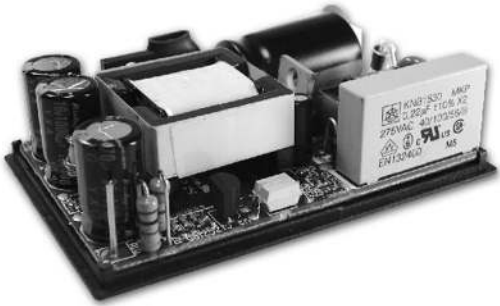


KAD15 SERIES



OPEN FRAME
AC - DC POWER MODULE
13 ~ 15W UL / cUL / TUV / CE

FEATURES

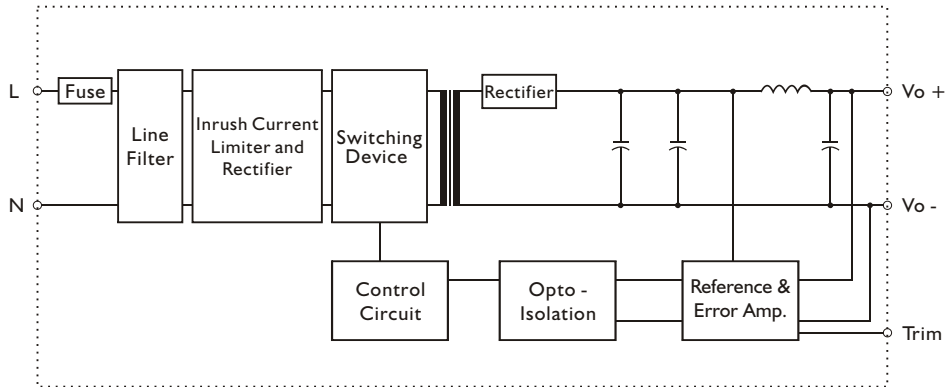
- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC
- HIGH EFFICIENCY UP TO 82%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY
- OPEN FRAME

MODEL LIST

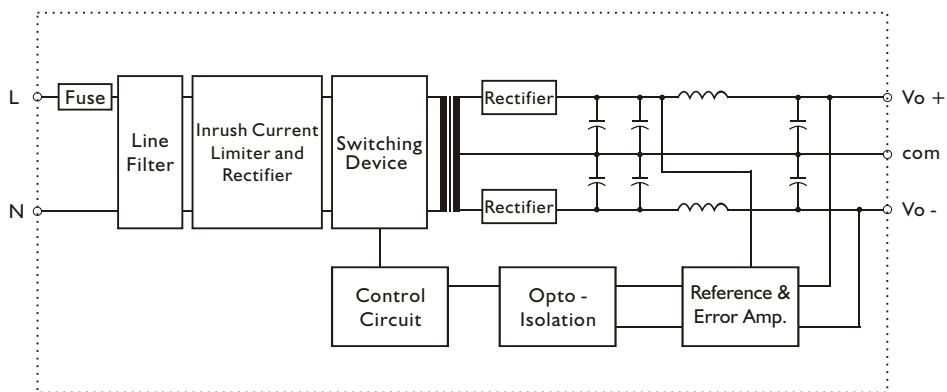
| MODEL NO. | INPUT VOLTAGE | OUTPUT WATTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | EFF. (typ.) | EFF. (min.) |
|-----------------------------|---------------|----------------|-----------------|----------------|-------------|-------------|
| Single Output Models | | | | | | |
| KAD1503 | 85~265 VAC | 13 WATTS | +3.3 VDC | 4000 mA | 73% | 70% |
| KAD1505 | 85~265 VAC | 15 WATTS | + 5 VDC | 3000 mA | 76% | 74% |
| KAD1512 | 85~265 VAC | 15 WATTS | + 12 VDC | 1250 mA | 82% | 80% |
| KAD1515 | 85~265 VAC | 15 WATTS | + 15 VDC | 1000 mA | 82% | 80% |
| KAD1524 | 85~265 VAC | 15 WATTS | + 24 VDC | 625 mA | 82% | 80% |
| Dual Output Models | | | | | | |
| KAD1512D | 85~265 VAC | 15 WATTS | ± 12 VDC | ± 625 mA | 81% | 79% |
| KAD1515D | 85~265 VAC | 15 WATTS | ± 15 VDC | ± 500 mA | 80% | 78% |
| KAD15503D | 85~265 VAC | 15 WATTS | + 5 / + 3.3 VDC | + 1A / +3 A | 74% | 72% |

