

## TECHNICAL CHARACTERISTICS

## HEMK 690V

	FRAME 1	FRAME 2
REFERENCE	FS2445K	FS3670K
OUTPUT	AC Output Power(kVA/kW) @50°C <sup>[1]</sup>	2445
	AC Output Power(kVA/kW) @40°C <sup>[1]</sup>	2530
	Max. AC Output Current (A) @40°C	2117
	Operating Grid Voltage(VAC) <sup>[2]</sup>	690V ±10%
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) <sup>[3]</sup>	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC) @35°C <sup>[4]</sup>	976V-1500V
	MPPt @full power (VDC) @50°C <sup>[4]</sup>	976V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs <sup>[2]</sup>	Up to 36
	Number of Freemaq DC/DC inputs <sup>[5]</sup>	Up to 6
	Max. DC continuous current (A) <sup>[5]</sup>	2645
	Max. DC short circuit current (A) <sup>[5]</sup>	4000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98.87%
	Euroeta (η)	98.48%
	Max. Power Consumption (KVA)	8
CABINET	Dimensions [WxDxH] (ft)	12 x 7 x 7
	Dimensions [WxDxH] (m)	3.7 x 2.2 x 2.2
	Weight (lb)	12125
	Weight (kg)	5500
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP55
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	2000m; >2000m power derating (Max. 4000m)
	Noise level <sup>[6]</sup>	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	Circuit Breaker
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-16, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017 / IEC
	Utility interconnect	EEE 1547.1-2005 / UL1741SA-Feb. 2018 / IEC62116:2014

[1] Values at 1.00•Vac nom and cos Φ= 1.  
Consult Power Electronics for derating curves.

[2] Consult Power Electronics for other configurations.

[3] Consult P-Q charts available:  $Q(kVar)=\sqrt{(S(kVA))^2-P(kW)^2}$ .

[4] Consult Power Electronics for temperature derating curves.

[5] Consult Power Electronics for Freemaq DC/DC connection configurations.

[6] Readings taken 1 meter from the back of the unit.

## TECHNICAL CHARACTERISTICS

## HEMK 660V

	FRAME 1	FRAME 2
REFERENCE	FS2340K	FS3510K
OUTPUT	AC Output Power(kVA/kW) @50°C <sup>[1]</sup>	2340
	AC Output Power(kVA/kW) @40°C <sup>[1]</sup>	2420
	Max. AC Output Current (A) @40°C	2117
	Operating Grid Voltage(VAC) <sup>[2]</sup>	660V ±10%
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) <sup>[3]</sup>	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC) @35°C <sup>[4]</sup>	934V-1500V
	MPPt @full power (VDC) @50°C <sup>[4]</sup>	934V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs <sup>[2]</sup>	Up to 36
	Number of Freemaq DC/DC inputs <sup>[5]</sup>	Up to 6
	Max. DC continuous current (A) <sup>[5]</sup>	2645
	Max. DC short circuit current (A) <sup>[5]</sup>	4000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98.84%
	Euroeta (η)	98.48%
	Max. Power Consumption (KVA)	8
CABINET	Dimensions [WxDxH] (ft)	12 x 7 x 7
	Dimensions [WxDxH] (m)	3.7 x 2.2 x 2.2
	Weight (lb)	12125
	Weight (kg)	5500
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP55
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	2000m; >2000m power derating (Max. 4000m)
	Noise level <sup>[6]</sup>	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	Circuit Breaker
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-16, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017 / IEC
	Utility interconnect	EEE 1547.1-2005 / UL1741SA-Feb. 2018 / IEC62116:2014

[1] Values at 1.00•Vac nom and cos Φ= 1.

Consult Power Electronics for derating curves.

[2] Consult Power Electronics for other configurations.

[3] Consult P-Q charts available:  $Q(kVar)=\sqrt{(S(kVA))^2-P(kW)^2}$ .

[4] Consult Power Electronics for temperature derating curves.

[5] Consult Power Electronics for Freemaq DC/DC connection configurations.

[6] Readings taken 1 meter from the back of the unit.

