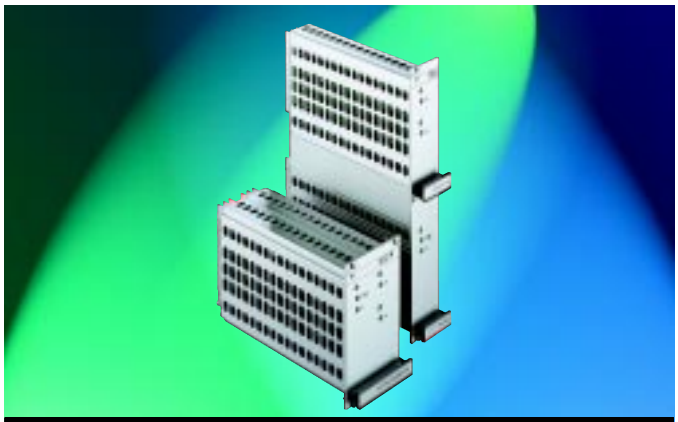
# PK-Series: TRIVOLT

**Primary switched mode power supplies for use in 19" subracks to DIN41494, 60 to 250 Watts output.**

### 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 (OVP) protection (5V output)
- Short circuit protected
- Powerfail signal
- No minimum load required
- Coded H15 connector
- Standardized pinning



*PK-Series TRIVOLT Power Supply*

### Ordering information

Description: TRIVOLT PK60; 3U x 8HP, 60 Watt output power

| Model | Outputs | | | Order-Code |
|---|---|---|---|---|
| | V1 | V2 | V3 | |
| PK60-A | 5V/6A | +12-15V/1A | -12-15V/1A | **116-010018J*** |
| PK60-A PF | 5V/6A | +12-15V/1A | -12-15V/1A | **116-010103A#** |
| PK60-B | 5V/6A | +12-15V/2A | -12-15V/0,5A | **116-010101G*** |
| PK60-B PF | 5V/6A | +12-15V/2A | -12-15V/0,5A | **116-010102D#** |

**Description: Trivolt PK120; 3U x 14HP, 6U x 8HP 120Watt output power**

| | | |
|---|---|---|
| PK120 3U | V1:5V/12A V2/V3: ±12-15V/2A | **116-010046C#** |
| PK120 6U | V1:5V/12A V2/V3: ±12-15V/2A | **116-010047L#** |
| PK120 6U PF | V1:5V/12A V2/V3: ±12-15V/2A | **116-010079D#** |
| PK120 3U PF | V1:5V/12A V2/V3: ±12-15V/2A | **116-010078G#** |

**Description: Trivolt PK125; 6U x 8HP, 125 Watt output power**

| | V1 | V2 | V3 | |
|---|---|---|---|---|
| PK125 | 5V/13A | +12V/4A | -12V/1A | **116-010182E** |

**Description: Trivolt PK250-2; 6U x 14HP, 250 Watt output power**

| | V1 | V2 | V3 | |
|---|---|---|---|---|
| PK250 with VME-Signal | | | | |
| | 5V/30A | +12V/6A | -12V/3A | **116-010115B#** |

**Description: Accessories**

| | |
|---|---|
| Reduced height front panel: PK60 | **148-10010A** |
| Reduced height front panel: PK120, 3U | **148-10020H** |
| Mating connector coded H15 to DIN 41612 | **017-10115K** |
| Mating connector coded H15+2HA faston to DIN 41612 | **017-10138K** |
| Coding keys (pkt 10) | **017-10064F** |

*Note: PF = Powerfail*

### Technical Data PK Series: Trivolt

**Input specification**

| | |
|---|---|
| Input voltage switchable: | 115/230VAC |
| Input frequency: | 47-63Hz |
| Inrush surge current limitation: | by NTC resistor |
| Input overvoltage protection: | by VDR |
| Hold up time (Nominal $V_{IN}$; 100% $I_{OUT}$): | >20ms |
| Efficiency: | typ. >75% |

**Safety (Compliant with Low Voltage Directive 73/23/EEC)**

| | |
|---|---|
| Certified to: | EN60950, IEC 950, UL1950, VDE 0805 |

**EMC (Compliant with EMC Directive 89/336/EEC)**

| | |
|---|---|
| Emmisions: | EN 55022/B (0,15-30MHz); EN 55022/B (30-1000MHz) |
| Immunity: | EN 50082-2 |
| Electro Static Discharge: | EN 61000-4-2 |
| Electrical fast transients/Burst: | EN 61000-4-4 |
| RF Conducted disturbance: | EN 50141 |
| RF Field susceptibility: | EN 50140 |

