Multi Pulse Meter

RP3

INSTRUCTION MANUAL

We appreciate you for purchasing HanYoung NUX Co.,Ltd product. Before using the product you have purchased, check to make sure that it is exactly what you ordered. Then, please use it following the instructions below.

MAIN PRODUCTS
- DIGITAL : Temperature Controller, Counter, Timer,Speedmeter, Tachometer, Panel Meter, Recorder
- SENSOR : Proximity Sensor/Photo Electric Sensor, Rotary Encoder, Optical Fiber Sensor, Pressure Sensor
- ANALOG : Timer, Temperature Controller

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HANYOUNG NUX

■ Safety information

Before you use, read safety precautions carefully, and use this product properly. The precautions described in this manual contain important contents related with safety; therefore, please follow the instructions accordingly. The precautions are composed of DANGER, WARNING and CAUTION.

⚠ DANGER

There is a danger of occurring electric shock in the input/output terminals so please never let your body or conductive substance is touched.

⚠ WARNING

1. This product does not contain an electric switch or fuse, so the user needs to install a separate electric switch or fuse externally. (Fuse rating: 250V 0.5A)
2. To prevent defection or malfunction of this product, apply a proper power voltage in accordance with the rating.
3. To prevent electric shock or malfunction of product, do not supply the power until the wiring is completed.
4. Do not decompose, modify, revise or repair this product. This may be a cause of malfunction, electric shock or fire.
5. Reassemble this product while the power is OFF. Otherwise, it may be a cause of malfunction or electric shock.
6. If you use the product with methods other than specified by the manufacturer, there may be bodily injuries or property damages.
7. There is a possibility of occurring electric shock so please use this product after installing it onto a panel while it is operating.

⚠ CAUTION

1. The contents of this manual may be changed without prior notification.
2. Before using the product you purchased, make sure that it is exactly what you ordered.
3. Make sure that there is no damage or abnormality of the product during the delivery.
4. Do not use this product at any place with occurring corrosive (especially noxious gas or ammonia) or flammable gas.
5. Do not use this product at any place with direct vibration or impact.
6. Do not use this product at any place with liquid, oil, medical substances, dust, salt or iron contents. (Use at Pollution level 1 or 2)
7. Do not polish this product with substances such as alcohol or benzene. (Use neutral detergent.)
8. Do not use this product at any place with a large inductive difficulty or occurring static electricity or magnetic noise.
9. Do not use this product at any place with possible thermal accumulation due to direct sunlight or heat radiation.
10. Install this product at place under 2,000m in altitude.
11. When the product gets wet, the inspection is essential because there is danger of an electric leakage or fire.
12. If there is excessive noise from the power supply, using insulating transformer and noise filter is recommended.
13. The noise filter must be attached to a panel which is already connected to a ground and the wire between the filter output side and power supply terminal must be short as possible.
14. If twisting the power cables closely together then it is effective against noise.
15. Do not connect anything to the unused terminals.
16. After checking the polarity of terminal, connect wires at the correct position.
17. When this product is connected onto a panel, use a circuit breaker or switch approved with IEC947-1 or IEC947-3.
18. Install a circuit breaker or switch at near place for convenient use.
19. Write down on a label that if the circuit breaker or switch is operating then the power will be disconnected since the circuit breaker or switch is installed.
20. For the continuous and safe use of this product, the periodical maintenance is recommended.
21. Some parts of this product have limited life span, and others are changed by their usage.
22. The warranty period for this product including parts is one year if this product is properly used.

■ Suffix Code Structure

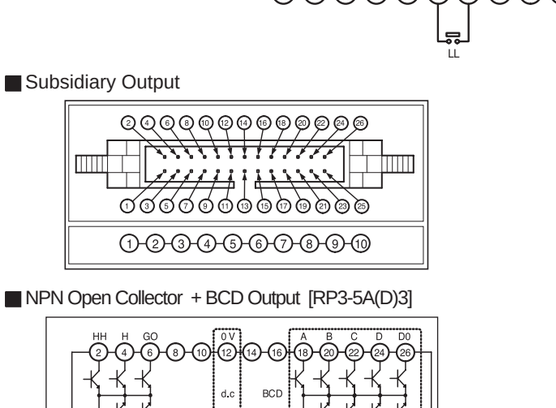
Model Name	Suffix code				Description		
RP3	□	□	□	□	Multi Pulse Meter		
Size	3				DIN Size: 96 x 48 x 105.6 ㎜		
Displayable Digits		5			5 digits 1 stage		
Power Supply Specification			A		100 - 240V a.c (50 - 60 ㎐)		
			D		24 - 60 V a.c / d.c		
Output Specification Size-6					Main output	Subsidiary output	-
				N	Only Display	-	
				1	Relay 3 stages Output	-	
				2	Relay 5 stages Output	-	
				3	NPN Open Collector 5 Stages Output	BCD Output	
				4	NPN Open Collector 5 Stages Output	4 - 20 ㎃ Current Output	
				5	NPN Open Collector 5 Stages Output	RS-485 communication	
				6	NPN Open Collector 5 Stages Output	Low Speed Serial	