CIRCUIT SCHEMATIC

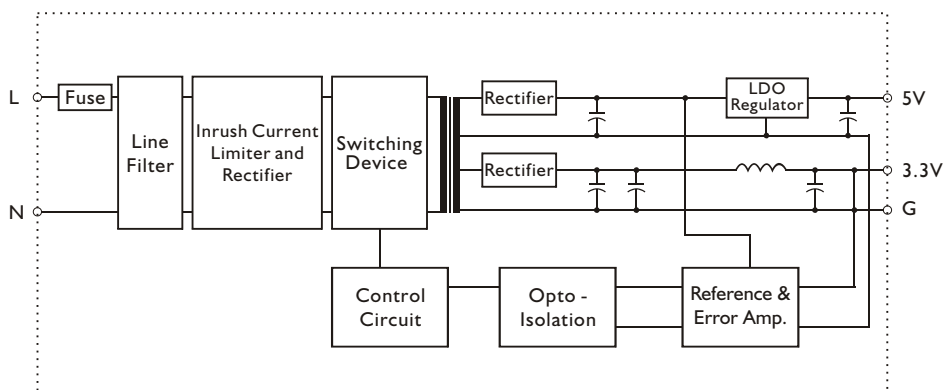
- Block diagram for KAD15 series with single output



- Block diagram for KAD15 series with dual output



- Block diagram for KAD15503D



SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL

| Characteristics | Conditions | min. | typ. | max. | unit |
|----------------------|--------------------------------|-------|------|-------|--------|
| Switching frequency | Vi nom, Io nom | | 100 | | KHz |
| Isolation voltage | Input / Output | 3,000 | | | VAC |
| Isolation resistance | Input / Output, @ 500VDC | 100 | | | MΩ |
| Ambient temperature | Operating at Vi nom, Io nom | -20 | | + 71 | °C |
| Derating | Vi nom, Io nom + 5 l to + 71°C | | | 2 | % / °C |
| Storage temperature | Non operational | -40 | | + 100 | °C |
| Relative humidity | Vi nom, Io nom | | | 95 | % RH |
| Dimension | L76.2 x W50.8 x H22.6 | | | | mm |
| Cooling | Free air convection | | | | |
| Case material | Plastic | | | | |

INPUT SPECIFICATIONS

| Characteristics | Conditions | min. | typ. | max. | unit |
|---------------------|----------------|-------------|------|------|------|
| Rated input voltage | Io nom | 85 | | 265 | VAC |
| Input voltage range | Io nom | AC in | | 265 | VAC |
| | | DC in | 120 | 370 | VDC |
| Line frequency | Vi nom, Io nom | 47 | | 63 | Hz |
| Inrush current | Io nom | Vi : 115VAC | | 10 | A |
| | | Vi : 230VAC | | 18 | A |

OUTPUT SPECIFICATIONS

| Characteristics | Conditions | min. | typ. | max. | unit |
|--|----------------------------------|---------------------------|----------------------|--------|--------|
| Output voltage accuracy | Vi nom, Io nom | | | ± 2 | % |
| Minimum load | Vi nom | 0 | | | % |
| | | single output models | | | % |
| | | 20 | | | % |
| | dual output models (each output) | | | | % |
| Line regulation | Io nom, Vi min ... Vi max | | | ± 1 | % |
| Load regulation | Vi nom, | | | ± 2 | % |
| | Io min ... Io nom | single output models | | ± 5 | % |
| | | dual output models | | | % |
| Transient recovery time | Vi nom, Io nom = I ↔ 0.5 Io nom | | 1,000 | | μs |
| Temperature coefficient | Vi nom, Io nom | | | ± 0.02 | % / °C |
| Ripple & noise | Vi nom, Io nom, BW = 20MHz | 3.3V models | | 100 | mV |
| | | 5V ... 24V models | Vout x ± 1% p-p max. | | |
| External trim ADJ. Range 1) (for single output only) | Io = 5%... 100% | -10 | | + 10 | % |
| Efficiency | Vi nom, Io nom, Po / Pi | Up to 82%, See model list | | | |

NOTE 1 : PIs refer to Fig 1 & Table 1 for connection and resistance recommended.

CONTROL AND PROTECTION

| | |
|----------------------|-----------------------|
| Input fuse | T2A / 250VAC internal |
| Output short circuit | By current limited |

