

Clean power for all









SC500TL-V31 시운전 setting guide

IP주소 변경의 필요성

- SUNGROW PCS내부에는 2개의 LAN 포트(NET1, NET2)가 있으며 NET1 포트는 engineer가 현장 유지보수 시 사용하는 포트이며, NET2 포트는 EMS업체의 통신선이 연결되는 포트임
- NET1의 기본 IP는 192.168.0.100이며, NET2의 기본 IP는 192.168.13.127임
- EMS에서 PCS의 IP(NET2)로 192.168.0.x(3번째자리가 0)을 요구하는 경우, 필히 NET1의 기본 IP를 192.168.x.100(x는 0을 제외한 임의의 숫자이며, 1로 변경을 추천)로 변경해야 함 (NET2 IP와의 충돌 방지). 단, EMS에서 PCS의 IP(NET2)로 192.168.x.y(x는 0을 제외한 숫자)인 경우, NET1의 IP는 변경 불필요하며 NET2 IP만 원하는 값으로 변경하면 됨
- NET2의 IP를 EMS업체에서 요구하는 IP로 변경하면 IP 변경작업은 완료임

SC500TL-V31 시운전 setting guide

IP주소 변경 (변경 전 default IP)

Intelligent unit-Network sett	ings x +	-			ID ID I			- 0 - X-
← → C ▲ 주의요	192.168.0.100/peram_netv	work.php						й 🛄 🛄 🌍 i
태 앱 🔳 CUSTOMER SERVIC		로그인 🚺 NAVE	iR 😵 SMP 🎒 Share - N	utitore 🖪 명이주소 : 네이	(H 🧧 双检查知知光电源	■ 수배진반,개봉도,립	🍑 9_Storage space for 🥥	Document Centre *
UMCG	Intelligent unit	Monitoring	Management Sett	ings Protocol Main	tenance Diagnosis			💄 O&M user 🛛 [Exil]
Overview	Port	DHCP	IP	Subnet	Gateway	DNS1	DNS2	Operation
> Time settings	ETH2	No •	192.168.13.127	255.255.255.0	192.168.13.254	1.2.4.8	8.8.8	H Save
> Serial port settings	ETH1	No •	192.168.0.100	255.255.255.0	192.168.0.254	1.2.4.8	8.8.8.8	E Save
> Network settings		1		1				
> DI settings								
> DO settings								
> ADC settings								
> About								
> VPN setting								
> Restart								
> Upgrade								
> Template management								
> Log								
> Packetcapture								
	1					20	19-10-10 16:34 All rigt	its reserved : SUNGROW

- 다음 가이드는 EMS가 자사 PCS의 IP(NET2)를 192.168.0.100로 요구한 경우임 (NET1 IP 변경 필수)
- ETH1 IP를 192.168.0.100에서 192.168.1.100으로 변경

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IP주소 변경



• 상단이 NET1, 하단이 NET2 포트이며 최초 IP변경시에는 LAN선을 반드시 NET1에 연결 후 PC의 IP를 192.168.0.99로 변경

SC500TL-V31 시운전 setting guide

IP주소 변경

UMCG Intelligent unit	
Language Farst	
Username user	
Password	
Codes 2 p X k	
Login Anonymous	

• 인터넷 주소창에 192.168.0.100 입력 >> Username : maintain, Password : adamg1 >> 로그인

SC500TL-V31 시운전 setting guide

IP주소 변경 (변경 후 IP)

UMCG	Intelligent unit	Monitoring	Management Settin	gs Protocol Main	tenance Diagnosis			🔒 O&M user (Exit)
Overview	Port	DHCP	IP	Subnet	Gateway	DNS1	DNS2	Operation
> Time settings	ETH2	No •	192.168.0.100	255.255.255.0	192.168.13.254	1.2.4.8	8,8,8,8	E Save
> Serial port settings	ETH1	No •	192.168.1.100	255.255.255.0	192.168.0.254	1.2.4.8	8.8.8.8	E Save
> Network settings								
> DI settings								
> DO settings								
> ADC settings								
> About								
> VPN setting								
> Restart								
> Upgrade								
> Template management								
> Log								
> Packetcapture								
	1					20	19-10-10 1 6: 35 A	Il rights reserved = SUNGROW

상단 Settings 메뉴 클릭 >> 좌측 Network settings 클릭 >> ETH1 IP 초기값 192.168.0.100 >> 192.168.1.100 변경 및 ETH2 IP에 EMS가 요구하는 값을 입력(ex:192.168.0.100) >> 우측 Save 클릭

