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COMPACT PCI 3U SERIES

COMPACT PCI 6U SERIES

EPLAX | VERO/power

AC/DC CONVERTERS · PK-SERIES

AC/DC CONVERTERS WITH PFC · VP-SERIES

AC/DC CONVERTERS ECONOMY · EC-SERIES

DC/DC CONVERTERS · GK-SERIES

CompactPCI 3U 8HP 200 WATT AC POWER SUPPLY

FEATURES

- 200W output power
- Efficiency - better than 81% @ High line
- 85-264VAC Wide-Range Input with Unity PFC
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- On board E2PROM for PS H/W configuration

Description	Ordercode
CPCI-AC-3U-200 (Horizontal Overlay)	**925-4004121**
CPCI-AC-3U-200 (Vertical Overlay)	**925-4004127**

CompactPCI 3U 8HP 200 WATT AC POWER SUPPLY

INPUT	AC Input Voltage	85-264VAC Wide Range
	DC Input Voltage	
	Input Frequency Range	47 - 63 Hz (400Hz Option)
	Input Inrush Current	Cold Start 30A @ 110VAC & 60A @ 230VAC
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	EN 61000-2-3 >0.95
	Efficiency @ 230VAC Full Load	81%Typical
	Efficiency @ 115VAC Full Load	79% Typical
	Efficiency @ 48/24VDC Full Load	
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	20mSec @ Full Load
OUTPUT	V1/Current	+5VDC / 25A
	V2/Current	+3.3VDC / 36A
	V3/Current	+12VDC / 3A
	V4/Current	-12VDC / 0.5A
	Total Output Power	200W with 250LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	2Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot) V1/V2	+/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

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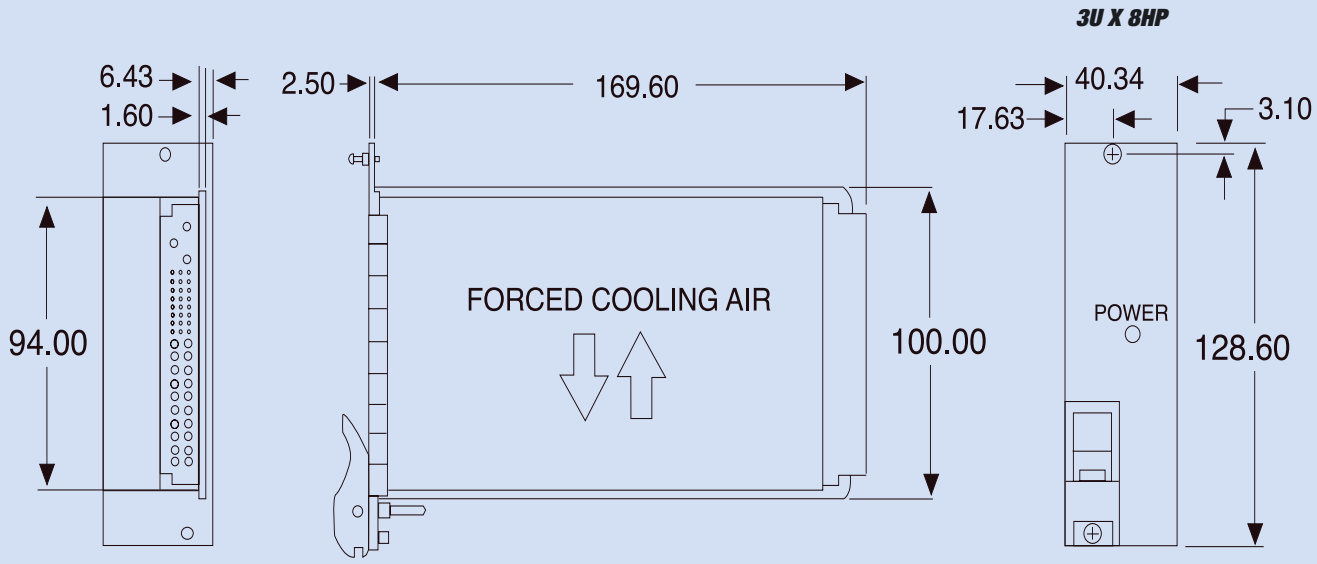

*FOR CONNECTOR PINNING PLEASE REFER TO APPLICATION NOTE 139-4003730

ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
		Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vrms
	Input to Output	3000Vrms
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	4200VDC Input to Output, 2121VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	EN61000-4-5 1Kv L-L 2Kv L-Gnd
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	EN61000-4-11
MONITORING COMMAND & CONTRL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Yes for Pre-Programmed Static Parameters
	LED Indications:	One Bi-Color
	Front Panel Green LED	Outputs OK
	Front Panel Red LED	Outputs Failure
MECHANICAL DIMENSIONS	Size	3U High 8HP wide 169.6mm Deep
	Weight	0.8KG

FEATURES

- 200W output power
- Efficiency - better than 83%
- 36-72VDC Nominal Input Voltage
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- On board E2PROM for PS H/W configuration

Description	Ordercode
CPCI-DC-3U-200 (Horizontal Overlay)	**925-4004122**
CPCI-DC-3U-200 (Vertical Overlay)	**925-4004128**

CompactPCI 3U 8HP 200 WATT 48VDC POWER SUPPLY

INPUT	AC Input Voltage	
	DC Input Voltage	36 - 72 VDC
	Input Frequency Range	
	Input Inrush Current	20A Max
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	83% @ 48VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current	+5VDC / 25A
	V2/Current	+3.3VDC / 36A
	V3/Current	+12VDC / 3A
	V4/Current	-12VDC / 0.5A
	Total Output Power	200W with 250LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot) V1/V2	+/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

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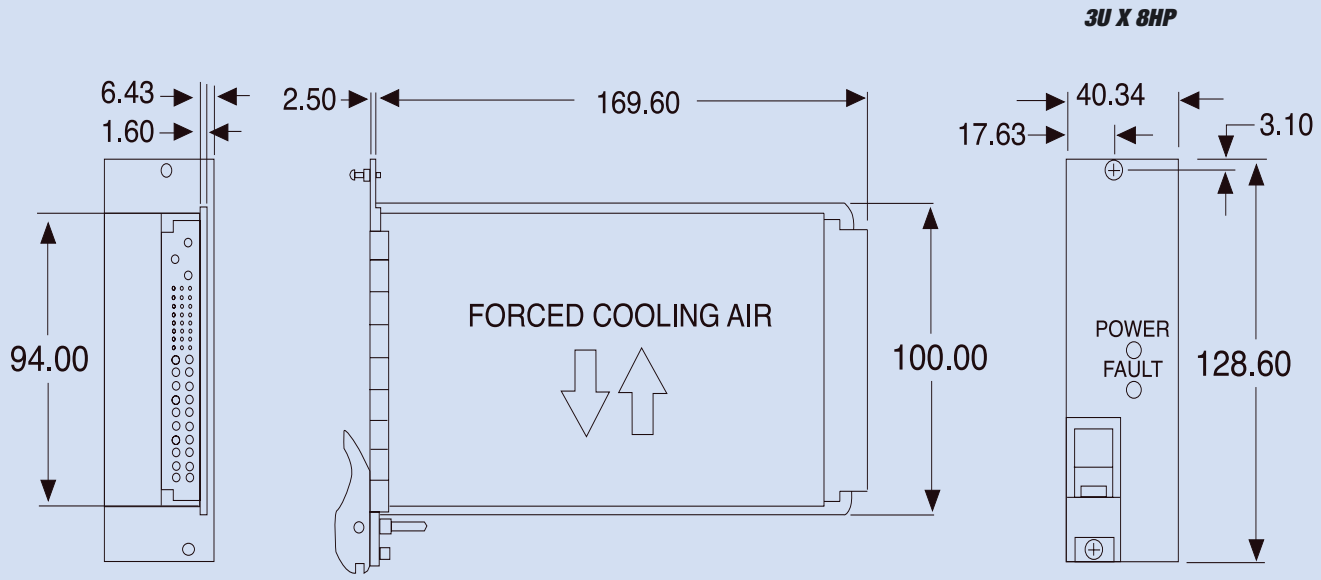

*FOR CONNECTOR PINNING PLEASE REFER TO APPLICATION NOTE 139-4003730

ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration Storage:	EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
	Transportation class 2.3,	EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Yes for Pre-Programmed Static Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green LED	Outputs OK
	Front Panel Red LED	Outputs Failure
MECHANICAL DIMENSIONS	Size	3U High 8HP wide 169.6mm Deep
	Weight	0.8KG

CompactPCI 3U 8HP 200 WATT 24VDC POWER SUPPLY

FEATURES

- 200W output power
- Efficiency - better than 78%
- 18-36VDC Nominal Input Voltage
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- On board E2PROM for PS H/W configuration

Description	Ordercode
CPCI-DC-3U-200/24 (Horizontal Overlay)	**925-4004123**
CPCI-DC-3U-200/24 (Vertical Overlay)	**925-4004129**

CompactPCI 3U 8HP 200 WATT 24VDC POWER SUPPLY

INPUT	AC Input Voltage	
	DC Input Voltage	18 - 36 VDC
	Input Frequency Range	
	Input Inrush Current	20A Max
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	82% @ 24VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current +5VDC / 25A	
	V2/Current	+3.3VDC / 36A
	V3/Current	+12VDC / 3A
	V4/Current	-12VDC / 0.5A
	Total Output Power 200W with 250LFM	
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot) V1/V2	+/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

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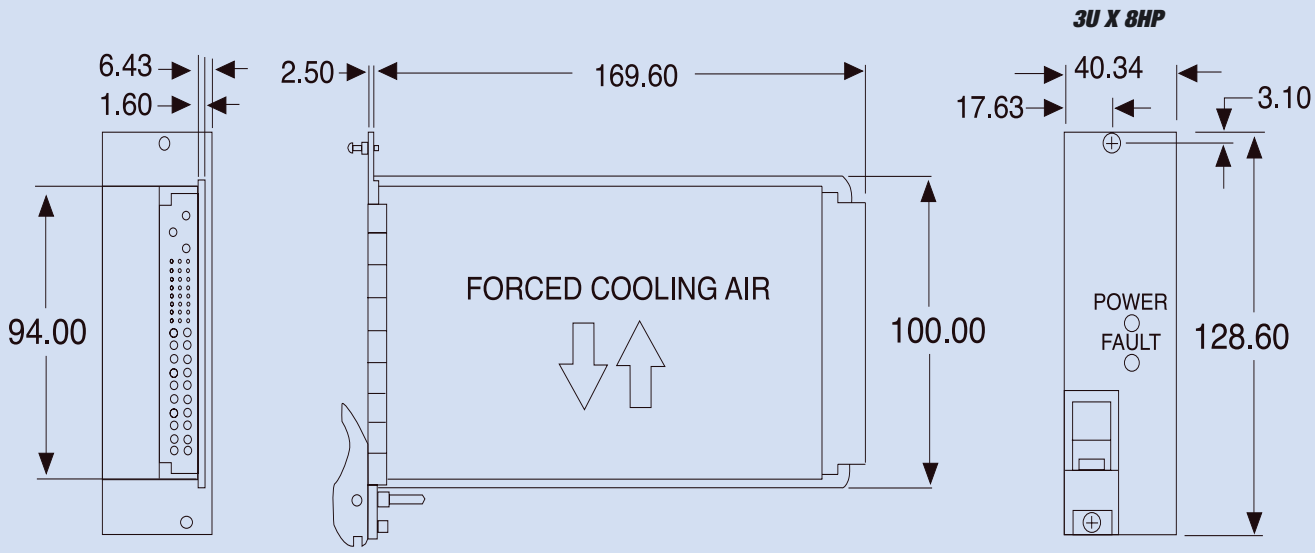

*FOR CONNECTOR PINNING PLEASE REFER TO APPLICATION NOTE 139-4003730

ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2 Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, UL1604, cUL & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Yes for Pre-Programmed Static Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	3U High 8HP wide 169.6mm Deep
	Weight	0.8KG .

CompactPCI 3U 8HP 300 WATT AC POWER SUPPLY

FEATURES

- 300W output power
- Efficiency - better than 81% @ High line
- 85-264VAC Wide-Range Input with Unity PFC
- Operation Temp. -5ºC to +55 ºC – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- On board E2PROM for PS H/W configuration

Description	Ordercode
CPCI-AC-3U-300 (Horizontal Overlay)	**925-4004124**
CPCI-AC-3U-300 (Vertical Overlay)	**925-4004130**

CompactPCI 3U 8HP 300 WATT AC POWER SUPPLY

INPUT	AC Input Voltage	85-264VAC Wide Range
	DC Input Voltage	
	Input Frequency Range	47 - 63 Hz (400Hz Option)
	Input Inrush Current	Cold Start 16A @ 110VAC & 60A @ 230VAC
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	EN 61000-2-3 >0.95
	Efficiency @ 230VAC Full Load	81%Typical
	Efficiency @ 115VAC Full Load	79% Typical
	Efficiency @ 48/24VDC Full Load	
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	20mSec @ Full Load
OUTPUT	V1/Current	+5VDC / 30A
	V2/Current	+3.3VDC / 40A
	V3/Current	+12VDC /5A
	V4/Current	-12VDC /1A
	Total Output Power	300W with 250LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	2Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot) V1/V2	+/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output Recovers
		to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

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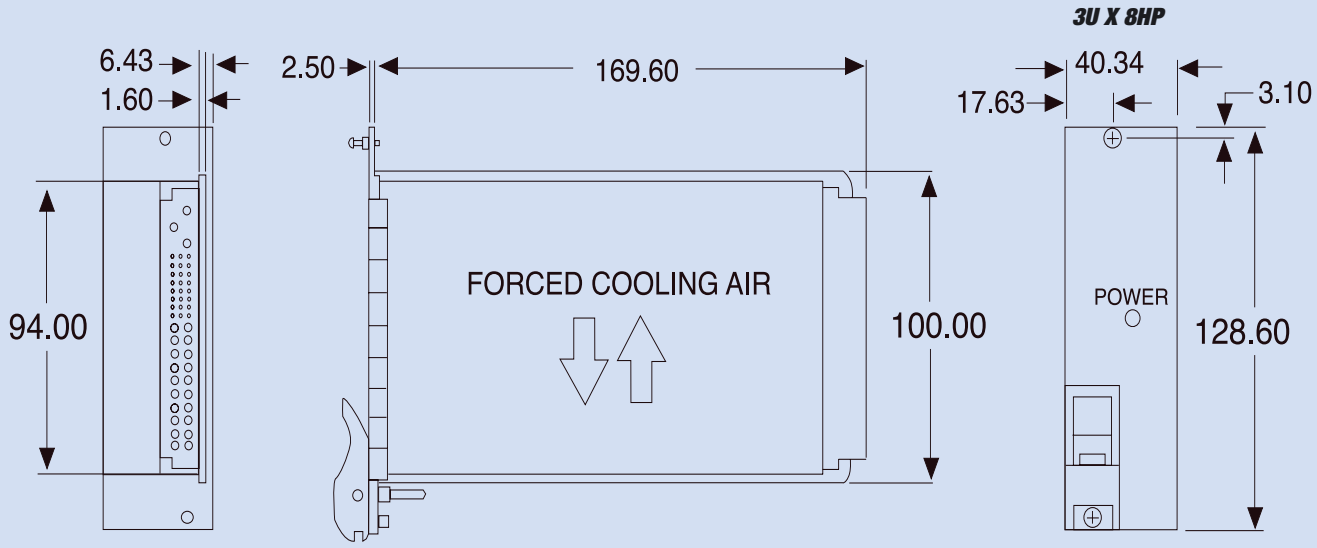


*FOR CONNECTOR PINNING PLEASE REFER TO APPLICATION NOTE 139-4003730

ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration Storage:	EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2 Transportation
		class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vrms
	Input to Output	3000Vrms
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	Designed to comply with UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	4200VDC Input to Output, 2121VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	EN61000-4-5 1Kv L-L 2Kv L-Gnd
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	EN61000-4-11
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Yes for Pre-Programmed Static Parameters
	LED Indications:	One Bi-Color
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	3U High 8HP wide 169.6mm Deep
	Weight	0.8KG

