Preset Counters and Totalizers
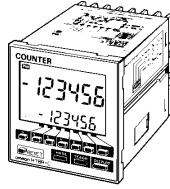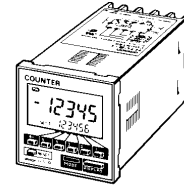
Omron offers multifunction, preset counters featuring UP, DOWN, or reversible counting in standard DIN sizes. Choose backlit LCD or LED displays with popular count-limit outputs and delays. Our self-powered and PC board mount miniature totalizers (including tachometers) with LCD displays, fit most counting jobs. Choose AC, DC, or no-voltage contact inputs. Omron's NEMA 4 preset counter and count/time totalizers fit a variety of applications including those requiring hosedown and/or dusty environments.
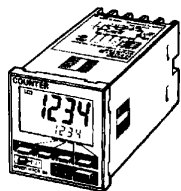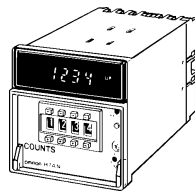
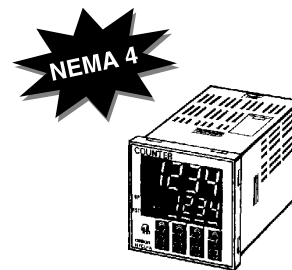*page 13*   *page 35*

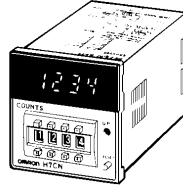| MODEL	H7BR	H7CR
Dimensions	72 H x 72 W x 113 D mm (2.83 H x 2.83 W x 4.45 D in)	48 H x 48 W x 106 D mm (1.89 H x 1.89 W x 4.17 D in)
Description	Easy-to-program, DIN-size counter with large LCD display can be scaled to display engineering units instead of counts. The reversible plus/minus range counter is ideal for positioning and provides comparison of count value to preset for production control discrimination. Accepts high-speed inputs to 10,000 pulses per second.	Easy-to-program, 1/16 DIN-size multifunction counter offers prescaling function to display engineering units. Large, 8 mm high, backlit, 6-digit LCD display. Available in standard, short (64 mm deep), and economy socket-mount versions. Choose single and double preset models as well as plus/minus range types for positioning. Contact and transistor outputs available.
Operation	UP, DOWN, reversible	UP, DOWN, reversible
Number of Digits	6	6
Count Input	No-voltage contact or voltage	No-voltage contact or voltage
Counting Speeds	30 cps, 1 kcps, 5 kcps, 10 kcps	30 cps, 1 kcps, 5 kcps
Ranges	0 to 999,999 for preset models -99,999 to 999,999 for plus/minus	0 to 999,999 for preset models -99,999 to 999,999 for plus/minus
Reset System	External; manual; self-reset	External; manual; self-reset
Supply Voltage	100 to 240 VAC, 50/60 Hz or 24 VAC/12 to 24 VDC	24 VAC or 100 to 240 VAC, 50/60 Hz or 24 VAC/12 to 24 VDC
Control Output	SPST-NO contact, 3 A, 250 VAC Solid-state open collector for batch output	SPDT-NO contact, 3 A, 250 VAC Solid-state open collector, 100mA, 30 VDC
Memory Protection	10-year battery backup standard	10-year battery backup standard
Connections	Screw terminals	Screw terminals or 8-11 pin round socket
Mounting	Panel	Panel, track, or surface
Accessories	Panel adapter, panel cover, terminal cover	Panel adapters, sockets, DIN rail
Approvals	UL, CSA, CE (EMC)	UL, CSA, CE (EMC)

