












Product Overview

Item	Hour meter(LCD type)	
Model	LE8N-BN	LE8N-BF
Digit	8 Digits	
Appearances & Dimensions	 [W48×H24×L54mm]	
Display	LCD zero blanking type (Height : 8.7mm)	
Operation method	Count up mode	
Power supply	Internal lithium battery	
Input type	No-voltage input	Free voltage input
Start input	Residual voltage at short-circuit : Max. 0.5V Impedance at short-circuit : Max. 10kΩ (ON) Impedance at open-circuit : Min. 750kΩ (OFF)	"H" level voltage : 24-240VAC / 6-240VDC "L" level voltage : 0-2VAC / 0-2.4VDC
RESET input	No-voltage input	
Min. signal width of RESET	Min. 20ms	
Time range(TS1)	9999.59.59 (h.m.s), 99999.59.9 (h.m), 999999.59 (h.m)	
Time range(TS2)	9999H59.9 (h.m), 99999H59 (h.m), 999999H.9 (h)	
Time error	±0.01% ±50ms (Time error, Temperature error)	
Battery life cycle	Over 10 years (at 20°C)	
External switch	SW1 (Front reset key for lock), SW2 (Selectable time switch)	
Insulation resistance	Min. 100MΩ (at 500VDC megger)	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hour
	Malfuction	0.3mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s ² (Approx. 30G) in X, Y, Z directions for 3 times
	Malfuction	100m/s ² (Approx. 10G) in X, Y, Z directions for 3 times
Reference	K-6 to 8	

Item	Digital timer(LCD type)			Digital timer(Backlight LCD type)		
Model	LE3S	LE3SA	LE3SB	LE4S	LE4SA	
Appearances & Dimensions	 [W48×H48×L67mm]			 [W48×H48×L70mm]		
Function	Multi timer (Includes 10 output modes)	Multi timer (Power ON Delay mode)		Multi timer (Includes 10 output modes)	Multi timer (Includes 8 output modes)	
Time setting range	0.01sec. to 999hour			0.01sec. to 9999hour		
Power supply	24-240VAC 50/60Hz / 24-240VDC					
Allowable voltage range	90 to 110% of rated voltage					
Power consumption	Approx. 2.5VA (240VAC) Approx. 1W (240VDC)	Approx. 3.3VA (240VAC) Approx. 1.5W (240VDC)		Max. 4.5VA (24-240VAC), Max. 2W (24-240VDC)	Max. 4VA (24-240VAC), Max. 1.6W (24-240VDC)	
Reset time	Max. 200ms	Max. 100ms				
Min. signal width	Min. 20ms	—————			Selectable 1 or 20ms	—————
Timing operation	Signal ON start	Power ON start		Signal ON start	Power ON start	
Memory protection	—————	—————		10years (25°C, LCD display and continuous OFF the key input)		
Control output	Contact type	Time limit SPDT (1c)	Time limit DPDT (2c)	Time limit SPDT (1c), Instantaneous SPDT (1c)	Time limit SPDT (1c)	Time limit DPDT (2c), Time limit SPDT (1c) + Instantaneous SPDT (1c): Selectable
	Contact capacity	250VAC 5A resistive load	250VAC 3A resistive load		250VAC 5A resistive load	250VAC 3A resistive load
Relay life cycle	Mechanical	Min. 10,000,000 times				
	Electrical	Min. 100,000 times (Rated contact capacity)				
Repeat error	Max. ±0.01% ±0.05sec. (Power start)	±0.01% ±0.05sec.		Max. ±0.01% ±0.05sec. (Power start)	Max. ±0.01% ±0.05sec.	
SET error	Max. ±0.005% ±0.03sec. (Signal start)			Max. ±0.005% ±0.03sec. (Signal start)		
Temperature error						
Reference	K-9 to 16			K-17 to 33		

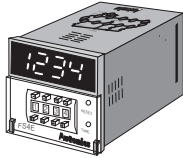
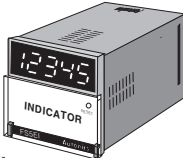
Product Overview




