

Leader in Electrics & Automation



안전에관한 주의

- 안전을 위하여 「사용설명서」 또는 「카탈로그」를 반드시 읽고 사용해 주십시오.
- 본 카탈로그에 기재된 제품은 사용온도·조건·장소 등이 한정되어 있으며, 정기점검이 필요하므로 제품구입처나 당사에 문의 후 정확하게 사용해 주십시오.
- 안전을 위해 전기공사·전기매선 등 전문기술을 보유한 사람이 취급해 주십시오.

LS산전주식회사

www.lsis.biz

■ 본사 : 서울시 중구 남대문로 5가 84-11 연세재단 세브란스빌딩 14층

■ 구입문의

• Automation영업팀	TEL : (02)2034-4620~34	FAX : (02)2034-4622
• Drive영업팀	TEL : (02)2034-4611~18	FAX : (02)2034-4622
• 부산 영업팀	TEL : (051)310-6855~60	FAX : (051)310-6851
• 대구 영업팀	TEL : (053)603-7741~7	FAX : (053)603-7788
• 서부 영업팀 (광주)	TEL : (062)510-1885~91	FAX : (062)526-3262
• 서부 영업팀 (대전)	TEL : (042)820-4240~42	FAX : (042)820-4298
• 서부 영업팀 (전주)	TEL : (063)271-4012	FAX : (063)271-2613

■ 기술 문의

• 고객상담센터	TEL : (전국어디서나) 1544-2080	FAX : (02)3660-7021
• 동현산전 (안양)	TEL : (031)479-4785~6	FAX : (031)479-4784
• 네오엔시스 (대전)	TEL : (042)934-4330~2	FAX : (042)934-4333
• 네오엔시스 (천안)	TEL : (041)570-6646~7	FAX : (041)570-6648
• 신광ENG (부산)	TEL : (051)319-1051	FAX : (051)319-1052
• 에이엔디시스템 (부산)	TEL : (051)319-4939	FAX : (051)319-4938
• LS-WILL (구미)	TEL : (054)473-3909	

■ A/S 문의

• 서울 고객지원팀	TEL : (02)3660-7046	FAX : (02)3660-7045
• 천안 고객지원팀	TEL : (041)550-8308~9	FAX : (041)554-3949
• 부산 고객지원팀	TEL : (051)310-6922~3	FAX : (051)310-6851
• 대구 고객지원팀	TEL : (053)603-7751~4	FAX : (053)603-7788
	TEL : (053)383-2083	FAX : (053)603-7788
• 광주 고객지원팀	TEL : (062)510-1883, 1892	FAX : (062)526-3262

■ 교육 문의

• LS산전 연수원	TEL : (043)268-2631~2	FAX : (043)268-4384
• 서울 교육장	TEL : (전국어디서나) 1544-2080	FAX : (02)3660-7045
• 부산 교육장	TEL : (051)310-6860	FAX : (051)310-6851

■ 서비스 지정점

• 명산전 (서울)	TEL : (02)462-3053	FAX : (02)462-3054
• TPI시스템 (서울)	TEL : (02)895-4803~4	FAX : (02)6264-3545
• 우진산전 (의정부)	TEL : (031)877-8273	FAX : (031)878-8279
• 신진시스템 (안산)	TEL : (031)495-9606	FAX : (031)494-9606