NEMA 4

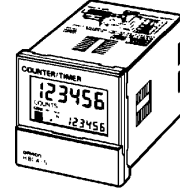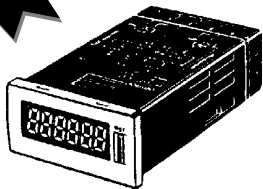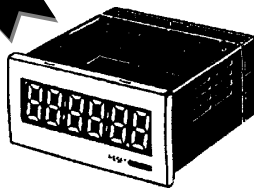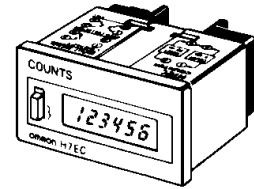| H7CR-4	H7AN	H7CL
48 H x 48 W x 106 D mm (1.89 H x 1.89 W x 4.17 D in)	72 H x 72 W x 115 D mm (2.83 H x 2.83 W x 4.53 D in)	48 H x 48 W x 92.7 D mm (1.89 H x 1.89 W x 3.65 D in)
Economical, 1/16 DIN-size multi-function counter offers prescaling function to display engineering units. Large, 12 mm high, backlit LCD display. Available in standard, short (64 mm deep), and socket-mount versions. Choose single and double preset models. All have contact outputs.	Preset counter or totalizer with up to 8-digit LED display offers six counting modes. Single or double presets. Provides 12 VDC power source to sensors. Contact and solid-state outputs simultaneously. Two- and four-digit models have separate UP/DOWN and reversible models available. Six- and eight-digit models are user-selectable.	Single-stage, preset counter with NEMA 4 water and dust protection. 1/16 DIN-size counter offers highly-visible LED display. Increment and decrement keys for quick, easy setting. Contact or transistor outputs. Both socket and screw terminal models available.
UP, DOWN	Selectable UP/DOWN or reversible counting	Selectable UP/DOWN
4	2, 4, 6, or 8	4
No-voltage contact	5 to 30 VDC solid-state or no-voltage contact	No-voltage via NPN transistor or no-voltage contact
30 cps, 1 kcps, 5 kcps	5 kcps (DC solid-state) 30 cps (no-voltage contact)	30 cps or 5 kcps (selectable)
0 to 9,999	0 to 99, 9999,999,999 or 99,999,999 counts	-999 to 9999 counts
External; manual; self-reset	Power-off; external; manual	External; manual with automatic resets (internal according to C mode operation)
100 to 240 VAC, 50/60 Hz or 12 to 24 VDC	24 or 100 to 240 VAC, 50/60 Hz or 12 to 24, 48, 100 VDC	100 to 240 VAC, 50/60 Hz (H7CL-A_ (AC models)) or 12 to 24 VDC (H7CL-AD_ (DC models))
SPDT contact, 3 A, 250 VAC	SPDT, 3 A, 250 VAC and solid-state open collector 100mA max., 30 VDC	SPDT, 3A at 250 VAC or solid-state open collector 100 mA max, 30 VDC
10-year battery backup	10-year battery backup	EEPROM stores data for 20 years min.
Screw terminals or 8-pin round socket	Screw terminals	Screw terminals or 11-pin round socket
Panel, track, or surface	Panel	Panel, track, or surface
Panel adapters, sockets, DIN rail	None	Sockets, DIN rail, protective covers
UL, CSA, CE (EMC)	UL, CSA	UL, CSA, CE (EMC)

