



TG-100HVR

LET'S CONNECT



Optimizing Growth for Your Plants & Your Business

Highly-efficient, high powered,
advanced LED horticulture
lighting solutions

Lighting as a Platform™ - LaaP

Integrated Lighting, Power, Monitoring and Control

TSRgrow Lighting as a Platform™ (LaaP™) combines TSRgrow's TGHV Remote Power Server Technology, high performance LED lighting, and monitoring and control system software applications to maximize yields, while reducing operating costs in Controlled Environment Agriculture (CEA) facilities. This system delivers a complete growth management and monitoring solution as a single package. When combined with the TSRgrow TOTALgrow Solution™, it is the first integrated software and lighting platform of its kind, suitable for all horticulture growing applications.



TGHV Remote Power Servers

- + Eliminates Heat From Grow Rooms
- + 95% Efficiency
- + 600/480 3-Phase Direct Power Source
- + Compatible with Solar, Battery Storage and Cogen



High Performance LED Lighting

- + Up to 2700 $\mu\text{mol}/\text{J}$
- + Up to 1000W
- + No Local Ballasts!
- + Energy and Cost Savings
- + Optimized Spectrums
- + No Dimming Wires Required



Real-Time Monitoring and Control



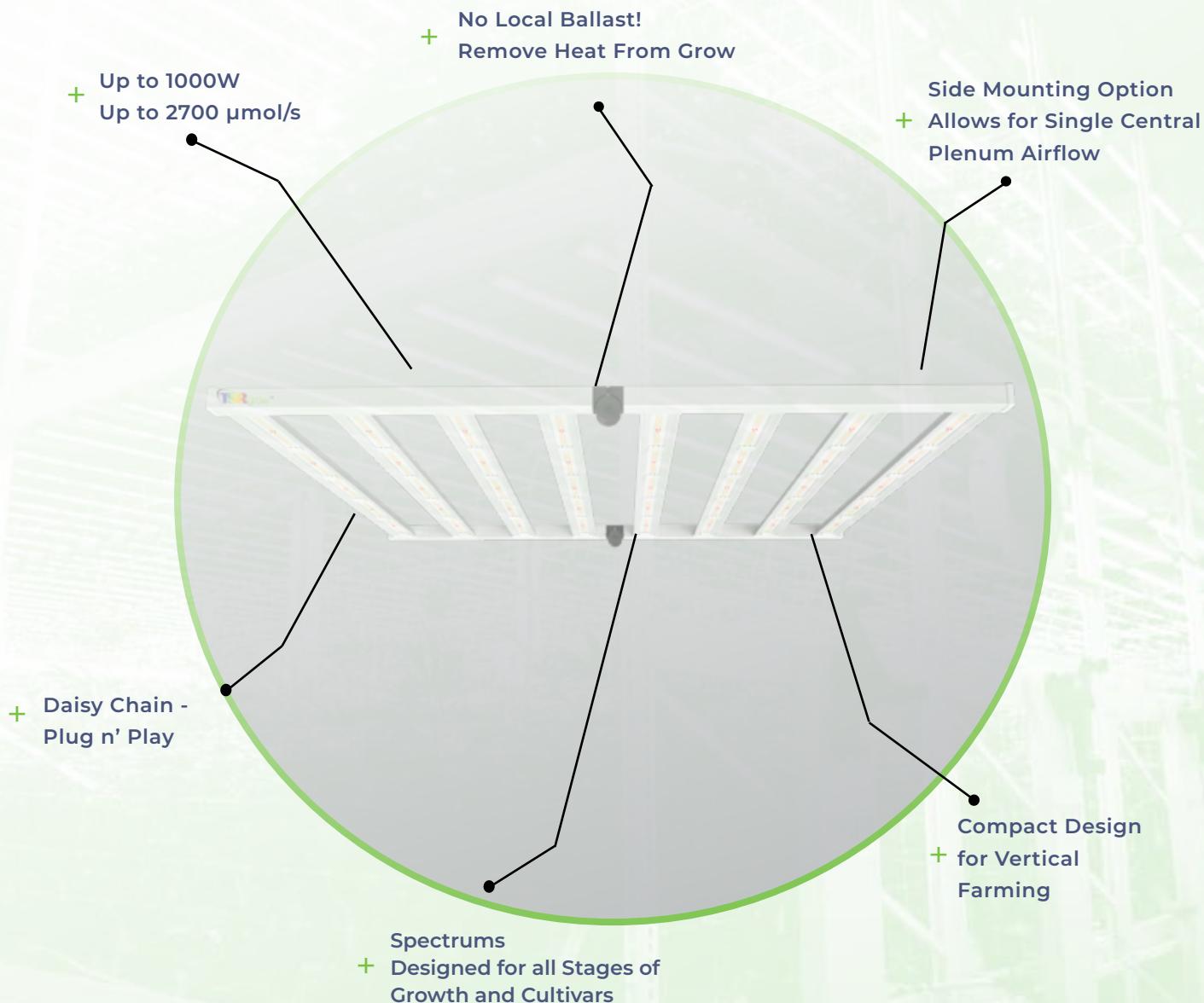
- + Replicate Your Best Yields
- + Power Management and Control
- + Historical Data Analytics
- + Dimming, Zones, Lighting Control APP
- + Hits Your Targets Every Time



