



Description

The Model 83 Timer is available in single or dual preset models. The 83 Timer features a 7 segment, 2 lines by 6-digit backlit LCD display. The main display line is red and shows the timer value. The smaller secondary display line is green and can be used to view the preset values or output time values.

The 83 Timer can be configured for a variety of different operating modes to meet most timing application requirements. Twelve timing ranges are available from thousands of a second to hours and minutes. Decimal points are used to separate the time units (hours, minutes, seconds). Timing can be cumulative or can reset and start upon each power cycle. "on delay" or "off delay", "single shot", "repetitive auto cycling" modes are all supported.

The 83 Timer can also be configured to continue or stop timing upon reaching preset. The display can be programmed to stop at the preset value (reset to zero mode) or zero (reset to preset mode), or automatically reset to zero or preset and hold. Once stopped, the timer can be restarted by manually resetting it, or it can be programmed to restart when power is reapplied. The 83 Timer has a run/stop input, 3 programmable user inputs, and a programmable front panel function key. The run/stop and user inputs can be configured as sinking (active low) or sourcing (active high) inputs via a single plug jumper. The user inputs and the front panel function key can be configured to provide a variety of functions.

Four front panel push-buttons are used for ease of programming the operating modes and data values, changing the viewed display, and performing user programmable functions, e.g. reset, etc. The 83 Timer can be configured for one of two numeric data entry methods digit or automatic scrolling.

Digital - The digital entry allows for the selection and incrementing of digits individually.

Automatic scrolling - This method allows for the progressive change of one through all digits positions by pressing and holding the **up** or **down** button.

The dual preset models are available with solid-state or relay outputs. The single preset model has a solid-state and relay output in parallel. All solid-state outputs are available in a choice of NPN current sinking or PNP current sourcing, open-collector transistor outputs. All relay output boards are field replaceable.

RS485 communications - optional serial communication capability allows for interrogation and modification of the preset, and timer values.

Construction- The unit is made of lightweight, high impact plastic with a textured front panel and a clear display window. The front panel meets NEMA4X/IP65 specifications when properly installed. Multiple units can be stacked horizontally or vertically. SMT, extensive testing, plus high immunity to noise interference make the 83 Timer extremely reliable in industrial environments.

Features

- Displays values to (999999)
- 12 timing ranges
- Field replaceable relay output boards
- Solid state and relay output models
- NEMA4X/IP65 sealed bezel
- Status indicators for outputs
- Security via programmable operator access privileges and protected values menu
- Programmable user inputs and front panel function key
- Horizontal or vertical stacking of multiple units
- 85 to 250VAC or 18 to 36VDC/24 VAC power units
- RS485 communications option
- Choice of numeric data entry modes

Options

- Output type
- Serial communications
- Voltage input
- Display color
- Number of presets



Specifications

Display: 2 line by 6 digits LCD display, negative image transmissive with RED (top line) and GREEN (bottom line) backlighting. Positive image reflective display units are non-stock available.

Main: 0.3" (7.6mm) high digits
Secondary: 0.2" (5mm) high digits

Annunciators:
Value: PRS, 1, and 2
Output: 01 and 02

POWER REQUIREMENTS:

AC Versions

AC Power: 85 to 250 VAC, 50/60Hz, 9VA max.
DC power: 11 to 14 VDC @ 159 mA max. (Non PNP output models)

Note: Models with PNP current sourcing outputs must be powered from AC

DC Versions

DC Power: 18 to 36 VDC: 5.5 W max.
AC Power: 24 VAC +/- 10%: 50/60 Hz: 7VA max.

Note: The 10% tolerance range on AC input voltage must be strictly adhered to > DO NOT EXCEED 26.4 VAC

PEAK (START-UP CURRENT)

AC or DC Power: 500mA peak start-up current for 10 msec. max.

DC OUT/ VSCR IN-terminal 10

For units that do not have PNP current sourcing outputs, this terminal provides a DC output for sensor power (+ 12 VDC +/-15%). The maximum sensor current is 100mA. For units with PNP current sourcing outputs this terminal serves a dual purpose depending on the application PNP output voltage level and current requirements.

1. The terminal may be used as a +12 VDC output for sensor power. In this case, the PNP output voltage level will be +12 VDC (+/-15%). A maximum of 100 mA is available for the combination of sensor and PNP output sourcing current.
2. If a higher PNP output voltage level or additional output sourcing current is needed, an external DC supply may be connected between the "DC OUT" (V SRC IN) and "COMM." terminals. This supply will determine the PNP output voltage level, and must be in the same range of +13 to +30 VDC.
 An external DC supply can also provide the additional output sourcing current required in applications where two or more PNP outputs are "ON" simultaneously. However, the maximum current range of 100mA per individual output must not be exceeded, regardless of external supply capacity.

