



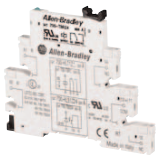

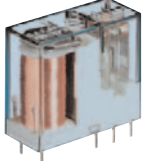


Relay Selection




			
Bulletin	700-HA	700-HB	700-HC
Type	General Purpose Relay	General Purpose Relay	Interposing/Isolation Relay
Features	Pin Style Terminals, Standard ON/OFF Flag Indicator, Electrical Schematic on Face, Clear Cover for Visual Inspection, Optional Push-to-test and Manual Override, Optional LED	Blade Style Quick Connect Terminals, Standard ON/OFF Flag Indicator, Electrical Schematic on Face, Clear Cover for Visual Inspection, Optional Push-to-test and Manual Override, Optional LED	Blade Style Terminals, Standard ON/OFF Flag Indicator, Electrical Schematic on Face, Clear Cover for Visual Inspection, Optional Push-to-test and Manual Override, Optional LED
Contact Ratings			
Contact Form	DPDT, 3PDT	DPDT, 3PDT	DPDT, 4PDT
Contact Type	Single, Bifurcated	Single	Single
Contact Material	AgNi, AgNi + Gold	AgCdO	AgNi, AgNi + Gold
Max. operating current under resistive load	700-HA: 10 A 700-HAB, -HAX: 4 A	15 A	10 A (DPDT) 7 A (4PDT)
Coil Ratings			
Coil Voltage	<b>AC:</b> 6V, 12V, 24V, 48V, 110V, 120V, 208V, 230V, 240V, 277V <b>DC:</b> 6V, 12V, 24V, 36V, 48V, 60V, 80V 110V, 125V, 140V, 220V	<b>AC:</b> 6V, 12V, 24V, 120V, 240V <b>DC:</b> 6V, 12V, 24V, 48V, 110V	<b>AC:</b> 6V, 12V, 24V, 120V, 240V <b>DC:</b> 6V, 12V, 24V, 48V, 110V
Electrical Ratings			
Dielectric Withstand Voltage	Pole-to-pole: 2000V Contact-to-coil: 2000V Contact-to-frame: 2000V	Pole-to-pole: 2500V Contact-to-coil: 4000V Contact-to-frame: 2500V	Pole-to-pole: 1600V Contact-to-coil: 1600V Contact-to-frame: 1600V
Electric Service Life (cycles)	100,000 minimum	100,000 minimum	100,000 minimum
Reference			
Certifications	CE, cULus, cURus, Lloyds IMQ, RINA	CE, cULus, cURus, Lloyds, IMQ, RINA	CE, cULus, cURus, IMQ, Lloyds, RINA
Socket Cat. No(s).	700-HN100, 700-HN101, 700-HN125, 700-HN126, 700-HN204, 700-HN205	700-HN153 700-HN154	700-HN103, 700-HN128, 700-HN104
Product Selection	Page 2-7	Page 2-10	Page 2-12

Note: The prices listed are per piece, not per package quantity.





Relay Selection

				
Bulletin	700-HK	700-HL	700-HL 2-Pole	700-HP
Type	Interposing/Isolation Relay	Interposing/Isolation Relay	Interposing/Isolation Relay	Interposing/Isolation Relay
Features	Optional Pilot Light, Retainer Clip (comes with Socket), Low Switching Capacity Push-to-Test & Manual Override	Ideal for PLC Interfaces, Built-in Coil Surge Protection, Fully Assembled Relay/Socket, Standard LED, Relay or Solid-state Output Optional: Leakage Current Suppression Solution	Ideal for interposing isolation applications, Fully Assembled Relay/Socket, Standard LED, Screw or Spring Clamo Terminals, Snap-in 1492 Marker Option	PCB "Pin Style" Mounting, 5 mm Pin spacing
Contact Ratings				
Contact Form	SPDT, DPDT	SPDT 1 N.O. (SSR)	DPDT	DPDT
Contact Type	Single	—	—	Single
Contact Material	AgNi, AgNi + Gold	AgSnOAgSnO + Gold	AgSnOAgSnO + Gold	AgNi, AgNi + Gold
Max. operating current under resistive load	8 A (DPDT), 16 A (SPDT)	6 A (SPDT), 2 A (SSR)	10 A	8 A
Min. permissible load	5V 60 mA (Silver), 5V 10 mA (Gold)	12V 6 mA (72 mW) Silver 8V, 2.5 mA (20 mW) Gold	12V 10 mA (120 mW) Silver 5V, 1 mA (50 mW) Gold	5V 5 mA (50 mW) Gold, 5V 5 mA (300 mW) Silver
Coil Ratings				
Coil Voltage	<b>AC:</b> 6V, 12V, 24V, 120V, 240V <b>DC:</b> 6V, 12V, 24V, 48V, 110V	<b>AC:</b> 12V, 24V, 48V, 110V, 120V, 230V, 240V <b>DC:</b> 12V, 24V, 48V, 125V, 230V, 240V	<b>AC:</b> 24V, 48V, 110V, 120V, 230V, 240V <b>DC:</b> 12V, 24V, 48V, 125V, 230V, 240V	<b>AC:</b> 6V, 12V, 24V, 120V, 240V <b>DC:</b> 6V, 12V, 24V, 48V, 110V
Permissible Coil Voltage Variation	80...110% of Nominal Voltage at 50 Hz 80...110% of Nominal Voltage at 60 Hz 73...110% of Nominal Voltage at DC	85...110% of Nominal Voltage at 50 Hz 85...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC	85...110% of Nominal Voltage at 50 Hz 85...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC	80...110% of Nominal Voltage at 50 Hz 80...110% of Nominal Voltage at 60 Hz 73...150% of Nominal Voltage at DC
Electrical Ratings				
Dielectric Withstand Voltage	Pole-to-pole: 1500V AC Contact-to-coil: 1500V AC Contact-to-frame: 1500V AC	Pole-to-pole: 1000V AC Contact-to-coil: 4000V Contact-to-frame: 1500V	Pole-to-pole: 1000V AC Contact-to-coil: 5000V Contact-to-frame: 2500V	Pole-to-pole: 2000V Contact-to-coil: 5000V
Electric Service Life (cycles)	100,000 minimum	100,000 minimum	100,000 minimum	100,000 minimum
Reference				
Certifications	CE, UL, UR, CSA	CE, cURus, cULus, Lloyds, IMQ	CE, cURus, cULus, Lloyds	CE, cULus, cURus, IMQ, Lloyds, RINA
Socket Cat. No(s).	700-HN121, 700-HN221 700-HN122, 700-HN222	—	—	700-HN123
Product Selection	Page 2-13	Page 2-14	Page 2-14	Page 2-16

## Timing Relay Selection





			
<b>Bulletin</b>	<b>700-HR</b>	<b>700-FE</b>	<b>700-FS</b>
<b>Type</b>	Dial Timing Relays	DIN Rail Timer	DIN Rail Timer
<b>Features</b>	Dial Timing Relays 5 A Contact Rating Multiple Programmable Timing Ranges Tube Base Pin Style Terminals Multi-Voltage Inputs Timed Contacts and Instantaneous Contacts Transistor Outputs Single Function and Multi-Function 7 Different Operating Modes	Only 17.5 mm wide, 5 A Contact Rating, Multifunction or Single Function No Additional Socket Required	Only 20.5 mm wide 8 A Contact Rating Multifunction or Single Function No Additional Socket Required Optional: Star-Delta Timing Function Optional: True Off-Delay Timing Function Optional: Hazardous Location Certification
<b>Control Outputs: Time Limit Instantaneous</b>	DPDT Timed, Transistor SPDT Timed/Instantaneous	1 N.O. or SPDT Timed	SPDT or DPDT or 2 N.O. + 1 common
<b>Operation Modes:</b>	On-Delay Off-Delay One Shot Repeat Cycle Off Start Repeat Cycle On Start Signal On/Off-Delay On-Delay One Shot	On-Delay Off-Delay One Shot Repeat Cycle-Pulse Fleeting Off-Delay Pulse Converter	11 Different Timing Modes
<b>Time Range</b>	0.05 s....300 h	0.05 s...10 h	0.05s...60 h
<b>Supply Voltage</b>	12...48V DC 24...48V AC 100...240V AC 100...125V DC	24V AC/DC 110...240V AC 24V...48V AC/DC 24V...240V AC	12V DC 24V...48V DC 24V...240V AC
<b>Contact Rating at 120V AC</b>	5 A	6 A	8 A
<b>Certifications</b>	cURus, CE, ACA	cULus, CE	cULus, CE
<b>Product Selection</b>	<b>Page 2-17</b>	<b>Page 2-19</b>	<b>Page 2-20</b>

Control Relay Selection

				
Bulletin	700-K Control Relays	700-CF	700S-CF	700-CRF
Type	—	Control Relay		
Spring Clamp Terminals	—	—	—	✓
Screw Terminals	✓	✓	✓	—
Features	—	Mechanically Linked Contacts, Timer and Latch Operations, Switch up to 600V AC and DC 700S-CF for Safety Circuits		
Contact Form	—	4-12 Poles Double Break		
Contact Type	—	Cross Stamp, Bifurcated		
Contact Material	—	Silver, Gold		
Electrical				
Max. Current AC Resistive	—	20 A (Relay) 10 A (Adder Deck)		
Min. load	—	17V 10 mA (Silver) 5V 3 mA (Gold)		
Coil Voltage	—	12...600V AC 9...250V DC		
Coil Voltage Pickup	—	85...110% AC Coils, 80...110% DC Coils		
Dielectric Withstand	—	2640V		
Reference				
Electric Service Life (cycles)	—	1.2 million at 10 A 120V AC		
Certifications	—, IEC	UL, CSA, CE, IEC		
Sockets	—	DIN Rail or Panel Mount		
Product Selection	Page 2-22	Page 2-24		

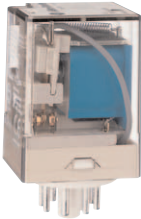
Discount Schedule

Control Relay Selection

				
<b>Bulletin</b>	<b>700-P</b>	<b>700S-P</b>	<b>700-PK</b>	<b>700-PH</b>
<b>Type</b>	Industrial Control Relay	Industrial Control Safety Relay	Industrial Control Master Relay	Industrial Control Tandem Relay
<b>Screw Terminals</b>	✓	✓	✓	✓
<b>Finger-Safe Terminals</b>	✓	✓	✓	—
<b>Convertible Contact Cartridge</b>	✓	—	✓	✓
<b>Timer and Latch Options</b>	✓	—	✓	✓
<b>Contact Form</b>	2-12 Poles Double Break	2-12 Poles Double Break	2-12 Poles Double Break	1-6 Poles Double Break
<b>Contact Material</b>	Bifurcated Silver-Nickel	Silver Nickel	Single Silver Nickel	Single Silver Nickel
<b>Electrical</b>				
<b>Max. Current AC Resistive</b>	10 A (700-P) 20 A (700-Pk) 35 A (700-PH)	10 A	20 A	35 A
<b>Min. load</b>	10V, 50 mA 5V 1 mA (sealed switch)	10V, 50 mA	1 mA, 5V with Bulletin 700-CPR	1 mA, 5V with Bulletin 700-CPR
<b>Coil Voltage</b>	24...600V AC 6...600V DC	24...60V AC 24V DC	24...600V AC 6...600V DC	24...600V AC 6...600V DC
<b>Coil Voltage Pickup</b>	85...110% AC Coils, 80...110% DC Coils	85...110% AC Coils, 80...110% DC Coils	85...110% AC Coils, 80...110% DC Coils	85...110% AC Coils, 80...110% DC Coils
<b>Dielectric Withstand</b>	2640V	2640V	2640V	2640V
<b>Reference</b>				
<b>Electric Service Life (cycles)</b>	10 million at 10 A 120V AC	10 million at 10 A 120V AC	1.5 million at 10 A 120V AC	1.5 million at 10 A 120V AC
<b>Certifications</b>	UL, CSA, CE	UL, CSA, CE	UL, CSA, CE, IEC	UL, CSA, CE, IEC
<b>Mounting</b>	DIN Rail Relay Rail or Panel Mount	Panel, Relay Rail, DIN Rail	Panel or Rail Mount	Panel or Rail Mount
<b>Product Selection</b>	<b>Page 2-26</b>	Page [BAD REF 243554 ]	<b>Page 2-22</b>	<b>Page 2-24</b>

General Purpose Relays 700-HA

- 10 A Contact rating
- DPDT, 3PDT
- Pin-style terminals
- Standard ON/OFF flag indicator
- Options: LED, push-to-test, and manual override, socket-mounted surge suppressor module, or multifunction timer
- Contact choices: standard silver nickel, bifurcated silver nickel, or bifurcated with gold plating



Bulletin 700-HA Tube Base Relay with PIN Terminals (Single Contact) —  
Mechanical ON/OFF Indicator included \*

Description	Contact Rating	Wiring Diagrams	Coil Voltage	Cat. No.*†§	Price \$
DPDT 2-pole 2 Form C Single AgNi Contact	10 A B300		12V AC	700-HA32A12	17.30
			24V AC	700-HA32A24	17.30
			120V AC	700-HA32A1	17.30
			240V AC	700-HA32A2	19.50
			12V DC	700-HA32Z12	16.30
			24V DC	700-HA32Z24	16.30
			110V DC	700-HA32Z1	19.50
			125V DC	700-HA32Z01	23.80
Sockets					
3PDT 3-pole 3 Form C Single AgNi Contact	10 A B300		12V AC	700-HA33A12	18.40
			24V AC	700-HA32A24	17.30
			120V AC	700-HA33A1	18.40
			240V AC	700-HA33A2	20.60
			12V DC	700-HA33Z12	17.30
			24V DC	700-HA33Z24	17.30
			110V DC	700-HA33Z1	20.60
			125V DC	700-HA33Z01	24.90
Sockets					

\* For time module and surge suppressor module, see page 2-9.


⚡ LED option: Add suffix (-4) to the selected Bulletin 700-HA relay cat. no., except for the 240V AC units, add (-4L).

† Push-to-test, manual override, and LED option: Add suffix (-3-4) to the selected Bulletin 700-HA relay cat. no., except for the 240V AC units, add (-3-4L).

§ Push-to-test and manual override option: Add suffix (-3) to the selected Bulletin 700-HA relay.









Discount Schedule

Accessories for 700-HA

	Description	PQ	Cat. No.	Price \$
	<b>Screw Terminal Tube Base Socket — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> 8-Pin for use with DPDT Bulletin 700-HA Relays, -HX Timing Relays, -HT (On-Delay) and -HRM, -HRC and -HV (Repeat Cycle) Timing Relays. Order ten or multiples of ten	10	700-HN100	6.49
	<b>Screw Terminal Tube Base Socket — Panel or DIN Rail Mounting; Open Style Construction.</b> 8-Pin for use with DPDT Bulletin 700-HA Relays, -HT (On-Delay) and -HRM, -HRC and -HV (Repeat Cycle) Timing Relays. Order must be for 10 sockets or multiples of 10. No retainer clip required.	10	700-HN125	6.49
	<b>Screw Terminal Tube Base Sockets — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> 11-pin for use with 3PDT Bulletin 700-HA relays, -HR and -HT (Off-Delay) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN101	7.57
	<b>Screw Terminal Tube Base Sockets — Panel or DIN Rail Mounting; Open Style Terminal Construction.</b> 11-pin for use with 3PDT Bulletin 700-HA relays, -HR and -HT (Off-Delay) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN126	9.74
	<b>8-Pin Socket — Can Be Used With or Without Timing Module or Surge Suppressor.</b> Screw Terminal Tube Base Sockets — panel or DIN Rail mounting. Guarded terminal construction. Used with DPDT Bulletin 700-HA Relays. Order must be for 10 sockets or multiples of 10.	10	700-HN204	8.64
	<b>11-Pin Socket — Can Be Used With or Without Timing Module or Surge Suppressor.</b> Screw Terminal Tube Base Sockets — panel or DIN Rail mounting. Guarded terminal construction. Used with 3PDT Bulletin 700-HA relays. Order must be for 10 sockets or multiples of 10.	10	700-HN205	9.78
	<b>DIN (#3) Symmetrical Rail</b> 35 mm x 7.5 mm x 1 m long Order must be for 10 rails or multiples of 10.	10	199-DR1	8.71
	<b>Retainer Clip</b> for Cat. Nos. 700-HN100, -HN101, -HN204, and -HN205 Sockets with Bulletin 700-HA Relays Secures relay in socket. Order must be for 10 clips or multiples of 10.	10	700-HN157	1.08

PQ = Package Quantity

Accessories for 700-HA, continued

	Description	PQ	Cat. No.	Price \$
	<b>Diode Surge Suppressor*</b> Voltage Range: 6...220V DC	10	700-ADR	2.18
	<b>Diode with LED Surge Suppressor*</b> Voltage Range: 6...24V DC	10	700-ADL1R	5.42
	<b>Diode with LED Surge Suppressor*</b> Voltage Range: 28...60V DC	10	700-ADL2R	5.40
	<b>Diode with LED Surge Suppressor*</b> Voltage Range: 110...220V DC	10	700-ADL3R	5.42
	<b>Varistor with LED Surge Suppressor*</b> Voltage Range: 6...24V AC	10	700-AV1R	5.95
	<b>Varistor with LED Surge Suppressor*</b> Voltage Range: 110...240V AC	10	700-AV3R	5.95
	<b>RC Surge Suppressor*</b> Voltage Range: 6...24V AC/DC	10	700-AR1	6.49
	<b>RC Surge Suppressor*</b> Voltage Range: 110...240V AC/DC	10	700-AR2	6.49
	<b>On-Delay Time Module*</b> Voltage Range: 12...24V AC/DC	1	700-AT1	31.40
	<b>One Shot Timing Module*</b> Voltage Range: 12...24V AC/DC	1	700-AT2	31.40
	<b>Multi-Function Multi-Range Time Module*</b> <ul style="list-style-type: none"><li>Voltage range 12...240V AC 50/60 Hz and 12...240V DC, with a voltage variation of 85...110%. Repeat accuracy of <math>\pm 1\%</math>. Reset time &lt;50 ms.</li><li>Choice of 8 functions</li><li>Choice of 8 time ranges 0.1...240 h</li></ul> Eight (8) Timing Modes Seven (7) Timing Ranges:			
	1. 1 s	0.05 s...1 s		1
	2. 10 s	0.5 s...10 s		
	3. 100 s	5 s...100 s		
	4. 10 min.	0.5 min...10 min		
	5. 100 min.	5 min...100 min		
	6. 10 hours	0.5 hr...10 hr		
	7. 100 hours	5 hr...100 hr		
				700-HT3
				59.50

\* Suppressors and timing modules easily plug into sockets that accomodate this feature.  
PQ = Package Quantity

**ATTENTION:** Cat. No. 700-HT3 is wired with signal “S” connected to “A1”.  
See wiring diagram marked on the timer module.



Discount Schedule

**Square Base Relays with Blade-Style Quick Connect/Solder Terminations 700-HB**




- 15 A Contact rating
- DPDT, 3PDT
- Blade-style quick connect terminals
- Standard ON/OFF flag indicator
- Options: LED, push-to-test, and manual override
- Faston 187 (4.8 x 0.5 mm)



**Bulletin 700-HB Square Base Relay with Blade Style Quick Connect/  
Solder Terminations — Mechanical ON/OFF Indicator Included**

Description	Contact Rating	Wiring Diagrams		Coil Voltage	Cat. No.*§	Price \$
		U.S./Canada	International			
DPDT 2-Pole 2 Form C Single AgCdO Contact	15 A B300			24V AC	700-HB32A24	18.40
				120V AC	700-HB32A1	18.40
				240V AC	700-HB32A2	20.60
				12V DC	700-HB32Z12	17.30
				24V DC	700-HB32Z24	17.30
Sockets		700-HN154	700-HN153	110V DC	700-HB32Z1	20.60
3PDT 3-Pole 3 Form C Single AgCdO Contact	15 A B300			24V AC	700-HB33A24	19.50
				120V AC	700-HB33A1	19.50
				240V AC	700-HB33A2	21.70
				12V DC	700-HB33Z12	18.40
				24V DC	700-HB33Z24	18.40
Sockets		700-HN154	700-HN153	110V DC	700-HB33Z1	21.70

\* LED Option: Add suffix **(-4)** to the selected Bulletin 700-HB Relay Cat. No., except for the 240V AC Units, add **(-4L)**.  
§ Push-to-test, Manual Override, and LED Option: Add suffix **(-3-4)** to the selected Bulletin 700-HB Relay Cat. No., except for the 240V AC units, add **(-3-4L)**.  
§ Push-to-test and Manual Override option: Add suffix **(-3)** to the selected Bulletin 700-HB relay.

	Description	Pkg. Qty.	Cat. No.	Price \$
 Cat. No. 700-HN153	<b>Screw Terminal Socket — Panel or DIN Rail Mounting. Guarded Terminal Construction</b> 11-blade socket for use with Bulletin 700-HB and -HJ relays and -HS timing relays. Order must be for 10 sockets or multiples of 10. Safe separation between coil and contacts.	10	700-HN153	15.60
 Cat. No. 700-HN154	<b>Screw Terminal Base Socket — Panel or DIN Rail Mounting. Open Style Construction</b> 11-blade for use with Bulletin 700-HB and -HJ relays and -HS timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN154	9.74
 Sample Retainer Clips	<b>Retainer Clip for Cat. No. -HN154 open terminal socket with 700-HB relays</b> Secures relay in socket. Order must be for 10 clips or multiples of 10.	10	700-HN156	1.08
	<b>Retainer Clip for Cat. No. 700-HN153</b> Sockets with 700-HB Relays. Secures relay in socket. Order must be for 10 clips or multiples of 10.	10	700-HN158	1.08

Note: For Surge Suppressors and Time Module Accessories, see page 2-9.

Interposing/Isolation Relays 700-HC

- 7 A or 10 A Contact ratings
- DPDT or 4PDT
- Standard ON/OFF flag indicator
- Blade-style terminals
- Choice of standard silver nickel contacts, or silver nickel with gold-plated contacts for low energy applications
- Options: LED, push-to-test with manual override option
- Tungsten ratings (UL recognized)
  - 4-Pole: 5 A @ 24V DC
  - 2-Pole: 10 A @ 24V DC



Bulletin 700-HC Miniature Square Base with Blade Terminals

Description	Contact Rating	Coil Voltage	PQ	Cat. No. **	Price \$
DPDT 2-Pole 2 Form C Contacts: 10 A = AgNi Contacts	10 A C300 R300 Low energy rating; (10V, 10 mA)	24V DC 120V AC	1	700-HC22Z24	11.40
				700-HC22A1	13.60
4PDT 4-Pole 4 Form C Contacts: 7A = AgNiAu Gold Plated Contacts	7 A Low energy rating; (10V, 1 mA)	24V AC	1	700-HC14A24	14.10
		120V AC		700-HC14A1	
		240V AC		700-HC14A2	16.80
		12V DC		700-HC14Z12	
		24V DC		700-HC14Z24	14.10
		48V DC		700-HC14Z48	16.30
4PDT 4-Pole 4 Form C Contacts: 7A = AgNi Silver Contacts	7 A C300 R300 Low energy rating; (10V, 10 mA)	24V AC	1	700-HC24A24	12.50
		120V AC		700-HC24A1	14.60
		240V AC		700-HC24A2	15.20
		12V DC		700-HC24Z12	12.50
		24V DC		700-HC24Z24	12.50
		48V DC		700-HC24Z48	14.60

\* LED option: Add suffix **(-4)** to the selected Bulletin 700-HC relay cat. no. except for the 240V AC units, add **(-4L)**.  
\* Push-to-test and LED option: Add suffix **(-3-4)** to the selected Bulletin 700-HC relay cat. no., except for the 240V AC units, add **(-3-4L)**.

Accessories

Description	PQ	Cat. No.	Price \$
<b>Screw Terminal Socket — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> $I_{th}$ = 10 A per pole. 14-Blade miniature socket for use with Bulletin 700-HC Relays. Order must be in ten or multiples of ten	10	700-HN103	9.38
<b>Screw Terminal Socket – Panel or DIN Rail Mounting. Guarded Terminal Construction</b> $I_{th}$ = 10 A per pole. 14-blade miniature socket for use with Bulletin 700-HC relays. This socket has coil and contact separation as well as the ability to plug in optional plug in modules (700-A** accessories: LED, Surge Suppression, Timing Modules)	10	700-HN104	10.80
<b>Screw Terminal Base Socket — Panel or DIN Rail Mounting; Open Style Construction</b> $I_{th}$ = 10 A per pole. 14-Blade miniature socket for use with Bulletin 700-HC Relays. Order must be in multiples of ten	10	700-HN128	9.74
<b>Retainer Clip for Cat. Nos. 700-HN103, -HN104 and -HN128 Sockets with 700-HC Relays and Cat. Nos. 700-HN116 Sockets with Bulletin 700-HF DPDT Relays *</b> Secures relay in socket. Order must be for 10 clips or multiples of 10.	10	700-HN114	1.08

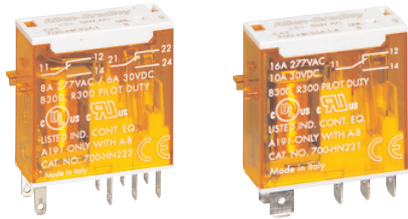
PQ = Package Quantity

For Surge Suppressors and Time Module Accessories, see page 2-9.

Discount Schedule T1

Interposing/Isolation Relays 700-HK

- 8 A/16 A Contact ratings
- DPDT/SPDT
- Plug-in blade style terminals
- Retainer clip comes with sockets
- Choice of standard silver nickel contacts, or silver nickel with gold plated contacts
- Options: LED & Push-to-Test with Manual Override



Slim Line Relay with Plug-in Quick Connect Terminations

Description	Contact Rating	Wiring Diagrams	Coil Voltage	PQ	Cat. No. *†‡	Price \$
SPDT 1-Pole 1 Form C AgNi Contacts	16 A		24V AC	1	700-HK36A24	12.40
			120V AC		700-HK36A2	18.60
			240V AC			
			12V DC		700-HK36Z24	9.28
			24V DC			
			110V DC		700-HK36Z1	15.40
Socket		700-HN121, 700-HN221				
DPDT 2-Pole 2 Form C AgNi Contacts	8 A		24V AC	1	700-HK32A24	13.40
			120V AC		700-HK32A2	19.60
			240V AC			
			12V DC		700-HK32Z24	11.30
			24V DC			
			110V DC		700-HK32Z1	15.40
Socket		700-HN122				

\* LED option: Add suffix (-4) to the selected Bulletin 700-HK relay cat. no. except for the 240V AC units, add (-4L).

‡ For AgNi contact with gold plating: Replace "3" with "X" in cat. no. For example, if cat. no. 700-HK36A1 is required with gold plating, the new catalog number is 700-HKX6A1.

† Push-to-Test and LED Option: Add suffix (-3-4) to the selected bulletin 700-HK relay catalog number. For 240V AC units, add suffix (-3-4L).

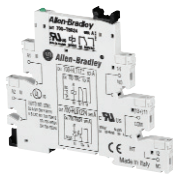
Accessories

Description	PQ	Cat. No.		Price \$
<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 5-blade miniature socket. For use with 1-pole, Bulletin 700-HK Relays. Socket includes a retainer clip. Order must be in multiples of ten	10	700-HN121		9.74
<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 5-blade miniature socket with 16 A rating for use with 1-pole, Bulletin 700-HK relays. Retainer clips are packaged separately with socket. Guarded terminal construction and compatible with optional plug-in module accessories.	10	700-HN221		9.00
<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 8-blade miniature socket with 5 A rating for use with 2-pole, Bulletin 700-HK relays. Accepts forked lug conductors. This socket includes a retainer clip. Order must be for 10 sockets or multiples of 10.	10	700-HN122		10.80
<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 8-blade miniature socket with 8 A rating for use with 2-pole, Bulletin 700-HK relays. Retainer clips are packaged separately with socket. Guarded terminal construction and compatible with optional plug-in module accessories. Order must be for 10 sockets or multiples of 10.	10	700-HN222		10.00
8-Way Jumper can be cut to required length. Rated 10 A – 250V	1	Color	Cat. No.	Price \$
		Red	700-HN180R	For pricing, go to ab.com /RAISE
		Gray	700-HN180G	
		Blue	700-HN180B	

PQ = Package Quantity

Terminal Block Relays 700-HL

- Up to 85% panel space savings vs. traditional relays
- DIN rail mounting
- Only 6.2 mm wide (SPDT)
- Standard LED, reverse polarity protection and surge protection
- Screw Terminals and Spring Clamp Bases



700-HLT...



700-HLS...

SPDT Relays

Assembled Devices Input Voltage	Output Type	PQ		Cat. No.* (Screw Terminals)	Price \$	Cat. No.* (Spring Clamp Terminals)	Price \$
24V DC	SPDT (1 C/O); $I_{th} = 6A$	10	※	700-HLT1Z24	15.20	700-HLT2Z24	17.20
24V AC/DC		10		700-HLT1U24	18.20	700-HLT2U24	20.60
110/125V AC/DC		10		700-HLT1U1	18.20	700-HLT2U1	20.60
220...240V AC/DC		10		700-HLT1U2	19.20	700-HLT2U2	21.60
Built-in LCSC (leakage current suppression circuit) 120V AC and 125V DC §		10	※	700-HLT1L1	27.50	—	—
Built-in LCSC (leakage current suppression circuit) 240V AC §		10	※	700-HLT1L2	29.50	—	—

Solid State





Assembled Devices Input Voltage	Output Type	PQ		Cat. No. (Screw Terminals)	Price \$	Cat. No. (Spring Clamp Terminals)	Price \$
24V DC	1 N.O. solid-state; $I_{th} = 2 A$ , 24V DC ‡	10	※	700-HLS1Z24	31.40	700-HLS2Z24	31.40
110/125V AC/DC		10	※	700-HLS1U1	34.40	700-HLS2U1	34.40
220...240V AC/DC		10	※	700-HLS1U2	34.40	700-HLS2U2	34.40
Built-in LCSC (leakage current suppression circuit) 120V AC and 125V DC §		10	※	700-HLS1L1	37.30	—	—
Built-in LCSC (leakage current suppression circuit) 240V AC §		10	※	700-HLS1L2	37.30	—	—

※ Electromechanical relay to solid-state relay interchangeability is possible.

‡ Reverse polarity on the output terminals of the solid-state relay will result in the output being "On" regardless of the state of the input voltage.

§ Leakage current suppression up to 2.2 mA off state current.