TG-100HVR

The Lighting Solution for Optimal Growth

The TG-100HVR is the first vertical bar style fixture designed for large scale commercial growing. No on-board ballasts allow for unlimited flexibility in layout design, and remove heat from the grow room, resulting in easy installation, simplified maintenance and overall unparalleled performance and control. TGHV Remote Power Servers provide full power monitoring, scheduling and zone/fixture, on-off and full dimming control. Our industry leading high performance LED lighting solutions deliver best in class lighting to your plants for maximum yield.



Remote Power Server

TGHV Remote Power Servers

Centralized Power, Designed for Long Term Sustainability in Commercial Horticulture

TSRgrow has revolutionized horticulture lighting with its TGHV Remote Power Servers. Remotely located, all driver heat is eliminated from the grow area, reducing HVAC needs while providing a central location for monitoring, control and maintenance of growing operations.

Directly powered by 480VAC or regulated DC, it is the most efficient power system in the industry. TGHV Remote Power Servers eliminate the need for secondary dimming wires for precise DLI & PPFd control. TSRgrow Remote Power Servers can be integrated into all power and utility models. This integrated software helps precisely monitor and control the power and lighting in all regions of your grow. Designed with sustainability in mind, TSRgrow Remote Power Servers are compatible with Cogen, Solar, Battery Storage, and are Micro-Grid ready.



Benefits of TGHV Remote Power Servers

- + Remote Power Servers - Eliminates on-fixture ballast, centralized outside the grow area. Removes heat from the grow room, simplified installation and maintenance.
- + Solar & Cogen Ready- Integrate with solar, battery and cogen for carbon clean energy.
- + Integrated Controls - Built-in controls, demand response ready and customized zone mapping for infinite control of lighting.
- + Lowest iTHD (total harmonic current distortion) highest lighting efficiency in the world - Utility preferred!
- + Sustainable Power - 100% power control for customized Intensity settings and zone control. Ability to manipulate light zones based on plant species.
- + Centralized Maintenance - Centralized service and maintenance outside the grow area
- + Highest efficiency (95%) throughout the full dimming range
- + HVAC CAPx Reduction - With no ballast heat in the grow room, reduce HVAC investment and operating expenses.
- + Plug & Play Connections. No dimming wires, contactors or relays. 208, 480, 600VAC3P ready.



Monitoring and Control

Real Time Monitoring, Control and Analytics with GROWHub

GROWHub Maintains 24x7 Crop Recipe for Consistent Production and Yields

Full control and monitoring over lighting and power for consistent quality yields every time. Manage, track and autonomously control every fixture and zone in your grow - even when integrated into 3rd party platforms. Software monitoring and control intelligence for cultivation optimization to minimize operating costs while providing crop to crop historical comparisons for growing consistency.



