



Date: March 10, 2010 Ref: Use of J1939-75 Parameter Groups for AC Parameters

National Marine Electronics Association Technical Corrigendum Number 1-2010

- 1. The referenced Standards Committee minutes of February 2008 document the adoption by reference of the J1939-75 Power parameter groups with the specific provision that manufacturers that implement these groups also implement the status bits as defined in J1939-71.
- 2. A consequence of that adoption is that the AC Input Status parameter group (PGN 127503) and the AC Output Status parameter groups (PGN 127504) are replaced by parameter groups defined in J1939-75, and should not be used for new design.
- 3. PGNs 127503 and 127504 are modified to incorporate that change.

Documents Affected

• Appendix B Version 1.300.

Changes to NMEA 2000 Appendix B

Replace the following parameter group definitions with those accompanying this document:

PGN	Parameter Group Name
127503	AC Input Status
127504	AC Output Status

AC Input Status PGN: 127503 hex: 1F20F

Any device with an AC Input may transmit this message. Fields 3 through 12 may repeat as indicated by the Number of Lines.

If requested via the ISO Request, a separate message will be returned for each AC Instance connected to the device.

As of version 1.300 of this standard, this PGN is not to be used for new designs. Manufacturers should consider the use of PGNs defined by J1939-75 for AC parameters related to Generators and Utility Connections. J1939-75 PGNs shall be implemented using the status bits as defined in J1939-71.

Single Fra	me: No	Priority Default:	6 Defai	ult Update R	ate:	<mark>1,500</mark> millisecond	ls <i>Frequenc</i>	y: .7 cycles per second
Destina	tion: Globa	Query Support:	Yes	ACK Rq	mnts:			
Field #	Field Na	ame						Original Reference ID # 128
1	AC Instar			Byte	Field Size:		Bit Field Size:	Request Parameter Yes
	DD005	Generic numeric ID,	, short		Numb	per of route, waypoin	nt, event, mark, etc.	
	DF53	Integer, 8 bit unsign	ned uint	8 Range:	0 to 252	Re	esolution: 1 bit	Unit-less number
	Tl l							
	Number of	quent parameters pertai	in to this AC soui		Field Size:	1	Bit Field Size:	Request Parameter No
2			ort	Буце			inter, sequence count	
	DD006 Generic counter, short			• Panga:			•	Unit-less number
	DF 53	Integer, 8 bit unsign	ned uint	8 Kange.	0 to 252	N.	esolution: 1 bit	Offit-less number
	This is the	number of lines (tuples)) being reported.					
3	Line	(apree)	, comig reported.	Byte	Field Size:		Bit Field Size: 2	Request Parameter No
	DD270	AC Line				= Line 1,		_
						= Line 2, = Line 3		
						= Reserved		
	DF52	Bit field	bit(1	n) Range:	Variable	Re	esolution: 1	Used to construct bit fields
		physical connector that	is supplying pov					
4	Acceptab	-		Byte	Field Size:		Bit Field Size: 2	Request Parameter No
	DD259 AC Acceptability					= Bad Level, = Bad Frequency,		
	0x02 = Being Qualified,							
				_		= Good		
	DF52	Bit field	bit(1	n) Range:	Variable	Re	esolution: 1	Used to construct bit fields
5	Reserve	Rits		Rvte	Field Size:		Bit Field Size: res	Request Parameter No
3		Reserved field		Бую			ved bits, all set to log	
		Bit field	h;+(-	") Range:	Variable		esolution: 1	Used to construct bit fields
	DF 52	Dit field	bit(1	n) Kange.	variable	7.0	CSOIGHOII.	Osed to construct on neids
6	Voltage			Byte	Field Size:	2	Bit Field Size:	Request Parameter No
		Voltage, AC RMS						
	DF96	Voltage, high, unsig	gned uint :	16 Range:	+/- 655.3	2 V Re	esolution: 1x10E-2	2 V
			,					
7	Current			Byte	Field Size:	2	Bit Field Size:	Request Parameter No
	DD269	Current, Electric, Un	nsigned					
	DF95	Current, electric, hi	gh uint	16 Range:	0 - 6553.	2 A Re	esolution: <mark>1x10E-1</mark>	A
8	Frequenc	eV		Bvte	Field Size:	2	Bit Field Size:	Request Parameter No
J	_	Frequency		_,.0	2.2. 0.20.		3.20	110
		Frequency, low	nint'	16 Range:	0 to 655	32 Hz R	esolution: 1x10E-2	Н7
	171: 44	1 requeriey, row	uillt	i	0 10 055.	32 IIL 700	TATOL-2	, III

User Query into PGN Report

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AC Input Status

AC Input Status PGN: 127503 hex: 1F20F Byte Field Size: 2 Bit Field Size: **Breaker Size** Request Parameter No 9 DD269 Current, Electric, Unsigned uint16 Range: 0 - 6553.2 A Resolution: 1x10E-1 A **DF95** Current, electric, high 10 **Real Power** Byte Field Size: 4 Bit Field Size: Request Parameter No **DD261** Power (watts) **DF94** Power uint32 Range: 0 - 4,294,967,292 W Resolution: 1 W Request Parameter No 11 **Reactive Power** Byte Field Size: 4 Bit Field Size: **DD262** Volt Amps Reactive Power (VAR) **DF92** Power - VAR uint32 Range: 0 - 4,294,967,292 Resolution: 1 VAR Byte Field Size: 1 12 **Power Factor** Bit Field Size: Request Parameter No. Cosine of the angle between the AC voltage and current **DD271** Power Factor DF97 Power Factor Range: +/- 1.00 Resolution: 0.01 int8

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AC Input Status PGN: 127503

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AC Output Status PGN: 127504 hex: 1F210

Any device with an AC Output may tranmit this message. Fileds 3 though 12 may repeat as indicated by the Number of Lines.

