

FRONT PANEL PROGRAMMING



This document provides information about Front Panel Programming (FPP) feature which enables the changing of various software parameters via the front panel keys.

FPP is only accessible during boot up sequence.

FPP feature can be disabled via PC software setting using Airtec Programming Software version 20 (APS 20).

1.1 Entering FPP Mode

On power up, press and hold '-' key until the display shows 'FPP'. To activate FPP, user must enter a correct access code which is programmable via PC software - Airtec Programming Software version 20 (APS 20). By default, the FPP access code is set up as '111'. An example of accessing FPP is illustrated as follows:

On power up, press and hold '-' key, an example of display sequence is shown as follows:

1.888 → 50 → 5.01 → 1001 → FPP → 000

The FPP access code can be adjusted using '+' and '-' keys. Set the FPP access code as '111' (default FPP access code), then press '◇' key to enter. If an incorrect FPP access code is entered, the inflator unit will reboot itself.

Once the correct FPP access code is entered, the display will show 'P.01'. There are two steps in setting parameters in FPP mode. The first step is 'Software Parameter Selection'. The second step is to change and store the 'Parameter Value Setting'.

1.2 Software Parameter Selection

There are 76 software parameters that can be set via FPP, that is P.01 - P.76. Each of the software parameter is listed out as follows:

P.01 Operating Mode

1. Standard Mode
2. Manual Mode
3. Pressure Gauge Mode
4. Coin-op Mode
5. Tyre Shop Mode 5 - inflate tyre first
6. Tyre Shop Mode 6 - deflate tyre first
7. Tyre Shop Mode 7 - separate purge and top off keys are required
8. Bead Inspection Mode
9. Customised Mode
10. Temperature Compensating Mode
11. Over-Inflator Mode

P.02 Mode Lock

- 0 - Unlocked
- 1 - Locked

P.03 Default UOM

- 0 - psi
- 2 - kPa
- 4 - bar / kg/cm²

P.04 Alternative UOM

- 0 - psi
- 2 - kPa
- 4 - bar / kg/cm²

P.05 UOM Selection Option

- 1 - Default UOM
- 2 - Selectable 2 Units
- 3 - Selectable 3 Units

P.06 Minimum Pressure

- 0 - 180 psi
- 0 - 1250 kPa
- 0 - 12.5 bar / kg/cm²

P.07 Default Pressure

- 0 - 180 psi
- 0 - 1250 kPa
- 0 - 12.5 bar / kg/cm²

P.08 Maximum Pressure

- 0 - 180 psi
- 0 - 1250 kPa
- 0 - 12.5 bar / kg/cm²

P.09 AUX 1 Setting

- | | |
|-------------------------------|--------------------------------------|
| 0 - No Function | 9 - Aux Light (Pass) |
| 1 - Compressor Control (Auto) | 10 - Aux Light (Fail) |
| 2 - Declutch Hose Chuck | 11 - Compressor Control (Continuous) |
| 3 - Auto Power Off | 12 - Liquid Dispenser Control |
| 4 - Auxiliary Alarm | 13 - Psi |
| 5 - External Cycle Counter | 14 - kPa |
| 6 - Control Valve | 15 - bar |
| 7 - Heater Control | 16 - Stop Pressure Indicator |
| 8 - External Coin Counter | |

P.10 AUX 2 Setting

- | | |
|-------------------------------|--------------------------------------|
| 0 - No Function | 9 - Aux Light (Pass) |
| 1 - Compressor Control (Auto) | 10 - Aux Light (Fail) |
| 2 - Declutch Hose Chuck | 11 - Compressor Control (Continuous) |
| 3 - Auto Power Off | 12 - Liquid Dispenser Control |
| 4 - Auxiliary Alarm | 13 - Psi |
| 5 - External Cycle Counter | 14 - kPa |
| 6 - Control Valve | 15 - bar |
| 7 - Heater Control | 16 - Stop Pressure Indicator |
| 8 - External Coin Counter | |

