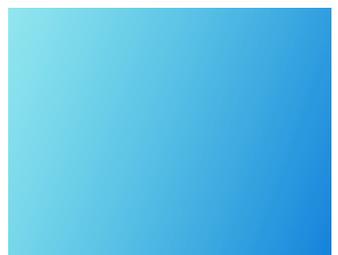




T-SERIES POWER SUPPLY PRODUCT PROFILE



HORIZON T-SERIES

Integrated Power Supply Solution



T-SERIES 1,000W fuel cell system

TYPE: T10S1

Horizon’s T-Series fuel cell system provides a single, fully integrated system that fits within a standard equipment rack. The chassis includes a fuel cell modules and integrated control and power electronics for a complete system in a single chassis.

System also include all necessary parts to provide automatic back-up system. Communication base station supplies instable power or failure occurs, the T-series fuel cell system will start up automatically, and continuous supply the power to support the normal operation of equipment.



T10S1 Technical Specifications

| SPECIFICATION | VALUE |
|-----------------------------|--|
| Power Rating | 0 to 1,000 W @ 20° C and 101.3 kPa |
| Current Rating | 0 to 19A @54V |
| Voltage Adjustable | 43.2 to 57.6 Vdc |
| Voltage ripple | ±1V |
| Controller Dimension(WxDxH) | 430mm x 380mm x 88mm |
| Stack Dimension(WxDxH) | 430mm x 380mm x 267mm |
| Controller Weight | 9 kg |
| Stack Weight | 18 kg |
| Ambient temperature | 0°C to +40°C Standard |
| Relative Humidity | 0-95% Non-Condensing |
| Communications | RS232 |
| Standby Power Consumption | Approximately<3% at peak power (DC) |
| Reactants | Hydrogen and Air |
| Cooling | Air (integrated cooling fan) |
| H2 inlet pressure | 0.55-0.75bar |
| Hydrogen purity | ≥99.995% dry H2 |
| Consumption | ≤0.78 Nm3/kWh (Average at max. load) |
| Start up time | ≤2minute at ambient temperature |
| Efficiency of system | ≥42% at peak power |
| Temperature De-rating | 1.25% per ° C over 40° C |
| Altitude De-rating | 3.5% per 500m over 1,000m |
| Max noise | Normal operation: <70 dBa at 1.5 meters |
| Storage Temperature | - 20° to + 50°C Standard(need heating protection when temperature less than 0°C) |

T-SERIES 2,500W fuel cell system

TYPE: T25S1

Horizon’s T-Series fuel cell system provides a single, fully integrated system that fits within a standard equipment rack. The chassis includes a fuel cell modules and integrated control and power electronics for a complete system in a single chassis.

System also include all necessary parts to provide automatic back-up system. Communication base station supplies instable power or failure occurs, the T-series fuel cell system will start up automatically, and continuous supply the power to support the normal operation of equipment.



T25S1 Technical Specifications

| SPECIFICATION | VALUE |
|-----------------------------|--|
| Power Rating | 0 to 2,500 W @ 20° C and 101.3 kPa |
| Current Rating | 0 to 47A @54V |
| Voltage Adjustable | 43.2 to 57.6 Vdc |
| Voltage ripple | ± 1V |
| Controller Dimension(WxDxH) | 430mm x 550mm x 88mm |
| Stack Dimension(WxDxH) | 430mm x 550mm x 356mm |
| Controller Weight | 13.5 kg |
| Stack Weight | 40.3 kg |
| Ambient temperature | 0°C to +40°C Standard |
| Relative Humidity | 0-95% Non-Condensing |
| Communications | RS232 |
| Standby Power Consumption | Approximately < 3% at peak power (DC) |
| Reactants | Hydrogen and Air |
| Cooling | Air (integrated cooling fan) |
| H2 inlet pressure | 0.55-0.75bar |
| Hydrogen purity | ≥99.995% dry H2 |
| Consumption | ≤0.78 Nm ³ /kWh (Average at max. load) |
| Start up time | ≤2minute at ambient temperature |
| Efficiency of system | ≥42% at peak power |
| Temperature De-rating | 1.25% per ° C over 40° C |
| Altitude De-rating | 3.5% per 500m over 1,000m |
| Max noise | Normal operation: <70 dBA at 1.5 meters |
| Storage Temperature | - 20° to + 50°C Standard(need heating protection when temperature less than 0°C) |

T-SERIES 3,000W fuel cell system

TYPE: T30S1

Horizon's T-Series fuel cell system provides a single, fully integrated system that fits within a standard equipment rack. The chassis includes a fuel cell modules and integrated control and power electronics for a complete system in a single chassis.

