

SolarMax MT series

Country-specific functions and parameters
Factory settings

Technical information



Contents

This technical information contains the country-specific functions and associated parameters together with the values set in the factory.

Scope

Inverter	Firmware version
8MT2/10MT2/13MT2/15MT2 / 13MT3/15MT3	1.0.16830

Notes on application

The parameter values are listed in Table "Country-specific functions and parameters"; page 4 and depend on the country setting selected during initial start-up of the inverter.

The country setting can be opened at the inverter's graphics display or with the help of the MaxTalk 2 service software (see the instructions below). In this document, each country setting is allocated a table index, which, in the tables with the values under "Country-specific functions and parameters", refers to the column in the table with the parameter values.



Note

You will find the short descriptions of the functions and parameters in the instruction manual for the inverter. More detailed descriptions are contained in the "SolarMax MT series - Parameter configuration with MaxTalk 2 Pro" operating manual.

Selecting country setting

The country setting can be selected at the inverter's graphics display or via MaxTalk 2.

1. Select the "Configuration" menu / tab.
2. Note the values for the following parameters:
 - Country
 - Grid connection
 - Plant type or Standard



Note

The "Grid connection", "Plant type" and "Standard" parameters are not available for all country settings.

3. Determine the index using the parameter values:

Country	Grid connection	Plant type / Standard	Index	Guideline
Other	-	-	34	EN 50438
Australia	-	-	27	AS 4777
Belgium	-	≤ 10 kVA	13	C10/11
Belgium	-	> 10 kVA	14	C10/11
Bulgaria	-	-	22	VDE 0126-1-1
Denmark	-	≤ 13.8 kVA	28	VDE-AR-N 4105
Denmark	-	> 13.8 kVA – ≤ 30 kVA	29	VDE-AR-N 4105
Denmark	-	> 30 kVA	30	VDE-AR-N 4105
Germany	Low voltage	< 13.8 kVA	1	VDE-AR-N 4105

Country	Grid connection	Plant type / Standard	Index	Guideline
Germany	Low voltage	13.8 – 30 kVA	2	VDE-AR-N 4105
Germany	Low voltage	> 30 kVA	3	VDE-AR-N 4105
Germany	Low voltage	VDE 0126-1-1	4	VDE 0126-1-1
Germany	Medium voltage	-	5	BDEW
France	-	-	12	VDE 0126-1-1
Greece	-	-	15	PPC Guide
Greek Islands	-	-	16	PPC Guide
Great Britain	-	G83/2	19	G83/2
Great Britain	-	G59/2	20	G59/2
Israel	-	-	26	IS 4777
Italy	Low voltage	Guida Connessioni	9	Guida Connessioni Ed.2.2
Italy	Low voltage	CEI 0-21	10	CEI 0-21
Italy	Medium voltage	-	11	CEI 0-16
Croatia	-	-	24	IEC 61727
Portugal	-	-	18	EN 50438
Romania	-	-	23	VDE 0126-1-1
Sweden	-	-	31	EN 50438
Switzerland	-	-	21	VDE 0126-1-1
Spain	-	RD 1699	6	RD 1699
Spain	-	RD 1699 & PO 12.3 - Large PV Systems	7	RD 1699 & PO 12.3
Czech Republic	-	-	17	EN 50438
Turkey	-	-	25	VDE 0126-1-1 2006