Control Any Compatible Light Fixture



Calendar Based Scheduling



Integrate with Environmental Monitoring and Control Systems



Secure Local On-Site Operation With Cloud Integration

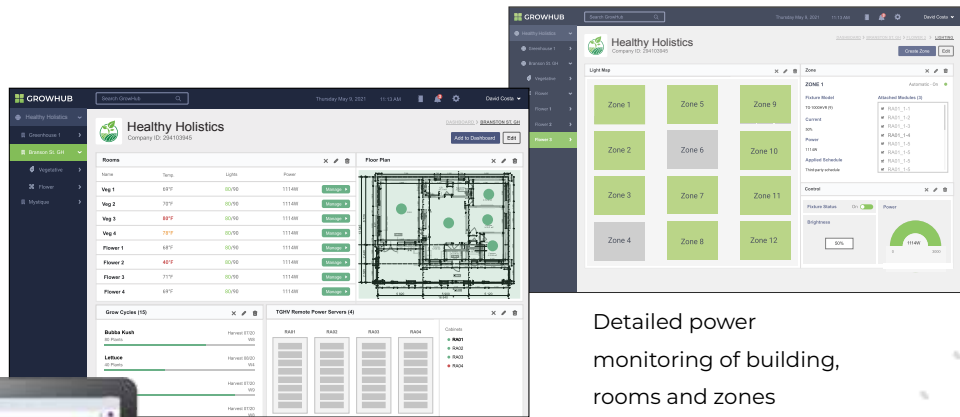


Power and Data Logging



Real Time, Historical Monitoring and Notifications and Reports

- + Grower Intelligence
- + Real Time Power Monitoring
- + Compatible with 3rd Party Software
- + Integrated On - Off Dimming
- + Local and Remote Accessibility
- + Real-time Updates
- + Unlimited Zone Mapping and Control
- + Customizable Dashboard
- + Cloud Storage and Historical Analytics



Detailed power monitoring of building, rooms and zones



Unlimited zone mapping and light control - even when connected to 3rd party control systems



*Some software features may require subscription service

TG-100HVR

Performance Maximized

Best In Class LED Lighting

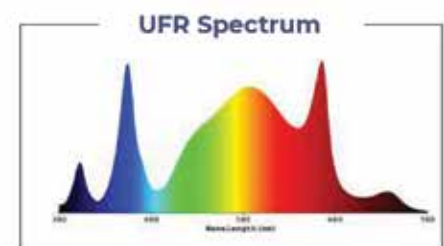
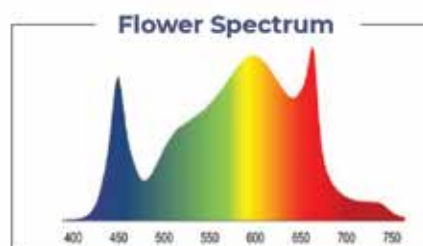
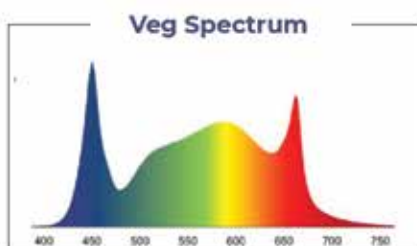
Designed for large scale commercial horticulture, configurable to each application with the highest power and performance. No local ballast needed on any fixture with spectrums designed for maximized yields and terpene profiles. TSRgrow's LED lighting solutions deliver 100% tunable power for precise DLI & PPFD with simplified installation and maintenance for the lowest operational costs.

- + **IP65 Rating**
- + **2700 $\mu\text{mol/s}$ PPF** Depending on Configuration
- + **1000W** Depending on Configuration
- + **Highest PPF**
- + **Sustainable Lighting Solution**
- + **Designed to Accommodate Central Air Ducting**
- + Compact Racking Solution
- + Tunable Power to Meet all DLI & PPFD Needs
- + Daisy Chain - Easy Plug 'N Play
- + Customizable Configurations
- + Remove Heat from Growing Area
- + Centralized Troubleshooting and Maintenance
- + No Additional Dimming Wires Required!
- + Full Plant Spectrum to Maximize Yields
- + UV Options Available Upon Request

TG-100HVR vertical fixtures are designed for integration into vertical racking systems and low ceiling rooms. Daisy chain connections simplify installation and reduce wiring and cabling. Designed to allow for air movement and circulation and integration with in-rack air flow systems, adjustable intensity eliminates mounting height adjustments. Powered by TGHV Remote Power Servers for optimized growing and minimized grow room heat.