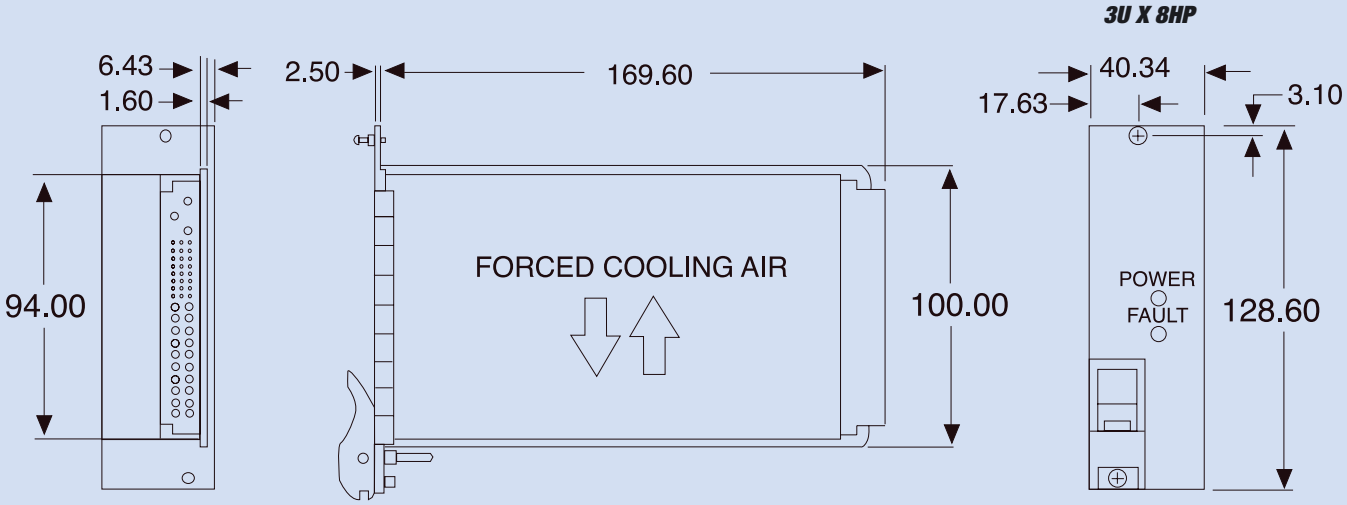
FEATURES

- 300W output power
- Efficiency - better than 83%
- 36-72VDC Nominal Input Voltage
- Operation Temp. -5ºC to +55 ºC – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- On board E2PROM for PS H/W configuration

Description	Ordercode
CPCI-DC-3U-300 (Horizontal Overlay)	**925-4004125**
CPCI-DC-3U-300 (Vertical Overlay)	**925-4004131**

CompactPCI 3U 8HP 300 WATT 48VDC POWER SUPPLY

INPUT	AC Input Voltage	
	DC Input Voltage	36 - 72 VDC
	Input Frequency Range	
	Input Inrush Current	20A Max
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	83% @ 48VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current	+5VDC / 30A
	V2/Current	+3.3VDC / 40A
	V3/Current	+12VDC /5A
	V4/Current	-12VDC /1A
	Total Output Power	300W with 250LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot) V1/V2	+/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share Single Wire -	on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery



*FOR CONNECTOR PINNING PLEASE REFER TO APPLICATION NOTE 139-4003730

ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
	Transportation	class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated	Emission EN55022 Class B and EN-61000. Measured with input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Yes for Pre-Programmed Static Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	3U High 8HP wide 169.6mm Deep
	Weight	0.8KG

CompactPCI 3U 8HP 300 WATT 24VDC POWER SUPPLY

FEATURES

- 300W output power
- Efficiency - better than 78%
- 18-36VDC Nominal Input Voltage
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- On board E2PROM for PS H/W configuration

Description	Ordercode
CPCI-DC-3U-300/24 (Horizontal Overlay)	**925-4004126**
CPCI-DC-3U-300/24 (Vertical Overlay)	**925-4004132**

CompactPCI 3U 8HP 300 WATT 24VDC POWER SUPPLY

INPUT	AC Input Voltage	
	DC Input Voltage	18 - 36 VDC
	Input Frequency Range	
	Input Inrush Current	20A Max
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	82% @ 24VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current	+5VDC / 25A
	V2/Current	+3.3VDC / 36A
	V3/Current	+12VDC / 5A
	V4/Current	-12VDC / 0.5A
	Total Output Power	300W with 250LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot) V1/V2	+/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share Single Wire -	on V1 & V2
	Remote Sense (Open sense lines protected) On	+5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
	Recovers to 1% in Less than 0.5mSec.	
	Over-Voltage	Protection 110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	150% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

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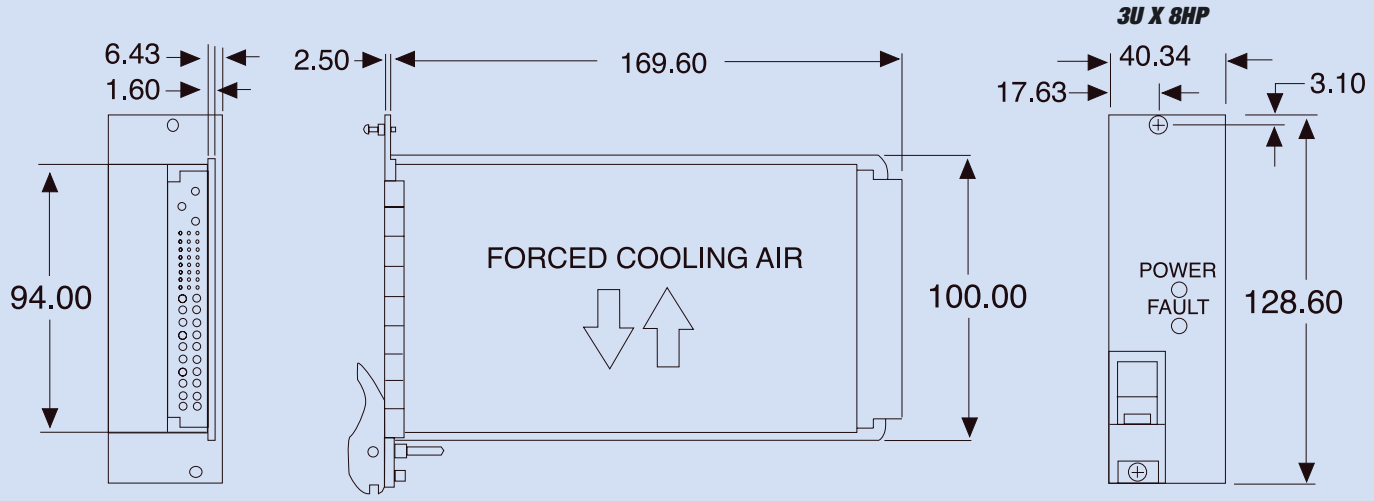


*FOR CONNECTOR PINNING PLEASE REFER TO APPLICATION NOTE 139-4003730

ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2 Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	Designed to meet UL60950, EN60950, UL1604, cUL & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Yes for Pre-Programmed Static Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	3U High 8HP wide 169.6mm Deep
	Weight	0.8KG

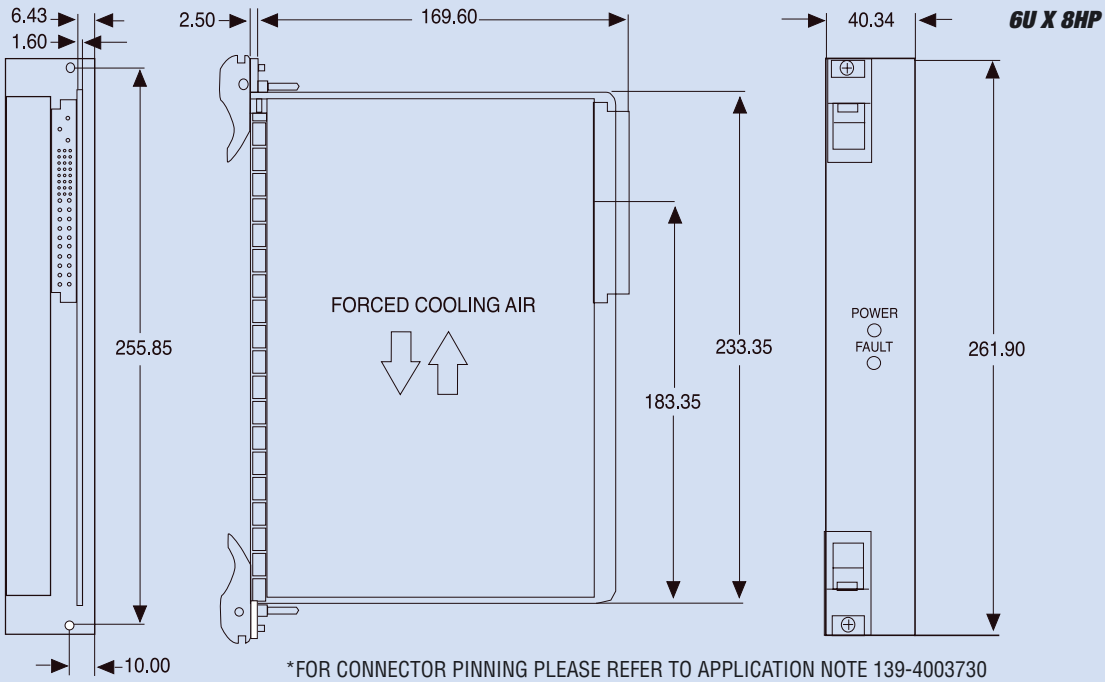
FEATURES

- 350W output power
- Efficiency - better than 79%
- 18-36VDC Nominal Input Voltage
- Operation Temp. -5ºC to +55 ºC – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- I2C Data Bus (optional) for PSU Hardware configuration

Description	Ordercode
CPCI-DC-6U-350/24 (Vertical Overlay)	**925-4004135**

CompactPCI 6U 8HP 350 WATT 24VDC POWER SUPPLY

INPUT	AC Input Voltage	
	DC Input Voltage	18 - 36 VDC
	Input Frequency Range	
	Input Inrush Current	20AMax.
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	79% @ 24VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current	+5VDC /50A
	V2/Current	+3.3VDC / 60A
	V3/Current	+12VDC / 7.5A
	V4/Current	-12VDC / 1.5A
	Total Output Power	350W with 250LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at	Turn-On Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot)	V1/V2 +/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share Single Wire -	on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery



ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
		Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL pending & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Optional - Static and Dynamic Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	6U High 8HP wide 169.6mm
	Weight	1.8KG

CompactPCI 6U 8HP 400 WATT AC POWER SUPPLY

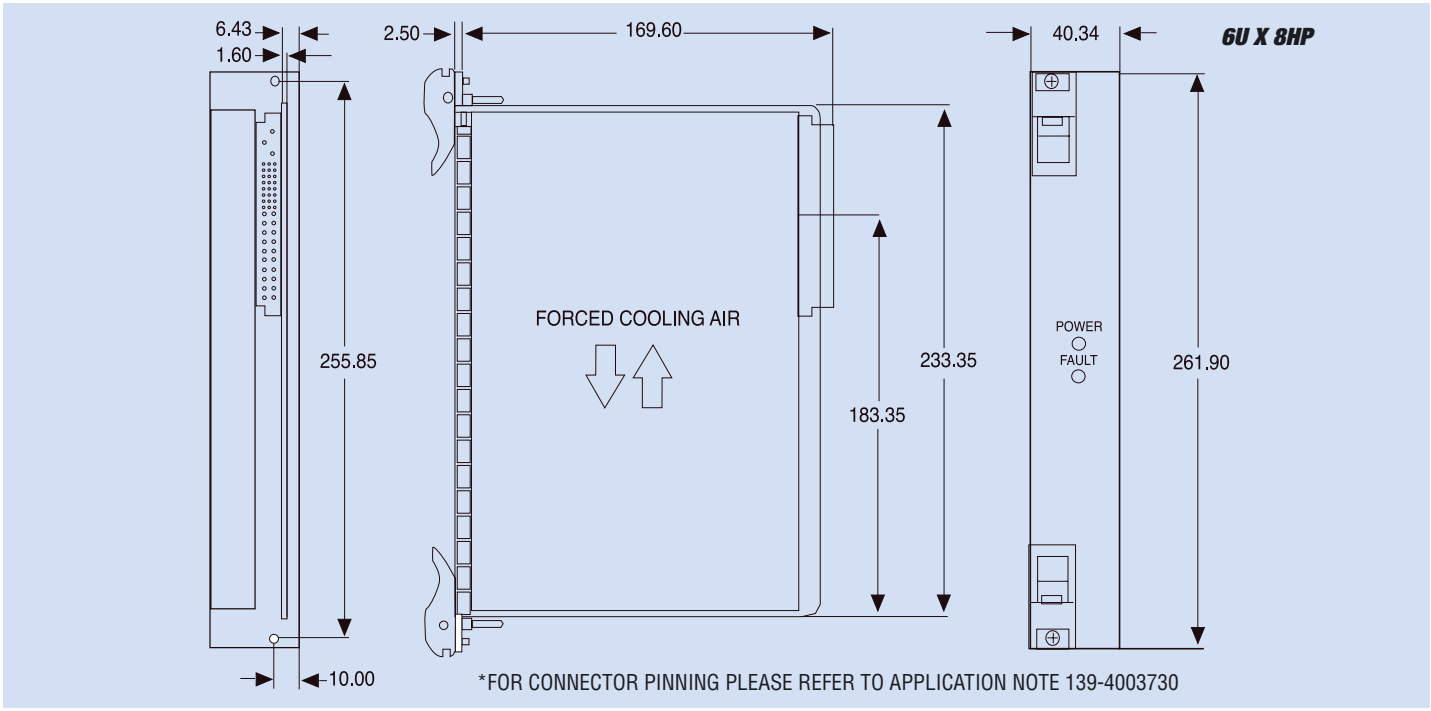
FEATURES

- 400W output power
- Efficiency - better than 81% @ High line
- 85-264VAC Wide-Range Input with Unity PFC
- Operation Temp. -5ºC to +55 ºC – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- I2C Data Bus (optional) for PSU Hardware configuration

Description	Ordercode
CPCI-AC-6U-400 (Vertical Overlay)	**925-4004133**

CompactPCI 6U 8HP 400 WATT AC POWER SUPPLY

INPUT	AC Input Voltage	85 - 264 VRMS
	DC Input Voltage	
	Input Frequency Range	47 - 63 Hz (400Hz Option)
	Input Inrush Current	Cold Start 30A @ 110VAC & 60A @ 230VAC
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	EN 61000-2-3 >0.95
	Efficiency @ 230VAC	Full Load 81%Typical
	Efficiency @ 115VAC	Full Load 79% Typical
	Efficiency @ 48/24VDC	Full Load
	Input Line Protection Non-User Serviceable Fuse	
	Hold-up Time	16mSec @ Full Load
OUTPUT	V1/Current	+5VDC /50A
	V2/Current	+3.3VDC / 80A
	V3/Current	+12VDC / 7.5A
	V4/Current	-12VDC / 1.5A
	Total Output Power	400W with 250LFM (500W With 400LFM - Safety Pending)
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	2Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot)	V1/V2 +/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
	Recovers to 1% in	Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery



ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
		Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vrms
	Input to Output	3000Vrms
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	4200VDC Input to Output, 2121VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst EN61000-4-4 1Kv	
	Input Surge	EN61000-4-5 1Kv L-L 2Kv L-Gnd
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	EN61000-4-11
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Optional - Static and Dynamic Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	6U High 8HP wide 169.6mm Deep
	Weight	1.8KG

FEATURES

- 400W output power
- Efficiency - better than 83%
- 36-72VDC Nominal Input Voltage
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- I2C Data Bus (optional) for PSU Hardware configuration

CompactPCI 6U 8HP 400 WATT 48VDC POWER SUPPLY

Description	Ordercode
CPCI-DC-6U-400 (Vertical Overlay)	**925-4004134**

INPUT	AC Input Voltage	
	DC Input Voltage	36 - 72 VDC
	Input Frequency Range	
	Input Inrush Current	20AMax.
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	83% @ 48VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current +5VDC /50A	
	V2/Current	+3.3VDC / 80A
	V3/Current	+12VDC / 7.5A
	V4/Current	-12VDC / 1.5A
	Total Output Power	400W with 250LFM (500W With 400LFM - Safety Pending)
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement No	
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot)	V1/V2 +/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap Yes	
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection Available On All Outputs	
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

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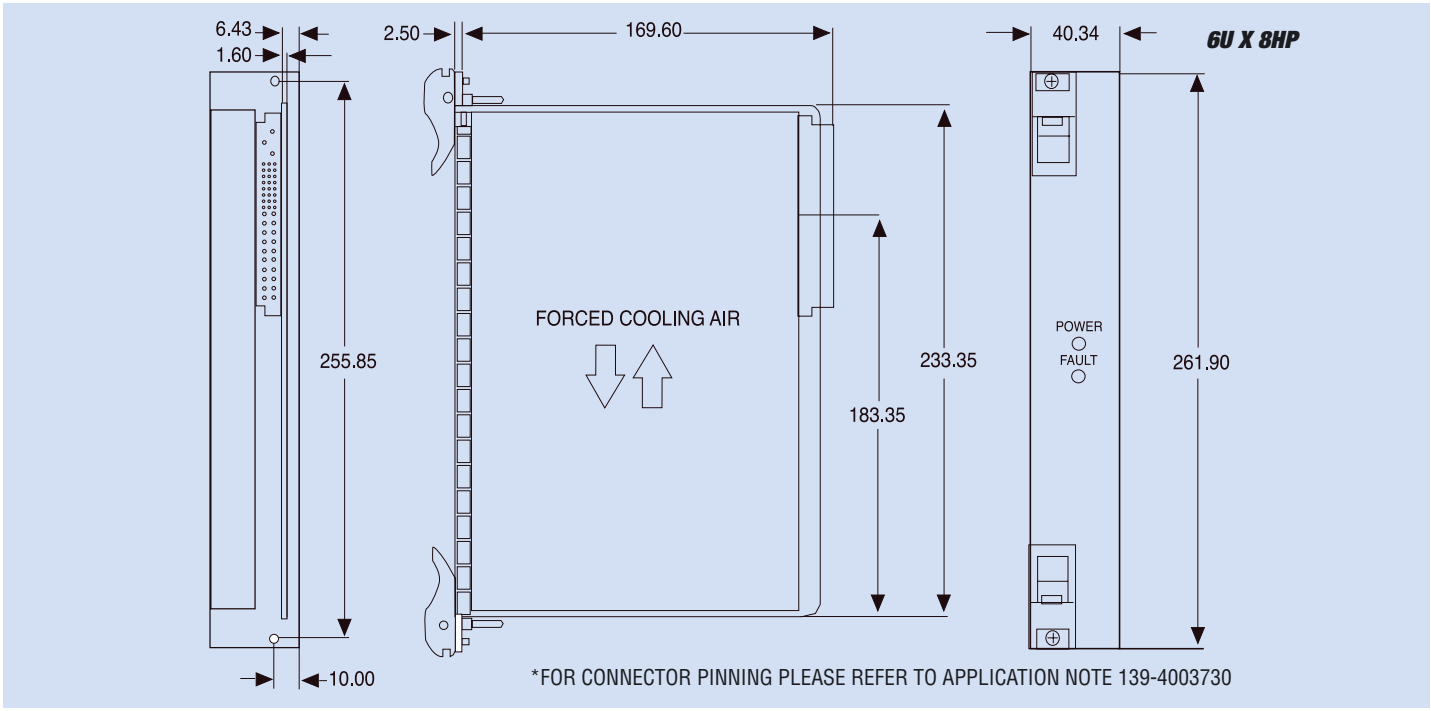


ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
		Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Optional - Static and Dynamic Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	6U High 8HP wide 169.6mm Deep
	Weight	1.8KG

CompactPCI 6U 8HP 500 WATT AC POWER SUPPLY

FEATURES

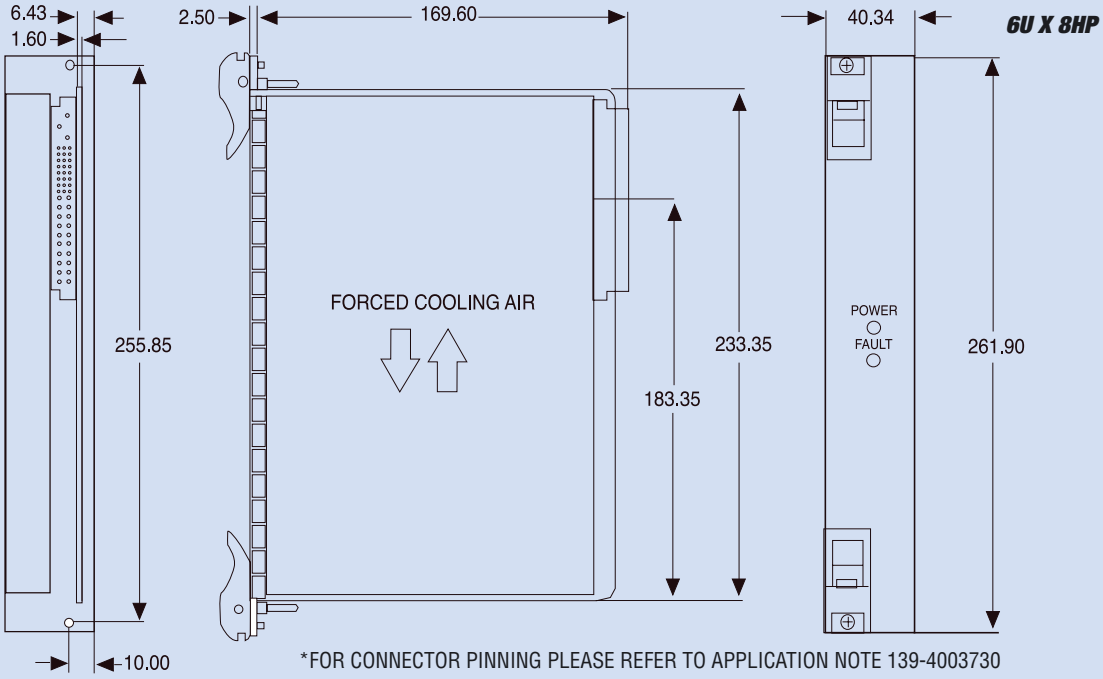
- 500W output power
- Efficiency - better than 81% @ High line
- 85-264VAC Wide-Range Input with Unity PFC
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- I2C Data Bus (optional) for PSU Hardware configuration

CompactPCI 6U 8HP 500 WATT AC POWER SUPPLY

Description	Ordercode
CPCI-AC-6U-500 (Vertical Overlay)	**925-4004136**

INPUT	AC Input Voltage	85 - 264 VRMS
	DC Input Voltage	
	Input Frequency Range	47 - 63 Hz (400Hz Option)
	Input Inrush Current	Cold Start 35A @ 110VAC & 65A @ 230VAC
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	EN 61000-2-3 >0.95
	Efficiency @ 230VAC Full Load	81%Typical
	Efficiency @ 115VAC Full Load	79% Typical
	Efficiency @ 48/24VDC Full Load	
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	20mSec @ Full Load
OUTPUT	V1/Current	+5VDC /65A
	V2/Current	+3.3VDC / 80A
	V3/Current	+12VDC / 12A
	V4/Current	-12VDC / 1.5A
	Total Output Power	500W With 400LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at	Turn-On Less than 1%
	Turn-On Delay	2Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot)	V1/V2 +/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% inLess than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection Excess	Temp will Shut Down the Unit - with Auto recovery

VEROTEC Electronics Packaging
UK☎ Tel: +44 (0)2380-246900 sales@verotec.co.uk
USA ☎ Tel: 603.821.9921 sales@verotec.us



ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration Storage:	EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
	Transportation class 2.3,	EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vrms
	Input to Output	3000Vrms
	Output to Case	100Vdc
	MTBF >	400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Safety Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	4200VDC Input to Output, 2121VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	EN61000-4-5 1Kv L-L 2Kv L-Gnd
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	EN61000-4-11
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Optional - Static and Dynamic Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size 6U	High 8HP wide 169.6mm Deep
	Weight	1.8KG

FEATURES

- 500W output power
- Efficiency - better than 83%
- 36-72VDC Nominal Input Voltage
- Operation Temp. -5°C to +55 °C – No De-rating
- "Hot-Swap" Active Current share on V1 & V2
- N+1 Full redundancy operation
- No Minimum loading requirement
- Standard PICMG® 47Pin Connector
- IEEE 1101.10 compliant form factor
- Safety Per UL CSA & CE Marking
- Meets FCC-68 Part 15 Class-B & EN-55022 Class-B with external line filter
- I2C Data Bus (optional) for PSU Hardware configuration

CompactPCI 6U 8HP 500 WATT 48VDC POWER SUPPLY

Description	Ordercode
CPCI-DC-6U-500 (Vertical Overlay)	**925-4004137**

INPUT	AC Input Voltage	
	DC Input Voltage	36 - 72 VDC
	Input Frequency Range	
	Input Inrush Current	65A max @ 48VDC
	Input Reflected Ripple	FCC-68 part 15 & EN55022 Class B with the use of an external line filter
	Active Power Factor Correction	
	Efficiency @ 230VAC Full Load	
	Efficiency @ 115VAC Full Load	
	Efficiency @ 48/24VDC Full Load	83% @ 48VDC
	Input Line Protection	Non-User Serviceable Fuse
	Hold-up Time	
OUTPUT	V1/Current	+5VDC /65A
	V2/Current	+3.3VDC / 80A
	V3/Current	+12VDC / 12A
	V4/Current	-12VDC / 1.5A
	Total Output Power	500W With 400LFM
	Line Regulation	+/- 0.5%
	Load Regulation	
	V1&V2	+/- 1%
	V3&V4	+/- 5%
	Min. Load Requirement	No
	Overshoot/Undershoot at Turn-On	Less than 1%
	Turn-On Delay	1Sec Max.
	Initial Setting Accuracy	+/- 0.4% for V1 & V2 +/- 2% for V3 & V4
	Voltage Set point (Internal trim-pot)	V1/V2 +/- 5%
	Ripple @ Noise with 20MHz Bandwidth measured across 10uF Load Capacitor Paralleled with 0.1uF Ceramic Cap.	
	+5VDC	60mV p-p
	+3.3VDC	60mV p-p
	+/- 12VDC	120mV p-p
	Hot-Swap	Yes
	Current Share	Single Wire - on V1 & V2
	Remote Sense (Open sense lines protected)	On +5VDC & +3.3VDC
	Long Term Stability	0.1% over 10 Hours after 10min. Warm Up
	Transient Response	For a step Load of 50%max Load peak transient < 5%. & output
		Recovers to 1% in Less than 0.5mSec.
	Over-Voltage Protection	110% - 125% of V1,V2 & V3 with Latched Shut Down
	Overload Protection	
	V1 & V2	125% Max.
	V3	200% Max.
	V4	250% Max.
	Short Circuit Protection	Available On All Outputs
	Temperature Protection	Excess Temp will Shut Down the Unit - with Auto recovery

30 TO 120 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES WITH ONE OUTPUT IN 3U EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

FEATURES

- Compact rugged design in stable aluminium cassette
- High regulation accuracy
- Remote On/Off and Powerfail signal
- SENSE-operation and Overvoltage protection (OVP)
- PK60-R for redundant operation
- Convection cooling
- CE marked for compliance to EMC and Low Voltage Directives
- Safety according to EN60950, UL, cUL
- VERO standardised pinning
- 24 months warranty

SPECIFICATION

Input Data	
Input voltage (switchable)	115 / 230VAC
Input frequency	47-63Hz
Inrush surge current limit	by NTC
Input voltage spike limit	by VDR
Hold-up time	>20 msec (at nominal values) typ. > 80%
Efficiency	
Safety: CE marking according to	
low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	Clear anodised aluminium cassette with cooling cutouts

PK Monovolt Series

ORDER INFORMATION

MONOVOLT PK30: 30Watt			
Type	**output**	**without Powerfail**	**with Powerfail**
PK30 3HEx8TE	5V/6A	**116-010016D***	—
PK30 3HEx8TE	12-15V/2A	**116-010215H**	—
PK30 3HEx8TE	24V/1,5A	**116-010216E**	—
MONOVOLT PK60 und PK60-R = N+1 redundant: 60Watt			
PK60 3HEx8TE	3,3V/15A	**116-010196L**	—
PK60 3HEx8TE	5V/12A	**116-010063D***	**116-010074H***
PK60 3HEx8TE	12V/5A	**116-010064A***	—
PK60 3HEx8TE	15V/4A	**116-010065J***	—
PK60 3HEx8TE	24V/2,5A	**116-010066F***	**116-010077K***
PK60-R 3HEx8TE	5V/12A	**116-010128L***	—
PK60-R 3HEx8TE	12V/5A	**116-010219G***	—
PK60-R 3HEx8TE	15V/4A	**116-010220H***	—
PK60-R 3HEx8TE	24V/2,5A	**116-010129H***	—

* EN60950, UL und cUL zertifi ziert - certified

MONOVOLT PK 120: 120Watt			
Type	**output**	**without Powerfail**	**with Powerfail**
PK120 3HEx14TE	5V/20A	**116-010069H**	**116-010081B**
PK120 3HEx14TE	12V/10A	**116-010070J**	**116-010082K**
PK120 3HEx14TE	15V/8A	**116-010071F**	—
PK120 3HEx14TE	24V/5A	**116-010072C**	**116-010084D**
Accessoires			
reduced height front panel: PK30			**148-011002D**
reduced height front panel: PK60			**148-010021E**
reduced height front panel: PK120			**148-010019G**
DIN 41612 - mating connector			**017-010115K**
coding keys :pack10			**017-010064F**

TECHNICAL DATA

MONO PK30 30W Single output	V1	V1	V1
Output voltage	5V	12V	24V
Adjustment range	4,85–5,5V	12–15V	22–26V
Output nominal current	6A	2,5A	1,5A
Ripple at full load	<40m$_{VPP}$	<20m$_{VPP}$	<20m$_{VPP}$
Line regulation (100% IOUT)	<0,2%	<0,02%	<0,02%
Load regulation static (10...90%IOUT)	<0,2%	<0,5%	<0,5%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms
Output current limit	>6,5A	>2,6A	>1,5A
Short circuit protection	continously, automatic restart		
Overvoltage protection (OVP)	6-6,7V	—	—
Powerfail signal (at full load >6ms)	—	—	—
Temperature coefficient	0,02%/°C	0,02%/°C	0,02%/°C
Output regulation with sense	0,5V max.	0,5V max.	0,5V max.
Derating	1W/°C ab 55°C	—	1W/°C above 55°C

TECHNICAL DATA

MONO PK60 60W Single output	V1	V1	V1	V1	V1
Output voltage	3,3V	5V	12V	15V	24V
Adjustment range	1,8-3,5V	4,5-5,5V	11-13V	13,5-16,5V	22-26V
Output nominal current	15A	12A	5A	4A	2,5A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Line regulation (100% IOUT)	<0,3%	<0,3%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,8ms	<0,5ms	<0,5ms	<0,5ms	<1ms
vOutput current limit	>15,5A	>12,5A	>5,3A	>4,3A	>2,7A
Short circuit protection	continously, automatic restart				
Overvoltage protection (OVP) adjustable	2,8-5,0V	5,5-6,0V	13,2-15V	16,5-18V	26,4-30V
Powerfail signal (at full load >6ms)	—	V1<4,8V	—	—	V1<23V
Temperature coefficient	0,02%/°C	0,02%/°C	0,02%/°C	0,02%/°C	0,02%/°C
Output regulation with sense max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	1,6W/°C ab 45°C - 1,6W/°C above 45°C				

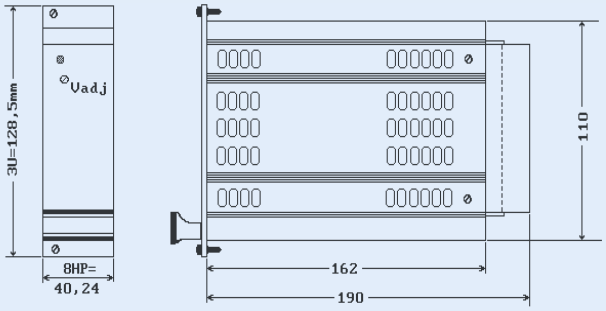
MONO PK60-R FOR N+1 REDUNDANT SYSTEMS

60W Single output redundant	V1	V1	V1	V1
Output voltage (fix)	5V±1%	12V±1%	15V±1%	24V±1%
Output nominal current	12A	5A	4A	2,5A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Output current limit	>12,5A	>5,3A	>4,3A	>2,7A
Short circuit protection	continously, automatic restart			
Overvoltage protection (OVP)	6,0-6,7V	13,2-15V	16,5-18V	27-29V
DC-FAIL signal	at unit failure (open collector, 20mA, <0,4V)			
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms
Temperature coefficient	0,02%/°C	0,02%/°C	0,02%/°C	0,02%/°C
Current share with ASF signal: ±5% @ IOUT	>2,4A	>1,0A	>0,8A	>0,5A
Output regulation with sense max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	2W/°C ab 55°C - 2W/°C above 55°C			

TECHNICAL DATA

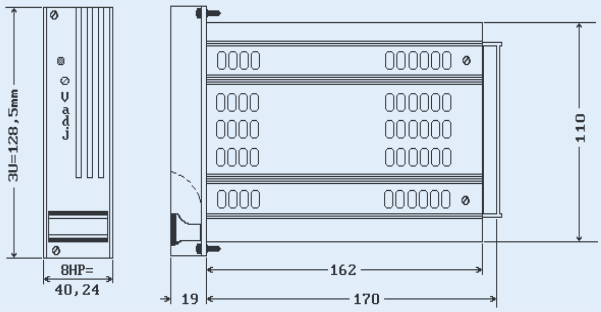
MONO PK120 120W Single output	V1	V1	V1	V1
Output voltage	5V	12V	15V	24V
Adjustment range	4,5-5,5V	10,8-13,2V	13,5-16,5V	21,6-26,4V
Output nominal current	20A	10A	8A	5A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,5ms	<0,5ms	<0,5ms	<0,5ms
Output current limit	>22A	>11A	>8,8A	>5,5A
Short circuit protection	continously, automatic restart			
Overvoltage protection (OVP) adjustable	5,0-7,0V	12-16,5V	15-21V	27-29V
Powerfail signal (at full load >6ms)	>4,8V	>11,5V	>14,4V	>23,0V
Temperature coefficient	0,02%/°C	0,02%/°C	0,02%/°C	0,02%/°C
Output regulation with sense	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	2,4W/°C ab 55°C - 2,4W/°C above 55°C			

