LR5N-B   Compact LCD Pulse Meter

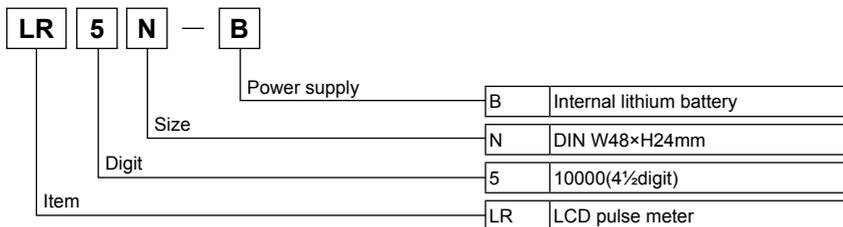## DIN W48×H24mm, Indication only, LCD pulse meter(RPM, RPS, Hz)

▣ Features

- **Upgraded version of LR7N series**
- Easy of 1 pulse input method per 1 revolution
- Display up to 10000RPM
- No need power supply by internal battery
- Protection structure IP66(Front panel only)
- Displays RPM, RPS of rotator
- Displays AC line frequency

⚠ **Please read "Caution for your safety" in operation manual before using.**
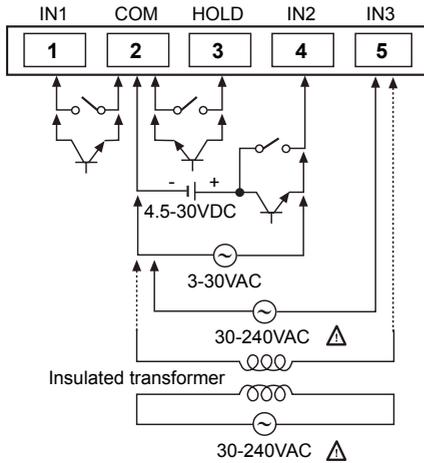
▣ Ordering information

LR	5	N	—	B

Power supply	B	Internal lithium battery
Size	N	DIN W48×H24mm
Digit	5	10000(4½digit)
Item	LR	LCD pulse meter

▣ Specifications

Series	LR5N-B			
Input type	No-voltage input		Voltage input 1	Voltage input 2
Input signal level	● Impedance at short-circuit: Max. 10kΩ, residual voltage: Max. 0.5V ● Impedance at open-circuit: Min. 500kΩ	DC	High voltage : 4.5-30VDC Low voltage : 0-2VDC	Voltage : 30-240VAC
		AC	Voltage : 3-30VAC	
Battery life cycle	Approx. over 3 years at 20℃ (replaceable)			
Display method	LCD zero blanking type(Height : 8.7mm)			
Digit	5digit			
Display range	RPM	1 to 10000RPM		
	0.1RPM	0.1 to 1000.0RPM		
	RPS	1 to 1000RPS		
	Hz	1 to 1000Hz		
	0.1Hz	0.1 to 100.0Hz		
Display accuracy	F.S. ±0.1% ±1digit			
HOLD function	Included(External HOLD terminal)			
Insulation resistance	Min. 100MΩ(at 500VDC megger)			
Dielectric strength	2000VAC 50/60Hz for 1 minute(Cutoff current=10mA)			
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 1 hour		
	Malfunction	0.3mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 10 minutes		
Shock	Mechanical	300m/s²(approx. 30G) in each of X, Y, Z directions for 3 times		
	Malfunction	100m/s²(approx. 10G) in each of X, Y, Z directions for 3 times		
Protection	IP66(Front panel only)			
Environ-ment	Ambient temperature	-10 to 50℃, storage : -25 to 65℃		
	Ambient humidity	35 to 85%RH, storage : 35 to 85%RH		
Unit weight	Approx. 58g			

※Environment resistance is rated at no freezing or condensation.

