

**I. Communication settings:**

9600 / 8 / 1 / N

**II. Commands.**

**1. Get General Information (0x01)**

- Request:

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header
2	1	0x02	Packet payload size / 2 bytes /
3	1	0x01	Command Id
4	1	0xFD	Checksum

- Response:

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header
2	1	byte	Packet payload size
3	1	byte	Hardware version/brand ???
4	1	byte	Software version 0x13 = v1.3
5	1	byte	Hour 0x20 = 20h
6	1	byte	Minutes 0x16 = 16m
7	1	byte	Seconds 0x55 = 55s
8	1	byte	Day 0x20 = 20th
9	1	byte	Month 0x01 = January
10	1	byte	Year 0x16 = 2016
11	1	byte	0x00 - STANDBY 0x01 - AUTO 0x02 - Timer
12	1	byte	0x00 - CH Priority 0x01 - DHW Priority 0x02 - Parallel Pumps 0x03 - Summer Mode
13	1	byte	0x00 - IDLE 0x01 - Fan Cleaning 0x02 - CLEANER 0x03 - Wait 0x04 - Loading 0x05 - HEATING 0x06 - IGNITION1

			0x07 - IGNITION2 0x08 - UNFOLDING 0x09 - BURNING 0x0A - EXTINCTION
14	1	byte	
15	1	byte	
16	1	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7	Ignition Fail     Pellet Jam
17	1	byte	
18	1	byte	
19	1	byte	Tset
20	1	byte	Tboiler
21	1	byte	Tdhw
22	1	byte	
23	1	byte	Flame
24	1	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7	Heater  CH pump BF FF
25	1	byte	
26	1	byte	Fan
27	1	byte	0x00 - Idle 0x01 - Suspend 0x02 - P1 0x03 - P2 0x04 - P3
28	1	Bit 7	Thermostat (1 - STOP, 0 - NORMAL)
29	1		
30	1	byte	Feeder work time in seconds
31	1	byte	Checksum = sum(data) XOR 0xFF

## 2. 0x02

### 3. Set Burner Mode and Priority (0x03)

- Request:

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header
2	1	0x04	Packet payload size / 4 bytes /
3	1	0x03	Command Id
4	1	byte	Standby - 0x00 AUTO - 0x01 Timer - 0x02
5	1	byte	Ch Priority - 0x00 DHW Priority - 0x01 Parallel Pumps - 0x02 Summer Mode - 0x03
6	1	byte	Checksum

- Response:

### 4. Get Burner Settings (0x04)

## 5. 0x05

## 6. 0x06

### 7. Set Boiler Temperature (0x07)

- Request:

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header
2	1	0x03	Packet payload size / 3 bytes /
3	1	0x07	Command Id
4	1	byte	Tboiler
5	1	byte	Checksum

- Response:

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header

2	1	0x02	Packet payload size / 2 bytes /
3	1	0x34	
4	1	0xCA	Checksum

8.

**9. Reset feeder counter (0x09)**

- Request

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header
2	1	0x02	Packet payload size / 2 bytes /
3	1	0x09	Command Id
4	1	0xF5	Checksum

- Response

Offset	Length	Value	Description
0	2	0x5A 0x5A	Packet header
2	1	0x02	Packet payload size / 2 bytes /
3	1	0x34	
4	1	0xCA	Checksum

10.

## Case 1 - Burning at Power 2

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:55

State: CH PRIORITY

Status: BURNING / PWR 2

Tset: 60 °C  
Tboiler: 54 °C  
Tdhw: -- °C  
Flame: 86 Tflame: 0 °C

Thermostat: NORMAL  
CH pump: ON  
DHW pump: OFF  
Heater: OFF

Total Feed: 0:00:40 (16/12/2016 10:44)  
Errors:

5A 5A 02 01 FD

ZZ..ŷ

5A 5A 1D 16 14 12 58 3C 1B 18 1D 09 09 13 0B 8C ZZ....X<.....  
OD 0E 0F 4C 47 92 93 6A 1D 16 40 1B 19 1A 1B 74 ...LG'`j...@....t

Pos 13 changed:

0x13 - 0x09 - 0000 1001

Pos 24:

0x1D - 0x08 - 0000 1000

## Case 2 - Turn water pump ON

Temperature increased from 53 to 54 and the burner turned the water pump ON.