System also include all necessary parts to provide automatic back-up system. Communication base station supplies instable power or failure occurs, the T-series fuel cell system will start up automatically, and continuous supply the power to support the normal operation of equipment.



T30S1 Technical Specifications

| SPECIFICATION | VALUE |
|-----------------------------|--|
| Power Rating | 0 to 3,000 W @ 20° C and 101.3 kPa |
| Current Rating | 0 to 56A @54V |
| Voltage Adjustable | 43.2 to 57.6 Vdc |
| Voltage ripple | ±1V |
| Controller Dimension(WxDxH) | 430mm x 550mm x 88mm |
| Stack Dimension(WxDxH) | 430mm x 550mm x 445mm |
| Controller Weight | 13.5 kg |
| Stack Weight | 50 kg |
| Ambient temperature | 0°C to +40°C Standard |
| Relative Humidity | 0-95% Non-Condensing |
| Communications | RS232 |
| Standby Power Consumption | Approximately <3% at peak power (DC) |
| Reactants | Hydrogen and Air |
| Cooling | Air (integrated cooling fan) |
| H2 inlet pressure | 0.55-0.75bar |
| Hydrogen purity | ≥99.995% dry H2 |
| Consumption | ≤0.78 Nm ³ /kWh (Average at max. load) |
| Start up time | ≤2minute at ambient temperature |
| Efficiency of system | ≥42% at peak power |
| Temperature De-rating | 1.25% per ° C over 40° C |
| Altitude De-rating | 3.5% per 500m over 1,000m |
| Max noise | Normal operation: <70 dBa at 1.5 meters |
| Storage Temperature | - 20° to + 50°C Standard(need heating protection when temperature less than 0°C) |

T-SERIES 2,500W fuel cell system

TYPE: T50S1

Horizon’s T-Series fuel cell system provides a single, fully integrated system that fits within a standard equipment rack. The chassis includes a fuel cell modules and integrated control and power electronics for a complete system in a single chassis.

System also include all necessary parts to provide automatic back-up system. Communication base station supplies instable power or failure occurs, the T-series fuel cell system will start up automatically, and continuous supply the power to support the normal operation of equipment.



T50S1 Technical Specifications

| SPECIFICATION | VALUE |
|-----------------------------|--|
| Power Rating | 0 to 5,000 W @ 20° C and 101.3 kPa |
| Current Rating | 0 to 47A*2 @54V |
| Voltage Adjustable | 43.2 to 57.6 Vdc |
| Voltage ripple | ± 1V |
| Controller Dimension(WxDxH) | (430mm x 550mm x 88mm)*2 |
| Stack Dimension(WxDxH) | (430mm x 550mm x 356mm)*2 |
| Controller Weight | 13.5*2 kg |
| Stack Weight | 40.3*2 kg |
| Ambient temperature | 0°C to +40°C Standard |
| Relative Humidity | 0-95% Non-Condensing |
| Communications | RS232 |
| Standby Power Consumption | Approximately <3% at peak power (DC) |
| Reactants | Hydrogen and Air |
| Cooling | Air (integrated cooling fan) |
| H2 inlet pressure | 0.55-0.75bar |
| Hydrogen purity | ≥99.995% dry H2 |
| Consumption | ≤0.78 Nm3/kWh (Average at max. load) |
| Start up time | ≤2minute at ambient temperature |
| Efficiency of system | ≥42% at peak power |
| Temperature De-rating | 1.25% per ° C over 40° C |
| Altitude De-rating | 3.5% per 500m over 1,000m |
| Max noise | Normal operation: <70 dBa at 1.5 meters |
| Storage Temperature | - 20° to + 50°C Standard(need heating protection when temperature less than 0°C) |

T-SERIES 10,000W fuel cell system

TYPE: T100S1

Horizon's T-Series fuel cell system provides a single, fully integrated system that fits within a standard equipment rack. The chassis includes a fuel cell modules and integrated control and power electronics for a complete system in a single chassis.

