2002-07-09



PRODUKTINFORMATION

Vi reserverar oss mot fel samt förbehåller oss rätten till ändringar utan föregående meddelande

ELFA artikelnr 37-006-14 Relä 100A 12Vdc 37-006-30 Relä 100A 24Vdc



JA 4600 Series DC Contactors Coil Voltage 12 to 240 100 Ampere Rating UL Approved





A Comprehensive Range of Compact Contactors Designed to meet Market Requirements

AMETEK Prestolite Switch Ipswich Road, Cardiff, CF23 9XP, United Kingdom Telephone +44 (0)29 2049 6763 Fax +44 (0)29 2046 2337

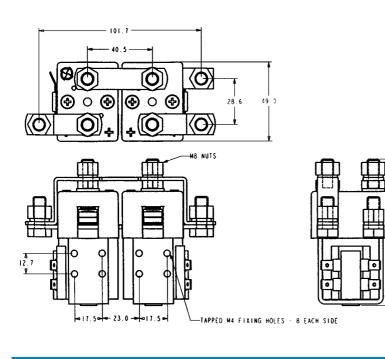




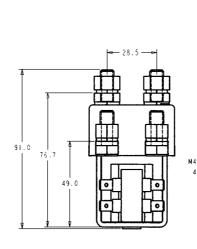
Contactors in Series

- *JAA Single Pole Single Throw
- *JAB Single Pole Single Throw (Normally Closed)
- *JAC Single Pole Double Throw
- *JAD Double Pole Single Throw
- *JAL 2 x JAA's On a Double Bracket
- *JAM Paired Single Pole Double Throw on Bracket (For Motor Reversing)
- *JAT 2 x JAC's On a Double Bracket
- *JAV Paired Double Pole Single Throw on Bracket (For Motor Reversing)

Dimensional Details

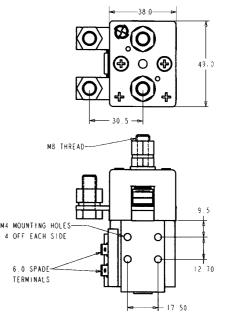


JAL, JAM, JAT4600 Series



The contactors can be mounted either horizontally or vertically If mounted vertically the contact studs must point upwards with the exception of the JAB and it's derivatives which should be mounted with the contact studs pointing down

Dimensional Details



JAA, JAB, JAC4600 Series

Features *Compact *Robust & Durable *UL Approved *Easy Servicing *Interchangeable with other leading brands Options *Auxiliary micro switch *Magnetic Blow-outs *Coil surge protection *Contacts with large tips *Mounting brackets *Dust covers



AMETEK Prestolite Switch, Ipswich Rd, Cardiff, CF23 9XP, United Kingdom Telephone +44 (0)29 2049 6763 Fax +44 (0)29 2046 2337

91.0



Contactor Pairs

Contactors in Series

38.0

91.0

The contactors can be mounted either horizontally or vertically. If mounted vertically

the contact studs must point upwards

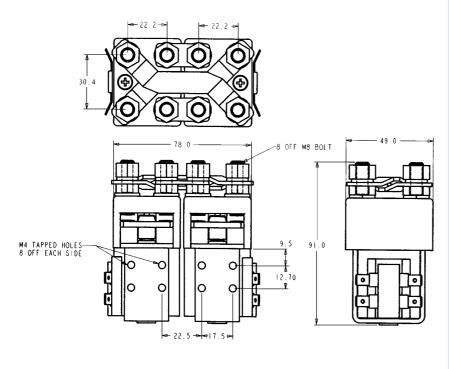
Ð

30.40

22.2

The contactors can be mounted in pairs on a bracket together with inter-connecting electrical links, of which the JAM & JAV contactors are designed for motor reversing. The JAM type has an inbuilt failsafe so that if both coils are energised together the contact design creates an open circuit. The JAV types are designed to have fast drop-out times (approx 5m.sec.) and slower pull-in times (approx 20m.sec.). This allows for motor direction changes to be undertaken without the risk of all contacts being closed at the same time. However certain types of coil suppression such as diodes substantially increase drop-out times and care must be taken to ensure suitable suppression is fitted, e.g., diode and resistor in series or varistor.