Country-specific functions and parameters

Index 1 – 10

Parameter	Unit	Index									
		1	2	3	4	5	6	7	8	9	10
Vac min 1	V	184	184	0	184	184	196	196		184	0
t Vac min 1	ms	200	200	0	200	2000	1500	1500		200	0
Vac max 1	V	264	264	0	264	264	253	253		276	0
t Vac max 1	ms	200	200	0	200	100	1500	1500		100	0
Vac main 2	V	0	0	0	0	104	0	0		0	0
t Vac main 2	ms	0	0	0	0	1500	0	0		0	0
Vac max 2	V	0	0	0	0	0	264	264		0	0
t Vac max 2	ms	0	0	0	0	0	200	200		0	0
Vac 10 min max	V	253	253	0	253	0	0	0		0	0
Monit. ext. input	Inactive/On	-	-	Inactive	-	-	-	-		-	-
f min 1	Hz	47.5	47.5	0	47.5	47.5	48	48		49	0
t f min 1	ms	200	200	0	200	100	3000	3000		100	0
f max 1	Hz	51.5	51.5	0	51.5	51.5	50.5	50.5		51	0
t f max 1	ms	200	200	0	200	100	500	500		100	0
f min 2	Hz	0	0	0	0	0	0	0		0	0
t f min 2	ms	0	0	0	0	0	0	0		0	0
f max 2	Hz	0	0	0	0	0	0	0		0	0
t f max 2	ms	0	0	0	0	0	0	0		0	0
df/dt max	Hz/s	0	0	0	0	0	0	0		0	0
Ierr max	mA	300	300	300	300	300	300	300		300	300
Iac mean max	mA	1000	1000	1000	1000	1000	0.5% of Iac max	0.5% of Iac max		0.5% of Iac max	0.5% of Iac max
Restart delay	s	0	0	0	0	0	0	0		0	0
Mains check	Inactive/On	On	On	Inactive	On	On	On	On		Inactive	On
- Vac MC max	V	253	253	280	253	280	264	264		280	253
- Vac MC min	V	196	196	161	184	219	196	196		161	196
- f MC max	Hz	50.05	50.05	55	50.2	50.05	50.5	50.5		55	50.1
- f MC min	Hz	47.5	47.5	45	47.5	47.5	48	48		45	49.9
- t MC monitoring	s	60	60	0	30	0	180	180		0	300
Island detection	Inactive/On	On	On	On	On	Inactive	On	Inactive		On	Inactive
Soft start	W/s	0	0	0	0	0	0	0		0	0
Pac progression	%/min	10	10	10	0	0	0	0		0	20
P(V)-Mode		not available									
- Monitoring time											
- Vac threshold											
- Pac reduction											
- Pac recovery		not available									
P(f)-Mode											
- P(f) f start											
- P(f) f stop	Hz										
- P(f) MC f max	Hz	-	-	-	-	-	-	-		-	50.1
- P(f) MC f min	Hz	-	-	-	-	-	-	-		-	49.9
- P(f) MC Vac High	V	-	-	-	-	-	-	-		-	253
- P(f) MC Vac Low	V	-	-	-	-	-	-	-		-	196
- P(f) MC t monitoring	s	-	-	-	-	-	-	-		-	300
- Reduction	%/Hz	40	40	40	40	40	-	-		-	83
- Re-increase	%/min	10	10	10	10	-	-	-		-	5
Q-Mode	Inactive/Q-Mode	cosφ(Pac)	cosφ(Pac)	cosφ(Pac)	Inactive	Inactive	Inactive	Inactive		Inactive	cosφ(Pac)
- Vac Lock	Inactive/On	-	-	-	-	-	-	-		-	On
- Vac Lock-In High	V	-	-	-	-	-	-	-		-	242
- Vac Lock-Out High	V	-	-	-	-	-	-	-		-	235
- Vac Lock-In Low	V	-	-	-	-	-	-	-		-	211
- Vac Lock-Out Low	V	-	-	-	-	-	-	-		-	230
- QR 1	%	-	-	-	-	-	-	-		-	-50
- QR 2	%	-	-	-	-	-	-	-		-	+50
- Pac Lock	Inactive/On	-	-	-	-	-	-	-		-	On
- Pac Lock-In	%	-	-	-	-	-	-	-		-	20
- Pac Lock-Out	%	-	-	-	-	-	-	-		-	5
FRT	Inactive/On	-	-	-	-	On	-	On		-	On
- K-Factor	-	-	-	-	-	2.0	-	1.0		-	-
S max SM8MT2	VA	8000	8000	8000	8000	8000	8000	8000		8000	8000
S max SM10MT2	VA	10000	10000	10000	10000	10000	10000	10000		10000	10000
S max SM13MT2/3	VA	13000	13000	13000	13000	13000	13000	13000		13000	13000
S max SM15MT2/3	VA	15000	15000	15000	15000	15000	15000	15000		15000	15000
Pac max SM8MT2	W	8000	8000	8000	8000	8000	8000	8000		8000	8000
Pac max SM10MT2	W	10000	10000	10000	10000	10000	10000	10000		10000	10000
Pac max SM13MT2/3	W	13000	13000	13000	13000	13000	13000	13000		13000	13000
Pac max SM15MT2/3	W	15000	15000	15000	15000	15000	15000	15000		15000	15000
Iac max SM8MT2	A	12	12	12	12	12	12	12		12	12
Iac max SM10MT2	A	16	16	16	16	16	16	16		16	16
Iac max SM13MT2/3	A	20	20	20	20	20	20	20		20	20
Iac max SM15MT2/3	A	22	22	22	22	22	22	22		22	22