System also include all necessary parts to provide automatic back-up system. Communication base station supplies instable power or failure occurs, the T-series fuel cell system will start up automatically, and continuous supply the power to support the normal operation of equipment.

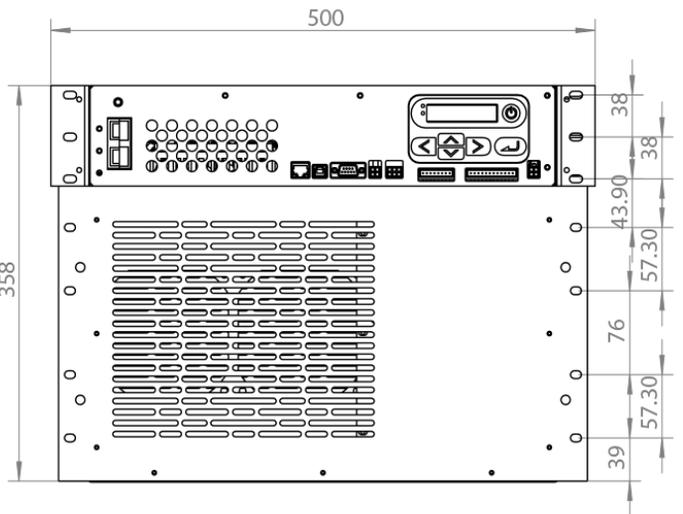
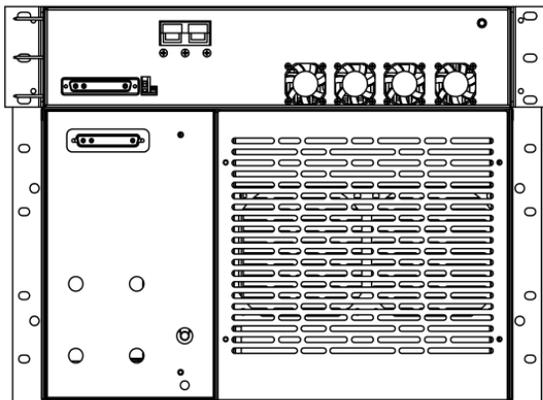
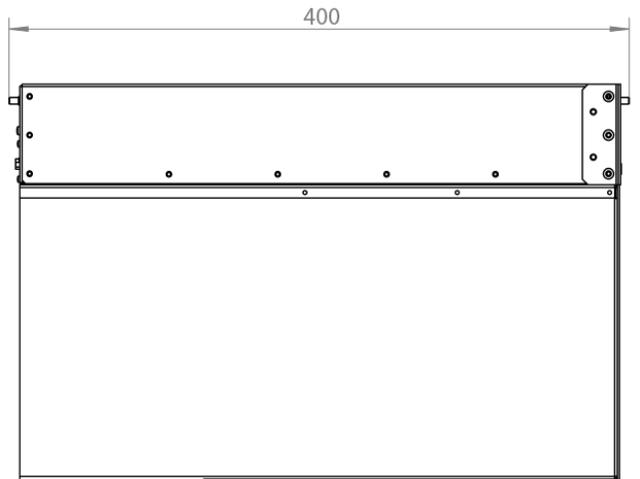