Accessories for Terminal Block Relays 700-HL

	Description	Socket Input Voltage	PQ	Cat. No.	Price \$
	<b>Replacement Relays</b> Order must be for 20 relays or multiples of 20. *	24V DC	20	700-TBR24	9.28
		110/125V DC 220...240V DC		700-TBR60	11.30
	<b>Replacement SSR</b> 4-blade miniature relay for use with 1 N.O. SSR output. Order must be for 20 relays or multiples of 20.	24V DC	20	700-TBS24	19.60
		110/125V DC 220...240V DC		700-TBS60	19.60
	Description	Color	PQ	Cat. No.	Price \$
	<b>20-Way Jumper</b> Can be cut to required length. $I_{th} = 36 A$ max per 20-way jumper.	Red	1	700-TBJ20R	19.60
		Gray		700-TBJ20G	3.10
		Blue		700-TBJ20B	3.10
	<b>End Barrier</b> Used for visual inspection of groups, safe separation of neighboring 700-HL modules that end with jumpers. Order must be for 10 or multiples of 10.	Black	10	700-HN177	1.62

\* For gold-plated contacts: Add the letter "X" at the end of the catalog number. For example: if Cat. No. 700-TBR24 is required with gold plating, the new cat. no. is 700-TBR24X. Gold-plated contacts with surcharge.

Note: Terminal block relay bases are not sold separately.  
PQ = Package Quantity

Discount Schedule

Bulletin 700-HL 2-Pole "Terminal Block Relay"

- Relay and Socket Assembled Interface Modules For High Density Interposing or Isolation Applications
- Screw Terminal and Spring Clamp Bases
- 10 A Relay, Choice of Silver or Gold Contacts
- DPDT (Relay)
- Built-in Retainer Clip and Snap-in Marker Lever
- Standard LED, Reverse Polarity Protection, and Surge Protection
- Externally Replaceable Relay Modules







700-HL 2-Pole

DPDT Relays

Assembled Devices		PQ	Cat. No. (Screw Terminals)	Price \$	Cat. No. (Spring Clamp Terminals)	Price \$
<b>Input Voltage</b>						
12V DC	DPDT (2 C/O); $I_{th} = 10$ A	10	700-HLT12Z12	19.80	700-HLT22Z12	21.50
24V DC		10	700-HLT12Z24*	19.80	700-HLT22Z24*	21.50
48V DC		10	700-HLT12Z48	23.00	700-HLT22Z48	25.10
24V AC/DC		10	700-HLT12U24*	23.70	700-HLT22U24*	25.80
110/125V AC/DC		10	700-HLT12U1*	23.70	700-HLT22U1*	25.80
220...240V AC/DC		10	700-HLT12U2*	25.00	700-HLT22U2*	27.00

\* For Gold-plated contacts: Add the letter "X" at the end of the catalog number. Example: Cat. No. 700-HLT12Z24 with gold plated contacts is catalog number 700-HLT12Z24X. The following relays are available with the gold-plated contact option: 700-HLT\_2Z24, 700-HLT\_2U24, 700-HLT\_2U1, and 700-HLT\_2U2.

Accessories for Terminal Block Relays 700-HL 2-Pole

	Description	PQ	Socket Input Voltage	Cat. No.	Price \$
 <i>Cat. No. 700-TBR224</i>	<b>Replacement Relays</b> Order must be for 20 relays or multiples of 20.	20	12V	700-TBR212	10.20
			24V DC	700-TBR224*	10.20
			48V	700-TBR248	14.20
			110/125V DC 220...240V DC	700-TBR2110*	12.50
 <i>Cat. No. 700-TBJ08B</i>	<b>8-Way Jumper</b> Can be cut to required length. $I_{th} = 10$ A max per 8-way jumper.	1	Color		3.10
			Red	700-TBJ08R	
			Gray	700-TBJ08G	
 <i>Cat. No. 700HN177</i>	<b>End Barrier</b> Used for visual inspection of groups, safe separation of neighboring 700-HL modules that end with jumpers. Order must be for 10 or multiples of 10.	10	Black	700-HN177	1.62
	<b>Snap-in Marker</b> These snap-in markers have a 6 x 12 mm surface and snap into the ejection lever for the relay.	100	Blank	1492-MS6X12	4.97
			Standard 1492-MS6X12	www.ab.com/ catalogs for information	
			Custom	*	

\* For gold-plated contacts: Add the letter "X" at the end of the catalog number. For example: if Cat. No. 700-TBR24 is required with gold plating, the new cat. no. is 700-TBR24X. Also add \$1 (US) to the price per relay.

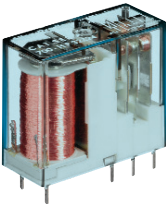
\* Go to <http://www.ab.com/software/termblock/index.html> and download software. Create custom text, save file, and e-mail to your local Allen-Bradley distributor.

Note: Terminal Block Relay bases are not sold separately.

PQ = Package Quantity

"Pin Style" Relay 700-HP (PCB)

- 8 A Contact ratings
- DPDT/ (2 c/o) contacts
- Plug-in PIN Style (PCB) terminals (5 mm pinning)
- Choice of standard silver nickel contacts, or silver nickel with gold plated contacts
- Options: None



700-HP

Slim Line Relay with "PIN Style" Terminations

Description	Contact Rating	Wiring Diagram	Coil Voltage	PQ	Cat. No.	Price \$
DPDT 2-Pole 2 Form C AgNi + Au Gold Plated Contacts	8 A		24V AC	10	700-HPX2A24	10.30
			120V AC	10	700-HPXA1	12.50
			240V AC	10	700-HPX2A2	12.50
			12V AC	10	700-HPXZ12	12.50
			24V DC	10	700-HPX2Z24	10.30
			110V DC	10	700-HPX2Z1	13.00
			12V AC	10	700-HPX2A12	10.30N A
			24V AC	10	700-HPX2A24	10.30
			120V AC	10	700-HPX2A1	11.40
			240V AC	10	700-HPX2A2	12.50
DPDT 2-Pole 2 Form C AgNi Contacts	8 A		12V DC	10	700-HPX2Z12	10.30
			24V DC	10	700-HPX2Z24	10.30
			24V AC	10	700-HP32A24	8.68
			240V AC	10	700-HP32A2	10.80
			24V DC	10	700-HP32Z24	8.68
			24V AC	10	700-HP32A24	8.68
			120V AC	10	700-HP32A1	9.76
			240V AC	10	700-HP32A2	10.80
			110V DC	10	700-HP32Z1	11.40
			6V DC	10	700-HP32Z06	8.68
			12V DC	10	700-HP32Z12	8.68

Accessories

Description	PQ	Cat. No.	Price \$
<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 8-pin miniature socket for use with 2-pole, Bulletin 700-HP relays. Incorporates coil and contact separation. Order must be for 10 sockets or multiples of 10.	10	700-HN123	10.80
8-Way Jumper can be cut to required length. Rated 10 A – 250V	1	Color	Cat. No.
		Red	700-HN180R
		Gray	700-HN180G
		Blue	700-HN180B
<b>Plastic Retainer and Ejection Lever</b> For use with the 700-HN123 Sockets Built-in ability to accept 1492 Snap-in Markers Order must be in multiples of 10	10	700-HN119	3.26

PQ = Package Quantity

For Surge Suppressors and Time Module Accessories, see page 2-9.

Discount Schedule T1

## Bulletin 700-HR Dial Timing Relays

- Socket or panel mounted
- 5 A Contact ratings or transistor outputs
- Single- or multi-function
- Timing range from 0.05 s...300 h
- Multi-voltage inputs



## Bulletin 700 Multi-Function, Multi-Range Dial Timing Relays with Pin Style Terminations

Timing Mode	Timing Range	Socket Type	No. of Pins	Input Voltage	Contact Output	Cat. No.	Price \$
On-Delay (A) OFF-Delay (D) One Shot (E) Repeat cycle OFF-Start (B) Repeat Cycle ON-Start (B2) Signal ON/OFF-delay (C)	0.05 s...300 h	700-HN101 700-HN126 700-HN129	11	24...48V AC 12...48V DC	DPDT	700-HR52TU24	108.00
				100...240V AC 100...125V DC		700-HR52TA17*	108.00
ON-Delay (A) One Shot (E) Repeat Cycle ON-Start (B2) Delayed One Shot (J)		700-HN100 700-HN125 700-HN108	8	24...48V AC 12...48V DC	DPDT	700-HRS42TU24	97.40
				24...48V AC/DC	SPDT Timed + Instantaneous Contact	700-HRP42TU24	99.60
				100...240V AC 100...125V DC		700-HRP42TA17	99.60
				100...240V AC 100...125V DC	DPDT	700-HRS42TA17	97.40
ON-Delay (A)	0.05 s...300 h	700-HN100 700-HN125 700-HN108	8	24...48V AC/DC	SPDT Timed + Instantaneous Contact	700-HRC12TU24	92.10
				24...48V AC 12...48V DC	DPDT	700-HRM12TU24	86.60
						700-HRM12TA17	
				100...240V AC	SPDT Timed + Instantaneous Contact	700-HRC12TA17	92.10

\* Compatible with connections to 3-wire sensors.

Operating Mode	Timing Range	Socket Type	No. of Pins	Input Voltage	Contact Output	Cat. No.	Price \$
Repeat Cycle OFF-start (B)	0.05 s ...30 h	700-HN100 700-HN125 700-HN108	8	24V AC/DC	DPDT	700-HRF72DU25	135.00
Repeat Cycle ON-start (B2)				100...240V AC		700-HRF72DA18	135.00
Star-Delta	0.5 s ...120 s	700-HN100 700-HN125 700-HN108	8	100...120V AC	SPDT Timed + Instantaneous Contact	700-HRYY6FA12	119.00
				200...240V AC		700-HRYY6FA22	119.00



Accessories

Description	Pkg. Qty.	Cat. No.	Price \$
<b>Screw Terminal Tube Base Socket — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> 8-Pin for use with Bulletin 700-HR and -HX timing relays. Order ten or multiples of ten	10	700-HN100	6.49
<b>Screw Terminal Tube Base Socket — Panel or DIN Rail Mounting; Open Style Construction.</b> 8-Pin for use with Bulletin 700-HR and -HX timing relays. Order must be for 10 sockets or multiples of 10. No retainer clip required.	10	700-HN125	6.49
<b>Screw Terminal Tube Base Sockets — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> 11-pin for use with 3PDT Bulletin 700-HA relays, -HR and -HT (Off-Delay) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN101	7.57
<b>Screw Terminal Tube Base Sockets — Panel or DIN Rail Mounting; Open Style Terminal Construction.</b> 11-pin for use with 3PDT Bulletin 700-HA relays, -HR and -HT (Off-Delay) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN126	9.74
<b>Specialty Socket</b> 8-pin backwired socket with solder terminals for use with 700-HR timing relays. Order 10 or multiples of 10.	10	700-HN108	4.34
<b>Specialty Socket</b> 11-pin backwired socket with solder terminals for use with Bulletin 700-HR timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN129	9.74
<b>Frame Adapter</b> For flush or door mounting of all Bulletin 700-HR timers.	1	700-HN130	19.50
<b>Retainer Clip for Cat. Nos. 700-HN100 and -HN101 Sockets with all 700-HR Timing Relays</b> Secures timer in socket. Order must be for 10 clips or multiples of 10.  Note: Not required for installation	10	700-HN131	6.24
<b>Protective Cover</b> Helps prevent tampering of timing and mode settings. Provides a degree of protection against water and dirt from entering the front of the relay. For use with all Bulletin 700-HRs and -HX timing relays.	1	700-HN132	20.60

## Discount Schedule W9

### Economy Timing Relays 700-FE

- Adjustable function and timing range timing relays
- DIN Rail mounted without cost of socket
- 17.5 mm wide, multi-function or single function
- Available as 1 N.O. or SPDT contact output, 5A
- Timing ranges from 0.05 s...10.0 h



700-FE

#### Single-Function

This device offers you one specific timing function.

Operating Mode	Contact Output	Timing Range	Input Voltage	Cat. No.	Price \$
ON-delay	1 N.O.	0.75 s...1 h (4 settings) §	24V AC/DC * 110...240V AC 50/60 Hz	700-FEA1SU22	56.90
	SPDT (1 C/O)	0.05 s...10 h (6 settings) ‡	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEA3TU23	61.50
OFF-delay	1 N.O.	0.75 s...1 h (4 settings) §	24V AC/DC * 110...240V AC 50/60 Hz	700-FEB1SU22	61.50
	SPDT (1 C/O)	0.05 s...10 h (6 settings) ‡	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEB3TU23	66.00
One Shot	1 N.O.	0.75 s...1 h (4 settings) §	24V AC/DC * 110...240V AC 50/60 Hz	700-FED1SU22	56.90
	SPDT (1 C/O)	0.05 s...10 h (6 settings) ‡	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FED3TU23	61.50
Fleeting OFF-delay	SPDT (1 C/O)	0.05 s...10 h (6 settings) ‡	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEE3TU23	66.00
Flasher (repeat cycle starting with pulse)	1 N.O.	0.75 s...1 h (4 settings) §	24V AC/DC * 110...240V AC 50/60 Hz	700-FEF1SU22	56.90
	SPDT (1 C/O)	0.05 s...10 h (6 settings) ‡	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEF3TU23	61.50
Pulse Converter	SPDT (1 C/O)	0.05 s...10 h (6 settings) ‡	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEL3TU23	66.00

#### Multi-Function

This device offers you the flexibility of selecting one of 4 single timing functions.

Operating Mode	Contact Output	Timing Range	Input Voltage	Cat. No.	Price \$
ON-delay, OFF-delay, One Shot, Flasher (repeat cycle starting with pulse)	1 N.O.	0.75 s...1 h (4 settings) *	24V AC/DC * 110...240V AC 50/60 Hz	700-FEM1RU22	77.50
ON-delay, OFF-delay, One Shot, Flasher (repeat cycle starting with pulse)	SPDT (1 C/O)	0.05 s...10 h (6 settings) *	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEM3TU23	82.00

#### Special Functions

Operating Mode	Contact Output	Timing Range	Input Voltage	Cat. No.	Price \$
Star-delta	2 N.O. with 1 Common	0.15 s...10 min. (4 settings) *	24V...48V AC/DC 24...240V AC 50/60 Hz	700-FEY2QU23	82.00

\* Voltage is either 24V AC 50/60 Hz or 24V DC.

\* Time ranges: 0.5...10 s, 3...60 s, 0.5 s...10 min., 3...60 min.

‡ Time ranges: 0.05...1 s, 0.5...10 s, 0.05...1 min., 0.5...10 min, 0.05...1 h, 0.5...10 h.

§ Time ranges: 0.75...15 s, 3...60 s, 0.4...8 min., 3...60 min.

♣ Time ranges: (3s) 0.15...3 s, (10s) 0.5...10 s, (1m) 0.05...1 min, (10m) 0.5...10 min

Electronic High Performance Timing Relays 700-FS

- Adjustable function and timing range timing relays
- DIN Rail mounted without cost of socket
- 22.5 mm wide multifunction or single functions
- Available as SPDT or DPDT contact output, 8 A
- Timing ranges from 0.05 s...60 h
- Coil surge protection



700-FS

Single Function (With SPDT 1 C/O contact)

Operating Mode	Timing Range	Input Voltage	Cat. No.	Price \$
On-delay	0.05 s...60 h	24...48V DC 24...240V AC, 50/60 Hz	700-FSA3UU23	69.50
	0.05...1 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSA3AU23	69.50
	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSA3CU23	69.50
	0.5...10 min	24...48V DC 24...240V AC, 50/60 Hz	700-FSA3GU23	69.50
Off-delay	0.05 s...60 h	24...48V DC 24...240V AC, 50/60 Hz	700-FSB3UU23	69.50
	0.05...1 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSB3AU23	69.50
	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSB3CU23	69.50
	0.5...10 min	24...48V DC 24...240V AC, 50/60 Hz	700-FSB3GU23	69.50
On- and off-delay	0.05...1 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSC3AU23	77.50
	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSC3CU23	77.50
One shot	0.05...1 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSD3AU23	77.50
	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSD3CU23	77.50
Fleeting Off-delay	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSE3CU23	77.50
Flasher (repeat cycle starts with pulse)	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSF3CU23	77.50
Flasher (repeat cycle starts with pause)	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSG3CU23	77.50
On-delay pulse generator	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSI3CU23	77.50
On-delay (pulse controlled)	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSJ3CU23	77.50
One shot/watch dog (pulse controlled)	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSK3CU23	77.50
Pulse converter	0.5...10 s	24...48V DC 24...240V AC, 50/60 Hz	700-FSL3CU23	77.50

## Discount Schedule W9

## Single Function (With DPDT 2 C/O contacts)

Operating Mode	Timing Range	Input Voltage	Cat. No.	Price \$
On-delay	0.05 s...60 h *	24...48V DC 24...240V AC, 50/60 Hz	700-FSA4UU23	95.70
Off-delay	0.05 s...60 h *	24...48V DC 24...240V AC, 50/60 Hz	700-FSB4UU23	95.70

\* The timing range of "0.05 s...60 h" is selectable in 12 smaller ranges plus an ON and OFF function for maintenance needs.

## Multi-Function




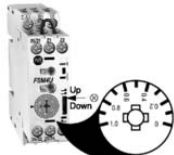

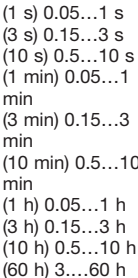
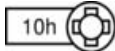
This device offers you the flexibility of selecting one of 8 single timing functions.



700-FSM

Operating Mode	Contact Output	Timing Range	Input Voltage	Cat. No.	Price \$
Multi-function timing relays 8 Single-functions: A, B, C, D, E, F, I, and L ON and OFF function additional (for installation and maintenance) Note: See connection diagrams for further description.	(SPDT) 1 C/O	0.05 s...60 h *	24...48V DC 24...240V AC 50/60 Hz	700-FSM3UU23	116.00
		0.05 s...60 h *	12V DC	700-FSM3UZ12	NA
	(DPDT) 2 C/O	0.05 s...60 h *	24...48V DC 24...240V AC 50/60 Hz	700-FSM4UU23	138.00
		0.05 s...60 h *	12V DC	700-FSM4UZ12	NA

## Multi-Function Timing Relay Function and Time Range Settings

Description		 SPDT	 	DPDT
 (A) On-Delay (B) Off-Delay (C) On- and Off-Delay (D) One shot (E) Fleeting Off-Delay (F) Flasher (repeat cycle starts with pulse) (I) On-Delay pulse generator (L) Pulse converter (On) ON-Function ⚡ (Off) OFF-Function ⚡ <b>Note:</b> Switch ⊗ is on DPDT relays only. When switch is down, one contact is instantaneous and one is timed. When switch is up, both contacts are timed.	Multi-function timing relays 700-FSM3U includes 10 setting functions:	Multi-Time Setting Range 0.05 s...60 h		
				
				

\* The time range of "0.05 s...60 h" is selectable in 12 smaller ranges plus an ON and OFF function for maintenance needs.

‡ For installation and maintenance.

Miniature Control Relays — Bulletin 700K

- IEC Compact industrial relay
- Same dimensions for AC and DC
- Mechanically linked contacts per IEC 60947-5-1 allows their use in safety interlock circuits
- Reliable signal leve switching down to 170/5 mA




Control Relays

AC-12 <i>I</i> <sub>th</sub> [A]		AC-15 <i>I</i> <sub>th</sub> [A]								Contacts		PQ ★	Screw Type Terminals	Price \$
40 °C	60 °C	24/48V	120V	230V	400V	500/ 525V	600V	690V		N.O.	N.C.		Cat. No.	
11	—	—	—	6	2.5	1.25	—	—		4	—	1	700-K40E-⊗	0.00
										3	1	1	700-K31Z-⊗	0.00
										2	2	1	700-K22Z-⊗	0.00
										1+1L ★	1+1L ★	1	700-KL22Z-⊗	0.00

★ May be ordered in package quantities of 20. Add letter M to the end of the cat. no. Example: **700-K40E-KFM**.  
★ 1L = Late break N.C./early make N.O.  
⊗ The Cat. No. as listed is incomplete. Select a standard Coil Voltage Code from the table below to complete the Cat. No. Example: 230V, 50/60 Hz: Cat. No. **700-K40E-⊗** becomes Cat. No. **700-K40E-KF**.

Accessories



Control Modules

Description			Pkg. Qty.	Cat. No.	Price \$
<b>Suppressor Modules</b> For limiting surge voltage when coil circuits are interrupted Pluggable	<b>RC Module</b> AC Operating Mechanism	24...48V	1 ★	100-KFSC50	0.00
		110...280V	1 ★	100-KFSC280	0.00
		380...480V	1 ★	100-KFSC480	0.00
	<b>Varistor Module</b> AC/DC Operating Mechanism	12...55V AC / 12...77V DC	1 ★	100-KFSV55	0.00 ★
		56...136V AC / 78...178V DC	1 ★	100-KFSV136	0.00 ★
		137...277V AC / 181...350V DC	1 ★	100-KFSV277	0.00 ★
	<b>Diode Module</b> DC Operating Mechanism	12...250V	1 ★	100-KFSD250	0.00 ★


★ May be ordered in package quantities of 10. Add letter M to the end of the cat. no. Example: **100-KFSC50M**.

Discount Schedule

Timers

	Description		Pkg. Qty.	Cat. No.	Price \$
	Star-Delta Timer	110...220V	10	196-MTSDA1	161.00
		220...250V	10	196-MTSDA2	161.00
		48V	10	196-MTSDA3	0.00
	35 mm DIN Rail Mounting Adapter For easy mounting of timer modules on standard DIN Rail (EN 50 022-35) and G-Rail		10	196-MTM	5.78

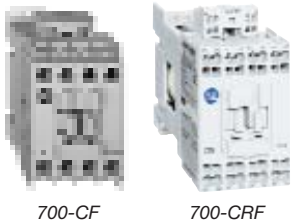
Auxiliary Contact Adder Decks

	Description		Screw Type Terminals	Price \$
	N.O.	N.C.	Cat. No.	
	0	2	100-KFA02E	0.00
	1	1	100-KFA11E	0.00
	2	0	100-KFA20E	0.00
	4	0	100-KFA04E	0.00
	1	3	100-KFA13E	0.00
	2	2	100-KFA22Z	0.00
	3	1	100-KFA31Z	0.00
	4	0	100-KFA40E	0.00
	1+1L	1+1L	100-KFAL22Z	0.00

\* May be ordered in package quantities of 10. Add letter M to the end of the cat. no. Example: **100-KFC02M**.

Control Relays 700-CF

- IEC industrial relays (finger safe design)
- Positively-guided/mechanically-linked contacts per IEC 947-5-1 Annex L on main and auxiliary contacts
- Gold plated, bifurcated version for low level switching applications
- Master control relay version rated 15 A (AC-15)
- Solid-state and pneumatic timing modules
- 12...600V coils



4-Pole AC Coil Voltage (Screw Terminals)

AC-12		AC-15		Contacts		Standard Contacts	Price \$
I <sub>th</sub> [A]		I <sub>e</sub> [A]					
40°C	60°C	240V	400V	N.O.	N.C.	Cat. No.	
20	20	10	6	2	2	700-CF220⊗	76.00
				3	1	700-CF310⊗	76.00
				4	0	700-CF400⊗	76.00

4-Pole AC Coil Voltage (Spring Clamp Terminals)

AC-12		AC-15		Contacts		Standard Contacts	Price \$
I <sub>th</sub> [A]		I <sub>e</sub> [A]					
40°C	60°C	240V	400V	N.O.	N.C.	Cat. No.	
20	20	10	6	2	2	700-CRF220⊗	82.00
				3	1	700-CRF310⊗	82.00
				4	0	700-CRF400⊗	82.00

⊗ AC Coil Voltage Code



The Cat. No. as listed is incomplete. Select a Coil Voltage Code from the table below to complete the Cat. No. Example: Cat. No. 700-CF220⊗ becomes Cat. No. 700-CF220KF for 230V, 50/60 Hz.

[V]	12	24	32	36	42	48	100	100-110	110	120	127	200	200-220	200-230	208-240
50 Hz	R	K	V	W	X	Y	KP	—	D	P	S	KG	L	—	—
60 Hz	Q	J	—	V	—	X	—	KP	—	D	—	—	KG	H	L
50/60 Hz	—	KJ	—	—	—	KY	KP	—	KD	—	—	KG	—	KL	—



[V]	220-230	230	230-240	240	277	347	380	380-400	400	400-415	440	480	500	550	600
50 Hz	F	—	VA	T	—	—	—	N	—	G	B	—	M	C	—
60 Hz	—	—	—	A	T	I	E	—	—	—	N	B	—	—	C
50/60 Hz	—	KF	—	KA	—	—	—	—	KN	—	KB	—	—	—	—

## Discount Schedule W9

## 4-Pole DC Coil Voltage (Screw Terminals)

AC-12		AC-15		Contacts		Standard Contacts *	Price \$
$I_{th}$ [A]		$I_e$ [A]					
40°C	60°C	240V	400V	N.O.	N.C.	Cat. No.	
20	20	10	6	2	2	700-CF220⊗	105.00
				3	1	700-CF310⊗	105.00
				4	0	700-CF400⊗	105.00

## 4-Pole DC Coil Voltage (Spring Clamp Terminals)

AC-12		AC-15		Contacts		Standard Contacts	Price \$
$I_{th}$ [A]		$I_e$ [A]					
40°C	60°C	240V	400V	N.O.	N.C.	Cat. No.	
20	20	10	6	2	2	700-CRF220⊗	111.00
				3	1	700-CRF310⊗	111.00
				4	0	700-CRF400⊗	111.00

## ⊗ DC Coil Voltage Code\*

The Cat. No. as listed is incomplete. Select a Coil Voltage Code from the table below to complete the Cat. No. Example: **Cat. No. 700-CF220⊗** becomes Cat. No. **700-CF220ZJ** for 24V DC

		[V]	9 ‡	12	24 ‡	36	48	60	64	72
700-CF 700-CRF	Standard		ZR	ZQ	ZJ	ZW	ZY	ZZ	ZB	ZG
	With integrated diode ⊗		—	—	ZJ	—	—	—	—	—

		[V]	80	110	115	125	220	230	250	—
700-CF 700-CRF	Standard		ZE	ZJ	ZP	ZS	ZA	ZF	ZT	—
	With integrated diode ⊗		—	—	—	—	—	—	—	—

\* When ordering DJ coil with built-in surge suppression, the DJ is not polarity sensitive. Drop out time:

⊗ Diode version with surcharge

‡ Extended operating limits  $0.7...1.25 \times U_s$



Bulletin 700S-CF

- IEC Industrial Safety Relay
- Positively Guided/Mechanically Linked Contacts as Per IEC 947-5-1 Annex L
- Third Party Certification by SUVA
- Red Cover and Mechanically Linked Contact Symbol on Front Face
- Gold Plated, Bifurcated Version for Low Level Switching Applications



Type CF and CFB Safety Control Relays — 8-Pole AC Coil Voltage



AC-12			AC-15								Contacts		Standard Contacts Cat. No.	Price \$	Gold Plated Bifurcated Contacts Cat. No.	Price \$
	40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V	N.O.	N.C.					
Main Contacts	20	20	10	10	10	6	2.5	1	1	4	4	700S-CF440⊗C		700S-CFB440⊗C		
										5	3	700S-CF530⊗C		700S-CFB530⊗C		
Adder Deck Contacts	10	6	6	6	5	3	1.6	1	1	6	2	700S-CF620⊗C		700S-CFB620⊗C		

⊗ AC Coil Voltage Code

The Cat. No. as listed is incomplete. Select a Coil Voltage Code from the table below to complete the Cat. No. Example: **Cat. No. 700S-CF440⊗C** becomes **Cat. No. 700S-CF440DC** for 120V, 60 Hz.

Voltage	12	24	32	36	42	48	100	100-110	110	120	127	200	200-220	208	208-240	220-230
50 Hz	R	K	V	W	X	Y	KP	—	D	P	S	KG	L	—	—	F
60 Hz	Q	J	—	V	—	X	—	KP	—	D	—	—	KG	H	L	—
50/60 Hz	—	KJ	—	—	—	KY	KP	—	KD	—	—	KG	KL	—	—	KL

Voltage	230	230-240	240	277	347	380	380-400	400	400-415	440	480	500	550	600
50 Hz	—	VA	T	—	—	—	N	—	G	B	—	M	C	—
60 Hz	—	—	A	T	I	E	—	—	—	N	B	—	—	C
50/60 Hz	KF	—	KA	—	—	—	—	KN	—	KB	—	—	—	—

Type CF and CFB Safety Control Relays — 8-Pole DC Coil Voltage

AC-12 I <sub>e</sub> [A]			AC-15 I <sub>e</sub> [A]							Contacts		Standard Contacts Cat. No.*	Price \$	Gold Plated Bifurcated Contacts Cat. No.*	Price \$
	40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V	N.O.	N.C.				
Main Contacts	20	20	10	10	10	6	2.5	1	1	4	4	700S-CF440ⓈC		700S-CFB440ⓈC	
										5	3	700S-CF530ⓈC		700S-CFB530ⓈC	
Adder Deck Contacts	10	6	6	6	5	3	1.6	1	1	6	2	700S-CF620ⓈC		700S-CFB620ⓈC	

\* See table below for coil voltage selection information.

⊗ DC Coil Voltage Code

The Cat. No. as listed is incomplete. Select a Coil Voltage Code from the table below to complete the Cat. No. Example: **700S-CF440⊗C** becomes **Cat. No. 700S-CF440ZJC** for 24V DC.

Voltage	9	12	24	36	48	60	64	72	80	110	115	125	220	230	250
Standard	ZR	ZQ	ZJ	ZW	ZY	ZZ	ZB	ZG	ZE	ZD	ZP	ZS	ZA	ZF	ZT
With diode suppressor	—	—	DJ	—	—	—	—	—	—	—	—	—	—	—	—

## Discount Schedule W9

## Bulletin 700-P Direct Drive™ Convertible Contact Cartridge Relays

- NEMA and IEC ratings
- 600V maximum AC/DC
- Accessories for field installation
- Contact ratings: (10A) 700-CP1, (20A) 700-CPM, (35A) 700-CPH, (low power) 700-CPR
- Can accommodate ring tongue terminals



## Electrically Held Relays

## Bulletin 700-P (10 A) Standard Contact Cartridge\*❖

## AC-Operated Relays

Contacts		Open Type Panel & Relay Rail Mount		Open Type Relay Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
2	—	700-P200❖	103.00	700-P200D❖	116.00
4	—	700-P400❖	142.00	700-P400D❖	154.00
6	—	700-P600❖	170.00	700-P600D❖	183.00
8	—	700-P800❖	210.00	700-P800D❖	223.00
10	—	700-P1000❖	238.00	700-P1000D❖	250.00
12	—	700-P1200❖	1,200.00	700-P1200D❖	289.00

## ❖AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-P200❖** becomes **Cat. No. 700-P200A48**. For other coil voltages, consult your local Allen-Bradley distributor.

