SJ100 / L100 Network Register Maps

In This Appendix. . . . page

- SJ100 and L100 Network Register Maps 2
- Intelligent Terminal Codes 9

SJ100 and L100 Network Register Maps

The tables in this appendix list the mapping of SJ100 / L100 inverter parameters to corresponding registers in popular factory networks. The networks include Modbus, DirectNet, and DF1. The network registers containing I/O terminal data have expanded bit-level definitions in the next section

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40001	V2000	N7:0	Read	N/A	Network Control Flag	0=Keypad Control 1=Network Control	Numeric Code	Used Only by SC-OPE (Not Sent to Inverter)
40002	V2001	N7:1	R/W	N/A	Watchdog Timeout Value	0=Disabled, or 100 — 30000	ms	Used Only by SC-OPE (Not Sent to Inverter)
40003	V2002	N7:2	R/W	N/A	Watchdog Timeout Action (only applicable when control is from network and motor is running)	0 = Stop Motor 1 = Stop Motor And Disable Network Control 2 = Continue Running	Numeric Code	Used Only by SC-OPE (Not Sent to Inverter)
40004	V2003	N7:3	Write	N/A	Store to EEPROM (stores any changed drive parame-ters into drive's EEPROM)	0 = Do Nothing 1 = Store to EEPROM	Numeric Code	Will prevent monitor data from being updated for 5 seconds
40005	V2004	N7:4	Write	—	Run Command	0=Stop 1=Run Forward 2=Run Reverse	Numeric Code	Valid Regardless of Motor Selected (1st, 2nd)
40006	V2005	N7:5	R/W	—	Preset Frequency	0 — 40000	.01 Hz	Valid Regardless of Motor Selected (1st, 2nd)
40007	V2006	N7:6	R/W	—	Acceleration Time	1 — 36000	.1 s	Valid Regardless of Motor Selected (1st, 2nd)
40008	V2007	N7:7	R/W	—	Deceleration Time	1 — 36000	.1 s	Valid Regardless of Motor Selected (1st, 2nd)

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40009	V2010	N7:8	Read	—	Run Status	Bits 2-1-0: State 0 0 1=Stopped 0 1 0=Decelerating 0 1 1=Constant Speed 1 0 0=Accelerating Bit 4-3: Not Used Bit 5: Inverter Comm Error 0=OK, 1= No Comm Bit 6: Trip Flag 0=No Trip, 1=Tripped Bit 7: Run Flag 0=Stopped, 1=Running	Bit Flag	
40010	V2011	N7:9	Read	D001	Output Frequency	0 — 40000	.01 Hz	
40011	V2012	N7:10	Read	D002	Output Current	0 — 65535	.1 A	
40012	V2013	N7:11	Read	D003	Direction of Output	0=Stopped 1=Forward 2=Reverse	Numeric Code	
40013	V2014	N7:12	Read	D004	PID Feedback	0 — 65535	%	
40014	V2015	N7:13	Read	D005	Intelligent Input Status	Bit 0: Input Terminal 1 Bit 1: Input Terminal 2 Bit 2: Input Terminal 3 Bit 3: Input Terminal 4 Bit 4: Input Terminal 5 Bit 5: Input Terminal 6 Bit 6: Input Terminal 7 Bit 7: Input Terminal 8 Bit 8: Input Terminal FW	Bit Flag 0=Off, 1=On	
40015	V2016	N7:14	Read	D006	Intelligent Output Status	Bit 0: Output Terminal 11 Bit 1: Output Terminal 12 Bit 2: Output Terminal 13 Bit 3: Output Terminal 14 Bit 4: Output Terminal 15 Bit 5: Output Terminal AL	Bit Flag 0=Off, 1=On	
40016	V2017	N7:15	Read	D007	Frequency Conversion Monitor	0 — 65535	.01 units	
40017	V2020	N7:16	Read	D014	Input Power	0 — 65535	.1 kW	
40018	V2021	N7:17	Read	—	Input voltage	0 — 65535	.1 V	

