

MULTI-TOTALIZER

PRESELECTION COUNTER

TIMER

BATCH COUNTER

TACHOMETER



Microprocessor Based Counter

PRODUCT INTRODUCTION

FEATURE

The microprocessor based counter is a fast, accurate and user friendly product that can satisfy the user through its multi-function feature. This in turn decreases the need for stock keeping and lowers costs, resulting in increasing competitiveness.

The counter is suitable in a wide range of application, e.g. batch counter, totalizer, length measurement, positioning control, chronometer, tachometer, flowmeter, etc. User need only to configure the counter according to the required function.

The counter possesses most of the options available in the market, e.g. memory retention, 20~250V AC/DC power supply, 2 sets of relay output, adjustable action delay for the relay outputs (0.1 ~ 99999.9s), provisions for 2 signal inputs, sampling frequency of maximum 20KHz, a set of DC12/24V power supply. RS485 communication port (ModBus), counter parameters settings, scaling settings etc.

INPUT SIGNAL

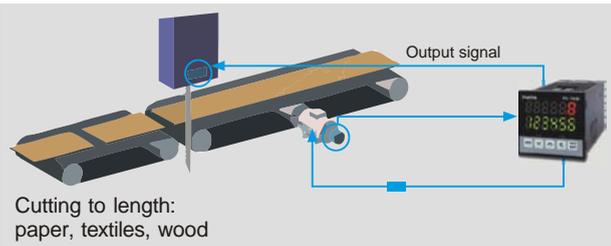
- PNP open collector input
- NPN open collector input
- Emitter follower
- CMOS type
- TTL type
- Contact type input
- Photocouplers Solid-state type input

APPLICATIONS

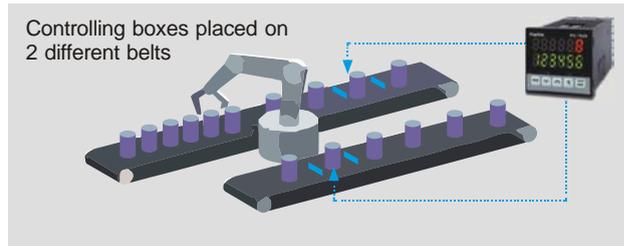
Food Industry, Pulp & Paper Industry, Dyeing, Packaging, Publication, Textile, Pharmaceutical, Tooling, Waste water treatment, Petrochemical, Manufacturing Process.....etc.

APPLICATION

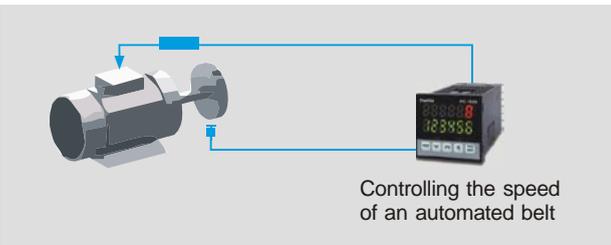
Preselection Counter



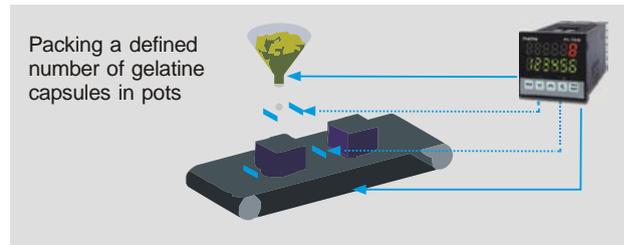
Multi-Totalizer



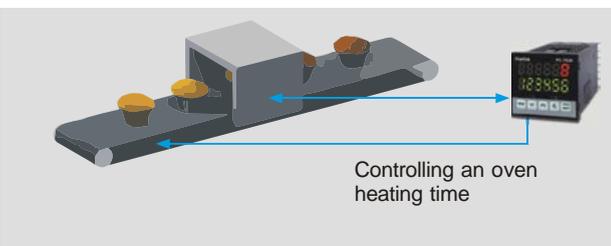
Tachometer



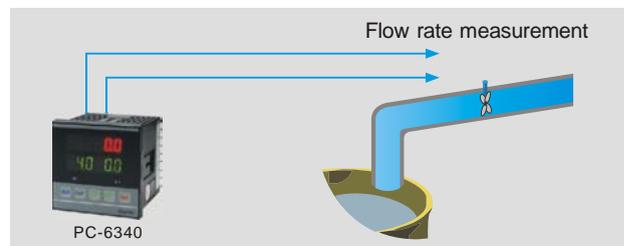
Batch Counter



Timer



Flow Meter



PC-6340 PROGRAMMABLE FLOW METER



PC-6340

WORKING PRINCIPLE

User defined sampling timing (1-99s) to acquire sampling pulse signal. Signal is processed to display per second (per minute / per hour) instantaneous flow rate in 4 ~ 20mA signal. When flow rate exceeds pre-set value, relay 1 actions. When total flow reaches pre-set value, relay 2 actions (Relay action time from 1 ~ 99999.9s). Includes a linear flow rate signal output 4 ~ 20mA.

PRODUCT APPLICATION

Petrochemical, Food, Feed, Water Treatment, Dyeing etc.

FEATURES

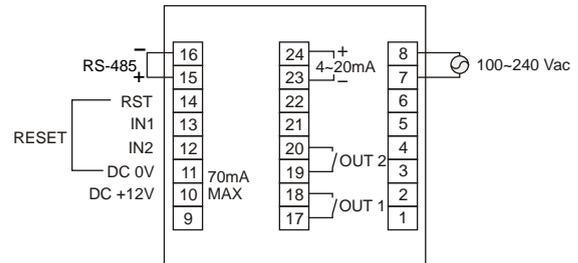
- Switching Power Supply 100~240Vac, 50/60Hz
- Counting Speed: 5K cps (Solid-state), 30 cps (Contact)
- Decimal Point Setting
- Prescaling Value
- 2 x designated preset-points
- Adjustable output delay timing
- Sampling Timing 1 ~ 99s
- Instantaneous Flow rate units (per second / per minute / per hour)
- Analog output 4 ~ 20mA
- Dimension 72X72 mm

ORDERING INFORMATION:

PC - 6 3 4 0 - □ □

Power Supply	S---100~240 Vac, 50/60Hz	
Data Retention	0---No Data Retention 1---Data Retention	2---RS485 3---Data Retention & RS485

WIRING DIAGRAM:



SPECIFICATIONS

Power Supply	100~240Vac, 50/60Hz
Power Supply for sensor	12Vdc, 70mA
Power Consumption	Max. 7W
Operating Temperature	0 ~ 55°C
Storage Temperature	-10 ~ 70°C (20 ~ 85%RH)
Display	0.36" 7 segment 6-digits
Counting Speed	5K cps(with Solid-state input only) ; 30 cps(with contact input)
Counting range	0~999999s
Decimal Point Setting	0~4
Input method (Switchable)	<u>No-Voltage input</u> ON impedance: max. 1KW OFF impedance: min. 100KW <u>Voltage input</u> High (logic) level: 4~24Vdc Low (logic) level: 0~2Vdc
Proportion	0.001 ~ 999.999
Sampling Time	1~99s
Flow Rate Units	Flow rate/s, Flow rate/min, Flow rate/hr
Pre-set Point	2 points
Contact Output Delay	2 sets Relay Output (Relay action timing adjustable 0.1 ~ 99999.9s)
Relay Output	SPST-NOx2, 3A at 250Vac/30Vdc (resistive load)
Analog Output	4~20mA
Communication Interface	Rs485 Baud rate 1200-57600bps selectable
Reset	Manual, Automatic, External terminals.

