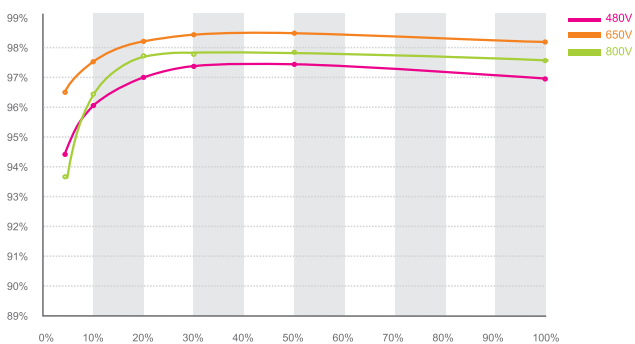


## Leading - edge Technology

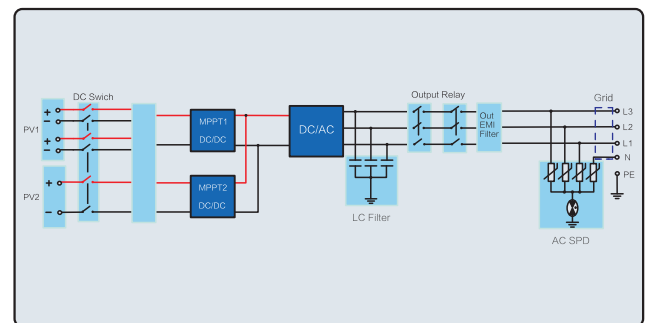
- ▶ Max. DC Voltage up to 1000V
- ▶ Max efficiency 98.4%
- ▶ Compact design
- ▶ Multi MPP controller
- ▶ 2+1 strings for flexible configuration
- ▶ Natural cooling, fanless design
- ▶ High power density, offer lighter and easy installation
- ▶ Flexible communication connection, support RF, WiFi, Ethernet
- ▶ Comprehensive Growatt warranty program



Growatt 12000TL3-S efficiency



Growatt 12000-15000TL3-S topology



Datasheet	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
<b>Input data</b>			
Max. recommended PV power (for module STC)	14400W	15600W	18000W
Max. DC voltage	1000V	1000V	1000V
Start Voltage	160V	160V	160V
PV voltage range	160V-1000V	160V-1000V	160V-1000V
Nominal voltage	600V	600V	600V
MPP voltage range at Full Power	480V-850V	480V-850V	520V-850V
Max. input current	20A/10A	20A/10A	20A/10A
Number of independent MPP trackers/ strings per MPP tracker	2/2+1	2/2+1	2/2+1
<b>Output (AC)</b>			
Rated AC output power	12kW	13kW	15kW
Max AC apparent power	13.2kVA	14.3kVA	16.5kVA
Max. output current	19A	20.6A	23.8A
AC nominal voltage; range	230V/400V 184~275V	230V/400V 184~275V	230V/400V 184~275V
AC grid frequency	50/60Hz	50/60Hz	50/60Hz
Power factor	0.8leading - 0.8lagging	0.8leading - 0.8lagging	0.8leading - 0.8lagging
THDi	<3%	<3%	<3%
AC grid connection type	3/N/PE	3/N/PE	3/N/PE
<b>Efficiency</b>			
Max. efficiency	98.4%	98.4%	98.4%
Euro - eta	97.8%	98%	98%
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 over current 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)	480/448/200 mm	480/448/200 mm	480/448/200 mm
Weight	23.5kg	23.5kg	23.5kg
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)
Altitude	3000m	3000m	3000m
Self-consumption night	< 0.5W	< 0.5W	< 0.5W
Topology	Transformerless	Transformerless	Transformerless
Cooling concept	Natural	Natural	Natural
Environmental Protection Rating	IP65	IP65	IP65
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/RS485/RF/Ethernet/Wi-Fi	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
<b>Certificates and Approvals</b>			