

NMEA2000 PGN List for Freedom X Communication Card Online Guide

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Purpose

The purpose of this Reference Guide is to provide a Parameter Group Number (PGN) list for the Freedom inverter/charger product and it includes a description of each available PGN.

Audience

This Reference Guide is intended for users and operators of the Freedom inverter/charger product.

Supported NMEA2000 Parameter Group Numbers (PGN) Transmit (Send)

PGN	NMEA2000 PGN Description	Broadcast Interval (ms)	Supported Feature	Supported Status Fields	Supported Config/Command Fields
59392	ISO Acknowledgment	NA	NA	NA	NA
65280	Proprietary Message, Device Control	NA	NA	Transfer Mode	Reset command Clear Fault command Transfer Mode
65281	Proprietary Message, FXCC Configuration	NA	NA	Hibernate Delay Time Buzzer Enable/Disable Inverter Ignition	Hibernate Delay Time Buzzer Enable/Disable Inverter Ignition
126464	PGN list	NA	Received PGN list and Transmit PGN list	NA	NA
126983	Alert	1000	Alert State machine with silence/acknowledge support Supported Alert Cases: Faulted, Overload, DC UV, DCOV, Internal OT, AC input Failure	NA	NA

PGN	NMEA2000 PGN Description	Broadcast Interval (ms)	Supported Feature	Supported Status Fields	Supported Config/Command Fields
126985	Alert Text	10000	Supported Alert Cases: Faulted, Overload, DC UV, DCOV, Internal OT, AC input Failure	NA	NA
126986	Alert Configuration	NA	Supported Alert Cases: Faulted, Overload, DC UV, DCOV, Internal OT, AC input Failure	Alert Control Silence Timeout Reactivation Timeout	Alert Control Silence Timeout Reactivation Timeout
126993	Heartbeat	60000	NA	CAN1 Status Device Status	NA
126996	Product Information	NA	NA	All fields	NA
126998	Configuration Information	NA	NA	Manufacture Info Installation Description 1	NA
127506	DC detailed Status	1500	NA	SOC	NA
127508	Battery Status	1500	NA	Voltage Current Temperature	NA
127510	Charger Configuration Status	NA	NA	Charger Current Limit Estimated Battery Temp without sensor Charger Algorithm	Charger Enable/Disable Charger Current Limit Equalize One Time Enable/Disable Estimated Battery Temp without sensor
127511	Inverter Configuration Status	NA	NA	Load Sense Enable/Disable	Inverter Enable/Disable Load Sense Enable/Disable
127513	Battery Configuration Status	NA	NA	Battery Type Equalization Support Nominal Voltage	Battery Type
127750	Inverter/Charger Status	1500	NA	NA	NA
127751	DC Voltage/Current	1500	NA	Voltage Current	NA

PGN	NMEA2000 PGN Description	Broadcast Interval (ms)	Supported Feature	Supported Status Fields	Supported Config/Command Fields
129033	Local Time Offset	NA	NA	Date Time Offset	NA
130316	Temperature	NA	NA	FET temperature	NA
130900	Proprietary Message, AC Status	1500	NA	Voltage Current Frequency Real Power Reactive Power	NA
130910	Proprietary Message, DC Configuration Status	NA	NA	DC UV Level DCUV Delay Time DC UV recovery Level	DC UV Level DCUV Delay Time DC UV recovery Level
130911	Proprietary Message, AC Output Configuration Status	NA	NA	AC Output Voltage AC Output Frequency AC Power Limit AC Power Limit Delay Time	AC Output Voltage AC Output Frequency AC Power Limit AC Power Limit Delay Time
130912	Proprietary Message, Extended Charger Configuration Status	NA	NA	Absorption Voltage Float Voltage	Absorption Voltage Float Voltage
130913	Proprietary Message, AC Input Configuration Status	NA	NA	AC Breaker Size AC Lost voltage Level	AC Breaker Size AC Lost voltage Level

Transmit (Send) and Receive

PGN	NMEA2000 PGN Description	Supported Feature	Supported Status Fields	Supported Config/Command Fields
60160	ISO Data Transfer	NA	NA	NA
60416	ISO Connection Management	RTS, EOM, Abort, BAM, CTS	NA	NA
60928	ISO Address Claim	NA	All fields	System Instance Device Instance
126208	NMEA Group Function	Request, Command, Acknowledgment Periodic transmit rate and priority configuration not supported	NA	NA
126992	System Time	NA	Date Time	Date and Time synchronized to incoming system time message

Receive

PGN	NMEA2000 PGN Description	Supported Feature	Supported Status Fields	Supported Config/Command Fields
59904	ISO Request	NA	NA	NA
65240	ISO Commanded Address	NA	NA	NA
126984	Alert Response	Alert State machine with silence/acknowledge support Supported Alert Cases: Faulted, Overload, DC UV, DCOV, Internal OT, AC input Failure	Response Command	Acknowledge and Temporary Silence Command

Proprietary Message Definition

PGN 65280

Device Control Status

This PGN provides device level controls and configurations. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: non-periodic

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	ResetCmd	DD903	DF52	4	Prohibited	Required
5	Clear Fault	DD003	DF52	2	Prohibited	Required
6	Transfer Mode	DD902	DF52	2	Prohibited	Required