APPROVALS AND STANDARDS

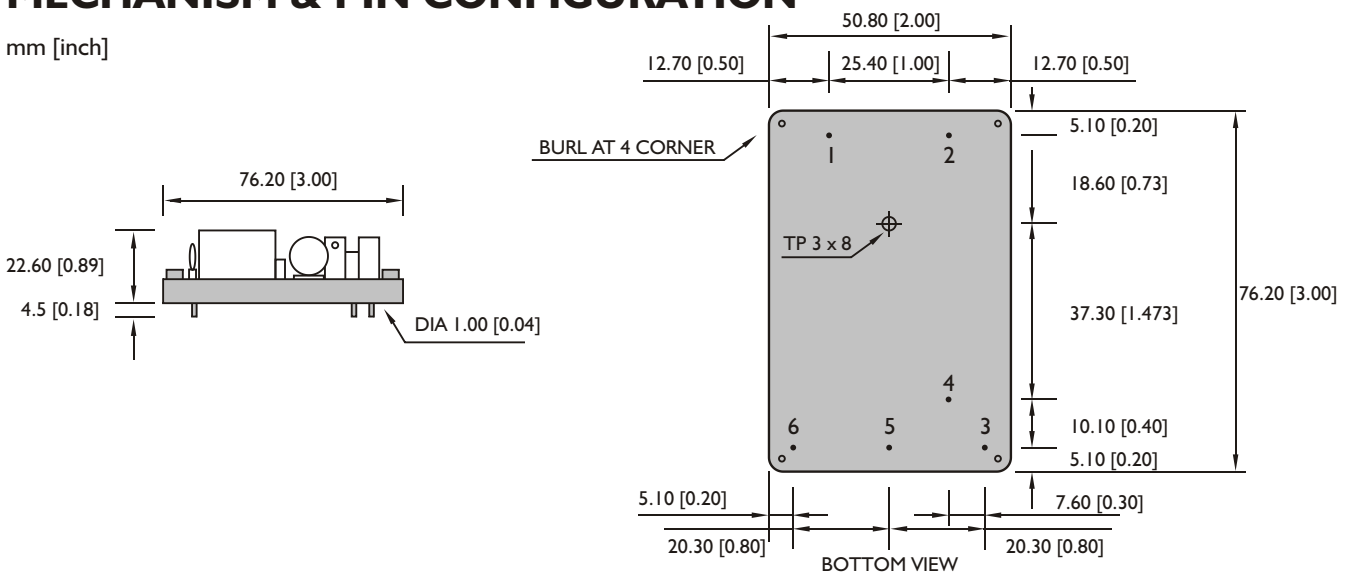
| | |
|----------|-------------------------|
| UL / cUL | UL1950 |
| TUV | EN60950 |
| CE | EN55022 class B for EMI |
| | EN50082-1 for EMS |

KAD15 SERIES

OPEN FRAME
AC - DC POWER MODULE

MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

| | |
|---------------|---|
| SIZE | 76.2 x 50.8 x 22.6 mm 3 x 2 x 0.89 inches |
| BASE MATERIAL | Plastic |
| WEIGHT | 85 g |

PIN ASSIGNMENT

GENERAL

| PIN NO. | 1 | 2 | 3 | 4 | 5 | 6 |
|---------|-------|-------|---------------|--------|--------|-------------|
| SINGLE | AC IN | AC IN | Vo - | Trim | NO PIN | Vo + |
| DUAL | AC IN | AC IN | Vo - or +3.3V | NO PIN | com | Vo + or +5V |

DERATING

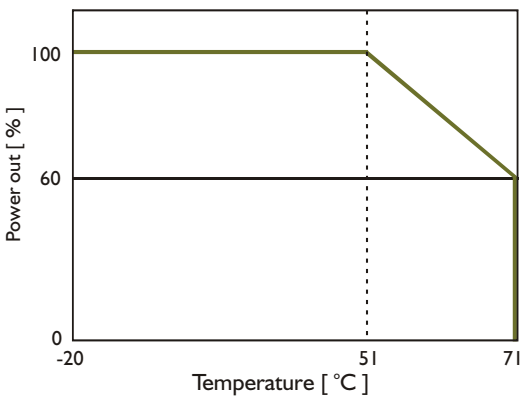


Fig. 1 Trim connection

(For single output only)

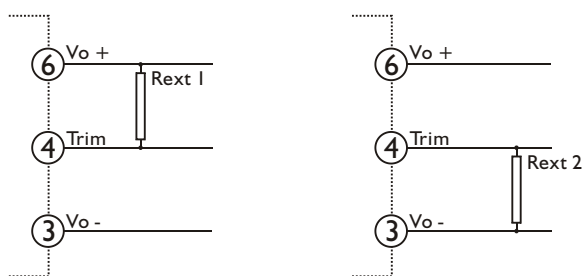


Table 1 Typical resistor values for various output voltage adjustment settings

| Type | Rext 1 | | Rext 2 | |
|---------|------------|-------------|------------|-------------|
| | Uo nom -5% | Uo nom -10% | Uo nom +5% | Uo nom +10% |
| KAD1503 | 180KΩ | 56KΩ | 100KΩ | 20KΩ |
| KAD1505 | 39KΩ | 15KΩ | 9.1KΩ | 2.2KΩ |
| KAD1512 | 51KΩ | 20KΩ | 10KΩ | 2KΩ |
| KAD1515 | 150KΩ | 68KΩ | 20KΩ | 4.7KΩ |
| KAD1524 | 130KΩ | 56KΩ | 12KΩ | 2KΩ |