■ Ratings

Power Supply	100 ~ 240 V a.c (50 - 60 Hz), 24 ~ 60 V (a.c / d.c)
Power Consumption	Approx. 9.5 V A (220 V a.c 60 Hz), Approx. 5 W(24 V d.c)
Voltage for Sensor	12 V d.c ±10 % 120 ㎃
Measurement Accuracy	· Mode F1 : FS ±0.05 rdg ±1 dig · Mode F2, F3, F4, F5, F6: FS ±0.01 % rdg ±1 dig
Measurement Range	· Mode F1 : 0.0003 ~ 10 ㎑ · Mode F2 : 0.0003 ~ 1000 ㎐ · Mode F3, F4, F5, F6 : 0.001s-3,200 s · Mode F7, F8, F9 : 0-4 ×10⁹ Count
Operation mode	F1 : Revolution/freguency/Velocity F2 : Moving Velocity F3 : Cycle F4 : Passing time F5 : Time lag F6 : Time width F7 : Pulse width F8 : Pulse interval F9 : Addition Counter
Prescale	0.0001×10⁻³ ~ 9.9999 ×10⁹
Input Signal	**Non-Contact Input :** Max. 10 ㎑ (ON voltage: 4.5 V - 24 V, OFF voltage: 0 - 1.0 V) **Contact Input :** Max. 30 Hz (12 V DC, able to switch the current of 2 mA sufficiently)
Max. Displayable Digits	5 digits (0 ~ 99999)
Display Method	7 Segment (Font size(W)83 mm x (H)14 mm)
Display Cycle	0.05/0.5/1/2/4/8 sec
Hysteresis	0 ~ 9999 (applicable only for output type)
Functions	· Auto Zero Time Setting Function · Display Cycle Setting Function · Time Unit Selection Function · Parameter Lock Function · Remote/Local Conversion Function (applicable only for communication output type) · Current Output Range Selection Function (applicable only for current output type) · Max. Min. Peak Value 10 Steps Memory Function · Start Compensation Timer Function · Electricity Failure Compensation (applicable only for F9) · Comparative Output Function (HH, H, GO, L, LL)
Output: Output Types	· Transistor Output (NPN/PNP Open Collector Output): Comparative Alarm Output · Relay Output (HH, H, GO, L, LL) · PV Transfer Output (4 - 20 ㎃ d.c): Displayed Value Output · RS485 Communication Output : 32 channels : Displayed Value Output, PC Setting Function) · BCD Dynamic Displayed Value Output Function · Low Speed serial Output
Insulation Resistance	Above 10 ㏁ (at 500 V DC mega) Between electrically chargeable part and non-electrically chargeable part
Noise Immunity	By noise simulator, square-shaped wave noise (pulse width 1 ㎲) ± 2000 V
Dielectric Strength	2000 V AC 50 Hz for 1 minute (between AC power terminal and case, between AC terminal and measurement input terminal)
Vibration Resistance: Durability	10 - 55 Hz double amplitude width 0.75 mm in each X · Y · Z direction for 2 hours
Vibration Resistance: Malfunction	10 - 55 Hz double amplitude width 0. 5 mm in each X · Y · Z direction for 10 minutes
Shock Resistance: Durability	300 m/s² (approx. 30G) in each X · Y · Z direction for 3times
Shock Resistance: Malfunction	100 m/s² (approx. 10G) in each X · Y · Z direction for 3times
Operating Ambient Temperature	-10 ~ +60 ℃ (without condensation)
Storage Temperature	-20 ~ +60 ℃ (without condensation)
Operating Ambient Humidity	35 ~ 85 % RH
Weight	Approx. 220 g

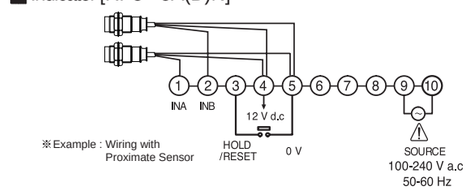
■ Aspect & Panel Cutout Dimension

Unit : mm



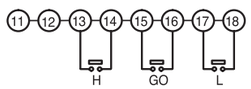
■ Wiring Diagram

■ Indicator [RP3 - 5A(D)N]

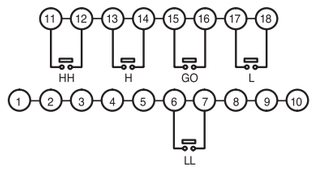


※Example : Wiring with Proximate Sensor

■ Contact output [RP3 - 5A(D)1]



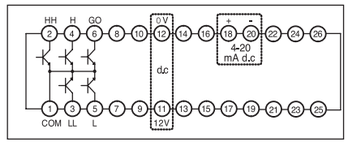
■ Contact output [RP3 - 5A(D)2]



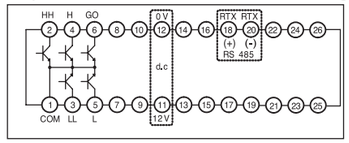
■ Subsidiary Output

■ NPN Open Collector + BCD Output [RP3-5A(D)3]

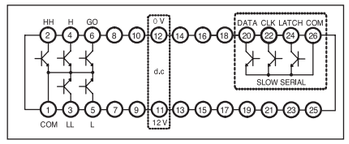
■ NPN Open Collector + Current Output [RP3-5A(D)4]



■ NPN Open Collector + RS-485 Communication [RP3-5A(D)5]



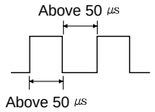
■ NPN Open Collector + Low Speed Serial [RP3-5A(D)6]



■ Input Specification

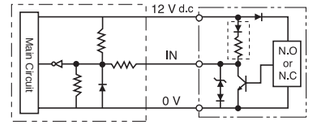
■ Input Specification

The max input frequency is 10 ㎑ when ON/OFF time is higher than the minimum 50 ㎲.
At this time, it can be accurately measured if the duty rate of the input pulse is 50 %.

