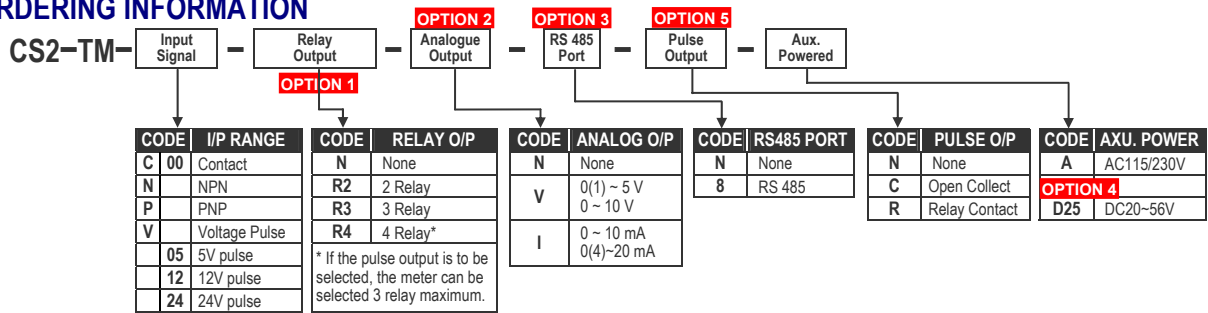


**FEATURE**

- Measuring **AUTO RANGE 0.01Hz~100KHz / ~140KHz(optional)** from flow-meter for Flow/Totalizer or Encoder for Linearly Line speed/Length application.
- **Decimal Point of immediate value is auto moving according to input frequency**
- Dual display screen for 10 digital totalizer & 6 digital batch or 99999 digital PV(immediate value) programmable, so that it's easier to be a batch controller
- **3 mode setting for flow rate description of flow-meter: E.Unit/pulse, Pulse/E.Unit, Volume/Hz**
- **4 banks pre-set for all relay functions relative 4 difference scaling, and selectable by 3 External Control Inputs(E.C.I.) Or front key**
- **4 relay Multi-cross function for immediate value Hi / Lo energized with Start Delay / Hysteresis / Energized & De-energized Delay / Relay Energized Latch..... functions and totalizer & batch N / R / C mode programmable**
- **3 external control inputs for PV Hold / Reset for Maximum or Minimum Hold / Reset for Relay latch / DI / Reset & Gate for Totalizer and(or) Batch....**
- **Pulse, Analogue output and RS 485 communication port in option**



**ORDERING INFORMATION**

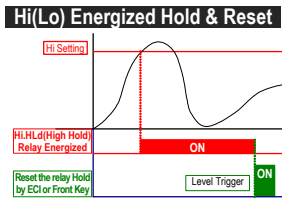
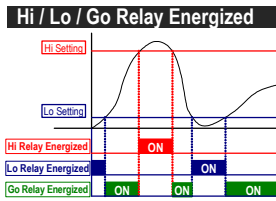


**SPECIFICATION**

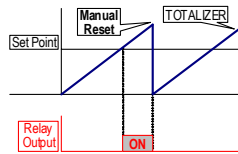
Input Frequency	Input Mode	Input Level
0.01Hz ~ 50 Hz	Contact	
0.01Hz ~ 50 Hz	NPN	High Level: 8~12V; Low Level: 0.0~4.0 V (with excitation supply 12Vdc)
0.01Hz ~ 100KHz	PNP	
0.01Hz ~ 140KHz (optional)	Voltage Pulse	High Level: over 2/3 of input level Low Level: under 1/3 of input level

- > **Input Mode & Level changeable by dip switch of rear terminal block.**
- Calibration: Without calibration process.
- Accuracy:  $\leq \pm 0.005\%$  of FS
- Sampling time:  $\geq 10\text{Hz} : 10 \text{ cycles/sec}; \leq 10\text{Hz} : f \text{ cycles/sec}$
- Response time:  $\leq 100 \text{ msec}$ (when the AvG = "1")
- Operating**
- Programming: 4 keys for Enter(Function) / Shift(Escape) / Up / Down  
Up key: increase the number / back to previous function  
Down key: decreases the number / go to next function  
Shift/Escape key: moves the flash digit position / Return back to upper level  
Enter/Fun key: enter the parameters you set or function select
- Security function: 4 digits password
- Lock function: 3 function group lock level for None/User Level/ Engineer Level / All(Engineer Level & User Level)
- Reading functions**
- Input range: 0.01Hz ~ 100KHz; **0.01Hz ~ 140KHz specify in option Auto / Semi-Auto / Fix; 3 mode selectable**
- Resolution: **Decimal point will Auto-changed according to input According to the flow rate description of flow-Meter, there are 3 parameter modes can be set in E.Unit/pulse, Pulse/E.Unit & Volume/Hz with diameter to comply difference description of flow-meters.**
- Input Factor Setting: Compensate error from 0.001~9.999
- Compensation factor:
- Display functions**
- LED: 7 segments LED: 0.28" red high-brightness LED  
Relay output indication: 4 square red LED  
RS 485 communication: 1 square red LED  
E.C.I. function indication (Max. or Mini. Hold / PV Hold/