PC-76□□ MULTI-FUNCTION COUNTER



Counter, Chronometer, Tachometer

PRODUCT APPLICATION

Food, Feed, Dyeing, Pharmaceutical, Injection Moulding, Various Machinery, Electrical Cabling and wiring, etc.

FEATURES

- Multi-functional design featuring in Timer, Counter, and Tachometer
- Accumulation, batch, and dual function
- DC12V or DC24V power (100mA) for input or external transmitter
- Selectable input of PNP or NPN
- Rising / Falling trigger selectable for counting / reset signal
- Ratio-Conversion function (pre-scale) is available to indicate input pulse in actual measuring unit
- Counting speed is switchable as 30 / 20K cps with maximum of 20K cps.
- Selectable output including relay and transistor
- 5 user-friendly keypad protection schemes
- 6 / 8 / 10 digits with dual channel, dual color LED display
- RS-485 Communication interface, Data Retention.

ORDERING INFORMATION:

PC-76□□-W□□

Dimension	20---48X48 (6 Digit) 30---96X48 (10 Digit) 40---72X72 (8 Digit)	▲	▲					
Power	20V~250V AC/DC							
Output	R---Relay output S---Solid state output							
Communication & Data retention.	0--- Without . 1--- RS-485 communication interface only. 2--- Data retention only. 3--- Communication interface and data retention.							

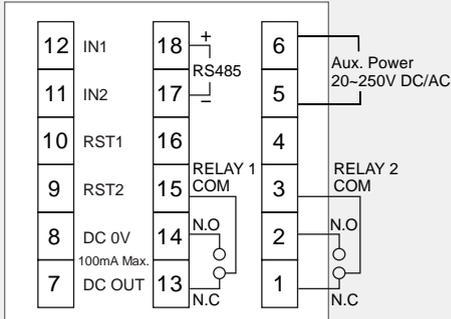
※ While in power off, the PC 7620 will retain the present value and the output status; specially, some counting mode likes A3 (Non-reset in power on) must with this retain status that can work functionally.

SPECIFICATIONS

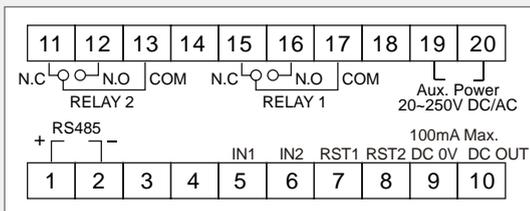
Power input	20V~250V AC/DC, 50/60Hz
Power consumption	7VA Maximum
Ambient temperature	-10~55°C
Storage temperature	-20~70°C
Ambient humidity	20%~85% RH non-condensed
Functions	Counter, Chronometer, Tachometer
Counting frequency	30Hz (contact type) 20kHz (solid state type)
Counting input mode	up, dn, upup, updn, Gate-up, Gate-dn, dir, ph
Counting output mode	N, F, C, R, K, K1, P, Q, S, S1, S2, A, H
Timer operation mode	A, A1, A2, A3, B, B1, B2, B3, D, E, F, Z, Toff, Ton, H
Keypad protection	5 Level protection
Display	2-row or 2-line, 6 / 8 / 10-digit LED display
Display range	PC-7620 : -99,999~999,999 PC-7630 : -999,999,999~9,999,999,999 PC-7640 : -9,999,999~99,999,999
Reset Signal	Front Panel Reset key & External trigger Reset1 \ Reset2 at bottom terminal (Positive/negative trigger selectable)
Input Signal	IN1 & IN2 at bottom terminal Non-voltage input (NPN) \ Voltage input (PNP) selectable (output impedance: 7.8kW \ input impedance: 3.9 kW) High level: 4 to 30Vdc, Low level: 0 to 3 Vdc
Output Signal	Two 1C Relays Capacity : 3A / 250V or 2 S.S Output (200Vdc 120mA)
Output retain Time	0.1s ~99999.9s
External power supply	DC12V or DC24V 100mA
Communication	RS 485 Modbus (RTU & ASCII)
Data Retention.	By EEPROM
Housing type	panel mounting
Housing Ambient	Over-voltage category II, pollution degree II (IEC61010-1)
pollution degree	IP 65 (Front panel)
Dimension	1/16 DIN 48x48x92 mm 1/8 DIN 96x48x128.5 mm 3/16 DIN 72x72x80.5 mm

WIRING DIAGRAM

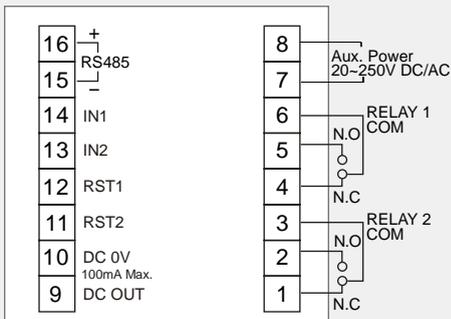
Wiring Diagram PC-7620



PC-7630



PC-7640



MODE SELECT

Single Counting

Accept Pre2 default value, the system will pull high at Relay 2 while count over Pre2

Dual Segment Counting

Accept Pre1 & Pre2 default values, the system will pull high at Relay 1 & Relay 2 separately while count over Pre1 & Pre2

Dual Operation Counting

IN1 & IN2 can independent counting and operate fundamental calculation (Add/Subtract). The Relay 2 will be pulled high while the calculation equal to default value (Pre2)

Batch Counting

Batch counting function, default port (IN1, REST 2 & Relay 1) to set batch number and port (IN2 REST1 & Relay 2) to set counting number for each batch process. In operation, while the counting number reaches setting value the Relay 2 will be active, and the same for batch process, Relay 1 will be active. If the counting number is over Pre2, then the "Relay 2" will be active; if the batch times is over Pre1, then "Relay 1" will be active until rest1 acts

Accumulation Counting

Accumulation counting function, if the accumulation number reaches preset value, then terminal "Relay 2" will be active. The asynchronous output (Relay 1 & Relay 2) can set time delay from 0.1 sec to 99999.9 secretary. While accumulation count is over 999999 or under -99999, the accumulation count will be reset to zero automatically.

Chron

Time counting function will show accurate time to user. The calculate mode can display "sec"msec", "min"sec" and "hr"min". Longest time can be up to 999hr59min, and the shortest time to display is 10ms. If user select the "H" reset ("rEST=h" in automation reset function), then user can choose either manual / automatic operation, or determine the forward / reverse setting in start. "Relay 2" will keep active while time is up to preset value. ※Caution: ※This function only while user set IN1 & IN2 in PNP status

Tacho

Tachometer function, or rotation speed function, is designed to monitor the rotation speed. User can input rotation frequency into "IN1" & "IN2", and follows setting the calculation unit and refresh time. While single input ("Up" mode), the maximum detects limit is 60k rpm, and in "ph" mode, its maximum is only allowable up to 30k rpm. User must care the correct setting of Pre1, Pre_2, Relay 1 and Relay 2 which refer to different setting mode (HiLo / Area / HiHi / LoLo, see User guide in detail).