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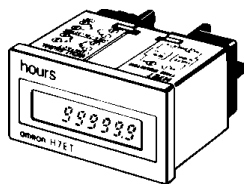| MODEL	H7CN	H8CA-S
Dimensions	48 H x 48 W x 86 D mm (1.89 H x 1.89 W x 3.39 D in)	48 H x 48 W x 86 D mm (1.89 H x 1.89 W x 3.39 D in)
Description	Plug-in, preset counter offers easy-to-read 4-digit LED display. Available with memory backup. Choose contact or solid-state output. Accepts quadrature input from rotary encoders. Fits 1/16 DIN panel cutouts.	Compact, field-configurable counter/timer offers single preset or reversible counting to 999,999 and three timing ranges. Six-digit LCD and status display. Reset, start, and gate outputs available in timing operation. Fits 1/16 DIN panel cutouts. Four modes determine sustained or one-shot control outputs after count or time limit is reached. Choose contact or solid-state output models.
Operation	UP, DOWN, reversible	UP or reversible counting, time limit operation
Number of Digits	4	6
Count Input	No-voltage contact	No-voltage contact or 5 to 30 VDC voltage
Counting Speeds	5 kcps (DC solid-state) 30 cps (no-voltage contact)	30 or 1 kcps
Ranges	0 to 9999 counts	0 to 999,999 counts; 0 to 99999.9 minutes or hours; 0 to 9999.99 seconds
Reset System	Power-off; external; manual	External; manual reset
Supply Voltage	100 to 240 VAC, 50/60 Hz or 12 to 48 VDC	24 to 240 VAC, 50/60 Hz or 12 to 120 VDC
Control Output	SPST-NO, 3 A, 250 VAC or solid-state open collector, 100 mA max., 30 VDC	SPDT relay, 3 A, 250 VAC or solid-state open collector, 100 mA, 30 VDC
Memory Protection	5-year battery backup	10-year battery backup
Connections	8-pin or 11-pin round socket	11-pin round socket
Mounting	Panel, track, or surface	Panel, track, or surface
Accessories	Sockets, DIN rail, panel adapters, protective covers, backup battery	Panel adapter, sockets, DIN rail
Approvals	UL, CSA	UL, CSA

NEMA 4

NEMA 4

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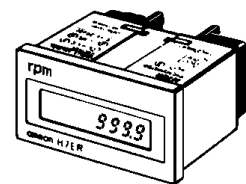
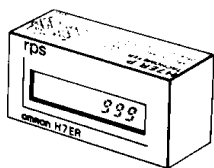| H7GP	H7HP	H7EC
24 H x 48 W x 80 D mm (0.94 H x 1.89 W x 3.15 D in)	36 H x 72 W x 66 D mm (1.42 H x 2.83 W x 2.6 D in)	24 H x 48 W x 60 D mm (0.94 H x 1.89 W x 2.36 D in)
Compact time or count totalizer. AC or DC supply voltage. Highly visible, 8.5 mm LCD display. NEMA 4 protection (front panel). Selectable NPN/PNP input types. Memory backup EEPROM.	Compact time/count totalizer or totalizer only. AC or DC supply voltage. Highly-visible 15 mm, 6-digit/12 mm, 8-digit LCD display. NEMA 4 protection (front panel). Selectable NPN/PNP input types. Memory backup EEPROM. On-board 12 V sensor power supply (AC models).	Miniature totalizer counter with LCD display. Choose self-powered or PC board mount 3 VDC-powered model. Self-powered type has a built-in battery that protects memory for at least seven years. PC board mount type fits standard DIP footprint. Manual solder to board or use optional 28-pin socket.
UP counting/accumulative timing	UP/DOWN (counter or totalizer); accumulative (time)	UP counting
6	6 time/count; 8 totalizer only	6 or 7
No-voltage contact; NPN solid-state voltage; PNP solid-state voltage	No-voltage; PNP solid-state voltage; NPN solid-state voltage	24 to 240 VAC, 6 to 240 VDC, or no-voltage contact
30 cps or 5 kcps (selectable)	30 cps or 5 kcps (selectable)	20 cps (AC/DC voltage) 30 cps (DC or no-voltage) 1 kcps (DC or no-voltage)
999,999 count/99,999.9 time	Time/count 999999 (count); 99999.9 (time); 99999999 totalizer	0 to 999,999 or 9,999,999 counts
External; manual	External; manual	External; manual; Power-off (H7EC-P)
100 to 240 VAC, 50/60 Hz or 12 to 24 VDC	100 to 240 VAC, 50/60 Hz or 12 to 24 VDC	Nor required (H7EC) 3 VDC (H7EC-P)
Not applicable	Not applicable	Not applicable
EEPROM: 200,000 operations	EEPROM: 200,000 operations 7-year battery (H7EC)	7-year battery (H7EC) Not available (H7EC-P)
Screw terminals	Screw terminals	Screw terminals or wire wrap (H7EC) 8 solder terminals, DIP footprint (H7EC-P)
Panel	Panel	Panel (H7EC) PC board or 28-pin socket (H7EC-P)
Panel adapter	Panel Adapter	Panel adapters (H7EC), 28-pin sockets (H7EC-P)
UL, CSA, CE (EMC)	UL, CSA, CE (EMC)	UL, CE (EMC), CSA for AC/DC input

