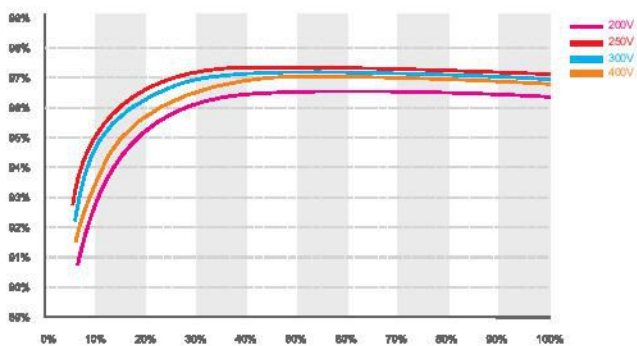


## Leading - edge Technology

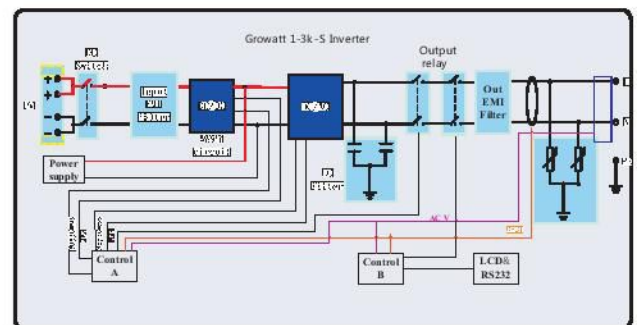
- ▶ Maximum efficiency of 97.6% and wide input voltage range
- ▶ Intelligent switch
- ▶ Transistorless GT topology
- ▶ Compact design
- ▶ Ethernet / RS485 technology / Wi-Fi
- ▶ Smart control
- ▶ Easy installation
- ▶ Comprehensive Growatt warranty program



Growatt 1500-S efficiency



Growatt 1-3k -S topology



<b>Input data (DC)</b>				
Max. recommended PV power (for module STC)	1300W	1900W	2300W	3400W
Max. DC voltage	450V	450V	450V	550V
Start voltage	80V	80V	80V	80V
PV voltage range	70V-450V	70V-450V	70V-450V	70V-550V
MPP work voltage range/ nominal voltage	70V-450V/180V	70V-450V/250V	70V-450V/360V	70V-550V/360V
Full load dc voltage range	110V-400V	175V-400V	200V-400V	250V-500V
Max. input current	10A	10A	11A	13A
Max. input current per string	10A	10A	11A	13A
Number of independent MPP trackers /strings per MPP tracker	1/1	1/1	1/1	1/ 2
<b>Output (AC)</b>				
Rated AC output power	1000W	1600W	2000W	3000W
Max. AC power	1000W	1650W	2000W	3000W
Max. output current	4.7A	7.8A	9.5A	14.3A
AC nominal voltage; range	220,230,240V; 180Vac-280Vac	220,230,240V; 180Vac-280Vac	220,230,240V; 180Vac-280Vac	220,230,240V; 180Vac-280Vac
AC grid frequency; range	50,60 Hz;±5 Hz	50,60 Hz;±5 Hz	50,60 Hz;±5 Hz	50,60 Hz;±5 Hz
Power factor	1	1	1	1
THDI	<3%	<3%	<3%	<3%
AC connection	Single phase	Single phase	Single phase	Single phase
<b>Efficiency</b>				
Max. efficiency	97.4%	97.4%	97.4%	97.6%
Euro weighted efficiency	96.5%	97%	97%	97.3%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%
<b>Protection Devices</b>				
DC reverse polarity protection	yes	yes	yes	yes
DC switch rating for each MPPT	opt	opt	opt	opt
Output over current protection	yes	yes	yes	yes
Output over voltage protection -varistor	yes	yes	yes	yes
Ground fault monitoring	yes	yes	yes	yes
Grid monitoring	yes	yes	yes	yes
Integrated all - pole sensitive leakage current monitoring unit	yes	yes	yes	yes
<b>General Data</b>				
Dimensions (W / H / D) in mm	271*267*142	271*267*142	271*267*142	271*320*142
Weight	6.1KG	6.1KG	6.1KG	8.8KG
Operating temperature range	- 25°C ... +60°C with derating above 45°C	- 25°C ... +60°C with derating above 45°C	- 25°C ... +60°C with derating above 45°C	- 25°C ... +60°C with derating above 45°C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)
Altitude	2000m without derating	2000m without derating	2000m without derating	2000m without derating
Self-Consumption night	<0.5 W	<0.5 W	<0.5 W	<0.5 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65	IP65
Relative humidity	100%	100%	100%	100%
<b>Features</b>				
DC connection	H4	H4	H4	H4
AC connection	Connector	Connector	Connector	Connector
Display	LCD	LCD	LCD	LCD
Interfaces: RS232/ RF/ Wi-Fi/ LAN/GPRS	yes /opt/opt/opt/opt	yes /opt/opt/opt/opt	yes /opt/opt/opt/opt	yes /opt/opt/opt/opt
Warranty: 5 years/ 10 years	yes /opt	yes /opt	yes /opt	yes /opt
<b>Certificates and Approvals</b>				
CE, VDE 0126-1-1, IEC 62109, G83, AS4777, AS/NZS 3100, CEI0-21, VDE-AR-N4105, EN50438, CQC				