Hz	24	48	110	110-115	115-120	120	127	200-208	220-230	230-240	277	347	380	440-480	460-480	500	575-600
50	B24	B48	A1❖	B11+	—	—	B27	—	B22	B2	—	—	B3	B44	—	B50	A6
60	A24	A48	—	—	A1❖	B11+	—	A20	A22	A2	A27	A35	—	—	A4	—	A6

❖ Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.

+

 Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.

## DC-Operated Relays

	Contacts		Open Type Relay Rail Mount		Open Type DIN Rail Mount	
	N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
	2	—	700DC-P200❖	184.00	700DC-P200D❖	202.00
	4	—	700DC-P400❖	222.00	700DC-P400D❖	242.00
	6	—	700DC-P600❖	256.00	700DC-P600D❖	268.00
	8	—	700DC-P800❖	296.00	700DC-P800D❖	309.00
	10	—	700DC-P1000❖	323.00	700DC-P1000D❖	336.00
	12	—	700DC-P1200❖	363.00	700DC-P1200D❖	391.00

## ❖DC Voltage Suffix Code


The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-P200❖** becomes **Cat. No. 700DC-P200Z48**. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

Electrically Held Relays

Bulletin 700-PK (20 A) Master Contact Cartridges❄❄

AC-Operated Relays

	Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
	N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
	2	—	700-PK200❄	147.00	700-PK200D❄	159.00
	4	—	700-PK400❄	245.00	700-PK400D❄	257.00
	6	—	700-PK600❄	332.00	700-PK600D❄	344.00
	8	—	700-PK800❄	429.00	700-PK800D❄	441.00
	10	—	700-PK1000❄	516.00	700-PK1000D❄	528.00
	12	—	700-PK1200❄	614.00	700-PK1200D❄	626.00


❄AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-PK200❄** becomes **Cat. No. 700-PK200A48** for 48V 60 Hz. For other coil voltages, consult your local Allen-Bradley distributor.

Hz	24	48	110	110-115	115-120	120	127	200-208	220-230	230-240	277	347	380	440-480	460-480	500	575-600
50	B24	B48	A1❄	B11+	—	—	B27	—	B22	B2	—	—	B3	B44	—	B50	A6
60	A24	A48	—	—	A1❄	B11+	—	A20	A22	A2	A27	A35	—	—	A4	—	A6

- ❄ **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.
- ❄ **Overlap contacts:** To order a relay containing one pair: Use **Cat. No. 700-PZ110**. To order a relay containing two pairs: Use **Cat. No. 700-PZ2220**. N.O. contact closes before N.C. contact opens. AC Ratings: NEMA A600, DC Ratings: P161.
- ❄ Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.
- ⚡ Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.

DC-Operated Relays

	Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
	N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
	2	—	700DC-PK200❄	229.00	700DC-PK200D❄	241.00
	4	—	700DC-PK400❄	323.00	700DC-PK400D❄	323.00
	6	—	700DC-PK600❄	420.00	700DC-PK600D❄	420.00
	8	—	700DC-PK800❄	518.00	700DC-PK800D❄	518.00
	10	—	700DC-PK1000❄	604.00	700DC-PK1000D❄	616.00
	12	—	700DC-PK1200❄	701.00	700DC-PK1200D❄	713.00

❄DC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-PK200❄** becomes **Cat. No. 700DC-PK200Z12** for 12V DC. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

- ❄ **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.
- ❄ **Overlap contacts:** To order a relay containing one pair: Use **Cat. No. 700-PZ110**. To order a relay containing two pairs: Use **Cat. No. 700-PZ2220**. N.O. contact closes before N.C. contact opens. AC Ratings: NEMA A600, DC Ratings: P161.

Discount Schedule

Electrically Held Relays

Bulletin 700-PH (35A) Tandem Contact Cartridges\*

AC-Operated Relays



Cat. No. 700-PH200

Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
1	—	700-PH100⊗	154.00	700-PH100D⊗	166.00
2	—	700-PH200⊗	259.00	700-PH200D⊗	271.00
3	—	700-PH300⊗	352.00	700-PH300D⊗	364.00
4	—	700-PH400⊗	457.00	700-PH400D⊗	469.00
5	—	700-PH500⊗	556.00	700-PH500D⊗	568.00
6	—	700-PH600⊗	654.00	700-PH600D⊗	666.00

⊗AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-PH100⊗** becomes **Cat. No. 700-PH100A48**. For other coil voltages, consult your local Allen-Bradley distributor.

Hz	24	48	110	110-115	115-120	120	127	200-208	220-230	230-240	277	347	380	440-480	460-480	500	575-600
50	B24	B48	A1⊗	B11+	—	—	B27	—	B22	B2	—	—	B3	B44	—	B50	A6
60	A24	A48	—	—	A1⊗	B11+	—	A20	A22	A2	A27	A35	—	—	A4	—	A6

\* **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.

⊗ **Overlap contacts:** To order a relay containing one pair: Use **Cat. No. 700-PZ110**. To order a relay containing two pairs: Use **Cat. No. 700-PZ2220**. N.O. contact closes before N.C. contact opens. AC Ratings: NEMA A600, DC Ratings: P161.

⊗ Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.

⊗ Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.

DC-Operated Relays



Cat. No. 700DC-PH200

Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
1	—	700DC-PH100⊗	243.00	700DC-PH100D⊗	255.00
2	—	700DC-PH200⊗	346.00	700DC-PH200D⊗	358.00
3	—	700DC-PH300⊗	440.00	700DC-PH300D⊗	452.00
4	—	700DC-PH400⊗	544.00	700DC-PH400D⊗	556.00
5	—	700DC-PH500⊗	643.00	700DC-PH500D⊗	NA
6	—	700DC-PH600⊗	742.00	700DC-PH600D⊗	754.00

⊗DC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-PH200⊗** becomes **Cat. No. 700DC-PH200Z12**. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

\* **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.

⊗ Location of contacts in 1-pole relays.

⊗ Location of contacts in 3-pole relays: 2-pole relay plus the contact indicated.

⊗ Location of contacts in 5-pole relays: 4-pole relay plus the contact indicated.

Type S-P Safety Control Relays

- Mechanically Linked Contacts meet IEC 947-5-1-L
- 2...12 poles – all Mechanically Linked
- Red Faceplate for Easy Identification of Safety Circuits
- IEC Mechanically linked Contacts Symbol Displayed on Front
- Double-break Contacts to Reduce Probability of Welded Contacts
- Visual Indication of Contact State
- Tamper Resistant Cover Helps Prevent Changes Which Could Jeopardize Safety
- Complete Catalog Number Displayed on Front
- Ideal for use in Safety Circuits



AC and DC Coil Voltages

Connection Diagrams and terminal markings			Contacts		AC Coils		24V DC Coils	
Coil and Main Contacts	Additional Contacts	Additional Contacts	N.O.	N.C.	Cat. No.*	Price \$	Cat. No.*	Price \$
	—	—	3	1	700S-P310⊗		700S-DCP310Z24	
	—	—	2	2	700S-P220⊗		700S-DCP220Z24	
	—	—	7	1	700S-P710⊗		700S-DCP710Z24	
	—	—	6	2	700S-P620⊗		700S-DCP620Z24	
	—	—	5	3	700S-P530⊗		700S-DCP530Z24	
	—	—	4	4	700S-P440⊗		700S-DCP440Z24	
	—	—	3	5	700S-P350⊗		700S-DCP350Z24	
	—	—	10	2	700S-P1020⊗		700S-DCP1020Z24	

⊗AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No.

Example: Cat. No. 700S-P310 becomes Cat. No. 700S-P310A1 for a 120V AC coil.

Hz	24	115-120	230-240	277	460-480
60	A24	A1	A2	A27	A4

\* For other coil voltages, consult your local Allen-Bradley Distributor.

IEC 947-5-1 Annex L has 2 requirements for a relay to meet for mechanically linked contacts:

- 1.) If a N.O. contact welds, all the N.C. contacts will remain open and meet a 2500V impulse test.
- 2.) If a N.C. contact welds, all the N.O. contacts will remain open and meet a 2500V impulse test.

700S-P and 700S-DCP relays meet these requirements including the 2500V impulse test.

The relays shown on this page are shipped from the factory with the 700-CPS cartridge installed and can not be converted to N.O. or N.C. in the Field.

## Discount Schedule

**Time Delay Relays — Open Type With Pneumatic Time-Delay Attachment**

- Factory-Assembled Bulletin 700-PT and PKT Timing Relays
  - Timing Range — 0.1...60 s
  - 0, 2, or 4 instantaneous contacts
  - 2 timed contacts — both ON Delay or both OFF Delay
  - Convertible from ON Delay to OFF Delay and vice versa
  - Standard contact cartridges rated NEMA A600 (AC) and P600 (DC)
  - Master contact cartridges rated 2X NEMA A600 (AC) and 2X P600 (DC)

**Bulletin 700-P Standard Contact Cartridge\*\***

AC-Operated Relays					
Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
0	—	700-PPT⊗	308.00	700-PPTD⊗	320.00
2	—	700-PT200⊗	348.00	700-PT200D⊗	360.00
4	—	700-PT400⊗	387.00	700-PT400D⊗	399.00

DC-Operated Relays					
Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
0	—	700DC-PPT⊗	394.00	700DC-PPTD⊗	
2	—	700DC-PT200⊗	434.00	700DC-PT200D⊗	
4	—	700DC-PT400⊗	472.00	700DC-PT400D⊗	

**⊗AC Voltage Suffix Code**

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-PKT200⊗** becomes **Cat. No. 700-PKT200A48** for 48V 60 Hz. For other coil voltages, consult your local Allen-Bradley distributor.

Hz	24	48	110	110-115	115-120	120	127	200-208	220-230	230-240	277	347	380	440-480	460-480	500	575-600
50	B24	B48	A1 %	B11 +	—	—	B27	—	B22	B2	—	—	B3	B44	—	B50	A6
60	A24	A48	—	—	A1%	B11 +	—	A20	A22	A2	A27	A35	—	—	A4	—	A6

\* **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.

⊗ **Overlap contacts:** To order a relay containing one pair: Use **Cat. No. 700-PZ110**. To order a relay containing two pairs: Use **Cat. No. 700-PZ2220**. N.O. contact closes before N.C. contact opens. AC Ratings: NEMA A600, DC Ratings: P161.

% Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.

+ Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.

**⊗DC Voltage Suffix Code**

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-PKT200⊗** becomes **Cat. No. 700DC-PKT200Z12** for 12V DC. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

\* **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.

⊗ **Overlap contacts:** N.O. contact closes before N.C. contact opens. To order a relay containing one pair: Use **Cat. No. 700-PTZ110**. To order a relay containing two pairs: Use **Cat. No. 700-PTZ2220**. AC Ratings: NEMA A600, DC Ratings: P161.

Time Delay Relays — Open Type With Pneumatic Time-Delay Attachment

Bulletin 700-PK 20 A Master Contact Cartridges\*

AC-Operated Relays					
Contacts		Open Type Panel & Relay Rail Mount		Open Type DIN Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
0	—	700-PPKT⊗	329.00	700-PPKTD⊗	341.00
2	—	700-PKT200⊗	414.00	700-PKT200D⊗	426.00
4	—	700-PKT400⊗	512.00	700-PKT400D⊗	524.00

DC-Operated Relays					
Contacts		Open Type Npael & Relay Rail Mount		Open Type DIN Rail Mount	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
0	—	700DC-PPKT⊗	403.00	700DC-PPKTD⊗	
2	—	700DC-PKT200⊗	502.00	700DC-PKT200D⊗	
4	—	700DC-PKT400⊗	600.00	700DC-PKT400D⊗	

⊗AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-PKT200⊗** becomes **Cat. No. 700-PKT200A48** for 48V 60 Hz. For other coil voltages, consult your local Allen-Bradley distributor.

Hz	24	48	115-120	120	200-208	220-230	230-240	277	347	460-480	575-600
60	A24	A48	A1⌘	B11 +	A20	A22	A2	A27	A35	A4	A6

⌘ Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.

+ Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.

⊗DC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-PKT200⊗** becomes **Cat. No. 700DC-PKT200Z12** for 12V DC. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

\* **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.

## Discount Schedule

## Mechanical Latching Relays

- Factory-Assembled Bulletin 700-PL Latching Relays
- Converts all poles to latching
- AC latch coil — max. 6 poles latching
- DC latch coil — max. 5 poles latching
- Latching relays have 2 coils — latch coil is the relay coil, reset coil is on the latch attachment
- Latch/reset coils can have 2 AC coils, 2 DC coils, or 1 AC and 1 DC coil (e.g., latch with AC power, unlatch with DC battery)



## AC-Operated Relays

Contacts		Open Type Panel & Relay Rail Mount with Mechanical Latch Attachment (Read ATTENTION Below)		Open Type DIN Rail Mount with Mechanical Latch Attachment (Read ATTENTION Below)	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
0	—	—	—	—	—
2	—	700-PL200⊗	214.00	700-PL200D⊗	226.00
4	—	700-PL400⊗	253.00	700-PL400D⊗	265.00
6	—	700-PL600⊗	293.00	700-PL600D⊗	305.00

## ⊗AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-PL200⊗** becomes **Cat. No. 700-PL200A48**. For other coil voltages, consult your local Allen-Bradley distributor.

Relays with latch attachments: if the latch attachment coil is to be a different voltage other than the relay coil, add a second coil code suffix. Example: **Cat. No. 700-PL400A1A24**. Only one suffix is required if both coils are the same voltage.

Hz	24	48	110	110-115	115-120	120	127	200-208	220-230	230-240	277	347	380	440-480	460-480	500	575-600
50	B24	B48	A1⊗	B11+	—	—	B27	—	B22	B2	—	—	B3	B44	—	B50	A6
60	A24	A48	—	—	A1⊗	B11+	—	A20	A22	A2	A27	A35	—	—	A4	—	A6

\* **Normally closed contacts:** The normally open contacts can easily be changed to normally closed in the field. Relays can be supplied with N.C. contacts.

⊗ **Overlap contacts:** To order a relay containing one pair: Use **Cat. No. 700-PZ110**. To order a relay containing two pairs: Use **Cat. No. 700-PZ2220**. N.O. contact closes before N.C. contact opens. AC Ratings: NEMA A600, DC Ratings: P161.

⊗ Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.

+ Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.



DC-Operated Relays

Contacts		Open Type Panel & Relay Rail Mount with Mechanical Latch Attachment (Read ATTENTION Below)		Open Type DIN Rail Mount with Mechanical Latch Attachment (Read ATTENTION Below)	
N.O.	N.C.	Cat. No.	Price \$	Cat. No.	Price \$
0	—	—	—	—	—
2	—	700DC-PL200Ⓢ	335.00	700DC-PL200DⓈ	347.00
4	—	700DC-PL400Ⓢ	374.00	700DC-PL400DⓈ	386.00
5	—	700DC-PL500Ⓢ	394.00	700DC-PL500DⓈ	406.00

ⓈDC Voltage Suffix Code



The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-PL200Ⓢ** becomes **Cat. No. 700DC-PL200Z12**. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

**ATTENTION** – An open or failed unlatch control circuit will fail to unlatch the relay. For this reason, a mechanical latch unit should not be used where protection is needed against automatic restart after a power failure or where reliability to a control function is critical to safety.





Accessories

Adder Decks


 Second Deck Cat. No. 700-PB40	Description	No. of N.O. Contacts	No. of N.C. Contacts	Continuous Carrying Current (A)	Cat. No.	Price \$
	Second Deck (2-pole)	2	—	10	700-PB20	38.00
		2	—	20	700-PKB20	86.50
	Second Deck (4-pole)	4	—	10	700-PB40	76.20
		4	—	20	700-PKB40	185.00
 Third Deck Cat. No. 700-PC40	Third Deck (2-pole)	2	—	10	700-PC20	39.60
		2	—	20	700-PKC20	86.50
	Third Deck (4-pole)	4	—	10	700-PC40	76.20
		4	—	20	700-PKC40	185.00

## Discount Schedule

## Contact Cartridges (Convertible to N.O. from N.C.)


	Description		Continuous Carrying Current (A)	Pkg. Quantity	Cat. No.	Price \$
 <i>Standard Contact Cartridge</i> <i>Cat. No. 700-CP1, -CP11Z</i>	<b>Standard Contact Cartridge</b> AC Rating NEMA A600 DC Rating NEMA P600		10	1	700-CP1	19.10
 <i>Master Contact Cartridge</i> <i>Cat. No. 700-CPM</i>	<b>Overlap Contact Cartridges</b> Overlapping Used in pairs. N.O. contact closes before N.C. contact opens on pick-up and vice versa on drop-out.⚡	AC Rating NEMA A600	10	2	700-CP11Z	38.00
		DC Rating NEMA P150 125V DC, 138 VA Make and Break	5			
	<b>Master Contact Cartridge</b> AC Rating Twice NEMA A600 DC Rating Twice NEMA P600		20	1	700-CPM	47.50
 <i>Logic Reed Cartridge</i> <i>Cat. No. 700-CPR</i>	<b>Logic Reed Cartridge for Low Energy Circuits</b> 150V AC 500 mA 25 VA Max. 30V DC 200 mA 6 W Max.	Maximum 150V AC	500 mA	1	700-CPR	51.10
		Maximum 30V DC	200 mA			
	<b>Safety Contact Cartridge</b> 10 A cartridge meeting IEC 947-5 Note: Use this cartridge when full compliance to IEC 947-5 is required. 700-P relays equipped with CPS cartridges fully meet the IEC 947-5 spec for mechanically linked contacts.		10	1	700-CPS	19.60

♣ Not Direct Drive.

	Description	PQ	Cat. No.	Price \$
 35A Jumper Kit Cat. No. 700-CPH	<b>35 A Jumper Kit</b> – CSA Approved, UL Listed This 35 A Jumper Kit can be used with any Bulletin 700-P and -PK AC or DC relay, Time-Delay relay or Latch Unit equipped with 20 A Master Cartridges. It does not require any additional panel space. Jumper Kit terminals are designed for one #8 AWG wire or two #10 AWG wires. When connecting the two 20 A Master Cartridges in parallel, it is important that they be the same configuration (Normally Open or Normally Closed). Jumpers can be added to any contact cartridge location on a relay except the two center poles because of the wide spacing. An adhesive label is included with each kit listing the contact ratings.	1	700-CPH	9.58

PQ = Package Quantity


Bulletin 700-PS and -PSR Solid-State Timers\*

	Description	Continuous Carrying Current (A)	Timing Range❄	Cat. No.	Price \$	
	Self-Contained Potentiometer	5	0.1...2 s	700-PSAA1	491.00	
			0.4...8 s	700-PSBA1	491.00	
			1.5...30 s	700-PSCA1	491.00	
	On-Delay		6...120 s	700-PSDA1	491.00	
			Off-Delay	0.1...2 s	700-PSPA1	492.00
				0.4...8 s	700-PSRA1	492.00
	1.5...30 s			700-PSTA1	492.00	
	6...120 s			700-PSUA1	492.00	
	External Potentiometer		5	0.1...2 s	700-PSRAA1	491.00
		0.4...8 s		700-PSRBA1	491.00	
		1.5...30 s		700-PSRCA1	491.00	
	On-Delay	6...120 s		700-PSRDA1	491.00	
		Off-Delay		0.1...2 s	700-PSRPA1	492.00
				0.4...8 s	700-PSRRA1	492.00
	1.5...30 s			700-PSRTA1	492.00	
	6...120 s			700-PSRUA1	492.00	

Remote Potentiometers for Cat. No. 700-PSR...

Timing Range (s)	Resistance (mΩ)	Cat. No.	Price
0.1...2	0.75	700-N35	189.00
0.4...8	0.75	700-N35	189.00
1.5...30	2.0	700-N36	40.60
6...120	3.5	700-N37	288.00


Pneumatic Time-Delay Unit – 1 N.O. and 1 N.C. Convertible Contact Cartridge\*

  <i>Pneumatic Time-Delay</i>	Description			Continuous Carrying Current (A)	Timing Range	Open Type Without Enclosure	
	Operating Mode	No. of N.O. Contacts	No. of N.C. Contacts			Cat. No.	Price \$
	On-Delay Off-Delay	1	1	10	0.1...60 s	700-PT	237.00
				20		700-PKT	258.00

\* Mounts on 4-pole Bulletin 700-P or -PK relay or 2-pole Bulletin 700-PH relay.  
\* Maximum time may be 50% greater and the minimum time may be 50% less than the value specified.

Discount Schedule

Mechanical Latch Units

	Description	Continuous Carrying Current (A)	Cat. No.	Price \$
	AC-Operated Latch Units	No cartridge	700-PLLⓧ	120.00
		10	700-PLL11ⓧ	166.00
		20	700-PKLL11ⓧ	225.00
	DC-Operated Latch Units	No cartridge	700DC-PLLⓧ	142.00
		10	700DC-PLL10ⓧ	176.00
		20	700DC-PKLL10ⓧ	201.00

⊗AC Voltage Suffix Code

The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700-PLL⊗** becomes **Cat. No. 700-PLLA1**. For other coil voltages, consult your local Allen-Bradley distributor.

Hz	24	48	115-120	120	200-208	220-230	230-240	277	347	460-480	575-600
60	A24	A48	A1*	B11⊗	A20	A22	A2	A27	A35	A4	A6





\* Optimized for 115...120V, 60 Hz. Operates satisfactorily at 110V, 50 Hz.

⊗ Optimized for 110...115V, 50 Hz. Operates satisfactorily at 120V, 60 Hz.





⊗DC Voltage Suffix Code


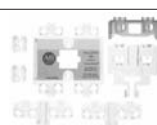
The Cat. No. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: **Cat. No. 700DC-PLL⊗** becomes **Cat. No. 700DC-PLLZ12**. For other coil voltages, consult your local Allen-Bradley distributor.

6	12	18	24	32	48	64	72	90	115-125	230-250	500-550	575-600
Z06	Z12	Z18	Z24	Z32	Z48	Z64	Z72	Z90	Z1	Z2	Z5	Z6

	Description	Relays per Strip	Pkg. Quantity	Cat. No.	Price \$
  <i>Mounting Strip Cat. No. 700-MP4</i>	<b>Relay Rail</b> Simplifies panel layout. These indexed strips are easily cut to the required length and bolted, riveted, or spot-welded in place. Relays are installed adjacent to one another on the mounting strip with the captive mounting screws provided. Rows of relays on Relay Rail form their own wiring trough. Can be used with the following relays: 700P, 700-PK, 700PH, 700S-P, 700N, 700-R, 700-RTC	4 Relays per Strip	5	700-MP4	11.70
		8 Relays per Strip	5	700-MP8	19.40
		12 Relays per Strip	5	700-MP12	29.90
		16 Relays per Strip	5	700-MP16	35.00
  <i>Cat. No. 700-DRA</i>	<b>DIN Rail Adapter</b> Can be used with the following relays: 700P, 700-PK, 700-PH, 700S-P, 700N, 700-R, 700-RTC		1	700-DRA	13.20
  <i>199-DR1</i>	<b>DIN (#3) Symmetrical Rail</b> 35 mm x 7.5 mm x 1 m long Order must be for 10 rails or multiples of 10.		10	199-DR1	8.71
  <i>Cat. No. 700-N31</i>	<b>Type 1 Enclosure</b> – Use for all Bulletin 700-P, -PH, and -PK relays except 10- and 12-pole DC relays or 5- and 6-pole DC Bulletin 700-PH relays.		1	700-N31	221.00
	<b>Type 4/4X Enclosure</b> – For 2- and 4-pole Bulletin 700-P, -PH, -N, and -R relays and 2-pole Bulletin 700-PH relays.		1	700-N39	1,310.00
	<b>Type 7 &amp; 9 Enclosure</b> – For 2- and 4-pole Bulletin 700-P, -PK, -N, and -R relays and 2-pole Bulletin 700-PH relays. 1 conduit hub; top and bottom.		1	700-N33	518.00




Discount Schedule

	Description		PQ	Cat. No.	Price \$
 <i>Surge Suppressor</i> <b>Cat. No. 700-N5</b>	<b>Surge Suppressors (RC Circuit)</b> — Surge suppressors reduce the high transient voltages generated when the coil circuit is opened. These suppressors can be used with Bulletin 700-P, -PH, -PK, and -N relays, and other electromechanical devices. They contain a resistor and capacitor. Maximum ratings: 150V, AC or DC, 35 VA. Cat. No. 700-N5 requires 1 in. additional depth of enclosure.	Mounting behind relay	1	700-N5	32.10
 <i>Surge Suppressor</i> <b>Cat. No. 700-N24</b>		Mounting on coil terminal	1	700-N24	38.20
 <i>Surge Suppressor</i> <b>Cat. No. 199-FSMA1</b>	<b>Surge Suppressor</b> When the circuit to a DC operating coil is opened, the inductive energy stored in the coil can generate very high transient voltages. With the addition of the appropriate surge suppressor, the stored energy is absorbed and dissipated limiting the voltage spikes. A surge suppressor is not required with AC 700-R or -RM relays because the AC operating coil transients are suppressed by a full wave rectifier connected to the coil.	24...48V AC/DC	1	199-FSMA9	29.60
		50...120V AC/DC	1	199-FSMA10	29.60
		130...250V AC/DC	1	199-FSMA11	29.60
		<b>Diode Surge Suppressor</b> – for 6...300V DC voltage coils. Used on Bulletin 700-P, -PH, -PK, -N, -F, and -R relays.		1	199-FSMZ-1
 <i>Jumper</i> <b>Cat. No. 700-N3</b>	<b>Jumpers</b> (Not applicable for Bulletin 700-PH or -PK relays) – For connection between a middle pole and an outer pole on the left or right side of the relay	<b>Jumper</b> – For outer poles	50	700-N3	1.24
	<b>Jumpers</b> (Not applicable for Bulletin 700-PH or -PK relays) – For connection between two middle poles.	<b>Jumper</b> – For middle poles		700-N4	1.24

	Description	Pkg. Quantity	Cat. No.	Price \$
 <i>Check Out Tool</i> <b>Cat. No. 700-N23</b>	<b>Check Out Tool</b> — Mechanically maintains the Bulletin 700-P, -PH, or -PK relay in the energized position for troubleshooting purposes.	1	700-N23	4.92
	<b>Adapter Plate</b> — Simplified relay conversion. Allows you to use the existing mounting holes when you replace a Bulletin 700-B, -BR, -BX, or -D relay with a Bulletin 700-P, -PH, or -PK relay.		700-N34	39.30
 <i>Protective Cover</i> <b>Cat. No. 700-N38</b>	<b>Protective Cover</b> — For 700-PT Timing Adjustment Knob. Helps prevent tampering with time setting.	5	700-N38	16.10

PQ = Package Quantity

Solid State Devices 700-SH, -SE, -SC



			
Bulletin	700-SH	700-SE	700-SC
Type	Hockey Puck	Flat Pack	Miniature, Ice Cube Socketed
Features	Panel/DIN Mount, High Current, Protective Cover, LED Status	Panel/DIN Mount, Low Profile	Compatible w/700-HN103 or 128 socket, LED Status & Zero-cross AC Switching Options
Load Type	AC (47...63 Hz)	AC (47...63 Hz)	AC (47...63 Hz) DC
Load Voltage Range	19...264V AC, 180...528V AC *	75...264V AC	75...264V AC 3...52.8V DC or 3...125V DC
Load Current Max. (Continuous)	6 A/40 A *	5 A/20 A *	3 A 3A @ 48V DC, or 2A @ 110V DC
Max Leakage Current to Load	5 mA @ 100V, 10 mA @ 200V, 20 mA @ 400V	5 mA @ 100V, 10 mA @ 200V	5 mA @ 100V AC 10 mA @ 200V AC 5 mA @ 50V DC, or 0.1mA @ 100V DC
Zero Cross Load Switching	Yes	Yes (optional)	Yes (optional) N/A
Equivalent Electromechanical Relay Contact Arrangement	1 N.O. Form A	1 N.O. Form A	1 N.O. Form A
Rated Control (Input) Voltage	5...24V DC, 100...120V AC, 200...240V AC	5V DC, 12V DC, 24V DC	5...24V DC, 100...110V AC, 200/220V AC 5...24V DC
LED Indicator	Yes	No	Yes (optional) Yes (optional for 48V DC)
Mounting Method	Panel w/o heat sink, Panel or DIN w/heat sink	Panel w/o heat sink, Panel or DIN w/heat sink	Panel or DIN w/socket
Dielectric Strength	2500V AC, 50/60 Hz, 1 min.	2000V AC, 50/60 Hz, 1 min.	1500V AC, 50/60 Hz, 1 min.
Certification	cURus, CE , TÜV *	cURus, CE, TÜV	cURus, CE, VDE
Max. Ambient Operating Temperature	-30...80 °C (no condensation)	-30...80 °C (no condensation)	-30...80 °C (no condensation)
Product Selection	Page 2-42	Page 2-43	Page 2-44

\* 180...528V Load Voltage Range units do not have CE approval

\* With heat sink.

Note: The prices listed are per piece, not per package quantity.