T100S1 Technical Specifications

| SPECIFICATION | VALUE |
|-----------------------------|--|
| Power Rating | 0 to 10,000 W @ 20° C and 101.3 kPa |
| Current Rating | 0 to 47A*4 @54V |
| Voltage Adjustable | 43.2 to 57.6 Vdc |
| Voltage ripple | ±1V |
| Controller Dimension(WxDxH) | (430mm x 550mm x 88mm)*4 |
| Stack Dimension(WxDxH) | (430mm x 550mm x 356mm)*4 |
| Controller Weight | 13.5*4 kg |
| Stack Weight | 40.3*4 kg |
| Ambient temperature | 0°C to +40°C Standard |
| Relative Humidity | 0-95% Non-Condensing |
| Communications | RS232 |
| Standby Power Consumption | Approximately<3% at peak power (DC) |
| Reactants | Hydrogen and Air |
| Cooling | Air (integrated cooling fan) |
| H2 inlet pressure | 0.55-0.75bar |
| Hydrogen purity | ≥99.995% dry H2 |
| Consumption | ≤0.78 Nm3/kWh (Average at max. load) |
| Start up time | ≤2minute at ambient temperature |
| Efficiency of system | ≥42% at peak power |
| Temperature De-rating | 1.25% per ° C over 40° C |
| Altitude De-rating | 3.5% per 500m over 1,000m |
| Max noise | Normal operation: <70 dBa at 1.5 meters |
| Storage Temperature | - 20° to + 50°C Standard(need heating protection when temperature less than 0°C) |

Project Drawing

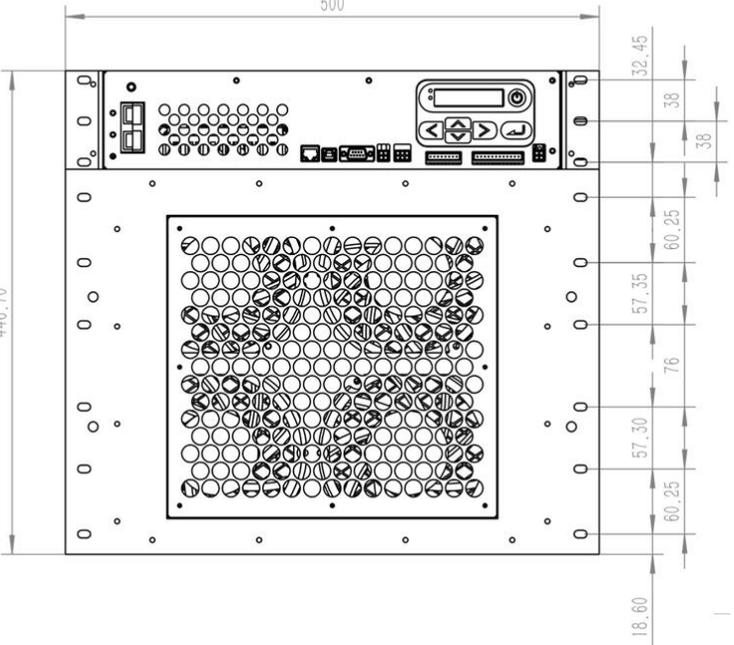
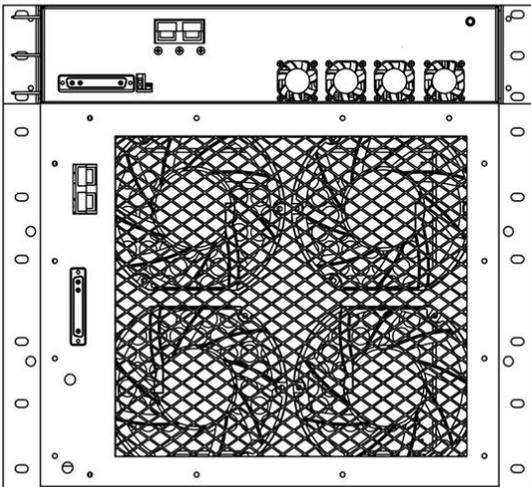
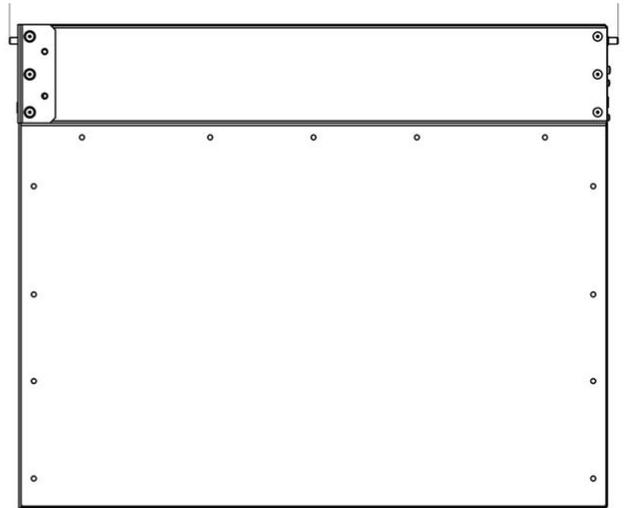
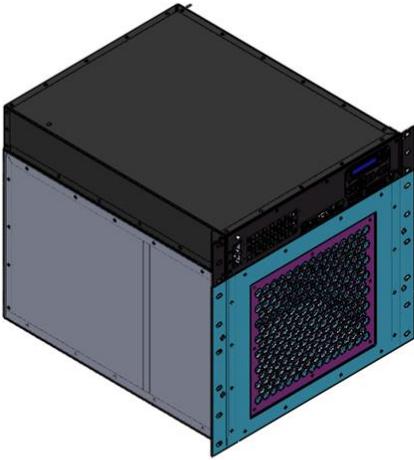
TYPE: T10S1