(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 mode power supply
(Q) Stepper motor& Driver&Controller
(R) Graphic/ Logic panel
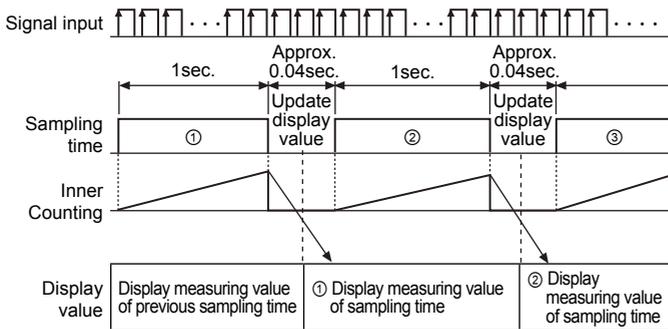(S) Field network device
(T) Software
(U) Other

LR5N-B

▣ Connections

1	2	3	4	5
IN1	COM	HOLD	IN2	IN3

4.5-30VDC
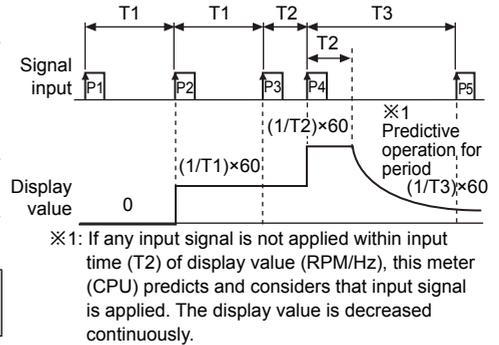
3-30VAC

30-240VAC ⚠

Insulated transformer

30-240VAC ⚠

※Please use reliable contacts enough to flow 5μA of current when using input signal or reset signal as a contact.

※IN1 - No-voltage input
  IN2 - Voltage input
    • DC voltage input
    • AC voltage input : Display AC frequency.
  IN3 - AC voltage input : Display AC frequency.

※Choose one among IN1, IN2 and IN3 to use.

※Caution for IN3 input
  : If apply high voltage over 50VAC, it may cause an electric shock. Insulated transformer whose turn ratio is 1:1 must be installed, or countermeasures must be provided.
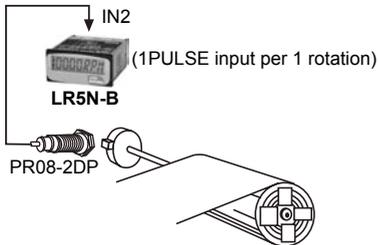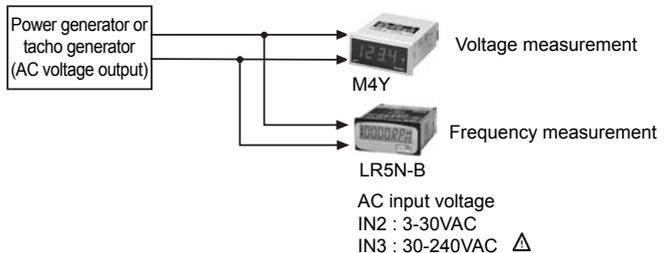
▣ Operation chart

● **Setting RPS, Hz**

Signal input

	1sec.	Approx. 0.04sec.	1sec.	Approx. 0.04sec.	
Sampling time	①	Update display value	②	Update display value	③

Inner Counting

Display value	Display measuring value of previous sampling time	① Display measuring value of sampling time	② Display measuring value of sampling time

● **Setting RPM 0.1, RPM 0.1Hz**

T1   T1   T2   T3

Signal input   P1   P2   P3   P4   P5

T2

$(1/T2)\times60$

※1 Predictive operation for period $(1/T3)\times60$

$(1/T1)\times60$

Display value   0

※1: If any input signal is not applied within input time (T2) of display value (RPM/Hz), this meter (CPU) predicts and considers that input signal is applied. The display value is decreased continuously.