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:48

State: CH PRIORITY

Status: IDLE

Tset: 60 °C  
Tboiler: 53 °C  
Tdhw: -- °C  
Flame: 0 Tflame: 0 °C

Thermostat: STOP  
CH pump: OFF  
DHW pump: OFF  
Heater: OFF

Total Feed: 0:00:00 (16/12/2016 10:44)  
Errors:

5A 5A 02 01 FD

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:48

State: CH PRIORITY

Status: IDLE

Tset: 60 °C  
Tboiler: 54 °C  
Tdhw: -- °C  
Flame: 0 Tflame: 0 °C

Thermostat: STOP  
CH pump: ON  
DHW pump: OFF  
Heater: OFF

Total Feed: 0:00:00 (16/12/2016 10:44)  
Errors:

ZZ..ŷ

000570: 2016-12-16 10:48:55.6416680 +0.0000000

5A 5A 1D 16 14 12 4B 57 1B 18 1D 09 09 0A 0B 8C ZZ....KW.....@  
OD 0E 0F 4C 46 92 13 14 15 16 17 18 99 1A 1B FA ...LF'.....@..ú

000588: 2016-12-16 10:49:00.6416680 +0.0156250

5A 5A 1D 16 14 12 4B 5C 1B 18 1D 09 09 0A 0B 8C ZZ....K\.....@  
OD 0E 0F 4C 47 92 13 14 1D 16 17 18 99 1A 1B EC ...LG'.....@..i

Pos 13 changed:

0x0A - 0x00 - 0000 0000

Pos 24 changed:

0x15 - 0x00 - 0000 0000

0x1D - 0x08 - 0000 1000

### Case 3 - Ignition [Idle -> Fan Cleaning]

SW/ver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:49

State: CH PRIORITY

Status: IDLE

Tset: 60 °C

Tboiler: 53 °C

Tdhw: -- °C

Flame: 0 Tfume: 0 °C

Thermostat: STOP

CH pump: ON

DHW pump: OFF

Heater: OFF

Total Feed: 0:00:00 (16/12/2016 10:44)

Errors:

SW/ver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:49

State: CH PRIORITY

Status: FAN CLEANING

Tset: 60 °C

Tboiler: 53 °C

Tdhw: -- °C

Flame: 0 Tfume: 0 °C

Thermostat: NORMAL

CH pump: ON

DHW pump: OFF

Heater: OFF

Total Feed: 0:00:00 (16/12/2016 10:44)

Errors:

5A 5A 02 01 FD

ZZ..ý

000696: 2016-12-16 10:49:30.6416680 +0.0000000

5A 5A 1D 16 14 12 4C 2C 1B 18 1D 09 09 0A 0B 8C ZZ....L,.....@  
OD 0E 0F 4C 46 92 13 14 1D 16 17 18 99 1A 1B 1C ...LF'.....@...

000714: 2016-12-16 10:49:35.6572930 +0.0156250

5A 5A 1D 16 14 12 4C 37 1B 18 1D 09 09 0B 0B 8C ZZ....L7.....@  
OD 0E 0F 4C 46 92 13 14 2D 16 7B 18 19 1A 1B 1C ...LF'...-.{.....

Pos 13 changed:

0x0A - 0x00 - 0000 0000

0x0B - 0x01 - 0000 0001

Pos 24 changed:

0x1D - 0x08 - 0000 1000

0x2D - 0x18 - 0001 1000

Pos 26 changed:

0x17 - 0x00 - 0000 0000 - 0  
0x7B - 0x64 - 0110 0100 - 100

Pos 28 changed:

0x99 - 0x80 - 1000 0000  
0x19 - 0x00 - 0000 0000

#### Case 4 - Ignition [Fan Cleaning -> Wait]

SWver: 1.3 / NPBC-V3-GR Date/Time: 16/12/2016 10:49 State: CH PRIORITY Status: FAN CLEANING Tset: 60 °C Tboiler: 53 °C Tdhw: -- °C Flame: 0 Tfume: 0 °C Thermostat: NORMAL CH pump: ON DHW pump: OFF Heater: OFF Total Feed: 0:00:00 (16/12/2016 10:44) Errors:	SWver: 1.3 / NPBC-V3-GR Date/Time: 16/12/2016 10:50 State: CH PRIORITY Status: WAIT Tset: 60 °C Tboiler: 53 °C Tdhw: -- °C Flame: 0 Tfume: 0 °C Thermostat: NORMAL CH pump: ON DHW pump: OFF Heater: OFF Total Feed: 0:00:00 (16/12/2016 10:44) Errors:
--	--

5A 5A 02 01 FD

ZZ..ý

000804: 2016-12-16 10:50:00.6416680 +0.0000000

5A 5A 1D 16 14 12 4C 5C 1B 18 1D 09 09 0B 0B 8C ZZ....L\.....@  
OD 0E 0F 4C 46 92 13 14 2D 16 7B 18 19 1A 1B F7 ...LF'...-.{....÷

000822: 2016-12-16 10:50:05.6416680 +0.0000000

5A 5A 1D 16 14 12 53 07 1B 18 1D 09 09 0D 0B 8C ZZ....S.....@  
OD 0E 0F 4C 46 92 13 14 1D 16 17 18 19 1A 1B B7 ...LF'.....'

