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SensoControl®

Operating Instruction
ServiceJunior *wireless*

Please read carefully before use!

Contents

1 Introduction

The **ServiceJunior *wireless*** is a digital manometer featuring a MIN/MAX display function.
Full scale (FS) accuracy is ± 0.5% based on the upper limit of the measurement range.
Dynamic pressure peaks are measured at a scanning rate of 10 ms (100 measurement values/second). The MIN/Max memory is continuously updated and rewritten.

1.1 Notes on safety/production selection

The correct functioning of the **ServiceJunior *wireless*** can only be guaranteed when the specifications detailed in these operation instructions are adhered to.
In particular, specifications relating to the permitted upper limit of the measurement range as well as the permissible temperature range must be observed.

Serious malfunctions leading to personal injury or damage to property can result from using the chosen product in applications that do not comply with the specifications or from disregarding the operating instructions.
In particular, incorrect mounting of the manometer and the corresponding adapter can cause the manometer to be torn

For repairs or calibration of the measurement instruments, please contact a Parker sales branch.

1.2 Device versions and range of delivery

Device versions/range of delivery			
Basic setting to unit '**bar'** Pressure connection, male thread G 1/4 Delivery with adapter			
Range	-1…16 bar/ 0…100/0…400/ 0…600/0…1,000 bar	**Part No.**	SCJNP-xxx-01-RC

1.3 Send and receive with wireless radio interface

The **ServiceJunior *wireless*** operates with a bidirectional wireless interface. The operating range is specified to 50 m. In some applications you will have disturbances based on existing interferences. Transmitting data's from the ServiceJunior to the PC data lost will be avoid by sending cryptic data codes.

In the case of no or less transmission signal received, please put the PC adapter and/or the **ServiceJunior *wireless*** into another position. There is no risk to loose data memory content at any time, while the data memory needs to be deleted by the user.

The **ServiceJunior *wireless*** operates battery powered.
Send and transmit data to the PC/Notebook or receive parameters will consume energy.
If the battery capacity will be consumed totally, no data memory content will be lost.
The data memory content operates independent from given battery capacity.

1.4 Scanning rate and memory principle

The **ServiceJunior *wireless*** is running with a fast scanning rate (10 ms) in order to capture all peaks.
Based on all scanned values, the highest reading will be sorted and saved into the data memory.

The user is able to set up two different memory functions:

REC time (time based data recording)

The memory interval will be set up automatically by selected recording time (3, 10, 30, 60 min) and given quantity of data points (5,000).
According to a recording time of 10 min there is an interval of 120 ms (0.12 s).

Recording Time	Interval			
min	ms	s	Qty of Readings	Data Memory
3	36	0.036	3	MAX
10	120	0.12	12	MAX
30	360	0.36	36	MAX
60	720	0.72	72	MAX

REC AUTO (Long term pressure peak monitoring with trigger point)

Exceeding the trigger point (tp) data recording will be processed.
Below the given trigger point (tp) no readings will be saved.

The memory interval (INT) can be set from 100 ms/1/10/100 s.
The scan rate is still 10 ms and can not be changed.

Example:
Memory interval „INT = 10 s“:
Running with a scan rate of 10 ms and a memory interval of 10 s out of 1,000 readings the highest (MAX) reading will be sorted and saved into data memory.

Interval s	Qty of Readings	Data Memory
0.1	10	MAX
1	100	MAX
10	1.000	MAX
100	10.000	MAX

This procedure enables the user to monitor pressure peaks over a long term period.

2 Commissioning

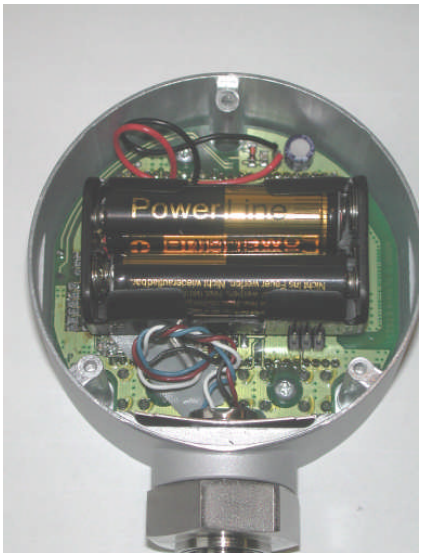
The **ServiceJunior *wireless*** is supplied with batteries fitted. The device is operational as soon as it is turned on.

