Bulletin 700-N Industrial Relay

Bulletin 700-N — Industrial Relay

- Contact cartridges convertible from N.O. to N.C. and vice versa
- NEMA A300 AC
- 24…250V AC coils
- Pneumatic timing unit
- Solid-state timing unit
- Overlap contacts
- Logic reed contacts
- 4-…8-pole

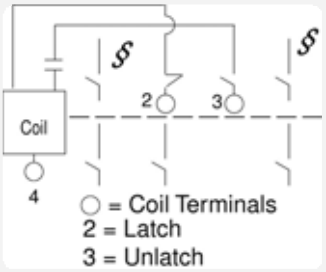
Standards Compliance

- UL 508
- CSA C22.2, No. 14

Certifications

- cULus (File No. E14840, Guide NKCR/NKCR7)

AC-Operated Relays

	Contacts★ ‡		Contact Arrangement	Open Type
	N.O.	N.C.		Cat. No.
	4	—		700-N400⊗
Type NM Relay 2 Poles§	2	—		700-NM200⊗

⊗ 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-N200**⊗ becomes **Cat. No. 700-N200A24** for 24V 60 Hz. For other coil voltages, contact your local Rockwell Automation sales office or Allen-Bradley distributor.

[V]	24	110	120	208	220	240
50 Hz	—	A1	—	—	A2	—
60 Hz	A24	—	A1	A20	—	A2

⋆ **NORMALLY CLOSED CONTACTS:** Listed relays are supplied with all contacts normally open. These contacts can be readily converted to normally closed in the field.

‡ **OVERLAP CONTACTS:** Overlap contacts (normally open contact closes before the normally closed contact opens) can be supplied. See for information on kits for field installation of overlap contact cartridges.

♣ Location of contacts in 2-pole relays

§ Permanent Magnet Latch AC Relay. Mimimum Operating Time - Type NM - For reliable operation, power to the latch circuit **must be** maintained for a minimum time of 75 milliseconds and power to the unlatch circuit **must be** maintained for minimum time of 50 milliseconds.

Operating Coils

	Coil Voltage	Bulletin 700-N Relay • 2-...8-Pole	
		60 Hz	50 Hz
Bulletin 700-N Operating Coil	24	84AB27	84AB28
	110	84AB01	84AB86
	120	84AB86	—
	208	84AB113	—
	220	84AB06	84AB83
	240	84AB83	—

AC-Operated Relays with Pneumatic Timing Unit⋆ ‡ §

	Description	Instantaneous Contacts		Contact Arrangement	Open Type
		N.O.	N.C.		Cat. No.
	Electrically Held AC Relay	2	—		700-NT200⊗
		4	—		700-NT400⊗

⊗ 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-NT200** ⊗ becomes **Cat. No. 700-NT200A24**. For other coil voltages, contact your local Allen-Bradley Distributor.

Voltage	24V	32V	48V	64V	110V	115...125V	120V	208V	220V	230...250V	240V
50 Hz	B24	B32	B48	B64	A1	—	—	B20	A2	—	—
60 Hz	A24	A32	A48	A64	—	—	A1	A20	—	—	A2

⋆ **NORMALLY CLOSED CONTACTS:** Listed relays are supplied with all contacts normally open. These contacts can be readily converted to normally closed in the field. Relays having combinations of normally open and normally closed contacts can be supplied.

‡ **OVERLAP CONTACTS:** Overlap contacts (normally open contact closes before the normally closed contact opens) can be supplied. See Accessories for information on kits for field installation of overlap contact cartridges.

§ **BIFURCATED CONTACTS:** To order a relay with bifurcated contacts, add the letter "B" after the letter "T" in the Cat. No. Example: **Cat. No. 700-NT200A1** becomes **Cat. No. 700-NTB200A1**.

Bulletin 700-NT Pneumatic Timing Unit

	Description	Timed Contacts		Contact Arrangement	Open Type
		N.O.	N.C.		Cat. No.
Cat. No. 700-NT	**Timing Unit Only** (for Bulletin 700-N, 2...4-pole)	1	1	ON-Delay mode is standard. Timer is easily converted to OFF-Delay mode.	700-NT

Bulletin 852S Solid-State Timing Unit for Mounting on Bulletin 700-N Relays⋆

(Supplied as On-Delay. Easily Converted to Off-Delay Mode) Input: 110V/50 Hz, 120V/60 Hz; Output: NEMA B300, Sealed Contacts

Timing Unit with Self-Contained Potentiometer		
Minimum Time [s]	**Minimum Time [s]**	**Cat. No.**
0.1	5.0	852S-NSA
0.5	30.0	852S-NSB
1.0	60.0	852S-NSC