## Solid State Devices 700-SA, -SK

						
Bulletin	700-SA		700-SK			
Type	Tube Base, Socketed		Slim Line, Socketed			
Features	Compatible w/700-HN100, 125, 108, and 204 socket, LED status, zero-cross switching		Compatible w/700-HN121 socket. Supports Input (sensor) module or Output (SSR) module			
Load Type	AC (47...63 Hz)	DC	Output Module		Input Module	
			AC (47...63 Hz)	DC	AC (47...63 Hz)	DC
Load Voltage Range	75...264V AC	3 ...125V DC	75 ... 264V AC	4 ... 60V DC, 40 ... 200V DC	Field Input: 60... 264V AC	Field Input: 6.6... 32V DC
Load Current Max. (Continuous)	5 A	3 A	2 A	2A @ 60V, 1.5A @ 200V	Supply Current: 0.1 ... 100 mA	Supply Current: 0.1 ... 100 mA
Max Leakage Current to Load	5 mA @ 100V, 10 mA @ 200V	5 mA @ 125V	1.5 mA	1 mA	5 µA	5 µA
Zero Cross Load Switching	Yes	N/A	Yes (optional)	N/A	No	N/A
Equivalent Electromechanical Relay Contact Arrangement	1 N.O. Form A		1 N.O. Form A			
Rated Control (Input) Voltage	5...24V DC		5 ... 24 V DC	5 ... 24 V DC	5 ... 24V DC	5 ... 24V DC
LED Indicator	Yes		Yes			
Mounting Method	Panel or DIN w/socket		Panel or DIN w/socket			
Dielectric Strength	1500V AC, 50/60 Hz, 1 min.		4000V AC, 50/60 Hz, 1 min.			
Certification	cURus, CE, VDE		cURus, CE, TÜV			
Max. Ambient Operating Temperature	-30 ... 80 °C, (no condensation)		-30 ... 80 °C (no condensation)			
Product Selection	Page 2-45		Page 2-46			



Hockey Puck Relays for DIN Rail Mounting 700-SH

- 40 A (resistive) max. continuous load (output) current with appropriate heat sink
- 264V AC or 528V AC max. load voltage options
- 5...24V DC, 100...120V AC, 200...240V AC control (input) voltage options
- LED indicator for Input/Logic ON/OFF status monitoring
- Built-in varistor to absorb most surges
- Protective cover for added safety (meets VDE 106 Finger Safe Standard)






700-SH

Input-to-Output Isolation Method	Zero Cross Function	LED Indicator	Output (Load) Max. Continuous Current and Rated Voltage Range *	Rated Input Control Voltage	Cat. No.	Price \$
Phototriac	Yes	Yes	5 A @ 24...240V AC (47...63 Hz)	5...24V DC	700-SH05GZ25	19.00
Photocoupler				100...120V AC	700-SH05GA12	24.20
				200...240V AC	700-SH05GA22	24.20
Phototriac	Yes	Yes	10 A @ 24...240V AC (47...63 Hz)	5...24V DC	700-SH10GZ25	17.80
Photocoupler				100...120V AC	700-SH10GA12	22.50
				200...240V AC	700-SH10GA22	22.50
			10 A @ 200...480V AC (47...63 Hz)	5...24V DC	700-SH10HZ25	47.70
Phototriac	Yes	Yes	25 A @ 24...240V AC (47...63 Hz)	5...24V DC	700-SH25GZ25	23.00
Photocoupler				100...120V AC	700-SH25GA12	27.50
				200...240V AC	700-SH25GA22	27.50
Photocoupler			25 A @ 200...480V AC (47...63 Hz)	5...24V DC	700-SH25HZ25	47.70
Phototriac	Yes	Yes	40 A @ 24...240V AC (47...63 Hz)	5...24V DC	700-SH40GZ25	42.80
Photocoupler				100...120V AC	700-SH40GA12	51.60
				200...240V AC	700-SH40GA22	51.60
			40 A @ 200...480V AC (47...63 Hz)	5...24V DC	700-SH40HZ25	64.50

\* Maximum load current when mounted on the appropriate heat sink. Refer to Pub. No. A115-CA001x-EN-P for proper application.

Accessories 700-SH

	Description	Cat. No.	Price \$
	Heat Sink— Panel or DIN Rail Mount*	700-S10	16.20
	Heat Sink— Panel or DIN Rail Mount**	700-S20	20.80
	Heat Sink— Panel or DIN Rail Mount*	700-S30	26.70

\*For information regarding selection of the proper heat sink for your application, refer to "Heat Sink Size Vs. Load Current" graph or "Load Current Vs. Ambient Temperature Characteristics" of Pub. No. A115-CA001x-EN-P.

\*\*For additional heat sink information refer to Pub. No. 700-AT001x-en-E, "Solid-State Relay Application Guide." Document is available online at <http://literature.rockwellautomation.com>.

## Flat Pack Relays for DIN Rail Mounting 700-SE

- 20 A (resistive) max. continuous load (output) current with heat sink
- 264V AC max. load voltage
- 5, 12, or 24V DC control/input voltage options
- Built-in varistor helps absorb most electrical surges
- Low profile (flat pack) design
- Quick-Connect #110 input and #250 output terminals





700-SE

Input-to-Output Isolation Method	Zero Cross Function	LED Indicator	Output (Load) Max. Continuous Current and Rated Voltage Range *	Rated Input (Control) Voltage	Cat. No.	Price \$
Phototriac	Yes	No	5 A @ 100...240V AC (47...63 Hz)	5V DC	700-SE05GZZ05	16.90
				12V DC	700-SE05GZZ12	16.90
				24V DC	700-SE05GZZ24	16.90
			10 A @ 100...240V AC (47...63 Hz)	5V DC	700-SE10GZZ05	18.20
				12V DC	700-SE10GZZ12	18.20
				24V DC	700-SE10GZZ24	18.20
			20 A @ 100...240V AC (47...63 Hz)	5V DC	700-SE20GZZ05	21.70
				12V DC	700-SE20GZZ12	21.70
				24V DC	700-SE20GZZ24	21.70
	No	No	5 A @ 100...240V AC (47...63 Hz)	5V DC	700-SE05GNZ05	17.90
				12V DC	700-SE05GNZ12	17.90
				24V DC	700-SE05GNZ24	17.90
			10 A @ 100...240V AC (47...63 Hz)	5V DC	700-SE10GNZ05	19.50
				12V DC	700-SE10GNZ12	19.50
				24V DC	700-SE10GNZ24	19.50
			20 A @ 100...240V AC (47...63 Hz)	5V DC	700-SE20GNZ05	22.90
				12V DC	700-SE20GNZ12	22.90
				24V DC	700-SE20GNZ24	22.90

\* Maximum load current when mounted on the appropriate heat sink. Refer to Pub. No. A115-CA001x-EN-P for proper application.

## Accessories 700-SE

	Description	Cat. No.	Price \$
	Heat Sink— Panel or DIN Rail Mount	700-S10	16.20
	Heat Sink— Panel or DIN Rail Mount*	700-S20	20.80

\* For information regarding selection of the proper heat sink for your application, refer to "Heat Sink Size Vs. Load Current" graph or "Load Current Vs. Ambient Temperature Characteristics" of Pub. No. A115-CA001x-EN-P.

\* For additional heat sink information refer to Pub. No. 700-AT001x-en-E, "Solid-State Relay Application Guide." Document is available online at <http://literature.rockwellautomation.com>.

Ice Cube Relays with Blade Style Terminals 700-SC






- 3 A (resistive) max. continuous load (output) current
- 264V AC, 48V DC or 125V DC max. load voltage options
- 5...24V DC or 110/220V AC control (input) voltage options
- LED indicator (optional) for Input/Logic On/Off status monitoring
- 700-HN103, 700-HN104, or 700-HN128 socket compatible
- Compatible with 700-AT1 or 700-AT2 timer module



700-SC

Input-to-Output Isolation Method	Zero Cross Function	LED Indicator	Output (Load) Max. Continuous Current and Rated Voltage Range	Rated Input (Control) Voltage	Cat. No.	Price \$
Photocoupler	Yes	Yes	3 A @ 100...240V AC (47...63 Hz)	5...24V DC	700-SCZY3Z25	23.10
			2 A @ 100...240V AC (47...63 Hz)	100/110V AC	700-SCZY2A1	24.30
				200/220V AC	700-SCZY2A2	24.30
Phototriac	No		3 A @100...240V AC (47...63 Hz)	24V DC	700-SCTY3Z24	23.10
Photocoupler	Not Applicable		3 A @ 4...48V DC	5...24V DC	700-SCNY3Z25	23.10
	Yes		No	3 A @ 100...240V AC (47...63 Hz)	4...24V DC	700-SCZN3Z26
Phototriac	No	24V DC			700-SCTN3Z24	23.10
Photocoupler	Not Applicable	3 A @ 4...48V DC		4...24V DC	700-SCNN3Z26	23.10
		2 A @ 5...110V DC		5...24V DC	700-SCNN2Z25	24.30

Accessories 700-SC

	Description	Cat. No.	Price \$
	<b>Screw Terminal Socket — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> Ith = 10 A per pole. 14-Blade miniature socket for use with Bulletin 700-SC Relays. Order must be in ten or multiples of ten	700-HN103	9.38
	<b>Screw Terminal Socket – Panel or DIN Rail Mounting. Guarded Terminal Construction</b> Ith = 10 A per pole. 14-blade miniature socket for use with Bulletin 700-SC relays. This socket has coil and contact separation as well as the ability to plug in optional plug in modules.	700-HN104	10.80
	<b>Screw Terminal Base Socket — Panel or DIN Rail Mounting; Open Style Construction</b> Ith = 10 A per pole. 14-Blade miniature socket for use with Bulletin 700-SC Relays. Order must be in multiples of ten	700-HN128	9.74
	<b>Retainer Clip — Secures relay in socket.</b> Order must be for 10 clips or multiples of 10.	700-HN114B*	1.08
	<b>On-Delay Time Module</b> Voltage Range: 12...24V AC/DC used with 700-HN104 socket	700-AT1	31.40
	<b>One Shot Timing Module</b> Voltage Range: 12...24V AC/DC used with 700-HN104 socket	700-AT2	31.40

\* Series B retainer clip must be used with Bulletin 700-SC

## Tube Base Relays with Pin Terminals 700-SA







- 5 A (resistive) max. continuous load (output) current
- 264V AC or 125V DC Max. load voltage options
- Photocoupler isolation between control and load voltage
- LED indicator (standard) for Input/Logic ON/OFF status monitoring
- 700-HN100, -HN125, -HN 204, or -HN108 specialty socket compatible



700-SA

Input-to-Output Isolation Method	Zero Cross Function	LED Indicator	Output (Load) Max. Continuous Current and Rated Voltage Range	Rated Input (Control) Voltage	Cat. No.	Price \$
Photocoupler	Yes	Yes	5 A @ 100...240V AC (47...63 Hz)	5...24V DC	700-SAZY5Z25	32.40
	Not Applicable		3 A @ 5...110V DC		700-SANY3Z25	40.50

## Accessories 700-SA

	Description	Cat. No.	Price \$
	<b>Screw Terminal Tube Base Socket — Panel or DIN Rail Mounting; Guarded Terminal Construction.</b> Order ten or multiples of ten	700-HN100	6.49
	<b>Specialty Socket</b> 8-pin backwired socket with solder terminals Order ten or multiples of ten	700-HN108	4.34
	<b>Screw Terminal Tube Base Socket — Panel or DIN Rail Mounting; Open Style Construction.</b> Order must be for 10 sockets or multiples of 10. No retainer clip required.	700-HN125	6.49
	<b>Pre-printed identification tags</b> — contains 10 sheets of pre-printed and blank tags. Each sheet contains 13 sets of the markings CR...9CR, TR...9TR, M...9M, F, R, 1S, and 117 blank tags. Tags are peel-off with sticky backing for easy placement on relays.	700-N40	81.20
	<b>Blank identification tags</b> — contains 10 sheets of blank identification tags for customer specialized printing. Each sheet contains 546 blank tags. Tags are peel-off with sticky backing for easy placement on relays.	700-N41	81.20
	<b>Retainer Clip for Sockets with 700-SA AND 700-HB Relays.</b> Secures relay in socket. Order must be for 10 clips or multiples of 10.	700-HN158	1.08
	<b>8-Pin Socket</b> —Screw Terminal Tube Base Sockets — panel or DIN Rail mounting. Order must be for 10 sockets or multiples of 10.	700-HN204	8.64

"Slim Line" Relay with Plug-in Quick Connect Terminals 700-SK

- High response speed models
- Input sensor module to allow high voltage 100...240V AC or 12...24V DC sensor
- Interface to low voltage (Logic) device such as a PC output module for typical SSR applications
- LED indicator
- Input modules and output modules can be used with the 700-HN121 or 700-HN221 socket



Input/Sensor Module

Input-to-Output Isolation Method	LED Indicator	Response Speed	Logic Level		Rated Input Sensor Voltage	Cat. No.	Price \$
			Supply Voltage	Supply Current			
Photocoupler	Yes	10 Hz	4...32V DC	0.1...100 mA	100...240V AC *	700-SKICA18	26.00
		High-speed (1 kHz)			12...24V DC	700-SKICZ24	20.50




\* 47...63 Hz

Output/SSR Module




Input-to-Output Isolation Method	Zero Cross Function	LED Indicator	Output (Load) Max. Continuous Current and Rated Voltage Range	Rated Input Control Voltage	Cat. No.	Price \$	
Phototriac	Yes	Yes	2 A @ 100...240V AC *	5...24V DC	700-SKOZ2Z25	24.20	
	No				700-SKON2Z25	24.50	
Photocoupler	Not Applicable		2 A @ 5...48V DC		700-SKOC2Z25	22.80	
			1.5 A @ 48...200V DC		700-SKOC1Z25	26.50	

\* 47...63 Hz

Accessories 700-SK

	Description	Cat. No.	Price \$
	<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 5-blade miniature socket with 10 A rating for use with 1-pole, Bulletin 700-HK relays. Accepts forked lug conductors. Socket includes a retainer clip. Order must be in multiples of ten.	700-HN121	9.74
	<b>Screw Terminal Socket — Panel or DIN Rail Mounting</b> 5-blade miniature socket with 16 A rating for use with 1-pole, Bulletin 700-HK relays. Retainer clips are packaged separately with socket. Guarded terminal construction and compatible with optional plug-in module accessories.	700-HN221	9.00
	<b>Pre-printed identification tags</b> — contains 10 sheets of pre-printed and blank tags. Each sheet contains 13 sets of the markings CR...9CR, TR...9TR, M...9M, F, R, 1S, and 117 blank tags. Tags are peel-off with sticky backing for easy placement on relays.	700-N40	81.20
	<b>Blank identification tags</b> — contains 10 sheets of blank identification tags for customer specialized printing. Each sheet contains 546 blank tags. Tags are peel-off with sticky backing for easy placement on relays.	700-N41	81.20

Temperature Controllers 900-TC

				
Item		Bulletin No.		
		900-TC8	900-TC16	900-TC32
Dimensions		48 mm (W) x 96 mm (H) x 78 mm (D)	48 mm (W) x 48 mm (H) x 78 mm (D)	48 mm (W) x 24 mm (H) x 100 mm (D)
Sample Rate		250 or 500 ms		500 ms
Indication Accuracy		±0.5% PV +1 digit max.		
Heating/Cooling Control Mode		Yes	Yes	Yes
Control Method		ON/OFF or 2-PID (auto-tune and self-tune) with time proportioning ON/OFF outputs		
Inputs	Thermocouple Input and 0...50 mV	Yes	Yes	Yes
	Platinum Resistance Temperature Sensor	Yes	Yes	Yes
	Analog Input 0...20 mA, 4...20 mA, 1...5V DC, 0...5V DC, 0...10V DC	Yes	Yes	No
	Non-Contact Temperature Sensor	Yes	Yes	Yes
Control Output 1 Type	ON/OFF Relay Output (Electro-Mechanical)	Yes	Yes	Yes
	ON/OFF Voltage Output for Solid-State Relay	Yes	Yes	Yes
	<b>ON/OFF Triac</b> (AC Only)	No	Yes	No
	4...20 and <b>0...20 mA</b> (DC) Analog	Yes	Yes	No
Control Output 2 Types	ON/OFF Relay	No ☹	No ☹	No ☹
	ON/OFF Triac	Yes ➤	No	No
	ON/OFF Voltage SSR	Yes ➤	Yes ‡	No
Maximum Number of Alarms	None	No	No	Yes ☹
	1 Point	No	No	Yes
	2 Points	No	Yes	No
	3 Points	Yes	Yes	No
RS-232C Communications Function		Yes §	No	No
RS-485 Communications Function		Yes §	Yes §	Yes
Event Input		Yes §	Yes §	No
Run/Stop via Keypad or Interrupts		Yes	Yes	Keypad
Multiple SP Selection via Keypad or Interrupts		Yes ♣	Yes ♣	Keypad
Manual Output Control via Keypad or Interrupts		Yes ♣	Yes ♣	No
Transfer Output Function (Requires Analog Output)		Yes	Yes	No
Heater Burnout and Heater Short Alarm (Single or 3-Phase)		Yes +	Yes +	No

☹ When RS-485 communication is required.

‡ Requires an option unit with an SSR output.

§ Requires an option unit. Refer to Option Unit table on [T-4157395].

♣ Interrupts require an event input option unit. Refer to Option Unit table on [T-4157395].

➤ Determined by controller catalog number.

☹ One of the controller alarm relays can be used as a second control output (i.e., a heating and cooling application).

+ Requires addition of hardware. One current transformer (900-CT1 or 900-CT2) for single-phase and two current transformers for 3-phase detection. For the 900-TC16, the appropriate option unit must be purchased. Refer to Option Units in Product Selection on page 7 of publication 900-SG001x-DN-P.

## Discount Schedule

## Bulletin 900-TC8 Controller Modules (Enhanced Functionality)

900-TC8*⚡ 1/8 DIN 48 mm (W) x 96 mm (H) x 78 mm (D)						
Sensor Input Type	Power Supply Voltage	Control Output 1 Type	Control Output 2 Type	Supports Heater Burnout (Open) and Heater Short-Circuit Alarm	Controller Cat. No.	Price
Thermocouple or RTD	100... 240V AC	Relay	—	No	900-TC8RGTZ25	331.00
			—	Yes (1-Phase)	900-TC8RGTH1Z25	341.00
			Voltage (for driving SSR)	No	900-TC8RVGTZ25	Ⓜ
			—	Yes (3-Phase)	900-TC8RGTH3Z25	Ⓜ
		Voltage (for driving SSR)	—	No	900-TC8VGTZ25	331.00
			—	Yes (1-Phase)	900-TC8VGTH1Z25	341.00
			Triac	No	900-TC8VYGTZ25	Ⓜ
			Voltage (for driving SSR)	No	900-TC8VVGZ25	Ⓜ
			—	Yes (3-Phase)	900-TC8VGTH3Z25	Ⓜ
		0...20 or 4...20 mA Analog Output	—	No	900-TC8ACGTZ25	364.00
			Triac	No	900-TC8ACYGTZ25	Ⓜ
			Voltage (for driving SSR)	No	900-TC8ACVGTZ25	Ⓜ
Thermocouple or RTD	24V AC/DC	Relay	—	No	900-TC8RGTU25	Ⓜ
			—	Yes (1-Phase)	900-TC8RGTH1U25	Ⓜ
		Voltage (for driving SSR)	—	No	900-TC8VGTU25	Ⓜ
			—	Yes (1-Phase)	900-TC8VGTH1U25	Ⓜ
		0...20 or 4...20 mA Analog Output	—	No	900-TC8ACGTU25	Ⓜ
Analog Current & Voltage 0...20 and 4...20 mA 0...5, 1...5, and 0...10V DC	100... 240V AC	Relay	—	Yes (1-Phase)	900-TC8RABH1Z25	353.00
		Relay	—	No	900-TC8RABZ25	341.00
		Voltage (for driving SSR)	—	Yes (1-Phase)	900-TC8VABH1Z25	353.00
		Voltage (for driving SSR)	—	No	900-TC8VABZ25	342.00
		Voltage (for driving SSR)	Triac	No	900-TC8VYABZ25	380.00
		0...20 or 4...20 mA Analog Output	—	No	900-TC8ACABZ25	373.00

\* A current transformer (CT) is not provided with the unit.

⚡ When the heating and cooling function is used, one of the relay alarm outputs can be used for cooling or order a controller with control output 2.

‡ Max. number of alarms supported: 3.

Bulletin 900-TC16 Controller Modules (Enhanced Functionality)

900-TC16 *❄️⚡️ 1/16 DIN 48 mm (W) x 48 mm (H) 48 mm (D)					
Sensor Input Type	Power Supply Voltage	Control Output Type §	Supports Heater Burnout (Open) and Heater Short-Circuit Alarm	Controller Cat. No.	Price
Thermocouple or RTD	100... 240V AC	Relay Output	Yes‡	900-TC16RGTU25	0.00‡
		Triac	Yes‡	900-TC16YGTZ25	0.00‡
		Voltage output (for driving SSR)	Yes‡	900-TC16VGTZ25	248.00‡
		0...20 or 4...20 mA Analog Output	No	900-TC16ACGTZ25	303.00
Thermocouple or RTD	24V AC/DC	Relay Output	Yes‡	900-TC16RGTU25	237.00‡
		Voltage output (for driving SSR)	Yes‡	900-TC16VGTU25	237.00‡
		0...20 or 4...20 mA Analog Output	No	900-TC16ACGTU25	0.00
Analog Current & Voltage 0...20 and 4...20 mA 0...5, 1...5, and 0...10V DC	100... 240V AC	Relay	Yes ‡	900-TC16RABZ25	248.00 ‡
		Triac	Yes ‡	900-TC16YABZ25	259.00 ‡
		Voltage (for driving SSR)	Yes ‡	900-TC16VABZ25	248.00 ‡
		0...20 or 4...20 mA Analog Output	No	900-TC16ACABZ25	326.00
	24V AC/DC	Relay	Yes ‡	900-TC16RABU25	0.00 ‡
		Voltage (for driving SSR)	Yes ‡	900-TC16VABU25	0.00 ‡
		0...20 or 4...20 mA Analog Output	No	900-TC16ACABU25	Ⓜ

\* A current transformer (CT) is not provided with the unit.

❄️ When the heating and cooling function is used, one of the relay alarm outputs can be used as the heating or cooling output or order an option unit with a second output (SSR).

‡ To implement the single-phase or three-phase heater burnout and heater short alarm function, an option module must be inserted into the 900-TC16 controller. For a list of 900-TC16 option modules, refer to the Option Units table, page 6. The heater burnout and heater short alarm is available by mounting the appropriate option module into any 900-TC16 controller that supports the heater burnout (open) or heater short-circuit feature.

§ The Bulletin 900-TC16 can have a second ON/OFF control output (SSR) by adding an option unit to the controller. Refer to Option Units table.

⚡️ Maximum number of alarms supported: 2



## Discount Schedule

## Bulletin 900-TC32 Standard Controller Models

Bulletin 900-TC32*‡ 1/32 DIN 48 mm (W) x 24 mm (H) x 100 mm (D)						
Power Supply Voltage	Max No. of Alarms Supported	Control Output Type	Controller Cat. No. with Thermocouple Support	Price \$	Controller Cat. No. with Platinum RTD Support	Price \$
100... 240V AC	1	Relay Output	900-TC32RTZ25	212.00	900-TC32RPZ25	212.00
		Voltage output (for driving SSR)	900-TC32VTZ25	212.00	900-TC32VPZ25	
24V AC/DC	1	Relay Output	900-TC32RTU25		900-TC32RPU25	
		Voltage output (for driving SSR)	900-TC32VTU25	212.00	900-TC32VPU25	
100... 240V AC	RS485	Relay Output	900-TC32CRTZ25	223.00	900-TC32CRPZ25	
		Voltage output (for driving SSR)	900-TC32CVTZ25	223.00	900-TC32CVPZ25	
24V AC/DC	RS485	Relay Output	900-TC32CRTU25		900-TC32CRPU25	
		Voltage output (for driving SSR)	900-TC32CVTU25		900-TC32CVPU25	

\* If the heating/cooling function is used, ALM1 will be used for the cooling control output and so the alarm output relay will not be available.

‡ Cat. Nos. with a C designator (e.g., Cat. No. 900-TC32C\_\_\_) include RS-485 communications, but do not have an alarm (or cooling) output.

‡ Does not support heater alarm burnout (open) or heater short-circuit alarm.

## Option Units (Bulletins 900-TC8 and 900-TC16 — Only One Option Unit per Controller)

The unit provides communications or event input functionality.

Bulletin No.	Name	Function	Cat. No.	Price
900-TC8	Communications Unit	RS-232C communications➤	900-TC8232(B)❖	
		RS-485 communications	900-TC8COM(B)❖	132.00
	Event Input Unit	Event input⌘	900-TC8EIM	132.00 ⌘
900-TC16	Communications and 1-Phase Heater Burnout Unit and Heater Short	RS-485 communications with single-phase heater burnout (open) and heater short-circuit failure detection+	900-TC16NCOM	83.00+
	Event Input Unit with 1-Phase Heater Burnout and Heater Short	Event Input with single-phase heater burnout (open) and heater short-circuit failure detection⌘+	900-TC16NEIM	60.90⌘ +
	Event Input Unit	Event Input⌘	900-TC16NACEIM	
	Communications Unit	RS-485 communications	900-TC16NACCOM	
	Communications and 3-Phase Heater Burnout and Heater Short Unit	RS-485 communications with 3-phase heater burnout (open) and heater short-circuit failure detection	900-TC16NCOMP3	88.20
	Communications and Second Voltage (SSR) Output Unit	RS-485 communications and a second voltage (SSR) output	900-TC16NCOMV2	71.40
	1-Phase Heater Burnout and second voltage (SSR) output	1-Phase Heater burnout (open) and heater short-circuit failure detection with a second control voltage (SSR) output	900-TC16P1V2	



➤ Enables direct RS-232 connection to personal computer using 900BuilderLite™ software. A Cat. No. 900-CP1X cable or equivalent is also required.

⌘ Provides two event inputs. Allows selecting up to 4 different pre-configured set points, controller Run/Stop or Auto/Manual mode, from 2 external inputs.

⊕ Heater burnout is not available for 0...20 or 4...20 mA analog output style 900-TC16 controllers such as the 900-TC16AC.

❖ To obtain 38.4 k baud rate, Series B communication units must be used with any 900-TC8x controller catalog number from the Product Selection table on the previous page.

**Pico Controllers**

		
Bulletin	1760	1760
Type	Pico Controllers	Pico GFX-70 Controllers
Features	<ul style="list-style-type: none"><li>• Simplicity, performs basic PLC functions, such as logic, timing, and counting</li><li>• Any user can write simple programs or make data adjustments</li><li>• Intelligent relay replacement, Changing system functions is a simple matter of reprogramming Pico. No rewiring necessary!</li><li>• Real-time clock functionality</li><li>• Analog inputs</li><li>• Programs are stored in non-volatile EEPROM memory</li><li>• Commissioning status display</li><li>• View the real-time analysis of the logic circuit</li><li>• Relay outputs, reduce panel space and system cost with high current relay outputs that eliminate interposing relays</li></ul>	<p>The Pico GFX-70 multi-function system features an integrated control device and its graphical HMI display allows users to create their own screens or use elements out of an existing library. Features include:</p> <ul style="list-style-type: none"><li>• Expandable up to 272 I/O points with the use of the existing Pico expansion I/O modules and the interconnecting peer to peer controller network connects up to 8 controllers</li><li>• Analog and digital expansion I/O modules</li><li>• Panel or DIN Rail mounted (only controller)</li><li>• 70 mm graphic display</li><li>• Control with P, PI and PID functionality</li><li>• Simple, tool-free installation with 22.5 mm mounting holes (same diameter as for standard push buttons)</li><li>• Backlit display and push buttons for easy readability</li></ul>
Memory	EEPROM	EEPROM
I/O	Up to 38 I/O with expansion module	Up to 36 I/O local with expansion module
Network	—	Up to 8 processors can be interconnected with Pico-Link
Analog Inputs/Outputs	2 x 0...10V (Input) = L12 4 x 0...10V (Input) = L18 and L20	4 x 0...10V (Input) 1 x 0...10V (Output)
Real Time Clock	✓	✓
Programming Software	PicoSoft™ configuration software or via the LCD and Keypad	PicoSoft Pro Programming Software
Mounting	DIN Rail or panel mounted	DIN Rail or panel mounted
Operating Power	24V AC, 120V/240V AC, 12V DC, and 24V DC	120V/240V AC and 24V DC
Standards/Certifications	UL/cUL Listed, CE certified	UL/cUL Listed, CE certified
Product Selection	Page [T-3321887]	Page [T-3453555]

Pico Controllers



Controllers

Line Power	Input Voltage Category	No. of Inputs (Digital)	No. of Outputs	Real-Time Clock	Display and Keypad	I/O Expandable	Cat. No.	Price \$
120/240V AC	120V AC	8	4 (relay)	Yes	Yes	No	1760-L12AWA	207.00
	120V AC	8	4 (relay)	No	Yes	No	1760-L12AWA-NC	195.00
	120V AC	8	4 (relay)	Yes	No	No	1760-L12AWA-ND	163.00
	120V AC	12	6 (relay)	Yes	Yes	Yes	1760-L18AWA-EX	331.00
	120V AC	12	6 (relay)	Yes	No	Yes	1760-L18AWA-EXND	288.00
24V AC	24V AC	8 *	4 (relay)	Yes	Yes	No	1760-L12NWN	217.00
	24V AC	8 *	4 (relay)	Yes	No	No	1760-L12NWN-ND	163.00
	24V AC	12 *	6 (relay)	Yes	Yes	Yes	1760-L18NWN-EX	331.00
	24V AC	12 *	6 (relay)	Yes	No	Yes	1760-L18NWN-EXND	288.00
12V DC	12V DC	8 *	4 (relay)	Yes	Yes	No	1760-L12DWD	215.00
	12V DC	8 *	4 (relay)	Yes	No	No	1760-L12DWD-ND	163.00
	12V DC	12 *	6 (relay)	Yes	Yes	Yes	1760-L18DWD-EX	331.00
	12V DC	12 *	6 (relay)	Yes	No	Yes	1760-L18DWD-EXND	288.00
24V DC	24V DC	8 *	4 (transistor)	Yes	Yes	No	1760-L12BBB	125.00
	24V DC	8 *	4 (transistor)	Yes	No	No	1760-L12BBB-ND	99.00
	24V DC	8 *	4 (relay)	Yes	Yes	No	1760-L12BWB	212.00
	24V DC	8 *	4 (relay)	No	Yes	No	1760-L12BWB-NC	206.00
	24V DC	8 *	4 (relay)	Yes	No	No	1760-L12BWB-ND	158.00
	24V DC	12 *	6 (relay)	Yes	Yes	Yes	1760-L18BWB-EX	315.00
	24V DC	12 *	6 (relay)	Yes	No	Yes	1760-L18BWB-EXND	288.00
	24V DC	12 *	8 (transistor)	Yes	Yes	Yes	1760-L20BBB-EX	331.00
	24V DC	12 *	8 (transistor)	Yes	No	Yes	1760-L20BBB-EXND	288.00

\* Two of the digital DC inputs can alternately be used as 0...10V DC analog inputs. These inputs can be used as either digital or analog, not both. For example, you could use 2 analog inputs plus 10 digital inputs on the 1760-L18DWD-EX.

## Discount Schedule MC

## Product Selection, Continued/Accessories

## Expansion Modules

Input Voltage Category	No. of Inputs (Digital)	No. of Outputs	Cat. No.	Price \$
120/240V AC	12	6 (isolated relay)	1760-IA12XOW6I	228.00
24V DC	12*	8 (transistor)	1760-IB12XOB8	217.00
24V DC	12*	6 (isolated relay)	1760-IB12XOW6I	228.00
N/A	0	2 (relay)	1760-OW2	60.00

\* Four of the digital DC inputs can alternately be used as 0...10V DC analog inputs. These inputs can be used as either digital or analog, not both. For example, you could use 4 analog inputs plus 8 digital inputs.