Speed / Line Speed measurement

A conveyer belt which the radius of gyration for the pulley is 0.5m, a sensor on the pulley outputs one pulse per revolution.

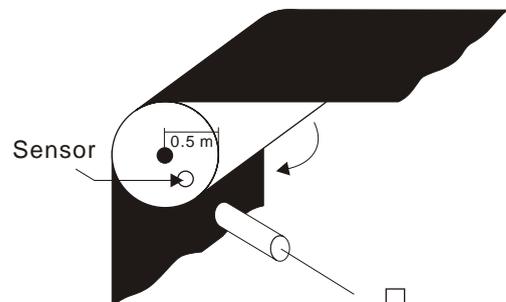
Hence PPr= 1 pulse/revolution

$rP\Box$:

- 1: rotational speed per second
- 60: rotational speed per minute
- 3600: rotational speed per hour

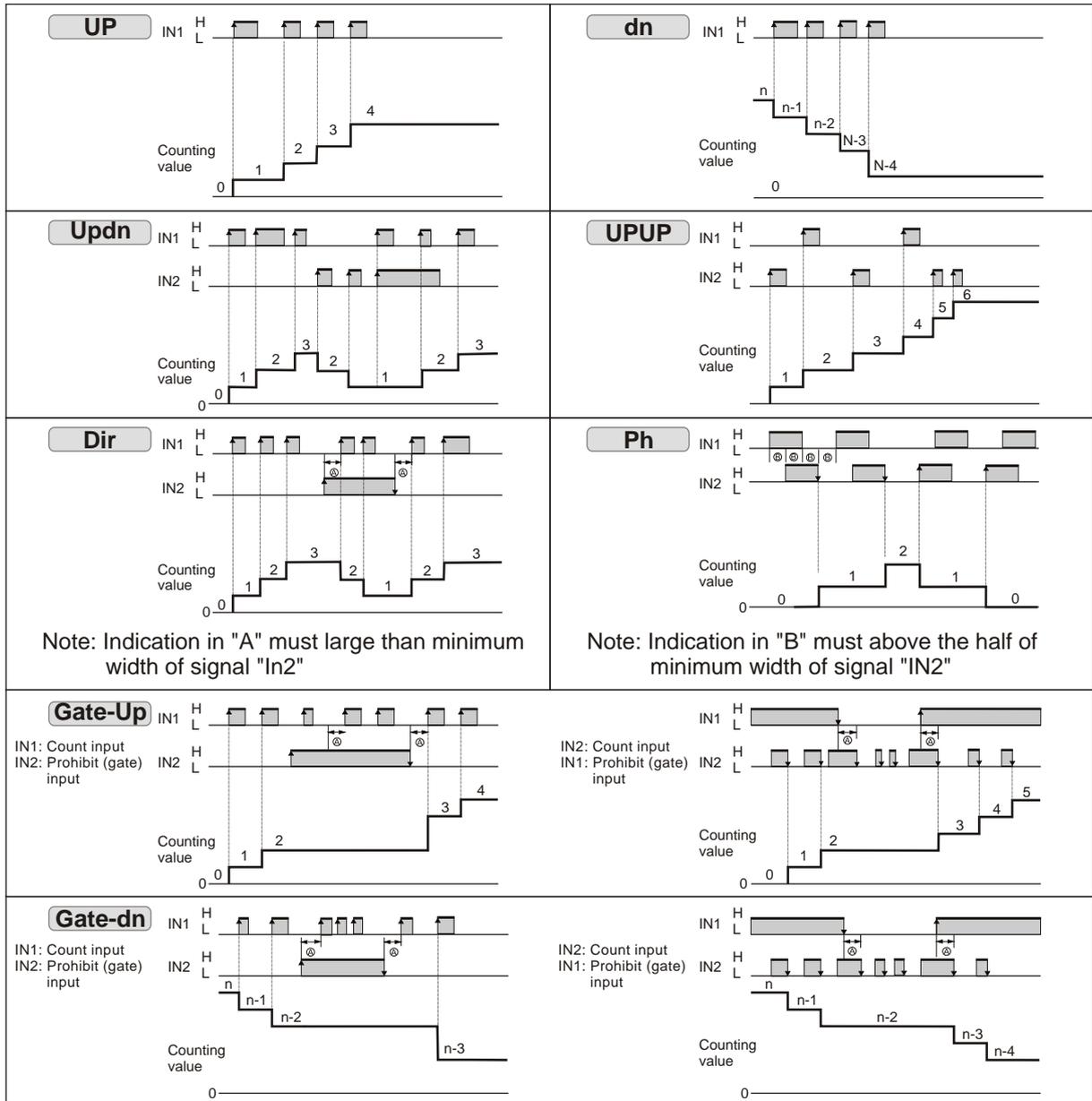
$$PSCL: 2Pr = 2p \cdot (0.5) = pm$$

TL: Refresh Time, must large than double of cycle time.



TIMING CHART FOR COUNTING MODE INPUT

Timing Chart for Counting Mode Input (Rising Edge Trigger)



