THE POWER OF SYNERGY

LXCOS_Lite

Parameter list

Product version V1.0.1.0

PARAMETER LIST I

Software settings

Parameter		Default settings	Custom settings	Min. value	Max. value
Stability (1/2)	Buildup gain	1x		0.1x	14x
	Global loop gain	0.100x		0.022x	1.000x
	Derivative gain (1)	25.0%		0%	100.0%
Stability (2/2)	FCR loop gain (1)	2.000x		0.100x	2.000x
	AVR loop gain (1)	0.500x		0.080x	1.000x
	SR2 loop gain (1)	0.200x		0.025x	1.000x
	QPF/kVAr loop gain (1)	0.013x		0.010x	0.125x
	Transit loop gain (1)	0.125x		0.02.0x	0.500x
Buildup (1/1)	Initial voltage	37.5%		0 %	112.5 %
	Buildup Time	5 Sec		0 Sec	255 Sec
Input config (1/1)	PF1,PF2	QPF		**Options:** QPF SR2 UF FCR (1) kVAr (1)	
	TH1,TH2 (1)	50/60Hz		**Options:** Rst R/L KTY 50/60Hz CUN OEL+UEL UEL OEL kVAr FCR UF SR2 QPF2	
	A1,A2	M-Select		**Options:** M-Select M-Select R/L Volt. Match QPF/kVAr (1) QPF/kVAr R/L (1) FCR1 (1) FCR1 R/L (1) FCR2 (1) FCR2 R/L (1) Full R/L (1)	

(1) AVR Assistant required. Other settings can also be changed with AVR, see manual " Advanced settings IV ".

(2) Do not use. (Only manufacturer)

(3) Only available in OEM access level. (Contact manufacturer for more information)

PARAMETER LIST II

Software settings

Parameter			Default settings	Custom settings	Min. value	Max. value
Output config (1/1)	*D1,D2*	*(1) (2)*	*OFF*		***Options:*** *OFF PID Output UVW (V) I-v (A) Cosphi Freq. (Hz) I-Exc. (A) UVW SP(V) Cosphi SP General SP 5Vdc 10Vdc I-Exc SP(A) I-v SP(A) kVAr SP kVAr (VAr) kVAr+ (VAr) kVAr share Cos share*	
Protections (1/1)	*Excitation loss*		*ON*		*OFF*	*ON*
	Phase loss		*ON*		*OFF*	*ON*
	Current loss		*ON*		*OFF*	*ON*
	Stop at fault		*OFF*		*OFF*	*ON*
Setpoints (1/ 1)	*Cosphi 2*	*(1)*	*1.000*		*0.8 cap.*	*0.6 ind.*
	OEL	*(1)*	*8.00 Adc*		*1.00A*	*13.50A*
	UEL	*(1)*	*0 mAdc*		*0mA*	*4000mA*
	Acc. range	*(1)*	*0.0%*		*0.0%*	*100.0%*
	UnderFreq. (+/-)	*(1)*	*0.0 Hz*		*-12.7 Hz*	*12.7 Hz*

(1) AVR Assistant required. Other settings can also be changed with AVR, see manual " Advanced settings IV ".

(2) Do not use. (Only manufacturer)

(3) Only available in OEM access level. (Contact manufacturer for more information)

PARAMETER LIST III

Software settings

Parameter		Default settings	Custom settings	Min. value	Max. value
Options (1/1)	UEL mode (1)	OFF		OFF	ON
	AFD mode	OFF		OFF	ON
	Inverted mode	OFF		OFF	ON
	Inverted start (1)	LOW		LOW	HIGH
IO calibrate (1/1)	Analog Out-Zero (1)	0 mV		-1270mV	1270mV
	Analog Out-Span (1)	0.0 %		-12.7 %	12.7 %
	Analog In-Zero (1)	0 mV		-1270mV	1270mV
	Analog In-Span (1)	0.0 %		-12.7 %	12.7 %
Potmeter lock (3) (1/1)	Pot. lock (1)	Unlocked		Unlocked	Locked
Defaults (1/2)	Reset to defaults? (1)	NO		NO	YES

(1) *AVR Assistant required. Other settings can also be changed with AVR, see manual " Advanced settings IV ".*

(2) *Do not use. (Only manufacturer)*

(3) *Only available in OEM access level. (Contact manufacturer for more information)*

PARAMETER LIST IV

Hardware settings			
Parameter		***Default settings***	***Custom settings***
Dipswitch	*Dip 1*	*ON*	
	Dip 2	*ON*	
	Dip 3	*OFF*	
	Dip 4	*OFF*	
Rotary switch	*M-Select*	*Position : 0*	
	I-Limit	*Position : 9*	
Potentiometer	*Voltage coarse*	*+/- 50% (adjusted: 400V/50Hz)*	
	Voltage fine	*50 %*	
	Prop gain	*50 %*	
	Int. time	*50 %*	
	Droop	*0 %*	
	P1 (4) *Default: Acc. range*	*0%*	
	P2 (4) *Default: OEL*	*50%*	
	P3 (4) *Default: Cosphi 1*	*50%*	
Terminals	*AVR1-AVR2*	*Linked*	
	s-t	*Linked*	
	CAN1-CAN2	*Linked*	
	TH1-TH2 (4)	*Linked*	
	PF1-PF2 (4)	*Open*	
	I1-I1'	*Linked*	
	K1-K1'	*Linked*	
	UH1-UH1'	*Linked*	
	WH1-WH1'	*Linked*	

(4) *Potentiometer and terminal function are defined by the mode of control. (See manual : Advanced settings I & II)*

ADVANCED SETTINGS I

Flowchart : Change advanced settings with rotary switches

Begin ***(Generator stopped !)***

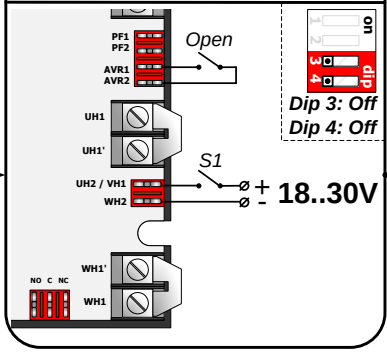
Remember settings

M-Select (Example)

I-Limit (Example)

Dip (Example)

Start situation



Selection

M-Select **Position 7** (Example)

I-Limit **Position 1** (Example)

Example: Voltage match enable

More settings?