PK30, PK60

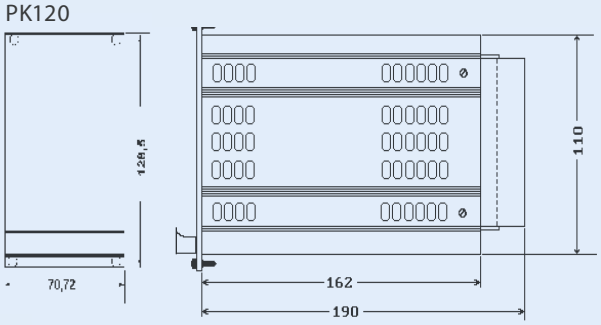


PK30, PK60, PK60R 850g

PK 60-R

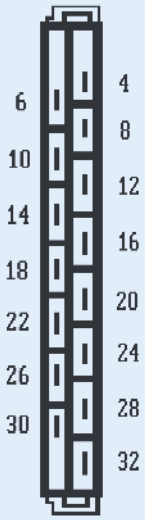


PK120



PK120 1350g

H15 connector



PIN	Function			
	PK30	PK60	PK60-R	PK120
4	+Vout	+Vout	+Vout	+Vout
6	+Vout	+Vout	+Vout	+Vout
8	-Vout	-Vout	-Vout	-Vout
10	-Vout	-Vout	-Vout	-Vout
12*	+SENSE	+SENSE	+SENSE	+SENSE
14*	-SENSE	-SENSE	-SENSE	-SENSE
16*	—	Ext I/O+	—	Ext I/O+
18	—	PF Q	DC FAIL/	PF Q
20	—	—	ASF	—
22	—	PF Q/	—	PF Q/
24	—	Ext I/O-	—	Ext I/O-
26	—	—	—	—
28	N	N	N	N
30	L	L	L	L
32	PE	PE	PE	PE

* Sense lines must be connected. For maximum compensation for supply lead voltage drop they should be connected as close to the load as possible

30 TO 60 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES WITH TWO OUTPUTS IN 3U/8HP EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

PK Bivolt Series

FEATURES:

- High regulation accuracy
- All voltages individually adjustable
- Compact rugged design in stable aluminium cassette
- EN60950, UL, and cUL approvals
- CE marked for compliance to EMC and Low Voltage Directives
- Overvoltage protection (OVP)
- No-load and short circuit proof
- Coded H15 connector
- VERO standardised pinning
- 24 months warranty

SPECIFICATION

INPUT SPECIFICATION

Input Data	
Input voltage (switchable)	94—253 VAC
Input frequency	47-63Hz
Inrush surge current limit	NTC ; by NTC
Input voltage spike limit	VDR; by VDR
Hold-up time	>20 msec (at nominal values)
Efficiency	typ. > 80%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	Clear anodised aluminium cassette with cooling cutouts

ORDER INFORMATION

BIVOLT PK30: 30 Watt			
Type	**Size**	**Output**	**Order-Code**
PK30	3HE x 8TE	±12 - 15V/1A	**116-010015G (1)**

BIVOLT PK60: 60 Watt			
PK60-A	3HE x 8TE	±12-15V/2A	**116-010022A (2)**
PK60-B	3HE x 8TE	5V/6A;12-15V/2A	**116-010024F (2)**
PK60-C	3HE x 8TE	5V/6A ; 24V/1,5A	**116-010025C (2)**
PK60-D	3HE x 8TE	12-15V/2A ; 24V/1,5A	**116-010080E (2)**

Accessoires	
reduced height frontpannel (PK30)	**148-011002D**
reduced height frontpannel (PK60)	**148-010011J**
DIN 41612 - mating connector	**017-010115K**
coding keys pack 10	**017-010064F**

(1) EN60950 and UL certified
(2) EN60950 certified

TECHNICAL DATA BIVOLT PK SERIES

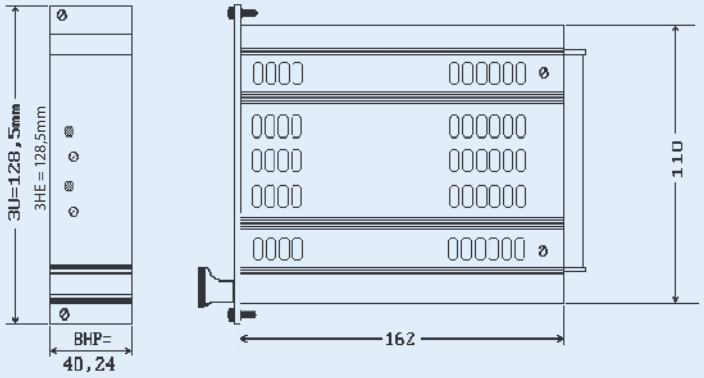
BIVOLT PK30 30W Dual output	V1, V2
Output voltage	±12 – 15V
Output nominal current	1A
Ripple at full load	<3mVPP
Line regulation (100% IOUT)	<0,02%
Load regulation static (10...90%IOUT)	<0,5%
Response time (10...90%IOUT)	<10 µs
Output current limit	>1,1A
Short circuit protection	continously, automatic restart
Temperature coefficient	0,02%/°C
Derating	1W/°C ab 55°C - 1W/°C above 55°C

	PK60 A	PK60 B		PK60 C		PK60 D	
BIVOLT PK60 60W Dual output	V1, V2	V1	V2	V1	V2	V1	V2
Output voltage	±12-15V	5V	12-15V	5V	24V	12-15V	24V
Adjustment range	±12-15V	4,5-5,5V	12-15V	4,5-5,5V	22-26V	12-15V	22-26V
Output nominal current	2A, 2A	6A	2A	6A	1,5A	2A	1,5A
Ripple at full load	<20m$_{VPP}$	<40m$_{VPP}$		<40m$_{VPP}$		<40m$_{VPP}$	
Line regulation (100% IOUT)	<0,2%	<0,2%		<0,2%		<0,2%	
Load regulation static (10...90%IOUT)	<0,5%	<0,2%	<0,5%	<0,2%	<0,5%	<0,5%	
Response time (10...90%IOUT)	<1ms	<1ms		<1ms		<1ms	
Output current limit	>2,2A	>6,5A	>2,2A	>6,5A	>1,5A	>2,2A	>1,5A
Short circuit protection	continously, automatic restart						
Overvoltage protection (OVP) fix	±16,5-19V	6-6,4V	16,5-19V	6-6,4V	26,4-31V	16,5-19V	26,4-31V
Powerfail signal (at full load >6ms)	>4,8V	>11,5V		>14,4V		>23,0V	
Temperature coefficient	0,02%/°C	0,02%/°C		0,02%/°C		0,02%/°C	
Output regulation with sense max.	—	0,5V max	—	0,5V max.	—	—	
Derating	1,6W/°C ab 55°C - 1,6W/°C above 55°C						

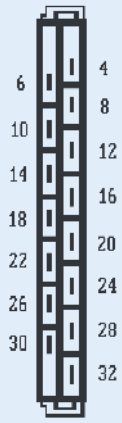
MECHANICAL DETAILS & CONNECTOR PINNING

PK30, PK60

PK30, PK60: 850 g



H15 connector



CONNECTOR PINNING

PIN	Function				
	PK30	PK60 A	PK60 B	PK60 C	PK60 D
4	—	—	+5V	+5V	+12-15V
6	—	—	+5V	+5V	+12-15V
8	—	—	GND 1	GND 1	GND 1
10	—	—	GND 1	GND 1	GND 1
12 *	—	—	+SENSE	+SENSE	—
14 *	—	—	–SENSE	–SENSE	—
16	—	—	—	—	—
18	+12-15V	+12-15V	—	—	—
20	GND	GND	+12-15V	+24V	+24V
22	-12-15V	-12-15V	GND 2	GND 2	GND2
24	—	—	—	—	—
26	—	—	—	—	—
28	N	N	N	N	N
30	L	L	L	L	L
32	PE	PE	PE	PE	PE

* Sense lines must be connected. For maximum compen sation for supply lead voltage drop they should be connected as close to the load as possible.

60 TO 120 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES WITH THREE OUTPUTS IN 3U EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

PK Trivolt Series

FEATURES:

- 3 high stability outputs, all adjustable
- Safety approvals to UL, cUL and EN60950
- CE marked for compliance to EMC and Low Voltage Directives
- SENSE operation (5V output)
- Overvoltage protection (OVP)
- Powerfail signal
- No-load and short circuit proof
- Coded H15 connector
- VERO standardised pinning
- 24 months warranty

SPECIFICATION

Input Data	
Input voltage (switchable)	110/230 VAC
Input frequency	47-63Hz
Inrush surge current limit	by NTC
Input voltage spike limit	by VDR
Hold-up time	>20 msec (at nominal values)
Efficiency	typ. > 75%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	Clear anodised aluminium cassette with cooling cutouts

ORDER INFORMATION

Trivolt PK60: 3HE x 8TE, 60 Watt				
Type	**Outputs**			
	V1	**V2**	**V3**	**Code**
PK60-A	5V/6A	+12-15V/1A	-12-15V/1A	**116-010018J (1)**
PK60-A PF	5V/6A	+12-15V/1A	-12-15V/1A	**116-010103A (2)**
PK60-B	5V/6A	+12-15V/2A	-12-15V/0,5A	**116-010101G (1)**
PK60-B PF	5V/6A	+12-15V/2A	-12-15V/0,5A	**116-010102D (2)**

Trivolt PK120: 3HE x 14TE, 120Watt				
PK120 3HE	5V/12A	+12-15V/2A	–12-15V/2A	**116-010046C (2)**
PK120 3HE PF	5V/12A	+12-15V/2A	-12-15V/2A	**116-010078G (2)**

PF = Powerfail-Signal
(1) EN60950 and UL certified
(2) EN60950 - certified

Accessoires	**Code**
reduced height front panel: PK60	**148-011000K**
reduced height front panel: PK120, 3HE	**148-010020H**
DIN 41612 - mating connector	**017-010115K**
coding keys pack 10	**017-010064F**

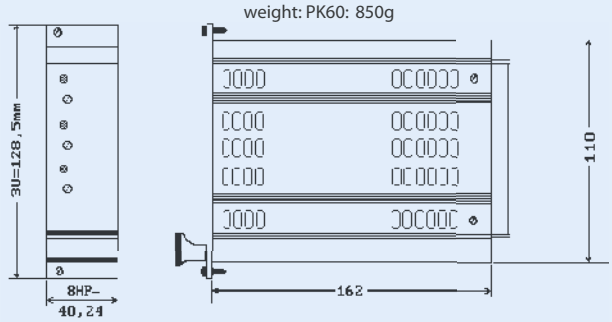
TECHNICAL DATA

	TRIVOLT PK60 A			TRIVOLT PK60 B		
TRI PK60 60W Triple output	**V1**	**V2**	**V3**	**V1**	**V2**	**V3**
Output voltage	5V	+12V	-12V	5V	+12V	-12V
Adjustment range	4,5-5,5V	+12–15V	-12–15V	4,5-5,5V	+12–15V	-12–15V
Output nominal current 1)	6A	1A	1A	6A	2A	0,5A
Ripple at full load	<40m$_{VPP}$	<3m$_{VPP}$	<3m$_{VPP}$	<40m$_{VPP}$	<3m$_{VPP}$	<3m$_{VPP}$
Output current limit	>6,5A	>1,1A	>1,1A	>6,5A	2,1A	>0,6A
Short circuit protection	continously, automatic restart					
Overvoltage protection (OVP) fix	6,0-6,7V	—	—	6,0-6,7V	—	—
Powerfail signal (at full load >6ms)	<4,8V	—	—	<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,02%	<0,02%	<0,2%	<0,02%	<0,02%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,5%	<0,5%	<0,5%
Response time (10...90%IOUT)	<1ms	<10µs	<10µs	<1ms	<10µs	<10µs
Temperature coefficient	0,02%/°C			0,02%/°C		
Output regulation with sense max.	0,5V	—	—	0,5V	—	—
Derating	1,6W/°C ab 55°C - 1,6W/°C above 55°C					

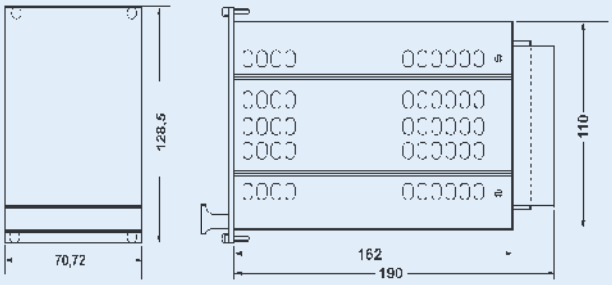
TRI PK120 120W Triple output	**V1**	**V2**	**V3**
Output voltage	5V	+12V	-12V
Adjustment range	4,5–5,5V	+12–15V	-12–15V
Output nominal current	12A	2A	2A
Ripple at full load	<40m$_{VPP}$	<20m$_{VPP}$	<20m$_{VPP}$
Line regulation (100% IOUT)	<0,2%	<0,02%	<0,02%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,2ms	<0,5ms	<0,5ms
Output current limit	>12,5A	>2,2A	>2,2A
Short circuit protection	continously, automatic restart		
Overvoltage protection (OVP)	+5,5-6,0V adjustable	+16,5-19V fix	-16,5-19V fix
Powerfail signal (at full load >6ms)	>4,8V	—	—
Temperaure coefficient	0,02%/°C	0,02%/°C	0,02%/°C
Output regulation with sense	0,5V max.	—	—
Derating	4W/°C ab 55°C - 4W/°C above 55°C		

MECHANICAL DETAILS & CONNECTOR PINNING

PK60

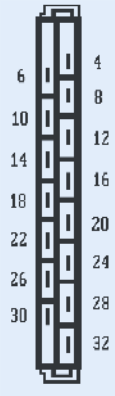


PK120



weight: PK120: 1350g

H15 Connector



PIN	Function	
	PK60	PK120
4	+5V	+5V
6	+5V	+5V
8	GND1	GND1
10	GND1	GND1
12*	+SENSE	+SENSE
14*	-SENSE	-SENSE
16	PF Q/	PF Q/
18	+12-15V	+12-15V
20	GND 2/3	GND 2/3
22	-12-15V	-12-15V
24	——	——
26	——	——
28	N	N
30	L	L
32	PE	PE

** Sense lines must be connected. For maximum compensation for supply lead voltage drop they should be connected as close to the load as possible.*

75 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLY WITH 3 OUTPUTSIN 3U EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

FEATURES:

- 3 high stable outputs, all individually adjustable
- Universal 115/230VAC input
- Two 12—15V linear outputs for currents up to 2A
- Overvoltage protection (OVP), sense operation
- Powerfail signal
- Compatible to Trivolt PK60, VP80-3 and EC50
- Coded H15 connector, VERO standardised pinning
- Stable aluminium extrusion cassette
- No projecting heatsink
- 24 months warranty

A 75W power supply as expansion of our PK Series, now with 115/230V universal input, with 3 outputs 5V/8A and ±12–15V in linear quality up to 2A load, all with LED and individually adjustable. 79% efficiency eliminates the need of projecting heatsinks. This unit replaces many different variants.