2.1 Replacing the batteries

Caution!
Turn off the device before replacing the batteries. Open the battery compartment. Insert the new batteries as depicted.
Ensure correct polarity of the batteries.

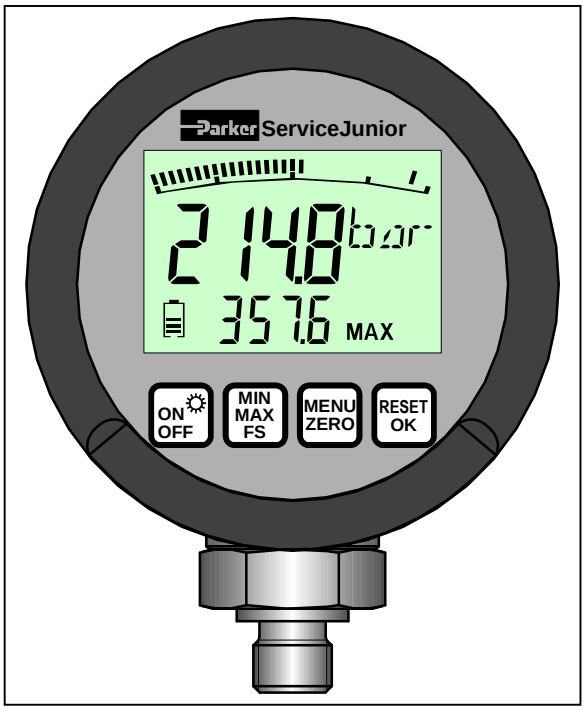
Batteries: 2 x 1.5 V (LR6 - AA)

A battery symbol permanently displays the actual battery status.



ServiceJunior *wireless*

3 Functions and keys



Display

- 4 ½ digit LCD with back light function
- Displays measurement values and menu functions

➢ 'Bar Graph' with peak & hold function
➢ Actual value display (15 mm)
➢ MIN/MAX or Full Scale (FS) (8 mm)
➢ Battery status

Keys

Key		Function	
ON OFF	**ON/OFF** ☼	Turns the device on/off. Press 2 s. Turns on the back light function (stays on for 30 s)	
MIN MAX FS	**MIN** **MAX** **FS**	Selects display unit: MIN/MAX or FS Minimum value Pressure peak Displays the upper limit of the scale (e.g. 400 bar)	
MENU ZERO	**MENU**	Press 2 s. Select with MENU ZERO **1. Menu functions** automatic switch off engineering units Filter settings Device address/ Software version	Select with MENU ZERO **2. REC time function** Time based data logging Setup data recording **3. REC Auto function** Long term data logging with individual memory interval
	ZERO	Zero point adjustment	
RESET OK	**RESET** **OK**	Erases MIN and MAX values from the memory Confirms the MENU functions	

3.1 Display Mode

The actual pressure (ACT) is indicated in the display mode. The ACT measured value is displayed in the corresponding unit. The MIN, MAX or FS values is indicated in the lower part of the display.