Pos 13 changed:

0x0B - 0x01 - 0000 0001  
0x0D - 0x03 - 0000 0011

Pos 24 changed:

0x2D - 0x18 - 0001 1000  
0x1D - 0x08 - 0000 1000

Pos 26 changed:

0x7B - 0x64 - 0110 0100 - 100  
0x17 - 0x00 - 0000 0000 - 0

#### Case 5 - Ignition [Wait -> Loading]

SW/ver: 1.3 / NPBC-V3-GR  
 Date/Time: 16/12/2016 10:50  
 State: CH PRIORITY  
 Status: WAIT  
 Tset: 60 °C  
 Tboiler: 53 °C  
 Tdhw: -- °C  
 Flame: 0 Tfume: 0 °C  
 Thermostat: NORMAL  
 CH pump: ON  
 DHW/ pump: OFF  
 Heater: OFF  
 Total Feed: 0:00:00 (16/12/2016 10:44)  
 Errors:

SW/ver: 1.3 / NPBC-V3-GR  
 Date/Time: 16/12/2016 10:50  
 State: CH PRIORITY  
 Status: LOADING  
 Tset: 60 °C  
 Tboiler: 53 °C  
 Tdhw: -- °C  
 Flame: 0 Tfume: 0 °C  
 Thermostat: NORMAL  
 CH pump: ON  
 DHW/ pump: OFF  
 Heater: OFF  
 Total Feed: 0:00:04 (16/12/2016 10:44)  
 Errors:

5A 5A 02 01 FD

22..ŷ

000822: 2016-12-16 10:50:05.6416680 +0.0000000

5A 5A 1D 16 14 12 53 07 1B 18 1D 09 09 0D 0B 8C 22....S.....E  
 OD 0E 0F 4C 46 92 13 14 1D 16 17 18 19 1A 1B B7 ...LF'.....'

000840: 2016-12-16 10:50:10.6416680 +0.0156250

5A 5A 1D 16 14 12 53 0C 1B 18 1D 09 09 0E 0B 8C 22....S.....E  
 OD 0E 0F 4C 46 92 13 14 4D 16 17 18 19 1A 1F 7D ...LF'..M.....)

Pos 13 changed:

0x0D - 0x03 - 0000 0011

0x0E - 0x04 - 0000 0100

Pos 24 changed:

0x1D - 0x08 - 0000 1000

0x4D - 0x38 - 0011 1000

Pos 30 changed:

0x1B - 0x00 - 0000 0000

0x1F - 0x04 - 0000 0100

Case 5 - Ignition [Loading -> Ignition1]



SW/ver: **1.3 / NPBC-V3-GR**  
 Date/Time: **16/12/2016 10:50**

State: **CH PRIORITY**

Status: **LOADING**

Tset: **60 °C**  
 Tboiler: **53 °C**  
 Tdhw: **-- °C**  
 Flame: **0** Tfume: **0 °C**

Thermostat: **NORMAL**  
 CH pump: **OFF**  
 DHW pump: **OFF**  
 Heater: **OFF**

Total Feed: **0:00:34 (16/12/2016 10:44)**  
 Errors:

SW/ver: **1.3 / NPBC-V3-GR**  
 Date/Time: **16/12/2016 10:50**

State: **CH PRIORITY**

Status: **IGNITION1**

Tset: **60 °C**  
 Tboiler: **52 °C**  
 Tdhw: **-- °C**  
 Flame: **0** Tfume: **0 °C**

Thermostat: **NORMAL**  
 CH pump: **OFF**  
 DHW pump: **OFF**  
 Heater: **ON**

Total Feed: **0:00:34 (16/12/2016 10:44)**  
 Errors:

5A 5A 02 01 FD

ZZ..y

**001092: 2016-12-16 10:50:45.6260430 +0.0000000**

5A 5A 1D 16 14 12 53 47 1B 18 1D 09 09 0E 0B 8C ZZ....SG.....@  
 OD 0E 0F 4C 46 92 13 14 25 16 17 18 19 1A 1B 6E ...LF'...%......n

**001110: 2016-12-16 10:50:50.6416680 +0.0000000**

5A 5A 1D 16 14 12 53 4C 1B 18 1D 09 09 10 0B 8C ZZ....SL.....@  
 OD 0E 0F 4C 45 92 13 14 17 16 3E 18 19 1A 1B 4F ...LE'....>....0