Dimensional Details



JAV4600 Series

JAD4600 Series

O

Magnetic Blowouts

M4 MOUNTING HOLES

6.0 SPADE

TERMINALS

4 OFF EACH SIDE

-M8 NUTS - TIGHTENED TO TORQUE 9.5 NM

The single pole types of contactor can be fitted with permanent magnetic blowouts. These allow the contacts to switch D.C. voltages higher than 48 D.V.C. The fitting of blowouts makes the contacts polarity sensitive and the Positive marking on the top cover must be observed.

Auxiliary Contacts

A double circuit normally open, normally closed microswitch can be fitted which has a D.C. resistive rating of 5 Amperes at 24V. **N.B.** Auxiliary contacts cannot be fitted to the JAM & JAV types of contactors.

Large tips

For applications where severe conditions exist, e.g. pump motor switching, all types are available with larger tips. The suffix "L" denotes larger contact tips.



AMETEK Prestolite Switch, Ipswich Rd, Cardiff, CF23 9XP, United Kingdom Telephone +44 (0)29 2049 6763 Fax +44 (0)29 2046 2337



PERFORMANCE DATA

Intermittent current rating 30% duty180 Amperes30% duty160 Amperes40% duty150 Amperes50% duty130 Amperes60% duty130 Amperes70% duty120 AmperesTypical fault currents which can be ruptured (5ms time constant)JAA4600 & JAB4600800 Amperes at 48V D.C.JAC4670 & JAM4600*800 Amperes at 80V D.C.JAC4670 & JAM4600*800 Amperes at 80V D.C.JAC4670 & JAM4670*800 Amperes at 80V D.C.JAC4670 & JAM4670*800 Amperes at 80V D.C.JAC4670 & JAM4670*800 Amperes at 80V D.C.JAC4600 & JAN4600800 Amperes at 80V D.C.JAC4600 & JAM4670*96V D.C.JAC4600 & JAM467096V D.C.JAC4600 & JAM467096V D.C.JAC4600 & JAM467096V D.C.JAC4600 & JAM467096V D.C.JAC4600 & JAM4600(per pole) 50mVJAC4600 & JAM4600(normally open contacts)JAC4600 & JAM4600(no	Thermal current rating (100%)	100 Amperes
40% duty 160 Amperes 50% duty 150 Amperes 60% duty 130 Amperes 70% duty 130 Amperes Typical fault currents which can be ruptured (5ms time constant) JAA4600 & JAB4600 JAA4670 & JAB4600 800 Amperes at 48V D.C. JAC4600* & JAM4600* 800 Amperes at 80V D.C. JAC4670* & JAM4600* 800 Amperes at 80V D.C. JAC4670* & JAM4600 800 Amperes at 80V D.C. JAC4600 & JAV4600 800 Amperes at 80V D.C. JAA4600 & JAB4600 48V D.C. JAA4600 & JAB4600 48V D.C. JAA4600 & JAM4600 48V D.C. JAC4600 & JAM4600 96V D.C. JAC4600 & JAM4600 96V D.C. JAC4600 & JAM4600 96V D.C. JAC4600 & JAM4600 Ypical voltage drop across contacts per 100 Amperes JAC4600 & JAM4600 YDC JAC4600 & JAM4600 JAC4600 & JAM4600	Intermittent current rating	
50% duty150 Amperes60% duty130 Amperes70% duty120 Amperes70% duty120 Amperes70% duty120 Amperes70% duty120 Amperes70% duty120 Amperes70% duty120 Amperes70% duty800 Amperes at 80V DC.JAA4600 & JAB4600800 Amperes at 80V DC.JAC4670* & JAM4670*800 Amperes at 80V DC.JAC4670* & JAM4670*800 Amperes at 80V DC.JAC4670* & JAM4670*800 Amperes at 80V DC.JAA4600 & JAV4600800 Amperes at 80V DC.JAA4600 & JAB460048V DC.JAA4600 & JAM460048V DC.JAC4670 & 96V DC.96V DC.JAC4670 & JAM460096V DC.JAC4670 & JAM460096V DC.JAA4600 & JAW460096V DC.JAA4600 & JAV460096V DC.JAC4600 & JAM4600 (normally open contacts)<40mV		180 Amperes