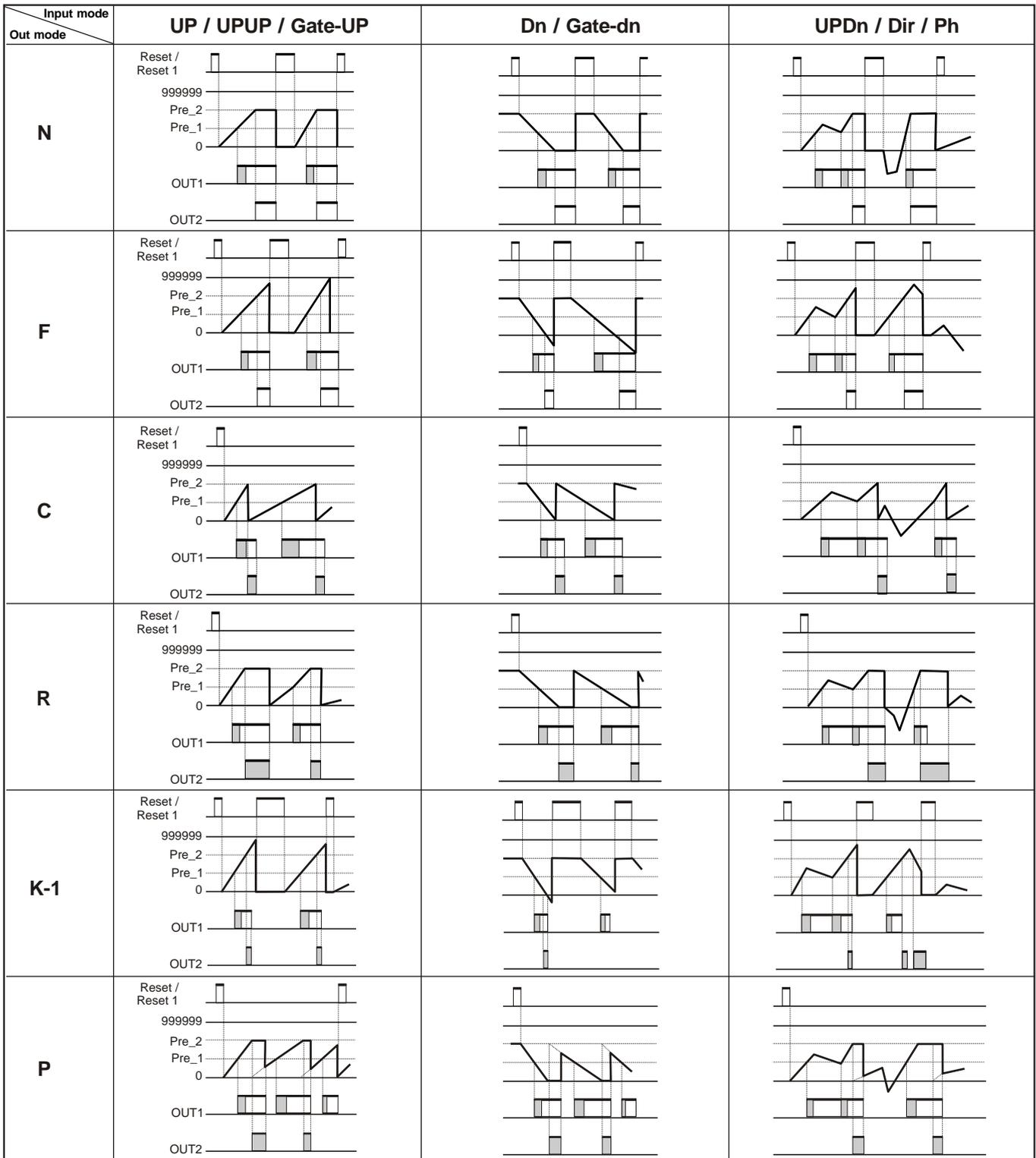
TIMING CHART FOR COUNTING MODE OUTPUT

Timing Chart for Counting Mode Output

 Holding output

 One-shot output

 One-shot/ Holding output



N mode: While counts reach Pre_2 (**See detail in Default Setting**), counting stop, and keep "OUT2" in active status until user reset.

F mode: While counts reach Pre_2, counting continues, and keep "OUT2" in active status until user reset.

C mode: While counts reach Pre_2, counting resets, and keep "OUT2" in active status until time passes preset value.

R mode: While counts reach Pre_2, counting stops, and keep "OUT2" in active status until time passes preset value then reset the counting.

K-1 mode: While counts reach Pre_2 (**See detail in Default Setting**), counting continues, and keep "OUT2" in active status until time passes preset value.

P mode: While counts reach Pre_2, it first resets counting and follow then continues counting, the display shows the default Pre_2 until time passes preset value. After the preset time passed, the display presents current value.

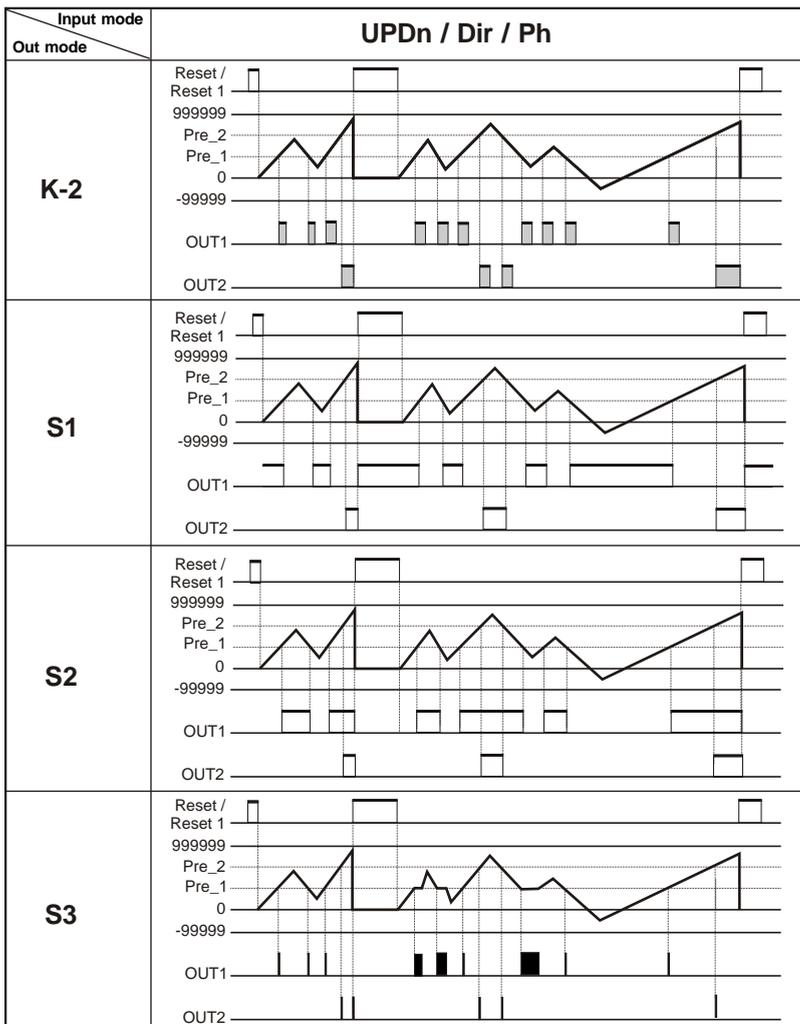
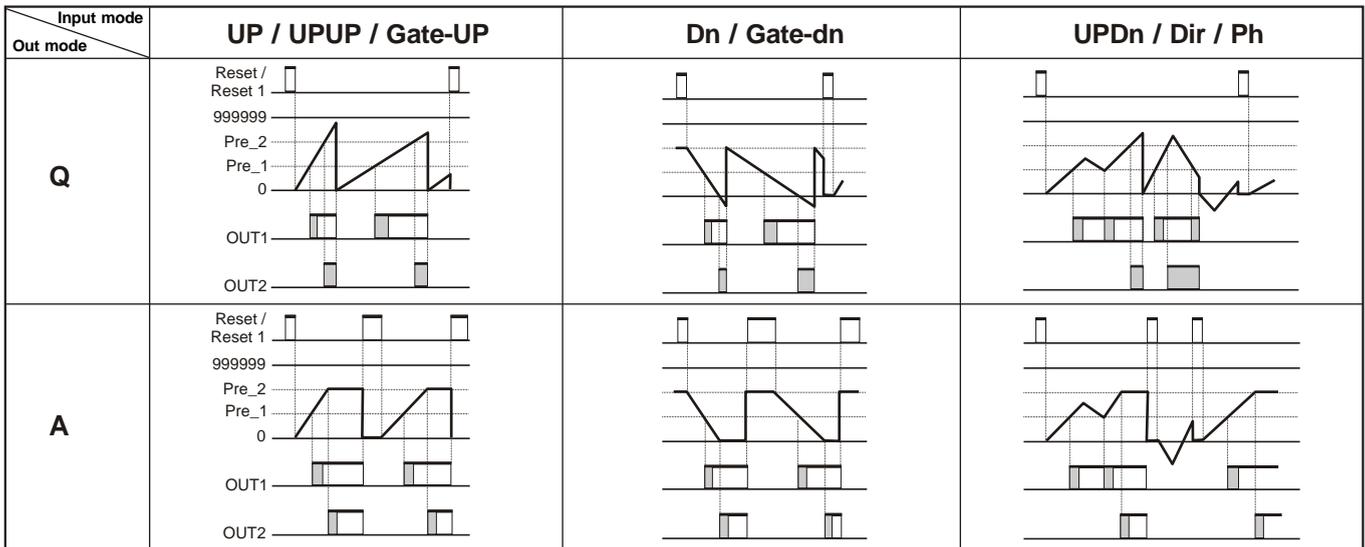
TIMING CHART FOR COUNTING MODE OUTPUT