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MODEL	H7ET	H7ER
Dimensions	24 H x 48 W x 60 D mm (0.94 H x 1.89 W x 2.36 D in)	24 H x 48 W x 30 D mm (0.94 H x 1.89 W x 1.18 D in)
Description	Miniature time counter with LCD display. Choose self-powered or PC board 3 VDC powered model. Built-in battery powers counter and protects memory for at least seven years.	Miniature tachometer with LCD display for rpm or rps displays. Choose self-powered or PC board 3 VDC models. Built-in battery powers counter for at least seven years.
Operation	UP counting	UP counting
Number of Digits	6 or 7	4 or 5
Count Input	24 to 240 VAC, 6 to 240 VDC, or no-voltage contact	5 to 30 VDC or no-voltage contact
Counting Speeds	0.1 second (H7ET) 0.1 hour (H7ET-P)	1 kcps or 10 kcps (H7ER); 1 pulse per revolution or 60 pulses per revolution (H7ER-P)
Ranges	0 to 99,999.9 or 999,999.9 hr; 99 hr 59 min 59.9 sec; 9999 hr 59.9 min; 3999 days 23.9 hr	0 to 1000 rps; 1000.0 rps; 10,000 rps; 1000.0 rpm
Reset System	External and manual (H7ET); Power-off (H7ET-P)	Input signal off (H7ER); Power-off (H7ER-P)
Supply Voltage	Not required (H7ET) 3 VDC (H7ET-P)	Not required (H7ER) 3 VDC (H7ER-P)
Control Output	Not applicable	Not applicable
Memory Protection	7-year battery (H7ET) Not available (H7ET-P)	7-year battery (H7ER) Not available (H7ER-P)
Connections	Screw terminals or wire wrap (H7ET) 8 solder terminals, DIP footprint (H7ET-P)	Screw terminals or wire wrap (H7ER) 8 solder terminals, DIP footprint (H7ER-P)
Mounting	Panel (H7ET); PC board or 28-pin socket (H7ET-P)	Panel (H7ER), PC board or 28-pin socket (H7ER-P)
Accessories	Panel adapters (H7ET), 28-pin sockets (H7ET-P)	Panel adapters (H7ER), 28-pin sockets (H7ER-P)
Approvals	UL, CE (EMC), CSA for AC/DC input	UL, CSA, CE (EMC)

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H7E-P

22.4 H x 44.8 W x 17.3 D mm
(0.88 H x 1.76 W x 0.68 D in)

Miniature totalizing counters, time
counters and tachometers for PC
board use. LSI with digital filter insures
noise immunity. Mount to PC board
direct or 28-pin IC socket.

UP

7 H7EC-P/H7ET-P; 4-5 H7ER-P

No-voltage contact/solid-state DC
voltage, depending on the model

30 cps, 1 kcps, 10 kcps, depending
on the model

0 to 9999999 H7EC-P,
0.0 to 999999.9h H7ER-P,
1000 RPS/10,000 RPM H7ET-P

External; automatic; power-off,
depending on the model

3 VDC

Not applicable

Not applicable

DIP footprint

Direct PCB or 28-pin socket

28-pin socket

UL, CSA, CE (EMC)