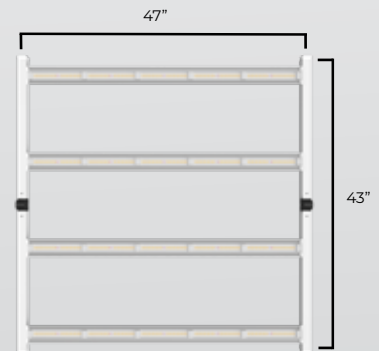
Spectrums

TSRgrow's spectrums have been specifically designed for each stage of Cannabis growing. Working closely with academia and cultivators, the ratios and wavelengths of our spectrums have been optimized for optimal growth and yield. From blue to green to deep red and far red, balanced ratios are critical for maximized results.

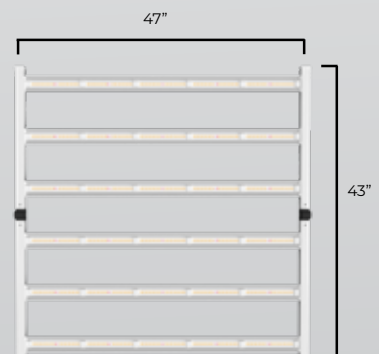


Configurations

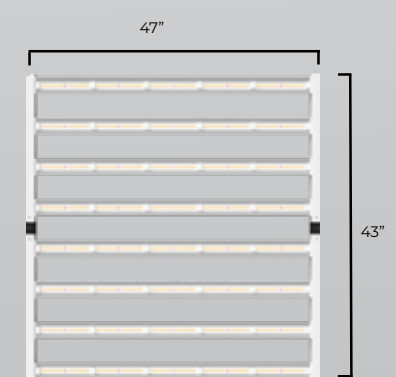
TG-100HVR4

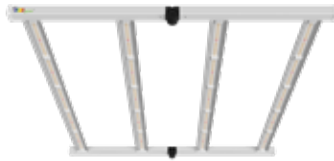


TG-100HVR6

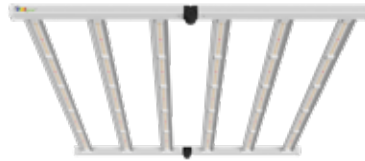


TG-100HVR8





TG-100HVR4



TG-100HVR6



TG-100HVR8

	TG-100HVR4	TG-100HVR6	TG-100HVR8
Power Source	TGHV Remote Power	TGHV Remote Power	TGHV Remote Power
Spectrum	Full	Full	Full
Efficacy	Up to 2.7 $\mu\text{mol}/\text{j}$	Up to 2.7 $\mu\text{mol}/\text{j}$	Up to 2.7 $\mu\text{mol}/\text{j}$
PPF	Up to 1500 $\mu\text{mol}/\text{s}$	Up to 2025 $\mu\text{mol}/\text{s}$	Up to 2700 $\mu\text{mol}/\text{s}$
Output Power	500W	750W	1000W
Weight	13 lbs	15 lbs	18 lbs
Mounting Height	6in-12in Above Canopy	6in-12in Above Canopy	6in-12in Above Canopy
Thermal Management	Passive	Passive	Passive
Dimming	0-100%	0-100%	0-100%
Operating Temp	-20°C ~ 35°C	-20°C ~ 35°C	-20°C ~ 35°C
Power Factor	>0.9	>0.9	>0.9
Certifications	UL 8800, UL 1598, Wet Location, DLC		
IP Rating	IP65	IP65	IP65
Lifetime	L90: > 50,000hrs	L90: > 50,000hrs	L90: > 50,000hrs
Heat Output	Up to 1707 BTU/hr	Up to 2560 BTU/hr	Up to 3414 BTU/hr
Warranty	3-5 years	3-5 years	3-5 years



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