3. MEMORY: Nonvolatile FRAM retains all program parameters and Timer values.

4. SENSOR POWER: +12 VDC (+/- 15%) @ 100mA max.

5. INPUTS: Run/Stop, Usr. In1, Usr. In2, and Usr. In3.
 Configurable as current sinking (active low), or current sourcing (active high) inputs via a single plug jumper.

Current Sinking: (active low) :
 $V_{IL} = 1.5 \text{ VDC max. } 22 \text{ K ohm pull-ups to } 5 \text{ VDC}$

Current Sourcing: (active high): $V_{IH} = 3.5 \text{ min.}$
 $V_{IN} \text{ max.} = 30 \text{ VDC; } 22\text{K ohm pull-down.}$

Run/Stop Response Time : 250 microseconds max.

User Input Response Time: 5 msec. max.

6. TIME ACCURACY: +/- 0.01%

7. OUTPUTS: (Output type and quantity model dependent)

Solid-State:

NPN Open Collector:

$I_{SNK} = 100\text{mA max. @ } V_{OL} = 1.1 \text{ VDC max.};$
 $V_{OH} = 30 \text{ VDC max.}$

PNP Open Collector:

$I_{SRC} = 100\text{mA max. (See note) ; } V_{OH} = 12 \text{ VDC } +/-15\%$
 (using internal supply); $V_{OH} = 13 \text{ to } 30 \text{ VDC (using external supply).}$

Note: The internal supply of the 83 Timer can provide a total of 100 mA for the combination of sensor current and PNP output sourcing current. The supply voltage is +12 VDC (+/-5 %), which will be the PNP output voltage level when using only the internal supply.

If additional PNP output sourcing current or a higher output voltage level is desired, an external DC supply may be connected between the " DC Out/In" and "Comm" terminals. This supply will determine the PNP output voltage level, and must be in range of +13 to 30 VDC.

An external supply can provide the additional output sourcing current required in applications where two or more outputs are "ON" simultaneously. However, the maximum rating of 100mA per individual output must not be exceeded, regardless of external supply capacity.

Relay: Form A contact, rating = 5 A @ 250 VAC, 30 VDC (resistive load) 1/10 HP @ 120 VAC (inductive load).

Relay Life Expectancy:

100,000 cycles min. at max. load rating.

Programmable Timed Output:

User selectable output time resolutions.

0.01 Second Resolution: 0.01 to 99.99 sec., +/- 0.01% +10 msec max.

0.1 Second Resolution: 0.1 to 999.9 sec. +/- 0.01 % +100 msec max.

8. RS485 SERIAL COMMUNICATIONS (Optional):

Up to 32 units can be connected.

Baud Rate: Programmable from 1200 to 9600 baud.

Address: Programmable from 0 to 99

Data Format: 10 Bit Frame, 1 start bit , 7 or 8 data bits, 1 or no Parity bit, and 1 stop bit.

Parity: Programmable for Odd (7 data bits), Even (7 data bits) or None (8 data bits).

9. CERTIFICATIONS AND COMPLIANCES:

UL Recognized Component, File # E195514

Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc.

CE COMPLIANT :

ELECTROMAGNETIC COMPATIBILITY

Immunity to EN 50082-2

electrostatic discharge	EN 61000-4-2
electromagnetic RF fields	EN 61000-4-3
fast transients	EN 61000-4-4
RF conducted interference	EN 61000-4-6
simulation of cordless phone	ENV50204

Emissions to EN 50081-2

RF interference	EN 55011	enclosure class A
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10. ENVIRONMENTAL CONDITIONS:

Operating Temperature: +32°F to +122°F [0°C to +50°C]

Storage Temperature: -40°F to +158°F [-40°C to +70°C]



Operating and Storage Humidity:

85% max. relative humidity (non-condensing) from +32°F to +122°F [0°C to +50°C]

Altitude: Up to 6500 Feet

11. ELECTRICAL CONNECTIONS:

Wire clamping screw terminals.

12. CONSTRUCTION: Black plastic case with collar style panel latch. The panel latch can be installed for horizontal or vertical stacking. Black plastic textured bezel can be removed from the case without removing the case from the panel or disconnecting the wiring. Front panel meets NEMA4X/IP65 requirements for indoor use, when properly installed. Installation Category II, Pollution Degree 2.

13. WEIGHT: 6.0 oz [170g]

SINGLE PRESET MODELS

The 8321 Timer offers a choice of twelve timing ranges with eighteen different operating modes. The unit has a solid-state output that operates in parallel with a relay output. The solid-state output is available as an NPN or PNP open collector transistor.

