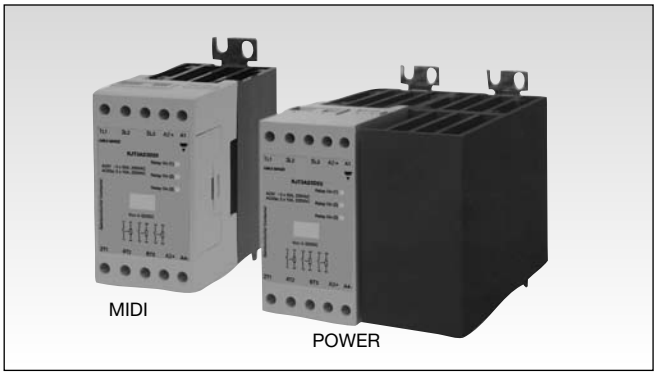
Solid State Relays
3 Independently Switched Poles
Integrated heatsink
Type RJT3A - Trio



- **3 in 1 semiconductor contactor**
- **Three control inputs - three independently switched poles**
- **Direct copper bonding (DCB) technology**
- **LED indication for each pole**
- **Housing free of moulding mass**
- **Input range: 4 – 32 VDC**
- **Operational ratings: up to 3x25AAC, 600VAC**
- **Blocking voltage: up to 1200V_p**
- **Opto-isolation > 4000 VAC_{rms}**

Product Description

This product is designed in such a way as to replace electro-mechanical contactors, especially when switching is frequent. It has an integrated heatsink and over-voltage protection. The heatsink is moved to the back for optimal space saving in the panel and easy wire mounting at the front of the relay.
The relay with antiparallel thyristor output can be used for resistive and inductive loads.
RJT3A comes with 3 independently controlled poles, with three LEDs to indicate status of each control input.
Each zero switching relay switches ON when the sinusoidal curve crosses zero and switches OFF when the current crosses zero.

Ordering Key

RJ T 3 A 60 D 25

- **Solid state relay**
- **Three-in-one (Trio)**
- **Number of switching poles**
- **Switching mode**
- **Rated operational voltage**
- **Control voltage**
- **Rated operational current**

Type selection

Switching mode	Rated operational voltage	Control voltage	Rated operational current
A: Zero switching	23: 230 VACrms 60: 600 VACrms	D: 4 - 32 VDC	20: 3 x 20 AAC_{rms} (MIDI) 25: 3 x 25 AAC_{rms} (POWER)

Selection Guide

Rated operational voltage	Control voltage	Rated operational current 3 x 20 (MIDI)	3 x 25 (POWER)
230 VACrms	4-32VDC	**RJT3A23D20**	**RJT3A23D25**
600 VACrms	4-32VDC	**RJT3A60D20**	**RJT3A60D25**

General Specifications

	RJT3A23...	RJT3A60...
Operational voltage range	24 - 280 VAC	48 - 660 VAC
Blocking voltage	650 V_p	1200 V_p
Operational frequency range	45 - 65 Hz	45 - 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

	RJT3A...20 (MIDI)	RJT3A...25 (POWER)
Rated operational current AC51 @Ta=25°C AC53a @Ta=25°C	 3 x 20 A 3 x 15 A	 3 x 25 A 3 x 15 A
Min. opertional current	250 mA	250 mA
Rep. overload current t=1s	<125 A	<125 A
Non rep. surge current Tj(init.)= 25°C and t=10ms	 600 Apk	 600 Apk
Off-state leakage current @ rated voltage & frequency	< 3 mA	< 3 mA
I^2t for fusing (t = 10 ms)	1800 A^2s	1800 A^2s
On-state voltage drop @ rated current	1.6 Vrms	1.6 Vrms
Critical dV/dt off-state	500 V/µs	500 V/µs

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	12 mA
Response time pick-up	<1 cycle
Response time drop-out	<1 cycle

Housing Specifications

Weight	
MIDI	Approx. 380 g
POWER	Approx. 680 g
Housing material	PBT, Flame retardant
Conductors	
Size	0.5...4.0 mm^2 (AWG 20...12) 2 x 0.5...2.5 mm^2 (2 x AWG 20...14)
Tightening torque max.	0.6 Nm with Posidrive 0 bit
Terminal screws	M3

Thermal Specifications

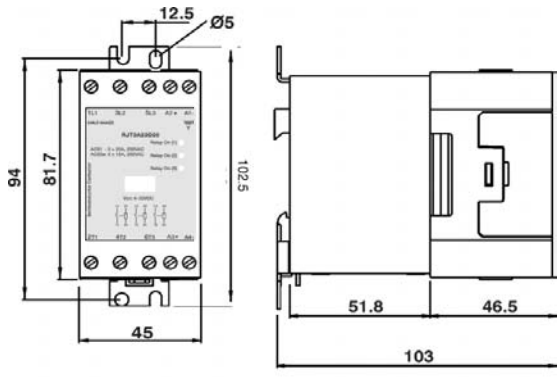
Operating Temperature	-30 to +70°C (-22 to + 158°F)
Storage temperature	-40 to +80°C (-40 to +170°F)