Series		CTS Series		CTY Series		CTM Series				
Digit		4 Digits		6 Digits		6 Digits				
Model	Dual Preset	CT4S-2P □□		CT6S-2P □□		CT6Y-2P □□		CT6M-2P □□		
	Single Preset	CT4S-1P □□		CT6S-1P □□		CT6Y-1P □□		CT6M-1P □□		
	Indicator	-		CT6S-I □□		CT6Y-I □□		CT6M-I □□		
Appearances & Dimensions		 [W48×H48×L90mm]		 [W72×H36×L77mm]		 [W72×H72×L85mm]				
Operation type		Count up, Count down, Count Up/Down								
Power Supply	AC Power	100-240VAC 50/60Hz								
	AC/DC Power	24VAC 50/60Hz / 24-48VDC								
Allowable voltage range		90 to 110% of rated voltage (AC Power type)								
Max. counting speed		Selectable 1cps, 30cps, 1kcps, 5kcps, or 10kcps								
Min. input signal width	Counter	Reset input : Selectable 1ms or 20ms								
	Timer	INA, INB, RESET : Selectable 1ms or 20ms				INA, INB, RESET, INHIBIT, BATCH RESET: Selectable 1ms or 20ms				
Input		Selectable voltage input or No-voltage input -Voltage input : input impedance is 5.4kΩ, 'H' level : 5-30VDC, 'L' level : 0-2VDC -No-voltage input: short-circuit impedance : Max. 1kΩ, Residual voltage : Max. 2VDC								
One-shot output		Selectable 0.01s to 99.99s								
Control output	Without com.	Contact output	Dual preset : SPST(1a) 2EA Single preset : SPDT(1c) 1EA			Dual preset : SPST(1a) 1EA, SPDT(1c) 1EA Single preset : SPDT(1c) 1EA				
		Solid state output	Dual preset : 1NPN open collector Single preset : 1NPN open collector			Dual preset:3NPN open collector Single preset:2NPN open collector				
		Contact output	Dual preset : SPST(1a) 2EA Single preset : SPDT(1c) 1EA			Dual preset: SPST(1a), SPDT(1c) Single preset: SPDT(1c)				
	Capacity	Solid state output	-			Dual preset: - Single preset:1NPN open collector		Dual preset:2NPN open collector Single preset:2NPN open collector		
		Contact output	250VAC 5A resistive load			250VAC 3A resistive load		250VAC 5A resistive load		
		Solid state output	30VDC Max. 100mA Max.							
External sensor power		12VDC ±10%, 100mA Max.								
Reference		See Counter J-6 to 33 for details about Counter/Timer products.								

Itme		Digital Timer/Counter (LED type)										
Series		FX4 Series		FX5 Series		FX6 Series		FXH Series		FXL Series		
Digit		4 Digits		4 Digits		6 Digits		4 Digits		6 Digits		
Model	Single preset type	—		FX4S		FX4		FX4H		—		
	Dual preset type	—		—		FX4-2P		FX4H-2P		FX4L-2P		
	Indicator	FX4Y-I		FX5S-I		FX4-I		FX4H-I		FX4L-I		
Appearances & Dimensions		 [W72×H36×L93mm]		 [W48×H48×L91mm]		 [W72×H72×L112mm]		 [W48×H96×L100mm]		 [W144×H72×L112mm]		
Operation type		Count up, Count down, Count Up/Down										
Power supply		100-240VAC 50/60Hz, 12-24VAC/DC (Option)										
Allowable voltage range		90 to 110% of power supply										
Max. counting speed		Selectable 1cps, 30cps, 2kcps, 5kcps by internal DIP switch										
Min. signal range		Min. 20ms (Input INHIBIT, RESET)										
Input type	CP1, CP2 input	[No-voltage input] Impedance at short-circuit : Max. 470Ω, Residual voltage at short-circuit : Max. 1V, Impedance at open-circuit : Min. 100kΩ				[No-voltage input] ⇨ Impedance at short-circuit : Max. 5.4kΩ, Residual voltage at short-circuit : Max. 2V, Impedance at open-circuit : Min. 100kΩ						
	RESET input	[Voltage input] ⇨ Input impedance : 10kΩ, "H" level voltage : 5-30VDC, "L" level voltage : 0-2VDC										
Control output	Contact	Type	—		SPDT(1c)		—		Single preset type : SPDT(1c), Dual preset type : SPDT(1c) × 2			
		Capacity	—		250VAC 3A resistive load		—		250VAC 3A resistive load			
	Solid state	Type	—		1 NPN open collector		—		Single preset type : 1 NPN open collector, Dual preset type : 2 NPN open collectors			
		Capacity	—		Max. 30VDC 100mA		—		Max. 30VDC 100mA			
Reference		See Counter J-34 to 56 for details about Counter/Timer products.										





