

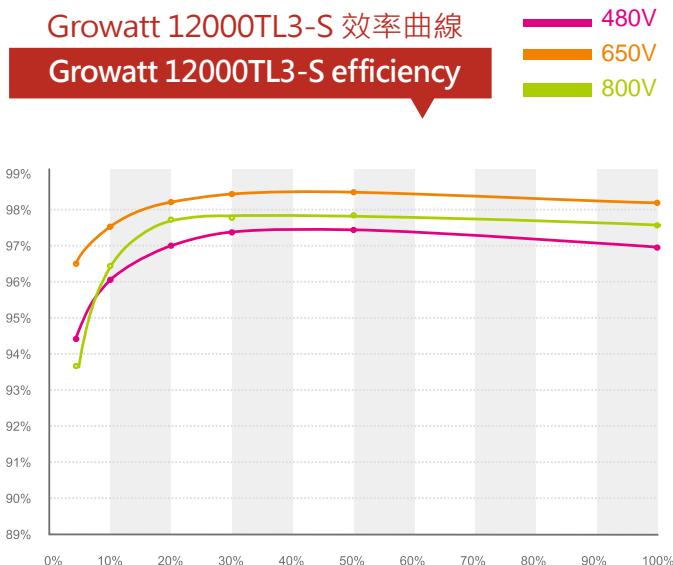
# Growatt 12000TL3-S/13000TL3-S/15000TL3-S

## Leading - edge Technology

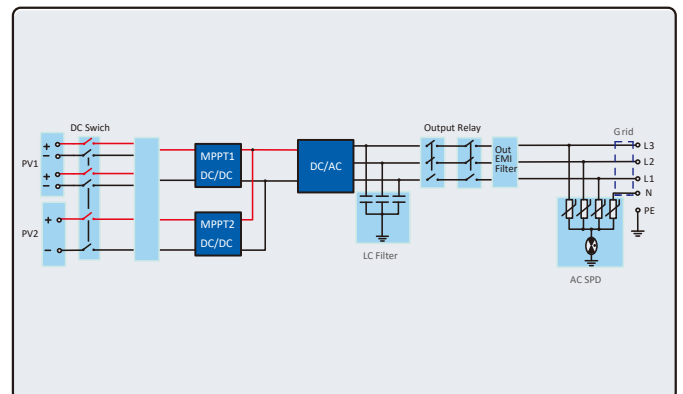
- ▶ Max. DC Voltage up to 1000V
- ▶ Max efficiency 98.4%
- ▶ Compact design
- ▶ Multi MPP controller
- ▶ 2+1 strings for flexible configuration
- ▶ Natural cooling, fanless design
- ▶ High power density, offer lighter and easy installation
- ▶ Flexible communication connection, support RF, WiFi, Ethernet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



Growatt 12000TL3-S 效率曲線  
Growatt 12000TL3-S efficiency



Growatt 12000-15000 TL3-H 拓撲結構  
Growatt 12000-15000 TL3-Stopology



**輸入數據(直流) Input Data**

	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
最大直流輸入功率 Max. recommended PV power (for module STC)	14400W	15600W	18000W
最大直流輸入電壓 Max. DC voltage	1000V	1000V	1000V
啟動電壓 Start Voltage	160V	160V	160V
直流輸入電壓範圍 PV voltage range	160V-1000V	160V-1000V	160V-1000V
標稱電壓 Nominal voltage	600V	600V	600V
MPP電壓範圍 MPP voltage range at Full Power	480V -850V	480V -850V	520V -850V
最大輸入電流 Max. input current	20A/10A	20A/10A	20A/10A
追蹤器數量/ 每追蹤器併數 Number of independent MPP trackers/ strings per MPP tracker	2/2+1	2/2+1	2/2+1

**輸出數據(交流) Output (AC)**

	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
額定交流輸出功率 Rated AC output power	12kW	13kW	15kW
最大交流視在功率 Max AC apparent power	13.2kVA	14.3kVA	16.5kVA
最大交流輸出電流 Max. output current	19A	20.6A	23.8A
額定交流輸出電壓範圍 AC nominal voltage range	230V/400V 184-275V	230V/400V 184-275V	230V/400V 184-275V
交流電網頻率範圍 AC grid frequency	50/60Hz	50/60Hz	50/60Hz
功率因數 (cosφ) Power factor	0.8leading - 0.8lagging	0.8leading - 0.8lagging	0.8leading - 0.8lagging
諧波 THDi	<3%	<3%	<3%
交流電網連接類型 AC grid connection type	3/N/PE	3/N/PE	3/N/PE

**效率 Efficiency**

	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
最大效率 Max. efficiency	98.4%	98.4%	98.4%
歐洲加權效率 Euro-eta	97.8%	98%	98%
MPPT效率 MPPT efficiency	99.5%	99.5%	99.5%

**設備保護 Protection Devices**

	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
直流反極性保護 DC reverse polarity protection	yes	yes	yes
每個MPPT追蹤器直流開關 DC switch for each MPPT	yes	yes	yes
輸出過流保護 Output over current protection	yes	yes	yes
輸出過壓保護 - 壓敏電阻 Output AC overvoltage Protection - Varistor	yes	yes	yes
絕緣阻抗檢測 Ground fault monitoring	yes	yes	yes
網路監控 Grid monitoring	yes	yes	yes
內建全極性感應 Integrated all-pole sensitive leakage current monitoring unit	yes	yes	yes

**常規數據 General Data**

	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
尺寸(寬/高/深) Dimensions(W/H/D)	480/448/200mm	480/448/200mm	480/448/200mm
重量 Weight	23.5kg	23.5kg	23.5kg
運行溫度範圍 Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
噪聲指數(典型) Noise emission (typical)	≤35 dB(A)	≤35 dB(A)	≤35 dB(A)
海拔高度 Altitude	3000m	3000m	3000m
夜間自耗電 Self-consumption night	< 0.5W	< 0.5W	< 0.5W
拓撲結構 Topology	Transformerless	Transformerless	Transformerless
冷卻方式 Cooling concept	Natural	Natural	Natural
環境保護等級 Environmental Protection Rating	IP65	IP65	IP65
相對溼度 Relative humidity	0~100%	0~100%	0~100%

**特點 Features**

	Growatt 12000TL3-S	Growatt 13000TL3-S	Growatt 15000TL3-S
直流連接方式 DC connection	H4/MC4(opt)	H4/MC4(opt)	H4/MC4(opt)
交流連接方式 AC connection	Screw terminal	Screw terminal	Screw terminal
顯示 Display	LCD	LCD	LCD
通訊接口 Interfaces:RS232/RS485/RF/Ethernet/WiFi	yes/yes/opt/opt/opt	yes/yes/opt/opt/opt	yes/yes/opt/opt/opt
質保期:5年/10年 Warranty:5 years/10 years	yes/opt	yes/opt	yes/opt

**認證許可 Certificates and Approvals**

CE, IEC 62109-1/2, VDE 0126-1-1, Greece,  
VFR 2014, VDE-AR-N4105, G83, EN50438, CEI 0-21, AS4777, IEC 61727, IEC 62116, CQC