SC500TL-V31 시운전 setting guide

IP주소 변경

	Intelligent unit Monitoring Management Settings Protocol Maintenance Diagnosis	
Overview		
	Restart	
	* Configuration parameters are modified, the system must be reset after the entry into force:	
	Timing restart 12:34:56	
> Di settings		
> DO settings		
> ADC settings	Pertone factory settings	
- About		
- Restart		
-> Upgrade		
> Template managem		
> Log		
> Packetcapture		
A COLUMN		
	2019.01.02.1352	

• 좌측 Restart메뉴 클릭 >> 상단 Restart 클릭

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IP주소 변경

UNACE	Intelligent unit Monitoring Management Settings Protocol Maintenance Diagnosis	
	Restore factory settings Are you sure you want to restart your system? Cancle	
= tog - Packetcaphare		

• Yes 클릭



SC500TL-V31 시운전 setting guide

충전/방전 전압 제한치 설정

UMCG	Intellige	ent ur	nit Monitoring Management Settin	gs Protocol Maintenance Diagnos	is	🚨 O&M user
Overview	Data di	splay	Param. setting			
C_UNIT_INV SC500-UINT_1	Run-para	m. setting	Pro-param, setting Sys-param, setting Query			0
	No.		Parameter name	Value	Data range	Unit
	28	8	Grid-connected reactive power rise slope	500	[0.5~2000.0]	%/s
	29		Grid-connected reactive power drop slope	500	[0.5~2000.0]	%/s
	30		Battery charging voltage upper limit	1000	[520.0~1000.0]	v
	31		Battery discharging voltage lower limit	520	[520.0~1000.0]	v
	32		Maximum battery charging current	-1077	[-1077~0]	A
	33		Maximum battery discharging current	1077	[0~1077]	A
	34		FRT enabled	Closing *		
	35		FRT compensation factor	50	[0.0~100.0]	
	36		Grid-connected over-frequency derating control switch	Closing •		
	37	8	50Hz grid-connected overfrequency derating initial point	50.6	[50.20~55.00]	Hz
	38		60Hz grid-connected over-frequency derating start point	60.6	[60.20~65.00]	Hz

Run-parameter setting >> 30. Battery charging voltage upper limit, 31. Battery discharging voltage lower limit 수치 변경, 초기값은 1000, 520이며 현장 요구사항에 따라 변경

SC500TL-V31 시운전 setting guide

충전/방전 전압 제한치 설정

Overview	Datadia						
C UNIT INV	Lata usp	ay	tam setting				0
	Run-param.	setting P	ro-param setting Sys-param setting				0
	Settin	9 0	uny				
	No.	6	Parameter name		Value	Data range	Unit
	23		VSG voltage sagging slope	1		[1.0-2.0]	
	24		VSG active setting value	Information	×	[-100.0-100.0]	%
	25		VSG reactive setting value	inon and i	~	[-100.0-100.0]	%
	26		Grid-connected active power rise slope	The settings must be done by a que technician, may affect running of twould you continue?	by a qualified	(0.5~2000.0)	≋√s
	27	-	Grid-connected active power drop slope		Sure Cancle	[0.5~2000.0]	%/s
	-28		Grid-connected reactive power rise slope			[0.5~2000.0]	%/s
	29		Grid-connected reactive power drop slope		ance	[0.5~2000.0]	96/5
	30	۲	Battery charging voltage upper limit	821.7		(520.0~1000.0)	v
	31	ø	Battery discharging voltage lower limit	633.6		[520.0~1000.0]	v
	32	目	Maximum battery charging current	-1077		{-1077-0{	٨
	33		Maximum battery discharging current	1077		[0-1077]	A
	34		FRT enabled	Closing	*		
	35		FRT compensation factor	50		[0.0-100.0]	
	36		Grid-connected over-frequency derating contr	rol Closing			

Run-parameter setting >> 30. Battery charging voltage upper limit, 31. Battery discharging voltage lower limit 수치 변경, 초기값은 1000, 520이며 현장 요구사항에 따라 변경 (ex : 821.7, 633.6)