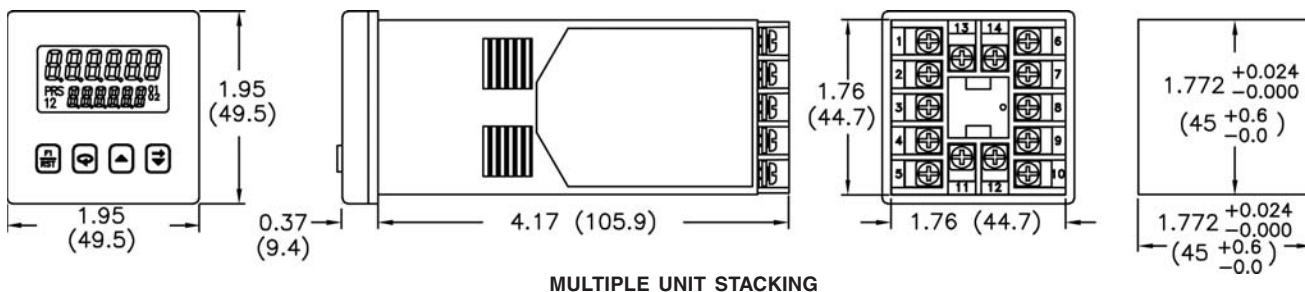
DUAL PRESET MODELS

The 8322 Timer offers a choice of twelve timing ranges with 44 operating modes. The unit is available with solid-state or relay outputs. The solid-state outputs are available as NPN or PNP open collector transistors.

Models Description

For Details on Models and Descriptions, see the Ordering Information section

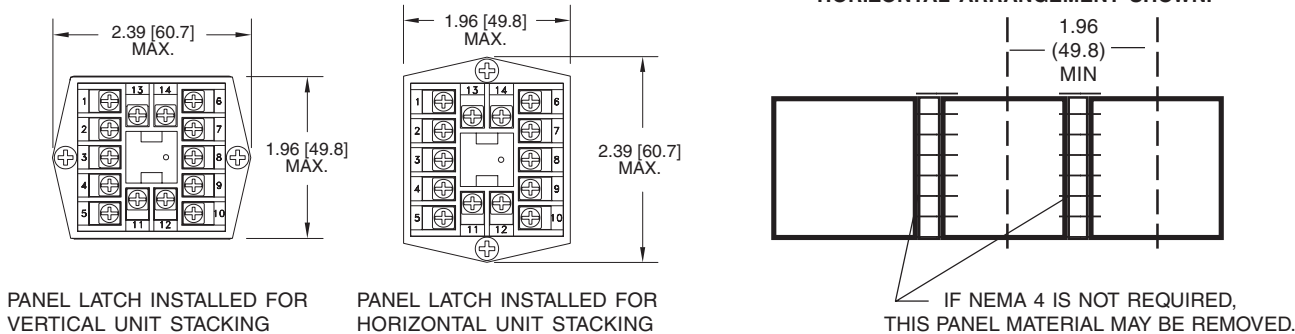
Dimensions



The Model 83 is designed for close spacing of multiple units. Units can be stacked either horizontally or vertically. For vertical stacking, install the panel latch with screws to the sides of the unit. For horizontal stacking, the panel latch screws should be at the top and bottom of the unit. The minimum spacing from center line to center line of the units is 1.96" (49.8 mm). This spacing is the same for vertical or horizontal stacking.

Note: When stacking units, provide adequate panel ventilation to ensure that the maximum operating temperature range is not exceeded.

PANEL CUTOUT SPACING FOR MULTIPLE UNIT STACKING. HORIZONTAL ARRANGEMENT SHOWN.



PANEL LATCH INSTALLED FOR VERTICAL UNIT STACKING

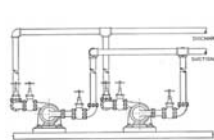
PANEL LATCH INSTALLED FOR HORIZONTAL UNIT STACKING

Applications

Mixing



Volumetric measurement



Batch Control





Ordering Information

MODEL NO.	DESCRIPTION	NPN O.C. OUTPUT(S)	* PNP O.C. OUTPUT(S)	RELAY OUTPUT(S)	RS485	PART NUMBERS FOR AVAILABLE SUPPLY VOLTAGES	
						18-36 VDC/24 VAC	85 TO 250 VAC
8321	1 Preset Timer Backlit LCD	Yes	No	Yes	No	8321-0110	8321-1110
8322	2 Preset Timer Backlit LCD	No	No	Yes	No	8322-0010	8322-1010
	2 Preset Timer Backlit LCD	No	No	Yes	Yes	8322-0011	8322-1011
	2 Preset Timer Backlit LCD	Yes	No	No	No	8322-0100	8322-1100
	2 Preset Timer Backlit LCD	Yes	No	No	Yes	8322-0101	8322-1101

* PNP Outputs are non-stock items

* Items in bold are normally in factory stock.

RELAY OUTPUT BOARDS

DESCRIPTION	NPN O.C.	* PNP O.C.	RELAY	PART NUMBER
Single Preset	Yes	No	Yes	1726-044S
Dual Preset	No	No	Yes	1726-045S
3 Preset	Yes	No	Yes	1726-046S

* PNP Outputs are non-stock items