## Memory Modules

Description	Cat. No.	Price \$
Pico 8K Memory Module for 12-Point Controllers (For Series A Devices)	1760-MM1	30.00
Pico 16K Memory Module for 18-Point Controllers (For Series A Devices)	1760-MM2	38.00
Pico 32K Memory Module (For all Series B Devices)	1760-MM2B	42.00

## Programming Software

Description	Cat. No.	Price \$
Configuration software included with processor	1760-PICOSOFT	81.00

## Network Communications

Description	Cat. No.	Price \$
DeviceNet communications interface	1760-DNET	375.00

## Accessories

Description	Cat. No.	Price \$
Programming Cable to be used with 1760-PICOSOFT configuration software	1760-CBL-PM02	82.00
Replacement connector for expansion I/O module	1760-RPLCONN	13.00
Input/Output simulator	1760-SIM	98.00
Remote display/keypad mounting cable	1760-RM-PICO	140.00

Pico GFX-70 Controllers



Processor Units

Description	Line Power	Cat. No.	Price \$
Pico GFX-70 DC Processor Unit	24V DC	1760-LDF	284.00
Pico GFX-70 AC Processor Unit	120/240V AC	1760-LDFA	284.00
Pico GFX-70 DC Processor Unit with Pico-Link Terminal	24V DC	1760-LDFC	372.00
Pico GFX-70 AC Processor Unit with Pico-Link Terminal	120/240V AC	1760-LDFCA	372.00

GFX RTD Input Modules

Sensor Type	No. of Inputs (Digital)	Number of Outputs	Measuring Range	Resolution	Accuracy	Cat. No.	Price \$
Pt100 (385)	2	1 (0...10V DC)	-40...+90 °C (-40...+194 °F)	12 bit (0.03 °C) (0.06 °F)	0.6 % (~0.8 °C) (~1.4 °F)	1760-IR2A	
Pt100 (385)	2	1 (0...10V DC)	0...250 °C (32...482 °F)	12 bit (0.06 °C) (0.11 °F)	0.6 % (~1.5 °C) (~2.7 °F)	1760-IR2B	

GFX I/O Modules

Input Voltage Category	No. of Inputs (Digital)	Number of Outputs	Analog Capability	Cat. No.	Price \$
120V AC	12	4 (relay)	None	1760-IA12XOW4I	124.00
24V DC	12 *	4 (relay)	Input (4)	1760-IB12XOW4IF	124.00
24V DC	12 *	4 (relay)	Input (4) and output (1)	1760-IB12XOW4IOF	165.00
24V DC	12 *	4 (transistor)	Input (4)	1760-IB12XOB4IF	119.00
24V DC	12 *	4 (transistor)	Input (1) and output (4)	1760-IB12XOB4IOF	165.00

\* Four of the digital DC inputs can alternately be used as 0...10V DC analog inputs. These inputs can be used as either digital or analog, not both. For example, you could use 4 analog inputs plus 8 digital inputs.

Display Units

Description	Cat. No.	Price \$
Display Unit with Keypad	1760-DUB	140.00
Display Unit without Keypad	1760-DU	122.00

Programming Software

Description	Cat. No.	Price \$
PicoSoft Pro Programming Software *	1760-PICOSOFTPRO	125.00
Programming Cable, PC to Processor	1760-CBLPC02	70.00
PicoSoft Pro Software and Cable Kit (includes 1760-PICOSOFTPRO and 1760-CBL-PC02)	1760-PICOPROPC02	145.00

\* PicoSoft Pro allows programming of both Pico and Pico GFX controllers.

## Discount Schedule MC

## Memory Modules

Description	Cat. No.	Price \$
256K Memory Module	1760-MM3	49.00

## Point-to-Point Serial Interface Cables

Description	Cat. No.	Price \$
Point-to-Point Serial Interface Cable, 2 m	1760-CBL-2M	70.00
Point-to-Point Serial Interface Cable, 5 m	1760-CBL-5M	98.00

## Cables for Pico-Link between Processors

Description	Cat. No.	Price \$
Pico-Link Cable, 0.3 m	1760-CBL-INT01	9.00
Pico-Link Cable 0.8 m	1760-CBL-INT03	18.00
Pico-Link Cable 1.5 m	1760-CBL-INT05	25.00
Pico-Link Cable, non-terminated, 100 m	1760-CBL-INT300	195.00
Connectors for Pico-Link Cable	1760-CONN-RJ45	5.00
Network Termination Resistor	1760-TERM1	26.00

## Network Communications

Description	Cat. No.	Price \$
DeviceNet communications interface	1760-DNET	375.00




## Accessories for Pico GFX-70 Controllers

Description	Pkg. Qty.	Cat. No.	Price \$
Cover Protect Display	8	1760-NDC	41.00
Membrane Protect Display	8	1760-NDM	41.00
Mounting Feet (for panel mounting processors and I/O modules)	8	1760-NMF	16.00
Remote display/keypad mounting cable	1	1760-RM-GFX	140.00



Bulletin 1761, 1762, 1763, 1764, 1769

Programmable Controllers

Product Overview

			
Bulletin	1761	1763	1762
Type	MicroLogix™ 1000	MicroLogix™ 1100	MicroLogix™ 1200
Memory			
User Program/Data Space	1K	4K / 4K	4K / 2K
Data Logging / Recipe Storage	—	Data logging: up to 128 kB * Recipe: up to 64 kB	—
EEPROM Backup	✓	—	✓
Battery Backup	—	✓	✓
Backup Memory Module	Only through hand-held programmer	✓	✓
I/O			
Up to 32	Embedded	Embedded w/Loc. Exp., up to 80	Embedded
Up to 128	—	—	Embedded w/Loc. Exp.
Up to 512	—	—	—
> 512	—	—	—
Additional Functionality			
Analog	Embedded	Embedded	Expansion
Trim Potentiometers	—	2 digital	2
PID	—	✓	✓
High-Speed Counter (24V DC inputs)	1 @ 6.6 kHz	1 @ 20 kHz	1 @ 20 kHz
Real Time Clock	—	✓	✓
Simple Motion: Pulse Width Modulated/Pulse Train Outp.	—	2 @ 20 kHz (DC FET version)	1 @ 20 kHz (DC FET version)
Single Axis Servo Control	—	Through emb. PTO (FET)	Through emb. PTO (FET)
Data Access Tool	—	Embedded LCD	—
Floating Point Math	—	✓	✓
Programming Software			
Windows® - RSLogix™ 500 & RSLogix™ 500 Starter	✓	✓	✓
Communications			
Online Editing	—	✓	—
RS-232 Ports	(1) - 8-pin Mini DIN	(1) 8-pin mini DIN (combo with RS-485 port)	(1) - 8-pin Mini DIN (1) - 8-pin Mini DIN (R)
RS-485 Ports	—	(1) 8-pin mini DIN (combo with RS-232 port)	—
DeviceNet Peer-to-Peer/Slave		w/ 1761-NET-DNI	
DeviceNet Scanner	—	—	—
Ethernet	w/ 1761-NET-ENI	Embedded and w/ 1761-NET-ENI	w/ 1761-NET-ENI
DH-485	w/ 1761-NET-AIC	Directly from combo port or using 1761-NET-AIC	w/ 1761-NET-AIC
DF1 Half-Duplex Master/Slave Radio Modem	Slave only	✓	✓
Modbus RTU		Master/Slave	Master/Slave
ASCII	—	✓	✓
Operating Power			
120/240V AC / 24V DC	✓	✓	✓
Certifications		cULus Listed, CE, Class I Div. 2	
Product Selection	Page [T-3317343]	Page [T-3317722]	Page [T-3317722]

\* Recipe memory size is subtracted from the available data logging memory size

			
Bulletin	1764-LSP	1764-LRP	1746, 1747
Type	MicroLogix™ 1500		SLC 500
Memory			
User Program/Data Space	3.6K / 4K (max) configurable	10K / 4K (max) configurable	up to 64K / 64K configurable
Data Logging / Recipe Storage	Recipe: User Program memory	48 kB	—
EEPROM Backup	—	—	—
Battery Backup	✓	✓	✓
Backup Memory Module	✓	✓	✓
I/O			
Up to 32	Embedded w/Loc. Exp.		Modular System
Up to 128	Embedded w/Loc. Exp.		Modular System
Up to 256	Embedded w/Loc. Exp.		Modular System
> 256	Local & Networked Expansion using 1769-SDN		up to 30 slots 960 local I/O Network Expansion using RIO, DNET, and CNET
Additional Functionality			
Analog	Expansion		Analog Modules
Trim Potentiometers	2	2	—
PID	✓	✓	✓
High-Speed Counter (24V DC inputs)	2 @ 20 kHz		HSC modules, up to 1 MHz
Real Time Clock	✓	✓	✓
Simple Motion: Pulse Width Modulated/Pulse Train Outp.	2 @ 20 kHz (DC FET version)		—
Single Axis Servo Control	Through embedded PTO (FET)		1746-HSRV
Data Access Tool	✓	✓	—
Floating Point Math	✓	✓	✓
Programming Software			
Windows® - RSLogix™ 500 & RSLogix™ 500 Starter	✓	✓	✓
Communications			
RS-232 Ports	(1) - 8-pin Mini DIN	(1) - 8-pin Mini DIN & (1) - isolated 9-pin D-shell	1
DeviceNet Peer to Peer/Slave	w/ 1761-NET-DNI		w/ NET-DNI or 1747-SDN
DeviceNet Scanner	w/ 1769-SDN		w/ 1747-SDN
Ethernet	w/ 1761-NET-ENI		Embedded 5/05
DH-485	w/ 1761-NET-AIC		Embedded 5/03, 5/04, 5/05
DF1 Half-Duplex Master/Slave Radio Modem	✓	✓	✓
Modbus RTU	Master/Slave		Master/Slave
ASCII	✓	✓	✓
Operating Power			
120/240V AC / 24V DC	✓	✓	✓
Certifications	cULus Listed, CE, Class I Div. 2		cULus Listed, CE, Class I Div. 2
Product Selection	Page [T-3318241]	Page [T-3318241]	See publication 1747-SG001*-EN-P for product details





Bulletin	1769
Type	Compact I/O Expansion I/O for MicroLogix 1500
Features	<ul style="list-style-type: none"><li>• Unique, compact, modular, rackless design allowing front insertion and removal of the modules on DIN Rail with easy to operate latches</li><li>• Easy change-out of modules due to unique patented bus connector</li><li>• Removable terminal blocks with finger-safe covers</li><li>• Individual point diagnostic LEDs for ease of troubleshooting</li><li>• Software keying to prevent incorrect placing of module within the system</li><li>• DeviceNet™ network adapter supporting AutoBaud and Auto Device replacement</li><li>• ODVA conformance ensures high level of interoperability with other DeviceNet™ products</li><li>• DeviceNet™ scanner for cost effective OEM solutions</li></ul>
Module Density	4...32 points per module
I/O Types	2/4/6/8 (Digital 2...32, Analog, Thermocouple, RTD, Specialty)
Software	RSNetworkx for DeviceNet, RSBooleanLogix 500
Mounting	Horizontal Panel or DIN Rail mounted
Operating Power	RSNetworkx 120V AC / 240V AC / 24V DC
Certifications	cULus Listed, CE certified
Product Selection	Page [T-3318513]

## Discount Schedule MC

## MicroLogix 1000

- Memory Size and Type:  
1K EEPROM (approximately 737 instruction words, 437 data words)
- Data Elements:  
512 internal bits, 40 timers, 32 counters, 16 control files, 105 integer files, 33 diagnostic status
- Throughput:  
1.5 ms (for a typical 500-instruction program)



## Controller Power and I/O Configuration

Line Power	Inputs	Outputs	High Speed I/O	Cat. No.	Price \$
120/240V AC	(10) 120V AC	(6) Relay	N/A	<a href="#">1761-L16AWA</a>	363.00
120/240V AC	(20) 120V AC	(12) Relay	N/A	<a href="#">1761-L32AWA</a>	531.00
120/240V AC	(12) 120V AC, (4) Analog	(8) Relay, (1) Analog	N/A	<a href="#">1761-L20AWA-5A</a>	783.00
120/240V AC	(6) 24V DC	(4) Relay	(1) 6.6 kHz input	<a href="#">1761-L10BWA</a>	189.00
120/240V AC	(10) 24V DC	(6) Relay	(1) 6.6 kHz input	<a href="#">1761-L16BWA</a>	313.00
120/240V AC	(12) 24V DC, (4) Analog	(8) Relay, (1) Analog	(1) 6.6 kHz input	<a href="#">1761-L20BWA-5A</a>	728.00
120/240V AC	(20) 24V DC	(12) Relay	(1) 6.6 kHz input	<a href="#">1761-L32BWA</a>	447.00
120/240V AC	(20) 120V AC	(10) Triac, (2) Relay*	N/A	<a href="#">1761-L32AAA</a>	604.00
120/240V AC	(10) 24V AC or DC	(6) Relay	N/A	<a href="#">1761-L16NWA</a>	375.00
24V DC	(6) 24V DC	(4) Relay	(1) 6.6 kHz input	<a href="#">1761-L10BWB</a>	149.00
24V DC	(10) 24V DC	(6) Relay	(1) 6.6 kHz input	<a href="#">1761-L16BWB</a>	301.00
24V DC	(12) 24V DC, (4) Analog	(8) Relay, (1) Analog	(1) 6.6 kHz input	<a href="#">1761-L20BWB-5A</a>	699.00
24V DC	(20) 24V DC	(12) Relay	(1) 6.6 kHz input	<a href="#">1761-L32BWB</a>	431.00
24V DC	(6) 24V DC	(2) MOSFET sourcing, (2) Relay*	(1) 6.6 kHz input	<a href="#">1761-L10BXB</a>	99.00
24V DC	(10) 24V DC	(4) MOSFET sourcing, (2) Relay*	(1) 6.6 kHz input	<a href="#">1761-L16BBB</a>	301.00
24V DC	(20) 24V DC	(10) MOSFET sourcing, (2) Relay*	(1) 6.6 kHz input	<a href="#">1761-L32BBB</a>	431.00
24V DC	(10) 24V AC or DC	(6) Relay	N/A	<a href="#">1761-L16NWB</a>	363.00

\* Two isolated relays per unit.

## Hand-Held Programmer (HHP) and Connecting Cable

The HHP allows you to create, edit, monitor, and troubleshoot Instruction List (Boolean) programs for your MicroLogix 1000 controller. This device also allows you to store programs and to transfer programs through the use of an optional removable memory module.

Description	Cat. No.	Price \$
Hand-Held Programmer	<a href="#">1761-HHP-B30</a>	278.00
Connecting Cable, 2 m	<a href="#">1761-CBL-HM02</a>	62.00

**For programming software, network interface devices and cables, see page 2-68.**

See Publication 1761-SG001A-EN-P for complete product information.

MicroLogix 1100

- Memory Size and Type:  
4K words user program memory and 4K words data memory
- Data Elements:  
Up to 128K bytes for data logging and up to 64K for recipe (memory subtracted from data logging)
- Embedded 10/100 Mbps EtherNet/IP port for peer-to-peer messaging
- Online editing functionality



Controller Power and I/O Configuration

Line Power	Digital Inputs	Analog Inputs	Digital Outputs	Comm. Ports	High Speed I/O	Cat. No.	Price \$
120/240V AC	(10) 120V AC	(2) voltage input 0...10V DC	(6) relay All individually isolated	(1) RS-232/485 combo (isolated) (1) Ethernet	—	1763-L16AWA	550.00
120/240V AC	(6) 24V DC	(2) voltage input 0...10V DC	(6) relay All individually isolated	(1) RS-232/485 combo (isolated) (1) Ethernet	(4) 20 kHz inputs	1763-L16BWA	550.00
24V DC	(6) 24V DC	(2) voltage input 0...10V DC	(2) relay (isolated) (2) 24V DC FET	(1) RS-232/485 combo (isolated) (1) Ethernet	(4) 20 kHz inputs (2) 20 kHz outputs	1763-L16BBB	550.00

For Expansion I/O Modules: Up to 4 modules of 1762 I/O, see page 2-62.

Memory Module

- User program and data backup
- Program compare
- Data file protection
- Memory module write protection
- Removal/insertion under power

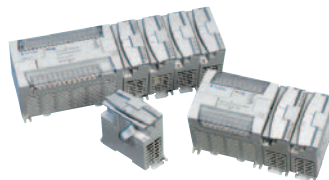
Description	Cat. No.	Price \$
Memory Module	1763-MM11	150.00
30 cm cable 8-pin mini DIN for ML1100 CH 0 combo port to 6-pin terminal block for direct connection to DH-485 and Modbus RTU networks	1763-NC01	40.00
Replacement battery for the MicroLogix 1100	1763-BA	40.00

See Publication 1763-SG001A-EN-P for complete product information.

## Discount Schedule MC

## MicroLogix 1200

- Memory Size and Type:  
6K flash memory: 4K user program, 2K user data
- Data Elements:  
Configurable, user-defined file structure, 2K max. data size
- Throughput:  
2 ms (for a typical 1K word user program)



## Controller Power and I/O Configuration

Line Power	Inputs	Outputs	High Speed I/O	Comm. Ports	Cat. No.	Price \$
120/240V AC	(14) 120V AC	(10) Relay	N/A	1	<a href="#">1762-L24AWA</a>	504.00
				2	<a href="#">1762-L24AWAR</a>	597.00
120/240V AC	(24) 120V AC	(16) Relay	N/A	1	<a href="#">1762-L40AWA</a>	749.00
				2	<a href="#">1762-L40AWAR</a>	836.00
120/240V AC	(10) Standard 24V DC (4) Fast 24V DC	(10) Relay	(4) 20 kHz input	1	<a href="#">1762-L24BWA</a>	424.00
				2	<a href="#">1762-L24BWAR</a>	521.00
120/240V AC	(20) Standard 24V DC (4) Fast 24V DC	(16) Relay	(4) 20 kHz input	1	<a href="#">1762-L40BWA</a>	721.00
				2	<a href="#">1762-L40BWAR</a>	809.00
24V DC	(10) Standard 24V DC (4) Fast 24V DC	(5) Relay (4) Standard 24V DC FET (1) Fast 24V DC FET	(4) 20 kHz input (1) 20 kHz output	1	<a href="#">1762-L24BXB</a>	408.00
				2	<a href="#">1762-L24BXBR</a>	505.00
24V DC	(20) Standard 24V DC (4) Fast 24V DC	(8) Relay (7) Standard 24V DC FET (1) Fast 24V DC FET	(4) 20 kHz input (1) 20 kHz output	1	<a href="#">1762-L40BXB</a>	705.00
				2	<a href="#">1762-L40BXBR</a>	793.00

## Memory and Real-Time Clock Modules

- User program and data backup
- Program compare
- Data file protection
- Memory module write protection
- Removal/insertion under power
- Memory backup and real-time clock combination module



Description	Cat. No.	Price \$
Memory Module	<a href="#">1762-MM1</a>	72.00
Memory and Real-Time Clock Module	<a href="#">1762-MM1RTC</a>	106.00
Real-Time Clock Module	<a href="#">1762-RTC</a>	57.00

Expansion I/O Modules

Description	Cat. No.	Price \$
Digital:		
8-Point 120V AC Input Module	1762-IA8	151.00
8-Point Sink/Source 24V DC Input Module	1762-IQ8	146.00
8-Point Sink/Source 24V DC Input Module, 6 Relay Output	1762-IQ8OW6	263.00
16-Point Sink/Source 24V DC Input Module	1762-IQ16	185.00
8-Point 120/240V AC Triac Output Module	1762-OA8	195.00
8-Point Sourcing 24V DC Output Module	1762-OB8	156.00
16-Point Sourcing 24V DC Output Module	1762-OB16	224.00
8-Point AC/DC Relay Output Module	1762-OW8	156.00
16-Point AC/DC Relay Output Module	1762-OW16	224.00
6-Point Isolated AC/DC Relay Output Module	1762-OX6I	159.00
Analog:		
4-Channel Voltage/Current Analog Input Module	1762-IF4	319.00
4-Channel Voltage/Current Analog Output Module	1762-OF4	291.00
Combination 2-Channel Input 2-Channel Output Voltage/Current Analog Module	1762-IF2OF2	319.00
Temperature:		
4-Channel RTD/Resistance Input Module	1762-IR4	447.00
4-Channel Thermocouple/mV Input Module	1762-IT4	447.00

For programming software, network interface devices and cables, see page 2-68.

See publication 1761-SG001A-EN-P for complete product information.

## Discount Schedule MC

## MicroLogix 1500

- Memory Size and Type:  
If using 1764-LSP processor: 7K user memory (total user program plus data).  
If using 1764-LRP processor: 14K user memory (total user program plus data)
- Data Elements:  
Configurable, user-defined file structure, 4K max. data size
- Throughput:  
1 ms (for a typical 1K word user program)
- Base Unit with embedded I/O & Communication Port RS 232 (8-pin Mini DIN)



## Base Units: Controller Power and I/O Configuration

Line Power	Inputs	Outputs *	High Speed I/O	Cat. No.	Price \$
120/240V AC	(12) 120V AC	(12) Relay	N/A	1764-24AWA	553.00
120/240V AC	(4) Standard 24V DC (8) Fast 24V DC	(12) Relay	(8) 20 kHz input	1764-24BWA	553.00
24V DC	(8) Standard 24V DC (8) Fast 24V DC	(6) Relay (4) Standard 24V DC FET (2) Fast 24V DC FET	(8) 20 kHz input (2) 20 kHz output	1764-28BWB	553.00

\* Two isolated relays per unit

## Processors

Description	Cat. No.	Price \$
Processor Unit with 14K User and 48K Data Logging Memory and 2nd Comms port (9-pin isolated D-Shell)	1764-LRP	363.00
Processor Unit with 7K User Memory	1764-LSP	252.00

## Memory and Real-Time Clock Modules


- User programs and data to be stored as backup
- Transport programs for use with other controllers
- Safety/security for press control and other critical applications
- Auto recovery, through a power cycle, after a controller fault
- Comparison of programs
- Data file and memory module write protection



Description	Memory size	Cat. No.	Price \$
Real-Time Clock	not applicable	1764-RTC	57.00
Memory Module	8K	1764-MM1	128.00
Memory Module and Real-Time Clock	8K	1764-MM1RTC	151.00
Memory Module	16K	* 1764-MM2	195.00
Memory Module and Real-Time Clock	16K	* 1764-MM2RTC	218.00
Memory Module	64K	1764-MM3	237.00
Memory Module and Real-Time Clock	64K	1764-MM3RTC	260.00

\* For use with the 1764-LRP processor.

## Data Access Tool

Description	Cat. No.	Price \$
 <ul style="list-style-type: none"> <li>• Direct access to 48 bit elements</li> <li>• Direct access to 48 integer elements</li> <li>• Two function keys</li> <li>• Display of controller faults</li> <li>• Removal/Insertion under Power</li> </ul>	1764-DAT	140.00

For programming software, network interface devices and cables, see page 2-68.

See publication 1761-SG001A-EN-P for complete product information.

Compact I/O Expansion I/O for MicroLogix 1500



Expansion I/O Modules for MicroLogix 1500

Compact Digital AC Input Modules\*

Number of Inputs	Voltage Category	Commons per Module	Bus Current Draw (max.)	Cat. No.	Price \$
8	100 or 120V AC	8	90 mA at 5V DC	<a href="#">1769-IA8I</a>	262.00
16		1	115 mA at 5V DC	<a href="#">1769-IA16</a>	291.00
12	200 or 240V AC	1	100 mA at 5V DC	<a href="#">1769-IM12</a>	257.00

Compact Digital AC Output Modules\*

Number of Outputs	Voltage Category	Commons per Module	Max. Current per Output	Max. Current per Module	Bus Current Draw (max.)	Cat. No.	Price \$
8	100...240V AC	2	0.25 A at 60 °C	2.0 A at 60 °C	145 mA at 5V DC	<a href="#">1769-OA8</a>	291.00
16			0.5 A at 30 °C	4.0 A at 30 °C 4.0 A at 60 °C 8.0 A at 30 °C	225 mA at 5V DC	<a href="#">1769-OA16</a>	447.00

Compact Digital DC Input Modules\*

Number of Inputs	Voltage Category/Type, Input	Commons per Module	Bus Current Draw (max.)	Cat. No.	Price \$
16	24V DC, sinking or sourcing	2	115 mA at 5V DC	<a href="#">1769-IQ16</a>	247.00
16 high-speed		2	100 mA at 5V DC	<a href="#">1769-IQ16F</a>	291.00
32		4	170 mA at 5V DC	<a href="#">1769-IQ32</a>	436.00
32		8	170 mA at 5V DC	<a href="#">1769-IQ32T</a>	422.00

Compact Digital DC Output Modules\*

Number of Outputs	Voltage Category/Type, Output	Commons per Module	Max. Current per Output	Max. Current per Module	Bus Current Draw (max.)	Cat. No.	Price \$
8	24V DC, sourcing	2	2.0 A @ 60 °C	8.0 A @ 60 °C	145 mA at 5V DC	<a href="#">1769-OB8</a>	257.00
16		1	0.5 A @ 60 °C 1.0 A @ 30 °C	4.0 A @ 60 °C	200 mA at 5V DC	<a href="#">1769-OB16</a>	324.00
16		1		8.0 A @ 30 °C	160 mA at 5V DC	<a href="#">1769-OB16P</a>	380.00
32		2		8.0 A @ 60 °C 16.0 A @ 30 °C	300 mA at 5V DC	<a href="#">1769-OB32</a>	531.00
16	24V DC, sinking	1		4.0 A @ 60 °C	200 mA at 5V DC	<a href="#">1769-OV16</a>	296.00
32		16		8.0 A @ 30 °C	220 mA at 5V DC	<a href="#">1769-OV32T</a>	513.00

\* Power Supply Distance Rating = 8 . The maximum distance an I/O module may be located from the power supply is 8 modules. (Exception for Cat. No. 1769-OB32, the Power Supply Distance Rating = 6 modules)

See publication 1768-SG001\_-EN-P, 1769-SG002\_-EN-P, or 1769-TD001\_-EN-P for complete product information.

## Discount Schedule MC

## Compact Relay Output Modules \*

Number of Outputs	Voltage Category/Type, Output	Max. Current per Output	Max. Current per Module	Bus Current Draw (max.)		Cat. No.	Price \$
				at 5V DC	at 24V DC		
8	5...265V AC 5...125V DC	0.5 A @ 60 °C	16 A	125 mA	100 mA	1769-OW8	218.00
8		1.0 A @ 30 °C	16 A	125 mA	100 mA	1769-OW8I	296.00
16		2.5 A	20 A	205 mA	180 mA	1769-OW16	413.00

## Combination Input and Output Modules \*

Description	Voltage Category	Number of I/O	Commons per Module	Max. Current per Output	Max. Current per Module	Bus Current Draw (max.)		Cat. No.	Price \$
						at 5V DC	at 24V DC		
DC (sink/source) inputs	24V DC	6 inputs	1	N/A	N/A	105 mA	50 mA	1769-IQ6XOW4	247.00
AC/DC Relay outputs	5...265V AC 5...125V DC	4 outputs	1	2.5 A	8 A				

## Analog I/O Modules \*

Description	Input Channels per Module	Output Channels per Module	Bus Current Draw (max.)		Cat. No.	Price \$
			at 5V DC	at 24V DC		
14 bit current/voltage input module	4 differential or single-ended	N/A	105 mA	60 mA*	1769-IF4	504.00
	8 differential or single-ended	N/A	120 mA	70 mA	1769-IF8	805.00
16 bit current/voltage isolated input module	4 differential or single-ended	N/A	145 mA	95 mA	1769-IF4I	939.00
14 bit current/voltage output module	N/A	2 single-ended	120 mA	120 mA*	1769-OF2	504.00
16 bit isolated current output module		4 single-ended	145 mA	140 mA	1769-OF4CI	1,149.00
16 bit current output module		8 single-ended	145 mA	160 mA*	1769-OF8C	1,508.00
16 bit isolated voltage output module		4 single-ended	145 mA	75 mA	1769-OF4VI	1,149.00
16 bit voltage output module		8 single-ended	145 mA	125 mA*	1769-OF8V	1,508.00
8 bit combination input/output module	4 differential or single-ended	2 single-ended	120 mA	160 mA	1769-IF4XOF2	603.00

\* Power Supply Distance Rating = 8 . The maximum distance an I/O module may be located from the power supply is 8 modules.

See publication 1768-SG001\_-EN-P, 1769-SG002\_-EN-P, or 1769-TD001\_-EN-P for complete product information.



Temperature and PT100 Input Modules \*

Description	Input Channels per Module	Bus Current Draw (max.)	Cat. No.	Price \$
Supports thermocouple and millivolt signal measurement	6 input channels plus 2 CJC sensors	100 mA at 5V DC 40 mA at 24V DC	1769-IT6	1,022.00
Supports RTD and direct resistance signal measurement	6 input channels	100 mA at 5V DC 45 mA at 24V DC	1769-IR6	1,084.00

High-Speed Counter Module ❄

Description	Input Channels per Module	Output Channels per Module	Bus Current Draw (max.)	Cat. No.	Price \$
1 MHz High-Speed Counter/Encoder Module	(4) single-input counters, or (2) quadrature (ABZ) differential inputs - 30 to +30V DC	(4) 5 to 30V DC sourcing outputs	425 mA at 5V DC	1769-HSC	922.00

Address Reserve Module

Description	Input Channels per Module	Output Channels per Module	Bus Current Draw (max.)	Power Supply Distance Rating	Cat. No.	Price \$
Reserves module slots	—	—	60 mA at 5V DC	8 modules	1769-ARM	

Compact I/O to PowerFlex Drives

Description	Communication Rate	Bus Current Draw (max.) @ 5V	Bus Current Draw (max.) @ 24V	Power Supply Distance Rating	Cat. No.	Price \$
Compact I/O to DPI/SCANport Module	DPI: 1925 Kbps or 250 Kbps SCANport: 125 Kbps	280 mA	60 mA per channel supplied by the DPI/SCANport host	6 modules	1769-SM1	650.00
Compact I/O to DSI/Modbus Module	DSI: 19.2 Kbps Modbus RTU: 300...38.4 Kbps	350 mA	0 mA	4 modules	1769-SM2	750.00

Communication Modules ❄

Description	Bus Current Draw (max.)	Cat. No.	Price \$
Compact DeviceNet Scanner Module	440 mA at 5V DC	1769-SDN	772.00
Compact DeviceNet Adapter Module ‡	500 mA at 5V DC	1769-ADN	535.00

\* Power Supply Distance Rating = 8 . The maximum distance an I/O module may be located from the power supply is 8 modules.