Index 11– 20

		Index									
Parameter	Unit	11	12	13	14	15	16	17	18	19	20
Vac min 1	V	0	184	184	184	184	184	207	196	200	212
t Vac min 1	ms	0	200	120	1500	500	500	500	1500	3000	2500
Vac max 1	V	0	264	264	264	264	264	253	264	262	259
t Vac max 1	ms	0	200	120	120	500	500	500	200	1500	1000
Vac main 2	V	0	0	0	115	0	0	184	0	184	196
t Vac main 2	ms	0	0	0	120	0	0	100	0	1000	500
Vac max 2	V	0	0	0	0	0	0	276	0	274	271
t Vac max 2	ms	0	0	0	0	0	0	100	0	1000	500
Vac 10 min max	V	0	253	253	253	253	253	0	253	0	0
Monit. ext. input	Inactive/On	-	-	-	-	-	-	-	-	-	-
f min 1	Hz	0	47.5	47.5	47.5	49.5	47.5	49.8	47	47.5	47.5
t f min 1	ms	0	200	120	120	500	500	500	500	20500	20500
f max 1	Hz	0	50.4	51.5	51.5	50.5	51	50.2	51	51.5	51.5
t f max 1	ms	0	200	120	120	500	500	500	500	90500	90500
f min 2	Hz	0	0	0	0	0	0	49.5	0	47	47
t f min 2	ms	0	0	0	0	0	0	100	0	1000	1000
f max 2	Hz	0	0	0	0	0	0	0	0	52	52
t f max 2	ms	0	0	0	0	0	0	0	0	1000	1000
df/dt max	Hz/s	0	0	0	0	0	0	0	0	0	0
Ierr max	mA	300	300	300	300	300	300	300	300	300	300
Iac mean max	mA	1000	1000	1% of Iac max	1% of Iac max	0.5% of Iac max	0.5% of Iac max	1000	1000	0.25% of Iac max	0.25% of Iac max
Restart delay	s	0	0	0	0	0	0	0	0	0	0
Mains check	Inactive/On	On	On	On	On	On	On	On	On	On	On
- Vac MC max	V	253	264	253	253	264	264	253	264	262	259
- Vac MC min	V	196	184	184	184	184	184	207	196	200	212
- f MC max	Hz	50.1	50.4	50.05	50.05	50.5	50.5	50.2	51	51.5	51.5
- f MC min	Hz	49.9	47.5	47.5	47.5	49.5	49.5	49.8	47	47.5	47.5
- t MC monitoring	s	300	30	60	60	180	180	30	20	20	180
Island detection	Inactive/On	Inactive	On	On	On	On	On	On	On	On	On
Soft start	W/s	0	0	0	0	0	0	0	0	0	0
Pac progression	%/min	20	0	10	10	0	0	0	0	0	0
P(V)-Mode		not available									
- Monitoring time											
- Vac threshold											
- Pac reduction											
- Pac recovery											
P(f)-Mode											
- P(f) f start	Hz	50.3	-	50.2	50.2	-	-	-	-	-	-
- P(f) f stop	Hz	50.1	-	-	-	-	-	-	-	-	-
- P(f) MC f max	Hz	50.1	-	-	-	-	-	-	-	-	-
- P(f) MC f min	Hz	49.9	-	-	-	-	-	-	-	-	-
- P(f) MC Vac High	V	253	-	-	-	-	-	-	-	-	-
- P(f) MC Vac Low	V	196	-	-	-	-	-	-	-	-	-
- P(f) MC t monitoring	s	300	-	-	-	-	-	-	-	-	-
- Reduction	%/Hz	83	-	40	40	-	-	-	-	-	-
- Re-increase	%/min	5	-	10	10	-	-	-	-	-	-
Q-Mode	Inactive/Q-Mode	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
- Vac Lock	Inactive/On	-	-	-	-	-	-	-	-	-	-
- Vac Lock-In High	V	-	-	-	-	-	-	-	-	-	-
- Vac Lock-Out High	V	-	-	-	-	-	-	-	-	-	-
- Vac Lock-In Low	V	-	-	-	-	-	-	-	-	-	-
- Vac Lock-Out Low	V	-	-	-	-	-	-	-	-	-	-
- QR 1	%	-	-	-	-	-	-	-	-	-	-
- QR 2	%	-	-	-	-	-	-	-	-	-	-
- Pac Lock	Inactive/On	-	-	-	-	-	-	-	-	-	-
- Pac Lock-In	%	-	-	-	-	-	-	-	-	-	-
- Pac Lock-Out	%	-	-	-	-	-	-	-	-	-	-
FRT	Inactive/On	On	-	-	-	-	-	-	-	-	-
- K-Factor	-	-	-	-	-	-	-	-	-	-	-
S max SM8MT2	VA	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
S max SM10MT2	VA	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
S max SM13MT2/3	VA	13000	13000	-	13000	13000	13000	13000	13000	-	13000
S max SM15MT2/3	VA	15000	15000	-	15000	15000	15000	15000	15000	-	15000
Pac max SM8MT2	W	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Pac max SM10MT2	W	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Pac max SM13MT2/3	W	13000	13000	-	13000	13000	13000	13000	13000	-	13000
Pac max SM15MT2/3	W	15000	15000	-	15000	15000	15000	15000	15000	-	15000
Iac max SM8MT2	A	12	12	12	12	12	12	12	12	12	12
Iac max SM10MT2	A	16	16	16	16	16	16	16	16	16	16
Iac max SM13MT2/3	A	20	20	-	20	20	20	20	20	-	20
Iac max SM15MT2/3	A	22	22	-	22	22	22	22	22	-	22