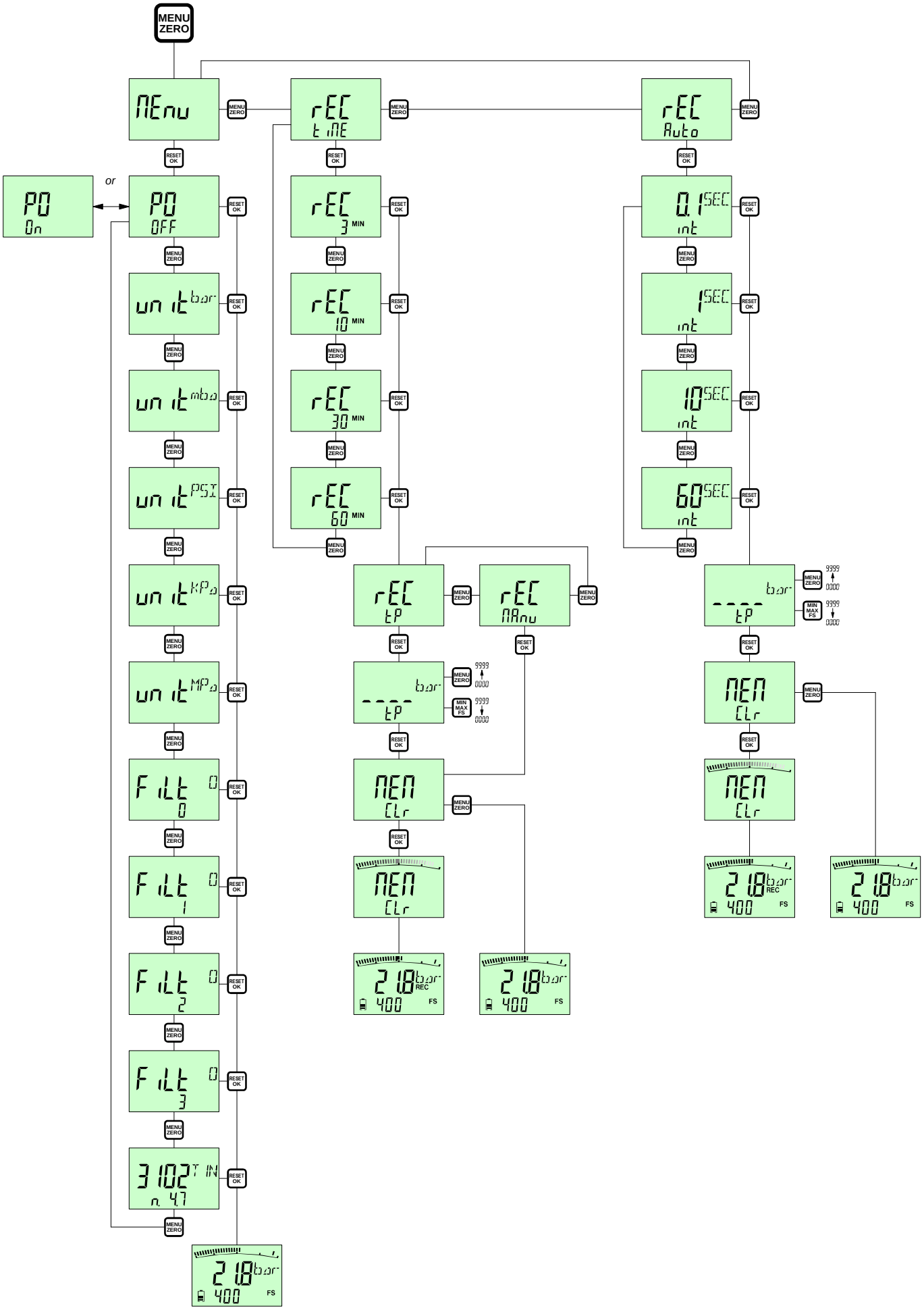
Display	Description
bar-graph	Graphic indication of the actual pressure. A pressure peak is indicated by means of a pixel (graduation mark). The indicated value is refreshed at intervals of 50 ms (20 measurements/s).
ACT	Indicates the actual pressure. The indicated value is refreshed at intervals of 300 ms (3 times/s).
MIN/MAX	Indicates the MIN, MAX or FS value according to setting. The indicated value is refreshed at intervals of 300 ms (3 times/s).
FS	Full scale range (e.g. 400 bar)
Units	Indicates the chosen unit
Battery	Indicates battery status (5 segments)
	Send or Receive Mode
REC	REC flashes when recording measurement values (optional data logging function)
x10	Indicated value (actual indication and MIN/MAX indication) x10

3.2 Menu Functions

Following set ups can be done within the MENU Function:

- Automatic switch off enable/disabled
- Selection of engineering units (bar/mbar/PSI/kPa/Mpa.)
- Filter settings
- REC time or REC auto function
- Delete data memory

By pressing the MENU key (2 s) the desired function appears.
Skip to next function by pressing MENU again.
Confirmation by pressing the „OK“ key.
The **ServiceJunior *wireless*** returns into the display mode.