신속한 서비스, 든든한 기술지원 - LS산전과 함께

고객상담센터

전국어디서나

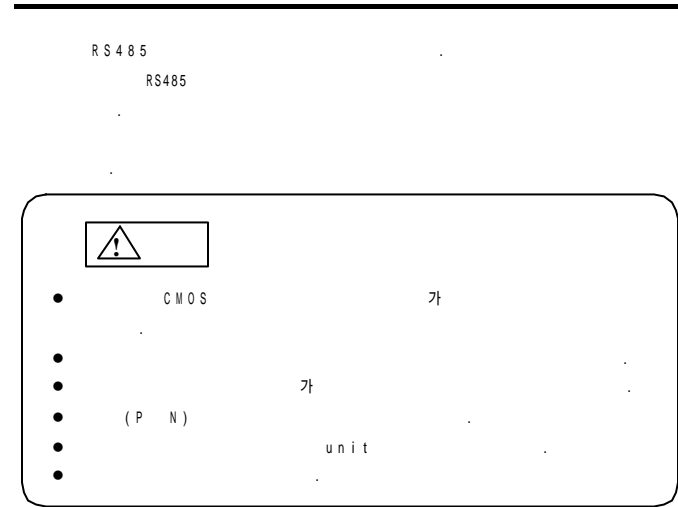
1544-2080

• 디에스산전 (청주)	TEL : (043)237-4816	FAX : (043)237-4817
• 파란자동화 (천안)	TEL : (041)579-8308	FAX : (041)579-8309
• 태영시스템 (대전)	TEL : (042)670-7363	FAX : (042)670-7364
• 서진산전 (울산)	TEL : (052)227-0335	FAX : (052)227-0337
• 동남산전 (창원)	TEL : (055)265-0371	FAX : (055)265-0373
• 대명시스템 (대구)	TEL : (053)564-4370	FAX : (053)564-4371
• 정석시스템 (광주)	TEL : (062)526-4151	FAX : (062)526-4152
• 코리아산전 (익산)	TEL : (063)835-2411~5	FAX : (063)831-1411
• 지이티시스템 (구미)	TEL : (054)465-2304	FAX : (054)465-2315
■ 해외 서비스센터		
• 중국사무소		
• SHANGHAI (상해)	TEL : (8621)5237-9977	FAX : (8621)5237-7191
• BEIJING (북경)	TEL : (8610)5165-6025	FAX : (8610)5165-6026
• GUANGZHOU (광주)	TEL : (8620)8326-6754	FAX : (8620)8326-6287
• CHENGDU (성도)	TEL : (8628)8640-2758	FAX : (8628)8640-2759
• QINGDAO (청도)	TEL : (86532)8501-6056	FAX : (86532)8501-6057
• 중국 서비스 지정점		
• JINXING (심양)	TEL : (8624)2388-0006	FAX : (8624)2388-0006-581
• TIME (북경)	TEL : (8610)5165-6671	FAX : (8610)5165-6671-660
• HERMES (북경)	TEL : (8610)6894-5501	FAX : (8610)6894-5509
• LEGAO (제남)	TEL : (86521)8897-8969	FAX : (86521)8897-8969-87
• JINXING (청도)	TEL : (86532)8482-4799	FAX : (86532)8481-1399
• SANXIN (서안)	TEL : (8629)8651-9452	FAX : (86532)8652-1751
• XINYA (중경)	TEL : (8623)6773-1810	FAX : (8623)6774-0493-818
• GUANGBOXIN (무석)	TEL : (86510)8272-9149	FAX : (86510)8272-9150
• SANXIN (상해)	TEL : (8621)5663-5222	FAX : (8621)5630-9271
• SANHANG (상해)	TEL : (8621)5308-1137	FAX : (8621)5308-1139
• ANFENG (상해)	TEL : (8621)5291-1319	FAX : (8621)5291-1337
• KENING (광주)	TEL : (8620)8220-9685	FAX : (8620)8221-2206
• YOULI (불산)	TEL : (86757)8221-7379	FAX : (86757)8212-8065

RS485
SV-iH



■ TEL: (02) 3777-4620 ~ 3 FAX: (02) 3777-4622
 ■ PLC TEL: (02) 3777-4612 ~ 4 FAX: (02) 3777-4622
 ■ INV TEL: (02) 3777-4612 ~ 4 FAX: (02) 3777-4622
 TEL: (051) 310-6855 ~ 8 FAX: (051) 310-6851
 TEL: (053) 603-7740 ~ 5 FAX: (053) 603-7788
 () TEL: (062) 510-1885 ~ 9 FAX: (062) 526-3262
 () TEL: (042) 480-8919 ~ 2 FAX: (042) 489-8672
 Drive System TEL: (02) 3777-4616 ~ 8 FAX: (02) 3777-4622
 ■ TEL: 1544-2080 FAX: (02) 3660-702
 ■ A/S TEL: (02) 895-4815 ~ 9 FAX: (02) 895-4814
 TEL: (041) 550-8308 ~ 9 FAX: (041) 554-3949
 TEL: (051) 310-6920 ~ 3 FAX: (051) 310-6851
 TEL: (053) 603-7740 ~ 6 FAX: (053) 603-7788
 TEL: (062) 510-1890 FAX: (062) 526-3262
 ■ LG TEL: 2 450 (: 361-302)
 TEL : (043) 268-2631 ~ 2 FAX : (043) 268-2633 ~ 4
 ■ : http://www.lgis.co.kr