SC500TL-V31 시운전 setting guide

LVRT/HVRT closing

UMCG	Intellige	ent un	it Monitoring Management Setti	ngs Protocol Maintenance Diagnosis		🚨 O&M user
Overview	Data dis	play	Param. setting			
SC_UNIT_INV SC500-UINT_1	Run-parar Sett	n. setting ing	Pro-param. setting Sys-param. setting Query * "Protection single stage/multi sta	ge trip selection" is set separately and takes effec	t.	
	No.		Parameter name	Value	Data range	Unit
	1		LVRT switch	Activation 🔹		A
	2		LVRT voltage 1	90	[85.0~90.0]	%
	3		LVRT voltage 2	20	[5.0~40.0]	%
	4		LVRT voltage 3	20	[5.0~40.0]	%
	5		LVRT voltage 4	20	[5.0~40.0]	%
	6		LVRT voltage 5	20	[5.0~40.0]	%
	7		LVRT T1	3000	[2500~3500]	ms
	8		LVRT T2	1000	[500~1500]	ms
	9		LVRT T3	1000	[500~1500]	ms
	10		LVRT T4	1000	[500~1500]	ms
	11		LVRT T5	1000	[500~1500]	ms
	12		LVRT dynamic reactive power Kf factor	0	[0.0~3.0]	_

SC500TL-V31 시운전 setting guide

LVRT/HVRT closing

UMCG	Intellige	ent ur	it Monitoring Management	Settings Protocol Mainter	nance Diagnosis		💄 O&M user - 🖽
Overview	Data dis	play	Param. setting				
> SC_UNIT_INV	Run-parar	n. setting	Pro-param, setting Sys-param, setting Query * *Protection single stage/	multi stage trip selection" is set sepa	rately and takes effect.		0
	No.	8	Parameter name		Value	Data range	Unit
	1		LVRT switch	Closing	*		
	2		LVRT voltage 1	60	1	[85.0-90.0]	%
	3	8	LVRT voltage 2	Information	×	[5.040.0]	%
	4		LVRT voltage 3	The settings must be done by a qualified technician, may affect running of the inverter,	ualified	[5.040.0]	%
	5		LVRT voltage 4		the inverter,	[5.0~40.0]	%
	6		LVRT voltage 5		1	[5.0~40.0]	%
	7		LVRT T1	Sure Cancle		[2500~3500]	ms.
	8		LVRT T2	1000		[500~1500]	ms
	9		LVRT T3	1000		[500-1500]	ms
	10		LVRT T4	1000		[500-1500]	ms
	11		LVRT TS	1000		[500-1500]	ms
	12		LVRT dynamic reactive power Kf fa	ctor 0		[0.0~3.0]	
	e					2019-10-10 16:38 A	Il rights reserved : SUNGROW

SC500TL-V31 시운전 setting guide

LVRT/HVRT closing

Overview						
NET THE	Data de	splay	Param. setting			-
C500-UINT 1	Run-para	m. setting	Pro-param. setting Sys-param. setting			
	Set	ting	Query * "Protection single stage/multi sta	ge trip selection* is set separately and takes effec	t.	
	No.		Parameter name	Value	Data range	Unit
	10		LVRT-T4	1000	[500-1500]	ms
	11	8	LVRT TS	1000	[500-1500]	ms
	12		LVRT dynamic reactive power Kf factor	0	[0.0~3.0]	
	13	8	HVRT switch	Activation •		
	14		HVRT voltage 1	110	[110.0~120.0]	%
	15		HVRT voltage 2	130	[120.0~140.0]	%
	16		HVRT voltage 3	130	[120.0~140.0]	96
	17	8	HVRT voltage 4	130	[120.0~140.0]	%
	18		HVRT voltage 5	130	[120.0~140.0]	%
	19		HVRT T1	10000	[100~20000]	ms
	20		HVRT T2	500	[100-5000]	ms
	21	8	HVRT T3	500	[100-5000]	ms

SC500TL-V31 시운전 setting guide

LVRT/HVRT closing

UMCG	Intellige	ent ur	hit Monitoring Management Se	ettings Protocol Maint	enance Diagnosis		Solver O&M user
Overview	Data di	play	Param. setting				
SC_UNIT_INV	Run-para	m. setting	Pro-param, setting Sys-param, setting Query **Protection single stage/multi	stage trip selection" is set set	parately and takes effect.		0
	No.	8	Parameter name		Value	Data range	Unit
	11		LVRT TS	1000		[500-1500]	ms
	12		LVRT dynamic reactive power Kf factor	0	1.00	[0.0~3.0]	
	13	2	HVRT switch	Closing			
	14		HVRT voltage 1	110		[110.0~120.0]	%
	15		HVRT voltage 2 Inf	ormation	×	[120.0140.0]	%
	16		HVRT voltage 3	a rational must be done by a	qualified	[120.0~140.0]	%
	17		HVRT voltage 4 tec	chnician, may affect running o	f the inverter,	[120.0140.0]	%
	18		HVRT voltage 5	ould you continue?	ntinue?	[120.0-140.0]	%
	19		HVRT TI	Sure Cancie		[10020000]	ms
	20		HVRT T2	500		[100~5000]	ms
	21		HVRT T3	500		[1005000]	ms
	22		HVRT T4	500		[1005000]	ms