PK Trivolt Series

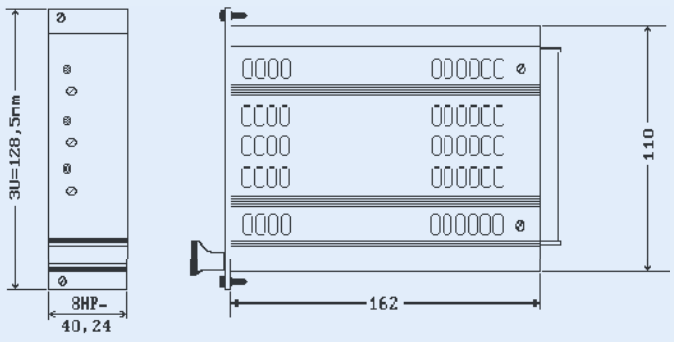
SPECIFICATION

Input Data	
Input voltage	94—253VAC
Hold-up time	>30 msec bei/at 230V, >10ms bei/ at 115V
Effi ciency at full load	typ. 79%
Power factor PFC	> 0,6
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950-1, UL60950-1
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated noise	EN 55022/B (0,15—30MHz; 30—1000MHz)
EMI immunity	EN 61000-6-2
Operating temperature	0°C...+70°C
Storage temperature	-25°C...+85°C
Relative humidity	5...95% without condensation
Case material / finish	Clear anodised aluminium cassette 3U/8HP

Type	Outputs	Ordercode
TRIVOLT PK75	5V/8A; +12V—15V/2A; -12V—15V/1A	**116-410018B**
PK75	Reduced height frontpanel PK75	**148-011000K**
DIN 41612	Mating connector coded to H15 to DIN 41612	**017-010115K**
Coding keys	(pack per 10)	**017-010064F**

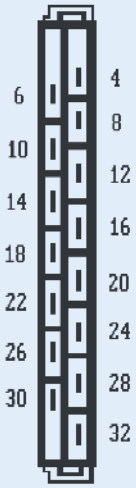
MECHANICAL DETAILS & CONNECTOR PINNING

PK75



weight: PK75: 850g

H15 connector



PIN	Function
	PK75
4	+5V
6	+5V
8	GND1
10	GND1
12*	+SENSE
14*	-SENSE
16	PF Q/
18	+12-15V
20	GND 2/3
22	-12-15V
24	——
26	——
28	N
30	L
32	PE

** Sense lines must be connected. For maximum compensation for supply lead voltage drop they should be connected as close to the load as possible.*

20 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES IN 3U/4HP MODULE FOR 19" SUBRACKS TO DIN 41494

FEATURES:

- Wide input range 94-253VAC
- Single DC output
- 5V, 12-15V & 24V output versions
- Compact 3Ux4HPx160mm form factor
- Short circuit protection
- CE marking (to EMC & LVD Directive)
- Power Fail Signal
- Safety certified to EN60950
- 24 month warranty

SPECIFICATION:

INPUT		
AC Input Voltage		93-253VAC, 47-63Hz
Efficiency at full load	VP20-1A	Typ.75%
	VP20-1B	Typ.77%
	VP20-1C	Typ.79%
Power factor		>0.6%
Output (see ordering information for power ratings)		
Ripple (full load)		20mVpp
REGULATION		
Line Regulation		0.1%
Load Regulation		0.1%
Transient Response		0.4mS
Voltage Stabilisation		0.5V max.
Protection and Control		
O/P Current Limit	VP20-1A	>4.2A
	VP20-1B	>1.5A
	VP20-1C	>0.85A
O/P Voltage Protection (OVP)	VP20-1A	5.85-6.25V
	VP20-1B	16.5-18V
	VP20-1C	16.5-18V
Short Circuit Protection		Yes
Input current limitation		By NTC resistor
Input voltage limitation		By VDR resistor
Hold-up time		60ms@230V, 10mS@115V
Powerfail signal		5v only, >5mS
SAFETY (CE-MARK ACCORDING LVD)		
Dielectric strength		EN60950-1
Protection Class I to VDE0100		Mating connector with leading earth pin
EMI (CE-MARK ACCORDING EMC-DIRECTIVE)		
Emission		EN55022/B (0.15-30MHz; 30-1000MHz)
Immunity		EN 61000-6-2
ESD		EN 61000-4-2
Burst		EN 61000-4-4
Surge		EN 61000-4-5
HF-Injection		EN 61000-4-6
Line voltage drops		EN 61000-4-11
ENVIRONMENTAL		
Operating Temperature		0-70 Deg.C
Derating		2.5%/Deg.C at 50 Deg.C
Storage Temperature		-25 Deg.C - +85 Deg.C
Relative Humidity		5-95%, non-condensing

VP20-1 AC/DC Power Supply

The VP20-1 is a primary switched mode plug-in power supply for 19" subrack systems according to DIN 41494 in a 3U/4HP cassette. The power supply is guided on left hand side. The electrical connection is via an H15 connector according to DIN 41612 in position 1.

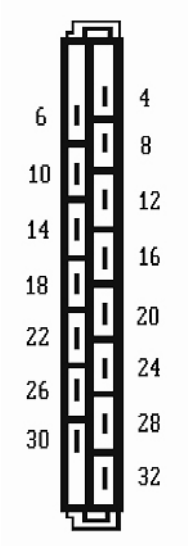
ORDERING INFORMATION:

Type	Output (adjustable)	Ordercode
VP20-1A	5V/4A	**116-040111**
VP20-1B	12-15V/1.4A	**116-040112**
VP20-1C	24V/0.8A	**116-040113**

ELECTRICAL CONNECTIONS (DIN 41612 H15 MALE CONNECTOR)

PIN FUNCTION

4	+V1
6	+V1
8	GND V1
10	GND V1
12	+SENSE
14	-SENSE
16	PF/*
18	NC
20	NC
22	NC
24	NC
26	NC
28	N
30	L
32	PE



Note: Sense lines must be connected

VP-Series: 40W AC/DC Power Supply

40 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES IN 3U/4HP/160MM MODULE FOR 19" SUBRACKS TO DIN 41494

FEATURES:

- Wide input range 94-253VAC
- Triple DC output
- 3 versions available (A, B & C)
- CE marking (to EMC & LVD Directive)
- With or without front panel
- Power Fail Signal
- Compact 3Ux4HPx160mm size
- Short circuit protection
- Safety certified to EN60950
- 24 month warranty

VP40-3 AC/DC Power Supply

ORDERING INFORMATION:

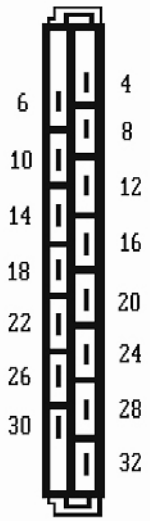
Type	Outputs (adjustable)	Ordercode (With front panel)	Ordercode (No front panel)
VP40-3A	5V/4A, +12-15V/0.6A, -12-15V/0.6A	**116-040311**	**116-040301**
VP40-3B	+12-15V/1.4A, +12-15V/0.6A, -12-15V/0.6A	**116-040312**	**116-040302**
VP40-3C	24V/0.8A, +12-15V/0.6A, -12-15V/0.6A	**116-040313**	**116-040303**
Mating H15 Connector (Faston Blades)		**17-10115**	

SPECIFICATION:

INPUT	***VP40-3A***	***VP40-3B***	***VP40-3C***
AC Input Voltage	93-253VAC, 47-63Hz		
Efficiency at full load	Typ.75%	Typ.77%	Typ.79%
Power factor	>0.6%		
OUTPUT (SEE ORDERING INFORMATION FOR POWER RATINGS)			
Ripple (full load)	V1 = 20mVpp, V2 = 5mVpp, V3 = 5mVpp		
REGULATION			
Line Regulation	V1 = 0.1%, V2 = 0.02%, V3 = 0.02%		
Load Regulation	V1 = 0.1%, V2 = 0.4%, V3 = 0.4%		
Transient Response	V1 = 0.4mS, V2 = 20uS, V3 = 20uS		
Voltage Stabilisation	V1 = 0.5V maximum, V2 = N/A, V3 = N/A		
PROTECTION AND CONTROL			
O/P Current Limit	V1 >4.2A	V1 >1.5A	V1 >0.85A
	V2 >0.8A	V2 >0.8A	V2 >0.8A
	V3 >0.8A	V3 >0.8A	V3 >0.8A
O/P Voltage Protection (OVP)	V1 = 5.85-6.25V	V1 = 16.5-18V	V1 = 26.4-31V
Short Circuit Protection	Yes		
Input current limitation	By NTC resistor		
Input voltage limitation	By VDR resistor		
Hold-up time	60ms@230V, 10mS@115V		
Powerfail signal	5mS before V1<4.8V	Optional	Optional
SAFETY (CE-MARK ACCORDING LVD)			
Dielectric strength	EN60950-1		
Protection Class I to VDE0100	Mating connector with leading earth pin		
EMI (CE-MARK ACCORDING EMC-DIRECTIVE)			
Emission	EN55022/B (0.15-30MHz; 30-1000MHz)		
Immunity	EN 61000-6-2		
ESD	EN 61000-4-2		
Burst	EN 61000-4-4		
Surge	EN 61000-4-5		
HF-Injection	EN 61000-4-6		
Line voltage drops	EN 61000-4-11		
Environmental			
Operating Temperature	0-70 Deg.C		
Derating	2.5%/Deg.C at 50 Deg.C		
Storage Temperature	-25 Deg.C - +85 Deg.C		
Relative Humidity	5-95%, non-condensing		

ELECTRICAL CONNECTIONS (DIN 41612 H15 MALE CONI

Pin	Function
4	+V1
6	+V1
8	GND V1
10	GND V1
12	+SENSE
14	-SENSE
16	PF/*
18	+V2
20	GND V2/V3
22	-V3
24	nc
26	nc
28	N
30	L
32	PE



Note: Sense lines must be connected

50 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES IN 3U/4HP MODULE FOR 19" SUBRACKS TO DIN 41494

FEATURES:

- 115/230v Switchable AC Input
- Single DC output
- 5V, 12-15V & 24V output versions
- Compact 3Ux4HPx160mm form factor
- Short circuit protection
- CE marking (to EMC & LVD Directive)
- Safety certified to EN60950
- 24 month warranty

SPECIFICATION:

INPUT		
AC Input Voltage		115V/230V Switchable
Input Frequency		47-63Hz
Efficiency	VP50-1A	Typ.82%
at full load	VP50-1B	Typ.84%
	VP50-1C	Typ.85%
Power factor		>0.6%
OUTPUT (SEE ORDERING INFORMATION FOR POWER RATINGS)		
Ripple (full load)		20mVpp
REGULATION		
Line Regulation		0.1%
Load Regulation		0.1%
Transient Response		0.4mS
Voltage Stabilisation		0.5V max.
PROTECTION AND CONTROL		
O/P Current Limit	VP50-1A	>10A
	VP50-1B	3.6-5.5A
	VP50-1C	>2.1A
O/P Voltage	VP50-1A	5.85-6.25V
Protection (OVP)	VP50-1B	16.5-18V
	VP50-1C	26.4-31V
Short Circuit Protection		Yes
Input current limitation		By NTC resistor
Input voltage limitation		By VDR resistor
Hold-up time		30ms
Powerfail signal		Optional
SAFETY (CE-MARK ACCORDING LVD)		
Dielectric strength		EN60950-1
Protection Class I to VDE0100		Mating connector with leading earth pin
EMI (CE-MARK ACCORDING EMC-DIRECTIVE)		
Emission		EN55022/B (0.15-30MHz; 30-1000MHz)
Immunity		EN 61000-6-2
ESD		EN 61000-4-2
Burst		EN 61000-4-4
Surge		EN 61000-4-5
HF-Injection		EN 61000-4-6
Line voltage drops		EN 61000-4-11
ENVIRONMENTAL		
Operating Temperature		0-70 Deg.C
Derating		2.5%/Deg.C at 50 Deg.C
Storage Temperature		-25 Deg.C - +85 Deg.C
Relative Humidity		5-95%, non-condensing

VP50-1 AC/DC Power Supply

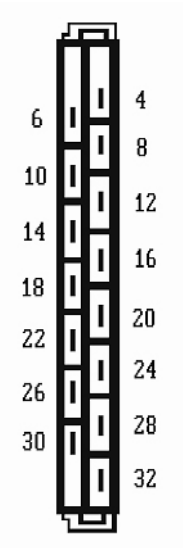
The VP50-1 is a primary switched mode plug-in power supply for 19" subrack systems according to DIN 41494 in a 3U/4HP cassette. The power supply is guided on left hand side. The electrical connection is via an H15 connector according to DIN 41612 in position 1.

ORDERING INFORMATION:

Type	Output (adjustable)	Ordercode
VP50-1A	**5V/10A**	**116-040151**
VP50-1B	**12V/4.2A-15V/3.3A**	**116-040152**
VP50-1C	**24V/2.1A**	**116-040153**
Mating H15 Connector (Faston Blades)		**17-10115**

ELECTRICAL CONNECTIONS (DIN 41612 H15 MALE CONNECTOR)

Pin	Function
4	+V1
6	+V1
8	GND V1
10	GND V1
12	+SENSE
14	-SENSE
16	PF/*
18	nc
20	nc
22	nc
24	Ext. ON/OFF*
26	nc
28	N
30	L
32	PE



Note: Sense lines must be connected

80 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES IN 3U/8HPEUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

FEATURES:

- Active Powerfactor Correction PFC
- Wide input range 94-253VAC
- High effi ciency up to 83%
- Power share between outputs
- N+1 redundant types
- CE marking acc EMI and LV directive
- Safety certifi ed to EN60950, UI, cUL
- Optional: EMI frontpanel, no frontpanel
- VERO standard pinning, suits to PK60
- 24 months warranty

With the new VP80 Series an efficiency of up to 83% is achieved whilst power density is increased over its predecessors by more than 30%. Without the need for external heatsinking, the 80W output power can be achieved with natural convection cooling. A wide range of multi O/P units is further extended through power share technology, allowing maximum fl exibility in the way power is delivered across the voltage rails, for smaller and more economical solutions.
The range is enhanced with „Type R" versions, designed for N+1 redundant applications or battery back-up systems.

VP80-Series: Power Supply

SPECIFICATION

Input Data	
Input voltage	94 – 253VAC
Input frequency	47-63Hz
Inrush surge current limit	<27A (NTC)
Input voltage spike limit	by VDR
Hold-up time	>20 msec (at nominal values)
Powerfactor correction PFC	>0,95
Efficiency	up to 83%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, IEC 950, UL1950, cUL
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -40°C...+85°C
Relative humidity	max.90% without condensation
Dimensions (L x W x H) mm	162x32,9x100mmm (3U/8HP) with Frontpanel
Weight:	650 g

Type	Outputs	Ordercode with frontpanel
VP80-1	5V 5V/16A	**116-020015L**
VP80-1	12V 12V/6,7A	**116-020016H**
VP80-1	15V 15V/5,3A	**116-020017E**
VP80-1	24V 24V/3,3A	**116-020018B**
VP80-1-R	5V 5V/16A	**116-020047D**
VP80-1-R	12V 12V/6,7A	**116-020048A**
VP80-1-R	15V 15V/5,3A	**116-020049J**
VP80-1-R	24V 24V/3,3A	**116-020050K**
VP80-2A	+12V/5A; -12V/2A	**116-020019K**
VP80-2B	+15V/4A; -15V/2A	**116-020020L**
VP80-2C	+5V/12A; +12V/2,5A	**116-020021H**
VP80-2D	+5V/5A; +24V/2,5A	**116-020022E**
VP80-2E	+12V/2A; +24V/2,5A	**116-020023B**
VP80-3A	5V/12A; ±12V/1A	**116-020024K**
VP80-3B	5V/12A; ±15V/1A	**116-020025G**
VP80-3C	5V/12A; +12V/4A; -12V/1A	**116-020026D**
VP80-3D	5V/12A; +15V/3A; -15V/1A	**116-020027A**
VP80-4	+3,3V/3A; +5V/12A; +12V/4A; -12V/1A	**116-020028J**
Mating connector coded H15 to DIN 41612 with faston pins		**017-010115K**
Coding keys (pack per 10)		**017-010064F**

VP80-1 80W Single output	V1	V1	V1	V1
Output voltage	5V	12V	15V	24V
Adjustment range	4,8—5,5V	11—13V	14—16V	22—28V
Output nominal current 1)	16A	6,7A	5,3A	3,3A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Output current limit	>16,1A	>6,75A	>5,35A	>3,35A
Short circuit protection	electronic, automatic restart			
Overvoltage protection (OVP)	6,0—6,7V	15,5—18V	17—21V	27—32V
Powerfail signal (at full load >6ms)	V1<4,8V	V1<11,5V	V1<14,4V	V1<23V
Line regulation (100% IOUT)	<0,1%	<0,1%	<0,1%	<0,1%
Load regulation static (10...90%IOUT)	<0,1%	<0,1%	<0,1%	<0,1%
Response time (10...90%IOUT)	<0,5ms	<0,2ms	<0,2ms	<0,1ms
Output regulation with sense max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	2W/°C over 45°C at natural convection; 4W/°C over 60°C at enhanced cooling 1 m/s			

VP80-1-R for N+1 redundant systems

80W Single output redundant	V1	V1	V1	V1
Output voltage	5V	12V	15V	24V
Adjustment range	4,8—5,5V	11—13V	14—16V	22—26V
Output nominal current 1)	16A	6,7A	5,3A	3,3A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Output current limit	>16,1A	>6,75A	>5,35A	>3,35A
Short circuit protection	electronic, automatic restart			
Overvoltage protection (OVP)	6,0—6,7V	15,5—18V	17—21V	27—32V
DC-FAIL signal	at unit failure (open collector, 20mA, <0,4V)			
Line regulation (100% IOUT)	<0,1%	<0,1%	<0,1%	<0,1%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<1ms	<0,5ms	<0,4ms	<0,1ms
Current share with ASF signal: ±5% @ IOUT	>3,2A	>1,3A	>1,0A	>0,6A
Output regulation with sense max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	2W/°C over 45°C at natural convection; 4W/°C over 60°C at enhanced cooling 1 m/s			

VP80-2	Version A		Version B		Version C	
80W Dual output	V1	V2	V1	V2	V1	V2
Output voltage	+12V	-12V	+15V	-15V	+5V	+12V
Adjustment range	11,8—13V	fix	14,8—16V	fix	4,8—5,5V	fest
Output nominal current 1)	5A	2A	4A	2A	12A	2A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Output current limit	>5,01A	>2,01A	>4,01A	>2,01A	>12,1A	>2,01A
Short circuit protection	electronic, automatic restart					
Overvoltage protection (OVP)	15,5—18V	—	17—21V	—	6,0—6,7V	—
Powerfail signal (at full load >6ms)	—	—	—	—	V1<4,8V	—
Line regulation (100% IOUT)	<0,1%	<0,1%	<0,1%	<0,1%	<0,1%	<0,1%
Load regulation static (10...90%IOUT)	<0,5%	<1,5% 2)	<0,5%	<1,5% 2)	<0,2%	<1,5% 2)
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms	<1ms	<1ms
Output regulation with sense max.	—	—	—	—	—	—
Derating	2W/°C over 45°C at natural convection; 4W/°C over 60°C at enhanced cooling 1 m/s					

