



1/16 DIN Bar Graph Display Timer

- Digital Setting with 0.1% Accuracy
- Unique LED Bargraph Indicates Time Cycle in 20% Increments
- Instantaneous and Delayed Relay (SPDT) Version
- Delayed Relay Version (DPDT)
- Output Contacts Rated 10A at 120/240 VAC and 30 VDC
- Timing Ranges:  
0 to 9.99, 99.9 and 999 SEC., MIN, and hours
- Universal Power Supply: 24-240 VAC and 24 VDC
- 48mm<sup>2</sup> DIN Standard Housing
- Round (Octal) Socket Mount or Mount in Panel Cutout
- Range Switches are Tamper Proof When Panel Mounted
- EEPROM Memory Available as an *Option* for Applications Requiring Memory
- *Optional* Pulsed Output Version Available

The 423A is set digitally by rotating each setting knob. This digital setting allows exact, accurate and repeatable timing cycles.

The 423A utilizes a crystal controlled oscillator which provides 0.1% timing accuracy across all rated voltages and temperatures.

**INSTANTANEOUS AND DELAYED RELAY VERSIONS:** A version of the 423A is available with one set of SPDT instantaneous contacts and one set of SPDT delayed contacts. The instantaneous contacts transfer as soon as the timer is powered. The delayed contacts transfer at time out. This contact arrangement can be used to replace many conventional timers.

**TWO DELAYED RELAY VERSION:** A version of the 423A is available with a set of DPDT output contacts. Both delayed contacts transfer at time out.

**UNIVERSAL POWER SUPPLY:** The 423A can be powered using 24-240 VAC or 24 VDC power, greatly simplifying ordering and inventory management of replacement units.

**1/16 DIN HOUSING:** The 48mm<sup>2</sup> (1/16 DIN) housing is compact. The 423A is mounted in an 8-pin round (octal) socket. With an optional mounting clip, the 423A can be panel mounted. Positive indication of the setpoint is shown on the front of the 423A. Each digit can be changed by rotating the setting knobs. The decimal point and SEC./MIN/HR/ range are also clearly displayed. The decimal point and SEC./MIN/HR select switches are located on the side of the unit, so that when panel mounted, these switches are not accessible to the operator. This tamper proof feature prevents unauthorized or hazardous changes to the timing range from being made.

**CYCLE PROGRESS INDICATION:** The 423A LED bargraph indicator provides a unique and effective method of cycle progress indication. Off before timing, the first of five LED's blinks for the first 20% of the timing cycle. After the first 20%, this LED stays on and the next LED blinks. This operation continues for all 5 LED's until the timing cycle is complete. When timed out, all 5 LED's remain on providing positive indication to the operator.

MODEL NUMBER >>>>>>	423A				
	Range				
	0 to 9.99 or 99.9 or 999 SEC, MIN, HR	300			
	Voltage & Frequency				
	24 to 240 VAC (50/60 Hz) and 24 VDC	F			
	24 VDC (low inrush current for short circuit protected sensors)	N			
	Output Arrangement				
	Instantaneous Relay (SPDT), Delay Relay (SPDT)	10			
	Instantaneous Relay (SPDT), Pulsed Relay (SPDT)	15			
	Delay Relay (DPDT)	20			
	Pulsed Relay (DPST)	25			
	Memory				
	Standard-No Memory	X			
	With Memory (EEPROM)	M			
	Features				
	Standard	X			
	Special	K			
	Accessories				
	8-Pin surface/DIN rail socket	0000-825-85-00			
	Hold down for above socket	0407-025-07-00			
	Panel mounting bracket	0405-320-02-00			
	Plug-in socket kit (8-pin)	0319-261-45-00			
	8-Pin panel socket with rear facing terminals	0000-825-87-00			

**MEMORY & PULSED OUTPUT:** As options, the 423A can be ordered with EEPROM memory or a pulsed output. The EEPROM memory option allows the 423A to retain its position in the timing cycle when power is removed.