**Environmental**

| | |
|---|---|
| Operating temperature: | 0°C to +70°C |
| Storage temperature: | -25°C to +85°C |
| Relative humidity: | Non-condensing 5% - 95% |

**Physical**

Case material/finish: Clear anodised, ventilated aluminium cassette with cooling cutouts and front or rear heat sinks as applicable. DIN 41494 part 5 compatible

* EN60950 and UL certified
\# EN60950

# PK Series: TRIVOLT

**Output specifications**

| **PK60** | V1 | Version A: V2,V3 | Version B: V2,V3 |
|---|---|---|---|
| Output voltage: | **5V** | **±12-15V** | **±12-15V** |
| Output adjustment range: | 4,5-5,5V | - | - |
| Output current: | **0-6A** | **±0-1A** | **+2A/-0-0,5A** |
| Ripple: | <40mV$_{PP}$ | <3mV$_{PP}$ | <3mV$_{PP}$ |
| Line regulation (100% $I_{OUT}$): Δ $iV_{OUT}$ | <0,2% | <0,02% | <0,02% |
| Load regulation static (10...90% $I_{OUT}$): Δ $iV_{OUT}$ | <0,2% | <0,2% (0,75%) | <0,5% (0,75%) |
| Transient response (10...90% $I_{OUT}$): | 1ms | 10ms | 10ms |
| Switching frequency, converter type: | | 20-50kHz flyback converter | |
| Current limit: | >6,5A | >±1,1A | >2,1A/0,6A |
| Short circuit protection:Short circuit protection: | | continuous, automatic restart | |
| Overvoltage protection (OVP): | 6-6,7V | - | - |
| Powerfail Signal (at full load) >6ms before $V_{OUT}$: | <4,8V | - | - |
| Temperature-Coefficient/°C: | | 0,02% | |
| Voltage compensation with SENSE max.NOTE1: | 0,5V | - | - |
| Derating: | | 1,6W/°C above 45°C | |

| **PK120** | V1 | V2,V3 |
|---|---|---|
| Ausgangsspannung: | **5V** | **±12-15V** |
| Output adjustment range: | 4,5-5,5V | - |
| Output current: | **0-12A** | **0-2A** |
| Ripple: | <40mV$_{PP}$ | <20mV$_{PP}$ |
| Line regulation (100% $I_{OUT}$): Δ $iV_{OUT}$ | <0,02% | |
| Load regulation static (10...90% $I_{OUT}$): Δ $iV_{OUT}$ | <0,2% | |
| Transient response (10...90% $I_{OUT}$): | <0,2ms | <0,5ms |
| Switching frequency, converter type: | 25-100kHz flyback/forward converter | |
| Current limit: | >12,5A | >2,2A |
| Short circuit protection:Short circuit protection: | continuous, automatic restart | |
| Overvoltage protection (OVP): | 5,5-6,0V | - |
| Powerfail Signal (at full load) >6ms before $V_{OUT}$: | <4,8V | - |
| Temperature-Coefficient/°C: | 0,02% | |
| Voltage compensation with SENSE max.NOTE1: | 0,5V | - |
| Derating: | 4W/°C above 55°C | |

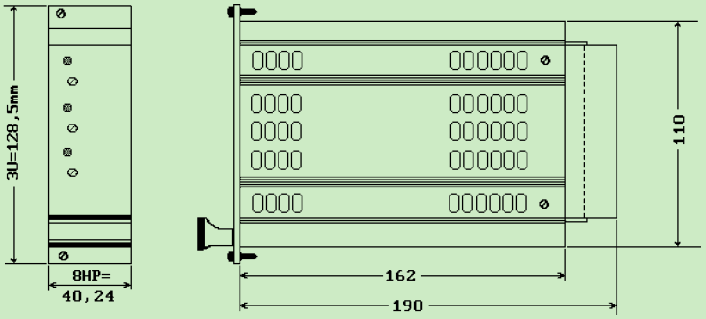
| **PK125** | V1 | V2 | V3 |
|---|---|---|---|
| Ausgangsspannung: | **5V** | **12V** | **-12V** |
| Output adjustment range: | 4,5-5,5V | 10,8-13,2V | -10,8-13,2V |
| Ausgangsgleichstrom: | **0-13A** | **0-4A** | **0-1A** |
| Ripple: | <40mV$_{PP}$ | | |
| Line regulation (100% $I_{OUT}$): Δ $iV_{OUT}$ | <0,3% | <0,2% | <0,2% |
| Load regulation static (10...90% $I_{OUT}$): Δ $iV_{OUT}$ | <0,2% | | |
| Transient response (10...90% $I_{OUT}$): | 1ms | 1ms | 1ms |
| Switching frequency, converter type: | 50kHz forward converter | | |
| Current limit: | >14A | >5A | >1A |
| Short circuit protection: | continuous, automatic restart | | |
| Overvoltage protection (OVP): | 6,0-6,7V adjustable | - | - |
| Powerfail Signal (at full load) >6ms before $V_{OUT}$: | ACFAIL and SYSRESET in accordance with VME spec. rev D | | |
| Temperature-Coefficient/°C: | 0,05% | | |
| Voltage compensation with SENSE max.NOTE1: | 0,5V | - | - |
| Derating: | 3W/°C above 55°C | | |

