

# Solid State Relays 2 Independently Switched Poles Integrated Heatsink Type RJD2A - Duo



- 2 in 1 semiconductor contactor
- Two control inputs - two independently switched poles
- Direct copper bonding (DCB) technology
- LED-indication for each pole
- Housing free of moulding mass
- Cage clamp output terminals
- Input range: 4-32 VDC
- Operational ratings: up to 2x45 AAC and 600 VAC
- Non-repetitive voltage: up to 1200 Vp
- Opto-isolation > 4000 VACrms

## Product Description

This product is designed in such a way as to replace electro-mechanical contactors in industrial heating and motor applications, especially when switching is frequent. This product is ready to mount on DIN-rail or chassis and comes with integral heatsink. Cage clamp terminals are used to ensure secure load connection with cable up to 25mm<sup>2</sup>.

The RJD2A series consists of two switching poles which are independently controlled. Green LEDs indicate the status of each control input. The relay will switch on when the sinusoidal curve crosses zero and switches off when the current crosses zero.

## Ordering Key

**RJ D 2 A 60 D 30 E**

- Solid State Relay
- Two-in-one(Duo)
- Number of switching poles
- Switching mode
- Rated operational voltage
- Control voltage
- Rated operational current
- Terminal layout

## Type Selection

Switching mode	Rated operational voltage	Control voltage	Rated operational current
A: Zero switching	23: 230 VACrms 60: 600 VACrms	D: 4-32VDC	30: 2x30 AACrms (Midi) 45: 2x45 AACrms (Power)

## Selection Guide

Rated operational voltage	Control voltage	Rated operational current 2x30A (Midi)	2x45A (Power)
230VACrms	4-32VDC	RJD2A23D30E	RJD2A23D45E
600VACrms	4-32VDC	RJD2A60D30E	RJD2A60D45E

## General Specifications

	RJD2A23...	RJD2A60...
Operational voltage range	24 to 280 VAC	42 to 660 VAC
Non-rep. peak voltage	650 V <sub>p</sub>	1200 V <sub>p</sub>
Operational frequency range	45 to 65 Hz	45 to 65 Hz
Power factor	≥ 0.5 @ 230 VACrms	≥ 0.5 @ 600 VACrms
Approvals	UL, cUL	UL, cUL
CE-marking	Yes	Yes
Pollution degree	2	2

## Output Specifications

	RJD2A...30 (Midi)	RJD2A...45 (Power)
Rated operational current AC51 @Ta=25°C AC53a @Ta=25°C	2x30AACrms 2x30AACrms	2x45AACrms 2x30AACrms
Min. operational current	150 mAACrms	150 mAACrms
Rep. overload current t = 1s	< 200 AACrms	< 200 AACrms
Non rep. surge current Tj(init.) = 25°C and t = 10 ms	1900 Ap	1900 Ap
Off-state leakage current @ rated voltage and frequency	< 3 mArms	< 3 mArms
I <sup>2</sup> t for fusing t = 10 ms	18000 A <sup>2</sup> s	18000 A <sup>2</sup> s
Critical dI/dt	≥ 100 A/μs	≥ 100 A/μs
On-state voltage drop @ rated current	1.6 Vrms	1.6 Vrms
Critical dv/dt commutating	500 V/μs	500 V/μs
Critical dV/dt off-state	500 V/μs	500 V/μs

## Housing Specifications

Weight	Approx. 480g (MIDI) Approx. 800g (Power)
Housing material	PBT Flame Retardant
Control terminal cable size Min Max	1 x 0.5 mm <sup>2</sup> (1 x AWG 20) 1 x 4.0 mm <sup>2</sup> (1 x AWG 12) or 2 x 2.5 mm <sup>2</sup> (2 x AWG 14)
Tightening torque max.	0.6 Nm with Posidrive 0 bit
Control terminal screw	M3
Power terminal cable size Min Max	1 x 4 mm <sup>2</sup> (1 x AWG 12) 1 x 25 mm <sup>2</sup> (1 x AWG 3) or 2 x 10 mm <sup>2</sup> (2 x AWG 6)
Tightening torque max.	2.5 Nm with Posidrive 2 bit
Power terminal screw	M5