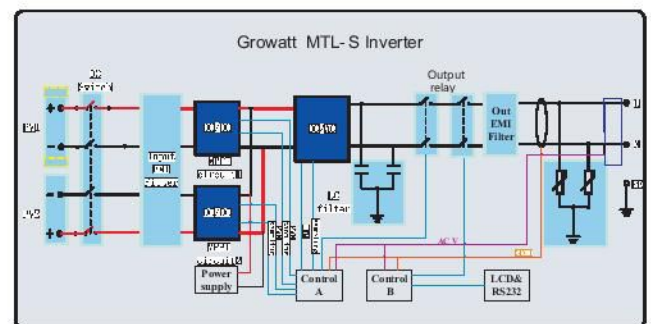
Growatt 2500MTL-S/3000MTL-S/3600MTL-S/  
4200 MTL-S/5000MTL-S/5500MTL-S



## Leading - edge Technology

- ▶ Double MPPT Tracker, MPPT tracking accuracy more than 99.5%
- ▶ Max. Efficiency 97.9%, European Efficiency 97.4%
- ▶ Integrated DC switch for added safety protection
- ▶ Transformerless design and high power density, offer lighter and more convenient installation
- ▶ 5 years standard warranty
- ▶ Power factor continuously adjustable
- ▶ Flexible communication connection, support RF, WiFi, Ethernet
- ▶ Comply with European, Asia-Pacific safety regulations

### Growatt 2.5-5.5K MTL-S topology



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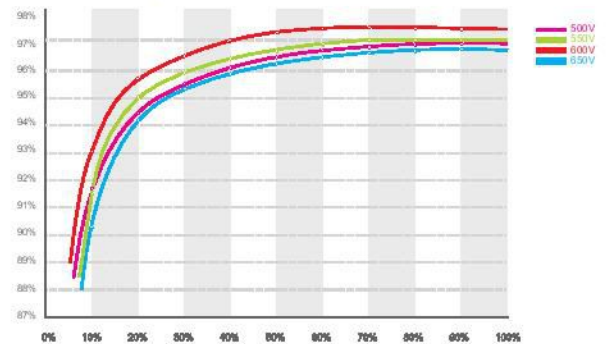
Datasheet	Growatt 2500MTL-S	Growatt 3000MTL-S	Growatt 3600MTL-S	Growatt 4200MTL-S	Growatt 5000MTL-S	Growatt 5500MTL-S
<b>Input Data</b>						
Max. recommended PV power (for module STC)	2900W	3500W	4100W	4800W	5300W	5750W
Max. DC voltage	550V	550V	550V	550V	550V	550V
Start voltage	100V	100V	100V	100V	100V	100V
PV voltage range	70V-550V	70V-550V	70V-550V	70V-550V	70V-550V	70V-550V
MPP work voltage range/nominal voltage	80V-550V /360V	80V-550V /360V	80V-550V /360V	80V-550V /360V	80V-550V /360V	80V-550V /360V
Full load dc voltage range	130V-440V	160V-440V	190V-440V	150V-440V	160V-440V	175V-440V
Max. input current of tracker A/ tracker B	10A/10A	10A/10A	10A/10A	15A/15A	15A/15A	15A/15A
Max. input current per string of tracker A/tracker B	10A/10A	10A/10A	10A/10A	15A/15A	15A/15A	15A/15A
Number of independent MPP trackers / strings per MPP tracker	2/1	2/1	2/1	2/1	2/1	2/1
<b>Output (AC)</b>						
Rated AC output power	2500W	3000W	3600W	4200W	4600W	5000W
Max. AC apparent power	2500VA	3000VA	3600VA	4200VA	4600VA	5000VA
Max. output current	11.3A	13.6A	16.3A	19A	20.9A	22.7A
AC nominal voltage; range	220V/230V /240V; 180Vac-280Vac	220V/230V/240V; 180Vac - 280Vac	220V/230V/240V; 180Vac - 280Vac	220V,230V,240V; 180Vac - 280Vac	220V,230V,240V; 180Vac - 280Vac	220V,230V,240V; 180Vac - 280Vac
AC grid frequency; range	50Hz,60Hz / ± 5Hz	50Hz,60Hz / ± 5Hz	50Hz,60Hz / ± 5Hz	50Hz,60Hz / ± 5Hz	50Hz,60Hz / ± 5Hz	50Hz,60Hz / ± 5Hz
Phase factor at rated power	1	1	1	1	1	1
Displacement power factor, configurable	0.8leading... 0.95lagging	0.8leading... 0.95lagging	0.8leading... 0.95lagging	0.8leading... 0.95lagging	0.8leading... 0.95lagging	0.8leading... 0.95lagging
THDI	<3%	<3%	<3%	<3%	<3%	<3%
AC connection	Single phase	Single phase	Single phase	Single phase	Single phase	Single phase
<b>Efficiency</b>						
Max. efficiency	97.6%	97.6%	97.9%	97.9%	97.9%	97.9%
Euro weighted efficiency	97%	97%	97.4%	97.4%	97.4%	97.4%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%
<b>Protection Devices</b>						
DC reverse polarity protection	yes	yes	yes	yes	yes	yes
DC switch rating for each MPPT	yes	yes	yes	yes	yes	yes
Output over current protection	yes	yes	yes	yes	yes	yes
Output over voltage protection-varistor	yes	yes	yes	yes	yes	yes
Ground fault monitoring	yes	yes	yes	yes	yes	yes
Grid monitoring	yes	yes	yes	yes	yes	yes
Integrated all - pole sensitive leakage current monitoring unit	yes	yes	yes	yes	yes	yes
<b>General Data</b>						
Dimensions (W / H / D) in mm	355*419*138	355*419*138	355*419*138	355*419*138	355*374*158	355*374*158
Weight	14KG	14KG	14KG	14KG	14.5KG	14.5KG
Operating temperature range	- 2 5 ° C ... + 6 0 ° C	- 2 5 ° C ... + 6 0 ° C	- 2 5 ° C ... + 6 0 ° C	- 2 5 ° C ... + 6 0 ° C	- 2 5 ° C ... + 6 0 ° C	- 2 5 ° C ... + 6 0 ° C
Noise emission (typical)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)	≤25 dB(A)
Altitude	2000m without derating	2000m without derating	2000m without derating	2000m without derating	2000m without derating	2000m without derating
Self-Consumption night	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65	IP65	IP65	IP65
Relative humidity	100%	100%	100%	100%	100%	100%
<b>Features</b>						
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Connector	Connector	Connector	Connector	Connector	Connector
Display	LCD	LCD	LCD	LCD	LCD	LCD
Interfaces: RS232 / RF / Wi-Fi / Ethernet	yes / opt / opt / opt	yes / opt / opt / opt	yes / opt / opt / opt	yes / opt / opt / opt	yes / opt / opt / opt	yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt	yes / opt	yes / opt	yes / opt
<b>Certificates and Approvals</b>						
CE, IEC62109, G83, VDE0126-1-1, G59, AS4777, AS/NZS 3100, CEI0-21, VDE-AR-N4105, EN50438, CQC						