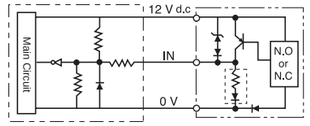


■ Input Type Setting

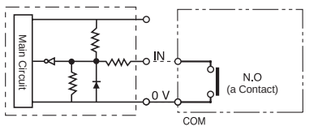
- nPnnO : NPN Normal Open
- nPnnC : NPN Normal Close



- PnPnO : PNP Normal Open
- PnPnC : PNP Normal Close



- Contct. : Contact Input Normal Open



■ Caution when selecting Sensor Type

- Before connecting the sensor, if the input specification is not selected properly, the desired measure value can not be obtained.
- Example of sensor type setting
  nPnnO - Normal open (NPN NO)
  nPnnC - Normal close (NPN NC)

■ Output Specification

■ Contact Output

- Max. contact capacity : 1250 V A (a.c), 150 W (d.c)
- Contact capacity : 5A 250 V a.c, 5 A 30 V d.c
- Life : Electrical life - Around Fifty thousand (3A 250 V a.c)
  Mechanical life - Around Ten million (Twenty times opens and closes per minute)

■ Non Contact Output

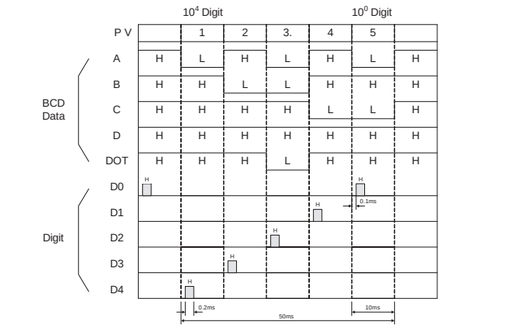
- Power consumption : 500 mW
- Output type : NPN Open collector
- Load voltage : 12 - 24 V d.c

■BCD Dynamic Output

- Output Value : Display value
- Output Signal : BCD data (A, B, C, D) → A : lowest Bit
  Dot Point(Dot) → Dot value of each Digit Data
  Dot Data(D0, D1, D2, D3, D4) → D0 : Lowest Digit, D4 : Highest Digit
- Output : NPN Open collector
- Rated load voltage : 12-24 V d.c
- Maximum load Current : 20 ㎃

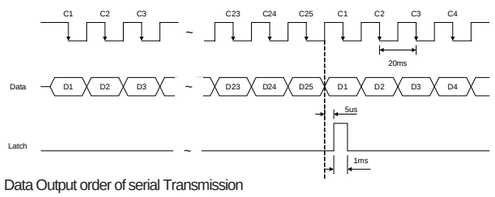
■ Example

- In case of display value 123.45

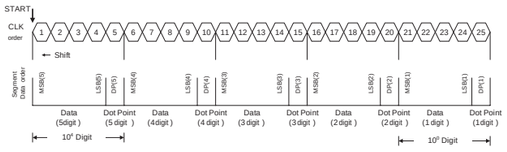


● Low Speed Serial Output

- Output value : display value
- Output signal : CLK, Data, Latch
- CLK cycle : 50 Hz
- Number of output CLK bit
- Number of output Data bit
- Rated load valtage : 12-24 V d.c



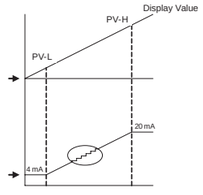
- Data Output order of serial Transmission



● PV Transmission Output(4-20 mA d.c)

- Use : Transmit measuring value to external equipment
- Function : transmit a Measured value between high Output(PV-H)and low Output(PV-L)
- Setting range of High and Low Output
  - High setting range (PV-H) : from minimum value to maximum value within measuring range
  - Low Setting range(PV-L): From Maximum value to minium value within measuring range (Notice, PV-H must be bigger than PV-L by 1 at least)
  - Load resistance : Max. 600Ω
  - Resolution : 10.000

● RS-485 Communication Output



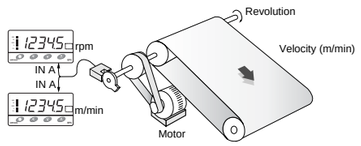
- Address : 0 ~ 99(32 Channels)
- Transmission Speed(Baud Rate) : 2400/4800/9600/19200 bps
- Transmission code : Binary
- Parity Bit : None
- Data Bit : 8 Bit
- Stop Bit : 1 Bit
- Communication items
  RP3-5A(D)5 〈 PC : Set value, Clear for peak value, Reset control
  RP3-5A(D)5 〈 PC : Set value, Status value of control

■ Operating Mode

■ Mode F 1 : Frequency (Hz) / Revolution (rpm) / Velocity (m/s)

- Revolution (RPM): IN A Input Cycle(f) xα(α=60 x prescale value) display value (default)
- Frequency (Hz): IN A Input Cycle(f) xα(α= prescale value) display value
- Velocity (m/min): IN A Input Cycle(f) xα(α=60 x L/N) display value
  L = πD (circumference of the revolving object)
  α = prescale value, N = the number of waveform per 1 revolution

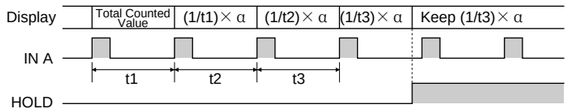
● Example of Application



● Display value & Units

Display value	Units	Prescale Value(α)
Velocity	mm/s	1000 L
	cm/s	100 L
	m/s	L (default)
	m/min	60 L
	km/hour	3.6 L

Display value	Units	Prescale Value(α)
Frequency	Hz	1
	KHz	0.001
Revolution	RPS	1
	RPM	60



■ Mode F 2 : Moving Velocity (m/s)

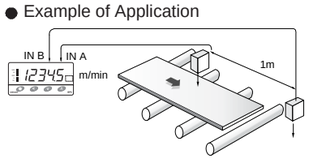
Display the moving velocity from ON of IN A to ON of IN B.