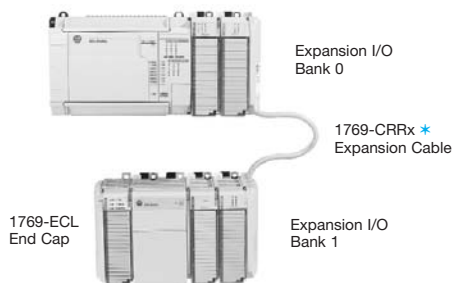
❄ Power Supply Distance Rating = 4. The maximum distance an I/O module may be located from the power supply is 4 modules.

‡ The series A 1769-ADN adapter does not support the 1769-OA16, 1769-OW16, 1769-IF4XOF2, or 1769-HSC modules.

See publication 1768-SG001\_-EN-P, 1769-SG002\_-EN-P, or 1769-TD001\_-EN-P for complete product information.

## Discount Schedule MC

## Vertical Orientation



## Horizontal Orientation



\* The x in this catalog number can be either a 1 or a 3 representing the length of the cable: 1 = 305 mm and 3 = 1 meter.

## Power Supplies

Power Supply Voltage	Nominal Input Voltage	Output Bus Current Capacity (0 °...55 °C)	Cat. No.	Price \$
85 to 265V AC (no jumper DIP switch required) 47 to 63 Hz	120V or 240V AC	2 A @ 5V DC 0.8 A @ 24V DC	1769-PA2	280.00
19.2 to 31.2V DC	24V DC		1769-PB2	280.00
85 to 132V AC (170 to 265 or switch selectable)	120V or 240V AC	4 A @ 5V DC 2 A @ 24V DC	1769-PA4	464.00
19.2 to 31.2V DC	24V DC		1769-PB4	464.00

## Expansion Cables

Cable Type	Length	Cat. No.	Price \$
Right bank-to-right bank	305 mm	1769-CRR1	168.00
Right bank-to-right bank	1 m	1769-CRR3	179.00
Right bank-to-left bank	305 mm	1769-CRL1	168.00
Right bank-to-left bank	1 m	1769-CRL3	179.00

## End Caps

Description	Cat. No.	Price \$
Right end cap	1769-ECR	34.00
Left end cap	1769-ECL	44.00

See publication 1768-SG001\_-EN-P, 1769-SG002\_-EN-P, or 1769-TD001\_-EN-P for complete product information.

Accessories for MicroLogix 1000, 1100, 1200, and 1500

Programming Software

The RSLogix 500 ladder logic programming package helps you maximize performance, save project development time, and improve productivity. This product has been developed to operate on Windows 98 and above operating systems. RSLogix 500 can be used for programming both the SLC 500 and MicroLogix controller families.

Description	Cat. No.	Price \$
RSLogix 500 Starter Edition Progr. Software for MicroLogix controller families. (CD-ROM)	9324-RL0100ENE	545.00
RSLogix 500 Standard Edition Programming Software for SLC 500 and MicroLogix controller families. (CD-ROM)	9324-RL0300ENE	1,200.00
RSLogix 500 Professional Edition. CD-ROM also includes RSLogix Emulate 500, RSNetworkx for DeviceNet and RSNetworkx for ControlNet.	9324-RL0700NXENE	2,760.00

Programming Cable for MicroLogix 1000, 1100, 1200, and 1500 Channel 0 (8-pin Mini DIN)

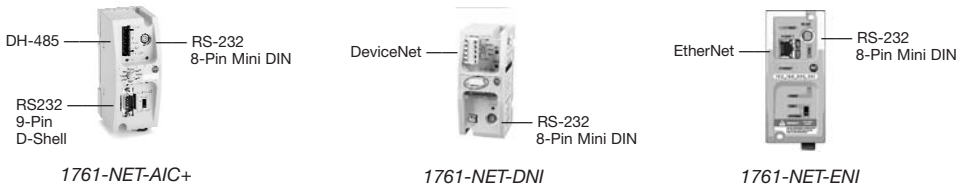
Description	Length	Cable Type	Cat. No.	Price \$
Cable to connect MicroLogix controller to an IBM compatible PC	2 m	8-pin Mini DIN to 9-pin D Shell	1761-CBL-PM02	62.00

Programming Cable for MicroLogix 1500 with 1764-LRP Processor, Channel 1 (9-pin RS-232)

Description	Length	Cable Type	Cat. No.	Price \$
Cable to connect port 1 to the 9-Pin DTE port of a personal computer	3 m	9-pin D Shell to 9-pin D Shell	1747-CP3	78.00
Cable to connect the MicroLogix 1500 base port to an IBM compatible PC	2 m	9-pin D Shell to 8-pin Mini DIN	1761-CBL-PM02	62.00

## Discount Schedule MC

## Network Interface Devices





Description	Cat. No.	Price \$
<b>AIC+ Advanced Interface Converter:</b> The AIC+ provides an interface to DH-485 networks from an RS-232 port. It can be used with all MicroLogix controllers, SLC 5/03 and higher, and a number of PanelView terminals.	1761-NET-AIC	195.00
<b>DNI DeviceNet Interface:</b> Peer-to-peer messaging between MicroLogix controllers and other devices using the DF1 Full-Duplex protocol (real time communications – no polling required)	1761-NET-DNI	278.00
<b>ENI Ethernet Interface:</b> The ENI provides EtherNet/IP connectivity for all MicroLogix controllers and other DF1 Full-Duplex devices: The ENIW provides also a basic level of Web Server functionality including: <ul style="list-style-type: none"> <li>• Ability to display dynamically updated data values</li> <li>• Ability to label data values</li> <li>• Ability to modify data values (password protected)</li> </ul>	1761-NET-ENI	682.00
	1761-NET-ENIW	834.00

## Network Cable

Use the communication cables listed below with MicroLogix 1000, 1200 and 1500 controllers. Cables come in several lengths and connector styles to provide connectivity between MicroLogix controllers and other devices.




Description	Connectors	Length	Cat. No.	Price \$
Used to connect MicroLogix controller to Port 2 of 1761-NET-AIC+ or 1761-NET-DNI or 1761-HHP or PanelView	8-pin Mini DIN to 8-pin Mini DIN	0.5 m	1761-CBL-AM00	39.00
		2 m	1761-CBL-HM02	62.00
		5 m	2711-CBL-HM05	70.00
		10 m	2711-CBL-HM10	80.00
Used to connect MicroLogix 1500 Processor (LRP) or Port 1 of 1761-NET-AIC+ to 9-pin DTE of Personal Computer	9-pin D Shell to 9-pin D Shell	0.5 m	1761-CBL-AC00	39.00
		3 m	1747-CP3	78.00
Used to connect MicroLogix controller to Port 1 of 1761-NET-AIC+ or MicroLogix controller to PC or PanelView's to MicroLogix controller	8-pin Mini DIN to 9-pin D Shell	0.5 m	1761-CBL-AP00	39.00
		2 m	1761-CBL-PM02	62.00
		5 m	2711-CBL-PM05	70.00
		10 m	2711-CBL-PM10	80.00

## Device Selection

						
Bulletin	1492-FB				1489	
Type	For Class CC Fuse	For Class J Fuse		For Midget Fuse	480Y/277V AC	240V AC
	30 A	30 A	60 A	30 A	0.5-25 A	0.5-40 A
Features	<ul style="list-style-type: none"><li>• EN/IEC 60529 Front Finger Protection — Dead front construction</li><li>• Handle isolates the fuse from line power when it is opened for fuse insertion or removal</li><li>• Compact size requiring less panel space than open style fuse folders</li><li>• Optional blown fuse indicators - allow for easy troubleshooting of electrical circuits</li><li>• Type M holder - accepts 0...30 A miniature fuses (1 1/2" x 13/32")</li><li>• Type C holder - accepts 0...30 A Class CC fuses</li><li>• Type J 30 &amp; 60 A holders - accepts Class J fuses</li><li>• Silver-plated contacts</li><li>• Mounts on DIN rail, marker-ready and increased heat dissipation</li></ul>				<ul style="list-style-type: none"><li>• True IP2X finger-safe design (front)</li><li>• 10,000 A interrupt</li><li>• A postively trip-free mechanism (breaker operation cannot be defeated by holding the handle in the ON position)</li><li>• Superior shock and vibration resistance capabilities</li><li>• Mounts on DIN Rail</li><li>• IEC 60947-2<ul style="list-style-type: none"><li>- 0.5...40 A @ 240, 415V AC</li><li>- 15,000 A interrupting</li></ul></li><li>• Field-mountable options</li><li>• Optional terminal for ring lugs</li></ul>	
Certifications	UL 512, CSA C22.2 No. 39, CE, EN/IEC 60947-3			UR, CSA	UL 489 Listed (CSA C22.2 No. 5.1), UL File Number E197878 VDE (SEC 60 947-2)	
Maximum Voltage Rating	600V AC/DC				480Y/277V AC	
Shock	25 G Half Sine Wave for 11 ms (Three Axes)				25 G Half Sine Wave for 11 ms (Three Axes)	
Tripping Characteristic Reference Temperature	NA				40°C (UL/CSA) 30°C (IEC)	
Tripping Characteristic	NA				C Curve: 5...10 D Curve: 10...20	
Vibration	10...2000 Hz for 2 hours  Amplitude — 10...57 Hz; 0.030 inches peak to peak; 57...500 Hz; 5 G peak				100...500 Hz for 1 hour  Amplitude — 10...57 Hz; 0.030 inches peak to peak; 57...500 Hz; 5 G peak	
Operating Temperature	-4...130°F (-20...+55°C)				-13...140°F (-25...+55°C), non-condensing	
Housing Material	Nylon				Nylon	
With Indicator	Working Voltage	LED	110...600V AC/DC or 12...72V DC	110...600V AC/DC	110...600V AC/DC or 12...72V DC	—
	Leakage Current	LED	2.0 mA			—
Wire Size	#16...4 AWG Cu	#14...1 AWG Cu	#10...1 AWG Cu	#16...4 AWG Cu	0.8...13 mm²/#18...6 AWG Cu	
Interrupt Rating	200 kA			50 kA	10 kA @ 240V AC and 480Y/277V AC (UL/CSA)	
Product Selection	page 2-73				page 2-74	

**Note:** The prices listed are per piece, not per package quantity.

Device Selection

			
Bulletin	1492-MC	1492-MCGA, -MCEA	1492-SP
Type	Branch Circuit Breaker	Ground Fault Detection	Miniature Circuit Breaker Supplementary Protector
Features	<ul style="list-style-type: none"><li>• 120/240V rating &amp; 240V rating</li><li>• 1/2 in. wide 10...60 A @ 120/240V AC &amp; 15...30 A @ 240V AC</li><li>• 1 in. wide 70...100 A @ 120/240V AC &amp; 40...100 A @ 240V AC</li><li>• IP2X finger-safe, built-in with 1/2 in. wide, add protectors for 1 in. wide</li><li>• Ratings to 240V AC, 10,000 A interrupt ratings</li><li>• Mounts on DIN Rail</li></ul>	<ul style="list-style-type: none"><li>• 10,000 A interrupt</li><li>• UL 489 Circuit breaker with ground fault circuit interrupter and ground fault equipment protector</li><li>• Mounts on DIN Rail or panel mount</li></ul>	<ul style="list-style-type: none"><li>• True IP2X finger-safe design (front)</li><li>• Field mountable options for selective applications</li><li>• AC and DC voltage ratings in one convenient device</li><li>• Superior shock and vibration resistance capabilities</li><li>• Mounts on DIN Rail</li></ul>
Number of Poles	1, 2, 3 pole	1 and 2 pole with Neutral	1, 2, 3 pole 1 pole + neutral, 3 pole + neutral
Maximum voltage	240V AC	120/240 AC 60 Hz	480Y/277V AC DC 1-pole — 48V DC 2-pole — 125V DC
Tripping characteristic reference temperature	40°C	40°C	25°C
Tripping Characteristic	UL 489 Standard (CSA 22.2 No. 5.1)	UL/CSA Standard	B Curve 3...5 In C Curve 5...10 In D Curve 10...20 In
Certifications	UL 489 Listed Circuit Breaker (CSA 22.2 No. 5.1) UL File Number E197878	UL 489, 943 and 1053 CSA 22.2 No. 5.1	UL 1077 CSA 22.2 No. 235 VDE (IEC 60898)
Dielectric Strength	1960V AC	1960V AC	1960V AC
Shock	25G Half Sine Wave for 11 ms (Three Axes)	25G Half Sine Wave for 11 ms (Three Axes)	25G Half Sine Wave for 11 ms (Three Axes)
Vibration	100...500 Hz for 1 Hour	100...500 Hz for 1 Hour	100...500 Hz for 1 Hour
Wire Size	#14...1/0 AWG	#14...#4 AWG 75°C (Cu only)	#18...4 AWG (1.0...25 mm²)
Electromechanical life	UL 489 Specifications	UL 489 Specifications	≥6000 operations
Interrupt Rating	10 kA @ 240V AC	10 kA @ 120/240V AC	IEC 60898 10 kA @ 415V AC UL/CSA 10 kA U2
Operating temperature (non-condensing)	32...140°F (0...+60°C)	32...140°F (0...+60°C)	23...104°F (-5...+40°C)
Product Selection	Page 2-77	Page 2-78	Page 2-79

Discount Schedule T1

## Bulletin 1492-FB

- EN/IEC 60529 Front Finger protection — dead front construction
- The handle design isolates the fuse from power when handle is opened for fuse insertion or removal
- Compact size requiring less panel space than open-style fuse holders
- Optional blown fuse indicators — allow for easy troubleshooting of electrical circuits
- Easy insertion/removal of fuses, no special tools required
- Marker-ready
- Mounts on standard 35 mm DIN Rail (A-B p/n 199-DR1)



## Bulletin 1492-FB Fuse Holders

		For Class CC Fuse		For Midget Fuse	
		30 A*	Price \$	30 A	Price \$
		Cat. No.		Cat. No.	
One-Pole	1 Pole Fuse Block	1492-FB1C30	11.00	1492-FB1M30	11.10
	1 Pole Fuse Block with Indication	1492-FB1C30-L	16.40	1492-FB1M30-L	16.40
	1 Pole Fuse Block with Indication, 12-72V	1492-FB1C30-D1	16.40	1492-FB1M30-D1	16.40
	Pieces per Carton	6			
Two-Pole	2 Pole Fuse Block	1492-FB2C30	23.00	1492-FB2M30	23.30
	2 Pole Fuse Block with Indication	1492-FB2C30-L	33.90	1492-FB2M30-L	33.90
	Pieces per Carton	3			
Three-Pole	3 Pole Fuse Block	1492-FB3C30	35.20	1492-FB3M30	34.00
	3 Pole Fuse Block with Indication	1492-FB3C30-L	51.60	1492-FB3M30-L	51.00
	Pieces per Carton	2			

\* All major fuse brands and current ranges have been evaluated for this fuse holder. Due to the heat they generate, the following fuses must be derated:  
 Ferraz Shamut ATQR 1.25 I = 0.42 A max.  
 Ferraz Shamut ATQR 1.40 I = 0.47 A max.

		For Class J Fuse			
		30 A	Price \$	60 A	Price \$
		Cat. No.		Cat. No.	
One-Pole	1 Pole Fuse Block	1492-FB1J30		1492-FB1J60	26.00
	1 Pole Fuse Block with Indication	1492-FB1J30-L	26.60	1492-FB1J60-L	29.50
	Pieces per Carton	6			
Two-Pole	2 Pole Fuse Block	1492-FB2J30	47.30	1492-FB2J60	53.70
	2 Pole Fuse Block with Indication	1492-FB2J30-L	54.70	1492-FB2J60-L	60.90
	Pieces per Carton	3			
Three-Pole	3 Pole Fuse Block	1492-FB3J30	71.10	1492-FB3J60	80.30
	3 Pole Fuse Block with Indication	1492-FB3J30-L	81.90	1492-FB3J60-L	91.20
	Pieces per Carton	2			

## Accessories

Description	Pkg. Quantity	Cat. No.	Price \$
<b>Fuseholder Identification Slide-in Markers*</b> The following are blank cards. Squares slip into molded slot.	5	1492-MC5X5	0.00
		1492-MC5X6	0.00

\* Refer to terminal block marking systems within the Industrial Control Catalog.

Miniature Circuit Breakers Bulletin 1489

- Energy limiting design - protects downstream components better than conventional breakers during short circuits
- Field mountable options for selective applications
- IP2x Finger-Protection (Front)
- North America approvals: UL 489, CSA 22.2 No. 5.1
- International approvals - CE Marked, and IEC (VDE) standards for worldwide acceptance
- Ratings:   UL/CSA — max. 80Y/277V AC – 10,000 A interrupt rating;  
                  IEC — max. 240/415V AC – 15,000 A interrupt rating
- 48V DC rating
- A positively trip-free mechanism (breaker operation cannot be defeated by holding the handle in the ON position)
- 2 Trip curves: C and D
- Time delay (D Characteristic) for high inrush currents during inductive start-ups  
  Such as motors, transformers and power supplies
- Superior shock and vibration resistance capabilities — helps to prevent nuisance tripping
- Wire connect, link and load (reversible)
- Optional terminals for ring lug terminals.



Miniature Circuit Breaker Accessories

Description	CSA/UL Certs.	IEC 60 947-2 Compliance	CE	IEC Max. Volt.	UL/CSA Max. Volt.	Connection	Cat. No.	Price \$
Auxillary Contact, 2 sets, each are Form C, 1 NO & 1 NC	Yes	Yes	Yes	250V AC	240V AC	Cable	1489-AALOA	20.30
Shunt Trip Module	Yes	Yes	Yes	110...415V AC	110...415V AC	Cable	1489-AASTA1	98.00
Shunt Trip Module	Yes	Yes	Yes	12...110V AC	12...110V AC	Cable	1489-AASTA2	98.00
Lockout Attachment	Yes	Yes	Yes	—	—	—	1489-AAHH3	46.20
Auxillary/Signal Contact, each are Form C, 1 NO & 1 NC	Yes	Yes	Yes	250V AC	240V AC	Cable	1489-AAHS3	46.20

Miniature Circuit Breakers

- International Approvals - CE Marked, and Meets UL, CSA, and IEC 60-947-2 Standards for Worldwide Acceptance
- IEC Maximum Voltage: 415V AC
- Cable in/Cable out connection



Discount Schedule T1

1489 Bus Bar

Description	No. of Poles	PQ	Number of Circuit Breakers	Cat. No.	Price \$
Bus Bar	1	10	6	1489-AACL106	
			12	1489-AACL112	
			18	1489-AACL118	
	2		3	1489-AACL206	
			6	1489-AACL212	
			9	1489-AACL218	
	3		2	1489-AACL306	
			4	1489-AACL312	
			6	1489-AACL318	

Note: PQ = Package Quantity

1489 Bus Bar Accessories

Description	No. of Poles	PQ	Wire Range	Cat. No.	Price \$
Terminal Lug	1 For Circuit Breaker Termination	10	#14 ... #2 AWG 2.5 ... 35 mm <sup>2</sup>	1489-AACLT35	
Terminal Lug	1 For Busbar Termination	10	#8 ... #1 AWG 6 ... 50 mm <sup>2</sup>	1489-AACLT50	
Protective Cover for unused termination	3 pole set (May be separated)	10	—	1489-AACLPS	

Note: PQ = Package Quantity

Miniature Circuit Breakers Product Selection

	Rated Current	UL/CSA Max. Volt.	Trip Class	Cat. No.	Price \$
1-Pole	0.5	480Y/ 277V AC 48 V DC	C	1489-A1C005	63.00
	1			1489-A1C010	
	1.5			1489-A1C015	
	2			1489-A1C020	
	3			1489-A1C030	
	4			1489-A1C040	
	5			1489-A1C050	
	6			1489-A1C060	
	7			1489-A1C070	
	8			1489-A1C080	

	Rated Current	UL/CSA Max. Volt.	Trip Class	Cat. No.	Price \$	
1-Pole	10	480Y/277V AC 48V DC	C	1489-A1C100	63.00	
	13*			1489-A1C130	63.00	
	15			1489-A1C150	63.00	
	16*			1489-A1C160	63.00	
	20			1489-A1C200	63.00	
	25			1489-A1C250	69.30	
	30	240V AC 48V DC		1489-A1C300	71.40	
	32*			1489-A1C320	71.40	
	35			1489-A1C350	71.40	
	40			1489-A1C400	74.60	

\* Common IEC current rating.

	Rated Current	UL/CSA Max. Volt.	Trip Class	Cat. No.	Price \$		Rated Current	UL/CSA Max. Volt.	Trip Class	Cat. No.	Price \$		
1-Pole	0.5	480Y/277V AC 48V DC	D	1489-A1D005	63.00	2-Pole	10	480Y/277V AC 48V DC	D	1489-A2D100	121.00		
	1			1489-A1D010			13★			1489-A2D130			
	1.5			1489-A1D015			15			1489-A2D150			
	2			1489-A1D020			16★			1489-A2D160			
	3			1489-A1D030			20			1489-A2D200			
	4			1489-A1D040			25			1489-A2D250	129.00		
	5			1489-A1D050			30	1489-A2D300					
	6			1489-A1D060			32★	1489-A2D320		129.00			
	7			1489-A1D070			35	1489-A2D350					
	8			1489-A1D080			40	1489-A2D400		138.00			
	10			1489-A1D100			0.5	480Y/277V AC 48V DC			C	1489-A3C005	
	13★			1489-A1D130			1		1489-A3C010	163.00			
	15			1489-A1D150			1.5		1489-A3C015				
	16★			1489-A1D160			2		1489-A3C020				
	20			1489-A1D200			3		1489-A3C030				
	25			1489-A1D250	4		1489-A3C040						
	30	1489-A1D300		5	1489-A3C050								
	32★	1489-A1D320		6	1489-A3C060								
	35	1489-A1D350		7	1489-A3C070								
	40	1489-A1D400		8	1489-A3C080								
2-Pole	0.5	480Y/277V AC 480V DC	C	1489-A2C005	120.00	3-Pole	10		240V AC 48V DC	C		1489-A3C100	181.00
	1			1489-A2C010			13★					1489-A3C130	
	1.5			1489-A2C015			15					1489-A3C150	
	2			1489-A2C020			16★					1489-A3C160	
	3			1489-A2C030			20					1489-A3C200	
	4			1489-A2C040			25					1489-A3C250	
	5			1489-A2C050			30		1489-A3C300				
	6			1489-A2C060			32★		1489-A3C320			181.00	
	7			1489-A2C070			35		1489-A3C350				
	8			1489-A2C080			40	1489-A3C400	189.00				
	10			1489-A2C100			0.5	480Y/277V AC 48V DC			D	1489-A3D005	
	13★			1489-A2C130			1		1489-A3D010	166.00			
	15			1489-A2C150			1.5		1489-A3D015				
	16★			1489-A2C160			2		1489-A3D020				
	20			1489-A2C200			3		1489-A3D030				
	25			1489-A2C250	4		1489-A3D040						
	30	1489-A2C300		5	1489-A3D050								
	32★	1489-A2C320		6	1489-A3D060								
	35	1489-A2C350		7	1489-A3D070								
	40	1489-A2C400		8	1489-A3D080								
0.5	480Y/277V AC 48V DC	D	1489-A2D005	121.00	10		240V AC 48V DC	D	1489-A3D100	185.00			
1			1489-A2D010		13★				1489-A3D130				
1.5			1489-A2D015		15				1489-A3D150				
2			1489-A2D020		16★				1489-A3D160				
3			1489-A2D030		20				1489-A3D200				
4			1489-A2D040		25				1489-A3D250				
5			1489-A2D050		30		1489-A3D300						
6			1489-A2D060		32★		1489-A3D320		185.00				
7	1489-A2D070		35		1489-A3D350								
8	1489-A2D080		40		1489-A3D400		201.00						

\* Common IEC current rating.

Discount Schedule

Bulletin 1492-MC Circuit Breakers

- 1/2 in. wide circuit breakers
- 1 in. wide circuit breakers
- Ground Fault Circuit Interrupters (GFCIs)
- Ground Fault Equipment Protector (GFEs)
- UL and CSA Certifications
- Designed, manufactured and listed to UL 489 (CSA 22.2, No. 5.1)
- Thermal-magnetic protection
- All ratings (10...100 A) are HACR rated
- 10 kAIC (10...100 A) (See Table 1 for 1492-MCCAxxx)
- Finger-safe design (front) (1/2 in. wide)
- DIN Rail mounting (120/240 & 240V AC)
- Three-position handle (ON, Tripped (Middle), OFF)
- Wire connections line and load (reversible)



120/240 and 240V AC DIN Rail Mounting

Continuous Ampere Rating @ 40°C (104°F)	Width (in.) per pole	Cat. No.		Cat. No.	
		120/240V AC			
		One (1) pole	Price \$	Two (2) poles	Price \$
10	1/2	1492-MCAA110	48.60	1492-MCAA210	107.00
15	1/2	1492-MCAA115	48.60	1492-MCAA215	107.00
20	1/2	1492-MCAA120	48.60	1492-MCAA220	107.00
25	1/2	1492-MCAA125	48.60	1492-MCAA225	107.00
30	1/2	1492-MCAA130	48.60	1492-MCAA230	107.00
35	1/2	1492-MCAA135	48.60	1492-MCAA235	107.00
40	1/2	1492-MCAA140	48.60	1492-MCAA240	107.00
45	1/2	1492-MCAA145	48.60	1492-MCAA245	107.00
50	1/2	1492-MCAA150	48.60	1492-MCAA250	107.00
55	1/2	1492-MCAA155	48.60	1492-MCAA255	107.00
60	1/2	1492-MCAA160	48.60	1492-MCAA260	107.00
70	1	1492-MCBA170	90.80	1492-MCBA270	132.00
80	1	1492-MCBA180	148.00	1492-MCBA280	149.00
90	1	1492-MCBA190	148.00	1492-MCBA290	149.00
100	1	1492-MCBA1A0	148.00	1492-MCBA2A0	149.00

240V AC DIN Rail Mounting


Continuous Ampere Rating @ 40°C (104°F)	Width (in.) per pole	Cat. No.		Cat. No.	
		240V AC			
		Two (2) poles	Price \$	Three (3) poles	Price \$
10	—	—	—	—	—
15	1/2	1492-MCAA2H15	149.00	1492-MCAA315	182.00
20	1/2	1492-MCAA2H20	149.00	1492-MCAA320	182.00
25	1/2	1492-MCAA2H25	149.00	1492-MCAA325	182.00
30	1/2	1492-MCAA2H30	149.00	1492-MCAA330	182.00
35	1	1492-MCBA2H35	149.00	1492-MCBA335	182.00
40	1	1492-MCBA2H40	149.00	1492-MCBA340	182.00
45	1	1492-MCBA2H45	149.00	1492-MCBA345	182.00
50	1	1492-MCBA2H50	149.00	1492-MCBA350	182.00
55	1	1492-MCBA2H55	149.00	1492-MCBA355	182.00
60	1	1492-MCBA2H60	149.00	1492-MCBA360	182.00
70	1	1492-MCBA2H70	189.00	1492-MCBA370	227.00
80	1	1492-MCBA2H80	222.00	1492-MCBA380	259.00
90	1	1492-MCBA2H90	222.00	1492-MCBA390	259.00
100	1	1492-MCBA2HA0	222.00	1492-MCBA3A0	259.00

480Y/277V AC Panel Mounting

Continuous Ampere Rating @ 40°C (104°F)	Width (in.) per pole	Cat. No.		Cat. No.	
		277V AC		480Y/277V AC	
		One (1) pole	Price \$	Two (2) poles	Price \$
—	—	—	—	—	—
15	1	1492-MCCA115	72.30	1492-MCCA215	182.00
20	1	1492-MCCA120	72.30	1492-MCCA220	182.00
25	1	1492-MCCA125	72.30	1492-MCCA225	182.00
30	1	1492-MCCA130	72.30	1492-MCCA230	182.00
35	1	1492-MCCA135	72.30	1492-MCCA235	182.00
40	1	1492-MCCA140	72.30	1492-MCCA240	182.00
45	1	1492-MCCA145	72.30	1492-MCCA245	182.00
50	1	1492-MCCA150	72.30	1492-MCCA250	182.00
60	1	1492-MCCA160	106.00	1492-MCCA260	195.00
70	1	1492-MCCA170	148.00	1492-MCCA270	354.00
80	1	1492-MCCA180	148.00	1492-MCCA280	354.00
90	1	1492-MCCA190	148.00	1492-MCCA290	354.00
100	1	1492-MCCA1A0	148.00	1492-MCCA2A0	354.00

Discount Schedule

Ground Fault Sensing

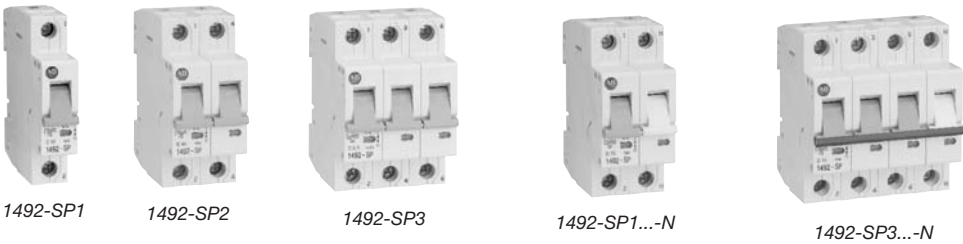
	Continuous Ampere Rating	Cat. No.		Cat. No.	
		120V AC		120/240V AC	
		One (1) Pole	Price \$	Two (2) Pole	Price \$
	GFCI (5 mA Sensitivity)				
	15	1492-MCGA115	159.00	1492-MCGA215	254.00
	20	1492-MCGA120	159.00	1492-MCGA220	254.00
	25	1492-MCGA125	159.00	1492-MCGA225	254.00
	30	1492-MCGA130	159.00	1492-MCGA230	254.00
	40	1492-MCGA140	174.00	1492-MCGA240	274.00
	50	—	—	1492-MCGA250	274.00
	GFEP (30 mA Sensitivity)				
	15	1492-MCEA115	259.00	1492-MCEA215	349.00
	20	1492-MCEA120	259.00	1492-MCEA220	349.00
	25	1492-MCEA125	259.00	1492-MCEA225	349.00
	30	1492-MCEA130	259.00	1492-MCEA230	349.00
	40	1492-MCEA140	259.00	1492-MCEA240	380.00
	50	—	—	1492-MCEA250	380.00
	For panel mounting use (2) 1492-AMCP1 per device For DIN Rail mounting use (1) 1492-AMCDIN1 per pole				

Accessories

Auxiliary Devices

Device description		For 1 pole	Price \$	2 and 3 poles	Price \$
Locking Attachment for Circuit Breaker	1492-MCAxxx	1492-AMCAL1	19.00	1492-AMCALM	19.00
	1492-MCBAxxx	1492-AMCBL1	19.00		
	1492-MCCAxxx	1492-AMCCL			
Finger protection cover for 1 in. wide 1492-MCBxxx, package of 10 (one required for line and one required for load for each pole) (not for GFCI / GFEP)		1492-AMCBFP			1.98
DIN Rail adapter, per pole, DIN Rail mounting for GFCI, GFEP, and 480Y/277V AC		1492-AMCDIN1			3.86
Panel Mounting Clips for GFCI and GFEP, 2 required per device		1492-AMCP1			1.66
Panel Mounting Clips for 480Y/277 products (1492-MCCAxxx). Contains four (4) screws and four (4) lock washers plus mounting brackets and instruction sheet, with drilling patterns. One kit can mount up to three (3) 1-pole circuit breakers or up to two (2) 2-pole circuit breakers.		1492-AMCP2			9.92

Miniature Circuit Breakers/Supplementary Protector



- Energy limiting design - protects downstream components better than conventional breakers during short circuits
- Field mountable options for selective applications
- IP2x finger-protection (front)
- International approvals - CE marked, and meets IEC (VDE, GL) standards
- Ratings to UL/CSA 480Y/277V AC and IEC - 240/415V AC - 10 000 A interrupt rating
- AC and DC voltage ratings - in one convenient device
- A positively trip-free mechanism (breaker operation cannot be defeated by holding the handle in the ON position)
- 3 Trip curves: B, C, and D
- Time delay (D Characteristic) for high inrush currents during inductive start-ups Such as transformers and power supplies
- Superior shock and vibration resistance capabilities — helps to prevent nuisance tripping


Miniature Circuit Breakers/Supplementary Protector, 1-Pole

Tripping Characteristics		Trip Curve B Resistive or Slightly Inductive		Trip Curve C Inductive		Trip Curve D Highly Inductive	
		3...5 /n		5...10 /n		10...20 /n	
Number of Poles	Continuous Current Rating (/n) Ampere	Cat. No.	Price \$	Cat. No.	Price \$	Cat. No.	Price \$
	0.5	—	—	1492-SP1C005	35.20	1492-SP1D005	35.20
	1	1492-SP1B010	35.20	1492-SP1C010	35.20	1492-SP1D010	35.20
	2	1492-SP1B020	35.20	1492-SP1C020	35.20	1492-SP1D020	35.20
	3	1492-SP1B030	35.20	1492-SP1C030	35.20	1492-SP1D030	35.20
	4	1492-SP1B040	35.20	1492-SP1C040	35.20	1492-SP1D040	35.20
	5	1492-SP1B050	35.20	1492-SP1C050	35.20	1492-SP1D050	35.20
	6	1492-SP1B060	30.70	1492-SP1C060	35.20	1492-SP1D060	35.20
	7	1492-SP1B070	30.70	1492-SP1C070	35.20	1492-SP1D070	35.20
	8	1492-SP1B080	30.70	1492-SP1C080	35.20	1492-SP1D080	35.20
	10	1492-SP1B100	30.70	1492-SP1C100	35.20	1492-SP1D100	35.20
	13*	1492-SP1B130	30.70	1492-SP1C130	35.20	1492-SP1D130	35.20
	15	1492-SP1B150	30.70	1492-SP1C150	35.20	1492-SP1D150	35.20
	16*	1492-SP1B160	30.70	1492-SP1C160	35.20	1492-SP1D160	35.20
	20	1492-SP1B200	32.40	1492-SP1C200	35.20	1492-SP1D200	35.20
	25	1492-SP1B250	32.40	1492-SP1C250	38.40	1492-SP1D250	38.40
	30	1492-SP1B300	33.90	1492-SP1C300	40.10	1492-SP1D300	40.10
	32*	1492-SP1B320	33.90	1492-SP1C320	40.10	1492-SP1D320	40.10
	40	1492-SP1B400	35.70	1492-SP1C400	43.40	1492-SP1D400	43.40
	50	1492-SP1B500	41.30	1492-SP1C500	50.00	—	—
	63	1492-SP1B630	47.80	1492-SP1C630	56.60	—	—


\* Common IEC current rating.