## Leading - edge Technology

- ▶ DC input voltage up to 800V
- ▶ Maximum efficiency of 97.5%
- ▶ Internal DC switch
- ▶ Transformerless
- ▶ Compact design
- ▶ Multi MPP controller
- ▶ Ethernet / RF technology / WiFi
- ▶ Sound control
- ▶ Easy installation
- ▶ Comprehensive Growatt warranty program

Growatt 6000UE efficiency



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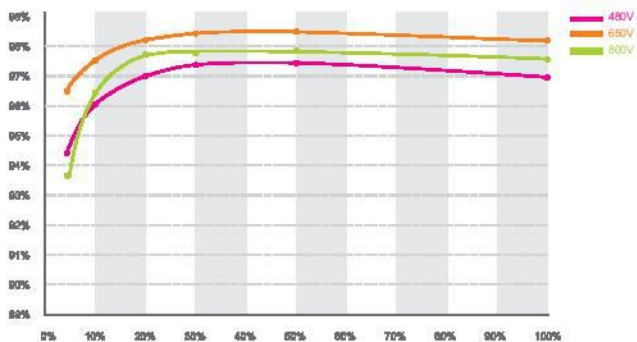
Datasheet	Growatt 4000UE	Growatt 5000UE	Growatt 6000UE
<b>Input Data</b>			
Max. DC power	4200W	5200W	6300W
Max DC voltage	800V	800V	800V
Start Voltage	150V	150V	150V
PV voltage range	140V - 800V	140V - 800V	140V - 800V
MPP voltage range / nominal voltage	200V - 800V / 580V	200V - 800V / 580V	200V - 800V / 580V
Full load DC voltage range	250V - 750V	300V - 750V	350V - 750V
Number of MPP trackers/strings per MPP tracker	2/1	2/1	2/1
Max. input current/per string	9A / 9A	9A / 9A	10A / 10A
<b>Output (AC)</b>			
Rated AC output power	4000W	5000W	6000W
Max. AC apparent power	4000VA	5000VA	6000VA
Max. output current	6.4A	7.9A	9.3A
AC nominal voltage; range	230V/400V; 184 - 275V	230V/400V; 184 - 275V	230V/400V; 184 - 275V
AC grid frequency; range	50-60Hz; 44-55Hz/54-65Hz	50-60Hz; 44-55Hz/54-65Hz	50-60Hz; 44-55Hz/54-65Hz
Power factor at rated power	1	1	1
Displacement power factor configurable	0.9 leading -0.9lagging	0.9 leading -0.9lagging	0.9 leading -0.9lagging
THDi (@Full load &THDv<1%)	<3%	<3%	<3%
AC connection	3/N/PE, 3W+PE(Opt)	3/N/PE, 3W+PE(Opt)	3/N/PE, 3W+PE(Opt)
<b>Efficiency</b>			
Max. efficiency	97%	97.4%	97.5%
Euro - eta	95.1%	96.3%	96.5%
MPPT efficiency	99.5%	99.5%	99.5%
<b>Protection Devices</b>			
DC reverse polarity protection	yes	yes	yes
DC switch for each MPPT	yes	yes	yes
Output AC overcurrent protection	yes	yes	yes
Output AC overvoltage protection - varistor	yes	yes	yes
Ground fault monitoring	yes	yes	yes
Grid monitoring	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes
<b>General Data</b>			
Dimensions (W / H / D)	433/566/195 mm	433/566/195 mm	433/566/195mm
Weight	30kg	31.1kg	31.1kg
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤35 dB(A)	≤35 dB(A)	≤35 dB(A)
Self-Consumption (night)	< 0.5W	< 0.5W	< 0.5W
Topology	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural
Environmental Protection Rating	IP 65	IP 65	IP 65
Altitude	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	0~100%	0~100%	0~100%
<b>Features</b>			
DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD
Interfaces: RS232/R485/LAN/RF/WiFi/GPRS	yes / yes / opt / opt / opt / opt	yes / yes / opt / opt / opt / opt	yes / yes / opt / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt
<b>Certificates and Approvals</b>			