- Velocity(m/s): IN A Input Frequency(f) x α value display. α = L (m)

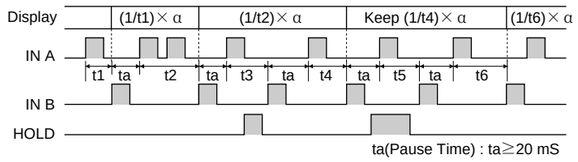
● Display value & Units

Display value	Units	Prescale Value(α)
Velocity	mm/s	1000 L
	cm/s	100 L
	m/s	1 L (default)
	m/min	60 L
	km/hour	3.6 L

● Example of Application



- Default of Prescale Value
  : Time=1sec, Length=1m. L→the Distance from IN A sensor to IN B (unit:m)



ta(Pause Time) : ta≥20 mS

■ Mode F 3 : Cycle

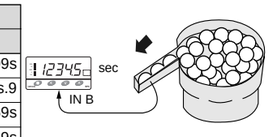
Display the input cycle (T) of IN A after measuring it

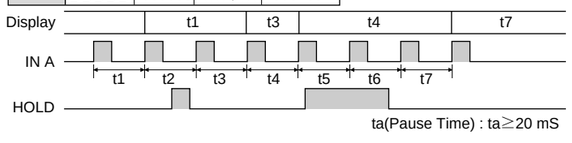
- Cycle: IN A Input Cycle (t)

● Display value & Units

Display value	Units 10		Units 60	
Cycle	5.dddd	9.9999s	55.ddd	59.999s
	55.ddd	99.999s	55.d	59m59s.9
	555.dd	999.99s	55	999m59s
	5555.d	9999.9s	55	9h59m59s
	55555	99999s	55	999h59m

● Example of Application





ta(Pause Time) : ta≥20 mS

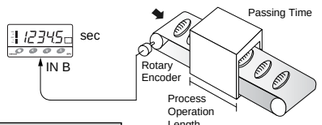
■Mode F 4 : Passing Time (s)

Display the passing time the after measuring the input cycle (T)

- Passing Time (sec): t x α
- Moving distance per 1 pulse = the circumference (πD) of the roller / N (Pulse per 1 revolution of the encoder)
- α(prescale) = process operation length (m) x moving distance (m) per 1 Pulse

※Prescale is the required pulse number in order to pass the process operation.

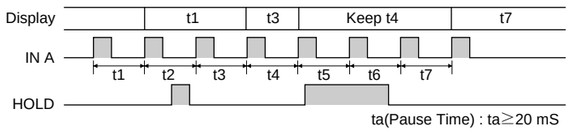
● Example of Application



● Display value & Units

Display value	Units 10		Units 60	
Velocity	5.dddd	9.9999s	55.ddd	59.999s
	55.ddd	99.999s	55.d	59m59s.9
	555.dd	999.99s	55	999m59s
	5555.d	9999.9s	55	9h59m59s
	55555	99999s	55	999h59m

- Example of Obtaining a Prescale Value (no unit)
  : The diameter of the revolving object = D
  The number of pulse per 1 revolution of the encoder = N
  Process Operation Length = L
  : Prescale Value (α) = L/(πD/N)



ta(Pause Time) : ta≥20 mS

■ Mode F 5 : Time Lag

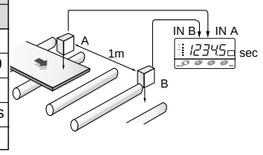
Display the time from ON of IN A to ON of IN B after measuring it

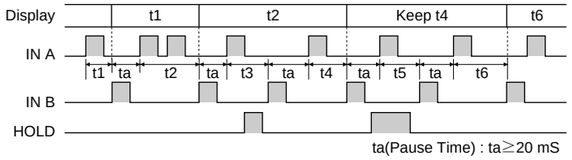
- Time Lag (T): t(IN A ~ IN B)

● Display value & Units

Display value	Units 10		Units 60	
Velocity	5.dddd	9.9999s	55.ddd	59.999s
	55.ddd	99.999s	55.d	59m59s.9
	555.dd	999.99s	55	999m59s
	5555.d	9999.9s	55	9h59m59s
	55555	99999s	55	999h59m

● Example of Application





ta(Pause Time) : ta≥20 mS

■ Mode F 6 : Time Width

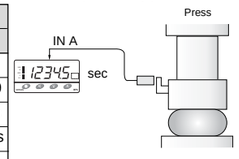
Display the time after measuring the time IN A is ON

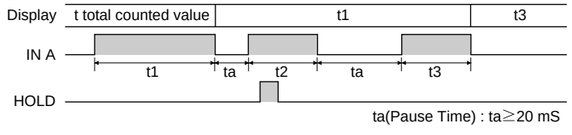
- Time Width (T): t

● Display value & Units

Display value	Units 10		Units 60	
Velocity	5.dddd	9.9999s	55.ddd	59.999s
	55.ddd	99.999s	55.d	59m59s.9
	555.dd	999.99s	55	999m59s
	5555.d	9999.9s	55	9h59m59s
	55555	99999s	55	999h59m