P.11 AUX 3 Setting

- | | |
|-------------------------------|--------------------------------------|
| 0 - No Function | 9 - Aux Light (Pass) |
| 1 - Compressor Control (Auto) | 10 - Aux Light (Fail) |
| 2 - Declutch Hose Chuck | 11 - Compressor Control (Continuous) |
| 3 - Auto Power Off | 12 - Liquid Dispenser Control |
| 4 - Auxiliary Alarm | 13 - Psi |
| 5 - External Cycle Counter | 14 - kPa |
| 6 - Control Valve | 15 - bar |
| 7 - Heater Control | 16 - Stop Pressure Indicator |
| 8 - External Coin Counter | |

P.12 N2P Cycles

- 1 - 9 (cycles)

P.13 N2P First Cycle %

- 1 - 100 (%)

P.14 N20 Next Cycle %

1 - 100 (%)

P.15 Initial N2P Deflate Pressure

0 - 180 psi
0 - 1250 kPa
0 - 12.5 bar / kg/cm²

P.16 OPS Default Pressure

0 - 180 psi
0 - 1250 kPa
0 - 12.5 bar / kg/cm²

P.17 OPS Maximum Pressure

0 - 29 psi
0 - 200 kPa
0 - 2.0 bar / kg/cm²

P.18 Bead Inspection Stop Pressure

0 - 180 psi
0 - 1250 kPa
0 - 12.5 bar / kg/cm²

P.19 Auto / Manual Start Control

1 - Auto Start
2 - Manual Start

P.20 Auto Power Off Timeout

1 - 1000 (seconds)

P.21 Pressure Stabilisation Delay

0 - 1000 (seconds)

P.22 DSPS Mode

- 0 - Do Not Return
- 1 - Return If Greater Than

P.23 DSPS Timeout

- 1 - 600 (seconds)

P.24 Preset Store Via Keypad

- 0 - Disabled
- 1 - Enabled

P.25 Coin Mode

- 1 - Stacking
- 2 - Non-Stacking
- 3 - VTC Non-Stacking

P.26 Coin/s Required to Start Vend

- 1 - 15 (coins)

P.27 Coin Time per Vend

- 10 - 1990 (seconds)

P.28 Maximum Cycle Time

- 1 - 120 (seconds)

P.29 ER1 Stable Attempt

- 1 - 1000 (attempts)

P.30 Pressure Drop Threshold

- 0 - 1999 (counts)

P.31 LCD Backlight Control

0 - Off
1 - On
2 - Auto

P.32 Heater Cut In Counts (refer to Table 1)

78 - 605 (counts)

P.33 Heater Cut Out Counts (refer to Table 1)

78 - 605 (counts)

P.34 Low Battery Indication Voltage (refer to Table 2 & 3)

371 - 987 (counts)

P.35 ER5 Cut Off Voltage (refer to Table 2 & 3)

371 - 987 (counts)

P.36 Minimum Set Point Tolerance in Counts

20 - 1000 (counts)

P.37 Set Point Tolerance in Percentage

0.1 - 100.0 (%)

P.38 Minimum Inflate Rate

0 - 1000 (counts per second)

P.39 Buzzer Short Circuit Threshold

0 - 255 (counts)

P.40 Valve Short Circuit DC Threshold

0 - 100 (%)

P.41 Valve Short Circuit AC Threshold

0 - 100 (%)

P.42 UART Baud Rate

- | | |
|----------|-------------|
| 1 - 110 | 6 - 9600 |
| 2 - 300 | 7 - 19200 |
| 3 - 1200 | 8 - 38400 |
| 4 - 2400 | 9 - 57600 |
| 5 - 4800 | 10 - 115200 |

P.43 RS232 Baud Rate

- | | |
|----------|-------------|
| 1 - 110 | 6 - 9600 |
| 2 - 300 | 7 - 19200 |
| 3 - 1200 | 8 - 38400 |
| 4 - 2400 | 9 - 57600 |
| 5 - 4800 | 10 - 115200 |