## Leading - edge Technology

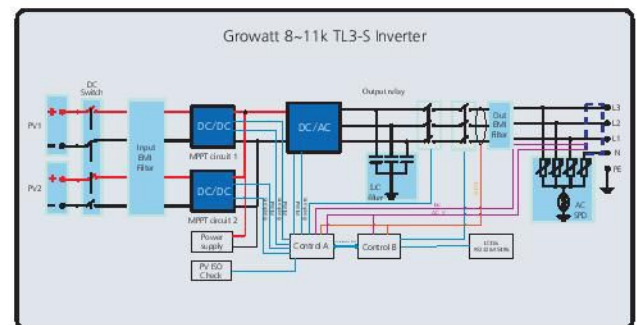
- ▶ Max. DC Voltage up to 1000V
- ▶ Max efficiency 98.4%
- ▶ Compact design
- ▶ Multi MPP controller
- ▶ Natural cooling, fanless design
- ▶ Max. DC/AC up to 1:2
- ▶ Long-term overload up to 1.1Pn
- ▶ High power density, fanless and easy installation
- ▶ Flexible communication connection (RS485, RS485, Ethernet)
- ▶ Comprehensive Growatt warranty program



Growatt 11000TL3-S efficiency



Growatt 8-11kTL3-S topology



### Input data

Max. recommended PV power (for module STC)	9600W	10800W	12000W	13200W
Max. DC voltage	1000V	1000V	1000V	1000V
Start Voltage	250V	250V	250V	250V
PV voltage range	160V-1000V	160V-1000V	160V-1000V	160V-1000V
Nominal voltage	600V	600V	600V	600V
MPP voltage range at Full Power	360V-850V	400V-850V	450V-850V	450V-850V
Max. input current	11.5A/11.5A	11.5A/11.5A	13A/13A	13A/13A
Max. input current per string	12A	12A	12A	12A
Number of independent MPP trackers/ strings per MPP tracker	2/1	2/1	2/1	2/1

### Output (AC)

Rated AC output power	8kW	9kW	10kW	11kW
Max AC apparent power	8.8kVA	9.9kVA	11kVA	12.1kVA
Max. output current	13.3A	15A	16.7A	18.3A
AC nominal voltage; range	230V/400V 184~275V	230V/400V 184~275V	230V/400V 184~275V	230V/400V 184~275V
AC grid frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power factor	0.8leading - 0.8laging	0.8leading - 0.8laging	0.8leading - 0.8laging	0.8leading - 0.8laging
THDi @Full load&Thdv<1%	<3%	<3%	<3%	<3%
AC grid connection type	3/N/PE	3/N/PE	3/N/PE	3/N/PE

### Efficiency

Max. efficiency	98.3%	98.4%	98.4%	98.4%
Euro - eta	97.8%	98%	98%	98%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%

### Protection Devices

DC reverse polarity protection	yes	yes	yes	yes
DC switch for each MPPT	yes	yes	yes	yes
Output over current protection	yes	yes	yes	yes
Output AC overvoltage Protection - Varistor	yes	yes	yes	yes
Ground fault monitoring	yes	yes	yes	yes
Grid monitoring	yes	yes	yes	yes
Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes	yes

### General Data

Dimensions(W/H/D)	480/448/200 mm	480/448/200 mm	480/448/200 mm	480/448/200 mm
Weight	21.6kg	21.6kg	21.6kg	21.6kg
Operating temperature range	-25 °C ... +60 °C (with derating above 45°C)	-25 °C ... +60 °C (with derating above 45°C)	-25 °C ... +60 °C (with derating above 45°C)	-25 °C ... +60 °C (with derating above 45°C)
Noise emission (typical)	≤35 dB(A)	≤35 dB(A)	≤35 dB(A)	≤35 dB(A)
Altitude	3000m	3000m	3000m	3000m
Self-consumption night	< 0.5W	< 0.5W	< 0.5W	< 0.5W
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65	IP65
Relative humidity	0~100%	0~100%	0~100%	0~100%

### Features

DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
AC connection	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Display	LCD	LCD	LCD	LCD
Interfaces:RS232/RS485/RF/Ethernet/Wi-Fi	yes/yes/opt/opt/opt	yes/yes/opt/opt/opt	yes/yes/opt/opt/opt	yes/yes/opt/opt/opt
Warranty:5 years/10 years	yes/opt	yes/opt	yes/opt	yes/opt

