National Marine Electronics Association

International Marine Electronics Association

Technical Bulletin

Amendment to NMEA 2000 Version 2.000
 # AT 2000 20130905

NEW Watermaker PGN 130567

NMEA 2000 Amendment
An amendment is a technical specification that is publically available and applies to the current version as specified. The content of the amendment will be incorporated into the next released version of the NMEA 2000 standard.

This document contains the final approved NMEA 2000 Watermaker PGN 130567 that was developed by the Watermaker Working Group and approved by the NMEA 2000 Standards Committee.

Watermaker Input Setting and Status

PGN: 130567
hex: 1FE07

This PGN may be requested or used to command and configure a number of Watermaker controls. The Command Group Function PGN 126208 is used perform the following: start/stop a production, start/stop rinse or flush operation , start/stop low and high pressure pump and perform an emergency stop. The Request Group Function PGN 126208 or ISO Request PGN 059904 may be used to request this PGN. This PGN also provides Watermaker status and measurement information. The PGN is broadcast periodically.

Single Frame:	N	*Priority Default:*	6	*Default Update Rate:*	2500 milliseconds	*Frequency:*	.4 cycles per second
Destination:	Global	*Query Support:*	Optional	*Command Support:*	Required	*ACK Rqmnts:*	None

Field # *Field Name* — Original Reference ID # 223

1 **Watermaker Operating State** — *Byte Field Size:* — *Bit Field Size:* 6 — *Request Parameter* Optional — *Command Parameter:* Optional

DD363 Watermaker Operating State

0 – Stopped
1– Starting
2– Running
3 – Stopping
4 – Flushing
5 – Rinsing
6– Initiating
7– Manual Mode
62 – Error
63 – Unavailable

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

2 **Production Start/Stop** — *Byte Field Size:* — *Bit Field Size:* 2 — *Request Parameter* Optional — *Command Parameter:* Required

DD002 Generic status pair

MSB/LSB:
00 = [No, Off, Disabled, Reset, "0"],
01 = [Yes, On, Enabled, Set, "1"],
10 = Error,
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

When commanding this field with PGN 126208, 00 Stops the Production and 01 Starts the Production. When this PGN is sent, 01 indicates the Production is ON and 00 indicates the production is off

3 **Rinse Start/Stop** — *Byte Field Size:* — *Bit Field Size:* 2 — *Request Parameter* Optional — *Command Parameter:* Required

DD002 Generic status pair

MSB/LSB:
00 = [No, Off, Disabled, Reset, "0"],
01 = [Yes, On, Enabled, Set, "1"],
10 = Error,
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

When commanding this field with PGN 126208, 00 Stops the Rinse/Flush and 01 Starts the Rinse/Flush. When this PGN is sent, 01 indicates the Rinse/Flush function is ON and 00 indicates the Rinse/Flush function is off

4 **Low Pressure Pump Status**

Byte Field Size: *Request Parameter* Optional
Bit Field Size: 2 *Command Parameter:* Required

DD002 Generic status pair

MSB/LSB:
00 = [No, Off, Disabled, Reset, "0"],
01 = [Yes, On, Enabled, Set, "1"],
10 = Error,
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

When commanding this field with PGN 126208, 00 turns off the Low Pressure Pump and 01 starts the Low Pressure Pump. When this PGN is sent, 00 indicates the Low Pressure Pump is off and 01 indicates the Low Pressure Pump is on.

5 **High Pressure Pump Status**

Byte Field Size: *Request Parameter* Optional
Bit Field Size: 2 *Command Parameter:* Required

DD002 Generic status pair

MSB/LSB:
00 = [No, Off, Disabled, Reset, "0"],
01 = [Yes, On, Enabled, Set, "1"],
10 = Error,
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

When commanding this field with PGN 126208, 00 turns off the High Pressure Pump and 01 starts the High Pressure Pump. When this PGN is sent, 00 indicates the High Pressure Pump is off and 01 indicates the High Pressure Pump is on.

6 **Emergency Stop**

Byte Field Size: *Request Parameter* Optional
Bit Field Size: 2 *Command Parameter:* Required

DD002 Generic status pair

MSB/LSB:
00 = [No, Off, Disabled, Reset, "0"],
01 = [Yes, On, Enabled, Set, "1"],
10 = Error,
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

When commanding this field with PGN 126208, 01 initiates the Emergency Stop function of the Watermaker, all other values are ignored. Emergency Stop can only be activated by the value of 01. When this PGN is sent, normal operation is indicated by the value 00 which means the Emergency Stop is inactive (OFF).