MENU ZERO
MENU
rEC tME
rEC Auto
or
PO On
PO OFF
unit bar
unit mbar
unit PSI
unit KPa
unit MPa
FILt 0
FILt 1
FILt 2
FILt 3
3102 T IN n. 47
rEC 3 MIN
rEC 10 MIN
rEC 30 MIN
rEC 60 MIN
rEC tP
rEC MANu
0.1 SEC int
1 SEC int
10 SEC int
60 SEC int
MEM CLr
21.8 bar REC 400 FS
21.8 bar 400 FS
MENU ZERO
RESET OK
MIN MAX FS

4 Connection to the hydraulics

The **ServiceJunior *wireless*** is available with male thread G1/4 (BSPP) or 7/16-20 UNF for the corresponding versions (bar/PSI).

Please do not do the assembly while the ServiceJunior *wireless* is pressurized!

Model	**SCJNP-xxx-01-RC**
Pressure port	¼ BSPP
Adapter (M16x2)	SCA-1/4-EMA-3 (hex size 24 = 600 bar) (hex size 27 = 1.000 bar) pre-mounted
Test Hose Adapter (M16x2) male/male	SCA-EMA-3/3
Other systems	
Testpoint M16x1.5	SCA-EMA-3/4
Testpoint M12,65x1.5	SCA-EMA-3/2
Testpoint Pin Lock	SCA-EMA-3/1

Observe specified torques when fitting the ServiceJunior *wireless*

The hex size of the pressure port is 27 mm	
Pressure connection	Torque
7/16-20 UNF	35 Nm
¼ " BSPP	35 Nm

When fitting directly, please ensure the **ServiceJunior *wireless*** can be rotated freely.

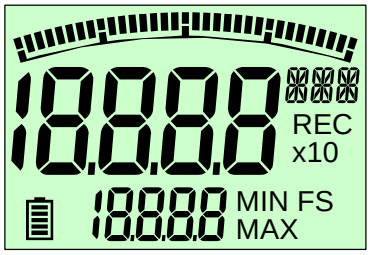
Safety Instructions for using 1.000 bar operating range:

The delivered adapter SCA-1/4-EMA-3 (hex size 27) is approved up to nominal pressure of 1,000 bar.
Please pay attention to built in test points acc. to rated nominal pressure and specified safety factor.

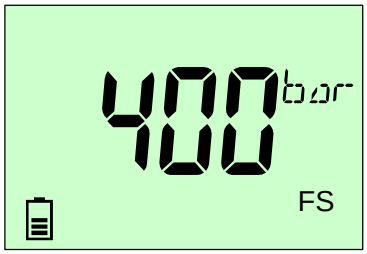
5 Operating ServiceJunior *wireless*

5.1 Turning on (ON)

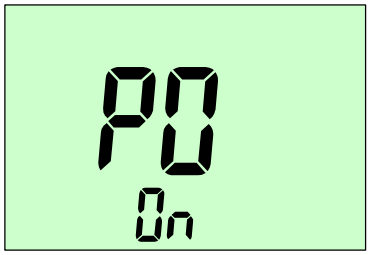
Press



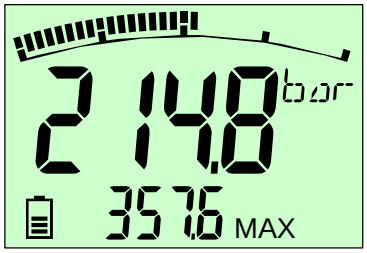
Self test running



Indication of full-scale range (FS)
Unit (**bar**) SCJNP-xxx-01-RC



Auto Power Off function is active.
Power Off activates automatically switch off after 5 min.
This function can be altered in **MENU**.