1. RS485 (LG) RS485 Open Protocol
 가 가 가 가 가
 (P N)
 unit

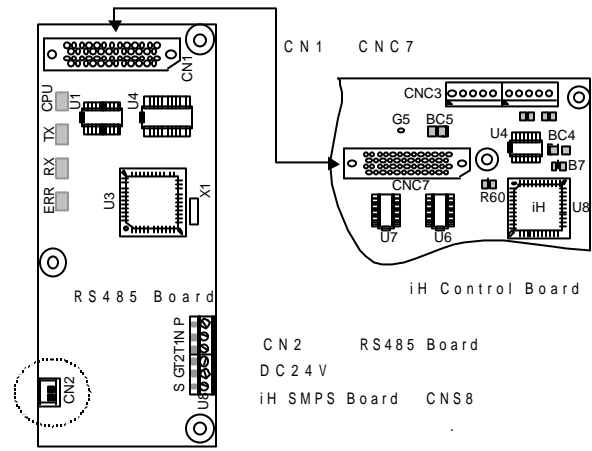
1.1. User 가 가
 (: 가)
 * RS485 : 가
 가 RS232-485 RS232

RS485 (RS232-485)	
Bus, Multidrop Link System	
SV-iH series	
RS232가	
31	
Max. 1200m(700m)	

Half duplex system	
ASCII (8 bit)	
Stop bit	1 bit
Error check(CRC16)	2 byte
Parity check	None

19200/9600/4800/2400/19200 bps 가	
Half duplex system	
ASCII (8 bit)	
Stop bit	1 bit
Error check(CRC16)	2 byte
Parity check	None

P	485	- high
N	485	- low
G	485	Ground
S		Shield
T1		
T2	T1	T2



1. RS485

LED	
CPU LED	가
RX LED	485
TX LED	485
ERR LED	DATA ()
	CPU DPRAM
	CPU Network Connection Time out

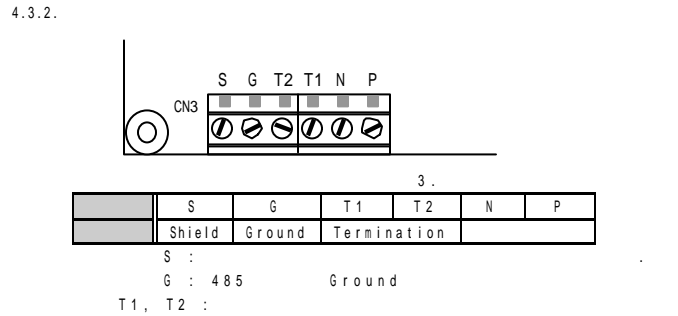
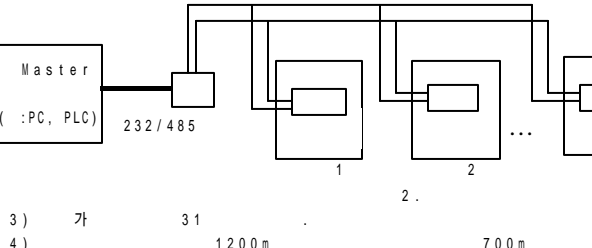
4.1. (1) RS485
 가
 가 LED가 "CPU LED"가 1
 "CPU LED"가 가 "CPU LED"가
 (: "CPU LED"가 가)
 가 가 "CPU LED"가
 가
 < I/O 48 > RS485

< FUN 01 >	Freq. set	"Remote"
< FUN 02 >	Run/stop set	"Remote"
< I/O 50 >	Inv. Number	1-31 (가)
< I/O 51 >	Baud-rate	9600 bps ()
< I/O 52 >	Comm. timeout(1)	10.0 ()

1) 가 Remote
 Comm. timeout 0
 3

4.2. RS232-485

4.3. 4.3.1.