VP80-2	Version D		Version E	
80W Dual output	V1	V2	V1	V2
Output voltage	+5V	+24V	+12V	+24V
Adjustment range	fest	22-26V	fest	22-26V
Output nominal current 1)	5A	2,7A	2A	2,5A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Output current limit	>5,01A	>2,71A	>2,01A	>2,51A
Short circuit protection	electronic, automatic restart			
Overvoltage protection (OVP)	6,0—6,7V	—	—	—
Powerfail signal (at full load >6ms)	V1<4,8V	—	—	—
Line regulation (100% IOUT)	<0,1%	<0,1%	<0,1%	<0,1%
Load regulation static (10...90%IOUT)	<1,5%	<0,5% 2)	<1,5%	<0,5% 2)
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms
Output regulation with sense max.	0,5V max.	––	0,5V max.	—
Derating	2W/°C over 45°C at natural convection; 4W/°C over 60°C at enhanced cooling 1 m/s			

1) maximum total output power: 80 Watt, see derating
2) POUT V1 min. 5Watt

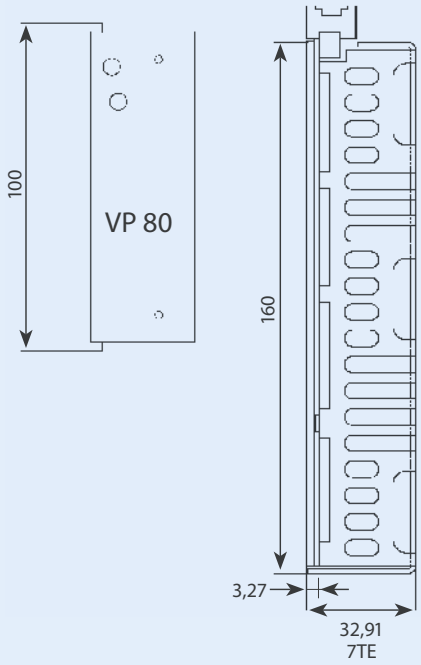
VP80-3	Version A	with sym. ±12V		Version B	with sym. ±15V	
80W Triple output	V1	V2	V3	V1	V2	V3
Output voltage	5V	+12V	-12V	5V	+15V	-15V
Adjustment range	4,8—5,5V	fix	fix	4,8—5,5V	fix	fix
Output nominal current 1)	12A	1A	1A	12A	1A	1A
Ripple at full load	<40m$_{VPP}$	<10m$_{VPP}$	<10m$_{VPP}$	<40m$_{VPP}$	<10m$_{VPP}$	<10m$_{VPP}$
Output current limit	>12,1A	>1,01A	>1,01A	>12,1A	>1,01A	>1,01A
Short circuit protection	electronic, automatic restart					
Overvoltage protection (OVP)	6,0—6,7V	—	—	6,0—6,7V	—	—
Powerfail signal (at full load >6ms)	V1<4,8V	—	—	V1<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,5%	<1,5% 2)	<1,5% 2)	<0,5%	<1,5% 2)	<1,5% 2)
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms	<1ms	<1ms
Output regulation with sense max.	0,5V	—	—	0,5V	—	—
Derating	45°C at natural convection; 4W/°C over 60°C at enhanced cooling 1 m/s					

VP80-3	Version C	with strong +12V/4A		Version D	with strong +15V/3A	
80W Triple output	V1	V2	V3	V1	V2	V3
Output voltage	+5V	+12V	-12V	+5V	+15V	-15V
Adjustment range	4,8—5,5V	fix	fix 4,8—5,5V	fix	fix	
Output nominal current 1)	12A	4A 1A	12A	3A	1A	
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<10m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<10m$_{VPP}$
Output current limit	>12,1A	>4,1A	>1,01A	>12,1A	>3,1A	>1,01A
Short circuit protection	yes, electronic, automatic restart					
Overvoltage protection (OVP)	6,0—6,7V	—	—	6,0—6,7V	—	—
Powerfail signal (at full load >6ms)	V1<4,8V	—	—	V1<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,5%	<±4 2)	<1,5% 2)	<0,5%	<±4% 2)	<1,5% 2)
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms	<1ms	<1ms
Output regulation with sense max.	0,5V	—	—	0,5V	—	—
Derating	2W/°C over 45°C at natural convection; 4W/°C over 60°C at enhanced cooling 1 m/s					

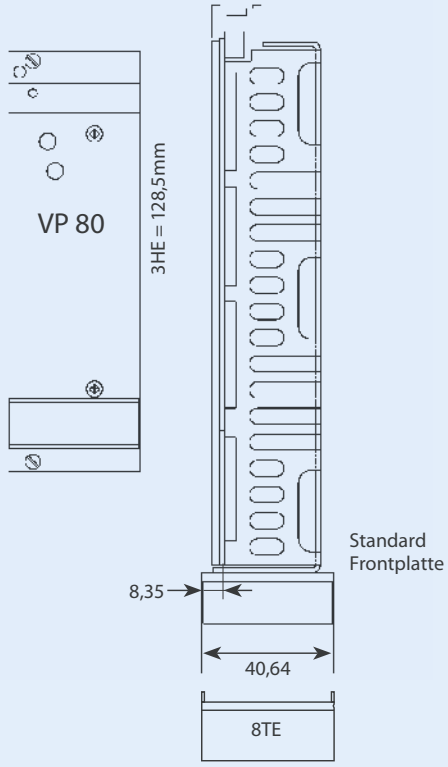
VP80-4	for cPCI applications			
80W quadruple output	V1	V2	V3	V4
Output voltage	+3,3V	+5V	+12V	12V
Adjustment range	fix	4,8—5,5V	fix	fix
Output nominal current 1)	3,0A	12A	4A	1A
Ripple at full load	<20m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<10m$_{VPP}$
Output current limit	>3,01A	>12,1A	>4,1A	>1,01A
Short circuit protection	electronic, automatic restart			
Overvoltage protection (OVP)	—	6,0—6,7V	—	—
Powerfail signal (at full load >6ms)	—	V2<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<±4%	<1%	<1,5% 3)	<1,5% 3)
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms
Output regulation with sense max.	—	—	—	—
Derating	2W/°C over 45°C at natural convection; 4W/°C over 60°Cat enhanced cooling 1 m/s			

MECHANICAL DETAILS, CONNECTOR PINNING

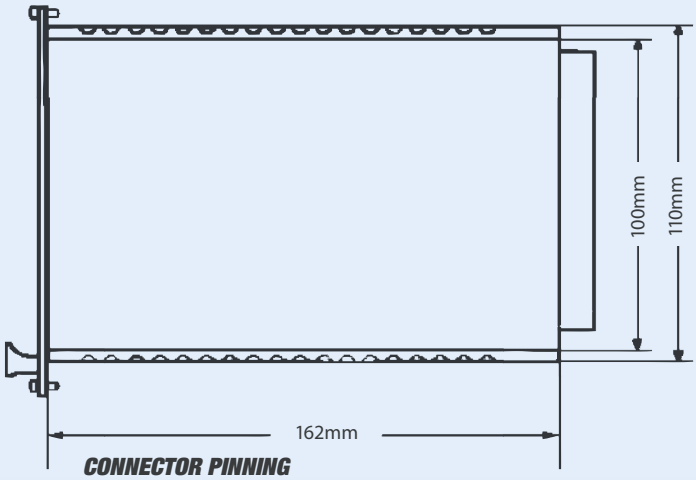
Basic unit without frontpanel



Unit with standard frontpanel

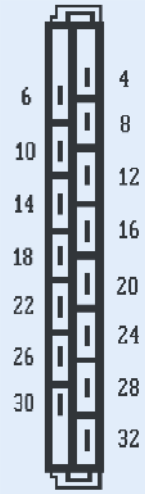


Optional EMI frontpanel



CONNECTOR PINNING

H15 CONNECTOR



PIN	Function							
	VP80-1	VP80-1R	VP80-2			VP80-3		VP80-4
			A+B	C+E	D	A+B	C+D	
4	+V1	+V1	—	+V1	+V1	+V1	+V1	+V2
6	+V1	+V1	—	+V1	+V1	+V1	+V1	+V2
8	Gnd V1	Gnd V1	—	Gnd V1	Gnd V1	Gnd V1	Gnd	Gnd
10	Gnd V1	Gnd V1	—	Gnd V1	Gnd V1	Gnd V1	Gnd	Gnd
12	+Sense	+Sense	—	+Sense	—	+Sense	+Sense	+V1
14	-SENSE	-Sense	—	-Sense	—	-Sense	-Sense	—
16	PF/	DC-Fail/	—	PF/	—	PF/	PF/	PF/
18	—	—	+V1	—	—	+V2	+V2	+V3
20	—	ASF	Gnd V1/V2	+V2	+V2	Gnd V2/V3	Gnd	Gnd
22	—	—	-V2	Gnd V2	Gnd V2	-V3	-V3	-V4
24	—	—	—	—	—	—	—	—
26	—	—	—	—	—	—	—	—
28	N	N	N	N	N	N	N	N
30	L	L	L	L	L	L	L	L
32	PE	PE	PE	PE	PE	PE	PE	PE

Attention: The sense lines must be connected. For maximum compensation of the voltage drops on the power cables they should be connected as close as possible to the load.

150 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES IN 3U/12HP-EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

VP150-Series: Power Supply

FEATURES:

- Active Powerfactor Correction PFC
- Wide input range 94-253VAC
- High efficiency up to 87%
- Power share between outputs
- All outputs individually adjustable
- N+1 redundant types
- Convection cooling
- CE marking acc. to EMI and LV directive
- Safety to EN60950, UI, cUL
- VERO standard pinning, suits to PK120
- 24 months warranty

The VP150 achieves an efficiency of up to 87% by incorporating synchronous rectification and magnetic amplifiers, whilst the power density is increased by more than 45% over the PK120 predecessor. Without the need for external heatsinking, the 150W output power can be achieved with natural convection cooling. The multi O/P units are further extended through power share technology, allowing maximum flexibility in the way power is delivered across the voltage rails, for smaller and more economical solutions. The range is enhanced with „Type R" versions, designed for N+1 redundant applications or battery back-up systems with temp-controlled charging.

SPECIFICATION

Input Data	
Input voltage	94—253VAC
Input frequency	47-63Hz
Inrush surge current limit	<27A (NTC)
Input voltage spike limit	by VDR
Hold-up time	>20 msec (at nominal values)
Powerfactor correction PFC	>0,98
Efficiency	up to 87%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, IEC 950, UL1950, cUL
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -40°C...+85°C
Relative humidity	max.90% without condensation
Dimensions (L x W x H) mm	162x32,9x100mmm (3U/12HP) with Frontpanel
Weight:	1100 g

ORDER INFORMATION

Type	Outputs	Mains voltage	Efficiency	Ordercode
VP150-1 5V	5V/24A	94...253VAC	typ. 82,5%	**116-031510K**
VP150-1 12V	12...15V/10A	94...253VAC	typ. 85%	**116-031511G**
VP150-1 24V	24...28V/6,25A	94...253VAC	typ. 87%	**116-031512D**
VP150-1-R 5V	5V/24A	94...253VAC	typ. 81,5%	**116-031513A**
VP150-1-R 12V	12...15V/10A	94...253VAC	typ. 82,5%	**116-031514J**
VP150-1-R 24V	24...28V/6,25A	94...253VAC	typ. 85%	**116-031515F**
VP150-1-R 48V	48...54V/3,2A	94...253VAC	typ. 85%	**116-031516C**
VP150-3	5V/20A; +12...15V/4A; -12...15V/2A	94...253VAC	typ. 81%	**116-031530B**
Mating connector coded H15 to DIN 41612				**017-010115K**
Coding keys (pack per 10)				**017-010064F**

TECHNICAL DATA VP150 SERIES

VP150-1 150W Single output	V1	V1	V1
Output voltage	5V	12—15V	24V
Adjustment range	4,5—5,5V	11,8—15,2V	23,5—28,5V
Output nominal current	24,0A	10,7A	6,3A
Ripple at full load	<40mVPP	<40mVPP	<40mVPP
Output current limit	>24,5A	>11,7A	>6,6A
Short circuit protection	electronic, automatic restart		
Overvoltage protection (OVP)	5,8—6,25V	16,5—18V	29—30,6V
Powerfail signal (at full load >6ms)	Vo<4,8V	Vo<11,5V	Vo<23V
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,5%	<0,5%	<0,5%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms
Output regulation with SENSE	0,5V max.	0,5V max.	0,5V max.
Derating	see curve		

VP150-1-R FOR N+1 REDUNDANT SYSTEMS AND BATTERY BACK-UP SYSTEMS

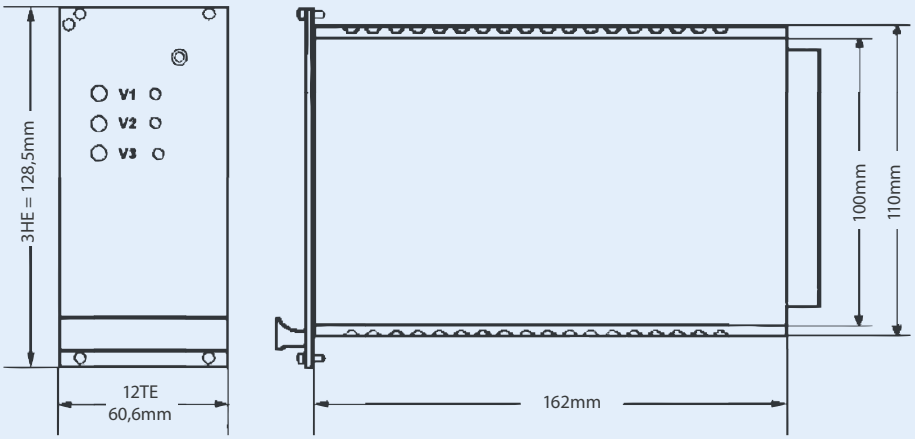
150W Single output redundant	V1	V1	V1	V1
Output voltage	5V	12—15V	24V	48V
Adjustment range	4,5—5,5V	11,8—15,2V	23,5—28,5V	47,5—54,5V
Adjustment range by input	—	—	22—28,5V	40—58,2V
Output nominal current 1)	24,0A	10,7A	6,3A	3,2A
Ripple at full load	<40mVPP	<40mVPP	<40mVPP	<40mVPP
Output current limit	>24,5A	>11,7A	>6,6A	>3,4A
Short circuit protection	electronic, automatic restart			
Overvoltage protection (OVP)	5,8—6,25V	16,5—18V	29—30,6V	62—68V
DC-FAIL signal	at unit failure (open collector, 20mA, <0,4V)			
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,5%	<0,5%	<0,5%	<0,5%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms
Current share with ASF signal	typ. ±5% IOUT	typ. ±5% I^{OUT}	typ. ±5% I^{OUT}	typ. ±5% I^{OUT}
Output regulation with SENSE	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	see curve			

VP150-3 V2 AND V3 ±12...15V INDIVIDUALLY ADJUSTABLE, WITH STRONG +12...15V

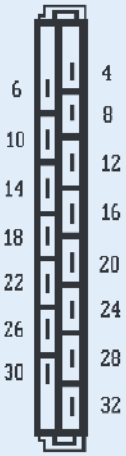
150W Triple output	V1	V2	V3
Output voltage	5V	+12—15V	-12—15V
Adjustment range	4,8...5,5V	+11,8—15,2V	-11,8—15,2V
Output nominal current 1)	20A 1)	4A 1)	2A 1)
Ripple at full load	<40mVPP	<20mVPP	<20mVPP
Output current limit	>20,5A	>5A	>2,7A
Short circuit protection	yes, electronic, automatic restart		
Overvoltage protection (OVP)	6,0—6,5V fix	+16—18V fix	-16—18V fix
Powerfail signal (at full load >5ms)	Vo<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,5%	<0,2%	<0,2%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms
Output regulation with SENSE	0,5V max.	—	—
Derating	see curve		

1) maximum total output power: 150 Watt, see derating

MECHANICAL DETAILS, CONNECTOR PINNING



H15 CONNECTOR



CONNECTOR PINNING

PIN	Function		
	VP150-1	VP150-1R	VP150-3
4	+V1	+V1	+5V
6	+V1	+V1	+5V
8	Gnd V1	Gnd V1	Gnd V1
10	Gnd V1	Gnd V1	Gnd V1
12	+Sense	+Sense	+Sense
14	-Sense	-Sense	-Sense
16	Ext.on/off+	Ext.on/off+	PF/
18	—	DC-Fail	+12V
20	—	ASF	GND2
22	PF/	Vadj.	–12V
24	Ext.on/off–	Ext.on/off –	Ext.on/off+
26	—	—	—
28	N	N	N
30	L	L	L
32	PE	PE	PE

Attention: The sense lines must be connected. For maximum compensation of the voltage drops on the power cables they should be connected as close as possible to the load.