## TECHNICAL CHARACTERISTICS

## HEMK 645V

	FRAME 1	FRAME 2
REFERENCE	FS2285K	FS3430K
OUTPUT	AC Output Power(kVA/kW) @50°C <sup>[1]</sup>	2285
	AC Output Power(kVA/kW) @40°C <sup>[1]</sup>	2365
	Max. AC Output Current (A) @40°C	2117
	Operating Grid Voltage(VAC) <sup>[2]</sup>	645V ±10%
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) <sup>[3]</sup>	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC) @35°C <sup>[4]</sup>	913V-1500V
	MPPt @full power (VDC) @50°C <sup>[4]</sup>	913V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs <sup>[2]</sup>	Up to 36
	Number of Freemaq DC/DC inputs <sup>[5]</sup>	Up to 6
	Max. DC continuous current (A) <sup>[5]</sup>	2645
	Max. DC short circuit current (A) <sup>[5]</sup>	4000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98.81%
	Euroeta (η)	98.43%
	Max. Power Consumption (KVA)	8
CABINET	Dimensions [WxDxH] (ft)	12 x 7 x 7
	Dimensions [WxDxH] (m)	3.7 x 2.2 x 2.2
	Weight (lb)	12125
	Weight (kg)	5500
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP55
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	2000m; >2000m power derating (Max. 4000m)
	Noise level <sup>[6]</sup>	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	Circuit Breaker
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-16, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017 / IEC
	Utility interconnect	EEE 1547.1-2005 / UL1741SA-Feb. 2018 / IEC62116:2014

[1] Values at 1.00•Vac nom and cos Φ= 1.  
Consult Power Electronics for derating curves.

[2] Consult Power Electronics for other configurations.

[3] Consult P-Q charts available:  $Q(kVar)=\sqrt{(S(kVA)^2-P(kW)^2)}$ .

[4] Consult Power Electronics for temperature derating curves.

[5] Consult Power Electronics for Freemaq DC/DC connection configurations.

[6] Readings taken 1 meter from the back of the unit.

## TECHNICAL CHARACTERISTICS

## HEMK 630V

	FRAME 1	FRAME 2
REFERENCE	FS2235K	FS3350K
OUTPUT	AC Output Power(kVA/kW) @50°C <sup>[1]</sup>	2235
	AC Output Power(kVA/kW) @40°C <sup>[1]</sup>	2310
	Max. AC Output Current (A) @40°C	2117
	Operating Grid Voltage(VAC) <sup>[2]</sup>	630V ±10%
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) <sup>[3]</sup>	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC) @35°C <sup>[4]</sup>	891V-1500V
	MPPt @full power (VDC) @50°C <sup>[4]</sup>	891V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs <sup>[2]</sup>	Up to 36
	Number of Freemaq DC/DC inputs <sup>[5]</sup>	Up to 6
	Max. DC continuous current (A) <sup>[5]</sup>	2645
	Max. DC short circuit current (A) <sup>[5]</sup>	4000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98.79%
	Euroeta (η)	98.42%
	Max. Power Consumption (KVA)	8
CABINET	Dimensions [WxDxH] (ft)	12 x 7 x 7
	Dimensions [WxDxH] (m)	3.7 x 2.2 x 2.2
	Weight (lb)	12125
	Weight (kg)	5500
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP55
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	2000m; >2000m power derating (Max. 4000m)
	Noise level <sup>[6]</sup>	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	Circuit Breaker
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-16, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017 / IEC
	Utility interconnect	EEE 1547.1-2005 / UL1741SA-Feb. 2018 / IEC62116:2014

[1] Values at 1.00•Vac nom and cos Φ= 1.

Consult Power Electronics for derating curves.

[2] Consult Power Electronics for other configurations.

[3] Consult P-Q charts available:  $Q(kVar)=\sqrt{(S(kVA))^2-P(kW)^2}$ .

[4] Consult Power Electronics for temperature derating curves.

[5] Consult Power Electronics for Freemaq DC/DC connection configurations.

[6] Readings taken 1 meter from the back of the unit.