5. RS485 (LG) RS485 Open Protocol
 가 가 가 가 가
 / 가 가

5.1.

Function Code	
R	
W	
X	
Y	

(: (ASCII CODE))

5.2. Broadcast
 * 255

5.3.

ILLEGAL FUNCTION	IF	
ILLEGAL DATA ADDRESS	IA	
ILLEGAL DATA VALUE	ID	data가
WRITE MODE ERROR	WM	Read Only
FRAME ERROR	FE	Frame Num Sum
TIME OUT ERROR	TO	DPRAM
DPRAM OFF LINE	DO	dpram Off Line
UNDEFINED CONDITION	UC	가

5.4. BaudRate
 1200, 2400, 4800, 9600, 19200bps (default 9600bps)

6. 가

• CPU LED가

가
1. 가
2. 가

• TXD LED RXD LED가

가?	
가?	
가	가? "4 "
가?	
가?	"4 "
User	가? User (2)
가?	"4 "

2) User 가 PC s/w

• ERR LED가

	Noise
CPU LED	Network TimeOut(I/O 52)
CPU LED	가 On/off A/S

7. (hex)

< > : (3)

	Unit	Read/Write	
0000	-	R	3: SV-iH
0001	-	R	A: 30 kW B: 37 kW C: 45 kW D: 55 kW E: 75 kW F: 90 kW 10: 110 kW 11: 132 kW 12: 160 kW 14: 220 kW
0002	-	R	0: 220V 1: 440V
0003	-	R) 0200: Ver. 2.00, 0201: Ver 2.01
0005	0.01 Hz	R/W	
0006	-	R/W	Bit 0: Bit 1: Bit 2: Bit 3: Fault Bit 4:
0007	가	0.1 sec	R/W
0008		0.1 sec	R/W
0009		0.1 A	R
000A		0.01 Hz	R
000B		1 V	R
000C	DC Link	1 V	R
000D		0.1kW	R
000E	-	R	Bit 0: Bit 1: Bit 2: Bit 3: Fault(Trip) Bit 4: 가 Bit 5: Bit 6: Bit 7: DC Braking Bit 8: Bit13: Rem. Run/Stop Bit14: Rem. Freq. Cmd
000F	-	R	Bit 0: OC Bit 1: OV Bit 2: EXT Bit 3: BX Bit 4: LV Bit 5: Fuse Open Bit 6: GF Bit 7: OH Bit 8: ETH Bit 9: OLT Bit 10: MCF Bit 12: SCT Bit 15: IOLT
0010	-	R	Bit 0: FX Bit 1: RX Bit 2: BX Bit 3: RST Bit 8: P1 Bit 9: P2 Bit 10: P3 Bit 11: P4 Bit 12: P5 Bit 13: P6
0011	-	R	Bit 0: Q1 (OC1) Bit 1: Q2 (OC2) Bit 2: Q3 (OC3) Bit 3: AUX1 Bit 4: AUX2
0012	V1	-	R 0 - FFFF
0013	V2	-	- 0 - FFFF
0014	I	-	R 0 - FFFF
0015	RPM	-	R

(3) 가 reset

reset OFF/ON

< DRV >

No.	Unit					
4001	DRV#01	Acc. time	300	60000	0	0.1sec
4002	DRV#02	Dec. time	600	60000	0	0.1sec
4003	DRV#03	Current	0	1	0	0.1 A
4004	DRV#04	Speed	0	1	0	1 rpm
4005	DRV#05	Power	0	5000	0	0.1kW