The Pulsed Output option provides a 250ms pulse using the 423A's delayed relay(s). This provides a short, momentary signal at the end of a timing cycle.

## OPERATIONS

Timing begins when power is applied to terminals 2 & 7.

The 423A's microcontroller accumulates counts from a crystal oscillator until the target number of counts, as determined by the setting knobs, the decimal point switch and the SEC/MIN/hours switch on the front of the unit is reached. During timing 5 LED's illuminate indicating the current position in the timing cycle. For the first 20% of the timing cycle, the first LED blinks. For the second 20% of the timing cycle, the second LED blinks while the first stays on. The bargraph continues to fill with illuminated LED's until 100% of the timing cycle is complete. The entire LED bargraph remains illuminated after time out.

The timing cycle resets to 0 if power is removed. For 423A models with the memory option, the current position in the timing cycle is stored before power is lost. Upon restoration of power, the timing cycle continues from where it was left off.

Note: The only way to reset a 423A model with memory is to allow it to time out first and then remove power.

**MODEL...F10XX OR...F10MX:** The instantaneous contacts (3-1-4) transfer immediately after power is applied to terminals 2 & 7. The delayed contacts (6-8-5) transfer after the timing cycle is complete. Both contacts remain transferred until the unit is reset by removing power.

**MODEL...F20XX OR...F20MX:** At time out, the DPDT relay transfers its contacts. These contacts remain transferred until power is removed. The 423A then resets and is ready for another cycle.

**MODEL...F15XX OR...F15MX:** The instantaneous contacts (3-1-4) transfer immediately after power is applied to terminals 2 & 7. The pulsed contacts (6-8-5) transfer for 250 ms upon completion of the timing cycle. The instantaneous contacts remain transferred until the unit is reset by removing power.

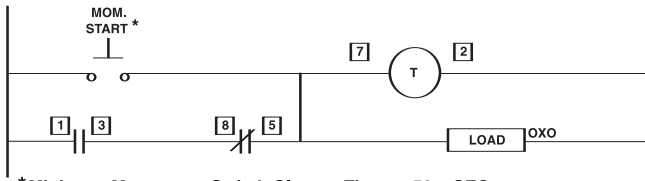
**MODEL...F25XX OR...F25MX:** At time out, the pulsed DPST relay transfers its contents for 250ms. The unit remains timed out until power is removed. The 423A is then reset and ready for another cycle.

## SPECIFICATIONS

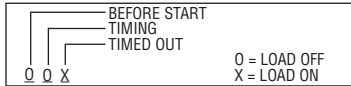
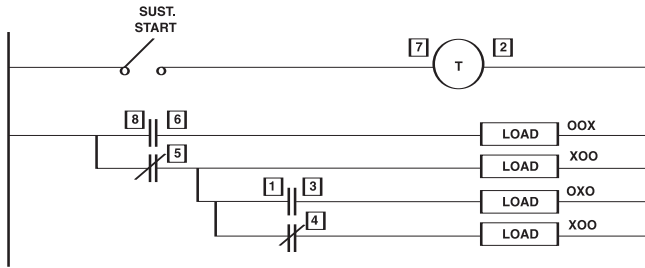
MODELS (4 TYPES)	ON-Delay with Instantaneous and Delayed Relays	
	ON-Delay with Instantaneous and Pulsed Relays	
	ON-Delay with Two Delayed Relays	
	ON-Delay with Two Pulsed Relays	
All available with EEPROM Memory as an option		
CONTACT RATING	Rated 10 AMPS resistive at 30 VDC or 250 VAC (or less)	
	1/8 HP @ 120 VAC	
	1/4 HP @ 240 VAC 240 VA @ 240 VAC	
LIFE	10 million operations with no load 100,000 operations with: 10 AMPS at 30 VDC (or less) or 10 AMPS at 250 VAC (or less) @ 50°C	
CONTACT MATERIAL	Cadmium Silver Oxide	
TEMPERATURE RATING	0 to 140°F (-18°C to 60°C)	
NOISE IMMUNITY	Showering ARC per NEMA ICS 2-230. In addition, the 423A will withstand a voltage surge of 4500 volts for 50 µsec. without damage.	
MOUNTING	Plug-in octal base; mounts in any position with retaining clips.	
	Options: Surface mounting DIN mounting socket Panel-mounting adapter kit Plug-on socket kit	
POWER REQUIREMENTS	Universal power supply - reverse polarity protected Unit will accept power from 24 to 240 VAC, 50 or 60 Hz, (+10%, -20%) 24 VDC (+20%, -20%)	
	AC	Inrush - 1.5 Amps Power required - 1.2 watts
	DC	Maximum ripple @ 100 Hz - 10% Current required - 50 mA Power required - 1.2 watts "F" option - Peak inrush current= 2 AMPS @ 24 VDC "N" option - Peak inrush current=150 mA @ 24 VDC
REPEAT ACCURACY	±0.1% over all rated voltages (crystal controlled)	
RESET	a	0 to 20 mSEC power interruption: guaranteed no reset
	b	20 to 65 mSEC; it may reset (40 mSEC typical reset)
	c	Over 65 mSEC guaranteed to reset
The TDR will reset properly and not start timing when subjected to an open start switch leakage of 1.5 mA or less. (Prox. switch and Triac drive applications)		
MEMORY (optional)	EEPROM 100,000 read/write cycles	
WEIGHT	5 oz., (140 g)	