50 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES WITH ONE OUTPUT IN 3U/8HP STEELCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

FEATURES:

- Reduced cost power supply on 100 x 160 mm Eurocard
- Steel cover
- Wide input range
- Overvoltage protection (OVP)
- No load and short circuit proof
- Powerfail signal
- Coded H15 connector
- VERO standardised pinning
- Separate frontpanel kit with handle
- 24 months warranty

EC Monovolt Series

SPECIFICATION

Input Data	
Input voltage AC-DC	93-253VAC wide input
Input frequency	47-63Hz
Inrush surge current limit	by NTC
Input voltage spike limit	by VDR
Hold-up time	>20 msec (at nominal values)
Efficiency	typ. 68-75%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950, EN41003
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	ventilated steel cassette with cooling cutouts

ORDER INFORMATION

Economy 3HEx8TE, 50 Watt

Type	Output	Code
EC 50	5V/8A	**116-010188J***
EC 50 mit Powerfail	5V/8A	**116-010189F***
EC 50	12V/4A	**116-010190G***
EC 50	15V/3,5A	**116-010192A***
EC 50	24V/2,2A	**116-010194F***

Accessoires

Type	Code
reduced height front panel with handle: EC50	**148-010002K**
DIN 41612 - mating connector	**017-010115K**
coding keys pack 10	**017-010064F**

* EN60950 certified

Output data	V1	V1	V1	V1
Output voltage	5V	12V	15V	24V
Adjustment range	4,5-5,5V	10,8-13,2V	13,5-16,5V	21,6-26,8V
Output nominal current	8A	4A	3,5A	2,2A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Output current limit	>8,8A	>4,4A	>3,8A	>2,4A
Short circuit protection	continous , automatic restart			
Overvoltage protection (OVP)	6,0-6,7V	15,5-18V	17-19,5V	27-32V
Powerfail signal (at full load >6ms)	V1<4,8V	—	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<1%	<1%	<1%	<1%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms
Derating	1,2W/°C ab 45°C — 1,2W/°C over 45°C			

* See Page 11.47 for merchanical

50 WATT SWITCHED MODE AC/DC PLUG-IN POWER SUPPLIES WITH THREE OUTPUT IN 3U STEELCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

FEATURES:

- Economy priced alternative of PK Series
- Steel cover
- Safety according to EN60950
- Overvoltage protection (OVP)
- No load and short circuit proof
- Powerfail signal
- Coded H15 connector
- VERO standardized pinning
- Separate frontpanel kit with handle
- 24 months warranty

EC Trivolt Series

SPECIFICATION

INPUT SPECIFICATION

Input Data	
Input voltage	93-253VAC wide input
Input frequency	47-63Hz
Inrush surge current limit	by NTC
Input voltage spike limit	by VDR
Hold-up time	>20 msec (at nominal values)
Efficiency	typ. 70%
Safety: CE marking according to	
low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	ventilated steel cassette with cooling cutouts

TRIVOLT EC50: 3HE x 8TE, 50 Watt				**Code**	**Code**
Type	Outputs			without Powerfail	with Powerfail
EC50-A	+5V/5A,	+12V/1,8A,	-12V/0,4A	**116-010130J***	**116-010131F***
EC50-B	+5V/5A,	+15V/1,4A,	-15V/0,3A	**116-010183B***	**116-010184K***
EC50-C	5V/5A,	±15V/0,8A		**116-010186D***	**116-010187A***
EC50-D	5V/5A,	±12V/1A		**116-010217B***	**116-010218K***

Accessoires EC Series	**Code**
reduced height front panel with handle: EC50	**148-010002K**
DIN 41612 - mating connector	**017-010115K**
coding keys	**017-010064F**

* EN60950 certified

TECHNICAL DATA

TRIVOLT EC50A + B	Version A with strong +12V4A			Version B with strong +15V/3A		
50W Triple output	V1	V2	V3	V1	V2	V3
Output voltage	+5V	+12V	-12V	+5V	+15V	-15V
Adjustment range	4,5-5,5V	fix	fix	4,5-5,5V	fix	fix
Output nominal current	5A	1,8A	0,8A	5A 1,4	A 0,6A	
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<10m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<10m$_{VPP}$
Output current limit	>6A(>9A2))	>2,2A	>0,8A	>6A(>9A2))	>1,7A	>0,6A
Short circuit protection	electronic, automatic restart					
Overvoltage protection (OVP)	6,0-6,7V	—	—	6,0-6,7V	—	—
Powerfail signal (at full load >6ms)	V1<4,8V	—	—	V1<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<1%	<5% 1)	<0,5%	<1% <3% 1)	<0,5%	
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms	<1ms	<1ms
Temperature coefficient/oC	0,05%V			0,05%		
Derating	1,5W/°C ab 45°C, 1,5W/°C over 45°C					

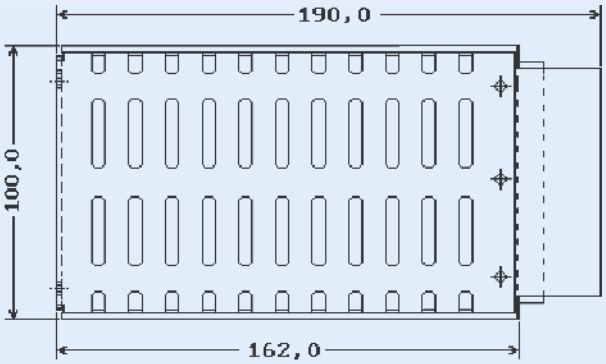
TRIVOLT EC50C + D	Version C with sym. ±15V			Version C with sym. ±15V		
50W Triple output	V1	V2	V3	V1	V2	V3
Output voltage	5V	+15V	-15V	5V	+12V	-12V
Adjustment range	4,5-5,5V	fix	fix	4,5-5,5V	fix	fix
Output nominal current	5A	0,8A	0,8A	5A	1A	1A
Ripple at full load	<40m$_{VPP}$	<10m$_{VPP}$ 3)	<10m$_{VPP}$ 3)	<40m$_{VPP}$ 3)	<10m$_{VPP}$ 3)	<10m$_{VPP}$ 3)
Output current limit	>6A(>9A2))	>1,1A	>1,1A	>6A(>9A2))	>1,1A	>1,1A
Short circuit protection	electronic, automatic restart					
Overvoltage protection (OVP)	6,0-6,7V	—	—	6,0-6,7V	—	—
Powerfail signal (at full load >6ms)	V1<4,8V	—	—	V1<4,8V	—	—
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<1%	<0,5%	<0,5%	<1%	<0,5%	<0,5%
Response time (10...90%IOUT)	<1ms	<1ms	<1ms	<1ms	<1ms	<1ms
Temperature coefficient/oC	0,05%V			0,05%		
Derating	1,5W/°C ab 45°C, 1,5W/°C over 45°C					

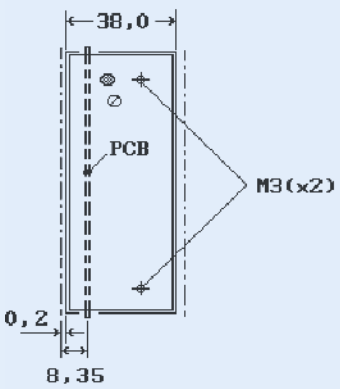
1) I2 = 0,1...4 x I1
2) at single load
3) V2/V3 at EC50 C+D linear post regulated

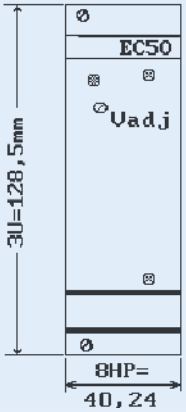
MECHANICAL DETAILS, CONNECTOR PINNING

EC50

weight: EC50 650g







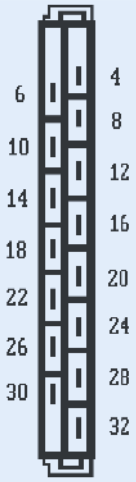
EC50 frontpanel kit

CONNECTOR PINNING

PIN	Function		
	Mono EC50	Tri EC50A+B	Tri EC50C+D
4	+V1	+V1	+V1
6	+V1	+V1	+V1
8	GND	GND	GND V1
10	GND	GND	GND V1
12	—	—	—
14	—	—	—
16	PF/	PF/	PF/
18	+V2	—	+V2
20	GND	—	GND V2, V3
22	-V3	—	-V3
24	—	—	—
26	—	—	—
28	N	N	N
30	L	L	L
32	PE	PE	PE

** only at 12V versions*

H15 CONNECTOR



30 TO 120 WATT SWITCHED MODE DC/DC PLUG-IN CONVERTER WITH ONE OUTPUT IN 3U EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

GK Monovolt Series

FEATURES:

- Compact rugged design in stable aluminium cassette
- DC input range 2:1 ratio
- High regulation accuracy
- Remote On/Off (GK60 + GK120)
- SENSE-operation and Overvoltage protection (OVP)
- Convection cooling
- CE marked for compliance to EMC and Low Voltage Directives
- VERO standardised pinning
- 24 months warranty

SPECIFICATION

Input Data	
Input voltage	12VDC (9–18); 24VDC (18–36); 48VDC (36–72)
Inrush surge current limit	line impedance dependant
Input voltage spike limit	
Hold-up time	>3 msec (at nominal values)
Efficiency	typ. > 70%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B * (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	Clear anodised aluminium cassette with cooling cutouts

ORDER INFORMATION

MONOVOLT GK30: 30W	Input	Size	Output	Code
GK 30-2	12VDC	3HE x 8TE	5V/6A	**116-010166A**
GK 30-2	24VDC	3HE x 8TE	5V/6A	**116-010167J**
GK 30-2	48VDC	3HE x 8TE	5V/6A	**116-010168F**
MONOVOLT GK60: 60W				
GK 60-2	24VDC	3HE x 8TE	5V/12A	**116-010034B**
GK 60-2	24VDC	3HE x 8TE	12V/5A	**116-010035K**
GK 60-2	24VDC	3HE x 8TE	15V/4A	**116-010036G**
GK 60-2	24VDC	3HE x 8TE	24V/2,5A	**116-010037D**
GK 60-2	48VDC	3HE x 8TE	5V/12A	**116-010038A**
GK 60-2	48VDC	3HE x 8TE	12V/5A	**116-010039J**
GK 60-2	48VDC	3HE x 8TE	15V/4A 1	**16-010040K**
GK 60-2	48VDC	3HE x 8TE	24V/2,5A	**116-010041G**
MONOVOLT GK120: 120W				
GK 120	24VDC	3HE x 14TE	5V/20A	**116-010132C**
GK 120	24VDC	3HE x 14TE	12V/10A	**116-010133L**
GK 120	24VDC	3HE x 14TE	24V/5A	**116-010135E**
GK 120	48VDC	3HE x 14TE	5V/20A	**116-010136B**
GK 120	48VDC	3HE x 14TE	12V/10A	**116-010137K**
GK 120	48VDC	3HE x 14TE	24V/5A	**116-010139D**
Accessoires:				
reduced height front panel: GK30				**148-010012F**
reduced height front panel: GK60				**148-010021E**
reduced height front panel: GK120				**148-010019G**
DIN 41612 - mating connector				**017-010115K**
coding keys pack 10				**017-010064F**

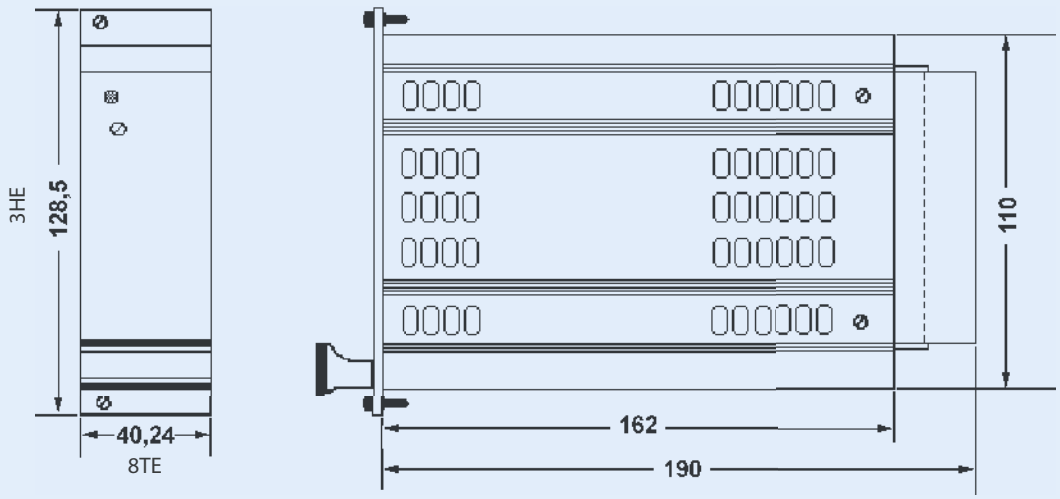
TECHNICAL DATA

MONO GK30-2 30W Single output	V1
Output voltage	5V
Adjustment range	4,8–5,5V
Output nominal current	6A
Ripple at full load	<40m$_{VPP}$
Line regulation (100% IOUT)	<0,2%
Load regulation static (10...90%IOUT)	<0,2%
Response time (10...90%IOUT)	<1ms
Output current limit	>6,5A
Short circuit protection	continously, automatic restart
Overvoltage protection (OVP)	6,0-6,7V
Temperature coefficient	0,02%/°C
Output regulation with sense	0,5V max.
Derating	1W/°C ab 55°C - 1W/°C above 55°C

MONO GK60-2 60W Single output	V1	V1	V1	V1
Output voltage	5V	12V	15V	24V
Adjustment range	4,5-5,5V	11-13V	13,5-16,5V	22-26V
Output nominal current	12A	5A	4A	2,5A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Line regulation (100% IOUT)	<0,3%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,8ms	<0,5ms	<0,5ms	<0,5ms
Output current limit	>12,5A	>5,3A	>4,3A	>2,7A
Short circuit protection	continously, automatic restart			
Overvoltage protection (OVP)	5,5-6,0V	13,2-15,0V	16,5-18,0V	26,4-30,0V
Temperature coeffcient	0,02%/°C	0,02%/°C	0,02%/°C	0,02%/°C
Output regulation with sense max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	2W/°C ab 55°C - 2W/°C above 55°C			
MONO GK120 120W Single output	V1	V1	V1	V1
Output voltage	5V	12V	15V	24V
Adjustment range	4,5-5,5V	10,8-13,2V	13,5-16,5V	21,6-26,4V
Output nominal current	20A	10A	8A	5A
Ripple at full load	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$	<40m$_{VPP}$
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,5ms	<0,5ms	<0,5ms	<0,5ms
Output current limit	>22A	>11A	>8,8A	>5,5A
Short circuit protection	continously, automatic restart			
Overvoltage protection (OVP)	5,0-7,0V	12-16,5V	15-21V	27-29V
Temperature coefficient	0,02%/°C	0,02%/°C	0,02%/°C	0,02%/°C
Output regulation with sense max.	0,5V max.	0,5V max.	0,5V max.	0,5V max.
Derating	4W/°C ab 55°C - 4W/°C above 55°C			

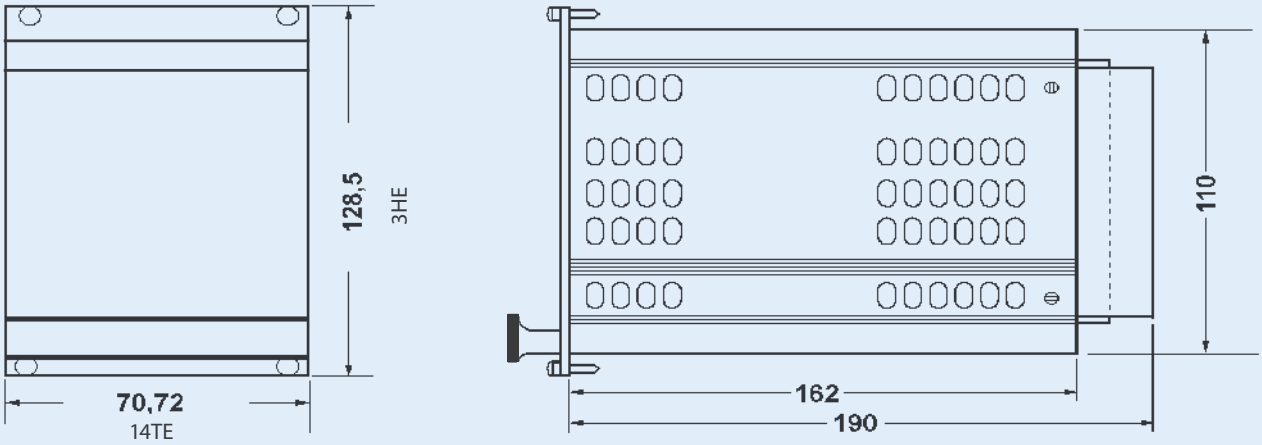
MECHANICAL DETAILS, CONNECTOR PINNING

GK30, GK60



weight GK30, GK60: 850g

GK120

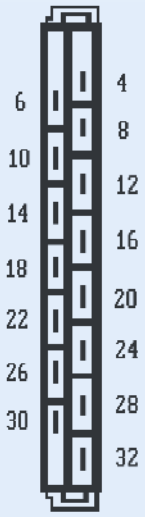


weight GK120: 1350g

CONNECTOR PINNING

PIN	Function		
	GK30	GK60	GK120
4	+Vout	+Vout	+Vout
6	+Vout	+Vout	+Vout
8	-Vout	-Vout	-Vout
10	-Vout	-Vout	-Vout
12	+SENSE	+SENSE	+SENSE
14	-SENSE	-SENSE	-SENSE
16	—	—	—
18	—	—	—
20	—	—	—
22	—	Ext on/off	Ext on/off
24	-Vin *	-Vin	-Vin
26	-Vin	-Vin	-Vin
28	+Vin	+Vin	+Vin
30	+Vin	+Vin	+Vin

