

Tecknowledgey® Defense

7000 Series Solid State Elapsed Time Indicators and Counters

The Tecknowledgey 7000 series solid state Elapsed Time Indicators (ETI) and counters are designed to meet MIL-DTL-7793 specification for gathering time and counting data. Our 7000 series devices are rugged and reliable means for tracking service hours and number of operations on tactical vehicles and equipment in extreme temperature environments. Our ETI's and counters are often used in aircraft APU's, radar systems, engines and transmissions.



Model 7001 Solid State Elapsed Time Indicator - Records time while power is applied up to 99,999.99 hours.

Model 7002 Solid State Event Counter - Records the number of times that power has been applied for at least 5 seconds up to 9,999,999 counts.

Model 7003 Solid State Pulse Counter - Records the number of pulses applied to the input up to 9,999,999 pulses.

Features

- Designed to meet MIL-DTL-7793/13A, /14A, /15A and /16A
- Continuous serial data output
- Extreme operating temperatures range: -65° to +125° C
- Low power and rugged compacted design
- Panel and PCB mount case styles available
- Compatible with our model 1170-007 reader (military P/N: M7793/12-1)

Specifications

Designed to Meet Military Specifications MIL-DTL-7793/13A, /14A, /15A and /16A

Mechanical/Environmental

Maximum Weight	Panel Mount (NT): 1.0 oz, PCB Mount (PC): 0.2 oz
Temperature	Operational: -65° to +125° C, Storage: -80° to +125° C
Shock	MIL-STD-202, Method 213, Condition I
Vibration	MIL-STD-202, Method 204, Condition D
Salt Spray	MIL-STD-202, Method 101, Condition B
Moisture	Resistance MIL-STD-202, Method 106
Altitude	MIL-STD-202, Method 105, 0 to 80,000 feet

Electrical

Operating Voltage Range	4.75 to 10VDC, 10-34VDC/20-30VAC or 75 to 150VAC
Ripple Voltage	5VDC: Operates normally when subjected to a 2 volt peak (4 volts peak-to-peak) ripple between 10 Hz and 10 KHz superimposed on 7.0 VDC. 28VDC/26VAC: The meter shall continue to operate as specified in MIL-DTL-7793 when subjected to a cyclic peak of ripple voltage (see Note 3) of less than 2.0 VDC and the frequency-voltage coordinates on figure 2.
Output Impedance	100k ohms +/- 1%
Maximum Power Consumption	5VDC: 2mW, 28VDC/26VDC: 50mW/25mW, 115V: 50mW
Transient Protection	5VDC Models: No temporary or permanent degradation in meter when subjected to +/- 25 volt transients of 10 microseconds duration occurring at 1 millisecond repetition rate. 28VDC/26 VAC models: No temporary or permanent degradation in meter for input voltage and time values shown in MIL-DTL-7793/14A. 115 VAC Models: No temporary or permanent degradation in meter if input voltage increases to 180 Vrms at 50 to 2400 Hz for a period of 150 milliseconds maximum.
Dielectric	Withstands the application of 600 Vrms (room) and 350 Vrms (altitude) between the terminals and the case
Insulation Resistance	MIL-STD-202, Method 302, Condition B
Operational Accuracy	+/- 0.1% (Model 7001), +/- 1 Count models (7002 and 7003)
Electromagnetic Compatibility	MIL-STD-461, Methods RE102 and CE102
Input Signal (Model 7003)	Logic 0: 0 to 0.5V, Logic 1: 3.3 to 5.5V, Pulse on/off: 1 msec min.
Output Signal	Logic 0: 0 to 0.2V, Logic 1: 3.3 to 6.6V, Serial binary coded decimal format