60% duty 130 Amperes 70% duty 120 Amperes 70% duty 120 Amperes 120, Andero & JAB4600 800 Amperes at 80V D.C. JAA4670 & JAB4670 800 Amperes at 80V D.C. JAC4600* & JAM4600* 800 Amperes at 80V D.C. JAC4670* & JAM4670* 800 Amperes at 80V D.C. JAC4600 & JAV4600 800 Amperes at 80V D.C. JAA4670 & JAM4670* 800 Amperes at 80V D.C. JAA4670 & JAM4600 800 Amperes at 80V D.C. JAA4670 & JAB4600 48V D.C. JAA4670 & JAM4600 48V D.C. JAC4600 & JAM4600 48V D.C. JAC4600 & JAM4600 48V D.C. JAC4670 & JAM4600 48V D.C. JAC4600 & JAM4600 96V D.C. JAC4600 & JAM4600 96V D.C. JAA4600 & JAM4600 96V D.C. JAA4600 & JAM4600 JAC4600	40% duty	•
70% duty 120 Amperes Typical fault currents which can be ruptured (5ms time constant) JAA4600 & JAB4600 800 Amperes at 48V D.C. JAA4600 & JAB4600* 800 Amperes at 48V D.C. JAC4600* & JAM4600* 800 Amperes at 48V D.C. JAC4600* & JAM4600* 800 Amperes at 48V D.C. JAC4600 & B00 Amperes at 48V D.C. JAC4600 & JAV4600 800 Amperes at 80V D.C. JAA4600 & JAV4600 800 Amperes at 80V D.C. *Normally open contacts, not normally closed contacts. * Maximum recommended contact voltages JAA4670 & JAM4670 96V D.C. JAC4670 & JAM4670 96V D.C. JAC4600 & JAW4600 48V D.C. JAC4670 & JAM4670 96V D.C. JAC4600 & JAW4600 96V D.C. JAC4600 & JAW4600 96V D.C. JAA4600 & JAW4600 96V D.C. 96V D.C. JAC4600 & JAM4670 96V D.C. JAC4600 & JAM4600 (normally open contacts) <40mV	50% duty	
Typical fault currents which can be ruptured (5ms time constant)JAA4600 & JAB4600800 Amperes at 48V D.C.JAA4670 & JAB4670800 Amperes at 80V D.C.JAC4670 * & JAM4670*800 Amperes at 80V D.C.JAA4600 & JAV4600800 Amperes at 80V D.C.JAA4600 & JAB460048V D.C.JAA467096V D.C.JAC4670 & JAM467096V D.C.JAC4670 & JAM467096V D.C.JAC4600 & JAV460048V D.C.JAC4600 & JAV460096V D.C.JAC4600 & JAV460096V D.C.JAC4600 & JAV460096V D.C.JAC4600 & JAV460096V D.C.JAC4600 & JAV4600(per pole) 50mVJAC4600 & JAV4600<		
JÄA4600 & JAB4600 JAA4670 & JAB4670 JAC4670* & JAM4600* 800 Amperes at 80V D.C. JAC4670* & JAM4670* 800 Amperes at 80V D.C. JAD4600 & JAV4600 800 Amperes at 80V D.C. JAD4600 & JAV4600 800 Amperes at 80V D.C. <i>*Normally open contacts, not normally closed contacts.</i> Maximum recommended contact voltages JAA4600 & JAB4600 JAC4670 & JAM4600 JAC4670 & JAM4600 JAC4670 & JAM4600 JAC4670 & JAM4600 JAC4600 & JAM4600 JAC4600 & JAV4600 96V D.C. JAC4600 & JAM4600 JAC4600 & JAM4600 (repr pole) 50mV JAC4600 & JAM4600 (normally open contacts) JAC4600 & JAM4600 (normally open contacts) JAC4600 & JAM4600 (normally open contacts) 300 Amperes 40mV JAC4600 & JAM4600 (normally open contacts) 100 power dissipation Intermittently rated types Continuously rated types 7-14 Watts Maximum pull-in voltage (coil at 20°C) Intermittently rated types Continuously rated types Contacts to close) Commally closed to normally closed Commally closed to normally closed Commall	70% duty	120 Amperes
JAA4670 & JAB4670 800 Amperes at 80V D.C. JAC4600* & JAM4600* 800 Amperes at 48V D.C. JAC4670* & JAM4670* 800 Amperes at 80V D.C. JAD4600 & JAV4600 800 Amperes at 80V D.C. *Normally open contacts, not normally closed contacts. Maximum recommended contact voltages JAA4600 & JAB4600 48V D.C. JAA4670 900 48V D.C. JAC4670 & JAM4600 48V D.C. JAC4670 & JAM4600 900 48V D.C. JAC4670 & JAM4670 900 28V D.C. JAC4600 & JAW4600 900 280 D.C. JAC4600 & JAW4600 (normally open contacts) 280 D.C. JAC4600 & JAM4600 (normally open contacts) 280 D.C. JAC4600 & JAM4600 (normally closed contacts) 280 D.C. JAC4600 & JAM4600 (normally closed contacts) 280 D.C. Mechanical life 55 x 10° Coil power dissipation Intermittently rated types 75.20 Watts Continuously rated types 280 D.C. Maximum pull-in voltage (coil at 20°C) Intermittently rated types 280 D.C. Drop-out time (n/o contacts to close) 220 D.C. Drop-out time (n/o contacts to close) 200 D.C. Pull-in time (n/o contacts to close) 200 D.C. Drop-out time (n/o contacts to close) 200 D.C. Drop-out time (n/o contacts to close) 200 D.C. Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally closed 200 D.C. Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally closed 200 D.C. Main contact thermal current rating 5 Amperes Auxiliary contact thermal current rating 5 Amperes	Typical fault currents which can be ruptured (5m	s time constant)
JAC4600* & JAM4600* 800 Amperes at 48V D.C. JAC4670* & JAM4670* 800 Amperes at 80V D.C. JAD4600 & JAV4600 800 Amperes at 80V D.C. *Normally open contacts, not normally closed contacts. Maximum recommended contact voltages JAA4600 & JAB4600 48V D.C. JAC4600 & JAM4600 48V D.C. JAC4600 & JAM4600 96V D.C. JAC4670 & JAM4600 96V D.C. JAC4670 & JAM4600 96V D.C. JAC4600 & JAV4600 96V D.C. JAD4600 & JAV4600 96V D.C. JAD4600 & JAV4600 96V D.C. JAC4600 & JAM4600 (normally open contacts) JAC4600 & JAM4600 (normally open contacts) AC4600 & JAM4600 (normally closed contacts) * 40mV JAC4600 & JAM4600 (normally closed contacts) * 55 x 10° Coil power dissipation Intermittently rated types 15-20 Watts Continuously rated types 7-14 Watts Maximum pull-in voltage (coil at 20°C) Intermittently rated types * 7-14 Watts Maximum pull-in voltage (coil at 20°C) Intermittently rated types * 66%%V Typical drop-out voltage 10-20%V Pull-in time (n/o contacts to close) * 20ms Drop-out time (n/o contacts to close) * 20ms Mith diode suppression * 55ms With diode suppression * 55ms With diode suppression * 50ms Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally closed * 40ms Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally closed * 40ms Typical contact bounce period * 40ms Typical contact thermal current rating \$ Amperes Auxiliary contact switching capacities (resistive load) * 5A at 24V D.C. 2A at 48V D.C.		800 Amperes at 48V D.C.
JAC4670* & JAM4670* JAD4600 & JAV4600 *Normally open contacts, not normally closed contacts. Maximum recommended contact voltages JAA4600 & JAB4600 JAC4670 96V D.C. JAC4670 & JAM4670 96V D.C. JAC4670 & JAM4670 96V D.C. JAC4670 & JAM4670 96V D.C. JAC4670 & JAM4600 96V D.C. JAC4670 & JAM4600 96V D.C. JAC4600 & JAV4600 96V D.C. JAC4600 & JAM4600 (normally open contacts) AC4600 & JAM4600 (normally open contacts) AC4600 & JAM4600 (normally closed contacts) AC400V Mechanical life Acating (coil at 20°C) Intermittently rated types Ac60%V Continuously rated types Ac66%V Typical drop-out voltage (coil at 20°C) Intermittently rated types Ac60%V Continuously rated types Ac60%V Continuously rated types Ac60%V Continuously rated types Ac60%V Continuously rated types Ac60%V Continuously rated types Ac60%V Acontact to close) Ac20ms Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally closed Atms Typical contact bounce period Ammedia and resistor (depending on value) Ac20ms Normally closed to normally closed Atms Typical contact thermal current rating Auxiliary contact thermal current rating SA at 24V D.C. 2A at 48V D.C.	JAA4670 & JAB4670	800 Amperes at 80V D.C.