● Example of Application





ta(Pause Time) : ta≥20 mS

■ Mode F 7 : Pulse Width (length)

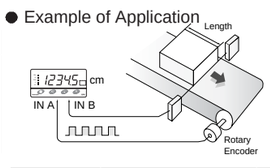
Display the length after measuring the pulse of IN A while IN B is ON

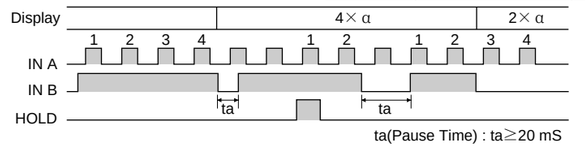
- Pulse Width = P x α (P=Pulse of IN A, α = prescale value)

● Display value & Units

Display value	Units	Prescale Value(α)
Velocity	mm	1000
	cm	100
	m	1
	Quantity(EA)	1

● Example of Application





ta(Pause Time) : ta≥20 mS

■ Mode F 8 : Pulse Interval Coefficient (Interval between objects)

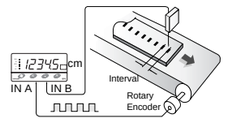
Display the pulse of input IN A from the time when IN B is ON to the time when IN is re-ON

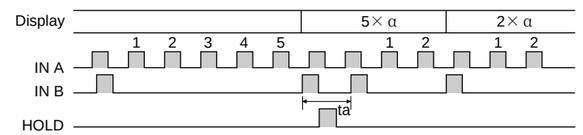
- Interval = P x α (P=Pulse of IN A, α = prescale value)

● Display value & Units

Display value	Units	Prescale Value(α)
Velocity	mm	1000
	cm	100
	m	1
	Quantity(EA)	1

● Example of Application





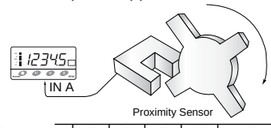
ta(Pause Time) : ta≥20 mS

■ Mode F 9 : Addition Counter (Coefficient)

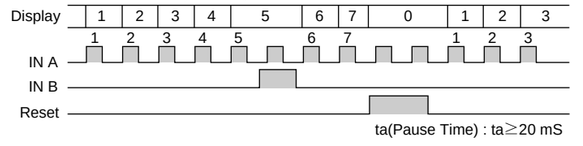
It starts counting the pulse which inputs to IN A but it does not count the pulse when IN B is ON.
If the RESET input is ON, then the counted value becomes "0."

- Counter = P x α (P=Pulse of IN A, α=Prescale Value)

● Example of Application



- If you input 0.1 to the prescale value (α) of IN A and apply the dot position as 99999., then the displayed value is increased by 1 for every 10 increment.



ta(Pause Time) : ta≥20 mS

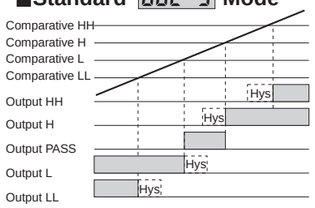
■ Parameter Table For Each Operation Mode

Symbol Description : ○ (use), × (no use)

Displayed Characters	F1	F2	F3	F4	F5	F6	F7	F8	F9
SPGrP	SP Group (Comparative Value Setting Group)								
SP HH	○	○	○	○	○	○	○	○	○
SP H	○	○	○	○	○	○	○	○	○
SPSEt	○	○	○	○	○	○	○	○	○
SP L	○	○	○	○	○	○	○	○	○
SP LL	○	○	○	○	○	○	○	○	○
PSGrP	PS Group (Prescale or Time Option Setting Group)								
PS Au	○	○	×	○	×	×	○	○	○
PS Ay	○	○	×	○	×	×	○	○	○
dSdot	○	○	×	×	×	×	○	○	○
dSSAP	○	○	○	○	○	○	○	○	○
HYS	○	○	○	○	○	○	○	○	○
tIME	×	×	○	○	○	○	×	×	×
SEtGP	Setup Group (IN / OUT Setting Group)								
FUnCn	○	○	○	○	○	○	○	○	○
In-A	○	○	○	○	○	○	○	○	○
In-b	×	○	×	×	○	×	○	○	○
oUt-n	○	○	○	○	○	○	○	○	○
AUttA	○	○	○	○	○	○	○	○	○
AUttb	×	○	×	×	○	×	○	○	○
AUtMA	○	○	○	○	○	○	×	×	×
oPtGP	Option Group (Option Setting Group)								
Pu-H	○	○	○	○	○	○	○	○	○
Pu-L	○	○	○	○	○	○	○	○	○
Addrn	The communication setting is a system operation which is not related with the modes								
bPS									
rnotC	The remote control is a system operation which is not related with the modes								
nEnor	×	×	×	×	×	×	×	×	○
ProCY	○	○	○	○	○	○	○	○	○
PEYGP	Peak Display Group (Peak Value Save Group)								
HPEY.1	○	○	○	○	○	○	○	○	×
HPEY2	○	○	○	○	○	○	○	○	×
HPEY3	○	○	○	○	○	○	○	○	×
HPEY4	○	○	○	○	○	○	○	○	×
HPEYA	○	○	○	○	○	○	○	○	×
LPEY.1	○	○	○	○	○	○	○	○	×
LPEY2	○	○	○	○	○	○	○	○	×
LPEY3	○	○	○	○	○	○	○	○	×
LPEY4	○	○	○	○	○	○	○	○	×
LPEYA	○	○	○	○	○	○	○	○	×