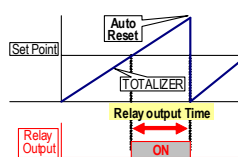
- Display Range: **Immediate Value: 5 digital; 0~99999**  
**Batch: 6 digital; 0~99999**  
**Totalizer: 10 digits; 0~999999999**
- Down screen selection: **Down screen can be programmed to show Batch(6 digits) or Immediate Value(5 digits)**
- \*\* **Totalizer increase is always according to PV(immediate Value), Even the display function has been set PV Hold, Max. / Mini. Hold or RS485.**
- Low Cut function: Low.cut :Settable range: -19999~19999 counts
- Average function: AvG :Settable range: 1~99 times
- Moving Average function: M.AvG : Settable range: 0(None)/1~10 times
- Digital Filter function: D.Filt : Settable range: 0(None)/1~99 times
- Over range indication: ovFL, when input is over 120% of input range Hi  
Totalizer / Batch: Showing ovFL or re-counting  
PV Hold / Maximum or Minimum Hold / Write to screen display by RS485 command
- Display functions: **Max. ( or Mini.) Hold & Reset** and **Data Hold & Reset**
- Time unit for totalizer & batch: Second / Minute / Hour selectable
- Control functions**
- Control relay: 2 Relays SPDT, 5A/230Vac, 10A/115V  
2 Relays SPST, 1A/230Vac, 3A/115V
- Bank Function: **4 banks pre-set for Hi/Lo scale, dp, set-points., and selectable by E.C.I. or Front key**
- Relay Output: Energized levels compare with set-points:  
– Immediate Value(PV): **Hi / Lo / Hi.Hold / Lo. Hold / DO / Go Programmable**  
– Functions: **DO function: Energized by RS485 command**  
Start delay / Energized & De-energized delay / Start band: 0~9999 counts  
Start delay time: 0:00.0~9(Minutes):59.9(Second)  
**Energized delay time: 9(m):59.9(s)**  
**De-energized delay time: 9(m):59.9(s)**  
Hysteresis: 0~5000 counts



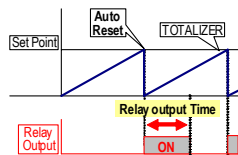
**Totalizer / Batch:** **Totalizer/Batch & N/R/C mode selectable**  
**Energized time: 0:00.0-9(Minutes):59.0(Sec.)**



**N MODE:**  
 When the condition of Set Point is met:  
 1. The relay will be energized;  
 2. The totalizer will run as same as usual; until manual reset by front key or by rear terminal, the totalizer will be reseted to "0" and the relay will be de-energized.



**R MODE:**  
 When the condition of Set Point is met:  
 1. The relay will be energized; until the time is over Relay output time (r.Y.1(or 2).ot).  
 2. The totalizer will run as same as usual; until the time is over Relay output time (r.Y.1(or 2).ot). The totalizer will be reseted to "0".



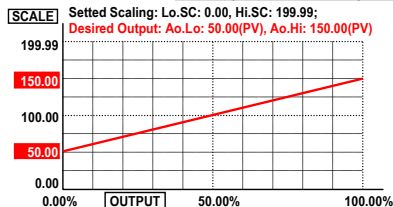
**C MODE:**  
 When the condition of Set Point is met:  
 1. The relay will be energized; until the time is over Relay output time (r.Y.1(or 2).ot).  
 2. The totalizer will be reseted to "0", then counts-up from "0".