Programming

Enable power supply

S1

Opt1
Opt2

Place Link for 2s.

Blink red
(Stored)

Set back settings

Reset power supply

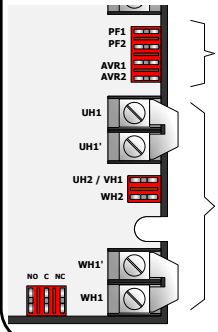
S1

M-Select (Example)

I-Limit (Example)

Dip (Example)

Reconnect wires



Done

Selection example

M-Select → Loop gain (MULT)

I-Limit → ***0.100***

Loop gain (x 0.100)

Note

Change of setting only take effect after restart

Advanced settings can be adjusted according the flowchart.
Advanced settings are available with firmware version 1.0 and higher.

ADVANCED SETTINGS II

Table: Change advanced settings with rotary switches

	M-Select							
I-Limit	 Buildup gain	 Global loop gain	 Umin Initial (Voltage)	 Protections	 Buildup time (@ startup)	 Option output	 Accessory input modes	 Operation modes
	0.1 (slowest)	1.000 (fastest)	0%	Excitation loss OFF	1 sec.	Do not use *	Voltage match OFF	Inverted output OFF
	0.2	0.200	7.5%	Excitation loss ON	3 sec.		Voltage match ** ON	Inverted output ON
	0.5	0.100	15%	Phase loss OFF	5 sec.		QPF/kVAr setpoint OFF	SR2 mode OFF
	1	0.066	22.5%	Phase loss ON	7 sec.		QPF/kVAr setpoint ON	SR2 mode ON ****
	2	0.050	30%	Current loss OFF	10 sec.		Raise/lower setpoint OFF	UF mode OFF
	4	0.040	37.5%	Current loss ON	20 sec.		Raise/lower setpoint ON	UF mode ON ****
	6	0.033	45%	Do not use *	30 sec.		FCR1 sepoint OFF	FCR mode OFF
	8	0.028	52.5%	Do not use *	45 sec.		FCR1 setpoint ON	FCR mode ON ****
	10	0.025	60%	Stop after fault OFF	60 sec.		FCR2 setpoint OFF	AFD mode OFF
	14 (fastest)	0.022 (slowest)	67.5%	Stop after fault ON	60 sec.		FCR2 setpoint ON	AFD mode ON ***
Description	Extra multiplication factor for proportional gain. Only applied during field flash.	Extra multiplication factor for proportional gain.	Initial setpoint from wich the AVR ramps up after field flash. Setpoint in % of Unom.	Enable or disable the desired protections.	The speed by which the AVR ramps from the minimum setpoint to the nominal setpoint.	Special application	Enable or disable the disired modes of operation.	Enable or disable the disired modes of operation.

* Used only by manufacturer. Contact for more information. ** LX_VMA unit required. *** AFD unit required.

**** SR2 , UF or FCR mode selectable at input PF1-PF2. *(AVR assistant required to select two modes.)*

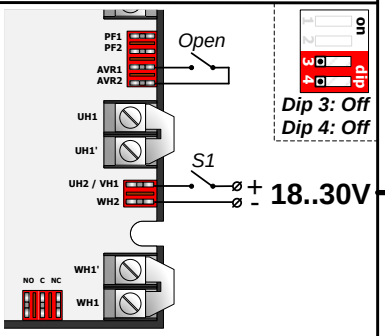
Default factory settings are highlighted in table. By setting both M-Select and I-Limit at position 9 and placing the programming jumper, will reset the AVR to **default factory settings**.

ADVANCED SETTINGS III

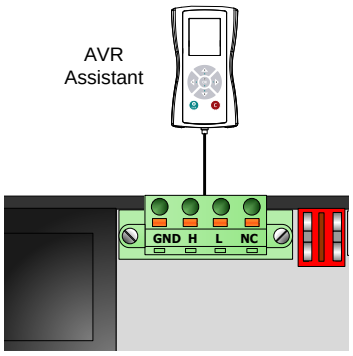
Flowchart : Change advanced settings with AVR Assistant

Start

Start situation



Connect AVR Assistant



Communication

Enable power supply

S1

AVR Assistant

Shift

Online

Select LXCOS

Select Device OK

LXCOS OK

Vx.x.x.x OK

(LXCOS Version)

Read settings

Advanced Settings OK

Read settings OK

Change settings

Select Value OK

Change value OK

C

Menu “Settings”

Write settings

Write settings OK

Hold OK OK

C

Menu “Select mode”

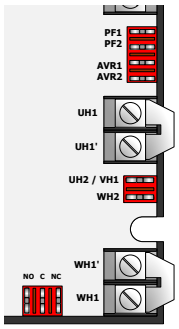
Restart AVR

Restart AVR OK

Reset power supply

S1

Reconnect wires



Reconnect

AVR supply

Done

(Disconnect AVR Assistant)