## Input Specifications

Control voltage range	4 - 32 VDC
Pick-up voltage	3.8 VDC
Reverse voltage	32 VDC
Drop-out voltage	1 VDC
Maximum input current	15 mA
Response time pick-up	1 cycle
Response time drop-out	1 cycle

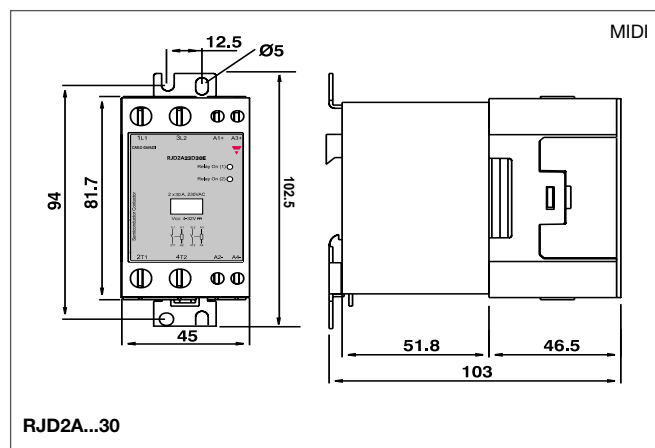
## Thermal Specifications

Operating temperature	-30 to +70°C
Storage temperature	-40 to +100°C

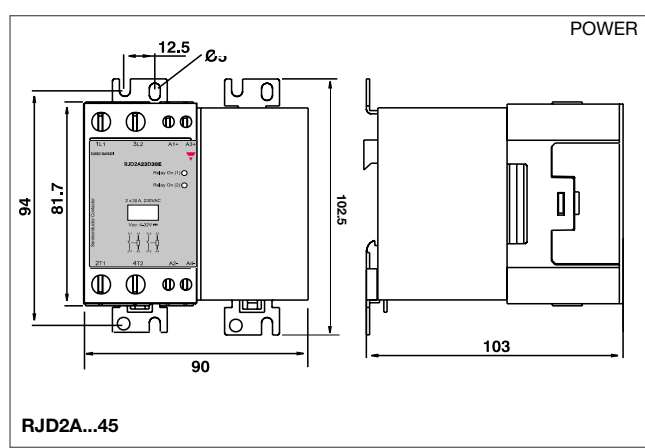
## Insulation

Rated insulation voltage Input to output	≥ 4000 VACrms
Output to case	≥ 4000 VACrms