- (A) Photo electric sensor
- (B) Fiber optic sensor
- (C) Door/Area sensor
- (D) Proximity sensor
- (E) Pressure sensor
- (F) Rotary encoder
- (G) Connector/Socket
- (H) Temp. controller
- (I) SSR/Power controller
- (J) Counter
- (K) Timer
- (L) Panel meter
- (M) Tacho/Speed/Pulse meter
- (N) Display unit
- (O) Sensor controller
- (P) Switching power supply
- (Q) Stepping motor & Driver & Controller
- (R) Graphic/Logic panel
- (S) Field network device
- (T) Production stoppage models & replacement

Product Overview




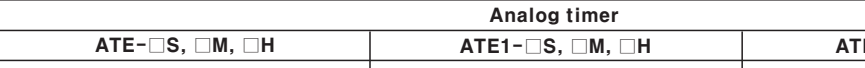
Item	Digital timer(LED type)	
Model	FS4E	FS5EI
Appearances & Dimensions	 [W48×H48×L85mm]	 [W48×H48×L85mm]
Function	Count up, Count down Timer	
Time setting range	0.01sec. to 9999hour	0.01sec. to 9999.9hour
Power supply	• 100–240VAC 50/60Hz • 12–24VAC/DC (Option)	
Allowable voltage range	90 to 110% of rated voltage	
Reset time	Max. 500ms	
Min. signal width	Min. 20ms	
Time operation	Power ON start	
Memory protection	Approx. 10 year (When using non-volatile semiconductor memory)	
Control output	Contact type	Time limit SPDT(1c)
	Contact capacity	250VAC 3A resistive load
Relay life cycle	Mechanical	Min.10,000,000 times
	Electrical	Min. 100,000 operations at 250VAC 3A resistive load
Repeat error	Max. $\pm 0.01\%$ $\pm 0.05\text{sec.}$	
SET error		
Voltage error		
Temperature error		
Reference	K-34 to 38	

Item	Analog multi function timer		
Model	AT8N	AT11DN	AT11EN
Appearances & Dimensions	 [W48×H48×L65mm]	 [W48×H48×L65mm]	 [W48×H48×L65mm]
Function	Multi function Timer (Includes 6 output modes)		
Time setting range	0.05sec. to 100hour		
Power supply	• 100–240VAC 50/60Hz, 24–240VDC • 24VAC 50/60Hz, 24VDC • 12VDC		
Allowable voltage range	90 to 110% of rated voltage		
Reset time	Max. 100ms		
Min. signal width	—————	Min. 50ms	
Timing operation	Power ON start	Signal ON start	
Control output	Contact type	Time limit DPDT(2c), Time limit DPDT(1c) + Instantaneous DPDT(1c) by selecting output operation mode	Time limit DPDT(2c)
	Contact capacity	250VAC 5A resistive load	
Relay life cycle	Mechanical	Min. 10,000,000 times	
	Electrical	Min. 100,000 times (Rated contact capacity)	
Repeat error	Max. $\pm 0.2\%$ $\pm 10\text{ms}$		
SET error	Max. $\pm 5\%$ $\pm 50\text{ms}$		
Voltage error	Max. $\pm 0.5\%$		
Temperature error	Max. $\pm 2\%$		
Reference	K-39 to 45		