Timing Chart for Counting Mode Output

 Holding output

 One-shot output

 One-shot/ Holding output



Q mode: While counts reach Pre_2, counting continues. And it keeps "OUT2" in active status until time passes preset value then it will reset the counting.

A mode: While counts reach Pre_2, counting stops, and it will restart counting while accepts reset input.

K-2 mode: While counts reach Pre_2, the "OUT2" in active status until time passes preset value.

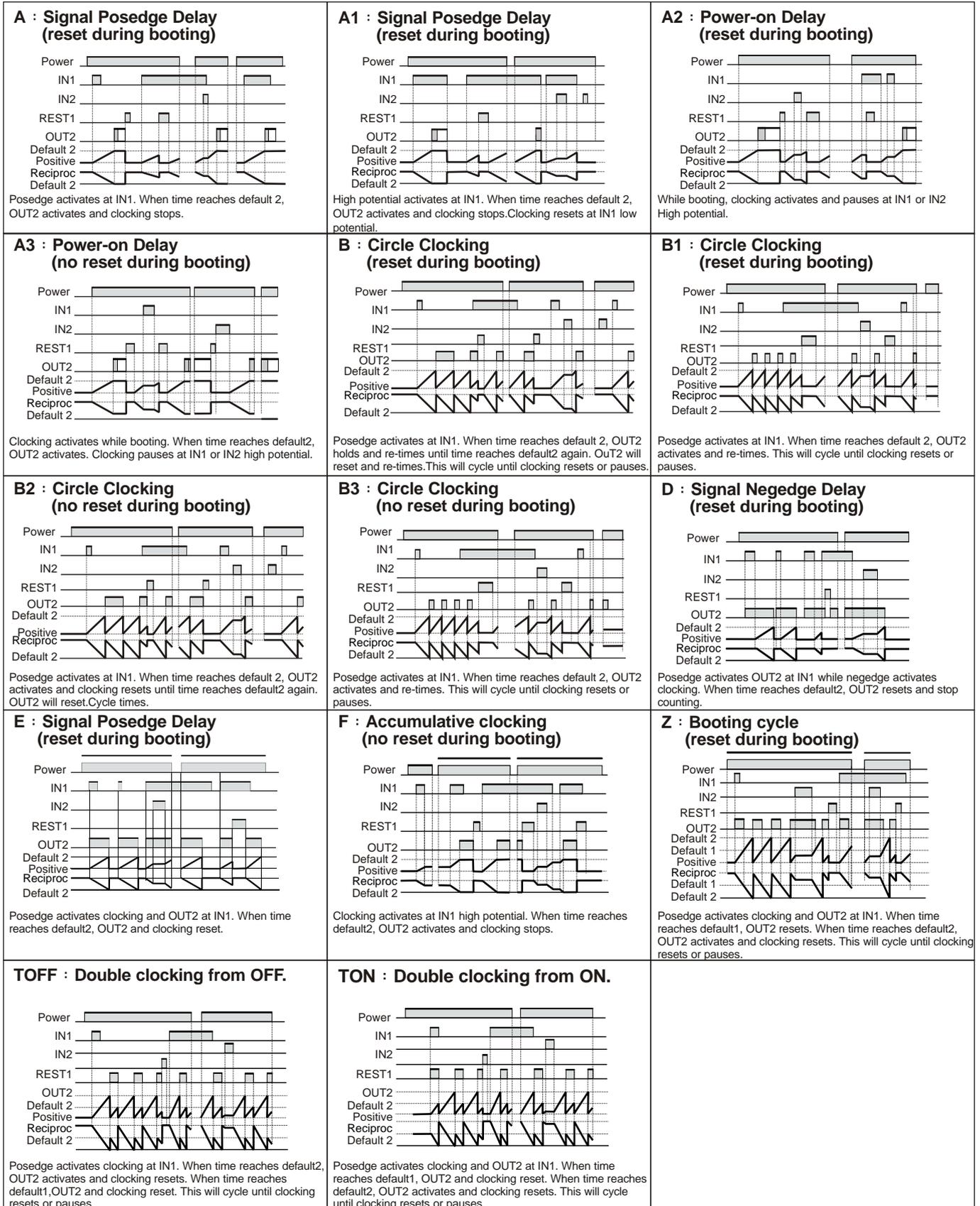
S1 mode: While counts less than or equal Pre_1, the "OUT1" will in active status and keep hold. If counts large than Pre_1, the "OUT1" will be reset.

S2 mode: While counts less than or equal Pre_1, the "OUT1" will be reset and keep hold.

S3 mode: While counts equal Pre_1, the "OUT1" will keep hold, and if counts equal Pre_2, the "OUT2" will keep hold.

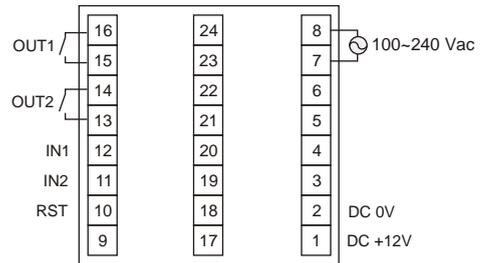
TIMING CHART FOR CHRON MODE OUTPUT

Timing Chart for Counting Mode Output



PC-8340 PRESET COUNTER

WIRING DIAGRAM:



Output Mode: N, F, C,R, K, P, Q, S

PRODUCT APPLICATION

Food, Feed, Dyeing, Pharmaceutical, Injection Moulding, Various Machinery, Electrical Cabling and wiring, etc.

FEATURES

- Switch Power Supply: 100~240Vac, 50/60Hz
- Counting Speed: 10K cps (Solid-state), 30 cps (Contact)
- Counting Mode 8 type
- Output Mode 8 type
- 2nd output is adjustable from 0.12~1.25s
- User- friendly

ORDERING INFORMATION:

PC-83□□-□□

Dimension	40---72X72
Power Supply	S---100~240 Vac, 50/60Hz
Data Retention	0---No Data Retention 1---With Data Retention

※ Contact us for custom- made product.