## TYPICAL CIRCUITS

423A...F10...X

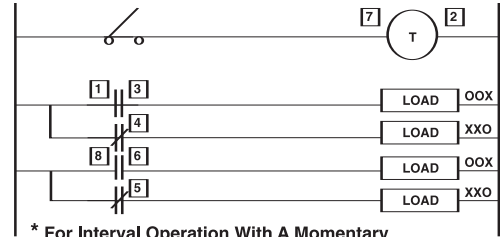


\* Minimum Momentary Switch Closure Time — 50 mSEC



Note: For Pulsed Relay models, Timed Out State is active for only 250 ms.

423A...F20...X



\* For Interval Operation With A Momentary Start Switch, Jumper 7 & 3

For Repeat Cycle Pulse Operation

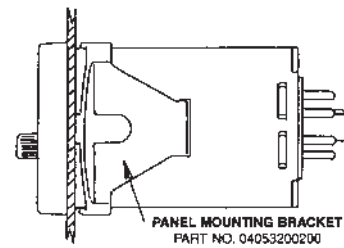
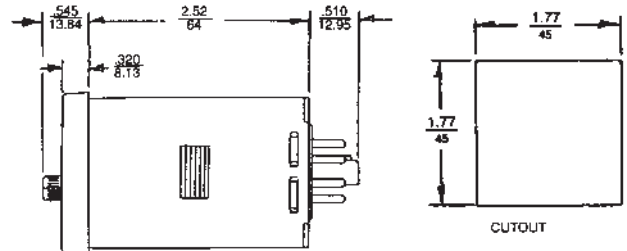
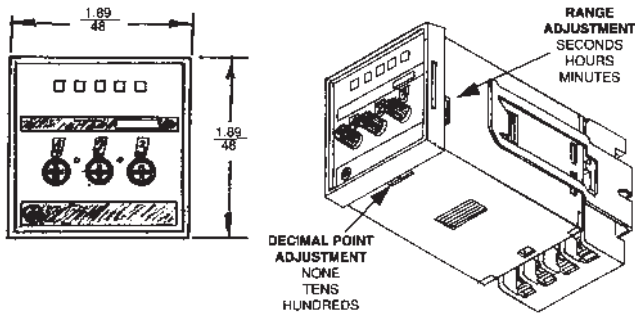


\* Load Will Pulse On For 30 — 60 mSEC



Note: For Pulsed Relay models, Timed Out State is active for only 250 ms.

## DIMENSIONS (INCHES/MILLIMETERS)



## WIRING

