

Offering 70W with Energy Efficiency Level VI and CoC Tier 2 the AEJ70 desktop AC-DC power supplies are designed for ITE & industrial electronics applications.

The DC lead is fitted with a 5.5/2.5mm right angled barrel connector. With class B conducted & radiated emissions and class I construction they are fitted with an IEC320-C14 inlet and have a voltage input range of 90 to 264VAC.



### Features

- ▶ Single outputs from 12 to 48VDC
- ▶ Energy efficiency level VI
- ▶ European CoC tier 2
- ▶ Universal input
- ▶ <0.15W standby power
- ▶ -20°C to +65°C operation
- ▶ 3 year warranty

### Applications



Technology



Instrumentation

### Dimensions

120.0 x 53.5 x 31.0mm (4.72" x 2.09" x 1.24")

### Models & ratings

| Model number | Output voltage | Output current | Total regulation | Efficiency <sup>(1)</sup> |
|--------------|----------------|----------------|------------------|---------------------------|
| AEJ70US12    | 12.0VDC        | 5.80A          | ±5%              | 89%                       |
| AEJ70US15    | 15.0VDC        | 4.65A          | ±4%              | 89%                       |
| AEJ70US19    | 19.0VDC        | 3.70A          | ±3%              | 89%                       |
| AEJ70US24    | 24.0VDC        | 3.00A          | ±3%              | 89%                       |
| AEJ70US28    | 28.0VDC        | 2.50A          | ±3%              | 89%                       |
| AEJ70US36    | 36.0VDC        | 2.00A          | ±3%              | 89%                       |
| AEJ70US48    | 48.0VDC        | 1.50A          | ±3%              | 89%                       |

#### Notes:

1. Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230VAC input.

## Input

| Characteristic        | Minimum                            | Typical | Maximum | Units | Notes & conditions       |
|-----------------------|------------------------------------|---------|---------|-------|--------------------------|
| Input voltage         | 90                                 |         | 264     | VAC   |                          |
| Input frequency       | 47                                 |         | 63      | Hz    |                          |
| Input current         |                                    | 1.5     |         | A     | Measured at 100VAC       |
| Inrush current        |                                    |         | 70      | A     | 230VAC cold start, +25°C |
| Earth leakage current |                                    |         | 350     | µA    | 264VAC, 60Hz             |
| No load input power   |                                    |         | 0.15    | W     |                          |
| Input protection      | T2.0A/250VAC internal fuse in line |         |         |       |                          |

## Output

| Characteristic           | Minimum                                   | Typical | Maximum | Units   | Notes & conditions                                                                            |
|--------------------------|-------------------------------------------|---------|---------|---------|-----------------------------------------------------------------------------------------------|
| Output voltage           | 12                                        |         | 48      | VDC     | See models and ratings table                                                                  |
| Initial set accuracy     |                                           |         | ±2      | %       | At 60% load                                                                                   |
| Minimum load             | No minimum load required                  |         |         |         |                                                                                               |
| Start up delay           |                                           |         | 3       | s       |                                                                                               |
| Start up rise time       |                                           |         | 20      | ms      |                                                                                               |
| Hold up time             |                                           | 8       |         | ms      | Full load and 115VAC                                                                          |
| Line regulation          |                                           |         | ±1      | %       |                                                                                               |
| Total regulation         | See models and ratings table              |         |         |         |                                                                                               |
| Transient response       |                                           |         | 5       | %       | Maximum deviation, recovering to less than 1% within 500µs for 25% step load                  |
| Ripple and noise         |                                           |         | 1       | % pk-pk | Measured with 20MHz bandwidth and 10µF electrolytic in parallel with 0.1µF ceramic capacitor. |
| Overshoot                |                                           |         | 10      | %       | At turn on / turn off                                                                         |
| Overvoltage protection   | 112                                       |         | 140     | %       | Auto recovery                                                                                 |
| Overload protection      | 115                                       |         | 185     | %       |                                                                                               |
| Short circuit protection | Trip and restart (hiccup), auto resetting |         |         |         |                                                                                               |
| Temperature coefficient  |                                           | 0.04    |         | %/°C    |                                                                                               |