SPECIFICATIONS

Power Supply	100~240Vac, 50/60Hz
Power Supply for sensor	12Vdc, 70mA
Power Consumption	Max. 7W
Operating Temperature	0 ~ 55°C
Storage Temperature	-10 ~ 70°C (20 ~ 85%RH)
Display	0.36" 7'segment 6-digits
Buttons	9 buttons
Counting Mode	UP, dn, UPdn-A, UPdn-b, UPdn-c, UPdn-d, UPdn-E, UPdn-F
Output Mode	N, F, C,R, K, P, Q, S
Counting Speed	10K cps(with Solid-state input only)
Input method (Switchable)	<u>No-Voltage input</u> ON impedance: max. 1KW OFF impedance: min. 100KW <u>Voltage input</u> High (logic) level: 4~24Vdc Low (logic) level: 0~2Vdc
Pre-set Point	2 points
Relay Output	SPST-NOx2, 3A/250Vac, 3A/30Vdc (resistive load)
Memory backup	EEPROM (overwrites: 100,000 times min.) That can store data for 10 years min.
Suitable Sensors	Limit switch, Proximity switch, Optical switch, Conductive switch, Encoder
Reset	Manual, Automatic, External terminals.

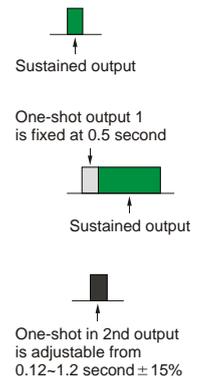
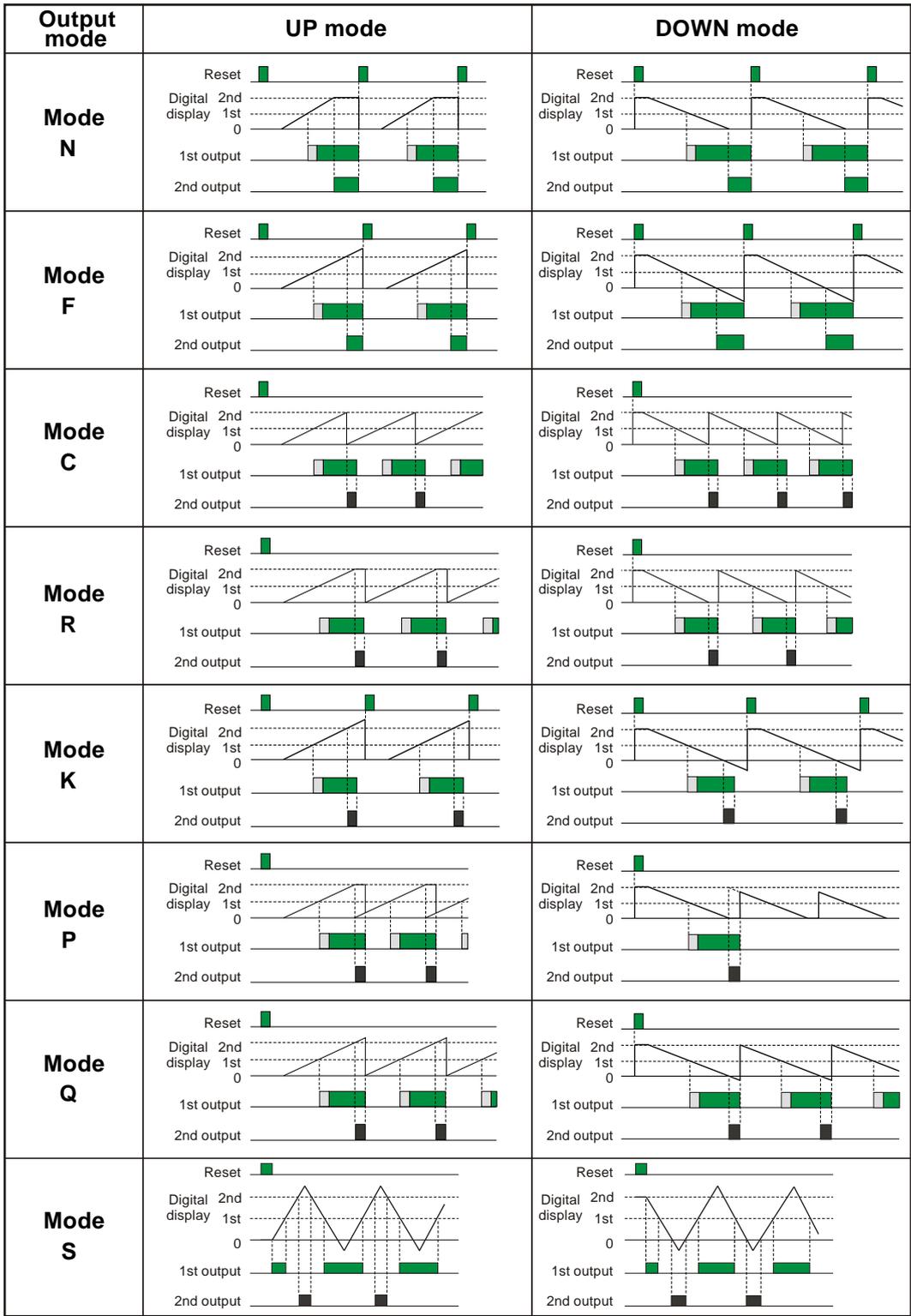
INPUT MODE

INPUT OPERATION MODE

UP mode		DOWN mode	
Input mode	Timing charts	Input mode	Timing charts
UP input	<p>P1: Count input, P2: Gate input</p> <p>Count value: 0, 1, 2, 3, 4, 5</p>	DOWN input	<p>P1: Count input, P2: Gate input</p> <p>Count value: 0, n, n-1, n-2, n-3, n-4, n-5</p>
	<p>P1: Count input, P2: Gate input</p> <p>Count value: 0, 1, 2, 3, 4, 5</p>		<p>P1: Count input, P2: Gate input</p> <p>Count value: 0, n, n-1, n-2, n-3, n-4, n-5</p>
UP/dn-A Command input	<p>Count value: 0, 1, 2, 3, 2, 1, 2, 3</p>	UP/dn-D Command input	<p>Count value: 0, n, n-1, n-2, n-3, n-2, n-1, n-2, n-3</p>
UP/dn-B Individual input	<p>Count value: 0, 1, 2, 3, 2, 1, 1, 2, 3</p>	UP/dn-E Individual input	<p>Count value: 0, n, n-1, n-2, n-3, n-2, n-1, n-1, n-2, n-3</p>
UP/dn-C Phase difference input	<p>Count value: 0, 1, 2, 2, 1, 2, 3</p>	UP/dn-F Phase difference input	<p>Count value: 0, n, n-1, n-2, n-2, n-1, n-2, n-3</p>

