Panasonic
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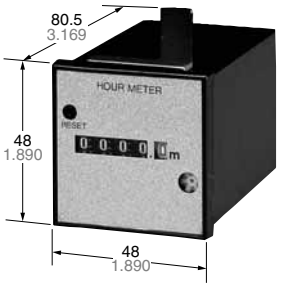
DIN48 MINUTES INDICATOR HOUR METER

TH50 Hour Meters



mm inch

Silver panel

Black panel

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

Features

1. Measurement and management in units of minutes
Unlike conventional hour meters, the time can be measured and managed in minutes.

2. Reset button
The hour meters can be reset to zero for repeated measurement.

3. High-performance compact syncronous motor
The accurately turning motor is employed to provide for longer period of measurement.

4. 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.

5. 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.

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

7. Rotary indicator
The rotary indicator makes one turn every 2 seconds for monitoring.

8. Compliant with CE.

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 9999.9 min
Minimum time display		0.1 min (6 sec)
Rated power consumption		Approx. 1.5 W
Insulation resistance (Initial value)		Min. 100 MΩ, Between live and dead metal parts (At 500 V 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		150 g 5.29 oz

Product types

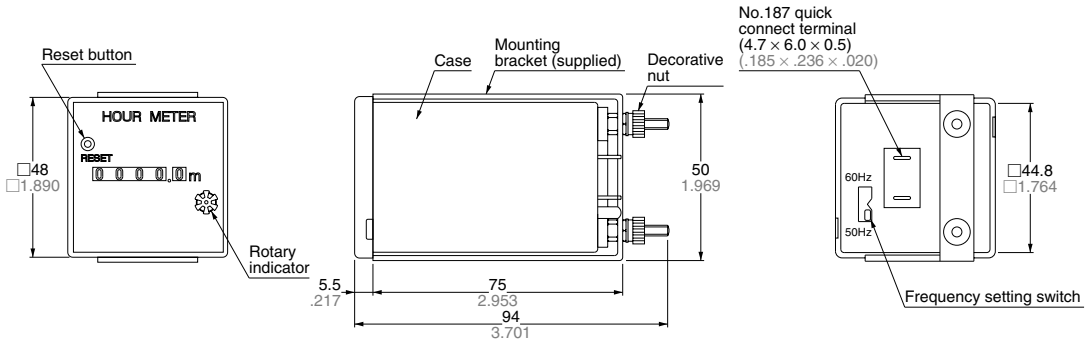
Type	Operating voltage	Part number		Operating voltage	Part number		Operating voltage	Part number	
		Silver panel	Black panel		Silver panel	Black panel		Silver panel	Black panel
TH50 series	100V AC	TH501S	TH501	24V AC	TH504S	TH504	115 to 120V AC	TH507S	TH507
	200V AC	TH502S	TH502	48V AC	TH505S	TH505	220V AC	TH508S	TH508
	12V AC	TH503S	TH503	110V AC	TH506S	TH506	240V AC	TH509S	TH509

Applicable standard

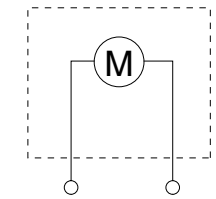
Safety standard	EN61010-1	Pollution Degree 2/Overvoltage Category II
EMC	(EMI)EN61000-6-4 Radiation interference electric field strength Noise terminal voltage (EMS)EN61000-6-2 Static discharge immunity RF electromagnetic field immunity EFT/B immunity Surge immunity Conductivity noise immunity Power frequency magnetic field immunity Voltage dip/Instantaneous stop/Voltage fluctuation immunity	 EN55011 Group1 ClassA EN55011 Group1 ClassA 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

mm inch
General tolerance: ±1.0 ±.039



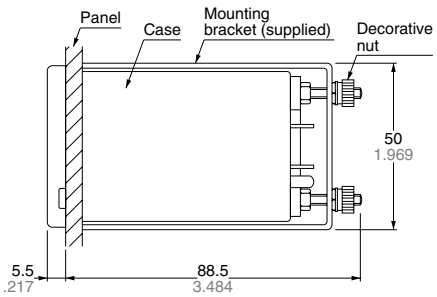
Wiring diagram



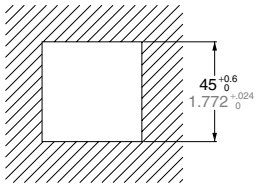
Operating power supply

Panel mounting

mm inch



• Panel cutout dimensions



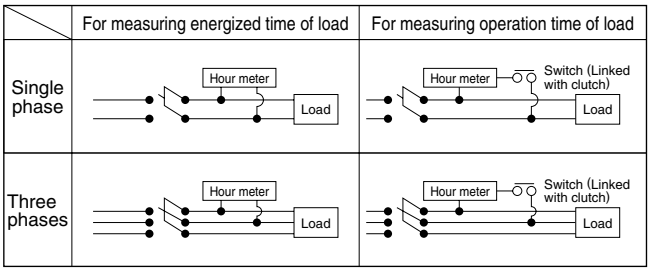
PRECAUTIONS IN USING THE HOUR METERS

1. Frequency setting

Frequency is specified for AC motor-driven hour meters. Before installing, be sure to check your local power frequency.

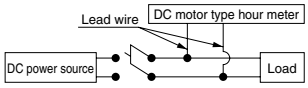
2. Connections

• TH13,23,14,24,40,50,63,64



Note) Make the connection with the accompanying flat connector first and then with the hour meter's terminal (#187). In such case, be sure to cover the connection with the accompanying insulating sleeve.

• TH70, TH8



Note) Solder the lead wires in position.

3. Safety precautions

Do not use the hour meters in the following places.

- Where ambient temperature is below –10° or above +50°C
- In wet, dusty or gaseous environments
- Where exposed to vibrations and shocks
- Outdoors, or where exposed to rain or direct sunlight

4. Compliant with CE.

- LH2H

  Ambient conditions:

  Overvoltage category III, contamination factor 2, indoor use.
  Ambient temperature and humidity –10 and +55°C and 35% to 85%RH respectively.
- TH13, 23, 14, 24, 40, 50, 63, 64

  Ambient conditions:

  Overvoltage category II, contamination factor 2, indoor use.
  Ambient temperature and humidity –10 and +50°C and below 85%RH respectively.

5. Reset-type hour meter

- Precautions for use

  If the number indications are off before use, press the reset button and confirm that all zeroes ("0") are displayed.
- Resetting caution

  Exercise due caution as an insufficient amount of pressure on the reset button may result in abnormal readings.

6. Acquisition of CE marking

Please abide by the conditions below when using in applications that comply with EN 61010-1/IEC 61010-1

1) Ambient conditions
   - Overvoltage category II, pollution level 2
   - Indoor use
   - Acceptable temperature and humidity range: -10 to +55°C, 35 to 85%RH (with no condensation at 20°C)
   - Under 2000 m elevation
2) Use the main unit in a location that matches the following conditions.
   - There is minimal dust and no corrosive gas.
   - There is no combustible or explosive gas.
   - There is no mechanical vibration or impacts.
   - There is no exposure to direct sunlight.
   - Located away from large-volume electromagnetic switches and power lines with large electrical currents.
3) Connect a breaker that conforms to EN60947-1 or EN60947-3 to the voltage input section.
4) Applied voltage should be protected with an overcurrent protection device (example: T 1A, 250 V AC time lag fuse) that conforms to the EN/IEC standards. (Free voltage input type)