### Certificates and Approvals



## Leading - edge Technology

### Excellent Performance

- ▶ Maximum efficiency of 98.8%, CEC efficiency of 98.5%
- ▶ 1000VDC input special for large-scale plant application
- ▶ Dual independent MPPT, advanced MPPT algorithms lead to optimal energy harvesting
- ▶ Consistent and stable performance across entire input voltage and output power range

### High Reliability

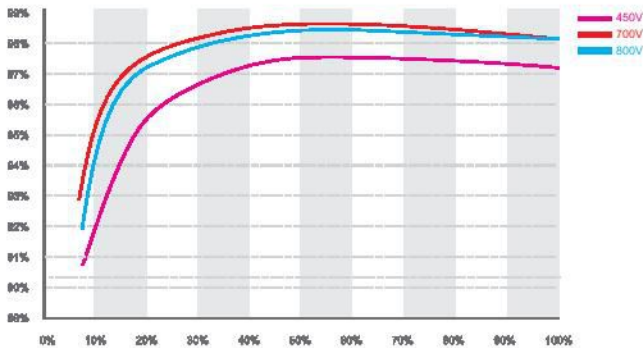
- ▶ String level monitoring
- ▶ AC power supply monitoring, remote monitoring, upgrading
- ▶ Anti-islanding protection, with variable speed fans
- ▶ Compact design, easy installation and maintenance procedure
- ▶ Comprehensive protection: IGBTs overvoltage, short-circuit, overload, overheat, etc.
- ▶ Anti-PIID, AC/DC disconnect
- ▶ UL 1699B and Rule 21 Compliant

### Flexible Design

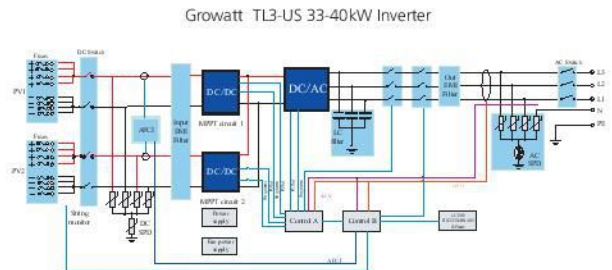
- ▶ Maximum DC/AC ratio to 1.5
- ▶ 0-90 degree installation angle
- ▶ 50 units in parallel per transformer
- ▶ Separate wiring box design
- ▶ Integrated DC, AC disconnects
- ▶ Wide MPPT range for flexible string sizing



Growatt 33000TL3-US efficiency



Growatt 33-40K TL3-US topology



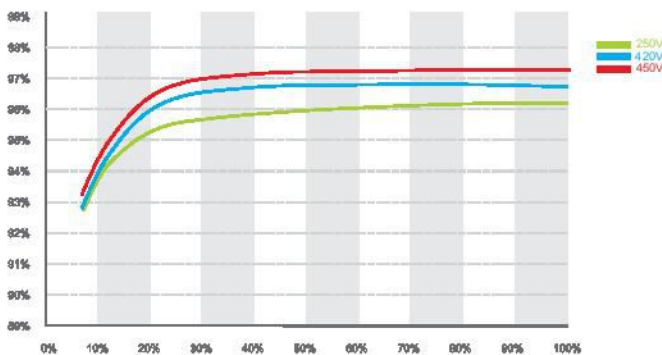
<b>Input Data (DC)</b>			
Max. usable DC power	33700W	36750W	40800W
Max. DC voltage	1000V	1000V	1000V
Start voltage	250V	250V	250V
DC nominal voltage	695V	695V	695V
PV voltage range	200V-1000V	200V-1000V	200V-1000V
MPP voltage range (Full load)	480V-800V	520V-800V	570V-800V
Max. input current of the MPP tracker A/tracker B	36A/36A	36A/36A	36A/36A
Max. input short circuit current of the MPP tracker A/tracker B	45A/45A	45A/45A	45A/45A
Number of independent MPP trackers/strings per MPP tracker	2/4	2/4	2/4
<b>Output (AC)</b>			
Nominal output power	33000W/36660VA	36000W/40000VA	40000W/40000VA
Nominal AC voltage	480V	480V	480V
AC voltage range	422-528VAC	422-528VAC	422-528VAC
Nominal AC grid frequency	60 Hz	60 Hz	60 Hz
AC grid frequency range	59.3-60.5 Hz	59.3-60.5 Hz	59.3-60.5 Hz
Max. output current (cos $\Phi=1$ )	44A	48A	48A
Power factor (cos $\Phi$ )		>0.99 0.8LG - 0.8LD (0.9LG - 0.9LD at full power)	
Harmonics	<3%	<3%	<3%
Grid connection type	3/N/E	3/N/E	3/N/E
<b>Efficiency</b>			
Max. efficiency	98.8%	98.8%	98.8%
CEC-Weighted Efficiency	98.5%	98.5%	98.5%
MPPT efficiency	99.5%	99.5%	99.5%
<b>Protection Devices</b>			
DC reverse-polarity protection	yes	yes	yes
DC switch for each MPP tracker	yes	yes	yes
AC switch	yes	yes	yes
Input over voltage protection surge arrester	Class II	Class II	Class II
DC insulation measure	yes	yes	yes
AC short circuit protection	yes	yes	yes
Output over voltage protection surge arrester	Class II	Class II	Class II
String fuse type/size	yes(15A/1000VDC)	yes(15A/1000VDC)	yes(15A/1000VDC)
AFCI	yes(Compliant to UL 1699B)	yes(Compliant to UL 1699B)	yes(Compliant to UL 1699B)
String monitor	yes	yes	yes
Anti PID	yes	yes	yes
<b>General Data</b>			
Dimensions (W / H / D) in inch	435/790/265mm 17.1/31.1/10.4inch	435/790/265mm 17.1/31.1/10.4inch	435/790/265mm 17.1/31.1/10.4inch
Weight	50kg/110.2lb	50kg/110.2lb	50kg/110.2lb
Operating temperature range	-25...+60°C/(-13...+ 140°F)	-25...+60°C/(-13...+ 140°F)	-25...+60°C/(-13...+ 140°F)
Noise emission	≤50 dB(A)	≤50 dB(A)	≤50 dB(A)
Relative Humidity	0~100%	0~100%	0~100%
Altitude	≤2000m/6560ft	≤2000m/6560ft	≤2000m/6560ft
Self Consumption night	<6 W(AC Power Supply)	<6 W(AC Power Supply)	<6 W(AC Power Supply)
Topology	Transformerless	Transformerless	Transformerless
Cooling concept	Fan Cooling	Fan Cooling	Fan Cooling
Enclosure	NEMA 3R	NEMA 3R	NEMA 3R
<b>Features</b>			
Display	Graphic	Graphic	Graphic
Interface: RS232/RS485/WIFI/Ethernet/GPRS	yes/yes/opt/opt /opt	yes/yes/opt/opt /opt	yes/yes/opt/opt /opt
Warranty:5years/10years/15years	yes/yes/opt	yes/yes/opt	yes/yes/opt
<b>Certificates and Approvals</b>			