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40019	V2022	N7:18	Read	—	P-N Voltage	0 — 65535	.1 V	
40020	V2023	N7:19	Read	—	Terminal Set Frequency	0 — 65535	.01 Hz	
40021	V2024	N7:20	Read	D080	Number of Trips	0 — 65535	Count	
40022	V2025	N7:21	Read	D081	Trip 1 Factor (Most Recent)	0 — 79	Error Number	
40023	V2026	N7:22	Read	D081	Trip 1 Frequency	0 — 65535	.01 Hz	
40024	V2027	N7:23	Read	D081	Trip 1 Output Current	0 — 65535	.01 A	
40025	V2030	N7:24	Read	D081	Trip 1 P-N Voltage	0 — 65535	.1 V	
40026	V2031	N7:25	Read	D081	Trip 1 Time	0 — 65535	Days	
40027	V2032	N7:26	Read	D082	Trip 2 Factor	0 — 79	Error Number	
40028	V2033	N7:27	Read	D082	Trip 2 Frequency	0 — 65535	.01 Hz	
40029	V2034	N7:28	Read	D082	Trip 2 Output Current	0 — 65535	.01 A	
40030	V2035	N7:29	Read	D082	Trip 2 P-N Voltage	0 — 65535	.1 V	
40031	V2036	N7:30	Read	D082	Trip 2 Time	0 — 65535	Days	
40032	V2037	N7:31	Read	D083	Trip 3 Factor	0 — 79	Error Number	
40033	V2040	N7:32	Read	D083	Trip 3 Frequency	0 — 65535	.01 Hz	
40034	V2041	N7:33	Read	D083	Trip 3 Output Current	0 — 65535	.01 A	
40035	V2042	N7:34	Read	D083	Trip 3 P-N Voltage	0 — 65535	.1 V	
40036	V2043	N7:35	Read	D083	Trip 3 Time	0 — 65535	Days	
40037	V2044	N7:36	R/W	F002	Acceleration time	0 — 36000	.1 s	
40038	V2045	N7:37	R/W	F202	2nd Acceleration time	0 — 36000	.1 s	(SJ100 Only)
40039	V2046	N7:38	R/W	F003	Deceleration time	0 — 36000	.1 s	
40040	V2047	N7:39	R/W	F203	2nd Deceleration time	0 — 36000	.1 s	(SJ100 Only)
40041	V2050	N7:40	R/W	A020	Multi-Speed 0	0 — 40000	.01 Hz	

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40042	V2051	N7:41	R/W	A220	2nd Multi-Speed 0	0 — 40000	.01 Hz	(SJ100 Only)
40043	V2052	N7:42	R/W	A021	Multi-Speed 1	0 — 40000	.01 Hz	
40044	V2053	N7:43	R/W	A022	Multi-Speed 2	0 — 40000	.01 Hz	
40045	V2054	N7:44	R/W	A023	Multi-Speed 3	0 — 40000	.01 Hz	
40046	V2055	N7:45	R/W	A024	Multi-Speed 4	0 — 40000	.01 Hz	
40047	V2056	N7:46	R/W	A025	Multi-Speed 5	0 — 40000	.01 Hz	
40048	V2057	N7:47	R/W	A026	Multi-Speed 6	0 — 40000	.01 Hz	
40049	V2060	N7:48	R/W	A027	Multi-Speed 7	0 — 40000	.01 Hz	
40050	V2061	N7:49	R/W	A028	Multi-Speed 8	0 — 40000	.01 Hz	
40051	V2062	N7:50	R/W	A029	Multi-Speed 9	0 — 40000	.01 Hz	
40052	V2063	N7:51	R/W	A030	Multi-Speed 10	0 — 40000	.01 Hz	
40053	V2064	N7:52	R/W	A031	Multi-Speed 11	0 — 40000	.01 Hz	
40054	V2065	N7:53	R/W	A032	Multi-Speed 12	0 — 40000	.01 Hz	
40055	V2066	N7:54	R/W	A033	Multi-Speed 13	0 — 40000	.01 Hz	
40056	V2067	N7:55	R/W	A034	Multi-Speed 14	0 — 40000	.01 Hz	
40057	V2070	N7:56	R/W	A035	Multi-Speed 15	0 — 40000	.01 Hz	
40058	V2071	N7:57	R/W	A071	PID selection	0=Invalid, 1=Valid	Code	
40059	V2072	N7:58	R/W	A072	PID-P gain	2 — 50	.1 units	
40060	V2073	N7:59	R/W	A073	PID-I gain	0 — 36000	.1 s	
40061	V2074	N7:60	R/W	A074	PID-D gain	0 — 10000	.01 s	
40062	V2075	N7:61	R/W	A075	PID scale	1 — 9999	.01 units	
40063	V2076	N7:62	R/W	A076	PID feedback selection	0=Feedback OI, 1=Feedback O	Code	
40064	V2077	N7:63	R/W	A038	Jogging Frequency	0 — 999	.01 Hz	