< FUN >

No.	Unit					
4101	FU1 #01	Freq. Set	0	2	0	
4102	FU1 #02	Run/stop set	0	3	0	
4103	FU1 #03	Run prohibit	0	2	0	
4104	FU1 #04	Freq. Max	6000	40000	4000	0.01Hz
4105	FU1 #05	Freq. base	6000	Freq. max	4000	0.01Hz
4106	FU1 #06	Freq. start	50	500	50	0.01Hz
4107	FU1 #07	Hold time	0	100	0	0.1sec
4108	FU1 #08	V/F pattern	0	3	0	
4109	FU1 #09	Fwd boost	2	20	0	1 %
410A	FU1 #10	Rev boost	2	20	0	1 %
410B	FU1 #11	Acc. pattern	0	2	0	
410C	FU1 #12	Dec. pattern	0	2	0	
410D	FU1 #13	Volt control	100	110	40	1 %
410E	FU1 #14	Energy save	100	100	70	1 %
410F	FU1 #15	Stop mode	0	2	0	
4110	FU1 #16	User-1f	1000	User-2f	0	0.01Hz
4111	FU1 #17	User-1v	15	User-2v	0	1 %
4112	FU1 #18	User-2f	3000	Freq. max	User-1f	0.01Hz
4113	FU1 #19	User-2v	50	100	User-1v	1 %
4114	FU1 #20	V-I mode	0	3	0	
4115	FU1 #21	Filter gain	25	100	1	1 %
4116	FU1 #22	Analog gain	1000	2500	500	0.1 %
4117	FU1 #23	Analog bias	1000	2000	0	0.1 %
4118	FU1 #24	Analog dir	0	1	0	
4119	FU1 #25	Freq. limit	0	1	0	
411A	FU1 #26	F-limit high	6000	Freq. max	F.limit low	0.01Hz
411B	FU1 #27	F-limit low	0	F.limit high	0	0.01Hz
411C	FU1 #28	Freq. jump	0	1	0	
411D	FU1 #29	Freq-jump 1f	1000	Freq. max	0	0.01Hz
411E	FU1 #30	Freq-jump 2f	2000	Freq. max	0	0.01Hz
411F	FU1 #31	Freq-jump 3f	3000	Freq. max	0	0.01Hz
4120	FU1 #32	Freq. band	500	3000	0	0.01Hz
4121	FU1 #33	DC-br freq.	50	6000	0	0.01Hz
4122	FU1 #34	DC-br block	20	50	5	0.1sec
4123	FU1 #35	DC-br time	5	250	1	0.1sec
4124	FU1 #36	DC-br value	1	20	1	1 %
4125	FU1 #37	Slip compen.	0	1	0	
4126	FU1 #38	Rated slip	0	500	0	0.01Hz
4127	FU1 #39	M-rated cur.	1	9990	1	0.1 A
4128	FU1 #40	No-load cur.	1	3000	1	0.1 A
4129	FU1 #41	Inv capacity	0	15	0	
412A	FU1 #42	Retry number	0	10	0	
412B	FU1 #43	Retry time	10	100	0	0.1sec
412C	FU1 #44	Relay mode	0	3	0	
412D	FU1 #45	Stall mode	0	7	0	
412E	FU1 #46	Stall level	150	150	30	1 %
412F	FU1 #47	OL level	150	150	30	1 %
4130	FU1 #48	OL time	100	300	10	0.1sec
4131	FU1 #49	OC lim. level	160	200	30	1 %
4132	FU1 #50	OC lim. time	600	600	0	0.1sec

No.	Unit					
4133	FU1 #51	ETH select	0	1	0	
4134	FU1 #52	ETH level	150	150	110	1 %
4135	FU1 #53	Motor type	0	1	0	
4136	FU1 #54	Pole number	4	12	2	
4137	FU1 #55	IPF select	0	1	0	
4138	FU1 #56	SS acc. time	50	6000	1	0.1sec
4139	FU1 #57	SS dec. time	100	6000	1	0.1sec
413A	FU1 #58	SS gain	100	200	0	1 %
413B	FU1 #59	RST-restart	0	1	0	
413C	FU1 #60	Power on st	0	1	0	
413D	FU1 #61	Carrier freq	6	Carrier_max	2	1 kHz
413E	FU1 #62	PI-control	0	1	0	
413F	FU1 #63	P-gain	10	30000	1	
4140	FU1 #64	I-gain	50	30000	1	
4141	FU1 #65	PI-fb select	0	2	0	
4142	FU1 #66	PI-fb flt G.	25	100	1	1 %
4143	FU1 #67	PI-fb gain	1000	2500	500	0.1 %
4144	FU1 #68	PI-fb bias	1000	2000	0	0.1 %
4145	FU1 #69	PI-fb dir	0	1	0	
4146	FU1 #70	I_term scale	100	100	1	1 %
4147	FU1 #71	PI error invert	0	1	0	
4148	FU1 #72	Regul bypass	0	1	0	
415E	FU1 #94	CT/VT	0	1	0	

