



RDVS 24V Economiser



## ➤ Coil Economiser

RDVS designed two Coil Economisers to allow large solenoids, contactors and relays to be powered efficiently by applying a high power 'pull in' voltage then reducing to a lower holding voltage. This greatly reduces power consumption and heat dissipation in the contactor with no significant change to switching performance.

The Coil Economisers were designed for a 12V or a 24V system; both provide a high peak output current for 100ms to pull in the contactor, before reducing to a lower holding voltage. The sophisticated switch-mode power conversion technology provides >85% efficiency and the unit has short and open circuit output detection. Particular focus was on carefully designed filters to reduce noise and meet EMC legislation while maintaining a very compact design.



Electrical  
Engineering  
Solutions

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ISO 9001:2008  
FS 563617



ISO 14001:2004  
EMS 563618

## Features

- › Controls two high power contactors individually
- › Switches coils with resistance down to 1Ω
- › Holding voltage regulated to a software configurable voltage with feedback loop monitoring
- › Typical application controlling two Tyco EV200 relays
- › Compact design using only surface-mount PCB components
- › >85% efficiency in switch mode power regulation
- › Open circuit and short circuit output detection, with hardwired fault signal
- › Hardware filtering and software averaging reduce effects of noise on supply voltage
- › Sophisticated EMC filtering to meet emissions legislation
- › Easily configurable design

### RDVS 12V Economiser

- › Input voltage range 9-16V
- › Maximum output current <7A for 100ms
- › Simple 5-wire interface
- › Sealed enclosure

### RDVS 24V Economiser

- › Input voltage range 18-36V
- › Maximum output current <15A for 100ms
- › Optional low-power control input (<20mA), no need to switch high power feed in controlling ECU
- › Conformal coated PCB

## Physical Attributes

### RDVS 12V Economiser

- › Dimensions: 85mm x 50mm
- › Connections: 6-way Deutsch DT series
- › Mounting: 4 x M4

### RDVS 24V Economiser

- › Dimensions: 85mm x 50mm
- › Connections: 12-way and 8-way Tyco 040 series
- › Mounting: 4 x M4

## Environmental

- › Operating voltage range: 9-16V or 18-36V DC
- › Typical power consumption:
  - › <15A for 100ms during switching
  - › <1A while holding
- › Temperature: -20°C to +85°C operating
- › Humidity: IEC 60068-2-38 Z/AD
- › Vibration/shock: IEC 60068-2-64, IEC 60068-2-6, IEC 60068-2-27
- › EMC: ISO7637, ISO11452, 2004/104/EC
- › ESD: ISO10605
- › RoHS compliant
- › Sealed to IP67 as standard, can meet IP6K9K in appropriate installation

All parameters are subject to individual installation conditions



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