OUTPUT MODE

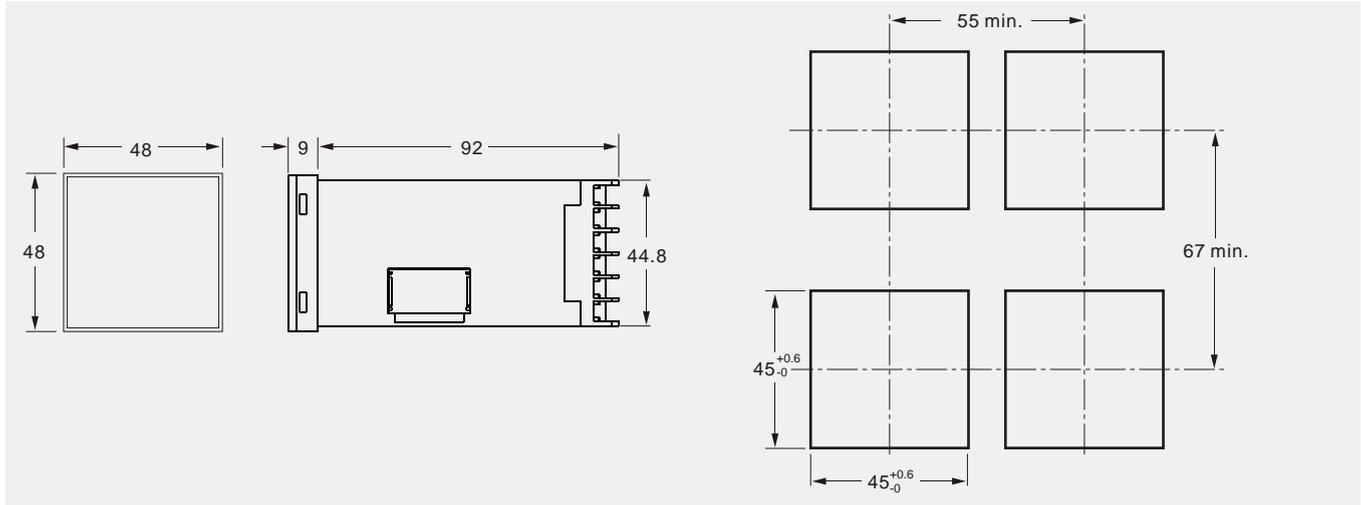
OUTPUT OPERATION MODE



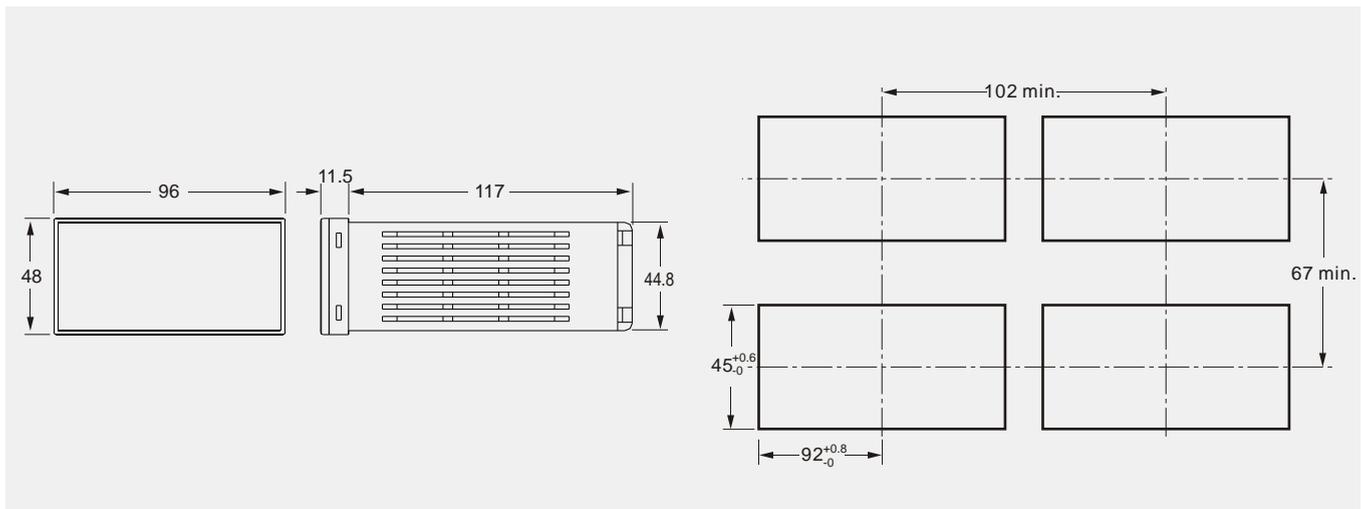
DIMENSION / PANEL CUTOUT

DIMENSION / PANEL CUTOUT

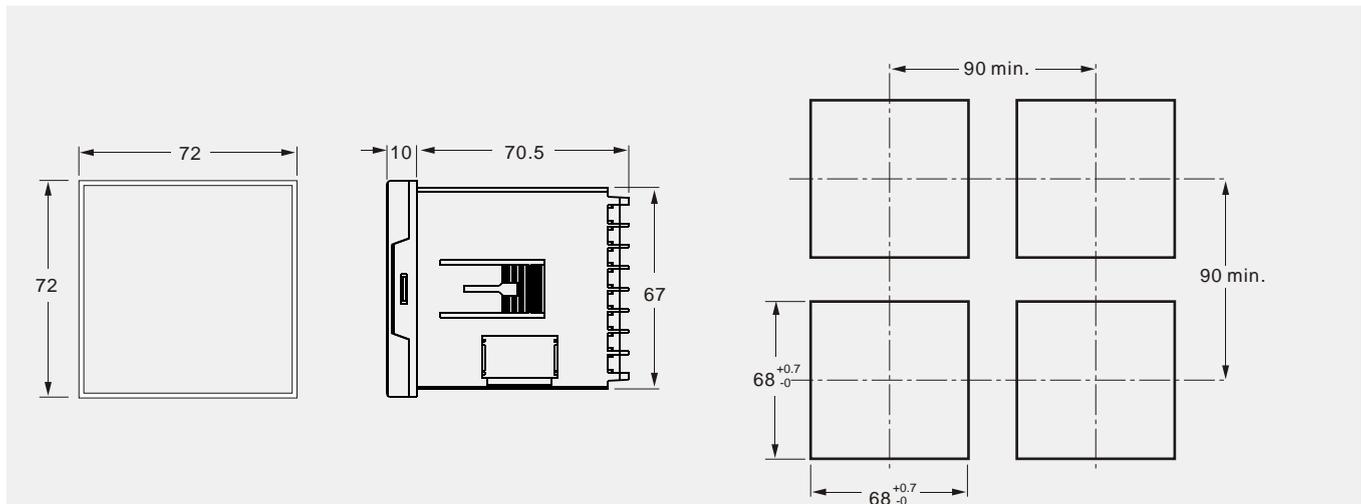
PC-□□20 : 48mm(W) x 48mm(H) x 101mm(D)



PC-□□30 : 96mm(W) x 48mm(H) x 128.5mm(D)



PC-□□40 : 72mm(W) x 72mm(H) x 80.5mm(D)



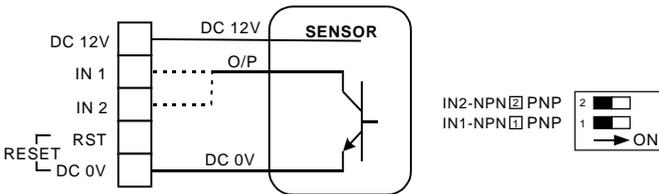
SENSOR CONNECTION / DIP SWITCH SETTINGS

PC-6340, 8340

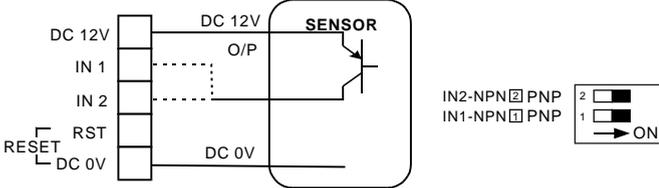
Sensors input wiring diagram and DIP switch setting (in the setting window of plastic housing)

PS: ● Black rectangle shows the setting of DIP switch
● should power off and power on again whenever changing DIP switch setting.