Display mode.
ACT value displayed
MAX peak

5.2 Turn off (OFF)

Press once (briefly)

5.3 Turn on back light

Press the key (2 s)

The back light illumination will be switched off after 30 s.

5.4 MIN/MAX Display

The additional display line can be switched to MIN/MAX or FS format.
The scroll function indicates MIN/MAX after the other.

To measure pressure peaks the MIN/MAX Function is in use. The MIN/MAX memory saves the highest (MAX) and the lowest (MIN) reading. Switching off the instrument, the MIN/MAX memory will be erased.
When running different pressure tests one after another, the MIN/MAX memory should be deleted (**RESET**) after every test cycle.

MIN/MAX and FS value is indicated in the display

5.5 FS Full Scale Display

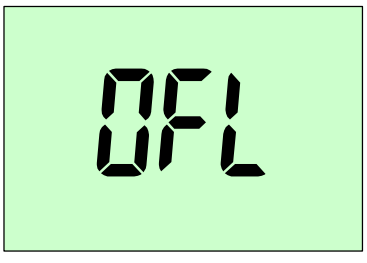
Displaying the upper limit of the scale (FS) is designed to increase readability of the bar-graph function. The upper limit of the measurement range is indicated numerically.
FS is indicated in sequence after MIN and MAX.

FS value is indicated in the display

5.6 Erasing the MIN/MAX values

Erases MIN/MAX values

5.7 OFL Display



This indicates that the applied pressure is outside given full scale range.

If the message will remain displayed, while the **ServiceJunior *wireless*** is pressure less, please consult a Parker Hannifin Sales Office.

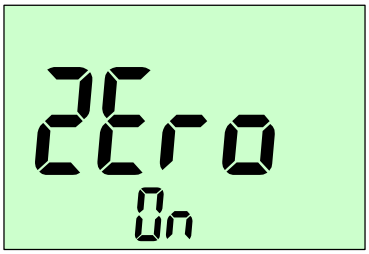
5.8 Zero Point correction (ZERO)

The zero point can be corrected manually should undesired deviations occur when no system pressure is being applied (atmospheric pressure).

The zero point correction sets the current ACT value to zero. In order exclude erroneous measurements, ensure **no system pressure** is being applied when carrying out this function.

MENU ZERO

Press ZERO key (briefly)

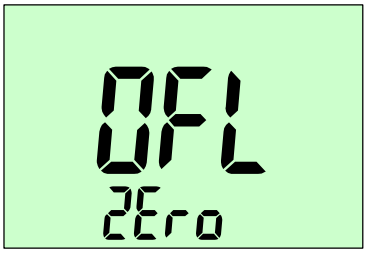


RESET OK

This initiates the zero point correction. The **ACT** (actual) value is indicated in the display as 0.0 bar.
The correction remains active until the device is turned off.

MENU ZERO

OFL/ZEro is displayed for 3 seconds if the measured pressure (0 bar) is greater than 5% of the measurement range.



Zero point correction cannot be carried out.
Please ensure that **no system pressure** is being applied.

5.9 Resetting the zero point correction

ON OFF

Turn off the device. Zero point correction is no longer active when the device is turned off and on again.

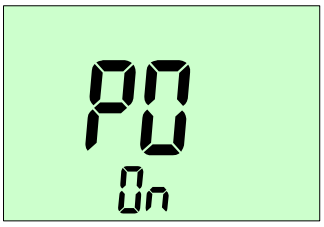
5.10 Automatic Switch Off

MENU ZERO

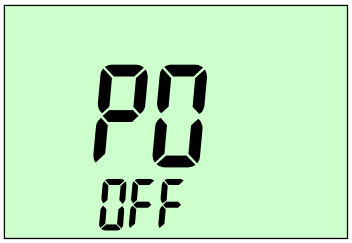
Press for 2 s

According to the **ServiceJunior *wireless*** configuration two different setups are possible.