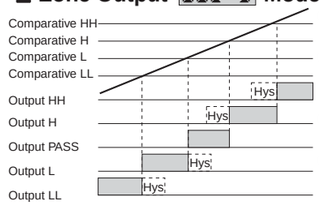
■ Output Mode out-n

■Standard out-5 Mode



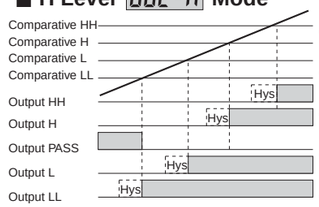
Output HH: Comparative HH ≤ Displayed Value
Output H : Comparative H ≤ Displayed Value
Output PASS: when output HH, H, L, LL is OFF, it is ON
Output L : Comparative L ≥ Displayed Value
Output LL : Comparative LL ≥ Displayed Value

■ Zone Output out-3 Mode



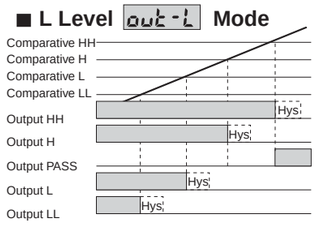
Output HH: Comparative HH ≤ Displayed Value
Output H : Comparative H ≤ Displayed Value < Comparative HH
Output PASS: when output HH, H, L, LL is OFF, it is ON
Output L : Comparative L < Displayed Value ≤ Comparative LL
Output LL : Comparative LL ≥ Displayed Value
LL<L<H<HH

■ H Level out-H Mode



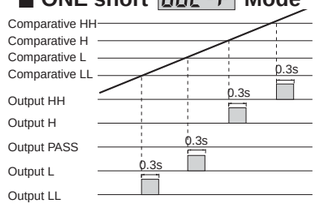
Output HH: Comparative HH ≤ Displayed Value
Output H : Comparative H ≤ Displayed Value
Output PASS: when output HH, H, L, LL is OFF, it is ON
Output L : Comparative LL ≤ Displayed Value
Output LL : Comparative LL ≤ Displayed Value
LL<L<H<HH

■ L Level out-L Mode



Output HH: Comparative HH ≤ Displayed Value
Output H : Comparative H ≤ Displayed Value
Output PASS: when output HH, H, L, LL is OFF, it is ON
Output L : Comparative LL ≥ Displayed Value
Output LL : Comparative LL ≥ Displayed Value

■ ONE short out-F Mode

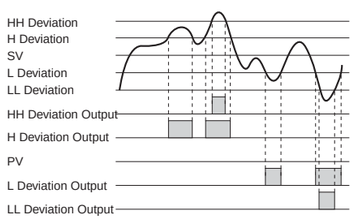


Output HH: Comparative HH ≤ Displayed Value
Output H : Comparative H ≤ Displayed Value < Comparative HH
Output L : Comparative LL < Displayed Value ≤ Comparative L
Output LL : Comparative LL ≥ Displayed Value

■ Double Deviation out-d Mode

In the case of outputting when the SV is set and it is higher than HH deviation, H deviation, L deviation, LL deviation from the SV

- SV Auto Setting: The present displayed value is saved by pressing the front + keys
- SV display: The saved SV is displayed SV by pressing key and if by pressing key one more time then it will display the present value



Deviation Setting Range: 0.0001 ~ 99999

※ SV : Setting Value
PV : Displayed Value

■ Default Value of Parameter

SP Group	Initial
SP HH	00000
SP H	00000
SPSEt	00000
SP L	00000
SP LL	00000

PS Group	Initial
PS Au	60000
PS Ay	10 1
dSdot	99999
dSSAP	05
HYS	0000
tIME	tEnAn SdddddSdddd

SETUP Group	Initial
FUnCn	F1
In-A	nPnno
In-b	nPnno
oUt-n	oUt-5
AUtMA	000
AUttb	000
AUtMA	00000

Option Group	Initial
Pu-H	99999
Pu-L	00000
Addrn	00
bPS	2400
rnotC	rEnot
nEnor	on
ProCY	oFF

■ Function Description

■ Auto Zero Time (note 3)

The function is that if there is no input value in the time which is set as Auto Zero Value, then the displayed value will be "00000" by compulsion. In the case of there is no pulse input in a period of time or the predicting setting when the stop of the revolving object will be occurred, it can be set and used the time as the setting time of Auto Zero.

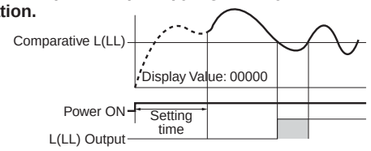
- The setting time of Auto Zero is from 0.1 sec. to 9999.9 sec.

■ Starting Compensation Timer Function (note 5)

After turning the power ON, as invalidating the measurement in the some periods of time, the function limits the faulty output caused by the faulty value which is affected by the chattering or inputting the starting current or etc. irregularly.

Specially, when starting the revolving object, it validates in the case that it does not make the comparative (L, LL) judgment by the low speed revolution operation.

- The setting time of the starting compensation from 0.1 sec. to 99.9 sec.



■ Display Cycle Setting Function

This is the function which can change the cycle about the display cycle of the displayed value so that it displays in the time unit of the set cycle.
Setting Display Cycle = 0.05/0.5/1/2/4/8 sec.

■ Time Unit Selection Function (note 5)

As selecting the measurement value in the various time units, the function displays the values efficiently.