| **PK250** | V1 | V2 | V3 |
|---|---|---|---|
| Ausgangsspannung: | **5V** | **12V** | **-12V** |
| Output adjustment range: | 4,5-5,5V | 10,8-13,2V | -10,8-13,2V |
| Output current: | **0-30A** | **0-6A** | **0-3A** |
| Ripple: | <40mV$_{PP}$ | | |
| Line regulation (100% $I_{OUT}$): Δ $iV_{OUT}$ | <0,2% | | |
| Load regulation static (10...90% $I_{OUT}$): Δ $iV_{OUT}$ | <0,2% | <1% | <1% |
| Transient response (10...90% $I_{OUT}$): | 1ms | 2ms | 2ms |
| Switching frequency, converter type: | 50kHz halfbridge push-pull converter | | |
| Current limit: | >31A | >6,5A | >3,5A |
| Short circuit protection: | continuous, automatic restart | | |
| Overvoltage protection (OVP): | 5,5-7,0V adjustable | - | - |
| Powerfail Signal (at full load) >6ms before $V_{OUT}$: | ACFAIL and SYSRESET in accordance with VME spec. rev D | | |
| Temperature-Coefficient/°C: | 0,05% | | |
| Voltage compensation with SENSE max.NOTE1: | 0,5V | - | - |
| Derating: | 6W/°C above 55°C | | |

# PK Series: TRIVOLT

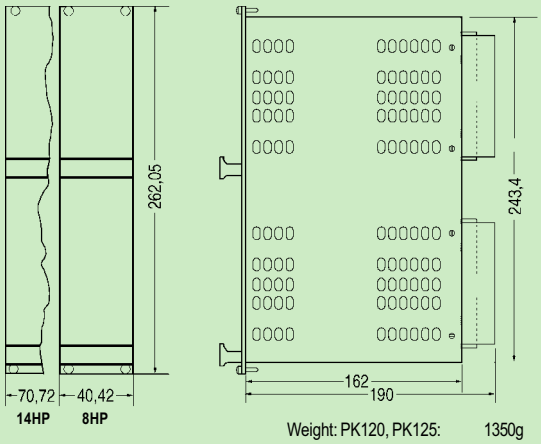
## Mechanical details

**PK60**




Weight: PK60: 850g

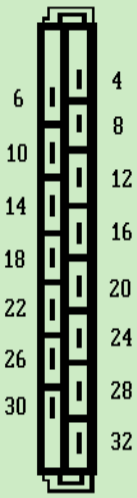
**PK120, PK125, PK250**




Weight: PK120, PK125: 1350g
Weight: PK250: 2500g

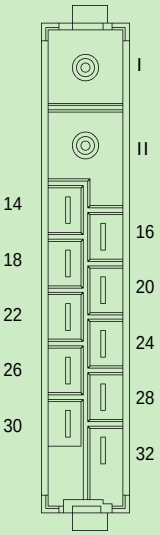
## Pin allocation H15-connector

| PIN | Function *PK60* | *PK120* |
|---|---|---|
| 4 | +5V | +5V |
| 6 | +5V | +5V |
| 8 | -Vout | -Vout |
| 10 | -Vout | -Vout |
| 12 | +SENSE | +SENSE |
| 14 | -SENSE | -SENSE |
| 16 | PF Q | PF Q |
| 18 | +12-15V | +12-15V |
| 20 | 0V | 0V |
| 22 | -12-15V | -12-15V |
| 24 | —— | —— |
| 26 | —— | —— |
| 28 | N | N |
| 30 | L | L |
| 32 | E | E |




## Pin allocation - H15+2HA connector

| PIN | Function S2 *PK125/250* | PIN | Function S1 (DIN41612 - C96) *PK125/250* |
|---|---|---|---|
| I | +5V | B3 | AC FAIL |
| II | 0V | C12 | SYS RESET |
| 14 | +SENSE | C9 | 0V |
| 16 | -SENSE | | |
| 18 | +12V | | |
| 20 | 0V (±12V) | | |
| 22 | -12V | | |
| 28 | N | | |
| 30 | L | | |
| 32 | E | | |




AC-DC