Auto Power Off



Continuous operations



PO On

When RESET OK is pressed, the Auto Power Off is enabled.
The device will switch off after 5 min.

PO OFF

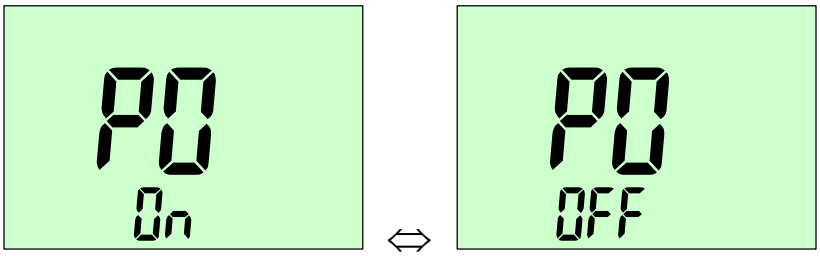
When RESET OK is pressed, the device must be turned off manually.

The settings Auto Power Off or Continuous operations remain stored and are active when the device is turned off and on again.

5.11 Changing the Unit

MENU ZERO

Press for 2 s



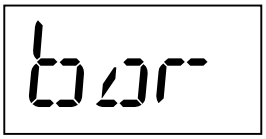
MENU ZERO

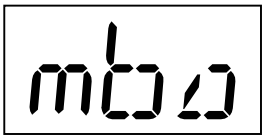
Press to skip

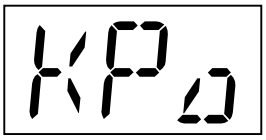
MENU ZERO Press once (briefly)

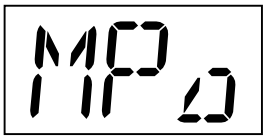
The next unit is indicated.

RESET OK Confirm unit selection





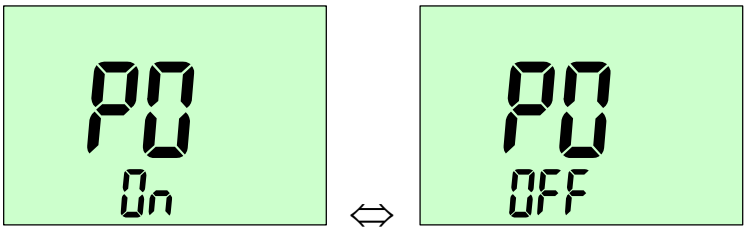




5.12 Filter Settings

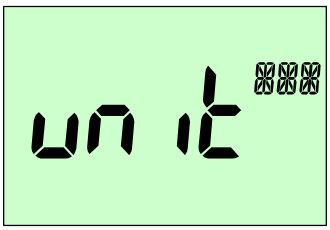
MENU ZERO

Press 2 s



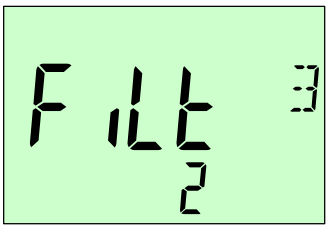
MENU ZERO

Press



MENU ZERO

Press



MENU ZERO Press once (briefly)

Filter selection is indicated.

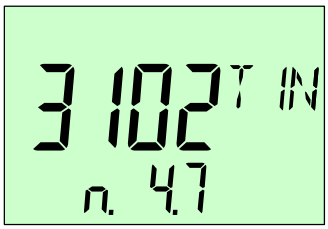
RESET OK Confirm filter configuration

5.13 Display device address

In order to set up the devices manually in the PC Software „JuniorWin“ the device’s address will be need.