< I/O >

No	Unit					
4201	I/O #01	P1 input	0	14	0	
4202	I/O #02	P2 input	1	14	0	
4203	I/O #03	P3 input	2	14	0	
4204	I/O #04	P4 input	3	14	0	
4205	I/O #05	P5 input	4	14	0	
4206	I/O #06	P6 input	5	14	0	
4207	I/O #07	OC1 output	11	12	0	
4208	I/O #08	OC2 output	12	12	0	
4209	I/O #09	OC3 output	13	12	0	
420A	I/O #10	AUX1 output	10	12	0	
420B	I/O #11	AUX2 output	10	12	0	
420C	I/O #12	Jog freq.	3000	Freq. max	0	0.01 Hz
420D	I/O #13	Step freq-1	1000	Freq. max	0	0.01 Hz
420E	I/O #14	Step freq-2	2000	Freq. max	0	0.01 Hz
420F	I/O #15	Step freq-3	3000	Freq. max	0	0.01 Hz
4210	I/O #16	Step freq-4	4000	Freq. max	0	0.01 Hz
4211	I/O #17	Step freq-5	5000	Freq. max	0	0.01 Hz
4212	I/O #18	Step freq-6	4600	Freq. max	0	0.01 Hz
4213	I/O #19	Step freq-7	3700	Freq. max	0	0.01 Hz
4214	I/O #20	Acc time-1	10	60000	0	0.01 Hz
4215	I/O #21	Dec time-1	10	60000	0	0.01 Hz
4216	I/O #22	Acc time-2	20	60000	0	0.01 Hz
4217	I/O #23	Dec time-2	20	60000	0	0.01 Hz
4218	I/O #24	Acc time-3	30	60000	0	0.01 Hz
4219	I/O #25	Dec time-3	30	60000	0	0.01 Hz
421A	I/O #26	Acc time-4	40	60000	0	0.01 Hz
421B	I/O #27	Dec time-4	40	60000	0	0.01 Hz
421C	I/O #28	Acc time-5	50	60000	0	0.01 Hz
421D	I/O #29	Dec time-5	50	60000	0	0.01 Hz
421E	I/O #30	Acc time-6	60	60000	0	0.01 Hz
421F	I/O #31	Dec time-6	60	60000	0	0.01 Hz
4220	I/O #32	Acc time-7	70	60000	0	0.01 Hz
4221	I/O #33	Dec time-7	70	60000	0	0.01 Hz
4222	I/O #34	LM meter	0	1	0	
4223	I/O #35	LM adj.	100	120	0	1 %

No	Unit					
4224	I/O #36	FM adj.	100	120	0	1 %
4225	I/O #37	Io adj.	100	120	0	1 %
4226	I/O #38	FST-freq.	50	Freq. max	50	0.01 Hz
4227	I/O #39	FDT-freq.	6000	Freq. max	50	0.01 Hz
4228	I/O #40	FDT-band	100	3000	0	0.01 Hz
4229	I/O #41	Mul. factor	100	999	0	
422A	I/O #42	Div. factor	100	999	1	
4232	I/O #50	Inv. Number	1	31	1	
4233	I/O #51	Baud-rate	3	4	0	
4234	I/O #52	Comm. timeout	10	600	0	0.1 sec
423A	I/O #58	DI mode	1	2	0	
423B	I/O #59	DA mode	0	2	0	
423C	I/O #60	DA adj.	100	120	80	1 %
423D	I/O #61	FN : St. ID	1	63	1	
423E	I/O #62	DN : MAC ID	1	63	0	
423F	I/O #63	DN : BaudRate	0	2	0	
4240	I/O #64	DN : Out Inst	0	3	0	
4241	I/O #65	DN : In Inst	0	3	0	