

# OPERATING INSTRUCTIONS RC2106



## SPECIFICATIONS

### DISPLAY

Type: 7 segment LED; Height: 0.5"

Rate mode : 4 digits

### RANGE

Rate: Auto ranging(4.00 to 9999RPM)

### ACCURACY

Rate: 0.05 %

### SCALE FACTOR

Programmable from 0.001 to 9.999 x 10<sup>n</sup>  
n = 0, 1, 2, -3, -2, -1,

### INPUTS

3-30 VDC From Proximity Switch,  
Encoder, Solid State Device, Mechanical  
Switch, Potential Free Contact.

### SENSOR SUPPLY

12 VDC(±10%) , 30 mA

### CONFIGURATION LOCK

Via rear terminals

### SUPPLY VOLTAGE

90 to 270 V AC/DC

24V AC/DC

### OPERATING TEMP.

0-50°C

### HUMIDITY

95% RH

### HOUSING

ABS plastic

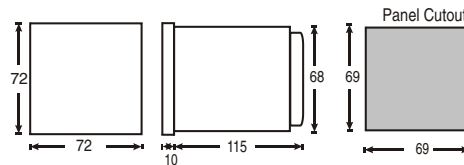
### WEIGHT

200 gms

## PRODUCT CODE

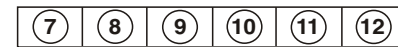
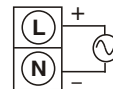
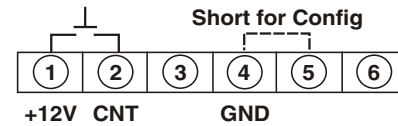
MODELS	BEZEL SIZE(mm)
RC2106	72 x 72

## OVERALL DIMENSIONS (All dimensions in mm)



## TERMINAL CONNECTIONS

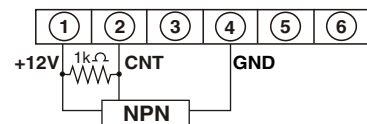
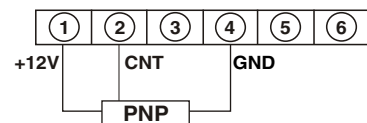
Potential Free switch



## TERMINAL DESCRIPTION

- 1 +12V
- 2 CNT
- 4 } Short for config
- 5 }
- L Live (+)
- N Neutral (-)

## Input connection for proximity sensor:-



**Note:** Color codes for proximity sensors-  
Brown / Red --> +12V  
Black / Green --> CNT  
Blue / Black --> GND

## INITIALISATION:

Switch off the power of RC2106 . Short terminal no 4 & 5. Press **▶** key at the time of turning the power on; the key must continue to remain pressed for another 3 Sec. When this sequence is correctly performed, the unit initializes. After initialization all parameters changes to factory set values. Scale factor changes to 1 (mantissa = 0.000 & exponent = 10<sup>0</sup>= 1) ,

## CONFIGURATION SCHEME

(parameter setting)

- 1) Before configuration: Short terminal no 4 & 5
- 2) Turn power on
- 3) Program configuration setting as per instructions below

### 1. To select scale factor mantissa

KEY PRESS	DISPLAY	DESCRIPTION
Scale factor mantissa	0.000	Set between 0.001 to 9.999 as described below:
	↖ Blinking	
		The blinking digit increments by 1 for every press of the <b>▲</b> key & rolls over from 9 to 0. The blinking digit shifts to next digit (right) for every press of <b>▶</b> key. Using these keys user can set the required value.

### 2. Press RST **■** key to select scale factor exponent

Scale factor exponent	0	10 <sup>0</sup> = 1
	↖ Blinking	
Press <b>▲</b>	1	10 <sup>1</sup> = 10
	↖ Blinking	
Press <b>▲</b>	2	10 <sup>2</sup> = 100
	↖ Blinking	
Press <b>▲</b>	.3	10 <sup>-3</sup> = 0.001
	↖ Blinking	
Press <b>▲</b>	.2	10 <sup>-2</sup> = 0.01
	↖ Blinking	
Press <b>▲</b>	.1	10 <sup>-1</sup> = 0.1
	↖ Blinking	

**NOTE:** DP indicates -ve sign.

**3. Press RST **■** key to complete setting, display will go to step 1 (scale factor mantissa setting).**

**To quit setting mode:**

- 1) Turn power off
- 2) Remove link between terminal no 4 & 5
- 3) Turn power on



If terminal no 4 & 5 are shorted at power on, rate indicator will go in to the configuration mode. To quit configuration setting mode, turn power off, remove link between 4 & 5 & switch power on.

## TO READ SCALE FACTOR

KEY PRESS (MOMENTARY)	DISPLAY	NAME / DESCRIPTION
Press <b>▲</b>	1.000	Scale Factor (Mantissa)
Press <b>▲</b>	0	Scale Factor (Exponent)

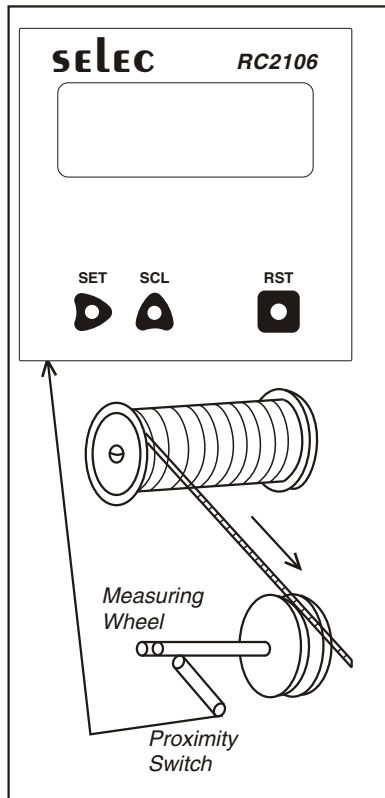
**NOTE:** Maximum display time is 3 sec. If the key is pressed again within 3 sec of previous key press display shows next parameter, otherwise it shows rate or total as per selection.

## TYPICAL APPLICATION:

**Objective:** To display the delivery rate of the cord (meters/minute).

**Data available:**

**Example 1:** The proximity switch generates one pulse per revolution of the measuring wheel. The diameter of the measuring wheel is 10 cm.



### **Example 2:**

In above application if 60 PPR encoder is fitted instead of proximity.

Therefore a) The length of rope delivered per revolution is 0.3142857 meters b) The number of pulses per revolution = 60 c) Length of rope delivered per count pulse =  $0.3142857 / 60 = 0.005238$  meter.

The display should increment by 0.005238 for every pulse. therefore, scale factor =  $5.23800 \times 10^{-3}$

Set scale factor mantissa = 5.23800 & exponent =  $10^{-3}$  for required display.

### **Selec Controls Pvt. Ltd.**

Specifications are subject to change, since development is a continuous process

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### **Calculations**

The circumference of the wheel =  $3.142857 \times 0.1 = 0.3142857$  meters.

Therefore the length of rope delivered per revolution is 0.3142857 meters.

Since the proximity switch gives one pulse per revolution, the display should increment by 0.3142857 for every pulse. Therefore, scale factor = 0.3142857

Set scale factor mantissa = 3.14285 & exponent =  $10^{-1}$

The RC2106 will show rate in meters / minute.