## Dimensions

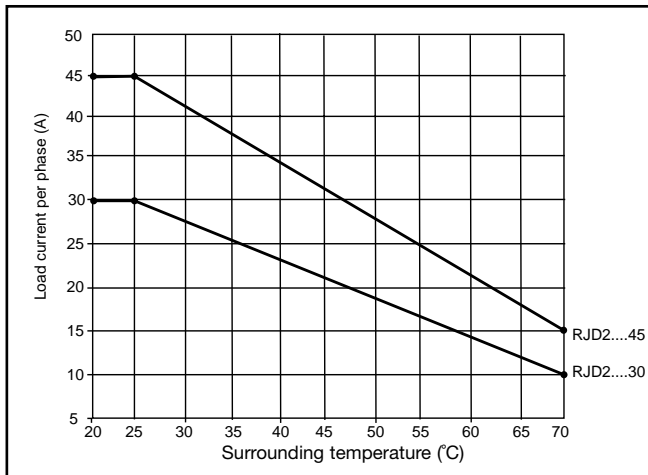


All dimensions in mm

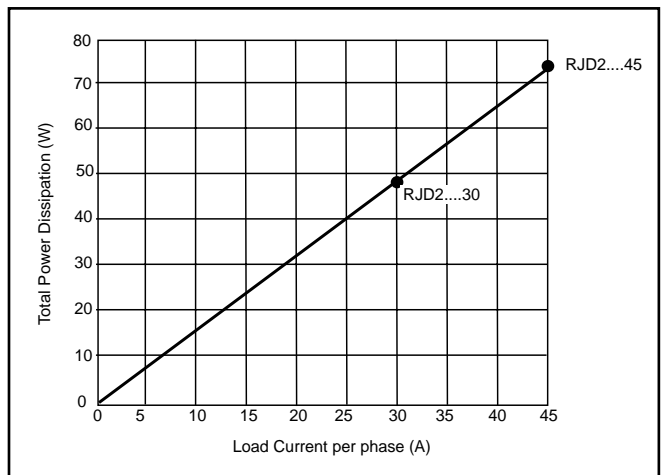


All dimensions in mm

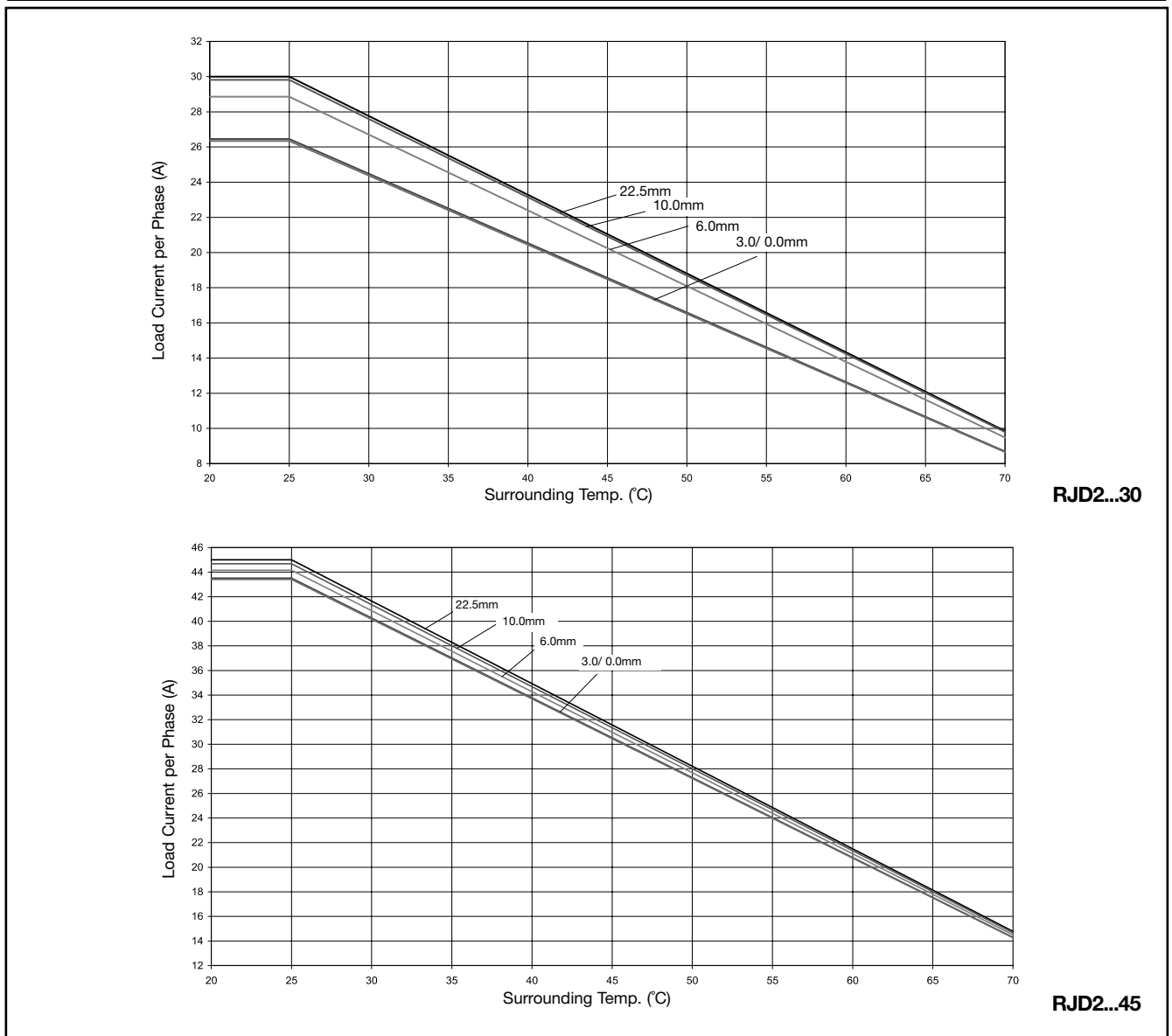