Isolation

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

Dimensions

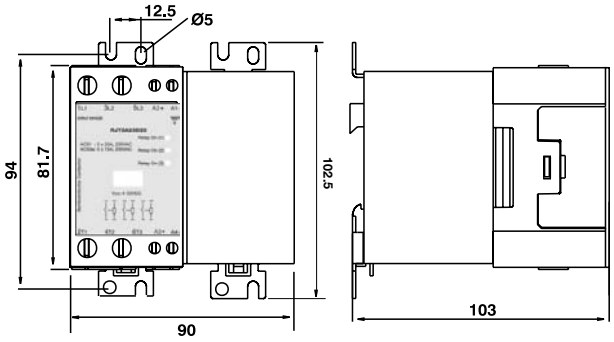
MIDI



RJT3A..20

All dimensions in mm

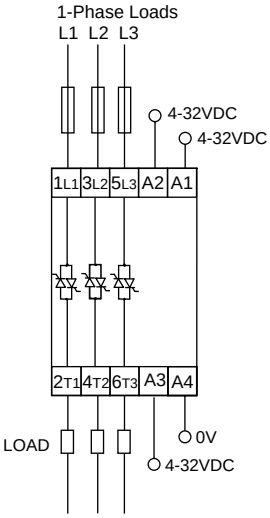
POWER

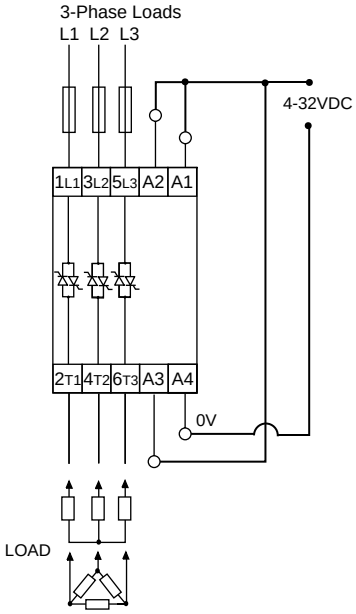


RJT3A..25

All dimensions in mm

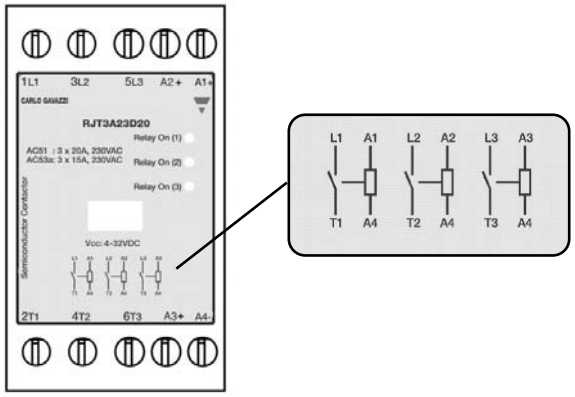
Connection Examples



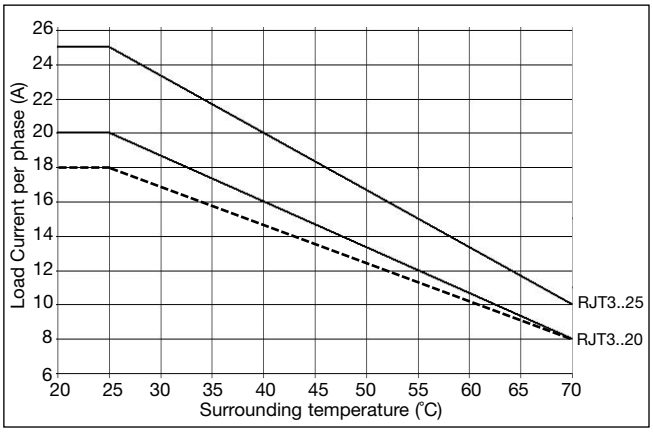


- Application of DC voltage across terminals A1-A4 will activate pole L1-T1. The top green LED indicates the status of the control input across terminals A1-A4.
- Application of DC voltage across terminals A2-A4 will activate pole L2-T2. The middle green LED indicates the status of the input voltage across terminals A2-A4.
- Application of DC voltage across A3-A4 will activate pole L3-T3. The bottom green LED indicates the status of the input voltage across terminals A3-A4.
- For 3-Phase control, A1, A2 and A3 can be connected together to switch all three poles simultaneously.