JAD4600 & JAV4600 800 Amperes at 80V D.C. *Normally open contacts, not normally closed contacts. Maximum recommended contact voltages JAA4600 & JAB4600 48V D.C. JAC4670 & JAM4600 48V D.C. JAC4670 & JAM4670 96V D.C. JAC4670 & JAM4670 96V D.C. JAD4600 & JAV4600 96V D.C. JAD4600 & JAV4600 48V D.C. Typical voltage drop across contacts per 100 Amperes JAA4600 & JAB4600 (normally open contacts) <40mV JAC4600 & JAM4600 (normally open contacts) <50mV Mechanical life >5 x 10 ⁶ Coil power dissipation Intermittently rated types 15-20 Watts Continuously rated types 7-14 Watts Maximum pull-in voltage (coil at 20°C) Intermittently rated types <66%V Typical drop-out voltage 10-20%V Pull-in time (n/o contacts to open) With diode suppression <50ms With diode and resistor (depending on value) 8-20ms Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally closed <4ms Typical contact thermal current rating 5 Amperes Auxiliary contact switching capacities (resistive load) 5A at 24V D.C. 2A at 48V D.C.		•
*Normally open contacts, not normally closed contacts.Maximum recommended contact voltagesJAA4600 & JAB460048V D.C.JAA467096V D.C.JAC4670 & JAM460048V D.C.JAC4670 & JAM467096V D.C.JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.JAD4600 & JAV460096V D.C.JAA4600 & JAV4600(per pole) 50mVJAC4600 & JAM4600 (normally open contacts)<40mV		•
Maximum recommended contact voltagesJAA4600 & JAB460048V D.C.JAA467096V D.C.JAC4600 & JAM460048V D.C.JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.JAD4600 & JAV460096V D.C.JAA4600 & JAV460096V D.C.JAC4600 & JAV4600(per pole) 50mVJAC4600 & JAM4600 (normally open contacts)<40mV	JAD4600 & JAV4600	800 Amperes at 80V D.C.
Maximum recommended contact voltagesJAA4600 & JAB460048V D.C.JAA467096V D.C.JAC4600 & JAM460048V D.C.JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.JAD4600 & JAV460096V D.C.JAA4600 & JAV460096V D.C.JAC4600 & JAV4600(per pole) 50mVJAC4600 & JAM4600 (normally open contacts)<40mV		
JAA4600 & JAB460048V D.C.JAA467096V D.C.JAC4600 & JAM460048V D.C.JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.Typical voltage drop across contacts per 100 AmperesJAA4600 & JAB4600JAC4600 & JAV4600<(per pole) 50mV		
JAA467096V D.C.JAC4600 & JAM460048V D.C.JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.JAD4600 & JAV460096V D.C.JAA4600 & JAV4600(per pole) 50mVJAC4600 & JAM4600 (normally open contacts)<40mV	-	
JAC4600 & JAM460048V D.C.JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.Typical voltage drop across contacts per 100 AmperesJAA4600 & JAB4600JAC4600 & JAW4600JAC4600 & JAM4600 (normally open contacts)<40mV		
JAC4670 & JAM467096V D.C.JAD4600 & JAV460096V D.C.Typical voltage drop across contacts per 100 Amperes96V D.C.JAA4600 & JAB4600<40mV		
JAD4600 & JAV460096V D.C.Typical voltage drop across contacts per 100 Amperes JAA4600 & JAB4600<40mV		
Typical voltage drop across contacts per 100 Amperes JAA4600 & JAB4600<40mVJAC4600 & JAB4600 (normally open contacts)<40mV		