Timing Unit Only				External Potentiometer	
Minimum Time [s]	**Maximum Time [s]**	**Cat. No.**		**Resistance**	**Cat. No.**
0.1	0.21	‡	852S-A‡	15 kΩ	800T-U34
	0.35			25 kΩ	800T-U37
	0.70			50 kΩ	800T-U41
	1.10			75 kΩ	800T-U46
	1.50			100 kΩ	800T-U49
	2.10			150 kΩ	800T-U50
	5.6			400 kΩ	800T-U54
	7.0			500 kΩ	800T-U55
	14.0			1 MΩ	800T-U57
	29.0			2 MΩ	800T-U59
1.0	2.0	852S-C		50 kΩ	800T-U41
	4.0			100 kΩ	800T-U49
	8.0			200 kΩ	800T-U51
	16.0			400 kΩ	800T-U54
	32.0			800 kΩ	800T-U56
	40.0			1 MΩ	800T-U57
	80.0			2 MΩ	800T-U59
	120.0			3 MΩ	800T-U62
	160.0			4 MΩ	800T-U64

⋆ The maximium time is fixed by component characteristics and may be up to 70% greater than listed

‡ These timing relays require an external potentiometer. To order an external potentiometer, refer to right side of table.

	Description			Cat. No.
	**Relay Rail** 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, 700DC-P, 700S-P, 700N, 700-R, 700-RTC	Relays per strip 4		700-MP4
		8		700-MP8
		12		700-MP12
Universal Mounting Strip		16		700-MP16
	DIN Rail Adapter	—		700-DRA
Cat. No. 700-DRA				
	**Front Deck** Front decks can be attached to Bulletin 700 4-pole relays. Provides up to 4 additional convertible poles – without changing the mounting area.	Front Deck without Contact Cartridges		700-NA00
Cat. No. 700-NA00				
	**Standard Contact Cartridges** Available for adding to both rear deck and front deck.	Rear Deck Contact Cartridge	⋆	700-C1
		Front Deck Contact Cartridge	⋆	700-C2

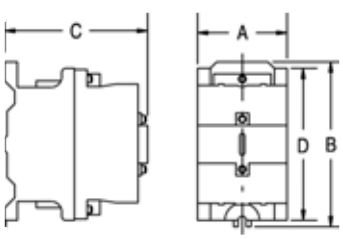
	**Gold-Plated Contact Cartridges** May be used in low power circuits to improve reliability. Good for long term storage, because gold resists corrosion.	Rear Deck Contact Cartridge	*	700-C1X
		Front Deck Contact Cartridge	*	700-C2X
	**Logic Reed Cartridges** Cartridges are hermetically sealed contact for low energy switching.	Rear Deck Contact Cartridge (150V AC, 150 mA, 8VA Max.) (30V DC, 60 mA Max.)	*	700-C1R
	**Bifurcated Contact Cartridges** Cartridges are less apt to open because of vibration and shock.	Rear Deck Contact Cartridge	*	700-C1B
		Front Deck Contact Cartridge	*	700-C2B
	**Overlap Contact Cartridges** Cartridges are available in pairs. The N.O. contact closes before the N.C. contact opens. 300V AC max. 125V DC max.	Rear Deck Contact Cartridge (1 pair in a package)	*	700-C11Z
Cat. No. 700-C11Z		Front Deck Contact Cartridge (1 pair in a package)	*	700-C22Z
	Timing Unit Replacement (Bifurcated) Contact Cartridge for Bulletin 700-NT relay	Timing Unit Deck Contact Cartridge	*	X-457011
	**Jumpers** (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.	Jumper for middle pole to outer poles	700-N3	
Cat. No. 700-N4,-N3		Jumper for middle poles	700-N4	
	Gold-Plated Contact Timing Unit Replacement Cartridge	—	*	40163-447-03
	**Surge Suppressors (RC Circuit) —** 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.	For mounting behind relay (1 in. additional depth needed)	700-N5	
Cat. No. 700-N5		For mounting on coil terminal	700-N24	
	**Check Out Tool** Mechanically maintains the Bulletin 700-N relay in operated position.	Check Out Tool for Bulletin 700-N AC relay	700-N21	
Cat. No. 700-N21				

* All contact cartridges are convertible (N.O. or N.C.).

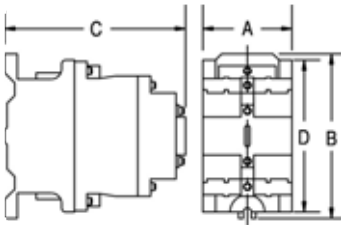
		Bul. 700-N		Bul. 700-NT
Electrical Ratings				
Rated Thermal Current I_{th}		10 A		
Rated Insulation Voltage		300V		
Contact Rating		10 A @ 300V AC, NEMA A300		
Coil Voltage Range	AC	85...110%		—
	DC	80...110%		—
Coil Consumption				
		50 Hz	**60 Hz**	—
AC	Inrush	120 VA	133 VA	—
	Sealed	24 VA	20 VA	—
Mechanical				
		AC		—
Max. Operating Time	Pickup	14 ms		—
	Drop Out	13 ms		—
Timing Range		—		0.2...60 s
Repeat Accuracy		—		±15% of setting
Reset Time		—		75 ms
Timing Mode		—		On-Delay — convertible to OFF Delay, up to 2 poles convertible to N.O. or N.C.
Construction				
Contact Arrangement		Up to 8 Poles, Convertible to N.O. or N.C.		—
Contact Material		Silver		Silver
Mounting		Panel or strip mount Horizontal mounting recommended		On relay only
Environmental				
Ambient Temperature (Outside Enclosure)	Operating	-20...+40 °C (-4...+104 °F)		
	Storage	-40...+60 °C (-40...+140 °F)		
Operating Temperature Rise (Inside Enclosure)		+25 °C Max		—
Wire Terminations				
Wire size per UL/CSA		#18 AWG...(2) #12 AWG		
Tightening Torque		8...12 lb•in. (0.9...1.4 N•m)		