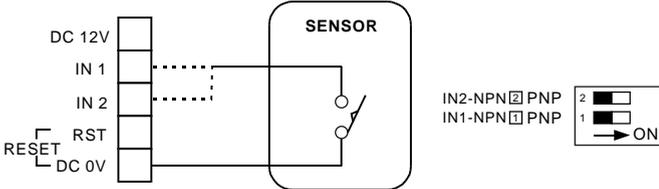
NPN TYPE



PNP TYPE



Contact

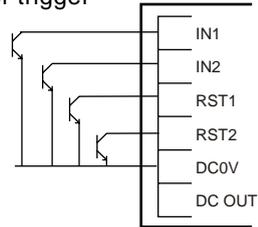


PC-76□□

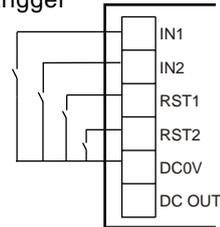
Sensors input wiring diagram and DIP switch setting (in the setting window of plastic housing)

PS: ● Black rectangle shows the setting of DIP switch
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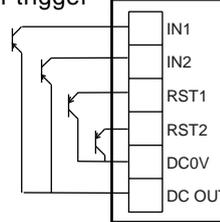
NPN transistor trigger



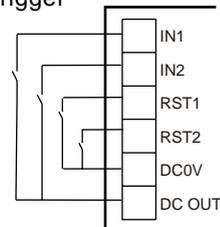
NPN contact trigger



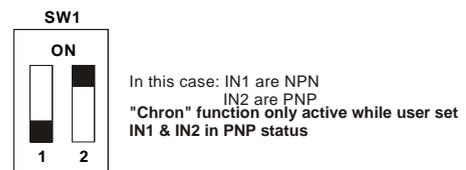
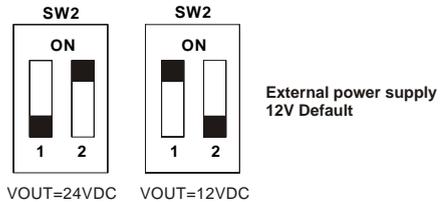
PNP transistor trigger



PNP contact trigger



Dip Switch in setting window



PC-76□□ MULTI-FUNCTION COUNTER

	PC-7620	PC-7630	PC-7640
Model / Features			
Available Dimension DIN (mm)	1/16 DIN (48*48)	1/8 DIN (96*48)	3/16 DIN (72*72)
Color	Black		
Function	Pre set x 1、Pre set x 2、Batch-Counter、Tachometer、Chronometer、Dual Counter、Accumulation		
Keyboard Protection	6 choices (ALL、RES、MOD、FREE、P1P2、RES、MOD)		
Display	Dual 6 digit	Dual 10 digit	Dual 8 digit
Button	5 buttons		
Power Supply	20V~250V AC/DC, 50/60Hz		
Operation Temperature	-10~55°C		
Storage Temperature	-20~70°C		
Protection Rating	IP65 (Front Panel)		
Installation	Panel Mounted		
Memory Retention	EEPROM		
External Power Supply	DC12V or DC24V、100 mA (Switch-able)		
Input method	IN1 & IN2 at bottom terminal Non-voltage input (NPN)、Voltage input (PNP) selectable (output impedance: 7.8kΩ、input impedance: 3.9kΩ) High level: 4 to 30Vdc, Low level: 0 to 3 Vdc		
Output Signal	250VAC/3A、Relay SPDT*2 or S.S. Output (200 VDC/120mA) *2		
Counting Speed	20K cps (with Solid-state input only) 30 cps (with contact input)		
Counting range	-99,999~999,999	-999,999,999~9,999,999,999	-9,999,999~99,999,999
CONTROL FUNCTION			
Counting Input Mode	8 choices (UP、DN、UPDN、UPUP、DIR、PH、Gate-UP、Gate-DN)		
Counting Output Mode	13 choices (N、F、C、R、K、P、Q、S、K1、S1、S2、A、H)		
Timer Operation Mode	15 choices (A、A1、A2、A3、B、B1、B2、B3、D、E、F、Z、H、Ton、Toff)		
Reset Signal	NPN Positive / Negative trigger selectable		
Rotating Speed Mode	Four (HIHI、HILO、LOLO、Area)		
Sampling Timing	0.1~99.9 seconds		
Communication Interface	RS485 ModBus (RTU & ASC II)		
Speed Units	Speed/s、Speed/min、Speed/hr		
Approval	CE、UL pending		

Microprocessor Instruments

Bargraph/ Digital display Panel Meter

- Switching power supply 85~265 Vac or 18~36 Vdc
- Wide range of user definable scaling ratio.
- SIM (Signal Input Module) available for different application.
- Isolation in Analog / Relay output.
- Support Non-Linear tank volume conversion.
- RS485 ModBus communication.



Microprocessor Based Counter

- Switching power supply 85~265 Vac
- Counting Speed: 20 K cps (Solid-state), 30 cps (Contact)
- Decimal point setting
- Timer display (user set h/min. min/s or s/0.1s)
- Adjustable output delay timing
- Speed units: Second, Minute, Hour
- Includes multi-parameters for Counter, Timer, Batch-counter, Chronometer, Tachometer
- Data retention & RS485 ModBus communication

Digital Panel Indicator

- 0.56" Large 7-Segment LED Display
- Low Cost and Accurate Panel Indicator
- Support all process signals, AC Voltage, DC Voltage, AC Current and DC Current Measurement.
- IP-65 Class Front Panel



Microprocessor Based Power Quality Meter

- 0.2 grade electrical calibration as well as CE approval
- Monitoring RMS Voltage, Current, Frequency, Power Factor
- Monitoring Active Power (Watts), Reactive Power (Vars), Apparent Power (VA)
- Monitoring Active Energy (Mwh), Reactive Energy (MVarh), Apparent Energy (MVAh)
- Power Quality Harmonics: THD Voltage, THD Current Harmonic distortion
- Password protection on parameters setting
- Provides RS485 ModBus communication interface

PID+Fuzzy Temperature Controller

- ON/OFF, PID+Fuzzy Control
- Auto-tuning, High Accuracy
- Sensor Break Alarm
- Switching Power Supply 85~265 Vac or 18~36 Vdc
- Lock Protection for Variety Parameters Heating / Cooling Bi-directional Control Multi-Input Signals Function Heater Break Detection RS485 ModBus communication



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