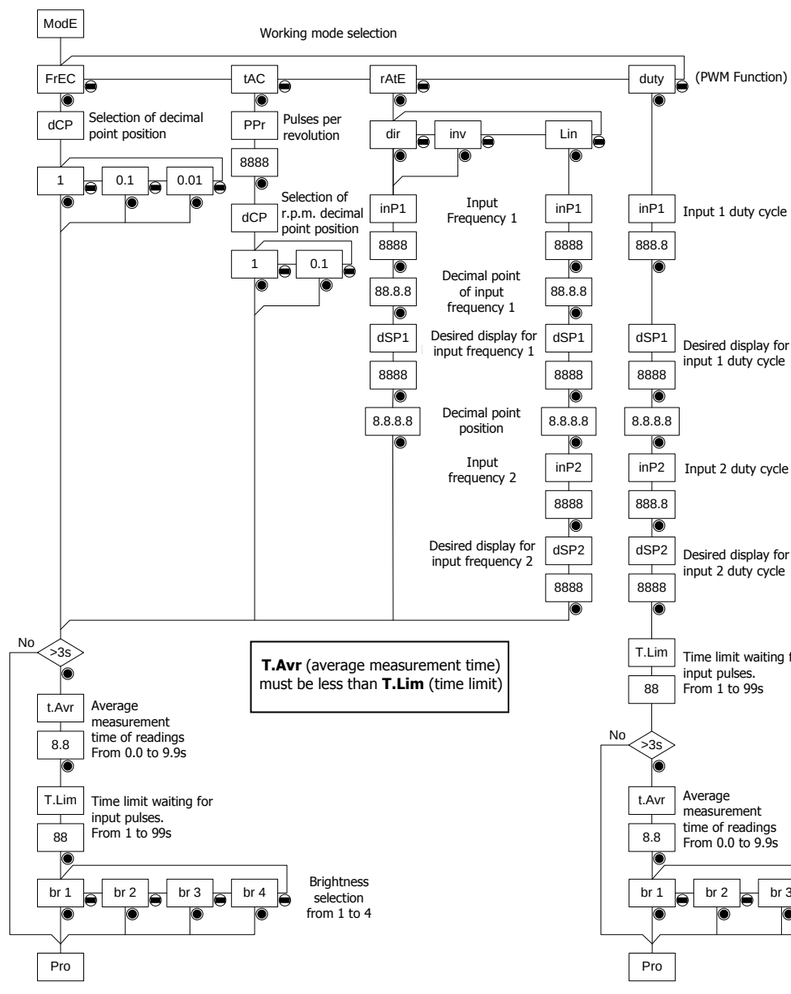
Instrument address selection from 00 to 99
00 adress only admits commands that must not give answer

Transmission selection protocol
1=ASCII, 2=ISO1745, 3=MODBUS-RTU

ms response time delay selection.

If you have RS4P installed, please also consult enclosed manual.

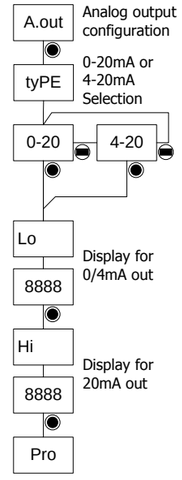
WORKING MODE CONFIGURATION



T.Avr (average measurement time) must be less than **T.Lim** (time limit)

ANALOG OUTPUT (ANAP) CONFIGURATION

PICA101-P



Analog output configuration

0-20mA or 4-20mA Selection

Display for 0/4mA out

Display for 20mA out