7 **Product Solenoid Valve Status**

Byte Field Size: *Request Parameter* Optional
Bit Field Size: 2 *Command Parameter:* Optional

DD364 Sensor Status

MSB/LSB:
00 = OK
01 = Warning
10 = Error
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

8 **Flush Mode Status**

Byte Field Size: *Request Parameter* Optional
Bit Field Size: 2 *Command Parameter:* Optional

DD002 Generic status pair

MSB/LSB:
00 = [No, Off, Disabled, Reset, "0"],
01 = [Yes, On, Enabled, Set, "1"],
10 = Error,
11= [Unavailable, Unknown]

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

9	**Salinity Status**		*Byte Field Size:*		*Request Parameter*	Optional
			Bit Field Size:	2	*Command Parameter:*	Optional
	DD364 Sensor Status		MSB/LSB: 00 = OK 01 = Warning 10 = Error 11= [Unavailable, Unknown]			
	DF52 Bit field	**bit(n)**	*Range:*	Variable	*Resolution:* 1	Used to construct bit fields
10	**Feed Pressure Status**		*Byte Field Size:*		*Request Parameter*	Optional
			Bit Field Size:	2	*Command Parameter:*	Optional
	DD364 Sensor Status		MSB/LSB: 00 = OK 01 = Warning 10 = Error 11= [Unavailable, Unknown]			
	DF52 Bit field	**bit(n)**	*Range:*	Variable	*Resolution:* 1	Used to construct bit fields
11	**Oil Change Indicator Status**		*Byte Field Size:*		*Request Parameter*	Optional
			Bit Field Size:	2	*Command Parameter:*	Optional
	DD364 Sensor Status		MSB/LSB: 00 = OK 01 = Warning 10 = Error 11= [Unavailable, Unknown]			
	DF52 Bit field	**bit(n)**	*Range:*	Variable	*Resolution:* 1	Used to construct bit fields
12	**Filter Status**		*Byte Field Size:*		*Request Parameter*	Optional
			Bit Field Size:	2	*Command Parameter:*	Optional
	DD364 Sensor Status		MSB/LSB: 00 = OK 01 = Warning 10 = Error 11= [Unavailable, Unknown]			
	DF52 Bit field	**bit(n)**	*Range:*	Variable	*Resolution:* 1	Used to construct bit fields
13	**System Status**		*Byte Field Size:*		*Request Parameter*	Optional
			Bit Field Size:	2	*Command Parameter:*	Optional
	DD364 Sensor Status		MSB/LSB: 00 = OK 01 = Warning 10 = Error 11= [Unavailable, Unknown]			
	DF52 Bit field	**bit(n)**	*Range:*	Variable	*Resolution:* 1	Used to construct bit fields
14	**NMEA Reserved**		*Byte Field Size:*		*Request Parameter*	
			Bit Field Size:	resv 2	*Command Parameter:*	
	DD001 Reserved field		Variable number of reserved bits, all set to logic "1"			
	DF52 Bit field	**bit(n)**	*Range:*	Variable	*Resolution:* 1	Used to construct bit fields

Used to align subsequent data on a byte boundary.

15	**Salinity**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD365 Salinity, Watermaker					
	DF112 Salinity	**uint16**	*Range:* 0 to 65,535 ppm	*Resolution:*	1 ppm	
16	**Product Water Temperature**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD043 Generic Temperature					
	DF39 Temperature, low	**uint16**	*Range:* 0 to 655.32 deg K	*Resolution:*	1x10E-2 deg K	
17	**Pre-filter Pressure**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD049 Generic Pressure					
	DF47 Pressure, medium	**uint16**	*Range:* 0 to 6,553,200 Pa	*Resolution:*	1x10E+2 Pa	
18	**Post-filter Pressure**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD049 Generic Pressure					
	DF47 Pressure, medium	**uint16**	*Range:* 0 to 6,553,200 Pa	*Resolution:*	1x10E+2 Pa	
19	**Feed Pressure**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD366 Pressure, Watermaker					
	DF113 Pressure, Compound	**int16**	*Range:* +/- 32,764 Kpa	*Resolution:*	1 Kpa	
20	**System High Pressure**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD225 Generic Pressure High					
	DF29 Pressure	**uint16**	*Range:* 0 to 65,532,000 Pa	*Resolution:*	1x10E+3 Pa	
21	**Product Water Flow**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD131 Flow rate, low					
	DF18 Flow rate, low	**int16**	*Range:* +/-3.2764 cu-m/hr	*Resolution:*	1x10E-4 cu-m/hr	
22	**Brine Water Flow**		*Byte Field Size:* 2		*Request Parameter*	Optional
			Bit Field Size:		*Command Parameter:*	Optional
	DD131 Flow rate, low					
	DF18 Flow rate, low	**int16**	*Range:* +/-3.2764 cu-m/hr	*Resolution:*	1x10E-4 cu-m/hr	

23 **Run Time** *Byte Field Size:* 4 *Request Parameter* Optional
Bit Field Size: *Command Parameter:* Optional

DD132 Run time, Engine

DF67 Time interval, large **uint32** *Range:* 0 to ~4.295x10E+9 s *Resolution:* 1 sec