## Leading - edge Technology

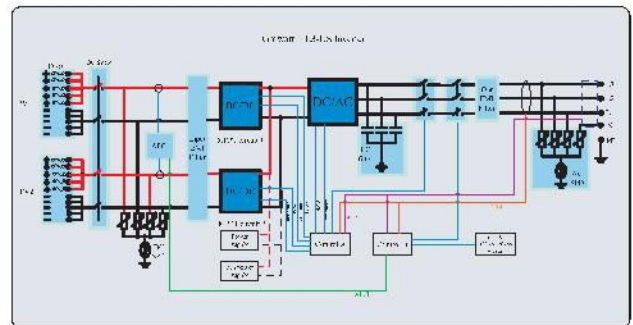
- ▶ Special for commercial plant application
- ▶ Dual independent MPP tracking and advanced MPPT algorithms lead to optimal energy harvesting
- ▶ Consistent and stable performance across entire input voltage and output power range
- ▶ Integrated anti-island connect switch
- ▶ High efficiency of 97.5% delivery more energy
- ▶ Ethernet, RS485, GPRS / WIFI
- ▶ Easy installation and maintenance procedure
- ▶ Innovative device designed and intelligent applications
- ▶ Comprehensive protection for IGBTs, overvoltage, short-circuit, overload, overheat, etc
- ▶ Flexible system design with safety fuse module, lightning protection module and AFCI module