P.44 Boot Up Counter Display

- 0 - No Counter Display
- 1 - Complete Cycle Counter
- 2 - Coin Counter
- 3 - Complete Cycle + Coin Counter
- 4 - Purge Cycle Counter
- 5 - Complete Cycle + Purge Cycle Counter
- 6 - Purge Cycle + Coin Counter
- 7 - Complete Cycle + Purge Cycle + Coin Counter
- 8 - Token Counter
- 9 - Complete Cycle Counter + Token Counter
- 10 - Coin Counter + Token Counter
- 11 - Complete Cycle Counter + Coin Counter + Token Counter
- 12 - Purge Cycle Counter + Token Counter
- 13 - Complete Cycle Counter + Purge Cycle Counter + Token Counter
- 14 - Purge Cycle Counter + Coin Counter + Token Counter
- 15 - Complete Cycle Counter + Purge Cycle Counter + Coin Counter + Token Counter

P.45 Coin Counter Display Selection

- 1 - Remaining Vend Time Counter
- 2 - Remaining Coin Credit Counter

P.46 Coin Value per Coin Pulse

0.10 - 19.90 (dollar value)

P.47 Coin Idle Movie Selection

- 1 - Default Coin Movie "Coin"
- 2 - Europe Coin Movie "Euro"
- 3 - Europe Coin Movie "Luft"

P.48 Auto Start Delay

0 - 60 (seconds)

P.49 Display Mask on Inflate/Deflate Operation

- 0 - Disabled
- 1 - Enabled

P.50 Calibration for Volume per Vend

Press '+' key to dispense until it reaches the desired volume per vend. To confirm the volume per vend, press '◊' key.

P.51 Coin Input Configuration

- | | | |
|-------------------------|----------------------|---------------------|
| 0 - Flat Tyre | 10 - Estop | 20 - Minus (Bottom) |
| 1 - Plus | 11 - Coin | 21 - Vault Trigger |
| 2 - Minus | 12 - Remote Coin | 22 - Coin Reset |
| 3 - Unit of Measurement | 13 - Counter Display | 23 - Coin Latch |
| 4 - Purge | 14 - Battery Display | |
| 5 - P1 | 15 - Power Off | |
| 6 - P2 | 16 - Coin Tag | |
| 7 - P3 | 17 - Flow Pulse | |
| 8 - Stop | 18 - Token | |
| 9 - Start | 19 - Plus (Bottom) | |

P.52 Remote Input Configuration

- | | | |
|-------------------------|----------------------|---------------------|
| 0 - Flat Tyre | 10 - Estop | 20 - Minus (Bottom) |
| 1 - Plus | 11 - Coin | 21 - Vault Trigger |
| 2 - Minus | 12 - Remote Coin | 22 - Coin Reset |
| 3 - Unit of Measurement | 13 - Counter Display | 23 - Coin Latch |
| 4 - Purge | 14 - Battery Display | |
| 5 - P1 | 15 - Power Off | |
| 6 - P2 | 16 - Coin Tag | |
| 7 - P3 | 17 - Flow Pulse | |
| 8 - Stop | 18 - Token | |
| 9 - Start | 19 - Plus (Bottom) | |

P.53 Token Time per Vend

10 - 1990 (seconds)

P.54 Token Credit Value

0.10 - 19.90 (dollar value)

P.55 Coin Counter Reset

1 - Abort Reset
0 - Reset Counter

P.56 Token Counter Reset

1 - Abort Reset
0 - Reset Counter

P.57 Liquid Dispensing Delay

1 - 30 (seconds)

P.58 Bead Inspection Check Mode

1 - Check If Greater Than
2 - Check If Lesser Than
3 - Check if out of range

P.59 Pressure Sensor Zero Offset Reset

Enter Access Code to perform zero offset reset. Please consult distributor or manufacturer to obtain the Access Code.