MENU ZERO

Press



Display of device address (1. line)
Display of Software Version (2.line)

RESET OK

5.14 Data Memory Function

Two different data memory functions can be used:

rEC tiME or ***rEC Auto***.

rEC tiME time based data recording

- can be started manually by ***rEC MAnu*** or
- operated by a given trigger point ***rEC tp***

Depending on the recording time the memory interval will be processed automatically (5,000 Intervals).
Into each memory interval one maximum reading will be saved.

rEC Auto pressure peak monitoring

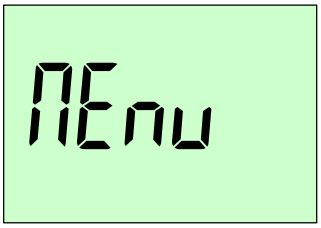
- records readings above given trigger point

Setup of individual memory interval will be done by user.
Only readings will be saved into data memory which are above given trigger point.

The data memory can be read out with the wireless PC Adapter and the PC Software „JuniorWin“.

The memory function will be processed with MENU ZERO

MENU ZERO Press 2 s



MENU ZERO Press

MENU ZERO

RESET OK

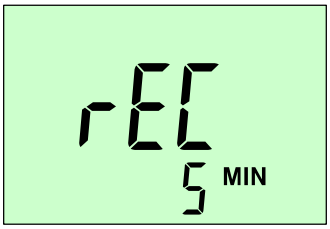
rEC tiME Function will be set

RESET OK

rEC Auto Function will be set

5.15 Set up *REC time* Function

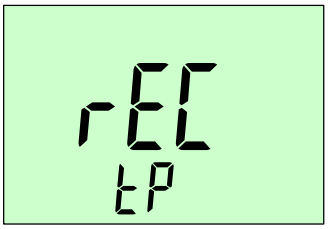
RESET OK confirm



MENU ZERO select 3/10/30/60 min

RESET OK confirm

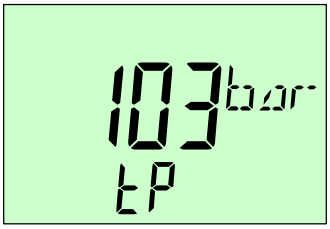
Select Start with Trigger point ***rEC tp*** or manually ***rEC MAnu***



MENU ZERO

MENU ZERO Setup
0…FS (Full Scale range)

RESET OK Start data recording



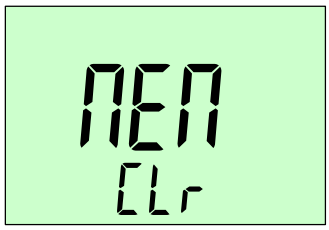
MENU ZERO select upwards

MIN MAX FS select downwards

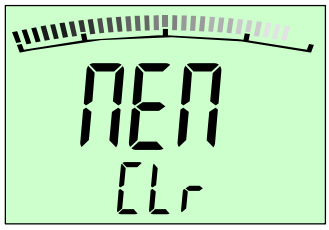
RESET OK confirm trigger point

5.16 Delete Data Memory

When the data memory is full it must be deleted before data recording can be started.

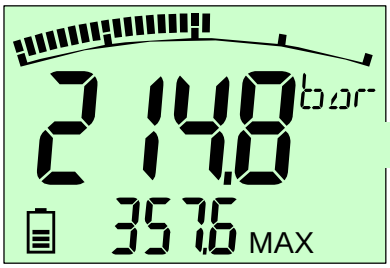


RESET OK Delete data memory



Deleting data memory content

RESET OK Start data recording
with selected trigger point (e.g. 103 bar)