H15 connector



Note: Sense lines must be connected. For maximum compensation for supply lead voltage drop they should be connected as close to the load as possible

30 TO 60 WATT SWITCHED MODE DC/DC PLUG-IN CONVERTER WITH TWO OUTPUTS IN 3U EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

GK Bivolt Series

FEATURES:

- Compact rugged desig
- Compact rugged design in stable aluminium cassette
- DC input range 2:1 ratio
- High regulation accuracy
- Separate adjust of both outputs
- No-load and short circuit proof
- Convection cooling
- CE marked for compliance to EMC and Low Voltage Directives
- VERO standardised pinning
- 24 months warranty

SPECIFICATION

Input Data	
Input voltage	12VDC (9–18); 24VDC (18–36); 48VDC (36–72)
Inrush surge current limit	line impedance dependant
Input voltage spike limit	
Hold-up time	>3 msec (at nominal values)
Efficiency	typ. > 60-80%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	Clear anodised aluminium cassette with cooling cutouts

ORDER INFORMATION

BIVOLT GK 30: 30Watt

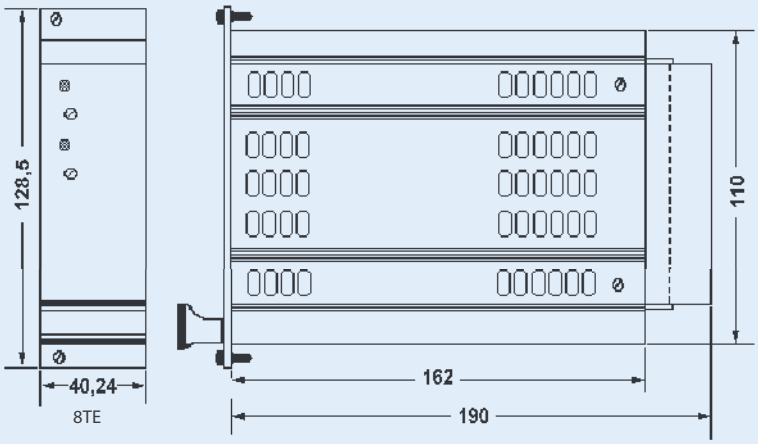
Type	Input	Size	Outputs	Code
GK30-2	12VDC	3HE x 8TE	±12-15V/1A	**116-010170D**
GK30-2	24VDC	3HE x 8TE	±12-15V/1A	**116-010171A**
GK30-2	48VDC	3HE x 8TE	±12-15V/1A	**116-010172J**
BIVOLT GK60: 60 Watt				
GK60-2A	12VDC	3HE x 8TE	±12-15V/2A	**116-010152F**
GK60-2A	24VDC	3HE x 8TE	±12-15V/2A	**116-010153C**
GK60-2A	48VDC	3HE x 8TE	±12-15V/2A	**116-010154L**
Accessoires:				
reduced height front panel: GK30				**148-010013C**
reduced height front panel: GK60				**148-010011J**
DIN 41612 - mating connector				**017-010115K**
coding keys pack 10				**017-010064F**

TECHNICAL DATA BIVOLT GK SERIES
BIVOLT GK30-2 30W

BIVOLT GK30-2 30W Dual output	V1, V2
Output voltage	±12 – 15V
Output nominal current	1A
Ripple at full load	<3m$_{VPP}$
Line regulation (100% IOUT)	<0,02%
Load regulation static (10...90%IOUT)	<0,2%
Response time (10...90%IOUT)	<10 µs
Output current limit	>1,1A
Short circuit protection	continously, automatic restart
Temperature coefficient	0,05%/°C
Derating	1W/°C ab 55°C - 1W/°C above 55°C
60W BIVOLT GK60-2 60W Dual output	V1, V2
Output voltage	±12 – 15V
Output nominal current	2A
Ripple at full load	<20m$_{VPP}$
Line regulation (100% IOUT)	<0,2%
Load regulation static (10...90%IOUT)	<0,5%
Response time (10...90%IOUT)	<1ms
Output current limit	>2,2A
Short circuit protection	continously, automatic restart
Overvoltage protection (OVP)	±16,5-18V fix
Temperature coefficient	0,05%/°C
Derating	2W/°C ab 55°C - 2W/°C above 55°C

MECHANICAL DETAILS, CONNECTOR PINNING

GK30, GK60

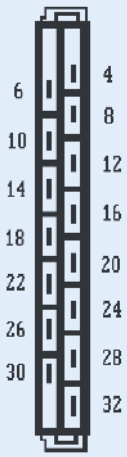


CONNECTOR PINNING

PIN	Function	
	GK30	GK60
4	—	—
6	—	—
8	—	—
10	—	—
12	—	—
14	—	—
16	—	—
18	+12-15V	+12-15V
20	0V	0V
22	-12-15V	-12-15V
24	-Vin *	-Vin *
26	-Vin	-Vin
28	+Vin	+Vin
30	+Vin	+Vin
32	PE	PE

* only at 12V versions

H15 Connector



60 TO 120 WATT SWITCHED MODE DC/DC PLUG-IN CONVERTER WITH THREE OUTPUTS IN 3U EUROCASSETTES FOR USE IN 19" SUBRACKS TO DIN 41494

GK Trivolt Series

FEATURES:

- Compact rugged design in stable aluminium cassette
- DC input range 2:1 ratio
- High regulation accuracy
- Separate adjust of all outputs
- SENSE-operation and Overvoltage protection (OVP)
- Convection cooling
- CE marked for compliance to EMC and Low Voltage Directives
- VERO standardised pinning
- 24 months warranty

SPECIFICATION

Input Data	
Input voltage	12VDC (9–18); 24VDC (18–36); 48VDC (36–72)
Inrush surge current limit	line impedance dependant
Input voltage spike limit	
Hold-up time	>3 msec at nominal values)
Efficiency	typ. >70-75%
Safety: CE marking according to low voltage directive 73/23/EEG	
Safety according to	EN60950, UL1950
EMC: CE marking according EMC directive 89/336/EEG	
EMI conducted & radiated emission	EN 55022/B (0,15-30MHz; 30-1000MHz)
EMI immunity	EN 50082-2
Operating temperature / Storage temperature	0°C...+70°C / -25°C...+85°C
Relative humidity	max.95% without condensation
Case material / finish	Clear anodised aluminium cassette with cooling cutouts

TRIVOLT GK60: 60 Watt				
Type	**Input**	**Size**	**Outputs**	**Code**
GK60-2A	12VDC	3HE x 8TE	5V/6A, ±12-15V/1A	**116-010097B**
GK60-2A	24VDC	3HE x 8TE	5V/6A, ±12-15V/1A	**116-010098K**
GK60-2A	48VDC	3HE x 8TE	5V/6A, ±12-15V/1A	**116-010099G**
TRIVOLT GK120: 120 Watt				
GK120-2	24VDC	3HE x 14TE	5V/12A,±12-15V/2A	**116-010175L**
GK120-2	48VDC	3HE x 14TE	5V/12A,+12-15V/2A	**116-010176H**
Accessoires:				
reduced height front panel: GK60				**148-010010A**
reduced height front panel: GK120 (3HE)				**148-010020H**
DIN 41612 - mating connector				**017-010115K**
coding keys pack 10				**017-010064F**

TRIVOLT GK Series

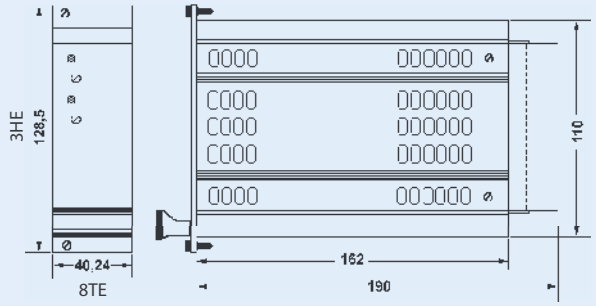
TRI GK60-2 60W Triple output	V1	V2	V3
Output voltage	5V	+12–15V	-12–15V
Adjustment range	4,5–5,5V	+12–15V	-12–15V
Output nominal current	12A	2A	2A
Ripple at full load	<40m$_{VPP}$	<20m$_{VPP}$	<20m$_{VPP}$
Line regulation (100% IOUT)	<0,2%	<0,2%	<0,2%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,2ms	<0,5ms	<0,5ms
Output current limit	>12,5A	>2,2A	>2,2A
Short circuit protection	continously, automatic restart		
Overvoltage protection (OVP)	5,5-6,0V	—	—
Temperature coefficient	0,05%/°C	0,05%/°C	0,05%/°C
Output regulation with sense	0,5V max.	—	—
Derating	4W/°C ab 55°C - 4W/°C above 55°C		

TRI GK120-2 120W Triple output	V1	V2	V3
Output voltage	5V	+12–15V	-12–15V
Adjustment range	4,5–5,5V	+12–15V	-12–15V
Output nominal current	6A	1A	1A
Ripple at full load	<40m$_{VPP}$	<3m$_{VPP}$	<3m$_{VPP}$
Line regulation (100% IOUT)	<0,2%	<0,02%	<0,02%
Load regulation static (10...90%IOUT)	<0,2%	<0,2%	<0,2%
Response time (10...90%IOUT)	<0,2ms	<10µs	<10µs
Output current limit	>6,5A	<1,1A	>1,1A
Short circuit protection	continously, automatic restart		
Overvoltage protection (OVP)	6,0-6,7V	—	—
Temperature coefficient	0,05%/°C	0,05%/°C	0,05%/°C
Output regulation with sense	0,5V max.	—	—
Derating	2W/°C ab 55°C - 2W/°C above 55°C		

MECHANICAL DETAILS, CONNECTOR PINNING

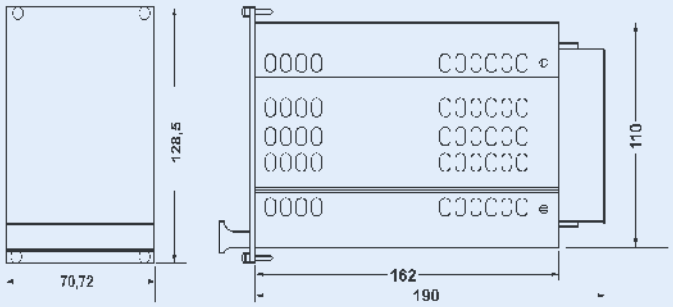
GK60

weight GK60: 700g



GK120

weight GK120: 1350g



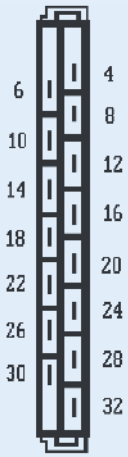
CONNECTOR PINNING

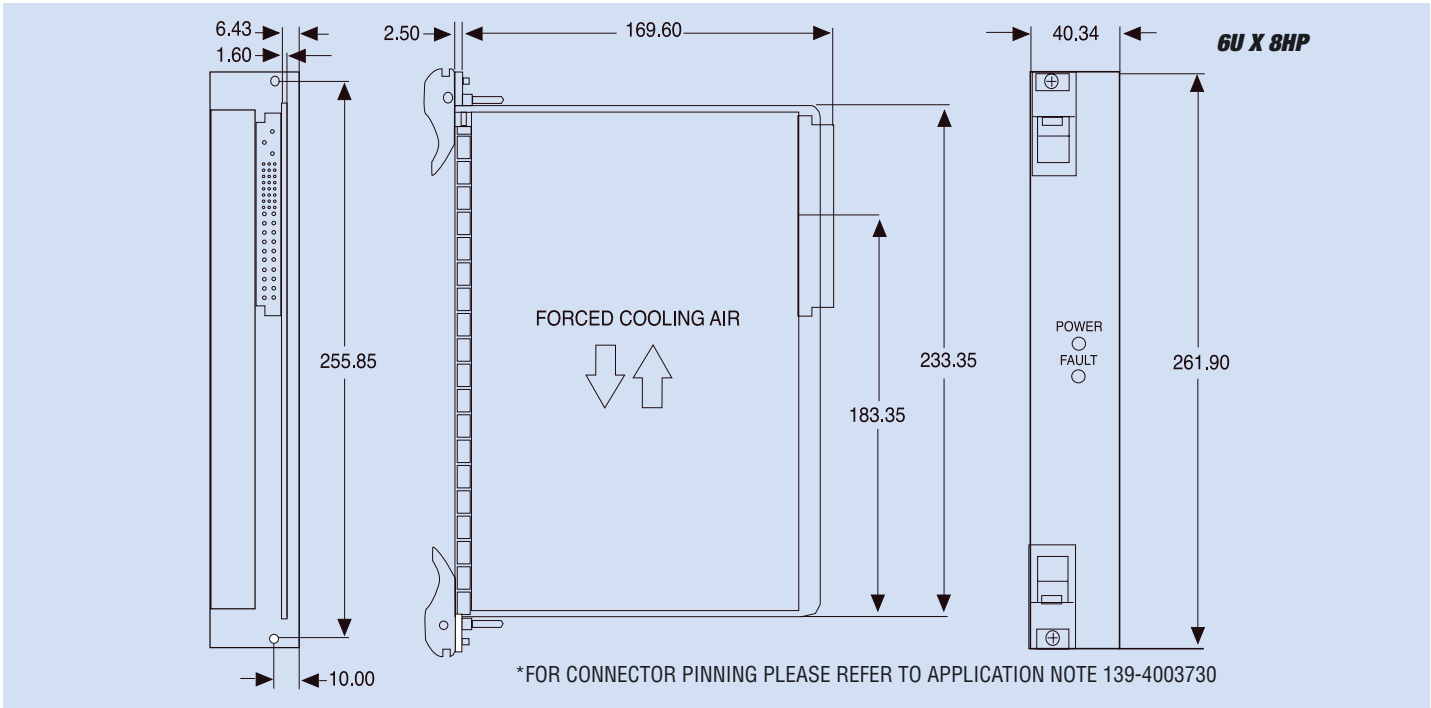
PIN	Function	
	GK60	GK120
4	+5V	+5V
6	+5V	+5V
8	GND 1	GND 1
10	GND 1	GND 1
12	+SENSE	+SENSE
14	-SENSE	-SENSE
16	—	—
18	+12-15V	+12-15V
20	GND 2/3	GND 2/3
22	-12-15V	-12-15V
24	-Vin *	—
26	-Vin	-Vin
28	+Vin	+Vin
30	+Vin	+Vin
32	PE	PE

** only at 12V versions*

Note: Sense lines must be connected. For maximum com pensation for supply lead voltage drop they should be connected as close to the load as possible

H15 Connector





ENVIRONMENTAL	Temperature	
	Operation	-5C to +55C with 250LFM Forced Air Cooling
	Storage	-40C to +85C
	Cooling	250LFM Forced Air Cooling
	Humidity	Up to 95% RH Non-Condensing
	Shock & Vibration	Storage: EN 300 019-2-1 Storage class 1.2, EN 300 019-2-2
		Transportation class 2.3, EN 300 019-2-3 Use class 3.3
	Conducted & Radiated Emission	EN55022 Class B and EN-61000. Measured with a mains input filter
	Surge, Spikes & Lightning Protection	EN61000-4
	Dielectric Isolation	
	Input to Case	1500Vdc
	Input to Output	1500Vdc
	Output to Case	100Vdc
	MTBF	> 400,000 Hours per Bellcore Standard B332 Gb 50C
SAFETY REGULATIONS & EMI SPECIFICATIONS	Approvals	UL60950, EN60950, cUL & CE Marking
	Dielectric Withstand Voltage	1500VDC Input to Output, 1500VDC Input to Chassis Ground
	ESD Susceptibility	EN61000-4-2 4Kv Contact 8Kv Air
	Radiated Susceptibility	EN61000-4-3 10V/m
	EFT/Burst	EN61000-4-4 1Kv
	Input Surge	
	Conducted Disturbance	EN61000-4-6 3Vrms
	Power frequency magnetic field	EN610000-4-8 1A/m
	Immunity for voltage Dips	
MONITORING COMMAND & CONTROL	Inhibit (INH #)	Open Collector Inhibited with GND.
	Power FAIL (FLT#)	Open Collector LOW Signal Indicates Outputs Out of Range
	Current Share	On V1 & V2 Allows +/- 10% Current Share with a Similar Unit
	Remote Sense	On V1 & V2 for Cable Loss Correction of up to 300mV
	Degradation (DEG #)	Open Collector Activated LOW before Thermal Shut-Down
	Connector	Standard PICMG 47 Pin Positronics
	I2C Data Bus	Optional - Static and Dynamic Parameters
	LED Indications:	Two LED Indicators
	Front Panel Green	LED Outputs OK
	Front Panel Red	LED Outputs Failure
MECHANICAL DIMENSIONS	Size	6U High 8HP wide 169.6mm Deep
	Weight	1.8KG