**External Control Input**

- Input mode:** 3 ECI points, Contact or open collect input
- Functions:** **PV Hold / Reset for Max or Mini. Hold / DI / Reset for Relay latching / Reset for Totalizer and(or) Batch / Gate for Totalizer and(or) Batch**  
 Debouncing time: 5~255 x 8mseconds

**Analogue output(option)**

- Accuracy:**  $\pm 0.1\%$  of F.S.; 16 bits DA converter
- Ripple:**  $\pm 0.1\%$  of F.S.
- Response time:**  $\leq 100$  msec. (10~90% of input)
- Isolation:** AC 2.0 KV between input and output
- Output range:** Specify Voltage or Current  
 Voltage: 0~5V / 0~10V / 1~5V selectable  
 Current: 0~10mA / 0~20mA / 4~20mA selectable
- Output Capability:** **Voltage: 0~10V;  $\geq 1000\Omega$ ;**  
**Current: 0(4)~20mA;  $\leq 600\Omega$  max**
- Functions:** **Ao.Hi(output range high): PV Hi vs. output range Hi**  
**Ao.Lo(output range Low): PV Low vs. output range Lo**  
**Ao.LMt(output High Limit): 0.00~110.00% of output High**



**Pulse output(option)**

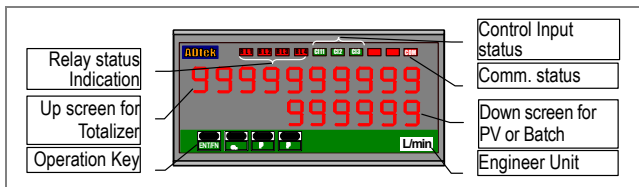
- Output mode:** Open collect: 30V/60mA or Relay: DC24V/1A
- Output range:** **Relative to totalizer count: 1 Pulse/1~9999 Count**  
 Maximum frequency: 1000Hz; duty cycle 50%

**RS 485 communication(optional)**

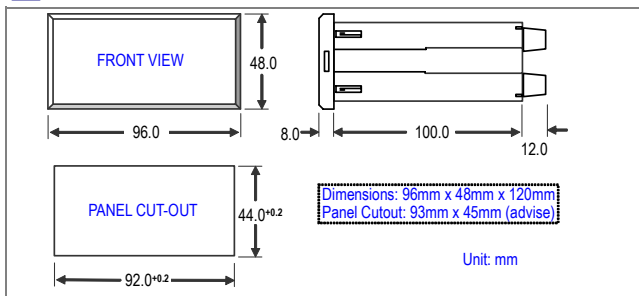
- Protocol:** Modbus RTU mode  
 Baud rate: 1200/2400/4800/9600/19200/38400  
 Data bits: 7 or 8 bit  
 Parity: Even, odd or none (with 1 or 2 stop bit)  
 Device no: 1 ~ 255
- Write function:** Write value to down screen from PC's RS485 command
- Power**
- Power Supply:** AC 115/230V  $\pm 15\%$ , 50/60Hz  
 Optional: DC20~56V

- Power consumption:** 5.0VA
- Back up memory:** By EEPROM
- Environmental**
- Operating temperature:** 0~60 °C
- Temperature coefficient:**  $\leq 100$  PPM/°C
- Storage temperature:** -10~70 °C
- Enclosure:** Front panel: IEC 549 (IP54)
- Electrical safety**
- Dielectric Strength:** AC 2.0 KV for 1 min  
 Between Power / Input / Output / Case
- Insulation resistance:**  $\geq 100M$  ohm at 500Vdc
- Isolation:** Between Power / Input / Output
- EMC:** EN 55011:2002; EN 61326:2003
- Safety(LVD):** EN 61010-1:2001
- Mechanical**
- Dimensions:** 96mm(W) x 48mm(H) x 120mm(D)
- Panel cutout:** 92mm(W) x 44mm(H)
- Case Materiel:** ABS fire-protection (UL 94V-0)
- Mounting:** Panel flush mounting
- Terminal block:** Plastic NYLON 66 (UL 94V-0)  
 10A/300Vac, M2.6, 16~22AWG
- Weight:** 550g

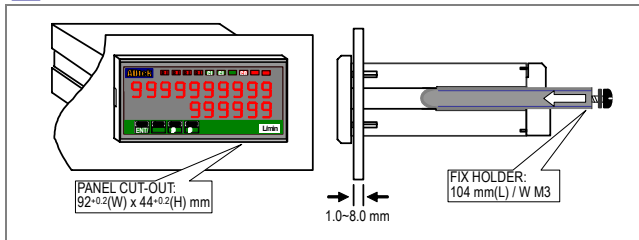
**FRONT PANEL**



**DIMENSIONS**



**INSTALLATION**



**CONNECTION DIAGRAM**