PGN 65281

FXCC Configuration Status

This PGN provides FXCC product specific controls and configurations. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: non-periodic

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	Buzzer Enable	DD003	DF52	2	Prohibited	Required
5	Inverter Ignition	DD900	DF52	2	Prohibited	Required
6	Charger Ignition	DD901	DF52	2	Prohibited	Required
7	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
8	Hibernate Delay	DD268	DF98	16	Prohibited	Required

PGN 130900

AC Source Status

This PGN provides AC source general status. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: 1500ms

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	AC Source Instance	DD005	DF53	8	Optional	Required
5	Line Total	DD006	DF53	8	Optional	Required
6	Line	DD270	DF52	2	Optional	Required
7	Qualification	DD259	DF52	2	Prohibited	Prohibited
8	Waveform	DD273	DF52	3	Prohibited	Prohibited
9	NMEA Reserved	DD001	DF52	1	Prohibited	Prohibited
10	Voltage	DD260	DF96	16	Prohibited	Prohibited
11	Current	DD269	DF95	16	Prohibited	Prohibited
12	Frequency	DD267	DF22	16	Prohibited	Prohibited
13	Real Power	DD261	DF94	32	Prohibited	Prohibited
14	Reactive Power	DD262	DF92	32	Prohibited	Prohibited
15	Power Factor	DD271	DF97	8	Prohibited	Prohibited

PGN 130910

DC Source Configuration Status

This PGN provides DC source configuration status. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: non-periodic

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	DC Source Instance	DD005	DF53	8	Required	Required
5	DC UV Shutdown Level	DD367	DF106	16	Prohibited	Required
6	DC UV Warning Level	DD367	DF106	16	Prohibited	Required
7	DC UV Shutdown Delay	DD210	DF95	16	Prohibited	Required
8	DC UV Recover Level	DD367	DF106	16	Prohibited	Required
9	DC OV Shutdown Level	DD367	DF106	16	Prohibited	Required
10	DC OV Warning Level	DD367	DF106	16	Prohibited	Required
11	DC OV Shutdown Delay	DD210	DF95	16	Prohibited	Required
12	DC OV Recover Level	DD367	DF106	16	Prohibited	Required

PGN 130911

AC Output Configuration Status

This PGN provides AC output configuration status. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: non-periodic

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	AC Source Instance	DD005	DF53	8	Optional	Required
5	Line Total	DD006	DF53	8	Optional	Required
6	Line	DD270	DF52	2	Optional	Required
7	NMEA Reserved	DD001	DF52	6	Prohibited	Prohibited
8	Voltage	DD260	DF96	16	Prohibited	Required
9	Frequency	DD267	DF22	16	Prohibited	Required
10	Power Limit	DD261	DF80	32	Prohibited	Required
11	Power Limit Delay	DD210	DF95	16	Prohibited	Required
12	OV Fault Level	DD260	DF96	16	Prohibited	Required
13	UV Fault Level	DD260	DF96	16	Prohibited	Required

PGN 130912

Charger Configuration Status, extended

This PGN provides additional charger configurations that are not provided with the standard. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: non-periodic

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	Charge Instance	DD005	DF53	8	Required	Required
5	Battery Instance	DD005	DF53	8	Required	Required
6	Bulk Voltage	DD367	DF106	16	Prohibited	Required
7	Bulk Time	DD210	DF95	16	Prohibited	Required
8	Absorption Voltage	DD367	DF106	16	Prohibited	Required
9	Absorption Time	DD210	DF95	16	Prohibited	Required
10	Float Voltage	DD367	DF106	16	Prohibited	Required
11	Float Time	DD210	DF95	16	Prohibited	Required
12	Equalization Voltage	DD367	DF106	16	Prohibited	Required
13	Generic Charge Voltage	DD367	DF106	16	Prohibited	Required
14	Generic Charge Current	DD140	DF07	16	Prohibited	Required

PGN 130913

AC Input Configuration Status

This PGN provides AC input configuration status. This PGN supports ISO Request, NMEA Request and NMEA command.

PGN priority: 7

PGN update rate: non-periodic

Field #	Field Name	DD	DF	Bit Size	Request	Command
1	Manufacturer Code	DD172	DF52	11	Required	Required
2	NMEA Reserved	DD001	DF52	2	Prohibited	Prohibited
3	Industry Group	DD168	DF52	3	Required	Required
4	AC Source Instance	DD005	DF53	8	Optional	Required
5	Line Total	DD006	DF53	8	Optional	Required
6	Line	DD270	DF52	2	Optional	Required
7	NMEA Reserved	DD001	DF52	6	Prohibited	Prohibited
8	Breaker Size	DD269	DF95	16	Prohibited	Required
9	AC Lost Level	DD260	DF96	16	Prohibited	Required
10	AC UV Level	DD260	DF96	16	Prohibited	Required
11	AC UV Warning Level	DD260	DF96	16	Prohibited	Required
12	AC UV Delay	DD210	DF95	16	Prohibited	Required
13	AC OV Level	DD260	DF96	16	Prohibited	Required
14	AC OV Warning Level	DD260	DF96	16	Prohibited	Required
15	AC OV Delay	DD210	DF95	16	Prohibited	Required
16	AC UF Level	DD267	DF22	16	Prohibited	Required
17	AC OF Level	DD267	DF22	16	Prohibited	Required

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