Growatt 20000 TL3-US efficiency



Growatt 10-20K TL3-US topology



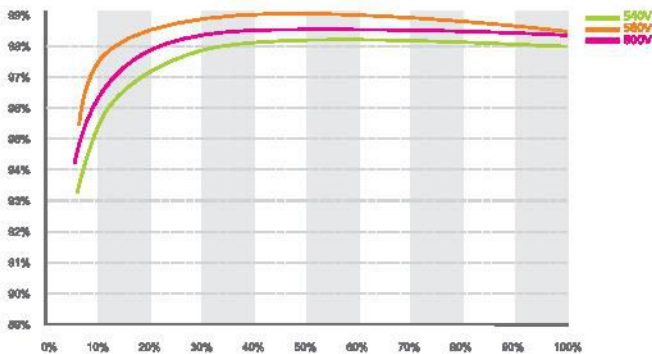
<b>Input Data</b>				
Max. DC power	10500W	12500W	18750W	20850W
Max. DC voltage	600V	600V	600V	600V
Start voltage	120V	120V	120V	120V
DC nominal voltage	375V	375V	375V	375V
PV voltage range	80V - 600V	80V - 600V	80V - 600V	80V - 600V
MPP voltage range (Full load)	250V - 600V	250V - 600V	250V - 600V	250V - 600V
Number of independent MPP trackers/strings per MPP tracker	2 / 3	2 / 3	2 / 5	2 / 5
Max. input current of MPP Tracker A / Tracker B	21A / 21A	25A / 25A	38A / 38A	42A / 42A
<b>Output (AC)</b>				
Rated AC output power	10000W	12000W	18000W	20000W
Rated AC voltage	480V	480V	480V	480V
AC voltage range	422-528VAC	422-528VAC	422-528VAC	422-528VAC
AC grid frequency; range	60 Hz;59.3-60.5 Hz	60 Hz;59.3-60.5 Hz	60 Hz;59.3-60.5 Hz	60 Hz;59.3-60.5 Hz
Max. output current(cos φ=1)	12A	14.5A	21.5A	24A
Power factor (cos φ)	>0.99 (0.9Leading - 0.9Lagging)	>0.99 (0.9Leading - 0.9Lagging)	>0.99 (0.9Leading - 0.9Lagging)	>0.99 (0.9Leading - 0.9Lagging)
Harmonics	<3%	<3%	<3%	<3%
Grid connection type	3/N/E	3/N/E	3/N/E	3/N/E
<b>Efficiency</b>				
Max. efficiency	97%	97%	97.5%	97.5%
CEC-Weighted Efficiency	95.5%	95.5%	96%	96.5%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%
<b>Protectopm devices</b>				
DC switch for each MPP tracker	yes	yes	yes	yes
DC reverse-polarity protection	yes	yes	yes	yes
DC/AC over voltage protection-Varistor	yes	yes	yes	yes
DC/AC over voltage protection -DIN rail surge arrester(Optional)	Class II	Class II	Class II	Class II
DC insulation measure	yes	yes	yes	yes
AC short circuit protection	yes	yes	yes	yes
AFCI compliant to UL 1699B	yes	yes	yes	yes
<b>General Data</b>				
Dimensions (W / H / D) in inch	20.9/27.7/9.7	20.9/27.7/9.7	25.6/29.1/9.7	25.6/29.1/9.7
Weight	46kg/101.4lb	46kg/101.4lb	63kg/138.9lb	63kg/138.9lb
Operating temperature range	-25..+60°C/(-13...+ 140°F)	-25..+60°C/(-13...+ 140°F)	-25..+60°C/(-13...+ 140°F)	-25..+60°C/(-13...+ 140°F)
Noise emission	≤50dB(A)	≤50dB(A)	≤50dB(A)	≤50dB(A)
Self-Consumption (night)	< 3 W	< 3 W	< 3 W	< 3 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Fan Cool	Fan Cool	Fan Cool	Fan Cool
Electronics protection rating/connection area	NEMA 3R	NEMA 3R	NEMA 3R	NEMA 3R
Altitude	2000m without derating	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	0~100%	0~100%	0~100%	0~100%
<b>Features</b>				
Display	Graphic	Graphic	Graphic	Graphic
Interfaces: RS232/RS485/Ethernet/RF/WiFi	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 10 years / 15 years	yes / opt	yes / opt	yes / opt	yes / opt
<b>Certificates and Approvals</b>				

## Leading - edge Technology

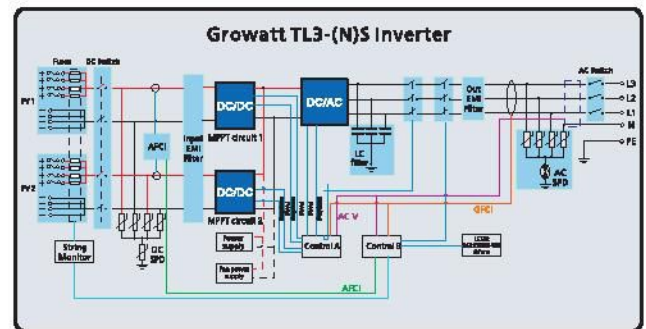
- ▶ Maximum efficiency of 99%
- ▶ Multi MPP controller and MTL string
- ▶ 8 strings intelligent monitoring and fault protection
- ▶ Internal DC switch and Transistor
- ▶ Type II surge arresters for DC and AC
- ▶ Anti-PID for PV module
- ▶ Optional AC switch / AFCI function
- ▶ Supporting AC power supply
- ▶ Compact design and easy installation
- ▶ Comprehensive warranty program