JÅA4600 & JAB4600<40mVJAD4600 & JAV4600<(per pole) 50mV	JAD4600 & JAV4600	96V D.C.
JÅA4600 & JAB4600<40mVJAD4600 & JAV4600<(per pole) 50mV	Typical voltage drop across contacts per 100 Amperes	
JAD4600 & JAV4600<(per pole) 50mVJAC4600 & JAM4600 (normally open contacts)<40mV		•
JAC4600 & JAM4600 (normally open contacts)<40mVJAC4600 & JAM4600 (normally closed contacts)<50mV		
JAC4600 & JAM4600 (normally closed contacts)<50mVMechanical life>5 x 10°Coil power dissipation15-20 WattsIntermittently rated types7-14 WattsMaximum pull-in voltage (coil at 20°C)10-20%VIntermittently rated types<66%V		
Coil power dissipation Intermittently rated types15-20 WattsContinuously rated types7-14 WattsMaximum pull-in voltage (coil at 20°C) Intermittently rated types<60%V		
Intermittently rated types15-20 WattsContinuously rated types7-14 WattsMaximum pull-in voltage (coil at 20°C) Intermittently rated types<60%V	Mechanical life	>5 x 10 ⁶
Intermittently rated types15-20 WattsContinuously rated types7-14 WattsMaximum pull-in voltage (coil at 20°C) Intermittently rated types<60%V	Coil power dissipation	
Continuously rated types7-14 WattsMaximum pull-in voltage (coil at 20°C) Intermittently rated types<60%V		15-20 Watts
Intermittently rated types<60%VContinuously rated types<66%V		7-14 Watts
Intermittently rated types<60%VContinuously rated types<66%V	Maximum pull-in voltage (coil at 20°C)	
Continuously rated types<66%VTypical drop-out voltage10-20%VPull-in time (n/o contacts to close)<20ms		<60%V
Pull-in time (n/o contacts to close)<20msDrop-out time (n/o contacts to open)Without suppression<5ms		<66%V
Drop-out time (n/o contacts to open)Without suppression<5ms	Typical drop-out voltage	10-20%V
Without suppression<5msWith diode suppression<50ms	Pull-in time (n/o contacts to close)	<20ms
With diode suppression<50msWith diode and resistor (depending on value)8-20msMain contact changeover time (JAC4600 & JAM4600)Normally closed to normally open<7ms	Drop-out time (n/o contacts to open)	
With diode and resistor (depending on value)8-20msMain contact changeover time (JAC4600 & JAM4600) Normally closed to normally open<7ms		<5ms
Main contact changeover time (JAC4600 & JAM4600) Normally closed to normally open<7msNormally open to normally closed<4ms		
Normally closed to normally open<7msNormally open to normally closed<4ms	With diode and resistor (depending on value)	8-20ms
Normally open to normally closed<4msTypical contact bounce period<3ms	Main contact changeover time (JAC4600 & JAM	4600)
Typical contact bounce period<3msAuxiliary contact thermal current rating5 AmperesAuxiliary contact switching capacities (resistive load)5A at 24V D.C.2A at 48V D.C.		•
Auxiliary contact thermal current rating5 AmperesAuxiliary contact switching capacities (resistive load)5A at 24V D.C. 2A at 48V D.C.	Normally open to normally closed	<4ms
Auxiliary contact switching capacities (resistive load)5A at 24V D.C.2A at 48V D.C.	Typical contact bounce period	<3ms
2A at 48V D.C.	Auxiliary contact thermal current rating	5 Amperes
	Auxiliary contact switching capacities (resistive I	oad) 5A at 24V D.C.
0.5A at 240V D.C.		-
		0.5A at 240V D.C.