Pos 13 changed:

0x0E - 0x04 - 0000 01**00**  
 0x10 - 0x06 - 0000 01**10**

Pos 24 changed:

0x25 - 0x10 - 000**1** 00**00**  
 0x17 - 0x02 - 000**0** 00**10**

Pos 26 changed:

0x17 - 0x00 - 000**0** 00**00** - 0  
 0x3E - 0x27 - 00**10** 0111 - 39

**Case 6 - Ignition [Ignition1 -> Unfolding]**

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:52

State: CH PRIORITY

Status: IGNITION1

Tset: 60 °C  
Tboiler: 53 °C  
Tdhw: -- °C  
Flame: 141 Tfume: 0 °C  
Thermostat: NORMAL  
CH pump: OFF  
DHW pump: OFF  
Heater: ON  
Total Feed: 0:00:34 (16/12/2016 10:44)  
Errors:

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:52

State: CH PRIORITY

Status: UNFOLDING

Tset: 60 °C  
Tboiler: 53 °C  
Tdhw: -- °C  
Flame: 152 Tfume: 0 °C  
Thermostat: NORMAL  
CH pump: OFF  
DHW pump: OFF  
Heater: OFF  
Total Feed: 0:00:34 (16/12/2016 10:44)  
Errors:

5A 5A 02 01 FD

ZZ..ý

001524: 2016-12-16 10:52:45.6416680 +0.0000000

5A 5A 1D 16 14 12 55 47 1B 18 1D 09 09 10 0B 8C ZZ....UG.....@  
OD 0E 0F 4C 46 92 93 A1 17 16 3E 18 19 1A 1B 44 ...LF'^\;...>....D

001542: 2016-12-16 10:52:50.6416680 +0.0156250

5A 5A 1D 16 14 12 55 4C 1B 18 1D 09 09 12 0B 8C ZZ....UL.....@  
OD 0E 0F 4C 46 92 93 AC 15 16 41 18 19 1A 1B 31 ...LF'^\~...A....1

Pos 13 changed:

0x10 - 0x06 - 0000 0110

0x12 - 0x08 - 0000 1000

Pos 24 changed:

0x17 - 0x02 - 0000 0010

0x15 - 0x00 - 0000 0000

Case 7 - Ignition [Unfolding -> Power 2]

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:54

State: CH PRIORITY

Status: UNFOLDING

Tset: 60 °C  
Tboiler: 53 °C  
Tdhw: -- °C  
Flame: 168 Tfume: 0 °C  
Thermostat: NORMAL  
CH pump: OFF  
DHW pump: OFF  
Heater: OFF  
Total Feed: 0:00:34 (16/12/2016 10:44)  
Errors:

SWver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 10:54

State: CH PRIORITY

Status: BURNING / PWR 2

Tset: 60 °C  
Tboiler: 53 °C  
Tdhw: -- °C  
Flame: 151 Tfume: 0 °C  
Thermostat: NORMAL  
CH pump: OFF  
DHW pump: OFF  
Heater: OFF  
Total Feed: 0:00:37 (16/12/2016 10:44)  
Errors:

5A 5A 02 01 FD

ZZ..ý

001956: 2016-12-16 10:54:45.6416680 +0.0000000

5A 5A 1D 16 14 12 57 47 1B 18 1D 09 09 12 0B 8C ZZ....WG.....@  
OD 0E 0F 4C 46 92 93 BC 15 16 41 18 19 1A 1B 24 ...LF'""w..A....\$

001974: 2016-12-16 10:54:50.6260430 +0.0000000

5A 5A 1D 16 14 12 57 4C 1B 18 1D 09 09 13 0B 8C ZZ....WL.....@  
OD 0E 0F 4C 46 92 93 AB 25 16 40 1B 19 1A 1E 1A ...LF'""«\$.@.....

