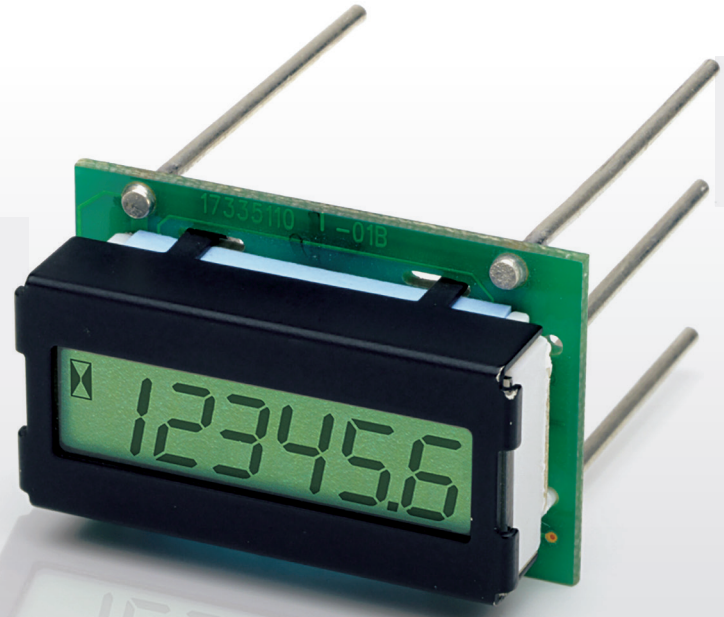
CURTIS

Instrumentation

Solid State Digital Hourmeters & Counters

700 Series - Modules



700 Series - Modules

Solid State Digital Hourmeters & Counters

Curtis Solid-State Module Assemblies are designed for OEM applications. Curtis offers a wide selection of miniature AC & DC meter assembly modules for PC board mounting applications.

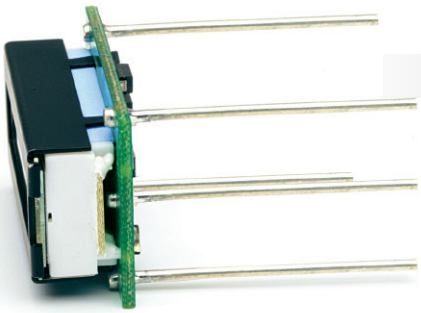
700–703: Single-function 6-digit display for Counter or Hour Meter configurations.

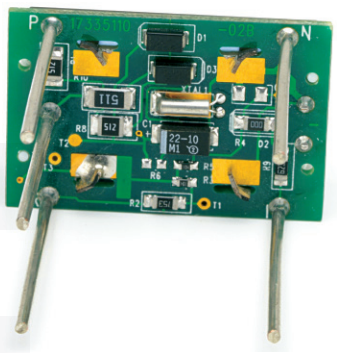
These models offer a variety of functions, sizes, voltages and customizable options to fit most applications. Ideal for OEMs, contract manufacturers, and panel makers for monitoring equipment usage, scheduling maintenance, warranty validation, rental/leasing use and more. Used extensively in industrial, agricultural, military & specialty vehicles, as well as applications such as: vending machines, medical & office equipment, fuel pumps, and consumer products.

FEATURES

- Selection–hour meters, counters, maintenance monitors and more.
- Solid State Circuitry–no moving parts to wear out. Silent operation and years of rugged & reliable operation.
- Crisp, clean readouts–high-contrast 5 & 7mm LCD displays.
- Versatility–compact module designs with high quality components to minimize space.
- AC/DC Configurations–wide range of operating voltages & noise protection.
- OEM Compatibility–an unparalleled selection of power compatibility, design configurations and functionality for OEM custom designs, panel makers and contract manufacturers.
- Distinctive Icons–clear indicators for hour meter/timer activation and display modes.
- Backlighting–available on all models (see model coding chart or consult factory).
- EEPROM memory–nonvolatile, retention of data for as much as 25 yrs.+ without power.
- Manufactured under ISO 9001 Certified Quality Management System.
- Low power consumption.
- UL and CE recognized.