Models

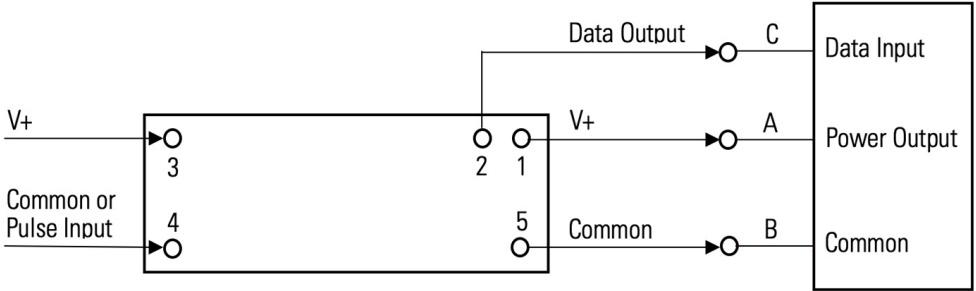
Part #	Military P/N	Description	Mounting	Voltage	Maximum Power
7001PC-005	M7793/13-1	Elapsed Time Indicator 5VDC	PCB	4.75-10VDC	2mW
7001PC-028	TBD	Elapsed Time Indicator 28VDC/26VAC	PCB	0-34VDC/20-30VAC	50mW/25mW
7001PC-115	TBD	Elapsed Time Indicator 115VAC	PCB	75-150VAC	50mW
7001NT-005	M7793/16-1	Elapsed Time Indicator 5VDC	Panel	4.75-10VDC	2mW
7001NT-028	M7793/14-1	Elapsed Time Indicator 28VDC/26VAC	Panel	10-34VDC/20-30VAC	50mW/25mW
7001NTR-28	TBD	Resettable Version of 7001NT-028	Panel	10-34VDC/20-30VAC	50mW/25mW
7001NT-115	M7793/15-1	Elapsed Time Indicator 115VAC	Panel	75-150VAC 50mW	50mW
7002PC-005	TBD	Event Counter 5VDC	PCB	4.75-10VDC 2mW	2mW
7002PC-028	TBD	Event Counter 28VDC/26VAC	PCB	10-34VDC/20 0mW	50mW
7002PC-115	TBD	Event Counter 115VAC	PCB	75-150VAC 50mW	50mW
7002PC-005	TBD	Event Counter 5VDC	Panel	4.75-10.0VDC 2mW	2mW
7002PC-028	TBD	Event Counter 28VDC/26VAC	Panel	10-34VDC/20-30VAC	50mW/25mW
7002PC-115	TBD	Event Counter 115VAC	Panel	75-150VAC 50mWS	50mW
7002NT-005	TBD	Event Counter 5VDC	PCB	4.75-10VDC 2mW	2mW
7002NT-028	TBD	Event Counter 28VDC/26VAC	PCB	10-34VDC/20-30VAC	50mW
7002NT-115	TBD	Event Counter 115VAC	PCB	75-150VAC 2mW	50mW
7003PC-005	TBD	Pulse Counter 5VDC	Panel	4.75-10.0VAC 2mW	2mW
7003PC-028	TBD	Pulse Counter 28VD/26/VAC	Panel	10.34VDC/20-30VAC	50mW/25mW
7003PC-115	TBD	Pulse Counter 115VAC	Panel	75-150VAC 50mW	50mW

Part # 7001PC-005, 7001NT-005, 7001NT-28 & 7001NT-15 are qualified by the Department of Defense

7000 Series Solid State Elapsed Time Indicators and Counters

Pin Assignments

- 1. Input power from reader
- 2. Data output
- 3. 5VDC, 28VC, 26VAC or 115VAC depending on model
- 4. Common or Pulse Input (model 7003 only)



Dimensions (inches)

Technical drawings of the MS25043 Protection Cap, showing dimensions and labels for three views:

- Front View (Left):**
 - Overall width: 1.312
 - Distance from left edge to center: 1.000
 - Distance from left edge to center: .50
 - Distance from center to right edge: .44
 - Overall height: .89 Max.
 - Left side feature: .125 Rivet I.D.
 - Bottom left feature: .062 ± .002 DIA Contact Pins (3)
 - Bottom right feature: .156 R (2 PLCS)
 - Bottom center feature: .75 Max.
 - Bottom center feature: .125 DIA
 - Bottom center feature: .625-24 UNEF -2B
 - Bottom center feature: .815 DIA Max.
 - Bottom center feature: .3.0 +/- .3
 - Bottom center feature: *
 - Bottom center feature: MS25043 Protection Cap with .079 DIA. Min Nylon Lanyard Permanently Attached to Flange as Shown
 - Bottom center feature: Extention with Cap Installed Between *S is 1.15" Max.
- Side View (Top Right):**
 - Top edge feature: *
 - Top edge feature: .58
 - Top edge feature: .40 Min
 - Top edge feature: .103
 - Top edge feature: .065
 - Top edge feature: .190 Max.
 - Top edge feature: Solderable Turret Terminal
 - Top edge feature: .625-24 UNEF-2A
- Top View (Bottom Right):**
 - Top edge feature: .50
 - Top edge feature: .25
 - Top edge feature: Input Signal (7003 Only)
 - Top edge feature: Recessed Rivet
 - Top edge feature: .50
 - Top edge feature: .25
 - Top edge feature: .07R TYP
 - Top edge feature: .690 Max.
 - Top edge feature: Terminal Location Optional Mark Positive "+" On Case Next to +Terminal

Technical drawing of a rectangular component. The top view shows a rectangle with overall dimensions of 1.10 by .45. The inner rectangular area has dimensions of .900 by .300. There are four circular features, one in each corner of the inner area, with a diameter of .100. A cross-section view on the right shows the component's profile with a total height of .22. The base thickness is .07. The top surface has three vertical features: two on the left and one on the right. The rightmost feature has a diameter of .025 ± .003 DIA. (TYP). The distance from the left edge to the first feature is .025.

[illegible]