P.60 Decimal Place Setting (BAR)

1 - One Decimal Place (1.0)
2 - Two Decimal Place (1.00)

P.61 Free Pressure Check Option (Coin Operation Mode)

0 - Disabled
1 - Enabled

P.62 Front Panel System Reset

- 0 - Disabled
- 1 - Enabled

P.63 Temperature Unit

- 1 - Degree Celsius
- 2 - Degree Fahrenheit

P.64 Card Dispenser Option

- 0 - Disabled
- 1 - Enabled

P.65 Start Input Configuration

- | | | |
|-------------------------|----------------------|---------------------|
| 0 - Flat Tyre | 10 - Estop | 20 - Minus (Bottom) |
| 1 - Plus | 11 - Coin | 21 - Vault Trigger |
| 2 - Minus | 12 - Remote Coin | 22 - Coin Reset |
| 3 - Unit of Measurement | 13 - Counter Display | 23 - Coin Latch |
| 4 - Purge | 14 - Battery Display | |
| 5 - P1 | 15 - Power Off | |
| 6 - P2 | 16 - Coin Tag | |
| 7 - P3 | 17 - Flow Pulse | |
| 8 - Stop | 18 - Token | |
| 9 - Start | 19 - Plus (Bottom) | |

P.66 Estop Function

- 0 - No function, stop only
- 1 - Manual Stop and Deflate
- 2 - Auto Stop and Deflate

P.67 OPS Hold Time

0 - 1999 (seconds)

P.68 OPS Leak Test Option

0 - Disabled
1 - Enabled

P.69 OPS Leak Detection Threshold

0 - 58 psi
0 - 400 kPa
0 - 4.0 bar / kg/cm²

P.70 Leak Test Hold Time

0 - 1999 (minutes)

P.71 Leak Test Threshold

0 - 180 psi
0 - 1250 kPa
0 - 12.5 bar / kg/cm²

P.72 Bead Stop Pressure Mode

1 - Fixed Pressure
2 - Relative to Target
3 - Relative in Percent

P.73 Bead Stop Percentage (Low)

1 - 80 (%)

P.74 Bead Stop Percentage (High)

1 - 100 (%)

P.75 Device ID Configuration

0 - 255

P.76 OPS Beeper Mute

- 0 - Disabled
- 1 - Enabled

Press '+' key or '-' key to select different software parameter setting P.01 - P.76. To enter into second level of "**Parameter Value Setting**", press 'i' key. To return to first level of "**Software Parameter Selection**", press 'i' key or '◇' key.

1.3 Parameter Value Setting

The value of the selected software parameter can be changed via '+' key or '-' key. To save the changes made, press '◇' key, or to discard the change in value, press 'i' key. Once the new value is being saved or discard, it will return to the first step of "**Software Parameter Selection**".

An example of changing the software parameter "P.07 Default Pressure" is described as follows:

While the display is showing "P.01", press '+' key 6 times. Now the display will show "P.07". Press 'i' key and the display will show the default pressure, example 32 psi. Use '+' or '-' key to change the desired default pressure value. To save the new default pressure value, press '◇' key. To discard the change, press 'i' key.

1.4 Exit FPP Mode

To exit the FPP mode, press '◇' key while it is in the first setting of "**Software Parameter Selection**" (P.01 - P.76). The inflator will reboot and restart.

Table 1 : Temperature - Counts Reference Table

Temperature		Counts
Celsius	Fahrenheit	
-25	-13	78
-15	5	109
-5	23	140
0	32	155
5	41	171
15	59	202
25	77	233
40	104	279
55	131	326
70	158	372
85	185	419
100	212	465
115	239	512
130	266	559
145	293	605

Table 2 : Voltage - Counts Reference Table

Voltage	Counts
8.00	371
8.75	410
9.25	436
9.75	461
10.00	474
10.25	487
10.75	512
11.25	538
11.75	564
12.50	602
13.25	641
14.00	679
15.25	744
17.50	859
20.00	987

Table 3 : Recommended Voltage Setting for Batteries

	Low Battery Warning		ER5 Battery Cut Off	
	Voltage	Counts	Voltage	Counts
NiMH	11.75	564	10.75	512
SLA Battery	11.75	564	11.00	525
Li-ion	13.00	628	12.5	602

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