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		Index									
Parameter	Unit	21	22	23	24	25	26	27	28	29	30
Vac min 1	V	184	184	184	196	184	196	207	184	184	0
t Vac min 1	ms	200	200	200	2000	200	2000	2000	200	200	0
Vac max 1	V	264	264	264	253	264	253	264	264	264	0
t Vac max 1	ms	200	200	200	200	200	200	2000	200	200	0
Vac main 2	V	0	0	0	115	0	115	0	0	0	0
t Vac main 2	ms	0	0	0	100	0	100	0	0	0	0
Vac max 2	V	0	0	0	0	0	0	0	0	0	0
t Vac max 2	ms	0	0	0	0	0	0	0	0	0	0
Vac 10 min max	V	253	253	253	0	253	0	0	253	253	0
Monit. ext. input	Inactive/On	-	-	-	-	-	-	-	-	-	Inactive
f min 1	Hz	47.5	47.5	47.5	49	47.5	49	45.5	47.5	47.5	0
t f min 1	ms	200	200	200	200	200	200	2000	200	200	0
f max 1	Hz	50.2	50.2	50.2	51	50.2	51	54.5	51.5	51.5	0
t f max 1	ms	200	200	200	200	200	200	2000	200	200	0
f min 2	Hz	0	0	0	0	0	0	0	0	0	0
t f min 2	ms	0	0	0	0	0	0	0	0	0	0
f max 2	Hz	0	0	0	0	0	0	0	0	0	0
t f max 2	ms	0	0	0	0	0	0	0	0	0	0
df/dt max	Hz/s	0	0	0	0	0	0	0	0	0	0
Ierr max	mA	300	300	300	300	300	300	300	300	300	300
Iac mean max	mA	1000	1000	1000	1% of Iac max	1000	0.5% of Iac max	0.5% of Iac max	1000	1000	1000
Restart delay	s	0	0	0	0	0	0	0	0	0	0
Mains check	Inactive/On	On	On	On	On	On	On	On	On	On	Inactive
- Vac MC max	V	264	264	264	253	264	253	264	253	253	280
- Vac MC min	V	184	184	184	196	184	196	207	196	196	161
- f MC max	Hz	50.2	50.2	50.2	51	50.2	51	54.5	50.05	50.05	55
- f MC min	Hz	47.5	47.5	47.5	49	47.5	49	45.5	47.5	47.5	45
- t MC monitoring	s	30	30	30	30	30	300	60	60	60	0
Island detection	Inactive/On	On	On	On	On	On	On	On	On	On	On
Soft start	W/s	0	0	0	0	0	0	0	0	0	0
Pac progression	%/min	0	0	0	0	0	0	0	10	10	10
P(V)-Mode		not available									
- Monitoring time											
- Vac threshold											
- Pac reduction											
- Pac recovery											
P(f)-Mode	Inactive/On	-	-	-	-	-	-	-	On	On	On
- P(f) f start	Hz	-	-	-	-	-	-	-	50.2	50.2	50.2
- P(f) f stop	Hz	-	-	-	-	-	-	-	-	-	-
- P(f) MC f max	Hz	-	-	-	-	-	-	-	-	-	-
- P(f) MC f min	Hz	-	-	-	-	-	-	-	-	-	-
- P(f) MC Vac High	V	-	-	-	-	-	-	-	-	-	-
- P(f) MC Vac Low	V	-	-	-	-	-	-	-	-	-	-
- P(f) MC t monitoring	s	-	-	-	-	-	-	-	-	-	-
- Reduction	%/Hz	-	-	-	-	-	-	-	40	40	40
- Re-increase	%/min	-	-	-	-	-	-	-	10	10	10
Q-Mode	Inactive/Q-Mode	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	cosφ(Pac)	cosφ(Pac)	cosφ(Pac)
- Vac Lock	Inactive/On	-	-	-	-	-	-	-	-	-	-
- Vac Lock-In High	V	-	-	-	-	-	-	-	-	-	-
- Vac Lock-Out High	V	-	-	-	-	-	-	-	-	-	-
- Vac Lock-In Low	V	-	-	-	-	-	-	-	-	-	-
- Vac Lock-Out Low	V	-	-	-	-	-	-	-	-	-	-
- QR 1	%	-	-	-	-	-	-	-	-	-	-
- QR 2	%	-	-	-	-	-	-	-	-	-	-
- Pac Lock	Inactive/On	-	-	-	-	-	-	-	-	-	-
- Pac Lock-In	%	-	-	-	-	-	-	-	-	-	-
- Pac Lock-Out	%	-	-	-	-	-	-	-	-	-	-
FRT	Inactive/On	-	-	-	-	-	-	-	-	-	-
- K-Factor	-	-	-	-	-	-	-	-	-	-	-
S max SM8MT2	VA	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
S max SM10MT2	VA	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
S max SM13MT2/3	VA	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000
S max SM15MT2/3	VA	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
Pac max SM8MT2	W	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Pac max SM10MT2	W	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Pac max SM13MT2/3	W	13000	13000	13000	13000	13000	13000	13000	13000	13000	13000
Pac max SM15MT2/3	W	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
Iac max SM8MT2	A	12	12	12	12	12	12	12	12	12	12
Iac max SM10MT2	A	16	16	16	16	16	16	16	16	16	16
Iac max SM13MT2/3	A	20	20	20	20	20	20	20	20	20	20
Iac max SM15MT2/3	A	22	22	22	22	22	22	22	22	22	22