- The time unit function can display after selecting one between the decimal system and sexagesimal system.
- The time unit is applied only for F3, F4, F5, F6 mode

■ Peak Hold or Reset Function (note 4)

This function displays MAX value and MIN value in the comparative values. It is possible to select a function by the one-touch button.

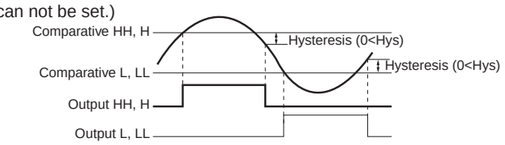
● Peak Hold Setting

● Peak Hold Save & Confirmation

MAX Peak Value : HPEY.1 ~ HPEY4 – HPEYA save the value
MIN Peak Value : LPEY.1 ~ LPEY4 – LPEYA save the value

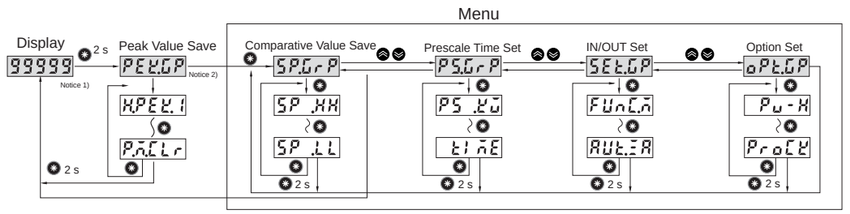
■ Hysteresis Function

In the case of the measured value becomes unstable around the comparative value, set the hysteresis value from the setting value in order to prevent the unstable operation in the output.
For the comparative value HH, H, the decreased value is applied as the hysteresis value and for the comparative value LL, L, the increased value is applied as the hysteresis value.(The default setting is 1 and 0 can not be set.)



■ Parameter Description

■ Menu Setting Flow Chart



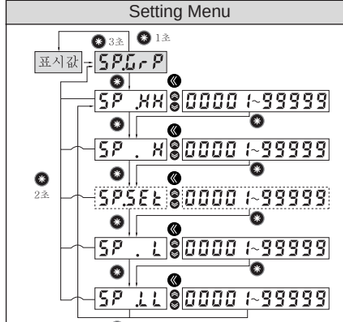
■ Key Description

※ Notice 1) : Press ✱ for 2 sec. to enter PEYGP and release ✱ key to enter Peak Group HPEY.1

※ Notice 2) : If you press ✱ for 3 sec, You can enter Menu.

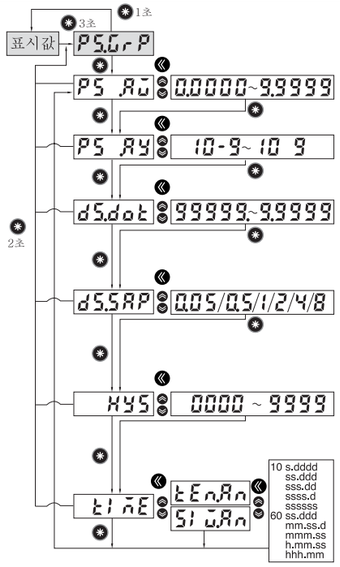
■ Parameter Group Flow Chart

① **SP Group (Comparative Setting Group)**

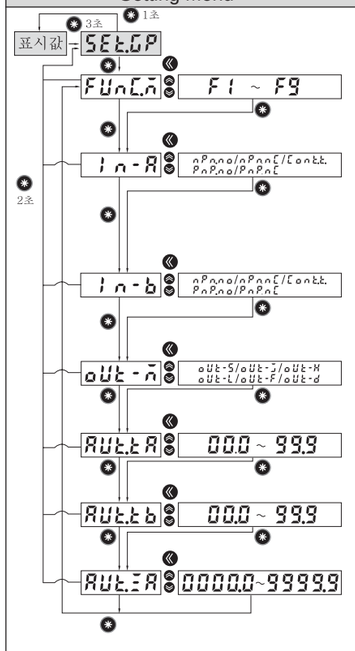
Setting Menu	Meaning	Setting Contents	Default
	Comparative Setting Group Selection	If set a measuring value under a decimal point, below set value can be convert to be set under decimal point	
	Comparative HH Setting	• F1, F2, F7, F8, F9 : 0 ~ 99999 • F3, F4, F5, F6 : 0 ~ set time range	00000
	Comparative H Setting		00000
	Set Value(Only Out-d)		00000
	Comparative L Setting		00000
	Comparative LL Setting		00000

Note 6) the display only product, BP6-5AN and the non-main output product, BP6-5A6, are not displayed like the above parameter comparative setting group. If each parameter is set and the hysteresis value is inputted, you can stably obtain the desired output.