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40065	V2100	N7:64	R/W	A039	Jogging selection	0=Free run/invalid on run 1=Stop decel/invalid on run 2=DC brake/invalid on run 3=Free run/valid on run 4=Stop decel/valid on run 5=DC brake/valid on run	Code	
40066	V2101	N7:65	R/W	A092	Acceleration time2	0 — 36000	.1 s	
40067	V2102	N7:66	R/W	A292	2nd Acceleration time2	0 — 36000	.1 s	(SJ100 Only)
40068	V2103	N7:67	R/W	A095	Acceleration Switch Frequency	0 — 40000	.01 Hz	
40069	V2104	N7:68	R/W	A295	2nd Acceleration Switch Frequency	0 — 40000	.01 Hz	(SJ100 Only)
40070	V2105	N7:69	R/W	A097	Acceleration pattern selection	0=Straight Line 1=S-Curve 2=U-Curve 3=Reverse U-Curve	Code	
40071	V2106	N7:70	R/W	A093	Deceleration time 2	0 — 36000	.1 s	
40072	V2107	N7:71	R/W	A293	2nd Deceleration time2	0 — 36000	.1 s	(SJ100 Only)
40073	V2110	N7:72	R/W	A096	Deceleration Switch Frequency	0 — 40000	.01 Hz	
40074	V2111	N7:73	R/W	A296	2nd Deceleration Switch frequency	0 — 40000	.01 Hz	(SJ100 Only)
40075	V2112	N7:74	R/W	A098	Deceleration pattern selection	0=Straight Line 1=S-Curve 2=U-Curve 3=Reverse U-Curve	Code	
40076	V2113	N7:75	R/W	A001	Frequency setting selection	0=VR 1=Terminal 2=Operator	Code	
40077	V2114	N7:76	R/W	A002	Operation setting selection	1=Terminal 2=Operator	Code	
40078	V2115	N7:77	R/W	A003	Base frequency setting	50 — 360	Hz	
40079	V2116	N7:78	R/W	A203	2nd Base frequency	50 — 360	Hz	(SJ100 Only)
40080	V2117	N7:79	R/W	A004	Maximum Frequency	50 — 360	Hz	
40081	V2120	N7:80	R/W	A204	2nd Maximum frequency	50 — 360	Hz	(SJ100 Only)

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40082	V2121	N7:81	R/W	A082	Motor voltage selection	0=200,1=215,2=220,3=230,4=240,5=380,6=400,7=415,8=440,9=460,10=480,11=575,12=600	Code	
40083	V2122	N7:82	R/W	B083	Carrier frequency setting	5 — 120	.1 Hz	
40084	V2123	N7:83	R/W	C001	Intelligent input 1 setting	See table on page E–9	Code	
40085	V2124	N7:84	R/W	C002	Intelligent input 2 setting	See table on page E–9	Code	
40086	V2125	N7:85	R/W	C003	Intelligent input 3 setting	See table on page E–9	Code	
40087	V2126	N7:86	R/W	C004	Intelligent input 4 setting	See table on page E–9	Code	
40088	V2127	N7:87	R/W	C005	Intelligent input 5 setting	See table on page E–9	Code	
40089	V2130	N7:88	R/W	C006	Intelligent input 6 setting	See table on page E–9	Code	(SJ100 Only)
40090	V2131	N7:89	R/W	C011	Intelligent input 1 a/b (NO/NC) selection	0=Normally Open 1=Normally Closed	Code	
40091	V2132	N7:90	R/W	C012	Intelligent input 2 a/b (NO/NC) selection	0=Normally Open 1=Normally Closed	Code	
40092	V2133	N7:91	R/W	C013	Intelligent input 3 a/b (NO/NC) selection	0=Normally Open 1=Normally Closed	Code	
40093	V2134	N7:92	R/W	C014	Intelligent input 4 a/b (NO/NC) selection	0=Normally Open 1=Normally Closed	Code	
40094	V2135	N7:93	R/W	C015	Intelligent input 5 a/b (NO/NC) selection	0=Normally Open 1=Normally Closed	Code	
40095	V2136	N7:94	R/W	C016	Intelligent input 6 a/b (NO/NC) selection	0=Normally Open 1=Normally Closed	Code	(SJ100 Only)
40096	V2137	N7:95	R/W	C021	Intelligent output 11 setting	See table on page E–9	Code	
40097	V2140	N7:96	R/W	C022	Intelligent output 12 setting	See table on page E–9	Code	
40098	V2141	N7:97	R/W	C023	Alarm relay output	See table on page E–9	Code	
40099	V2142	N7:98	R/W	C031	Intelligent output 11 a/b	0=Normally Open 1=Normally Closed	Code	