See a 360° view of the 700 Series at:
curtisinstruments.com/360view





700 Series - Modules

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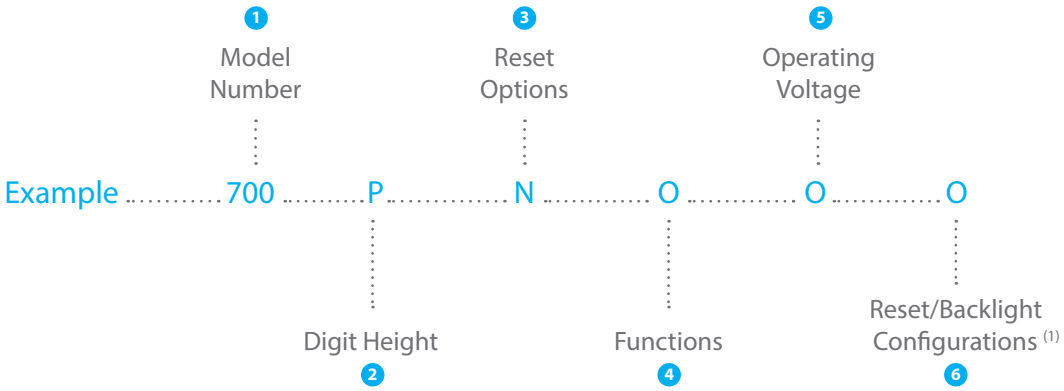
MODEL CODING ASSEMBLY MODULES 700, 701, 703



1 MODEL NUMBER

700	Hour Meter w/o enable
701	Hour Meter w/ enable
703	Pulse Counter

2 DIGIT HEIGHT

P	5mm digits
P7	7mm digits

3 RESET OPTIONS

R	Wired Reset
N	No Reset

4 FUNCTIONS

0	AC/DC w/o enable
1	DC only
2	AC/DC w/enable

5 OPERATING VOLTAGE

0	5-12 VDC, 6-12 VAC
1	12-48 VDC, 20-60 VAC
2	48-150 VDC, 100-230 VAC
4	12 VDC only (see Note 1 below)

6 RESET/BACKLIGHT CONFIGURATIONS

0	No Reset, No Backlight
2	Reset, No Backlight
4	Reset, External Backlight
5	No Reset, External Backlight
H	Reset, Internal Backlight. (see Note 2 below)
J	No Reset, Internal Backlight. (see Note 2 below)

NOTES:

1. All external backlight configurations–require 12 VDC (only) connection to illumination pin.
2. 7mm models–Backlighting only available as External.
3. Available only in 5mm and with voltage option 4 only.

700 Series - Modules

Solid State Digital Hourmeters & Counters

SPECIFICATIONS

Display	6-digit, 5 or 7 mm high	Models 700, 701, 703
Range & Resolution	Hour meters: 99,999.9 hours	All models
	Counters: 999,999 counts	Model 703
Accuracy	Hour Meters ± 0.1%	Models 700, 701
	Counters ± 1 count	Model 703
Humidity	95%, non-condensing at 38°C	All models

Operating Temperature	–40°C to +85°C (–40°F to +185°F)	All models
Storage Temperature	–50°C to +85°C (–58°F to +185°F)	
Operating Frequency (AC powered units)	48 to 440 Hz abs	All models
Memory	Main power must be applied for 5 sec to activate memory (with no loss of time/counts). EEPROM-Data retention 25+ years without power present.	
Input Signal (DC Only)	Counter	Model 703 - 500 Hz max, 50% duty cycle (1ms low, min, between consecutive highs)
Input Signal (AC/DC)	Hour Meter	Model 701 - Power must be applied for 0.5 sec, min, to accumulate time.
	Counter	Model 703 - 1 Hz max, 50% duty cycle (500ms low, min, between consecutive highs).
Reset	0.5mA max. @ 5VDC (0512D models)	
	All Models	Main power must be applied for a minimum of 0.5 sec. prior to reset signal.
	Models 700, 701, 703	50ms, min, at operating voltage.

