SIEMENS

Systems Integration

APOGEE® Integration to Yaskawa LONWORKS® Devices: E7 9021

Table 1. E7 Variable Frequency Drive APOGEE Points, Application Number: 9021, Program ID: 90:00:39:3C:0A:04:04:03.

Point	Type	Description	Range/Units[a b c]
1	LAO	Drive Speed Set Point Value	%
2	LDO	Drive Speed Set Point State	Off/On
3	LAI	Drive Speed Feedback	%
4	LAO	Drive Speed Set Point Scaling	%
5	LAI	Drive Output Current	A
6	LAI	Drive Output Voltage	V
7	LAI	Drive Output Power	kW
8	LAI	Drive Total Running Hours	HR
9	LDO	External Fault (EF0)	Normal/Fail
10	LDO	Fault Reset	Normal/Reset
11	LDO	Multifunction Input 1 (Terminal S3)	Off/On
12	LDO	Multifunction Input 2 (Terminal S4)	Off/On
13	LDO	Multifunction Input 3 (Terminal S5)	Off/On
14	LDO	Multifunction Input 4 (Terminal S6)	Off/On
15	LAO	Requests a Read of the Specified Drive Parameter. The Response Value is Reported in nvoReadParamVal.	–
16	LAO	Requests a Write of the Specified Drive Parameter. The Write Value is Contained in nviWriteParamVal.	–
17	LAO	Contains the Value to be Written to the Drive Parameter Specified in nviWriteParamNum.	–
18	LDI	Drive Running	Stop/Run
19	LDI	Reverse Run Commanded	Fwd/Rev
20	LDI	Drive Ready	Notrdy/Ready
21	LDI	Drive Faulted	Ok/Fault
22	LDI	Modbus Error	Ok/Fault
23	LDI	Multifunction Output 1	Off/On

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Table 1. E7 Variable Frequency Drive APOGEE Points, Application Number: 9021, Program ID: 90:00:39:3C:0A:04:04:03. *(continued)*

Point	Type	Description	Range/Units[a b c]
24	LDI	Multifunction Output 2	Off/On
25	LDI	Terminal S1 State	Off/On
26	LDI	Terminal S2 State	Off/On
27	LDI	Terminal S3 State	Off/On
28	LDI	Terminal S4 State	Off/On
29	LDI	Terminal S5 State	Off/On
30	LDI	Terminal S5 State	Off/On
31	LDI	Terminal S7 State	Off/On
32	LDI	Overcurrent/Ground/Short Circuit	Ok/Fault
33	LDI	Overvoltage	Ok/Fault
34	LDI	Drive Overload	Ok/Fault
35	LDI	Overheat	Ok/Fault
36	LDI	Fuse Blown	Ok/Fault
37	LDI	PI Feedback Lost	Ok/Fault
38	LDI	External	Ok/Fault
39	LDI	Hardware	Ok/Fault
40	LDI	Motor Overload	Ok/Fault
41	LDI	PG broken	Ok/Fault
42	LDI	Undervoltage	Ok/Fault
43	LDI	Power Loss	Ok/Fault
44	LDI	Phase loss	Ok/Fault
45	LDI	Modbus Comm	Ok/Fault
46	LDI	Keypad	Ok/Fault
47	LAI	Reports the Network Speed Setpoint as a Percentage of nciNmlFreq.	%
48	LAI	Reports the Speed Command as a Percentage of nciNmlFreq, Regardless of Command Source.	%
49	LAI	Reports the PID Feedback as a Percentage of nciNmlFreq.	%
50	LAI	Reports DC Bus Voltage.	VOLT
51	LAI	Reports the Value of the Requested Read Parameter.	–
52	LAO	This Input Resets an Inverter Fault.	%
53	LDO	This Input Resets an Inverter Fault.	Normal/Reset
54	LDI	This Output Monitors the Run and Stop of the Drive.	Stop/Run
55	LAI	This Output Monitors the Drive Normal or Fault Condition.	%
56	LDI	This Output Monitors the Drive Normal or Fault Condition.	Ok/Fault

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Table 1. **E7 Variable Frequency Drive APOGEE Points, Application Number: 9021, Program ID: 90:00:39:3C:0A:04:04:03.** *(continued)*

Point	Type	Description	Range/Units[a b c]
57	LAI	Reports the Modbus Error Message when accessing the drive parameters: 0 Normal, 2 Register Number Error, 33 Data Range Error, 34 Write when Running Error, 35 Write when UV Error, 36 Process Busy Error, 255 Command Value Timeout Error	–
58	LAI	Reports the Drive Temperature.	°F
59	LAI	Reports the Cumulative Drive Energy in KWh.	kWh
60	LAI	Reports the Cumulative Drive Energy in MWh.	MWh
200	LAO	Maximum Motor Speed CP Input	%
201	LAO	Minimum Motor Speed CP Input	%
202	LAO	Receive Heartbeat CP Input	sec
203	LAO	Nominal Motor Speed in RPM CP Input	rpm
204	LAO	Nominal Motor Frequency CP Input	HERTZ
205	LAO	Minimum Ramp Up Time CP Input	sec
206	LAO	Minimum Ramp Down Time CP Input	sec
207	LAI	Sets drive Run Command Source	–
208	LAI	Sets drive Frequency Reference Source	–
209	LAI	Reports the Maximum Output Frequency	Hz
210	LAI	Sets the Motor Rated Current	A
211	LAI	Selects the Power Loss RideThru mode	–
212	LAI	Sets the number of Automatic Restarts	–
213	LAI	Sets Prohibit Frequency 1	Hz
214	LAI	Sets Prohibit Frequency 2	Hz
215	LAI	Sets Prohibit Frequency Bandwidth	Hz
216	LAI	Selects the PID Mode	–
217	LAI	Sets the PI Gain	–
218	LAI	Sets the PI Time	sec
219	LAI	Reports the Rated Current of the Drive	A
220	LAI	Sets the Stall Prevention Level During Acceleration, as a Percentage of Rated Current.	–
221	LAI	Sets the Stall Prevention Level During Run, as a Percentage of Rated Current.	–
222	LAI	Sets the Cable Loss Operating Speed	%