Modbus Reg. #	Direct-Net Reg. #	DF1 Reg. #	Access Type	SJ100/ L100 #Reg. #	SJ100 / L100 Parameter	Range / Value	Units	Notes
40100	V2143	N7:99	R/W	C032	Intelligent output 12 a/b	0=Normally Open 1=Normally Closed	Code	
40101	V2144	N7:100	R/W	C033	Alarm relay output a/b	0=Normally Open 1=Normally Closed	Code	
40102	V2145	N7:101	R/W	A061	Frequency upper limiter	0 — 40000	.01 Hz	
40103	V2146	N7:102	R/W	A062	Frequency lower limiter	0 — 40000	.01 Hz	
40104	V2147	N7:103	R/W	A063	Jump frequency1	0 — 40000	.01 Hz	
40105	V2150	N7:104	R/W	A064	Jump frequency Width 1	0 — 1000	.01 Hz	
40106	V2151	N7:105	R/W	A065	Jump frequency 2	0 — 40000	.01 Hz	
40107	V2152	N7:106	R/W	A066	Jump frequency width 2	0 — 1000	.01 Hz	
40108	V2153	N7:107	R/W	A067	Jump frequency 3	0 — 40000	.01 Hz	
40109	V2154	N7:108	R/W	A068	Jump frequency width 3	0 — 1000	.01 Hz	
40110	V2155	N7:109	R/W	A041	Torque boost selection	0=Manual, 1=Automatic	Code	
40111	V2156	N7:110	R/W	A241	2nd Torque boost selection	0=Manual, 1=Automatic	Code	(SJ100 Only)
40112	V2157	N7:111	R/W	A042	Manual torque boost	0 — 200	.1 %	
40113	V2160	N7:112	R/W	A242	2nd Manual torque boost	0 — 200	.1 %	(SJ100 Only)
40114	V2161	N7:113	R/W	A043	Manual torque boost point	0 — 500	.1 %	
40115	V2162	N7:114	R/W	A243	2nd Manual torque boost point	0 — 500	.1 %	(SJ100 Only)
40116	V2163	N7:115	R/W	A044	1st control	0=VC, 1=VP,2=Free V/F, 3=SLV, 4=0Hz-SLV,5=V2	Code	
40117	V2164	N7:116	R/W	A244	2nd control	0=VC, 1=VP,2=Free V/F, 3=SLV, 4=0Hz-SLV	Code	(SJ100 Only)
40118	V2165	N7:117	R/W	A045	Output voltage gain	20 — 100	%	

Intelligent Terminal Codes

Intelligent Input Setting Codes

Intelligent Input Terminal Setting Codes			
Code	**Description**	**Code**	**Description**
00	FW: Forward Run/Stop	15	SFT: Software Lock
01	RV: Reverse Run/Stop	16	AT: Analog Input Voltage/Current Select
02	CF1: Multi-speed select, Bit 0	17	Not used
03	CF2: Multi-speed select, Bit 1	18	RS: Reset Inverter
04	CF3: Multi-speed select, Bit 2	19	PTC Themistor thermal Protection
05	CF4: Multi-speed select, Bit 3	20	Not Used
06	JG: Jogging	21	Not Used
07	DB: External DC Braking	22	Not Used
08	SET: Set 2nd Motor	23	Not Used
09	2CH: 2-Stage Accel and Decel	24	Not Used
10	Not Used	25	Not Used
11	FRS: Free-run Stop	26	Not Used
12	EXT: External Trip	27	UP: Remote Control UP Function
13	USP: Unattended Start Protection	28	DWN: Remote Control DOWN Function
14	CS: Commercial Change	29	Not Used

Intelligent Output Setting Codes

Intelligent Output Terminal Setting Codes			
Code	**Description**	**Code**	**Description**
00	RUN: Run Signal	03	OL: Overload Advance Notice Signal
01	FA1: Frequency Arrival Type 1 Signal	04	OD: Output Deviation for PID Control
02	FA2: Frequency Arrival Type 2 Signal	05	AL: Alarm Signal