Product Overview

Item	Analog timer		
Model	AT8SDN	AT8PSN	AT8PMN
Appearances & Dimensions	 [W48×H48×L65mm]	 [W48×H48×L65mm]	 [W48×H48×L65mm]
	Upgrade 		
Function	Star-delta timer		Power OFF delay timer
Time setting range	0.5 to 100sec.		0.05 to 10sec. / 0.05 to 10min.
Power supply	• 100–240VAC 50/60Hz / 24–240VDC		• 100–120VAC 50/60Hz • 100/110VDC • 200–240VAC 50/60Hz • 24VAC 50/60Hz, 24VDC
Allowable voltage range	90 to 110% of rated voltage		
Reset time	Max. 100ms		—————
Timing operation	Power ON start		Power OFF start
Control output	Contact type	▲ contact : SPST (1a), ▲ contact : SPST (1a)	
	Contact capacity	250VAC 5A resistive load / 250VAC 3A resistive load	
Relay life cycle	Mechanical	Min. 10,000,000 times	
	Electrical	Min. 100,000 times (250VAC 5A resistive load) Min. 100,000 times (250VAC 3A resistive load)	
Repeat error	Max. ±0.2 % ±10ms		
Voltage error	Max. ±5% ±50ms		
Temperature error	Max. ±2%		
SET error	Max. ±25%		—————
Voltage error	Max. ±0.5%		
Reference	K-46 to 48		K-49 to 51

- (A) Photo electric sensor
- (B) Fiber optic sensor
- (C) Door/Area sensor
- (D) Proximity sensor
- (E) Pressure sensor
- (F) Rotary encoder
- (G) Connector/Socket
- (H) Temp. controller
- (I) SSR/Power controller
- (J) Counter
- (K) Timer
- (L) Panel meter
- (M) Tacho/Speed/Pulse meter
- (N) Display unit
- (O) Sensor controller
- (P) Switching power supply
- (Q) Stepping motor & Driver & Controller
- (R) Graphic/Logic panel
- (S) Field network device
- (T) Production stoppage models & replacement

Item	Analog timer		
Model	ATE-□S, □M, □H	ATE1-□S, □M, □H	ATE2-□S, □M, □H
Appearances & Dimensions	 [W48×H48×L65mm]	 [W48×H48×L79mm]	 [W48×H48×L79mm]
	Upgrade 		
Function	Power ON delay timer (General purpose timer)		
Time setting range	Sec. (1, 3, 6, 10, 30, 60), Min. (3, 6, 10, 30, 60), Hour (3, 6, 12, 24)		
Power supply	110/220VAC 50/60Hz / • 220VAC 50/60Hz • 110VAC 50/60Hz • 24VDC • 12VDC		
Allowable voltage range	90 to 110% of rated voltage		
Reset time	Max. 200ms		
Timing operation	Power ON start		
Control output	Contact type	Time limit SPDT (1c), Instantaneous SPDT (1c)	
	Contact capacity	250VAC 3A resistive load	
Relay life cycle	Mechanical	Min. 10,000,000 times	
	Electrical	Min. 100,000 times (250VAC 3A resistive load)	
Repeat error	Max. ±0.3%		
SET error	Max. ±5% ±0.05sec.		
Voltage error	Max. ±0.5%		
Temperature error	Max. ±2%		
Reference	K-52 to 54		

Product Overview

Item		Digital weekly/yearly timer(LCD type)	
Model		LE7M-2	LE365S-41
Appearances & Dimensions		 [W72×H72×L60mm]	 [W48×H48×L60mm]
Function		Weekly/yearly timer	
Power supply		100–240VAC 50/60Hz	
Allowable voltage range		90 to 110% of rated voltage	
Timing program		48 steps for weekly, 24 steps for yearly	
Operation mode		ON/OFF mode, cycle mode, pulse mode	
Temperature error		0.01% ±0.05sec.	
Mounting		Front panel, surface, DIN rail	
Time deviation		±15sec/month(25℃) (±4sec/week)	
Memory protection		Over 5 years(at 25℃)	
Control Output	Contact type	SPDT(Single pole double contact)	SPST(Single pole single contact)
	Contact capacity	250VAC 10A resistive load	250VAC 15A resistive load
	Output number	Independent 2 output(1c × 2)	Independent 1 output(1a)
Relay life cycle	Mechanical	Min. 5,000,000 operations(Switching capacity 30 times/minute)	
	Electrical	50,000 operations<Switching capacity 20 times/1 minute, at 250VAC 10A(resistive load)>	50,000 operations<Switching capacity 20 times/1 minute, at 250VAC 15A(resistive load)>
Reference		K-55 to 66	K-67 to 77