Growatt 50000TL3-S efficiency



Growatt 30-50kTL3-(N)S topology



<b>Input Data</b>				
Max recommended PV Power (for module STC)	37500W	41250W	50000W	60000W
Max DC voltage	1000V	1000V	1000V	1000V
Start Voltage	250V	250V	250V	250V
PV voltage range	200V - 1000V	200V - 1000V	200V - 1000V	200V - 1000V
Nominal voltage	580V	580V	580V	695V
Full load MPP voltage range	450V - 800V	450V - 800V	540V - 800V	645V - 850V
Max. input current	34A/34A	38A / 38A	38A / 38A	38A / 38A
Max. input current per string	12A	12A	12A	12A
Number of MPP trackers / strings per MPP tracker	2/4	2/4	2/4	2/4
<b>Output (AC)</b>				
Rated AC output power	30kW	33kW	40kW	48kW
Max. AC apparent power	33.3kVA	36.6kVA	44.4kVA	53.3kVA
Max. output current	48.3A	53A	64.5A	64.5A
AC nominal voltage	230V/400V	230V/400V	230V/400V	277V/480V
AC grid frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power factor	0.8 leading - 0.8 lagging	0.8 leading - 0.8 lagging	0.8 leading - 0.8 lagging	0.8 leading - 0.8 lagging
THDi	<3%	<3%	<3%	<3%
AC grid connection type	3W+N+PE	3W+N+PE	3W+N+PE	3W+N+PE/3W+PE
<b>Efficiency</b>				
Max. efficiency	98.9%	98.9%	98.9%	99%
Euro - eta	98.4%	98.4%	98.5%	98.5%
MPPT efficiency	99.5%	99.5%	99.5%	99.5%
<b>Protection Devices</b>				
DC reverse polarity protection	yes	yes	yes	yes
DC Switch for each MPPT	yes	yes	yes	yes
AC Switch	opt	opt	opt	opt
DC Surge protection	Class II	Class II	Class II	Class II
Ground fault monitoring	yes	yes	yes	yes
Output short circuit protection	yes	yes	yes	yes
AC Surge protection	Class II	Class II	Class II	Class II
String Fuse protection	yes	yes	yes	yes
String fault monitoring	yes	yes	yes	yes
Anti-PID protection	yes	yes	yes	yes
AFCI protection	opt	opt	opt	opt
<b>General Data</b>				
Dimensions (W / H / D)	470/754/270 mm	470/754/270 mm	470/754/270 mm	470/754/270 mm
Weight	48kg	48kg	48kg	48kg
Operating temperature range	-25 °C ... +60 °C (with derating above 45°C)	-25 °C ... +60 °C (with derating above 45°C)	-25 °C ... +60 °C (with derating above 45°C)	-25 °C ... +60 °C (with derating above 45°C)
Noise emission (typical)	≤50 dB(A)	≤50 dB(A)	≤50 dB(A)	≤50 dB(A)
Self-Consumption (night)	<1W	<1W	<1W	<1W
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Cooling concept	Smart cooling	Smart cooling	Smart cooling	Smart cooling
Environmental Protection Rating	IP65	IP65	IP65	IP65
Altitude	2000m without derating	2000m without derating	2000m without derating	2000m without derating
Relative Humidity	0~100%	0~100%	0~100%	0~100%
<b>Features</b>				
Display	Graphic LCD	Graphic LCD	Graphic LCD	Graphic LCD
Interfaces: RS232/R485/WIFI/LAN/GPRS	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt	yes / yes / opt / opt / opt
Warranty: 5 years / 10 years	yes / opt	yes / opt	yes / opt	yes / opt
<b>Certificates and Approvals</b>				



Growatt Anti-reflux Box is designed for residential and commercial solar system to monitor the status and events of the system, and prevent solar power from reaching the grid.

## Features

- ▶ Economic monitor and anti-reflux solution for larger solar system
- ▶ Fast reaction, anti-reflux detection every 5 seconds.
- ▶ High control accuracy, 1% of system capacity.
- ▶ Flexible monitoring of up to 32 units simultaneously
- ▶ Remote firmware upgrading and configuration to solar inverters

## GROWATT NEW ENERGY TECHNOLOGY Co.,LTD

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T: + 86 755 2747 1900 F: + 86 755 2749 1460 E: info@ginverter.com

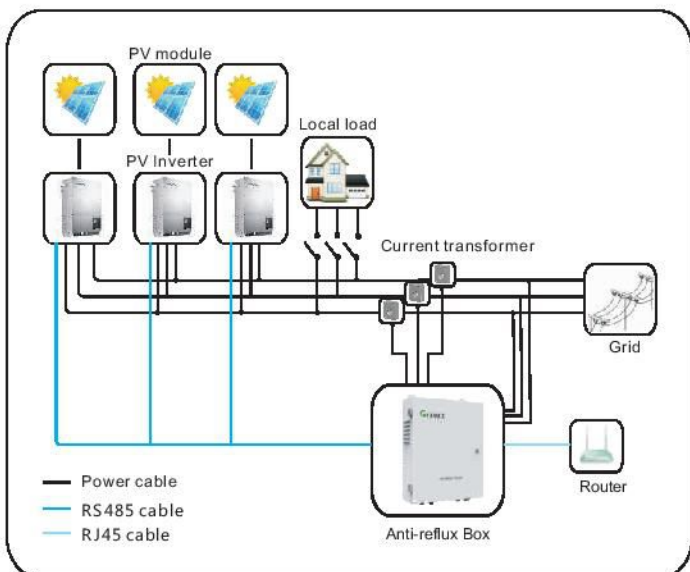
# Datasheet

<b>Communication Interface/ Protocol</b>	RS 485	Modbus RTU
	Ethernet	Modbus TCP
<b>Max. quantity of monitored device</b>	32	
<b>Communication distance</b>	RS485 Max. 1200m	
	Ethernet Max. 100m	
<b>Anti-reflux detection interval</b>	5s	
<b>Power control accuracy</b>	1% of system capacity	
<b>Electrical specification</b>	Input voltage	100Vac -250Vac , 1phase/ 3phase
	Max. Input current to smart meter	5A
	Operation consumption	<20W
<b>Operation environment</b>	Temperature	-20-70°C
	Humidity	5% --90%
<b>Protection rating</b>	IP 44 *	
<b>Certification</b>	CE **	

\* Anti-reflux box is suggested to be installed in place without direct sunlight and rain.

\*\* Self declaration of CE conformity, and third party certification for each module inside.

**Three phase system**



**Single phase system**