If requested via the ISO Request, a separate message will be returned for each AC Instance connected to the device.

As of version 1.300 of this standard, this PGN is not to be used for new designs. Manufacturers should consider the use of PGNs defined by J1939-75 for AC parameters related to Generators and Utility Connections. J1939-75 PGNs shall be implemented using the status bits as defined in J1939-71.

Single Fra	me: No	Priority Default: 6	Default U	Jpdate Ra	ate: 1,500	milliseconds	Frequency:	.7 cycles per seco	ond
Destinat	ion: Glob	, , , ,		ACK Rqr	mnts:				
Field#	Field N							Original Reference ID #	
1	AC Insta			Byte I	Field Size: 1		eld Size:	Request Parameter	Yes
	DD005 Generic numeric ID, short				Number of ro	oute, waypoint, eve			
	DF53	Integer, 8 bit unsigned	uint8	Range:	0 to 252	Resolut	ion: 1 bit	Unit-less number	
	The cubee	quent parameters pertain to this a	AC cource						
2	Number	· · · · · · · · · · · · · · · · · · ·	AC Source.	Byte I	Field Size: 1	Bit Fie	eld Size:	Request Parameter	No
_	DD006	Generic counter, short		_,		nt, event counter, s			110
	DF53	Integer, 8 bit unsigned	uint8	Range:	0 to 252	Resolut	ion: 1 bit	Unit-less number	
	This is the number of lines (tuples) being reported.								
3	Line		•	Byte I	Field Size:	Bit Fie	eld Size: 2	Request Parameter	No
	DD270	AC Line			0x00 = Line 0x01 = Line 0x02 = Line 0x03 = Reser	2, 3			
	DF52	Bit field	bit(n)	Range:	Variable	Resolut	ion: 1	Used to construct bit fields	S
		physical connector that is supply	ing power.					Daminat Damanatan	NI-
4	Wavefor	m Waveform		Byte I	Field Size: $0x00 = Sine^{x}$		eld Size: 3	Request Parameter	NO
	DD213	waveloriii			0x01 = Modi 0x02 = Reser thru 0x05 = Reser 0x06 = Error	fied Sine Wave rved			
	DF52	Bit field	bit(n)	Range:	Variable	Resolut	ion: 1	Used to construct bit fields	S
_	Reserve	Dito		Puto I	Field Size:	Dit Eic	eld Size: resv	3 Request Parameter	NIa
5		Reserved field		Dyte i			s, all set to logic "1		INO
		Bit field	bit(n)	Range:	Variable	Resolut	_	Used to construct bit fields	
	DF 32	Dit field	DIL(II)	range.	Variable	resolut	1011.	Osca to construct bit fields	•
6	Voltage			Byte I	Field Size: 2	Bit Fie	eld Size:	Request Parameter	No
	DD260	Voltage, AC RMS			-				
	DF96	Voltage, high, unsigned	uint16	Range:	+/- 655.32 V	Resolut	ion: 1x10E-2 V		
7	Current			Byte I	Field Size: 2	Bit Fie	eld Size:	Request Parameter	No
	DD269	Current, Electric, Unsigned				=			
	DF95	Current, electric, high	uint16	Range:	0 - 6553.2 A	Resolut	ion: 1x10E-1 A		

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AC Output Status PGN: 127504

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AC (Output Status				PGN: 1275 hex: 1F2	
8	Frequency DD267 Frequency		Byte Field Size: 2	Bit Field Size:	Request Parameter	No
	DF22 Frequency, low	uint16	Range: 0 to 655.32 Hz	Resolution: 1x10E-2 Hz		
9	Breaker Size DD269 Current, Electric,	Unsigned	Byte Field Size: 2	Bit Field Size:	Request Parameter	No
	DF95 Current, electric,	high uint16	Range: 0 - 6553.2 A	Resolution: 1x10E-1 A		
10	Real Power DD261 Power (watts)		Byte Field Size: 4	Bit Field Size:	Request Parameter	No
	DF94 Power	uint32	Range: 0 - 4,294,967,292 W	Resolution: 1 W		
11	Reactive Power DD262 Volt Amps Reacti	ve Power (VAR)	Byte Field Size: 4	Bit Field Size:	Request Parameter	No
	DF92 Power - VAR	uint32	Range: 0 - 4,294,967,292 VAR	Resolution: 1 VAR		
12	Power Factor		Byte Field Size: 1	Bit Field Size:	Request Parameter	No
	DD271 Power Factor		Cosine of the angle l	between the AC voltage and current		
	DF97 Power Factor	int8	Range: +/- 1.00	Resolution: 0.01		

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