SC500TL-V31 시운전 setting guide

주파수(Hz) 조정

Overview	Data dis	play	Param, setting				
C_UNIT_INV	Run-para	m. setting	Pro-param, setting Sys-param, setting				0
SC500-UINT_1		line	Church				-
	No.		Parameter name		Value	Data range	Unit
	2		Inverter unit charge correction value	0		[-3276.7~3276.7]	kWh
	3		DC switch type	Electrical operation			
	4		Branch type	Branch fuse			
	5	8	Negative grounding type	No	*		
	6		Fan type	EBM			
	7		Grid type	360V	•		
	8		Grid rated frequency	50Hz			
	9	8	Altitude derating	4000		[4000~5000]	m
	10	8	Module type	4th-generation IGBT	*		
	11		Fault recording switch	Closing			
	12		CVT mode setting	Closing			
	13		CVT voltage	700		[550~850]	v

• Sys-parameter setting >> 8. Grid rated frequency 초기값 50Hz이며 60Hz로 변경

SC500TL-V31 시운전 setting guide

주파수(Hz) 조정

UMCG	Intellige	ent un	nit Monitoring Managemen	t Settings Protocol	Maintenance Diagnosis		🚨 O&M user			
Overview	Data dis	splay	Param. setting							
> SC_UNIT_INV	Run-param. setting Pro-param. setting Setting Query									
	No.		Parameter name		Value	Data range	Unit			
	1		Inverter unit discharge correction	and an		[-3276.7~3276.7]	kWh			
	2		Inverter unit charge correction w	Information	×	[-3276.7~3276.7]	kWh			
	3		DC switch type	The settings must be done	by a qualified					
	4		Branch type	technician, may affect runn Would you continue?	ing of the inverter,					
	5		Negative grounding type							
	6		Fan type	Sure	Cancle					
	7		Grid type	360V						
	8	2	Grid rated frequency	60Hz	•					
	9		Altitude derating	4000		[4000~5000]	m			
	10		Module type	4th-generation	1681 +					
	11		Fault recording switch	Closing	*					
	12		CVT mode setting	Closing						

• Sys-parameter setting >> 8. Grid rated frequency 초기값 50Hz이며 60Hz로 변경



SC500TL-V31 시운전 setting guide

수동 충전/방전 테스트가 필요한 경우

- 기본적으로 PCS 시운전은 EMS와의 연계가 완료 된 이후에 진행되는 것이 원칙이나, 간혹 현장 문제로 인해 EMS를 통한 시운전이 불가능한 경우가 있음.
- 이러한 경우, PCS 수동운전 모드를 통해 충전/방전 시험이 가능함.

SC500TL-V31 시운전 setting guide

수동 충전/방전

Oversien	20								
	Data disp	lay P	aram. setting						
SCS00-UINT_1	Run-param setting Pro-param setting Sys-param setting								
	Batch s	etting	Setting Query						
	No.		Parameter name		Value	Data range	Unit		
	1	1	Remote/local of the inverter unit	Remote/local	•				
	2		Restore defaults of the inverter unit	Closing	•				
	3	10	Start/stop of the inverter unit	Start	•				
	4		Operation mode selection	Grid-connected mode	•				
	5	8	Operation mode setting	On-grid constant powe	•				
	6		Power soft start enabling	Opening	*				
	7		Active/reactive priority	Active power priority	*				
	8	10	Option switch for grid-connected reactive adjustment	Closing					
	9	8	Grid-connected power factor setting	1		[-1.000~1.000]			
	10		Grid-connected reactive power ratio setting	0		[-100.0-100.0]	%		
	11	8	Grid-connected constant power value (DC)	0		[-110.0~110.0]	96		
	12	. 8	Grid-connected constant power value (AC)	-16		[-110.0~110.0]	%		
	13		Grid-connected constant current value	0		[-1077~1077]	٨		
	14	-	Grid-connected constant voltage value	800		[520.0-1000.0]	v		

Run-parameter setting >> 3(start), 5(On-grid constant power), 12(충전시 -, 방전시 +값을 입력하며, 500kW 정격 출력 대비 테스트 하려는 값을 %로 환산하여 입력, ex : 50kW 충전시 -10, 100kW 방전시 20 입력)

THANK YOU!