## Derating Curve



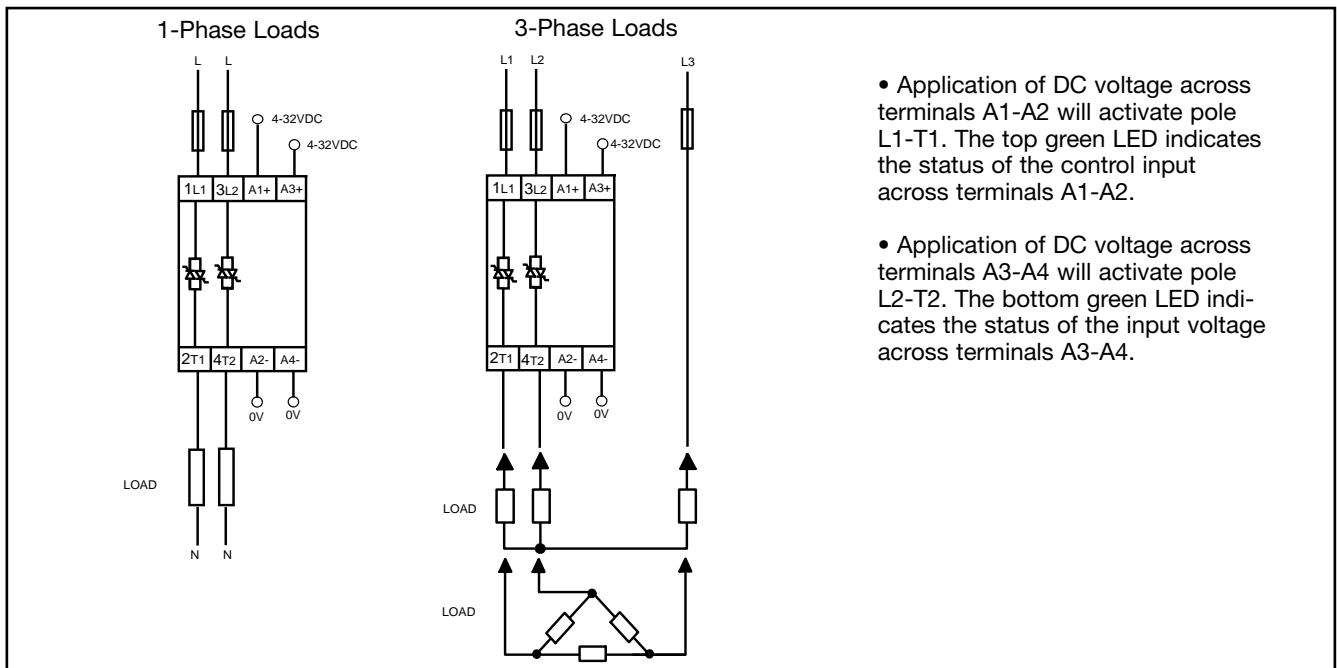
## Dissipation Curve



## Derating vs. Spacing Curves



## Connection example



## Terminal Layout