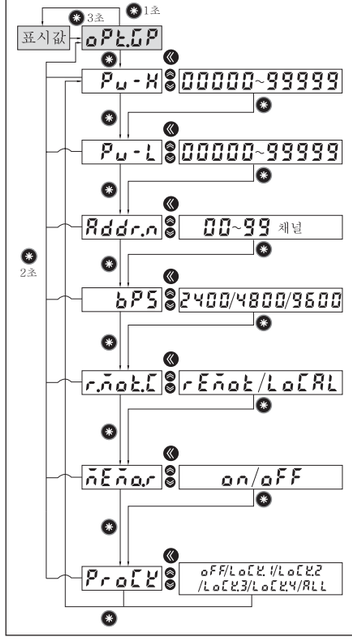
2. PS Group (Prescale or Time Option Setting Group)

Setting Menu	Meaning	Description	Initial
	Prescale Setting Group Selection	Comparative's prescale value selection	
	IN A's prescale mantissa (X) setting	0.0000~9.9999	6.0000
	IN A's prescale exponent (Y) setting	10-9~10 9	10 1
	For each bank, the displayed value's decimal point setting	When setting the option setting groupz the menu is displayed and it is possible to set the decimal setting individually for each bank 99999.-9999.9-999.99-99.999-9.9999	
	For each bank, the displayed value's cycle setting	When setting the option setting group, the menu is displayed and it is possible to set the display sampling cycle individually for each bank. 0.05-0.5-1-2-4-8	
	For each bank, the output's hysteresis setting (note 8)	When setting the option setting group, the menu is displayed and it is possible to set the hysteresis value individually for each bank. 0000~9999	0000
	For each bank, input time unit setting (operation mode F3, F4, F5, F6)	When setting the option setting group, the menu is displayed and it is possible to set the time setting value individually for each bank. 10-S.dddd-SS.ddd-SSS.dd-SSSS.d-SSSSS 60-SS.ddd-MM.SS.d-MMM.SS-HH.MM.SS-HHH.MM	S.dddd

3. Setup Group (IN/OUT **setting group**)

Setting Menu	Meaning	Description	Initial
	Input/Output control setting group selection	Input/Output setting in the Input/Output control setting group	
	Input Operation Mode Setting	F1-F9	F1
	IN A' sensor type setting	nPnno : NPN Normal Open nPnnC : NPN Normal Close PnPno : PNP Normal Open PnPnC : PNP Normal Close Contt. : Contact Normal Open nPnno-nPnnC-PnPno-PnPnC-Contt.	nPnno
	IN B' sensor type setting Output mode setting	nPnno : NPN Normal Open nPnnC : NPN Normal Close PnPno : PNP Normal Open PnPnC : PNP Normal Close Contt. : Normal Open nPnno-nPnnC-PnPno-PnPnC-Contt.	nPnno
	IN A's start compensation timer setting	oUt-S-oUt-J-oUt-H-oUt-L-oUt-F-oUt-d	oUt-S
	IN B's start compensation timer setting	00.1~99.9	00.0
	IN A's Auto Zero timer setting	00.1~99.9	00.0
		0000.1~9999.9	0000.0

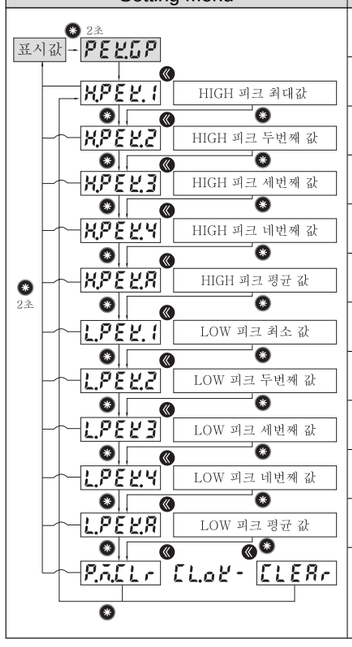
4. Option Group (Option setting group)

Setting Menu	Meaning	Description	Initial
	Option setting group selection	Set the option of the input/output setting item in the option setting group	
	PV transmission output's high limit value setting	• F1, F2, F7, F8, F9 : 0 ~ 99999 • F3, F4, F5, F6 : 0 ~ Set time Lange	99999
	PV transmission output's low limit value setting		00000
	Communication id setting	00~99	00
	Communication speed setting	2400-4800-9600 Setting Unit : bps	2400
	Remote control setting	rEnot : Remote Control LoCAL : Local Operation rEnot-LoCAL	rEnot
	Power failure compensation setting	on : Remote control from the outside (remote) oFF : Local operation only (Local) on-oFF	on
	Parameter lock setting	oFF : all mode cancellation LoCK1 : P1 ~ P3 Lock LoCK3 : P3 ~ P4 Lock ALL : P1 ~ P4 Lock LoCK2 : P2 ~ P4 Lock LoCK4 : P4만 Lock oFF-LoCK1-LoCK2-LoCK3-LoCK4-ALL	oFF

① : Only for RP3-5A(D)4 → 4 ~ 20 mA Output

② : Only for RP3-5A(D)5 → RS 485 Communication

5. Peak Display Group (Peak Value save Group)

Setting Menu	Meaning	Description	Initial
	Peak value save group	Save the MAX, MIN peak value of the measured values to the 10 memories	
	1st value of HIGH peak	Save the highest number of the measured value	00000
	2nd value of HIGH peak	Save the second highest number of the measured value	00000
	3rd value of HIGH peak	Save the third highest number of the measured value	00000
	4th value of HIGH peak	Save the fourth highest number of the measured value	00000
	Average value of 4 HIGH peaks	Save the average value after taking the average of the 4 saved HIGH peak values	00000
	1st value of LOW peak	Save the fourth lowest number of the measured value	00000
	2nd value of LOW peak	Save the third lowest number of the measured value	00000
	3rd value of LOW peak	Save the second lowest number of the measured value	00000
	4th value of LOW peak	Save the lowest number of the measured value	00000
	Average value of 4 LOW peaks	Save the average value after taking the average of the 4 saved LOW peak values	00000
	Erase the memory of the peak value	Erase all the saved values	

※ Saved values in Peak display group erase all together.

※ Saved peak values can be erased automatically when mode change or power ON/OFF.