



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 Frame: No Priority Default: 6 Default Update Rate: 1,500 milliseconds Frequency: .7 cycles per second
 Destination: Global Query Support: Yes ACK Rqmnts:

Field #	Field Name	Byte Field Size	Bit Field Size	Request Parameter	Original Reference ID # 128
1	AC Instance DD005 Generic numeric ID, short Number of route, waypoint, event, mark, etc.	1		Yes	
	DF53 Integer, 8 bit unsigned	uint8	Range: 0 to 252 Resolution: 1 bit		Unit-less number
The subsequent parameters pertain to this AC source.					
2	Number of Lines DD006 Generic counter, short Numeric count, event counter, sequence counter	1		No	
	DF53 Integer, 8 bit unsigned	uint8	Range: 0 to 252 Resolution: 1 bit		Unit-less number
This is the number of lines (tuples) being reported.					
3	Line DD270 AC Line 0x00 = Line 1, 0x01 = Line 2, 0x02 = Line 3 0x03 = Reserved		2	No	
	DF52 Bit field	bit(n)	Range: Variable Resolution: 1		Used to construct bit fields
This is the physical connector that is supplying power. In the case of split phase there are two lines.					
4	Acceptability DD259 AC Acceptability 0x00 = Bad Level, 0x01 = Bad Frequency, 0x02 = Being Qualified, 0x03 = Good		2	No	
	DF52 Bit field	bit(n)	Range: Variable Resolution: 1		Used to construct bit fields
5	Reserve Bits DD001 Reserved field Variable number of reserved bits, all set to logic "1"		resv 4	No	
	DF52 Bit field	bit(n)	Range: Variable Resolution: 1		Used to construct bit fields
6	Voltage DD260 Voltage, AC RMS	2		No	
	DF96 Voltage, high, unsigned	uint16	Range: +/- 655.32 V Resolution: 1x10E-2 V		
7	Current DD269 Current, Electric, Unsigned	2		No	
	DF95 Current, electric, high	uint16	Range: 0 - 6553.2 A Resolution: 1x10E-1 A		
8	Frequency DD267 Frequency	2		No	
	DF22 Frequency, low	uint16	Range: 0 to 655.32 Hz Resolution: 1x10E-2 Hz		

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9	Breaker Size		Byte Field Size: 2	Bit Field Size:	Request Parameter	No
	DD269 Current, Electric, Unsigned					
	DF95 Current, electric, high	uint16	Range: 0 - 6553.2 A	Resolution: 1x10E-1 A		
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		
11	Reactive Power		Byte Field Size: 4	Bit Field Size:	Request Parameter	No
	DD262 Volt Amps Reactive Power (VAR)					
	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 between the AC voltage and current
	DF97 Power Factor	int8	Range: +/- 1.00	Resolution: 0.01		

AC Output Status

PGN: 127504

hex: 1F210

Any device with an AC Output 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 Frame: **No** Priority Default: **6** Default Update Rate: **1,500** milliseconds Frequency: **.7** cycles per second
 Destination: **Global** Query Support: **Yes** ACK Rqmnts:

Field #	Field Name	Byte Field Size:	Bit Field Size:	Request Parameter	Original Reference ID # 129
1	AC Instance DD005 Generic numeric ID, short Number of route, waypoint, event, mark, etc. DF53 Integer, 8 bit unsigned uint8 Range: 0 to 252 Resolution: 1 bit Unit-less number	1		Yes	
The subsequent parameters pertain to this AC source.					
2	Number of lines DD006 Generic counter, short Numeric count, event counter, sequence counter DF53 Integer, 8 bit unsigned uint8 Range: 0 to 252 Resolution: 1 bit Unit-less number	1		No	
This is the number of lines (tuples) being reported.					
3	Line DD270 AC Line 0x00 = Line 1, 0x01 = Line 2, 0x02 = Line 3 0x03 = Reserved DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields		2	No	
This is the physical connector that is supplying power. In the case of split phase there are two lines.					
4	Waveform DD273 Waveform 0x00 = Sine Wave 0x01 = Modified Sine Wave 0x02 = Reserved thru 0x05 = Reserved 0x06 = Error 0x07 = Data Not Available DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields		3	No	
5	Reserve Bits 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		resv 3	No	
6	Voltage DD260 Voltage, AC RMS DF96 Voltage, high, unsigned uint16 Range: +/- 655.32 V Resolution: 1x10E-2 V	2		No	
7	Current DD269 Current, Electric, Unsigned DF95 Current, electric, high uint16 Range: 0 - 6553.2 A Resolution: 1x10E-1 A	2		No	

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8	Frequency DD267 Frequency DF22 Frequency, low	uint16	Range: 0 to 655.32 Hz	Resolution: 1x10E-2 Hz	Byte Field Size: 2	Bit Field Size:	Request Parameter	No
9	Breaker Size DD269 Current, Electric, Unsigned DF95 Current, electric, high	uint16	Range: 0 - 6553.2 A	Resolution: 1x10E-1 A	Byte Field Size: 2	Bit Field Size:	Request Parameter	No
10	Real Power DD261 Power (watts) DF94 Power	uint32	Range: 0 - 4,294,967,292 W	Resolution: 1 W	Byte Field Size: 4	Bit Field Size:	Request Parameter	No
11	Reactive Power DD262 Volt Amps Reactive Power (VAR) DF92 Power - VAR	uint32	Range: 0 - 4,294,967,292 VAR	Resolution: 1 VAR	Byte Field Size: 4	Bit Field Size:	Request Parameter	No
12	Power Factor DD271 Power Factor DF97 Power Factor	int8	Range: +/- 1.00	Resolution: 0.01	Byte Field Size: 1	Bit Field Size:	Request Parameter	No