NOTES:

1. All modules are supplied with critical components exposed. If the module is being used in an environment other than specified, the user must take precautions to package the module to provide adequate protection.
2. For proper mechanical support, all module pins should be soldered to the PC-board.
3. To prevent heat damage to components, module face should be 10-20mm minimum away from PC-board when flow soldered.

700 Series - Modules

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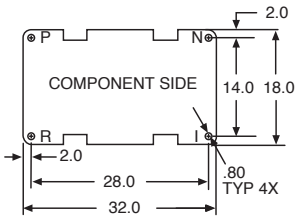
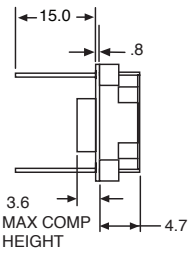
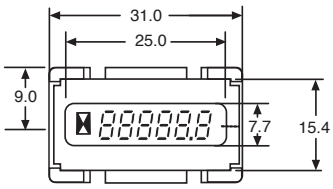
DIMENSIONS mm

MODELS 700, 701, 703 - 5MM DIGITS

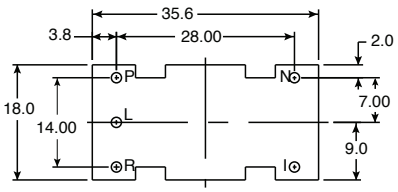
Non-Backlight

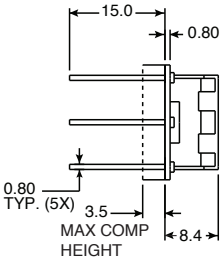


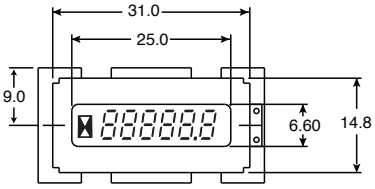




Backlight

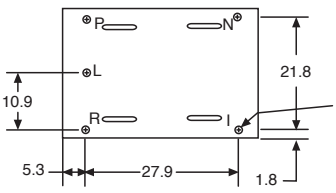


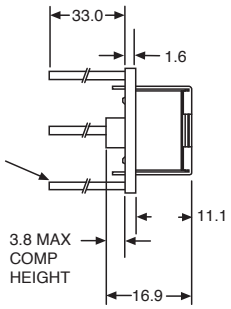


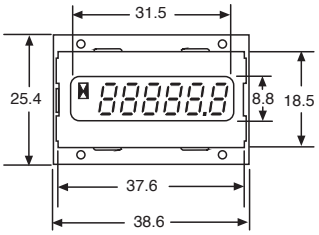


NOTE:
Standard pin lengths are shown. Optional lengths are available.

MODELS 700, 701, 703 - 7MM DIGITS







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CURRENT CONSUMPTION: (MA MAX)

	Operating Voltage at Power Terminals	700, 701, 703 (5mm)	700, 701, 703 (7mm)
External or No Backlight Models	5 – 12	VDC (@ 5 V)	0.5
	12 – 48	VDC (@ 12 V)	0.8
	48 – 150	VDC (@ 48 V)	0.8
	100 – 230	VAC (@ 120 V)	1.0
	100 – 230	VAC (@ 230 V)	2.0
Internal Backlight Models	9 – 15 VDC (@12 V)	VDC (only)	3.5

MODULE WIRING GUIDE

Pin	Assignment
P	V+
N	V– (common)
I	Enable V+ to activate elapsed time (Optional on 701, N/A on 700) or increment count (703).
R	Reset V+ to reset count/elapsed time to zero (Optional on 700, 701, 703) or resetable channel to zero.
L	Illumination Control - 12 VDC only (Optional, external backlight units only) 9-15 VDC absolute, regardless of operating voltage.

WARRANTY Two year limited warranty from time of delivery.

The Curtis Difference
You feel it when you drive it

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