*Dimensions in millimeters (mm)

Project Drawing

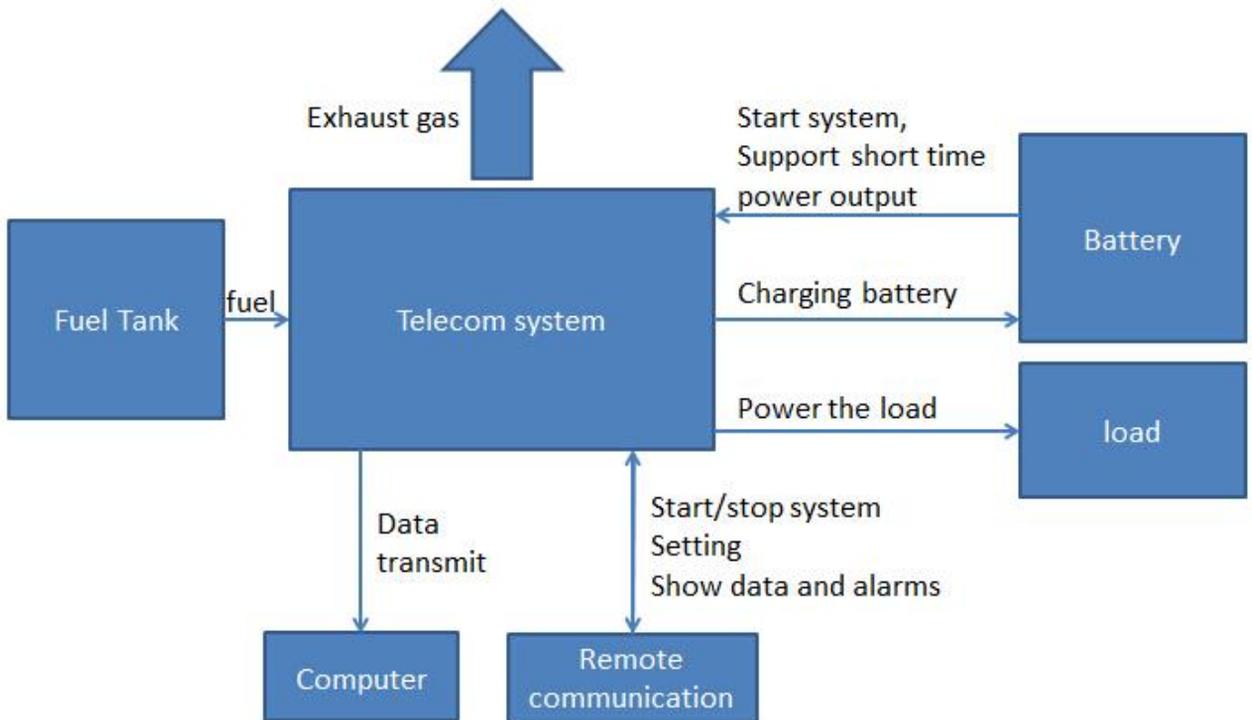
TYPE: T25S1, T50S1, T100S1



*Dimensions in millimeters (mm)