Pos 13 changed:

0x12 - 0x08 - 0000 1000

0x13 - 0x09 - 0000 1001

Pos 24 changed:

0x15 - 0x00 - 0000 0000

0x25 - 0x10 - 0001 0000

Pos 27 changed:

0x18 - 0x00 - 0000 0000

0x1B - 0x03 - 0000 0011

Pos 30 changed:

0x1B - 0x00 - 0000 0000

0x1E - 0x03 - 0000 0011

Case 8 - Ignition [Power 2 -> Power 3]

SW/ver: <b>1.3 / NPBC-V3-GR</b>	SW/ver: <b>1.3 / NPBC-V3-GR</b>
Date/Time: <b>16/12/2016 10:57</b>	Date/Time: <b>16/12/2016 10:57</b>
State: <b>CH PRIORITY</b>	State: <b>CH PRIORITY</b>
Status: <b>BURNING / PWR 2</b>	Status: <b>BURNING / PWR 3</b>
Tset: <b>60 °C</b>	Tset: <b>60 °C</b>
Tboiler: <b>54 °C</b>	Tboiler: <b>54 °C</b>
Tdhw: <b>-- °C</b>	Tdhw: <b>-- °C</b>
Flame: <b>143</b> Tfume: <b>0 °C</b>	Flame: <b>151</b> Tfume: <b>0 °C</b>
Thermostat: <b>NORMAL</b>	Thermostat: <b>NORMAL</b>
CH pump: <b>ON</b>	CH pump: <b>ON</b>
DHW pump: <b>OFF</b>	DHW pump: <b>OFF</b>
Heater: <b>OFF</b>	Heater: <b>OFF</b>
Total Feed: <b>0:00:45 (16/12/2016 10:44)</b>	Total Feed: <b>0:00:48 (16/12/2016 10:44)</b>
Errors:	Errors:

5A 5A 02 01 FD

ZZ..ý

**002676: 2016-12-16 10:57:45.6572930 +0.0156250**

5A 5A 1D 16 14 12 5A 47 1B 18 1D 09 09 13 0B 8C ZZ....ZG.....@  
OD OE OF 4C 47 92 93 A3 1D 16 40 1B 19 1A 1B 2E ...LG'`£..@.....

**002694: 2016-12-16 10:57:50.6416680 +0.0000000**

5A 5A 1D 16 14 12 5A 4C 1B 18 1D 09 09 13 0B 8C ZZ....ZL.....@  
OD OE OF 4C 47 92 93 AB 2D 16 42 1C 19 1A 1E 0B ...LG'`«-.B.....

Pos 13:

0x13 - 0x09 - 0000 1001

Pos 24 changed:

0x1D - 0x08 - 0000 1000

0x2D - 0x18 - 0001 1000

Pos 27 changed:

0x1B - 0x03 - 0000 0011

0x1C - 0x04 - 0000 0100

Pos 30 changed:

0x1B - 0x00 - 0000 0000

0x1E - 0x03 - 0000 0011

**Case 9 - Ignition [Change water temperature 60°C -> 59°C]**

SW/ver: 1.3 / NPBC-V3-GR  
Date/Time: 16/12/2016 11:04

State: CH PRIORITY

Status: BURNING / PWR 1

Tset: 59 °C  
Tboiler: 58 °C  
Tdhw: -- °C  
Flame: 163 Tfume: 0 °C  
Thermostat: NORMAL  
CH pump: ON  
DHW pump: OFF  
Heater: OFF  
Total Feed: 0:01:20 (16/12/2016 10:44)  
Errors:

004539: 2016-12-16 11:04:55.6260430 +0.0000000

5A 5A 02 01 FD ZZ..ŷ

004557: 2016-12-16 11:04:56.9385430 +0.0000000

5A 5A 03 07 3C BC ZZ..<34

004575: 2016-12-16 11:04:57.2666680 +0.0000000

5A 5A 02 01 FD ZZ..ŷ

004548: 2016-12-16 11:04:55.6260430 +0.0000000

5A 5A 1D 16 14 13 07 57 1B 18 1D 09 09 13 0B 8C ZZ.....W.....@  
0D 0E 0F 4C 4B 92 93 BA 1D 16 40 1B 19 1A 1B 55 ...LK'""...@....U

004566: 2016-12-16 11:04:56.9541680 +0.0156250

5A 5A 02 34 CA ZZ.4Ê

004584: 2016-12-16 11:04:57.2822930 +0.0000000

5A 5A 1D 16 14 13 07 59 1B 18 1D 09 09 13 0B 8C ZZ.....Y.....@  
0D 0E 0F 4B 4B 92 93 B7 1D 16 3E 1A 19 1A 1B 5A ...KK'""...>....Z

To 62°C

5A 5A 03 07 3F B9 ZZ..?¹

## Date and time

16/12/2016 10:57

0x16	0x14	0x12	0x5A	0x0C
------	------	------	------	------

0	1	2	3	4
0x16	0x13	0x10	0x57	0x08

Y	2016 / 16	0x07E0 / 0x10	00 010000	
M	12	0x0C	0000 1100	
D	16	0x10	000 10000	
H	10	0x0A	000 01010	
M	57	0x39	00 111001	
S	8	0x08	00 001000	