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Table 1. E7 Variable Frequency Drive APOGEE Points, Application Number: 9021, Program ID: 90:00:39:3C:0A:04:04:03. ***(continued)***

Point	Type	Description	Range/Units[a b c]
223	LAI	Enables Cable Loss Fault (EF0)	%
224	LDO	Enables Cable Loss Fault (EF0)	Disabled/Enabled

[a] Values noted for LDIs and LDOs are in the following format: OFF text/ON text.

[b] This column indicates the value/range or engineering units or both if known.

[c] The default English value is not italicized. An italicized entry indicates an SI value.

Table 2. E7 Variable Frequency Drive LONWORKS Network Variables, Program ID: 90:00:39:3C:0A:04:04:03.

Point	NVO Name	NVI Name	CP Name
1	–	nviDrvSpeedStpt.value	–
2	–	nviDrvSpeedStpt.state	–
3	nvoDrvSpeed	–	–
4	–	nviDrvSpeedScale	nciDrvSpeedScale
5	nvoDrvCurnt	–	–
6	nvoDrvVolt	–	–
7	nvoDrvPwr	–	–
8	nvoDrvRunHours	–	–
9	–	nviOpCommands.bit0	–
10	–	nviOpCommands.bit1	–
11	–	nviOpCommands.bit2	–
12	–	nviOpCommands.bit3	–
13	–	nviOpCommands.bit4	–
14	–	nviOpCommands.bit5	–
15	–	nviReadParamNum	–
16	–	nviWriteParamNum	–
17	–	nviWriteParamVal	–
18	nvoDrvStatus.bit0	–	–
19	nvoDrvStatus.bit1	–	–
20	nvoDrvStatus.bit2	–	–
21	nvoDrvStatus.bit3	–	–
22	nvoDrvStatus.bit4	–	–
23	nvoDrvStatus.bit5	–	–
24	nvoDrvStatus.bit6	–	–
25	nvoDrvStatus.bit8	–	–
26	nvoDrvStatus.bit9	–	–
27	nvoDrvStatus.bit10	–	–
28	nvoDrvStatus.bit11	–	–
29	nvoDrvStatus.bit12	–	–

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Table 2. E7 Variable Frequency Drive LONWORKS Network Variables, Program ID: 90:00:39:3C:0A:04:04:03. *(continued)*

Point	NVO Name	NVI Name	CP Name
30	nvoDrvStatus.bit13	–	–
31	nvoDrvStatus.bit14	–	–
32	nvoFltStat.bit0	–	–
33	nvoFltStat.bit1	–	–
34	nvoFltStat.bit2	–	–
35	nvoFltStat.bit3	–	–
36	nvoFltStat.bit5	–	–
37	nvoFltStat.bit6	–	–
38	nvoFltStat.bit7	–	–
39	nvoFltStat.bit8	–	–
40	nvoFltStat.bit9	–	–
41	nvoFltStat.bit10	–	–
42	nvoFltStat.bit11	–	–
43	nvoFltStat.bit12	–	–
44	nvoFltStat.bit13	–	–
45	nvoFltStat.bit14	–	–
46	nvoFltStat.bit15	–	–
47	nvoSpdStptFb	–	–
48	nvoSpeedCmd	–	–
49	nvoPIDFb	–	–
50	nvoDCBus	–	–
51	nvoReadParamVal	–	–
52	–	nviDrvFltRst.value	–
53	–	nviDrvFltRst.state	–
54	nvoDrvRunStp.state	–	–
55	nvoDrvFlt.value	–	–
56	nvoDrvFlt.state	–	–
57	nvoDrvParamErr	–	–
58	nvoDrvTemp	–	–

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Table 2. E7 Variable Frequency Drive LONWORKS Network Variables, Program ID: 90:00:39:3C:0A:04:04:03. *(continued)*

Point	NVO Name	NVI Name	CP Name
59	nvoDrvEnergyKWh	–	–
60	nvoDrvEnergyMWh	–	–
200	–	–	nciMaxSpeed
201	–	–	nciMinSpeed
202	–	–	nciRcvHrtBt
203	–	–	nciNmlSpeed
204	–	–	nciNmlFreq
205	–	–	nciRampUpTm
206	–	–	nciRampDownTm
207	–	–	nciOpModeRun
208	–	–	nciOpModeFreqRef
209	–	–	nciDrvMaxFreq
210	–	–	nciMtrFLA
211	–	–	nciPLRideThru
212	–	–	nciAutoRstrt
213	–	–	nciProFreq1
214	–	–	nciProFreq2
215	–	–	nciProFreqBW
216	–	–	nciPIDSel
217	–	–	nciPID_PGain
218	–	–	nciPID_ITime
219	–	–	nciDrvRatedCur
220	–	–	nciStallLevAcc
221	–	–	nciStallLevRun
222	–	–	nciCblLossSpeed
223	–	–	nciCblLossFltEna.value
224	–	–	nciCblLossFltEna.state

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