System Chart

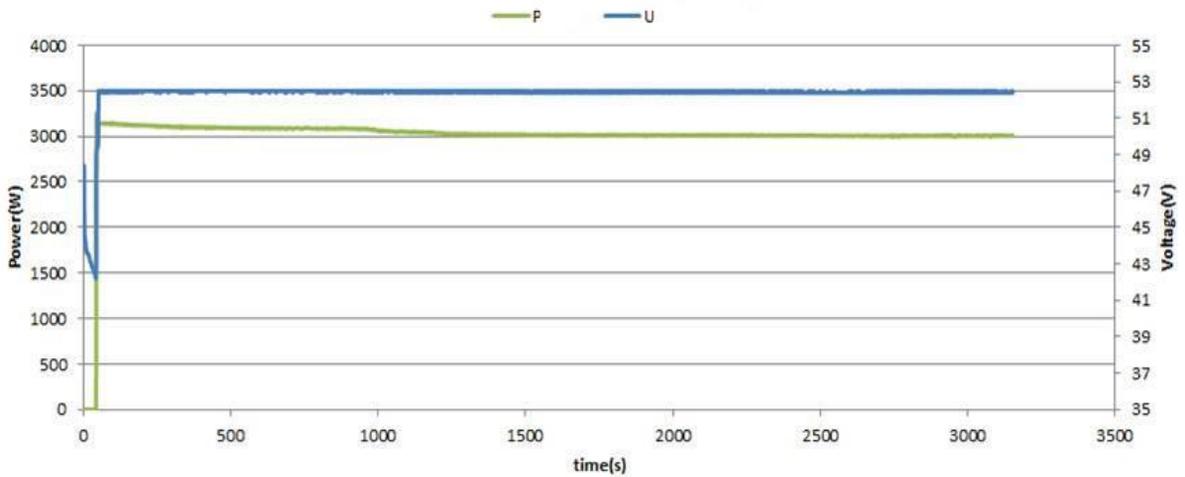
T-SERIES



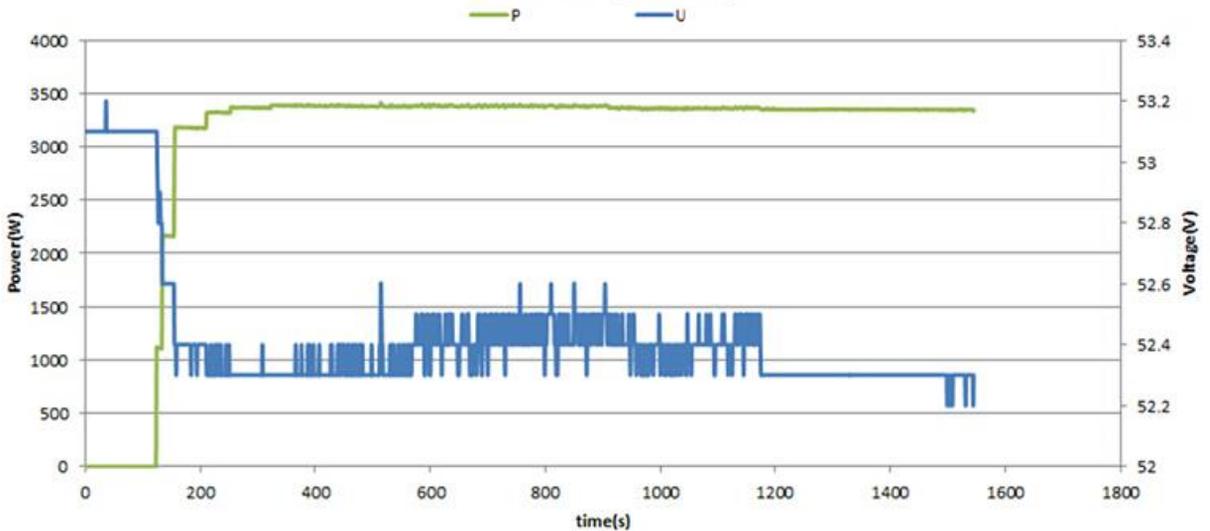
System Curve

TYPE: T30S1

Rated Power Operating



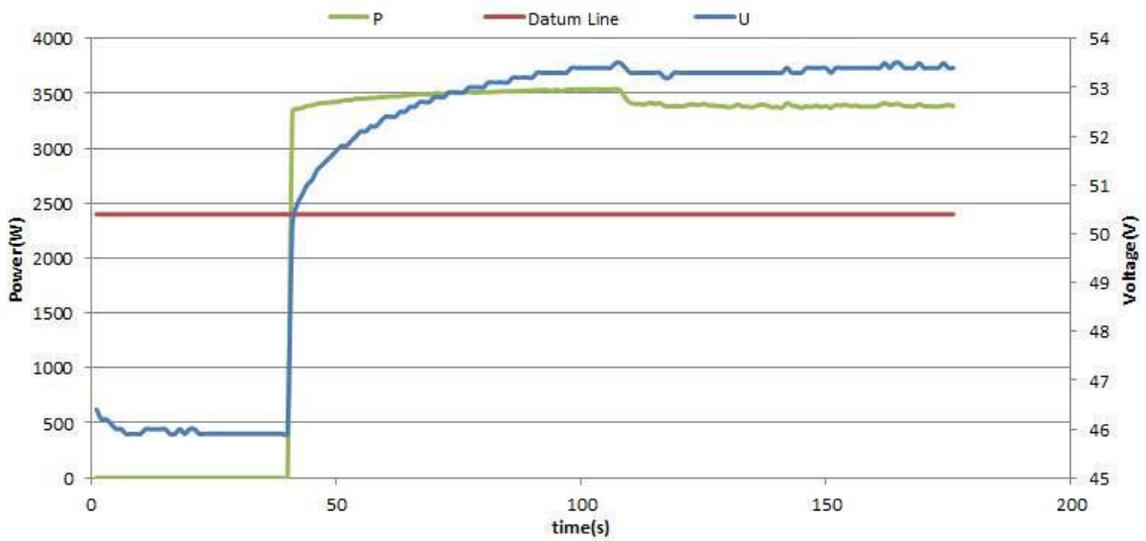
Overload Operating



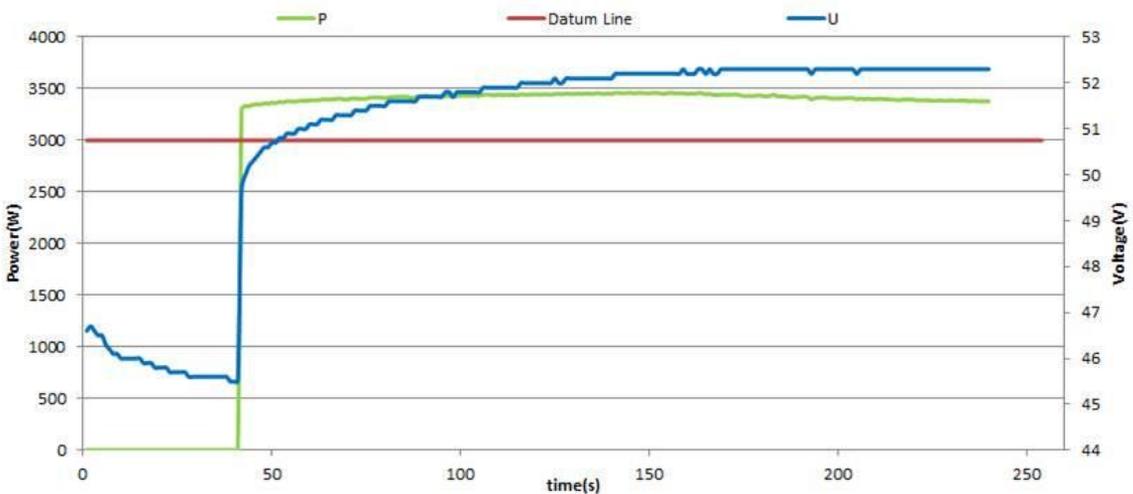
System Curve

TYPE: T30S1

Starting Time for outputting 80% Power



Starting Time for Outputting 100% Power



Integration Examples

CASE NO.1

America California
use Horizon T25S1
backup power
system.



CASE NO.2

China Nanning
use Horizon T25S1
backup power
system.



CASE NO.3

China Jiangsu use
Horizon T25S1
backup power
system.





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