## TECHNICAL CHARACTERISTICS

## HEMK 615V

	FRAME 1	FRAME 2
REFERENCE	FS2180K	FS3270K
OUTPUT	AC Output Power(kVA/kW) @50°C <sup>[1]</sup>	2180
	AC Output Power(kVA/kW) @40°C <sup>[1]</sup>	2255
	Max. AC Output Current (A) @40°C	2117
	Operating Grid Voltage(VAC) <sup>[2]</sup>	615V ±10%
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) <sup>[3]</sup>	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC) @35°C <sup>[4]</sup>	870V-1500V
	MPPt @full power (VDC) @50°C <sup>[4]</sup>	870V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs <sup>[2]</sup>	Up to 36
	Number of Freemaq DC/DC inputs <sup>[5]</sup>	Up to 6
	Max. DC continuous current (A) <sup>[5]</sup>	2645
	Max. DC short circuit current (A) <sup>[5]</sup>	4000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98.79%
	Euroeta (η)	98.41%
	Max. Power Consumption (KVA)	8
CABINET	Dimensions [WxDxH] (ft)	12 x 7 x 7
	Dimensions [WxDxH] (m)	3.7 x 2.2 x 2.2
	Weight (lb)	12125
	Weight (kg)	5500
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP55
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	2000m; >2000m power derating (Max. 4000m)
	Noise level <sup>[6]</sup>	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	Circuit Breaker
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-16, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017 / IEC
	Utility interconnect	EEE 1547.1-2005 / UL1741SA-Feb. 2018 / IEC62116:2014

[1] Values at 1.00•Vac nom and cos Φ= 1.  
Consult Power Electronics for derating curves.

[2] Consult Power Electronics for other configurations.

[3] Consult P-Q charts available:  $Q(kVar)=\sqrt{(S(kVA)^2-P(kW)^2)}$ .

[4] Consult Power Electronics for temperature derating curves.

[5] Consult Power Electronics for Freemaq DC/DC connection configurations.

[6] Readings taken 1 meter from the back of the unit.

## TECHNICAL CHARACTERISTICS

## HEMK 600V

	FRAME 1	FRAME 2
REFERENCE	FS2125K	FS3190K
OUTPUT	AC Output Power(kVA/kW) @50°C <sup>[1]</sup>	2125
	AC Output Power(kVA/kW) @40°C <sup>[1]</sup>	2200
	Max. AC Output Current (A) @40°C	2117
	Operating Grid Voltage(VAC) <sup>[2]</sup>	600V ±10%
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) <sup>[3]</sup>	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC) @35°C <sup>[4]</sup>	849V-1500V
	MPPt @full power (VDC) @50°C <sup>[4]</sup>	849V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs <sup>[2]</sup>	Up to 36
	Number of Freemaq DC/DC inputs <sup>[5]</sup>	Up to 6
	Max. DC continuous current (A) <sup>[5]</sup>	2645
	Max. DC short circuit current (A) <sup>[5]</sup>	4000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98.78%
	Euroeta (η)	98.39%
	Max. Power Consumption (KVA)	8
CABINET	Dimensions [WxDxH] (ft)	12 x 7 x 7
	Dimensions [WxDxH] (m)	3.7 x 2.2 x 2.2
	Weight (lb)	12125
	Weight (kg)	5500
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP55
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	2000m; >2000m power derating (Max. 4000m)
	Noise level <sup>[6]</sup>	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	Circuit Breaker
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-16, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017 / IEC
	Utility interconnect	EEE 1547.1-2005 / UL1741SA-Feb. 2018 / IEC62116:2014

[1] Values at 1.00•Vac nom and cos Φ= 1.

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[2] Consult Power Electronics for other configurations.

[3] Consult P-Q charts available:  $Q(kVar)=\sqrt{(S(kVA))^2-P(kW)^2}$ .

[4] Consult Power Electronics for temperature derating curves.

[5] Consult Power Electronics for Freemaq DC/DC connection configurations.

[6] Readings taken 1 meter from the back of the unit.