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Type of Relay		No. of Poles	Open Type Without Enclosure					Approx. Ship. Wt. kg (lbs.)	Type 1 General Purpose Enclosure					Approx. Ship. Wt. kg (lbs.)
			Drawing Number	A Wide	B High	C Deep	D		A Wide	B High	C Deep	D	E	
N	Bulletin 700	2...4	1	57.15 (2-1/4)	88.90 (3-1/2)	82.55 (3-1/4)	79.38 (3-1/8)	0.68 (1-1/2)	107.95 (4-1/4)	185.74 (7-5/16)	103.19 (4-1/16)	146.05 (5-3/4)	85.73 (3-3/8)	1.59 (3-1/2)
	Bulletin 700	6...8	2	57.15 (2-1/4)	88.90 (3-1/2)	106.36 (4-3/16)	79.38 (3-1/8)	0.79 (1-3/4)	112.71 (4-7/16)	228.60 (9)	120.65 (4-3/4)	206.38 (8-1/8)	92.08 (3-5/8)	2.27 (5)
N with Pneumatic Timer	Bulletin 700	2...4	3	57.15 (2-1/4)	88.90 (3-1/2)	138.11 (5-7/16)	79.38 (3-1/8)	0.91 (2)	—	—	—	—	—	—
N with Solid-State Timer	Bulletin 700	2...4	3	57.15 (2-1/4)	88.90 (3-1/2)	160.34 (6-5/16)	79.38 (3-1/8)	1.02 (2-1/4)	—	—	—	—	—	—



Drawing Number 1



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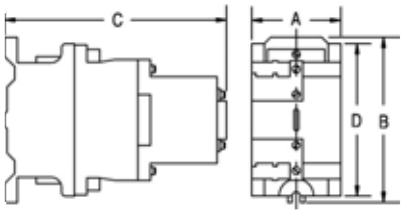

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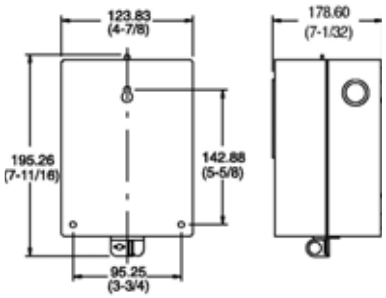
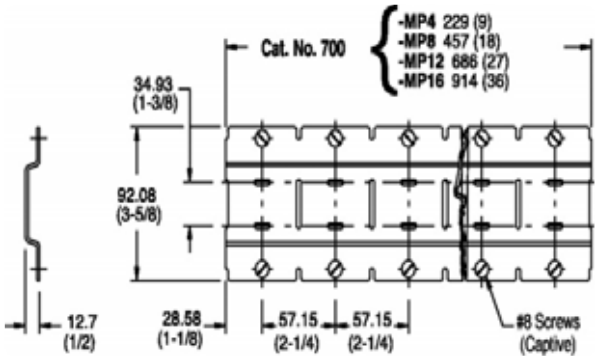
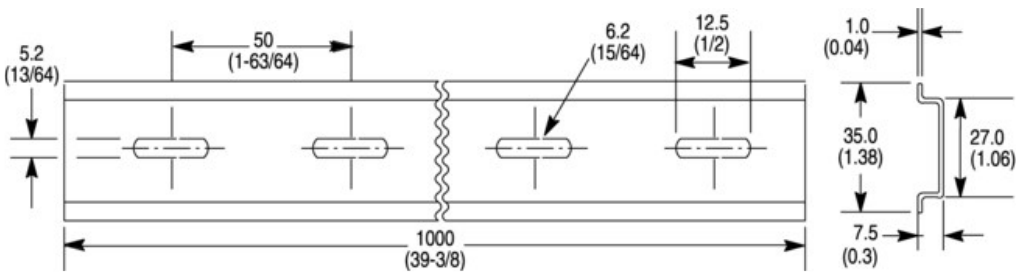


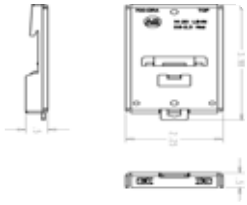
Type 1 Enclosure



Relay Rail for Bulletin 700-P, -PH, -PK, -N, -NM, -R, -RM, -RT, -RTA Relays

Secure the mounting strip with 2 screws at each end relay position. Use a minimum of one screw at the 3rd, 5th, 7th, etc. relay positions. Alternate between upper and lower horizontal slots.





DIN Rail Adapter