

UL File No.: E42876  
CSA File No.: LR39291



## Features

### 1. High-performance compact synchronous motor

The accurately turning motor is employed to provide for longer period of measurement.

### 2. Common for 50/60 Hz power frequency

A lever is used to select 50 Hz or 60 Hz. There is no need to rearrange the control panel and other signal destinations.

### 3. Dimensions as per DIN 43700 standard

The units are in the 48 × 48 DIN standard size. They can be fitted in panels and give refined metallic appearance.

### 4. Easier wiring

The flat terminals (#187) are quick and easy to connect.

### 5. Rotary indicator

The rotary indicator makes one turn every 2 minutes for monitoring.

### 6. Compliant with UL, CSA and CE.

## Typical applications

Maintenance management of machine tools, automated machines, control panels, forming machines, medical equipment, generators, compressors, water treatment facilities, presses, motors, etc.

RoHS Directive compatibility information  
<http://www.nais-e.com/>

## Specifications

Rated operating voltage		12 V AC, 24 V AC, 48 V AC, 100 V AC, 110 V AC, 115 to 120 V AC, 200 V AC, 220 V AC, 240 V AC	
Allowable operating voltage range		85 to 115% of rated operating voltage	
Rated frequency		50/60 Hz (selectable by switch)	
Counting range		0 to 99999.9 hours (TH14 series) 0 to 9999.9 hours (TH24 series)	
Minimum time display		0.1 hours (6 min)	
Rated power consumption		Approx. 1.5 W	
Insulation resistance (Initial value)		Min. 100 MΩ; Between live and dead metal parts (At 500V DC)	
Breakdown voltage (Initial value)		2,000 Vrms Between live and dead metal parts	
Max. temperature rise		55°C 131°F	
Vibration resistance	Functional	10 to 55 Hz: 1 cycle/min double amplitude of 0.5 mm (10 min on 3 axes)	
Shock resistance	Functional	Min 98 m/s² {10 G} (4 times on 3 axes)	
	Destructive	Min 980 m/s² {100 G} (5 times on 3 axes)	
Ambient temperature		-10 to +50°C +14 to +122°F	
Ambient humidity		Max. 85% RH (non-condensing)	
Weight		145 g 5.11 oz (TH14 series)	150 g 5.29 oz (TH24 series)

## Product types

Type	Operating voltage	Part number		Operating voltage	Part number		Operating voltage	Part number	
		Silver panel	Black panel		Silver panel	Black panel		Silver panel	Black panel
TH14 series (without reset button)	100V AC	TH141S	TH141	24V AC	TH144S	TH144	115 to 120V AC	TH147S	TH147
	200V AC	TH142S	TH142	48V AC	TH145S	TH145	220V AC	TH148S	TH148
	12V AC	TH143S	TH143	110V AC	TH146S	TH146	240V AC	TH149S	TH149
TH24 series (with reset button)	100V AC	TH241S	TH241	24V AC	TH244S	TH244	115 to 120V AC	TH247S	TH247
	200V AC	TH242S	TH242	48V AC	TH245S	TH245	220V AC	TH248S	TH248
	12V AC	TH243S	TH243	110V AC	TH246S	TH246	240V AC	TH249S	TH249

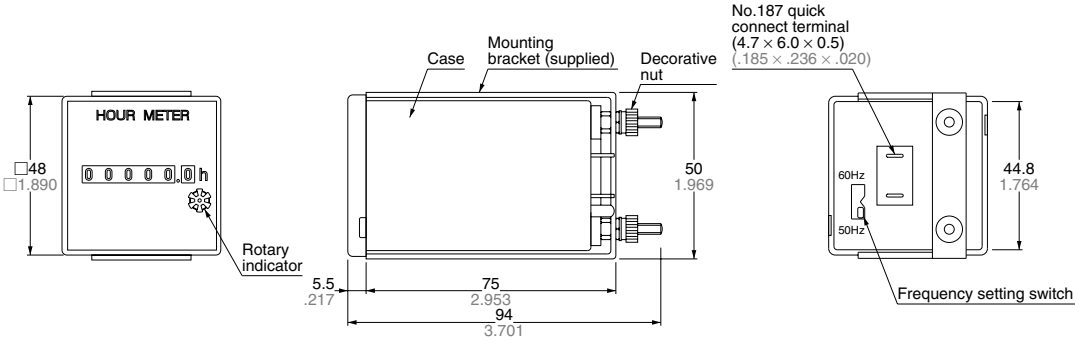
Note) Only the black-panel type is UL-recognized and CSA-certified. For this type, specify "U" at the end of the part number when ordering.

Applicable standard

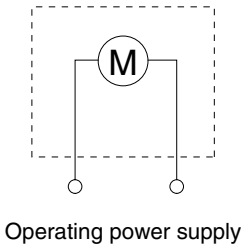
Safety standard	EN61010-1	Pollution Degree 2/Overvoltage Category II
EMC	(EMI)EN61000-6-4 Radiation interference electric field strength Noise terminal voltage (EMS)EN61000-6-2 Static discharge immunity	EN55011 Group1 ClassA EN55011 Group1 ClassA
	RF electromagnetic field immunity  EFT/B immunity Surge immunity Conductivity noise immunity Power frequency magnetic field immunity Voltage dip/Instantaneous stop/Voltage fluctuation immunity	EN61000-4-2 4 kV contact 8 kV air EN61000-4-3 10 V/m AM modulation (80 MHz to 1 GHz) 10 V/m pulse modulation (895 MHz to 905 MHz) EN61000-4-4 2 kV (power supply line) EN61000-4-5 1 kV (power line) EN61000-4-6 10 V/m AM modulation (0.15 MHz to 80 MHz) EN61000-4-8 30 A/m (50 Hz) EN61000-4-11 10 ms, 30% (rated voltage) 100 ms, 60% (rated voltage) 1,000 ms, 60% (rated voltage) 5,000 ms, 95% (rated voltage)

Dimensions (TH14 and TH24 series common)

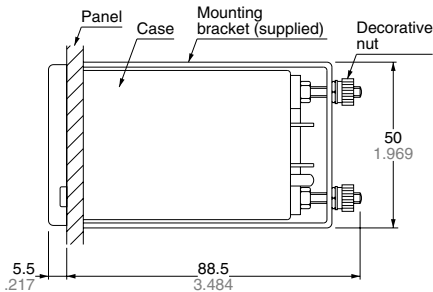
mm inch  
General tolerance: ±1.0 ±.039



Wiring diagram



Panel mounting



• Panel cutout dimensions