**Discount Schedule**

**Miniature Circuit Breakers/Supplementary Protector, 2-Poles**






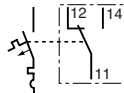
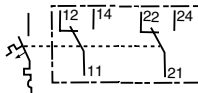
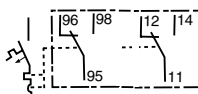


Tripping Characteristics		Trip Curve B Resistive or Slightly Inductive		Trip Curve C Inductive		Trip Curve D Highly Inductive	
		3...5 /n		5...10 /n		10...20 /n	
Number of Poles	Continuous Current Rating (/n) Ampere	Cat. No.	Price \$	Cat. No.	Price \$	Cat. No.	Price \$
	0.5	—	—	1492-SP2C005	77.90	1492-SP2D005	79.20
	1	1492-SP2B010	74.70	1492-SP2C010	77.90	1492-SP2D010	79.20
	2	1492-SP2B020	74.70	1492-SP2C020	77.90	1492-SP2D020	79.20
	3	1492-SP2B030	74.70	1492-SP2C030	77.90	1492-SP2D030	79.20
	4	1492-SP2B040	74.70	1492-SP2C040	77.90	1492-SP2D040	79.20
	5	1492-SP2B050	74.70	1492-SP2C050	77.90	1492-SP2D050	77.90
	6	1492-SP2B060	65.90	1492-SP2C060	77.90	1492-SP2D060	79.20
	7	1492-SP2B070	65.90	1492-SP2C070	77.90	1492-SP2D070	79.20
	8	1492-SP2B080	65.90	1492-SP2C080	77.90	1492-SP2D080	79.20
	10	1492-SP2B100	65.90	1492-SP2C100	77.90	1492-SP2D100	79.20
	13*	1492-SP2B130	65.90	1492-SP2C130	77.90	1492-SP2D130	79.20
	15	1492-SP2B150	65.90	1492-SP2C150	77.90	1492-SP2D150	79.20
	16*	1492-SP2B160	65.90	1492-SP2C160	77.90	1492-SP2D160	79.20
	20	1492-SP2B200	73.10	1492-SP2C200	77.90	1492-SP2D200	79.20
	25	1492-SP2B250	74.70	1492-SP2C250	86.20	1492-SP2D250	87.40
	30	1492-SP2B300	79.60	1492-SP2C300	86.20	1492-SP2D300	87.40
	32*	1492-SP2B320	79.60	1492-SP2C320	86.20	1492-SP2D320	87.40
	40	1492-SP2B400	83.00	1492-SP2C400	94.40	1492-SP2D400	95.60
	50	1492-SP2B500	95.00	1492-SP2C500	111.00	—	—
	63	1492-SP2B630	108.00	1492-SP2C630	123.00	—	—

**Miniature Circuit Breakers/Supplementary Protector, 3-Poles**

Tripping Characteristics		Trip Curve B Resistive or Slightly Inductive		Trip Curve C Inductive		Trip Curve D Highly Inductive	
		3...5 /n		5...10 /n		10...20 /n	
Number of Poles	Continuous Current Rating (/n) Ampere	Cat. No.	Price \$	Cat. No.	Price \$	Cat. No.	Price \$
	0.5	—	—	1492-SP3C005	113.00	1492-SP3D005	116.00
	1	1492-SP3B010	113.00	1492-SP3C010	113.00	1492-SP3D010	116.00
	2	1492-SP3B020	113.00	1492-SP3C020	113.00	1492-SP3D020	116.00
	3	1492-SP3B030	113.00	1492-SP3C030	113.00	1492-SP3D030	116.00
	4	1492-SP3B040	113.00	1492-SP3C040	113.00	1492-SP3D040	116.00
	5	1492-SP3B050	113.00	1492-SP3C050	113.00	1492-SP3D050	116.00
	6	1492-SP3B060	101.00	1492-SP3C060	113.00	1492-SP3D060	116.00
	7	1492-SP3B070	101.00	1492-SP3C070	113.00	1492-SP3D070	116.00
	8	1492-SP3B080	101.00	1492-SP3C080	113.00	1492-SP3D080	116.00
	10	1492-SP3B100	101.00	1492-SP3C100	113.00	1492-SP3D100	116.00
	13*	1492-SP3B130	101.00	1492-SP3C130	113.00	1492-SP3D130	116.00
	15	1492-SP3B150	101.00	1492-SP3C150	113.00	1492-SP3D150	116.00
	16*	1492-SP3B160	101.00	1492-SP3C160	113.00	1492-SP3D160	116.00
	20	1492-SP3B200	111.00	1492-SP3C200	113.00	1492-SP3D200	116.00
	25	1492-SP3B250	118.00	1492-SP3C250	128.00	1492-SP3D250	132.00
	30	1492-SP3B300	120.00	1492-SP3C300	130.00	1492-SP3D300	133.00
	32*	1492-SP3B320	120.00	1492-SP3C320	130.00	1492-SP3D320	147.00
	40	1492-SP3B400	127.00	1492-SP3C400	143.00	1492-SP3D400	147.00
	50	1492-SP3B500	145.00	1492-SP3C500	164.00	—	—
	63	1492-SP3B630	166.00	1492-SP3C630	189.00	—	—

\* Common IEC current rating.


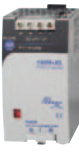


Accessories

					
1492-ASPH3	1492-ASPHH3	1492-ASPHS3	1492-ASPU115	1492-ASPA1	
Description	Diagram		PQ	Cat. No.	Price \$
<b>Auxiliary Contact Module</b> Switches when protective device is operated manually or tripped electrically 1 N.O. – 1 N.C. Form C Contact			1	1492-ASPH3	27.40
<b>Dual Auxiliary Contact Module</b> Switches when protective device is operated manually or tripped electrically 2 N.O. – 2 N.C. 2 Form C Contact			1	1492-ASPHH3	46.20
<b>Auxiliary/Signal Alarm Contact Module</b> 1 Auxiliary Contact switches when protective device is operated manually or tripped electrically 1 N.O. – 1 N.C. Form C Contact 1 Signal Contact switches when protective device is tripped electrically 1 N.O. – 1 N.C. Form C Contact			1	1492-ASPHS3	46.20
<b>Undervoltage Release Module</b> Use the undervoltage release module to trip the adjacent breaker poles when the applied voltage is less than the nominal voltage. Undervoltage trip is often used when loss of power and eventual restoration of power creates an unsafe or unknown set of condition.		50...115V AC	1	1492-ASPU115	169.00
		110...240V AC	1	1492-ASPU230	169.00
<b>Shunt Trip Module</b> Use the shunt trip module to trip the adjacent breaker poles from a remote location. The module is actuated by applying a voltage (pickup voltage) to the trip terminals. Shunt trip modules are often used in emergency shutdown circuits where multiple power circuits must be switched off from a single location.		110...415V AC (110...230V DC)	1	1492-ASPA1	103.00
		12...110V AC (12...60V DC)	1	1492-ASPA2	103.00
<b>Mounting Rails</b> <b>DIN (#3) Symmetrical Rail</b> 35 mm x 7.5 mm x 1 m long Order must be for 10 rails or multiples of 10.			10	199-DR1	8.71
DIN Hi-Rise Symmetrical Rail, 1 m 35 mm x 7.5 mm, 57.4 mm (2.26 in.) high Copper-Free Aluminum			2	1492-DR6	21.20
DIN Angled Hi-Rise Symmetrical Rail, 1 m 35 mm x 7.5 mm, 71.0 mm (2.80 in.) high Zinc-Plated, Chromated Steel			2	1492-DR7	21.20
<b>End Anchor</b>			10	1492-EAH35	5.05
<b>Lockout Attachment</b>			10	1492-ASPLOA	20.30



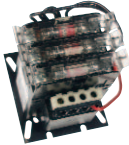
PQ = Package Quantity



## Switched Mode Power Supplies

				
Bulletin	1606-XLP	1606-XL	1606-XLS	1606-XLE
Type	Switched Mode Power Supply Single Phase	Switched Mode Power Supply Single/Three Phase	Switched Mode Power Supply Single/Three Phase	Switched Mode Power Supply Single Phase
Output Power (Watts/VA)	25...100 W	60...960 W	80...480 W	120...240 W
Input Voltage/ Primary Voltage	85...264V AC 85...375V DC	85...132/ 176...264/ 340...576V AC 160...375/ 450...820V DC	85...276/ 323...552V AC 88...375/ 450...780V DC	90...132/ 180...264V AC
Efficiency	80...90%	87...93%	91.6...95%	90...92%
Output Voltage/ Secondary Voltage	5, 10...12, 12, 15, 24, 48V DC	24, 36, 48V DC	24V DC	24, 48V DC
Rated Output Current	1.3...4.2 A	2.5...40 A	3.4...20 A	5...10 A
Operating Temperature Range (Tamb)	-10...+70°C >60°C with derating	-10...+70°C >60°C with derating	-25...+70°C >60°C with derating	-25...+70°C >60°C with derating
Non-Operating Temperature Range	-40...+85°C			
Insulation	—	—	—	—
Certifications	cULs, CE	cULs, CE	cULs, CE	cULs, CE
Standards	EN 50081-1, EN 61000-6-2, EN 61000-3-2 (A14) UL 508 UL 60950, CAN/CSA C22.2 No. 60950	EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, EN 61000-3-2 (A14), EN 50081-1 UL 508 UL 60950, CAN/CSA C22.2 No. 60950	EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, EN 61000-3-2 (A14), EN 50081-1 UL 508 UL 1950	EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, EN 61000-3-2 (A14), EN 50081-1 UL 508 UL 1950
Special Application Products	<ul style="list-style-type: none"> <li>• Compact Redundancy Module for 10...60V DC</li> <li>• Buffer Module for Extended Ride-Through</li> <li>• Redundant Power Supplies</li> <li>• Redundancy Modules</li> </ul>			
Product Selection	Page [T-3287902]	Page [T-3287902]	Page [BAD REF 184109 ]	Page [BAD REF 251560 ]

Uninterruptible Power Supplies and Transformers


















				
Bulletin	1609-U	1609-P	1609-S	1497
Type	Uninterruptible Power Supply	Uninterruptible Power Supply	Uninterruptible Power Supply	Control Circuit Transformer
Output Power (Watts/VA)	325 W/500 VA	3...10 kVA	350 W/350 VA	63...2000 VA
Input Voltage/ Primary Voltage	120, 208/230V AC			208...600V
Efficiency	96%	86%		—
Output Voltage/ Secondary Voltage	120, 208/230V AC			24...120V Multi-tap 115...230V (50 Hz)
Rated Output Current	4.2 A	11...48 A	4.2 A	—
Operating Temperature Range (Tamb)	0...50°C	0...40°C	0...40°C	—
Non-Operating Temperature Range	-20...+60°C			—
Insulation	—			Class B 130°C
Certifications	UL, CSA, CE			cULs, CE
Standards	EN 50091-1-1, EN 50091-2 (Class 2) UL 1778 CSA C22.2 No. 107.3			UL 506, CSA C22.2 No. 66, EN 61558-1, EN 61558-2-2, EN 61558-2-6
Special Application Products	<ul style="list-style-type: none"><li>• DC UPS</li><li>• DC/DC Converter</li></ul>			—
Product Selection	Page [BAD REF 251660 ]	Page [BAD REF 251662 ]	Page [BAD REF 251466 ]	Page [BAD REF 251468 ]



Switched Mode Power Supplies

- Quick mounting and connecting, innovative DIN-Rail mount, smallest in class
- Low inrush current limiting
- PFC active or passive
- Wide range input; auto select input
- Superior overload design (continuous current, no hiccup)
- NEC Class 2 'Limited Power' options
- Selectable operating mode (single/parallel)
- Superior efficiency and temperature rating



1606-XLP Compact - Single Phase

Output Power	Output Voltage	Output Current	Input Circuit Protection/UL Test Level	Inrush Current	Parallel Operation (Inclined Char.)	Meets EN 61000-3-2 PFC Harmonics	Cat. No.	Price \$
25 W	5...5.5V DC	5.0 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP25A	118.00
30 W	10...12V DC	3.0 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP30B	132.00
	24...28V DC	1.3 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP30E	107.00
36 W	+/- 12/15V DC	2.8 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP36C	129.00
50 W	12...15V DC	4.2 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP50B	146.00
	24...28V DC	2.1 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP50E	139.00
	24...28V DC	2.1 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP50EZ	142.00
	48...56V DC	1.0 A	1489-A1C100/15 A 	<18 A	—	N/A	1606-XLP50F	133.00
72 W	24...28V DC	3.0 A	1489-A1C100/15 A 	<30 A	—	N/A	1606-XLP72E	160.00
90 W	12...15V DC	8.0 A	1489-A1C100/15 A 	<30 A	Yes	Yes	1606-XLP90B	176.00
95 W	24...28V DC	3.9 A	1489-A1C100/15 A 	<30 A	— 	Yes	1606-XLP95E	180.00
	24...28V DC	4.2 A	1489-A1C100/15 A 	<30 A	Yes 	Yes	1606-XLP100E	182.00
	48...56V DC	2.1 A	1489-A1C100/15 A 	<30 A	Yes 	Yes	1606-XLP100F	208.00
	24...28V DC	4.2 A	1489-A1C100/15 A 	—	—	—	1606-XLP100E-2	

 Single/parallel operation (inclined characteristic) selectable (jumper).  
 Unit has internal (not accessible/replaceable) input fuse. Additional protection is not required if used on branch circuits ≤ UL test levels.  
Consult local codes and regulations for installation.



1606-XLE Essential - Single Phase

Output Power	Output Voltage	Output Current	Input Circuit Protection/UL Test Level	Inrush Current	Parallel Operation (Inclined Char.)	Meets EN 61000-3-2 PFC Harmonics	Cat. No.	Price \$
120 W	24...28V DC	5.0 A		—	—	No	1606-XLE120E	
240 W	24...28V DC	10 A		—	—	No	1606-XLE240E	
	24...28V DC	10 A		—	—	Yes	1606-XLE240EP	
	48...52V DC	5.0 A		—	—	No	1606-XLE240F	









## 1606-XL Standard — Single- and Three-Phase



## Single-Phase

Output Power	Output Voltage	Output Current	Input Circuit Protection/UL Test Level	Inrush Current	Parallel Operation (Inclined Char.)	Meets EN 61000-3-2 PFC Harmonics	Cat. No.	Price \$
60 W	24V DC	2.5 A	1489-A1C100/15 A ⚡	<18 A	—	Yes	1606-XL60D	167.00
120 W		5.0 A	1489-A1C100/15 A ⚡	<11 A	—	Yes	1606-XL120D	257.00
180 W	12...15V DC	15 A	1489-A1C100/15 A ⚡	<21 A	—	No	1606-XL180B	319.00
240 W	24...28V DC	10 A	1489-A1C100/15 A ⚡	<21 A	—	No	1606-XL240E	375.00
			1489-A1C100/15 A ⚡	<21 A	—	Yes	1606-XL240EP	414.00
	48...56V DC	5.0 A	1489-A1C100/15 A ⚡	<21 A	—	Yes	1606-XL240FP	431.00
480 W	24...28V DC	20 A	1489-A1C100/15 A ⚡	<23 A	Yes ‡	No	1606-XL480E	633.00
			1489-A1C100/15 A	<18 A @ 25°C	Yes ‡	Yes	1606-XL480EP	686.00
			1489-A1C100/15 A	<18 A @ 25°C	Yes ‡	Yes	1606-XL480EPT	716.00
	36...43V DC	13.3 A	1489-A1C100/15 A	<18 A @ 25°C	Yes ‡	Yes	1606-XL480GP	705.00
	48...56V DC	10 A	1489-A1C100/15 A	<18 A @ 25°C	Yes ‡	No	1606-XL480F	686.00

## Three-Phase

Output Power	Output Voltage	Output Current	Input Circuit Protection/UL Test Level	Inrush Current	Parallel Operation (Inclined Char.)	Meets EN 61000-3-2 PFC Harmonics	Cat. No.	Price \$
120 W	24...28V DC	5.0 A	1492-SP3C100	<25 A	—	Yes	1606-XL120E-3	270.00
240 W		10 A	1492-SP3C060/15 A 	<17 A	Yes 	Yes	1606-XL240E-3	374.00
480 W		20 A	1492-SP3C100	<11 A	Yes 	Yes	1606-XL480E-3	525.00
		20 A	1492-SP3C060/16 A 	<7 A	Yes 	Yes	1606-XL480E-3W	525.00
	48...56V DC	10 A	1492-SP3C100	<15 A	Yes 	Yes	1606-XL480F-3H	551.00
720 W	24...28V DC	30 A	1492-SP3C100	<17 A	Yes 	Yes	1606-XL720E-3	695.00
960 W		40 A	1492-SP3C100	<30 A	Yes 	Yes	1606-XL960E-3	838.00
		40 A	1492-SP3C100	<30 A	Active current sharing	Yes	1606-XL960E-3S	838.00

‡ Single/parallel operation (inclined characteristic) selectable (jumper).

⚡ Unit has internal (not accessible/replaceable) input fuse. Additional protection is not required if used on branch circuits ≤ UL test levels.

Consult local codes and regulations for installation.

Special Modules

Output Power	Output Voltage	Output Current	Input Circuit Protection/UL Test Level	Inrush Current	Parallel Operation (Inclined Char.)	Meets EN 61000-3-2 PFC Harmonics	Cat. No.	Price \$
480 W	23...27.8V DC	20 A	N/A	—	—	N/A	1606-XLBUFFER	330.00
240 W	22.5...30V DC	10 A	N/A	—	—	N/A	1606-XLS240-UPS	
40 W	5.1V DC	8.0 A	N/A	<5 A	—	No	1606-XLDC40A	214.00
96 W	24V DC	4.0 A	1489-A1C100/15 A♣	<11 A	—	Yes	1606-XLDNET4	257.00
192 W	24V DC	8.0 A	1489-A1C100/15 A♣	<21 A	—	No	1606-XLDNET8	412.00
60 W	24V DC	2.5 A	1489-A1C100/15 A*♣	<18 A	Yes‡	N/A	1606-XL60DR	184.00
120 W		5.0 A	1489-A1C100/15 A*♣	<11 A	Yes‡	Yes	1606-XL120DR	282.00
240 W		10 A	1489-A1C100/15 A*♣	<21 A	Yes‡	No	1606-XL240DR	412.00
720 W	V <sub>in</sub> -5V typ	30 A	N/A♣	N/A♣	—	N/A	1606-XLRED20-30	160.00
960 W	V <sub>in</sub> -6V typ	40 A	N/A§	N/A§	—	N/A	1606-XLRED40	146.00
384 W	V <sub>in</sub> 1 -.9V typ	16 A➤	N/A	N/A	—	N/A	1606-XLPRED	98.10
480 W	V <sub>in</sub> 1 -.9V typ	20 A➤	N/A	N/A	—	N/A	1606-XLSRED	118.00
120 W	24...28V DC	5.0 A	—	—	—	N/A	1606-XLE120EC	
240 W	24...28V DC	10 A	—	—	Yes	Yes	1606-XLS240EC	
240 W	24...28V DC	10 A	—	—	Yes	Yes	1606-XLS240E-3C	
480 W	24...28V DC	20 A	—	—	Yes	Yes	1606-XLS480E-3C	



1606-XLS Performance — Single- and Three-Phase

Output Power	Output Voltage	Output Current	Input Circuit Protection/UL Test Level	Inrush Current	Parallel Operation (Inclined Char.)	Meets EN 61000-3-2 PFC Harmonics	Cat. No.	Price \$
80 W	24...28V DC	3.4 A	1489-A1C060/20 A♣	<7.0 A	Yes	Yes	1606-XLS80E	202.00
120 W	24...28V DC	5.0 A	1489-A1C060/20 A♣	<4.9 A	Yes	Yes	1606-XLS120E	288.00
240 W	24...28V DC	10 A	1489-A1C060/20 A♣	<7.6 A	Yes	Yes	1606-XLS240E	420.00
480 W	24...28V DC	20 A	1492-SP3C060	<4.0 A	Yes	Yes	1606-XLS480E-3	588.00
91 W	24V DC	3.8 A	1489-A1C060/20 A♣	<4.9 A	Yes	Yes	1606-XLSDNET4	288.00
192 W	24V DC	8.0 A	1489-A1C060/20 A♣	<7.6 A	Yes	Yes	1606-XLSDNET8	461.00

Accessories

Description	Cat. No.	Price \$
Back of panel bracket for XL	1606-XLA	6.62
Back of panel bracket for XLS	1606-XLB	7.35
7Ah/12V Battery for use with 1606-XLS240-UPS	1606-XLSBAT1	

\* Used with a pair of identical power supplies to offer N+1 redundancy.  
♣ To be used alongside 20, 30 and 40 A power supplies.  
‡ Single/parallel operation (inclined characteristic) selectable (jumper).  
§ To be used alongside 40 A power supplies (or smaller).  
♣ Unit has internal (not accessible/replaceable) input fuse. Additional protection is not required if used on branch circuits ≤ UL test levels. Consult local codes and regulations for installation.  
➤ See product specifications for proper use.

## Discount Schedule RAA

## Uninterruptible Power Supplies

## Bulletin 1609-U Series

- Rugged industrial design
- DIN Rail mountable or back-of-panel mountable
- Elevated temperature performance (up to 50°C)
- Comprehensive network management
- "Dry Contact" I/O
- Remote monitoring/configuration
- Line interactive
- Pure sine wave output



Output Power	Input Voltage	Operating Temperature	Without Network Management Card		With Network Management Card	
			Cat. No.	Price \$	Cat. No.	Price \$
500 VA (325 W)	115V AC	0...40°C	<a href="#">1609-U500NS</a>	600.00	<a href="#">1609-U500NSC</a>	1,200.00
		0...50°C	<a href="#">1609-U500NH</a>	795.00	<a href="#">1609-U500NHC</a>	1,370.00
	208/230V AC	0...40°C	<a href="#">1609-U500ES</a>	600.00	<a href="#">1609-U500ESC</a>	1,200.00
		0...50°C	<a href="#">1609-U500EH</a>	795.00	<a href="#">1609-U500EHC</a>	1,370.00

## Bulletin 1609-P Series

- Rugged industrial design
- Tower / Rack compatible
- Extended runtime
- Battery management system
- Hot swappable batteries
- Comprehensive network management
- Rugged industrial design
- Tower / Rack compatible
- Extended runtime
- Battery management system
- Hot swappable batteries



Output Power	Input Voltage	Cat. No.	Price \$
3000 VA (2100 W)	208V AC	<a href="#">1609-P3000H</a>	2,445.80
3000 VA (2100 W)	120V AC	<a href="#">1609-P3000N</a>	2,445.80
3000 VA (2100 W)	230V AC	<a href="#">1609-P3000A</a>	2,445.80
5000 VA (3500 W)	208/230V AC	<a href="#">1609-P5000E</a>	6,608.82
8000 VA (6400 W)	208/230V AC	<a href="#">1609-P8000E</a>	8,953.00
10000 VA (8000 W)	208/230V AC	<a href="#">1609-P10000E</a>	10,880.00

## Bulletin 1609-S Series

- DIN Rail mountable or back-of-panel mountable
- Line interactive
- Pure sine wave output
- Serial communication

Output Power	Input Voltage	Cat. No.	Price \$
350 VA (350 W)	115V AC	<a href="#">1609-S350NS</a>	
350 VA (350 W)	208/230V AC	<a href="#">1609-S350ES</a>	

## Accessories

Description	Output Power	For Use With Series	Cat. No.	Price \$
40°C Replacement Battery	500 VA (325 W)	U, S	<a href="#">1609-500SBAT</a>	110.00
50°C Replacement Battery	500 VA (325 W)	U	<a href="#">1609-500HBAT</a>	285.00
Network Management Card		U, P	<a href="#">1609-NMC</a>	600.00
Remote Smart Cable		U, P, S	<a href="#">1609-RSC</a>	
Replacement Battery		P	<a href="#">1609-PBAT</a>	
External Battery Pack		P	<a href="#">1609-PXBP</a>	
5000 VA CCT		P	<a href="#">1609-5000CCT</a>	
Rail Kit		P	<a href="#">1609-PRK1</a>	
DIN Rail Kit		S	<a href="#">1609-SDK1</a>	

## Discount Schedule A1

## Bulletin 1497 — Control Circuit Transformers

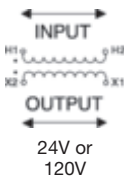
63...2000 VA

Bulletin 1497 Global Control Circuit Transformers are designed to reduce supply voltages to control circuits.


The complete line of transformers is available with optional factory-installed or panel-mount primary and secondary fuse block. A dual primary and secondary fuse block is pre-wired and mounted on top of the transformer up to 500 VA. Bulletin 1497 offers single, dual, and multi-tap primary voltages.



## Product Selection

Continuous VA	Cat. Nos.			
	Primary 208V (60 Hz) 208V  24V or 120V			
	Secondary 24V (60 Hz)	Price \$	Secondary 120V (60 Hz)	Price \$
63	<a href="#">1497-A-HXJX-0-N</a>	41.90	<a href="#">1497-A-HXDX-0-N</a>	41.90
80	<a href="#">1497-B-HXJX-0-N</a>	44.10	<a href="#">1497-B-HXDX-0-N</a>	44.10
130	<a href="#">1497-C-HXJX-0-N</a>	62.80	<a href="#">1497-C-HXDX-0-N</a>	62.80
200	<a href="#">1497-D-HXJX-0-N</a>	86.00	<a href="#">1497-D-HXDX-0-N</a>	86.00
250	<a href="#">1497-E-HXJX-0-N</a>	106.00	<a href="#">1497-E-HXDX-0-N</a>	106.00
350	<a href="#">1497-F-HXJX-0-N</a>	142.00	<a href="#">1497-F-HXDX-0-N</a>	142.00
500	<a href="#">1497-G-HXJX-0-N</a>	154.00	<a href="#">1497-G-HXDX-0-N</a>	154.00
750	<a href="#">1497-H-HXJX-0-N</a>	217.00	<a href="#">1497-H-HXDX-0-N</a>	217.00
800	<a href="#">1497-J-HXJX-0-N</a>	237.00	<a href="#">1497-J-HXDX-0-N</a>	237.00
1000	<a href="#">1497-K-HXJX-0-N</a>	302.00	<a href="#">1497-K-HXDX-0-N</a>	302.00
1600	—	—	<a href="#">1497-L-HXDX-0-N</a>	446.00
2000	—	—	<a href="#">1497-M-HXDX-0-N</a>	548.00
With 2-Pole Primary and 1-Pole Secondary Top-Mounted Fuse Block * — Fuses Not Included				
63	<a href="#">1497-A-HXJX-3-N</a>	67.20	<a href="#">1497-A-HXDX-3-N</a>	67.20
80	<a href="#">1497-B-HXJX-3-N</a>	67.20	<a href="#">1497-B-HXDX-3-N</a>	67.20
130	<a href="#">1497-C-HXJX-3-N</a>	86.00	<a href="#">1497-C-HXDX-3-N</a>	86.00
200	<a href="#">1497-D-HXJX-3-N</a>	108.00	<a href="#">1497-D-HXDX-3-N</a>	108.00
250	<a href="#">1497-E-HXJX-3-N</a>	129.00	<a href="#">1497-E-HXDX-3-N</a>	129.00
350	<a href="#">1497-F-HXJX-3-N</a>	163.00	<a href="#">1497-F-HXDX-3-N</a>	163.00
500	<a href="#">1497-G-HXJX-3-N</a>	191.00	<a href="#">1497-G-HXDX-3-N</a>	191.00

\* Top-mounted fuse blocks are not available for transformers 750 VA and higher.