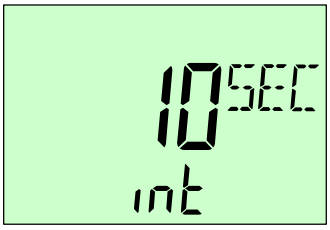
REC appears in the display and flashes

RESET OK cancel data recording

REC disappears in the display

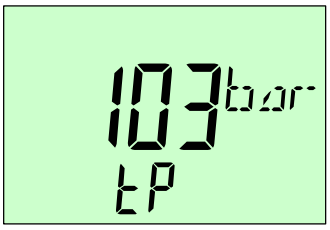
5.17 Setup Function REC *AUTO*

RESET OK confirm



MENU ZERO Select 0.1/1/10/60 s

RESET OK confirm

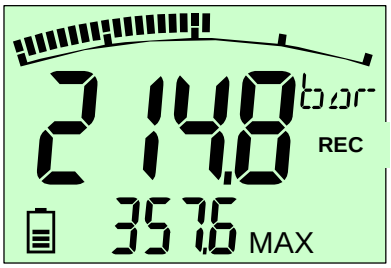


MENU ZERO select upwards

MIN MAX FS select downwards

Deleting data memory see chapter 5.13.

RESET OK Start data recording
with selected trigger point (e.g. 157.7 bar)



REC appears in the display and flashes

RESET OK cancel data recording

REC disappears in the display

6 Technical Data

Version	• Digital pressure gauge with **ACT** - **MIN** and **MAX Display** • bar graph display (33 segments) with peak and hold function • 4 ½ digit LC display (15 mm) with back light illumination • Battery powered with low power electronic system • Life time cycle 800 h (No back light function) • Pressure port stainless steel 1.4404 ¼" BSPP (ISO 1179-2) or 7/16 – 20 UNF (ISO 11926-2/3)	
Input	• Ceramic Sensor cell -1…16 bar • Strain Gauge Cell 0…100/400/600/1,000 bar • Scan rate 10 ms • Accuracy ± 0.25 % FS typ. ± 0.5 % FS max. • Resolution 12 bit = 4,096 steps	
Housing	Ø = 79 mm; T = 33 mm Zinc Die Cast with Rubber Protection TPE	
Weight (g)	540	
Sealing	Standard NBR sealed Viton® (FKM); EPDM on request	
Parts in contact with media	Stainless Steel 1.4404, NBR, ceramics	
Power Supply	Battery 2 x 1,5 VDC AA (LR6) Alkaline (Mignon)	
Ambient conditions	Ambient temperature Storage temperature Fluid temperature Rel. humidity Protection Vibration Shock	-10…50 °C -20…+60°C -20…+80°C < 85% EN 60529 (IP 54) IEC 60068-2-6 5g IEC 60068-2-27 25g
Function	Units: bar; PSI; Mpa; kPa; mbar MIN/MAX - Full Scale Battery Status Control Auto Power Off/On Zero Function Reset (Deletes MIN/MAX)	
PC Funktion	PC Software "JuniorWin" Download recorded data's via wireless PC Interface (2,4 GHz) Range 50 m Device Setup	
Memory Function	5,000 Readings (MAX Readings) Setup of Memory Interval REC TIME (Time based recording) REC AUTO (Long Term Recording by Limit Monitoring)	

Digital Pressure Gauge ServiceJunior *wireless*

Range bar	Display bar	Display PSI	Display mbar	Display kPa	Display MPa
-1…16	-1,00...16,00	-14,5...200,0	-999...16000	-100...1600	-
0…100	0...100,0	0...1500	-	0...10000	0...10,00
0…400	0...400,0	0...5800	-	0...4000 (x10)	0...40,00
0…600	0...600,0	0...8700	-	0...6000 (x10)	0...60,00
0…1000	0...1000	0...15000	-	-	0...100,0

Range (bar)	-1…16	0…100	0…400	0…600	0…1.000
Overload P_{max} (bar)	40	200	800	1.200	1.500
Burst Pressure (bar)	50	800	1.700	2.200	2.500

Burst pressures related to tests without assembled adapters.
Exceeding the maximum overload values (P_{max}) may lead to malfunctions and may even destroy the **ServiceJunior *wireless***.

The **ServiceJunior *wireless*** meets the guidelines of the European Community (EU).
It is confirmed that this product is approved acc. to following standards:

CE

DIN / EN 61000-6-2
DIN / EN 61000-6-3

FCC ID: WCYSCJNP0xxxRC001

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) the device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.