## General

| Characteristic            | Minimum | Typical   | Maximum    | Units                               | Notes & conditions                         |
|---------------------------|---------|-----------|------------|-------------------------------------|--------------------------------------------|
| Efficiency                |         | 89        |            | %                                   | See models and ratings table and curves.   |
| Isolation                 | 3000    |           |            | VAC                                 |                                            |
|                           | 1500    |           |            | VAC                                 |                                            |
|                           |         |           |            |                                     | Negative output is connected to ground     |
| Switching frequency       |         | 65        |            | kHz                                 | Variable                                   |
| Power density             |         |           | 0.36 (5.9) | cm <sup>3</sup> (W/in) <sup>3</sup> |                                            |
| Mean time between failure |         |           |            | khrs                                | MIL-HDBK-217F at 25°C GB for 24VDC version |
| Weight                    |         | 300 (0.6) |            | g (lb)                              |                                            |

## Environmental

| Characteristic        | Minimum                                                          | Typical | Maximum | Units | Notes & conditions                                  |
|-----------------------|------------------------------------------------------------------|---------|---------|-------|-----------------------------------------------------|
| Operating temperature | -20                                                              |         | +65     | °C    | Derate from 100% load at +40°C to 42% load at +65°C |
| Storage temperature   | -40                                                              |         | +85     | °C    |                                                     |
| Operating humidity    | 5                                                                |         | 90      | %RH   | Non-condensing                                      |
| Operating altitude    |                                                                  |         | 5000    | m     |                                                     |
| Vibration             | IEC68-2-6, 10-500 Hz, 2g 10mins/sweep, 60mins for each of 3 axes |         |         |       |                                                     |
| Cooling               | Natural convection                                               |         |         |       |                                                     |
| Shock                 | IEC68-2-27, 30g, 11ms half sine, 3 times in each of 6 axes       |         |         |       |                                                     |

## Emissions - EMC

| Phenomenon        | Standard    | Test level | Notes & conditions     |
|-------------------|-------------|------------|------------------------|
| Emissions         | EN55032     | Level B    | Conducted and radiated |
| Harmonic currents | EN61000-3-2 | Class A    |                        |
| Voltage flicker   | EN61000-3-3 |            |                        |

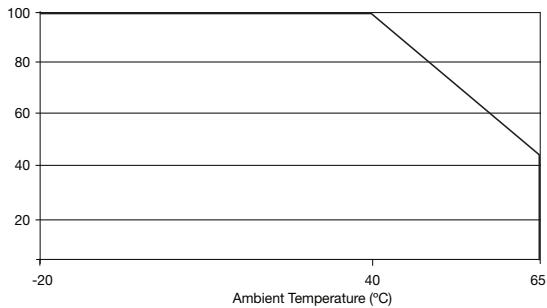
## Emissions - immunity

| Phenomenon             | Standard     | Test level              | Criteria | Notes & conditions |
|------------------------|--------------|-------------------------|----------|--------------------|
| ESD immunity           | EN61000-4-2  | ±8kV contact, ±15kV air | A        |                    |
| Radiated immunity      | EN61000-4-3  | 3V/m                    | A        |                    |
| EFT/burst              | EN61000-4-4  | 2                       | A        |                    |
| Surge                  | EN61000-4-5  | Installation class 3    | A        |                    |
| Conducted              | EN61000-4-6  | 3V                      | A        |                    |
| Magnetic fields        | EN61000-4-8  | 3A/m                    | A        |                    |
| Dips and interruptions | EN61000-4-11 | Dip: 30% 500ms          | A/B      | High Line/low line |
|                        |              | Dip: 60% 100ms          | A/B      | High Line/low line |
|                        |              | Int: 100% 5000ms        | B        |                    |
|                        |              | Int: 100% 10ms          | A        |                    |