▣ Operation mode (Frequency/Revolution)

● **Revolution**

IN2

(1PULSE input per 1 rotation)

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PR08-2DP

● **AC frequency**

Power generator or tacho generator (AC voltage output)

Voltage measurement

M4Y

Frequency measurement

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AC input voltage
IN2 : 3-30VAC
IN3 : 30-240VAC ⚠

● **Display and unit**

Display	Frequency		Revolution		
Unit	Hz	0.1Hz	RPM	0.1RPM	RPS

※Default unit : RPS

Autonics

Compact LCD Pulse Meter

▣ Dimensions

(unit: mm)

● **Bracket**

● **Panel cut-out**

48

24

36

4   54

22

10000RPM

LR5N

Autonics

Min. 55

Min. 37

$22.2^{+0.3}_{0}$

$45^{+0.6}_{0}$
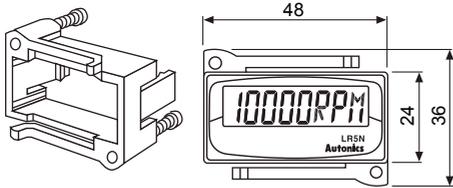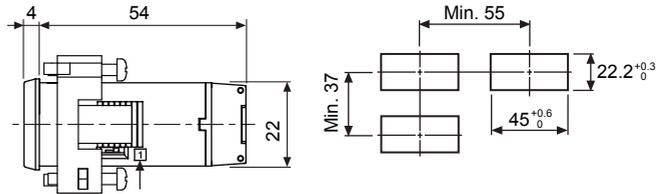
SW1 (SW2 is in the opposite side.)

▣ Input connections

● **Standard input sensor**
  : NPN open collector output type

Sensor

Brown

Black

Blue

+ 5-24 VDC −

LR5N-B

+V

560kΩ

1.2kΩ   1.2kΩ

Main circuit

SIG. INPUT

0V
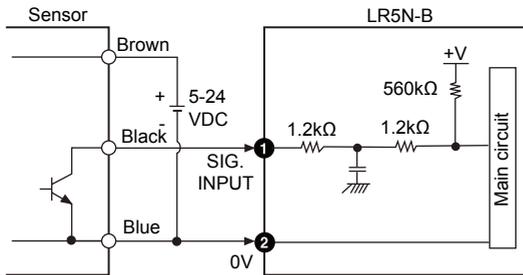
▣ Function description

● **RESET**
It initializes an unit and front LCD display. There are not indicated when set switch1 as RESET.

● **HOLD**
It stops display value by short circuit HOLD terminal when it is hard to read the value because of frequent input changes.

▣ Display range selection

SW	**1**	**2**	RPM	0.1RPM	Hz	0.1Hz	RPS
	Front panel						
RPM/RPS		×1					
RESET		×0.1					
Hz		RPS					
Terminal block							

● **Display range selection**
① Select one among ×1, ×0.1 and RPS by SW2.
② Shift SW1 to RESET.
③ Select one between RPM/RPS and Hz by SW1.
※If set display range and front display LCD unit are not same, shift SW1 to RESET and select RPM/RPS or Hz.

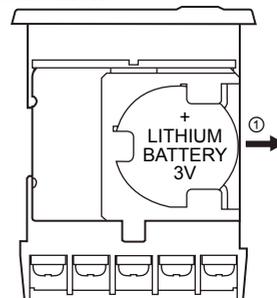## ▣ Case detachment and battery replacement

● **Case detachment**
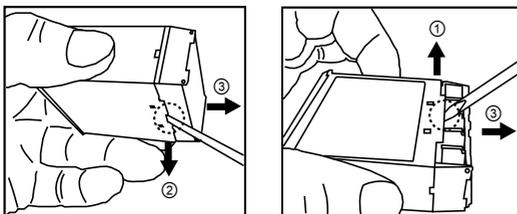
※Hold up Lock part toward ①, ② of the product with the tool and pull toward ③, the case is detached.
⚠ Please be careful of the injury caused by tools.

● **Battery replacement**

LITHIUM BATTERY 3V

1) Detach the case.
2) Push the battery and detach toward ①.
3) Insert new battery with correct alignment of polarity pushing toward opposite of ①.
※Battery is sold separately.
※Do not burn up or disassemble the lithium battery.

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