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		Index			
Parameter	Unit	31	32	33	34
Vac min 1	V	196			196
t Vac min 1	ms	200			1500
Vac max 1	V	255			264
t Vac max 1	ms	60000			200
Vac main 2	V	0			0
t Vac main 2	ms	0			0
Vac max 2	V	264			0
t Vac max 2	ms	200			0
Vac 10 min max	V	0			253
Monit. ext. input	Inactive/On	-			-
f min 1	Hz	47			47
t f min 1	ms	500			500
f max 1	Hz	51			51
t f max 1	ms	500			500
f min 2	Hz	0			0
t f min 2	ms	0			0
f max 2	Hz	0			0
t f max 2	ms	0			0
df/dt max	Hz/s	0			0
Ierr max	mA	300			300
Iac mean max	mA	1000			1000
Restart delay	s	0			0
Mains check	Inactive/On	On			On
- Vac MC max	V	255			264
- Vac MC min	V	196			196
- f MC max	Hz	51			51
- f MC min	Hz	47			47
- t MC monitoring	s	30			30
Island detection	Inactive/On	On			On
Soft start	W/s	0			0
Pac progression	%/min	0			0
P(V)-Mode					
- Monitoring time		not available	not available		not available
- Vac threshold					
- Pac reduction					
- Pac recovery					
P(f)-Mode	Inactive/On	-			-
- P(f) f start	Hz	-			-
- P(f) f stop	Hz	-			-
- P(f) MC f max	Hz	-			-
- P(f) MC f min	Hz	-			-
- P(f) MC Vac High	V	-			-
- P(f) MC Vac Low	V	-			-
- P(f) MC t monitoring	s	-			-
- Reduction	%/Hz	-			-
- Re-increase	%/min	-			-
Q-Mode	Inactive/Q-Mode	Inactive			Inactive
- Vac Lock	Inactive/On	-			-
- Vac Lock-In High	V	-			-
- Vac Lock-Out High	V	-			-
- Vac Lock-In Low	V	-			-
- Vac Lock-Out Low	V	-			-
- QR 1	%	-			-
- QR 2	%	-			-
- Pac Lock	Inactive/On	-			-
- Pac Lock-In	%	-			-
- Pac Lock-Out	%	-			-
FRT	Inactive/On	-			-
- K-Factor	-	-			-
S max SM8MT2	VA	8000			8000
S max SM10MT2	VA	10000			10000
S max SM13MT2/3	VA	13000			13000
S max SM15MT2/3	VA	15000			15000
Pac max SM8MT2	W	8000			8000
Pac max SM10MT2	W	10000			10000
Pac max SM13MT2/3	W	13000			13000
Pac max SM15MT2/3	W	15000			15000
Iac max SM8MT2	A	12			12
Iac max SM10MT2	A	16			16
Iac max SM13MT2/3	A	20			20
Iac max SM15MT2/3	A	22			22

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