## Safety approvals

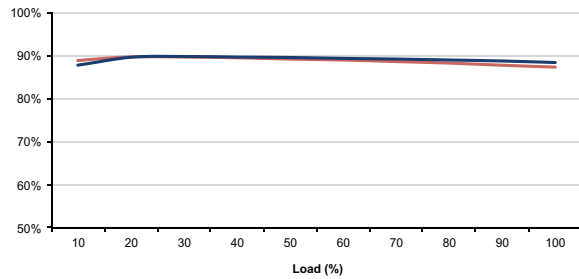
| Safety agency | Standard                         | Notes & conditions |
|---------------|----------------------------------|--------------------|
| UL            | UL62368-1                        |                    |
| EN            | EN62368-1                        |                    |
| CB            | IEC62368-1                       |                    |
| AU/NZ         | AU/NZ 60950.1                    |                    |
| CE            | Meets all applicable legislation |                    |
| UKCA          | Meets all applicable legislation |                    |

## Derating curve

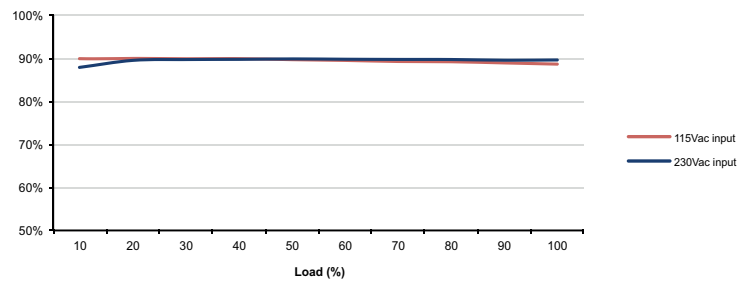


## Efficiency curve

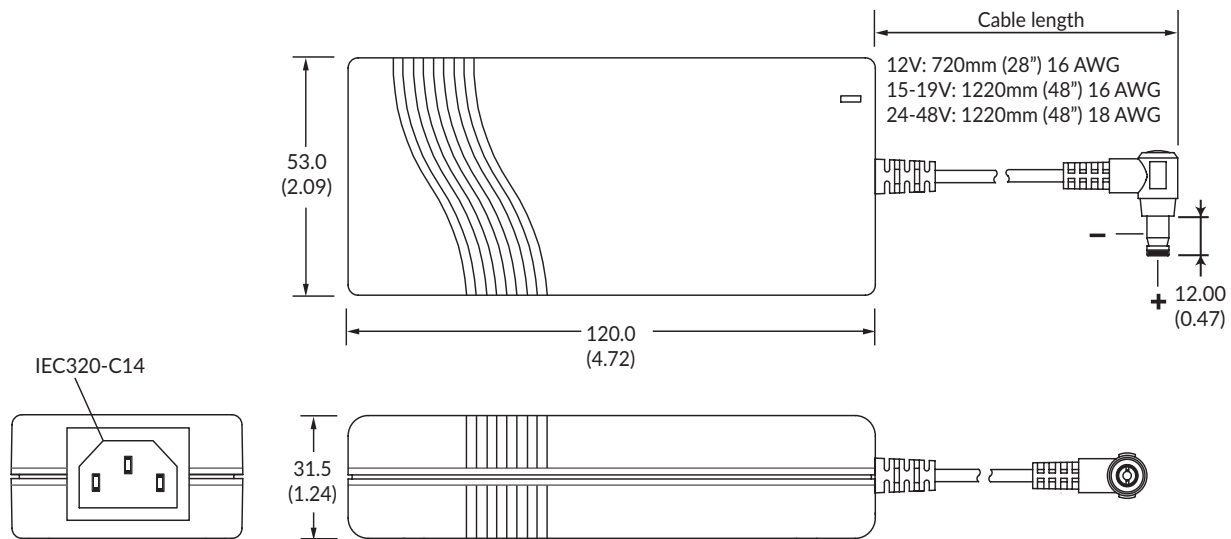
AEJ70US12



AEJ70US24



## Mechanical details



### Notes:

1. All dimensions shown in mm (inches).
2. Weight: 300g (0.6lbs) approx.

3. Tolerance is  $\pm 0.5$  ( $\pm 0.02$ ) maximum, except output cable length which is  $\pm 50$ mm ( $\pm 2$ ")
4. Output connector is 5.5mm dia. outer barrel, inner dia. is 2.5mm with a center + and outer shell - polarity.

Specifications subject to change without notice.