Continuous VA	Cat. Nos.			
	<div>Primary 240V (60 Hz)/220V (50 Hz)  240V/ 220V  ↔ INPUT   OUTPUT ↔  24V or 120V/110V</div>			
	Secondary 24V (60 Hz)/ 24V (50 Hz)	Price \$	Secondary 120V (60 Hz)/ 110V (50 Hz)	Price \$
63	1497-A-AXJK-0-N	41.90	1497-A-AXSX-0-N	41.90
80	1497-B-AXJK-0-N	44.10	1497-B-AXSX-0-N	44.10
130	1497-C-AXJK-0-N	62.80	1497-C-AXSX-0-N	62.80
200	1497-D-AXJK-0-N	86.00	1497-D-AXSX-0-N	86.00
250	1497-E-AXJK-0-N	106.00	1497-E-AXSX-0-N	106.00
350	1497-F-AXJK-0-N	142.00	1497-F-AXSX-0-N	142.00
500	1497-G-AXJK-0-N	154.00	1497-G-AXSX-0-N	154.00
750	1497-H-AXJK-0-N	217.00	1497-H-AXSX-0-N	217.00
800	1497-J-AXJK-0-N	237.00	1497-J-AXSX-0-N	237.00
1000	1497-K-AXJK-0-N	302.00	1497-K-AXSX-0-N	302.00
1600	—	—	1497-L-AXSX-0-N	446.00
2000	—	—	1497-M-AXSX-0-N	548.00
With 2-Pole Primary and 1-Pole Secondary Top-Mounted Fuse Block — Fuses Not Included				
63	1497-A-AXJK-3-N	67.20	1497-A-AXSX-3-N	67.20
80	1497-B-AXJK-3-N	67.20	1497-B-AXSX-3-N	67.20
130	1497-C-AXJK-3-N	86.00	1497-C-AXSX-3-N	86.00
200	1497-D-AXJK-3-N	108.00	1497-D-AXSX-3-N	108.00
250	1497-E-AXJK-3-N	129.00	1497-E-AXSX-3-N	129.00
350	1497-F-AXJK-3-N	163.00	1497-F-AXSX-3-N	163.00
500	1497-G-AXJK-3-N	191.00	1497-G-AXSX-3-N	191.00

Top-mounted fuse blocks are not available for transformers 750 VA and higher.

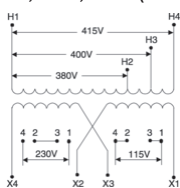


Continuous VA	Cat. Nos.			
	Primary 240/480V (60 Hz) or 220/440V (50 Hz)			
	Secondary 24V (60 Hz) or 24V (50 Hz)	Price \$	Secondary 120V (60 Hz) or 110V (50 Hz)	Price \$
63	1497-A-BAJK-0-N	41.90	1497-A-BASX-0-N	41.90
80	1497-B-BAJK-0-N	44.10	1497-B-BASX-0-N	44.10
130	1497-C-BAJK-0-N	62.80	1497-C-BASX-0-N	62.80
200	1497-D-BAJK-0-N	86.00	1497-D-BASX-0-N	86.00
250	1497-E-BAJK-0-N	106.00	1497-E-BASX-0-N	106.00
350	1497-F-BAJK-0-N	142.00	1497-F-BASX-0-N	142.00
500	1497-G-BAJK-0-N	154.00	1497-G-BASX-0-N	154.00
750	1497-H-BAJK-0-N	217.00	1497-H-BASX-0-N	217.00
800	1497-J-BAJK-0-N	237.00	1497-J-BASX-0-N	237.00
1000	1497-K-BAJK-0-N	302.00	1497-K-BASX-0-N	302.00
1600	—	—	1497-L-BASX-0-N	446.00
2000	—	—	1497-M-BASX-0-N	548.00
With 2-Pole Primary and 1-Pole Secondary Top-Mounted Fuse Block ♣ — Fuses Not Included				
63	1497-A-BAJK-3-N	67.20	1497-A-BASX-3-N	67.20
80	1497-B-BAJK-3-N	67.20	1497-B-BASX-3-N	67.20
130	1497-C-BAJK-3-N	86.00	1497-C-BASX-3-N	86.00
200	1497-D-BAJK-3-N	108.00	1497-D-BASX-3-N	108.00
250	1497-E-BAJK-3-N	129.00	1497-E-BASX-3-N	129.00
350	1497-F-BAJK-3-N	163.00	1497-F-BASX-3-N	163.00
500	1497-G-BAJK-3-N	191.00	1497-G-BASX-3-N	191.00

♣ Top-mounted fuse blocks are not available for transformers 750 VA and higher.

Continuous VA	Cat. Nos.			
	<div>Primary* 600V (60 Hz)/550V (50 Hz)  550V 600V  ↔ INPUT  ↔ OUTPUT  24V or 120V/110V</div>			
	Secondary 24V (60 Hz)/24V (50 Hz)	Price \$	Secondary 120V (60 Hz)/110V (50 Hz)	Price \$
63	1497-A-CXJK-0-N	41.90	1497-A-CXSX-0-N	41.90
80	1497-B-CXJK-0-N	44.10	1497-B-CXSX-0-N	44.10
130	1497-C-CXJK-0-N	62.80	1497-C-CXSX-0-N	62.80
200	1497-D-CXJK-0-N	86.00	1497-D-CXSX-0-N	86.00
250	1497-E-CXJK-0-N	106.00	1497-E-CXSX-0-N	106.00
350	1497-F-CXJK-0-N	142.00	1497-F-CXSX-0-N	142.00
500	1497-G-CXJK-0-N	154.00	1497-G-CXSX-0-N	154.00
750	1497-H-CXJK-0-N	217.00	1497-H-CXSX-0-N	217.00
800	1497-J-CXJK-0-N	237.00	1497-J-CXSX-0-N	237.00
1000	1497-K-CXJK-0-N	302.00	1497-K-CXSX-0-N	302.00
1600	—	—	1497-L-CXSX-0-N	446.00
2000	—	—	1497-M-CXSX-0-N	548.00
With 2-Pole Primary and 1-Pole Secondary Top-Mounted Fuse Block * — Fuses Not Included				
63	1497-A-CXJK-3-N	67.20	1497-A-CXSX-3-N	67.20
80	1497-B-CXJK-3-N	67.20	1497-B-CXSX-3-N	67.20
130	1497-C-CXJK-3-N	86.00	1497-C-CXSX-3-N	86.00
200	1497-D-CXJK-3-N	108.00	1497-D-CXSX-3-N	108.00
250	1497-E-CXJK-3-N	129.00	1497-E-CXSX-3-N	129.00
350	1497-F-CXJK-3-N	163.00	1497-F-CXSX-3-N	163.00
500	1497-G-CXJK-3-N	191.00	1497-G-CXSX-3-N	191.00

\* Transformers with 600V primary do not carry the CE mark.  
\* Top-mounted fuse blocks are not available for transformers 750 VA and higher.

Continuous VA	Cat. Nos.	
	<div>Primary 380V, 400V, 415V (50 Hz)</div> 	
	Secondary 115V/230V (50 Hz)	Price \$
63	1497-A-M4-0-N	61.70
80	1497-B-M4-0-N	65.10
130	1497-C-M4-0-N	89.30
200	1497-D-M4-0-N	114.00
250	1497-E-M4-0-N	123.00
350	1497-F-M4-0-N	156.00
500	1497-G-M4-0-N	176.00
750	1497-H-M4-0-N	243.00
800	1497-J-M4-0-N	259.00
1000	1497-K-M4-0-N	315.00
1600	1497-L-M4-0-N	460.00
2000	1497-M-M4-0-N	573.00
With 2-Pole Primary and 1-Pole Secondary Top-Mounted Fuse Block ⚡ — Fuses Not Included		
63	1497-A-M4-3-N	84.90
80	1497-B-M4-3-N	88.20
130	1497-C-M4-3-N	112.00
200	1497-D-M4-3-N	138.00
250	1497-E-M4-3-N	146.00
350	1497-F-M4-3-N	180.00
500	1497-G-M4-3-N	213.00

\* Transformers with 600V primary do not carry the CE mark.  
⚡ Top-mounted fuse blocks are not available for transformers 750 VA and higher.

Fuse Sizing Charts

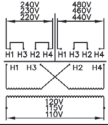
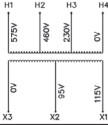
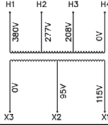
For primary and secondary fuse sizing charts, refer to Publication A115-CA001A-EN-P or Web/CD.

Bulletin 1497A — Control Circuit Transformers

- 50...3000 VA (50/60 Hz)
- Bulletin 1497A Control Circuit Transformers are designed to reduce supply voltages to control circuits. The complete line of transformers is available with optional factory-installed or panel-mount primary and secondary fuse block.
- RoHS Compliant

Product Selection

Transformer without Primary or Secondary Fuse Option

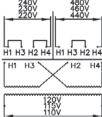
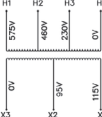
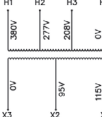
Continuous VA	Cat. Nos.					
	Primary 220x440V, 230x460V, 240x480V (50/60 Hz)		Primary 230/460/575V (50/60 Hz)		Primary 208/277/380V (50/60 Hz)	
						
Secondary 110, 115, 120V		Price \$	Secondary 115/95V	Price \$	Secondary 115/95V	Price \$
50	1497A-A1-M6-0-N		1497A-A1-M7-0-N	0.00	1497A-A1-M8-0-N	0.00
75	1497A-A2-M6-0-N		1497A-A2-M7-0-N		1497A-A2-M8-0-N	
100	1497A-A3-M6-0-N		1497A-A3-M7-0-N		1497A-A3-M8-0-N	
150	1497A-A4-M6-0-N		1497A-A4-M7-0-N		1497A-A4-M8-0-N	
200	1497A-A5-M6-0-N		1497A-A5-M7-0-N		1497A-A5-M8-0-N	
250	1497A-A6-M6-0-N		1497A-A6-M7-0-N		1497A-A6-M8-0-N	
300	1497A-A7-M6-0-N		1497A-A7-M7-0-N		1497A-A7-M8-0-N	
350	1497A-A8-M6-0-N		1497A-A8-M7-0-N		1497A-A8-M8-0-N	
500	1497A-A9-M6-0-N		1497A-A9-M7-0-N		1497A-A9-M8-0-N	
750	1497A-A10-M6-0-N		1497A-A10-M7-0-N		1497A-A10-M8-0-N	
1000	1497A-A11-M6-0-N		1497A-A11-M7-0-N		1497A-A11-M8-0-N	0.00
1500	1497A-A12-M6-0-N	0.00	1497A-A12-M7-0-N		1497A-A12-M8-0-N	0.00
2000	1497A-A13-M6-0-N	0.00	1497A-A13-M7-0-N		1497A-A13-M8-0-N	0.00
3000	1497A-A14-M6-0-N	0.00	—	—	—	—

# Control Circuit Transformers — Single Phase

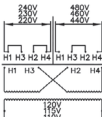


Discount Schedule A1

Product Selection, Continued

## Transformer with 1 Secondary Fuse Option

Continuous VA	Cat. Nos.					
	Primary 220x440V, 230x460V, 240x480V (50/60 Hz)		Primary 230/460/575V (50/60 Hz)		Primary 208/277/380V (50/60 Hz)	
						
	Secondary 110, 115, 120V	Price \$	Secondary 115/95V	Price \$	Secondary 115/95V	Price \$
50	1497A-A1-M6-1-N		1497A-A1-M7-1-N	0.00	1497A-A1-M8-1-N	0.00
75	1497A-A2-M6-1-N		1497A-A2-M7-1-N		1497A-A2-M8-1-N	
100	1497A-A3-M6-1-N		1497A-A3-M7-1-N		1497A-A3-M8-1-N	
150	1497A-A4-M6-1-N		1497A-A4-M7-1-N		1497A-A4-M8-1-N	
200	1497A-A5-M6-1-N		1497A-A5-M7-1-N		1497A-A5-M8-1-N	
250	1497A-A6-M6-1-N		1497A-A6-M7-1-N		1497A-A6-M8-1-N	
300	1497A-A7-M6-1-N		1497A-A7-M7-1-N		1497A-A7-M8-1-N	
350	1497A-A8-M6-1-N		1497A-A8-M7-1-N		1497A-A8-M8-1-N	
500	1497A-A9-M6-1-N		1497A-A9-M7-1-N		1497A-A9-M8-1-N	
750	1497A-A10-M6-1-N		1497A-A10-M7-1-N		1497A-A10-M8-1-N	
1000	1497A-A11-M6-1-N		1497A-A11-M7-1-N		1497A-A11-M8-1-N	0.00
1500	1497A-A12-M6-1-N	0.00	1497A-A12-M7-1-N		1497A-A12-M8-1-N	0.00
2000	1497A-A13-M6-1-N	0.00	1497A-A13-M7-1-N		1497A-A13-M8-1-N	0.00
3000	1497A-A14-M6-1-N	0.00	—	—	—	—

## Transformer with 2 Primary and 1 Secondary Fuse Option

Continuous VA	Cat. Nos.					
	Primary 220x440V, 230x460V, 240x480V (50/60 Hz)		Primary 230/460/575V (50/60 Hz)		Primary 208/277/380V (50/60 Hz)	
						
	Secondary 110, 115, 120V	Price \$	Secondary 115/95V	Price \$	Secondary 115/95V	Price \$
50	1497A-A1-M6-3-N		1497A-A1-M7-3-N	0.00	1497A-A1-M8-3-N	0.00
75	1497A-A2-M6-3-N		1497A-A2-M7-3-N		1497A-A2-M8-3-N	
100	1497A-A3-M6-3-N		1497A-A3-M7-3-N		1497A-A3-M8-3-N	
150	1497A-A4-M6-3-N		1497A-A4-M7-3-N		1497A-A4-M8-3-N	
200	1497A-A5-M6-3-N		1497A-A5-M7-3-N		1497A-A5-M8-3-N	
250	1497A-A6-M6-3-N		1497A-A6-M7-3-N		1497A-A6-M8-3-N	
300	1497A-A7-M6-3-N		1497A-A7-M7-3-N		1497A-A7-M8-3-N	
350	1497A-A8-M6-3-N		1497A-A8-M7-3-N		1497A-A8-M8-3-N	
500	1497A-A9-M6-3-N		1497A-A9-M7-3-N		1497A-A9-M8-3-N	
750	1497A-A10-M6-3-N		1497A-A10-M7-3-N		1497A-A10-M8-3-N	
1000	1497A-A11-M6-3-N		1497A-A11-M7-3-N		1497A-A11-M8-3-N	0.00
1500	1497A-A12-M6-3-N	0.00	1497A-A12-M7-3-N		1497A-A12-M8-3-N	0.00
2000	1497A-A13-M6-3-N	0.00	1497A-A13-M7-3-N		1497A-A13-M8-3-N	0.00
3000	1497A-A14-M6-3-N	0.00	—	—	—	—

## Fuse Sizing Charts



For primary and secondary fuse sizing charts, refer to Publication A115-CA001A-EN-P or Web/CD.

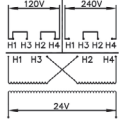
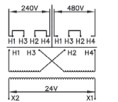
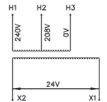
Bulletin 1497B — Control Circuit Transformers



- 50...3000 VA (60 Hz)
- Bulletin 1497B Control Circuit Transformers are designed to reduce supply voltages to control circuits. The complete line of transformers is available with optional factory-installed or panel-mount primary and secondary fuse block.
- RoHS Compliant

Product Selection

Transformers without Fusing Options

Continuous VA	Primary — 600/575/550V (60 Hz) 		Primary — 120x240V (60 Hz) 	
	Secondary — 120/240V (60 Hz)		Secondary — 120/240V (60 Hz)	
	Cat. No.	Price \$	Cat. No.*	Price \$
100	1497B-A3-M11-0-N		1497B-A3-M12-0-N	
200	1497B-A5-M11-0-N		1497B-A5-M12-0-N	
300	1497B-A7-M11-0-N		1497B-A7-M12-0-N	
500	1497B-A9-M11-0-N		1497B-A9-M12-0-N	
750	—	—	1497B-A10-M12-0-N	
1000	1497B-A11-M11-0-N		1497B-A11-M12-0-N	
2000	1497B-A13-M11-0-N		1497B-A13-M12-0-N	
3000	1497B-A14-M11-0-N		1497B-A14-M12-0-N	

Continuous VA	Primary — 120x240V (60 Hz) 		Primary — 240x480V (60 Hz) 		Primary — 208x240V (60 Hz) 	
	Secondary — 24V (60 Hz)		Secondary — 24V (60 Hz)		Secondary — 24V (60 Hz)	
	Cat. No.	Price \$	Cat. No.	Price \$	Cat. No.	Price \$
50	1497B-A1-M13-0-N		1497B-A1-M16-0-N		1497B-A1-M17-0-N	
75	1497B-A2-M13-0-N		—	—	—	—
100	1497B-A3-M13-0-N		1497B-A1-M16-0-N		1497B-A1-M17-0-N	
150	1497B-A4-M13-0-N		1497B-A4-M16-0-N		1497B-A4-M17-0-N	
200	1497B-A5-M13-0-N		—	—	—	—
250	1497B-A6-M13-0-N		1497B-A6-M16-0-N		1497B-A6-M17-0-N	
300	1497B-A7-M13-0-N		—	—	—	—

Continuous VA	Primary — 240x480V (60 Hz) 		Primary — 380/400/416V (60 Hz) 	
	Secondary — 120/240V (60 Hz)		Secondary — 115/230V (60 Hz)	
	Cat. No.	Price \$	Cat. No.*	Price \$
500	1497B-A9-M14-0-N		1497B-A9-M15-0-N	
750	1497B-A10-M14-0-N		1497B-A10-M15-0-N	
1000	1497B-A11-M14-0-N		1497B-A11-M15-0-N	
1500	1497B-A12-M14-0-N		1497B-A12-M15-0-N	
2000	1497B-A13-M14-0-N		1497B-A13-M15-0-N	
3000	1497B-A14-M14-0-N		1497B-A14-M15-0-N	


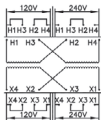
\* No secondary fusing available

# Control Circuit Transformers — Single Phase

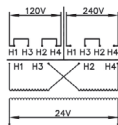
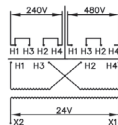
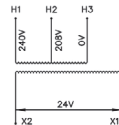
Discount Schedule A1

Product Selection, Continued

## Transformers with 2 Primary and 0 Secondary Fuse Options

Continuous VA	Primary — 600/575/550V (60 Hz)		Primary — 120x240V (60 Hz)	
				
	Secondary — 120/240V (60 Hz)		Secondary — 120/240V (60 Hz)	
	Cat. No.	Price \$	Cat. No.	Price \$
100	1497B-A3-M11-2-N		1497B-A3-M12-2-N	
200	1497B-A5-M11-2-N		1497B-A5-M12-2-N	
300	1497B-A7-M11-2-N		1497B-A7-M12-2-N	

## Transformers with 0 Primary and 1 Secondary Fuse Options

Continuous VA	Primary — 120x240V (60 Hz)		Primary — 240x480V (60 Hz)		Primary — 208x240V (60 Hz)	
						
	Secondary — 24V (60 Hz)		Secondary — 24V (60 Hz)		Secondary — 24V (60 Hz)	
	Cat. No.	Price \$	Cat. No.	Price \$	Cat. No.	Price \$
50	1497B-A1-M13-1-N		1497B-A1-M16-1-N		1497B-A1-M17-1-N	
75	1497B-A2-M13-1-N		—	—	—	—
100	1497B-A3-M13-1-N		1497B-A3-M16-1-N		1497B-A3-M17-1-N	
150	1497B-A4-M13-1-N		1497B-A4-M16-1-N		1497B-A4-M17-1-N	
200	1497B-A5-M13-1-N		—	—	—	—
250	1497B-A6-M13-1-N		1497B-A6-M16-1-N		1497B-A6-M17-1-N	
300	1497B-A7-M13-1-N		—	—	—	—



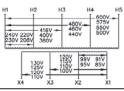


Bulletin 1497D — General Purpose Transformers (Indoor/Outdoor)

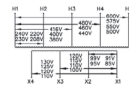
- 0.050...25.0 kVA
- Bulletin 1497D General Purpose Transformers are generally used for supplying appliance lighting, motorized machine, and power loads from electrical distribution systems.

Product Selection

Continuous kVA	Frequency	Temperature Rise (°C/°F)	Tap Quantity	Cat. Nos.	
				Primary — 240x480V (50/60 Hz)	
				Secondary 120/240V	Price \$
0.050	60	115 (239)	—	1497D-A1-M10-0-N	0.00
	50/60			1497D-A1-M14-0-N	0.00
0.075	60			1497D-A2-M10-0-N	0.00
	50/60			1497D-A2-M14-0-N	0.00
0.100	60			1497D-A3-M10-0-N	0.00
	50/60			1497D-A3-M14-0-N	0.00
0.150	60			1497D-A4-M10-0-N	0.00
	50/60			1497D-A4-M14-0-N	0.00
0.250	60			1497D-A6-M10-0-N	0.00
	50/60			1497D-A6-M14-0-N	0.00
0.500	60			1497D-A9-M10-0-N	0.00
	50/60			1497D-A9-M14-0-N	0.00
0.750	60			1497D-A10-M10-0-N	0.00
	50/60			1497D-A10-M14-0-N	0.00
1.0	60			1497D-A11-M10-0-N	0.00
	50/60			1497D-A11-M14-0-N	0.00
1.5	60			1497D-A12-M10-0-N	0.00
	50/60			1497D-A12-M14-0-N	0.00
2.0	60			1497D-A13-M10-0-N	0.00
	50/60			1497D-A13-M14-0-N	0.00
3.0	60			1497D-A14-M10-0-N	0.00
	50/60			1497D-A14-M14-0-N	0.00
5.0	60			1497D-A15-M10-0-N	0.00
	50/60			1497D-A15-M14-0-N	0.00
7.5	60			1497D-A16-M10-0-N	0.00
	50/60			1497D-A16-M14-0-N	0.00
10.0	60			1497D-A17-M10-0-N	0.00
	50/60			1497D-A17-M14-0-N	0.00
15.0	60			1497D-A18-M10-0-N	0.00
	50/60			1497D-A18-M14-0-N	0.00
25.0	60			1497D-A19-M10-0-N	0.00
	50/60			1497D-A19-M14-0-N	0.00



Continuous kVA	Frequency	Temperature Rise (°C/°F)	Tap Quantity	Cat. Nos.	
				Primary 480V (50/60 Hz)	
				Secondary 120/240V	Price \$
0.050	60	115 (239)	—	1497D-A1-M21-0-N	0.00
0.075	60		—	1497D-A2-M21-0-N	0.00
0.100	60		—	1497D-A3-M21-0-N	0.00
0.150	60		—	1497D-A4-M21-0-N	0.00
0.250	60		—	1497D-A6-M21-0-N	0.00
	50/60		(2) 5% FCBN	1497D-A6-M22-0-2	0.00
0.500	60		—	1497D-A9-M21-0-N	0.00
	50/60		(2) 5% FCBN	1497D-A9-M22-0-2	0.00
0.750	60		—	1497D-A10-M21-0-N	0.00
	50/60		(2) 5% FCBN	1497D-A10-M22-0-2	0.00
1.0	60		—	1497D-A11-M21-0-N	0.00
	60		(2) 5% FCBN	1497D-A11-M21-0-2	0.00
	50/60		(2) 5% FCBN	1497D-A11-M22-0-2	0.00
1.5	60		—	1497D-A12-M21-0-N	0.00
	60		(2) 5% FCBN	1497D-A12-M21-0-2	0.00
	50/60		(2) 5% FCBN	1497D-A12-M22-0-2	0.00
2.0	60		—	1497D-A13-M21-0-N	0.00
	60		(2) 5% FCBN	1497D-A13-M21-0-2	0.00
	50/60		(2) 5% FCBN	1497D-A13-M22-0-2	0.00
3.0	60		—	1497D-A14-M21-0-N	0.00
	60		(2) 5% FCBN	1497D-A14-M21-0-2	0.00
	50/60		(2) 2.5% FCAN (2) 2.5% FCBN	1497D-A14-M21-0-22	0.00
			(2) 5% FCBN	1497D-A14-M22-0-2	0.00
5.0	60		(2) 5% FCBN	1497D-A15-M21-0-2	0.00
	60		(2) 2.5% FCAN (2) 2.5% FCBN	1497D-A15-M21-0-22	0.00
	50/60		—	1497D-A15-M22-0-N	0.00
7.5	60		(2) 5% FCBN	1497D-A16-M21-0-2	0.00
	60		(2) 2.5% FCAN (2) 2.5% FCBN	1497D-A16-M21-0-22	0.00
	50/60		—	1497D-A16-M22-0-N	0.00
10.0	60		(2) 5% FCBN	1497D-A17-M21-0-2	0.00
	60		(2) 2.5% FCAN (2) 2.5% FCBN	1497D-A17-M21-0-22	0.00
	50/60		—	1497D-A17-M22-0-N	0.00
15.0	60		(2) 5% FCBN	1497D-A18-M21-0-2	0.00
	60		(2) 2.5% FCAN (2) 2.5% FCBN	1497D-A18-M21-0-22	0.00
	50/60		—	1497D-A18-M22-0-N	0.00
25.0	60		(2) 5% FCBN	1497D-A20-M21-0-2	0.00
	60		(2) 2.5% FCAN (2) 2.5% FCBN	1497D-A20-M21-0-22	0.00
	50/60		—	1497D-A20-M22-0-N	0.00

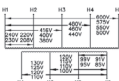


General Purpose Transformers — Single Phase

Discount Schedule A1

Product Selection, Continued

Continuous kVA	Frequency	Temperature Rise (°C/°F)	Tap Quantity	Cat. Nos.	
				Primary 600V (50/60 Hz)	
				Secondary 120/240V	Price \$
0.050	60	115 (239)	—	1497D-A1-M11-0-N	0.00
0.075	60		—	1497D-A2-M11-0-N	0.00
0.100	60		—	1497D-A3-M11-0-N	0.00
	50/60		—	1497D-A3-M23-0-N	0.00
0.150	60		—	1497D-A4-M11-0-N	0.00
0.250	60		—	1497D-A6-M11-0-N	0.00
	50/60		—	1497D-A6-M23-0-N	0.00
	50/60		(2) 5% FCBN	1497D-A6-M23-0-2	0.00
0.500	60		—	1497D-A9-M11-0-N	0.00
	50/60		—	1497D-A9-M23-0-N	0.00
	50/60		(2) 5% FCBN	1497D-A9-M23-0-2	0.00
0.750	60		—	1497D-A10-M11-0-N	0.00
	50/60		(2) 5% FCBN	1497D-A10-M23-0-N	0.00
1.0	60		—	1497D-A11-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A11-M11-0-2	0.00
	50/60		(2) 5% FCBN	1497D-A11-M23-0-2	0.00
1.5	60		—	1497D-A12-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A12-M11-0-2	0.00
2.0	60		—	1497D-A13-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A13-M11-0-2	0.00
3.0	60		—	1497D-A14-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A14-M11-0-2	0.00
	50/60		(2) 5% FCBN	1497D-A14-M23-0-2	0.00
5.0	60		—	1497D-A15-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A15-M11-0-2	0.00
7.5	60		—	1497D-A16-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A16-M11-0-2	0.00
10.0	60		—	1497D-A17-M11-0-N	0.00
	60		(2) 5% FCBN	1497D-A17-M11-0-2	0.00
15.0	60		—	1497D-A18-M11-0-N	0.00
	60		(4) 5% FCBN	1497D-A18-M11-0-4	0.00
25.0	60		—	1497D-A20-M11-0-N	0.00
	60		(4) 5% FCBN	1497D-A20-M11-0-4	0.00



Fuse Sizing Charts

For primary and secondary fuse sizing charts, refer to Publication A115-CA001A-EN-P or Web/CD.

Accessories

Fuse Block Kits — For Use when Fuse Block is Not Integrated with the Transformer



Cat. No. 1491-R165



Cat. No. 1491-R171



Cat. No. 1491-R167



Cat. No. 1491-R169



Cat. No. 1491-R150

These control circuit fusing kits are intended to be used for control circuit transformer protection and protection of control circuits capable of delivering no more than 200 000 RMS symmetrical amps, 600V maximum.

Description*	Cat. No.	Price \$
Fuse Cover — Per Pole	1491-R150	11.80
One-Pole Kit — Panel-Mounted (Midget Fuse)*	1491-R165	29.00
Two-Pole Kit — Panel-Mounted (Two Class CC Fuses)*	1491-R162	43.00
Two-Pole Kit — Panel-Mounted (Two Midget Fuses)*	1491-R167	39.90
Three-Pole Kit — Panel-Mounted (One Midget Fuse/Two Class CC Fuses)*	1491-R169	49.00
Three-Pole Kit — Panel-Mounted (Three Class CC Fuses)*	1491-R171	49.00
Single-Pole Kit — Bulletin 500 Line Controller Mounted (Class CC Fuses)‡	599-FR04	44.30
One-Pole Kit — Panel-Mounted (31...60 A Class J Fuse)	1491-R173	62.60
One-Pole Kit — Panel-Mounted (61...100 A Class J Fuse)	1491-R175	75.80

\* For control circuit transformers with a 350 VA or larger rating, it is recommended that Bussmann Type FNQ-R, Ferraz-Shawmut Type ATDR, Littelfuse Type KLDR time delay fuses, or equivalent be used for primary fusing.

\* These kits use only Class CC or Midget fuses (rated 0.5...30 A) such as those offered by the following manufacturers:

- Bussmann KTK-R
- Ferraz-Shawmut ATM R
- Littelfuse KLK

‡ Cat. No. 599-FR04 is rated for 6 A fuse maximum. Controller mounting applies to size 0...5 devices only.