Terminal Layout

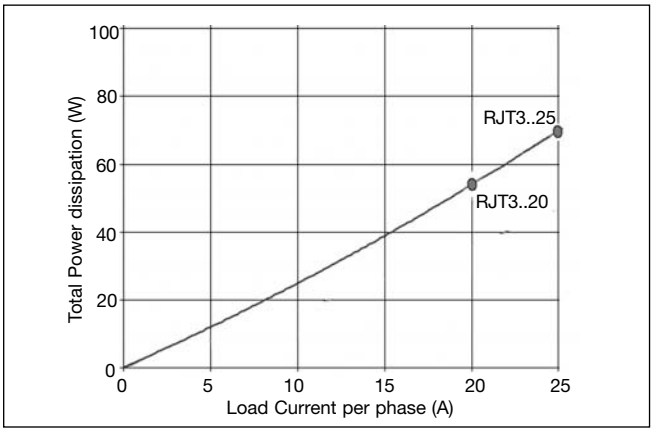


Derating Curve (100% duty on 3 Poles)

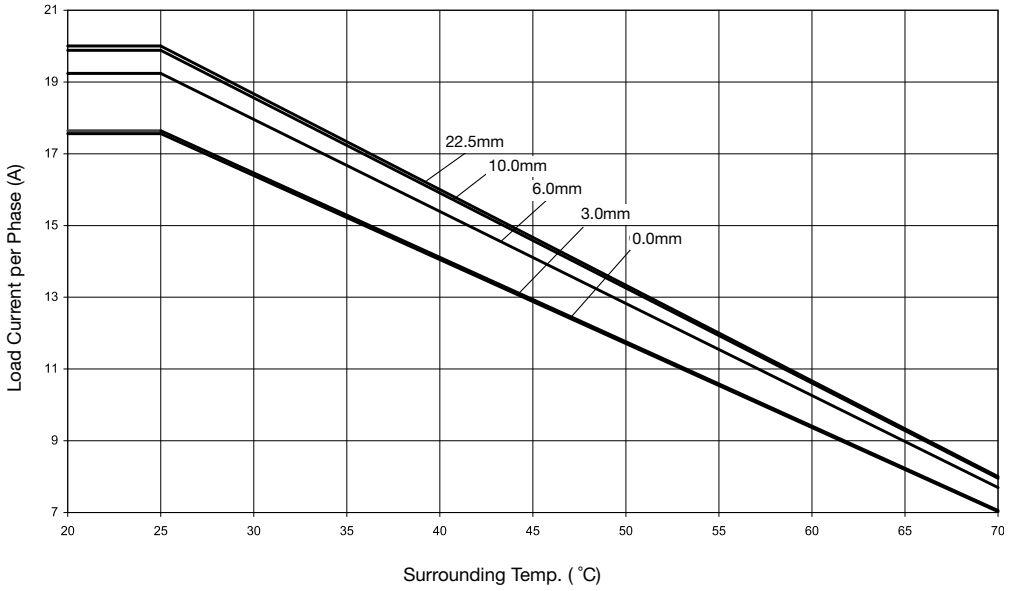


* Note: dotted line indicates UL rating for RJT3..20

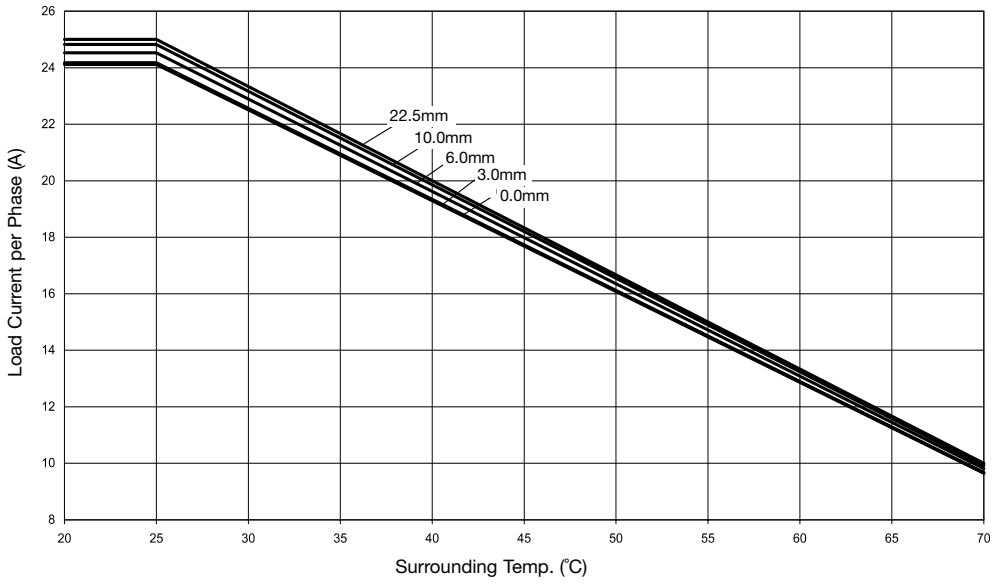
Dissipation Curve (100% duty on 3 Poles)



Derating vs. Spacing Curves



RJT3...20



RJT3...25

Note: Assuming 100% duty on 3 poles