R_   SAINT WIEN PROGRAMMABLE RATE METER

TYPE R_

R-SERIES ARE A PROGRAMMABLE OF RATE
INDICATION/CONTROL METER. DISPLAY 4.0
~300,000RPM WITH 1 PULSE INPUT. PRE
SCALE FACTOR, HYSTERISIS, DELAY TIME,
OFFSET & DISPLAY HOLD ARE AVAILABLE.
POWERFUL SINGLE CHIP CPU & EXCELLENT
SOFTWARE DESIGN, PROVIDES THE USERS &
DEALERS VERY HIGH FLEXIBLE APPLICATIONS.

■1 ELECTRICAL & GENERAL CHARACTERISTIC

1 POWER: 110, 240VAC 50/60HZ ±10%, 3~7VA
2 AMBIENT & WEIGHT: -10~55℃, 35~85%RH, 300~600g
3 SETTING METHOD: [uR] uR: (A) RESET (B) TO SAVE EEPROM (C) SELECT DP WITH [uR] +[<]
               [M]   MODE: CHECK/SET
               [<]   SHIFT: (A) SHIFT DIGIT (B) CHECK/SET OFST, IN, DSP WITH [<]+[M]
               [^]   UP: (A) INCREASE NUMERAL (B) CHECK/SET DEL, HYS WITH [^]+[M]
4 DISPLAY: 4D OR 6D 1 SET. CHARACTER (mm): R1-=14.2, R2-=14.2/10.0(6D), R3-=7.6
5 SIGNAL INPUT: CP1 5~30VDC 3K3. 1 OR MULTI PULSES PER REVOLUTION.
6 SHOLD INPUT: CP2 INPUT HIGH WILL HOLD THE DISPLAY/OUTPUT UNTIL CP2 IS LOW.
7 CONTROL OUTPUT: (A) RELAY:3A250VAC RESISTIVE LOAD (B) VOLTAGE: 12VDC 4K7 (P1 ONLY)
8 POWER FOR SENSOR 12VDC±15%: R1-, R2-=60mA; R3-=20mA
9 PROTECTION: (A) EEPROM MEMORY BACKUP. (B) WATCHDOG.
               (C) CPU IN CASE OF BREAKDOWN: HOLD [M][<][^] 3 KEYS PRESSED AND
                   POWER ON AGAIN. AFTER THE MEMTER RESTORE TO NORMAL OPERATION.
                   RE-CONFIGURE THE METER FOR SPECIFY FUNCTIONS.
10 INDICATION & ACCURACY: 0~999999±0.01%±1 COUNT±50PPM/℃, RANGE 4.0~300,000RPM
11 SAMPLING UPDATE TIME: 100mS~16.5S (VARIES AT DIFFERENT RPM)
12 RESOLUTION: 0.01~10RPM (VARIES AT DIFFERENT RPM)
13 SCALE FACTOR: PV=(DSP/IN) x COUNTS (EQVALIENT COUNTS CALCULATED FROM PULSE
    WIDTH) IN=1~999999 DSP=000.001~999.999
14 DELAY TIME: AFTER 0~99S DELAY THEN TURN ON OUTPUT
15 HYSTERISIS: 0~9999
16 DECIMAL POINT: 3 POSITIONS FOR PV, P1, P2, OFST, HYS. HOLD [<] USE [uR] TO SELECT
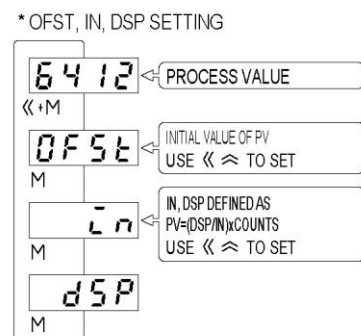17 OFFSET (OFST) LOADING: 0~999999. RATE METER START FROM OFST, INSTEAD OF 0

■2 PRESET (P1, P2)

1 PRESS [M].PV TO PATTERN & NUMERAL OF P1.
2 USE [<] TO SELECT DIGIT, SELECTED DIGIT FLASH.
3 USE UP [^] TO SET REQUIRED NUMERAL.
4 PERFROM STEP 2, 3 FOR ALL DIGITS OF P1.
5 PRESS [M] AFTER SETTING AND PV TO P2.
6 PERFORM STEP 2, 3 FOR ALL DIGITS OF P2.
7 PRESS [M] AFTER SETTING AND TO PV.
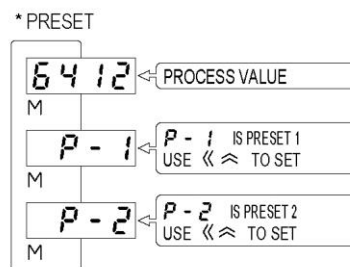
■3 OFST, IN & DSP

1 HOLD [<] THEN [M]. DISPLAY FROM PV
    TO OFST. PATTERN, NUMERAL SWAP AT 3S.
2 USE [<] TO SELECT DIGIT, SELECTED DIGIT FLASH.
3 USE UP [^] TO SET REQUIRED NUMERAL.
4 REPEAT STEP 2, 3 FOR ALL DIGITS OF OFST.
5 PRESS [M] AFTER SETTING AND PV TO IN.
6 PERFORM STEP 2, 3 FOR ALL DIGITS OF IN.
7 PRESS [M] AFTER SETTING AND PV TO DSP.
8 PERFORM STEP 2, 3 FOR ALL DIGITS OF DSP.
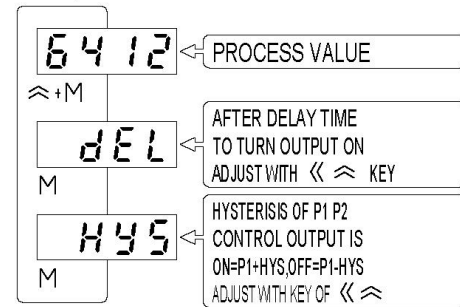9 PRESS [M] TO PV DISPLAY
* OFST=OFFSET, PV OF RATE/RPM METER ALWAYS

BE ADDED A VALUE OF OFST. USE OFST TO SHIFT METER'S PV TO REQUIRED INDICATION.
* IN & DSP DEFINED AS PV=DSP/IN x COUNTS, EQUIVALENT COUNTS CALCULATED FROM
  PULSES' WIDTH OF INPUTS. USE IN, DSP TO INDICATE THE TRUE MAXIMUM ACCURATE
  ENGINEER'S UNIT OF COUNTS SUCH AS RPM, LINE SPEED, HZ, FLOW RATE ETC.
  (A) DSP/IN=1.000/6 FOR X.XHZ (B) DSP/IN=CIRCUMFERENCE OF ROLLER FOR LINE SPEED.

■4 DEL, HYS OF OUTPUT
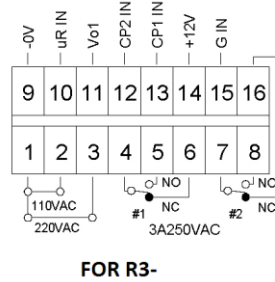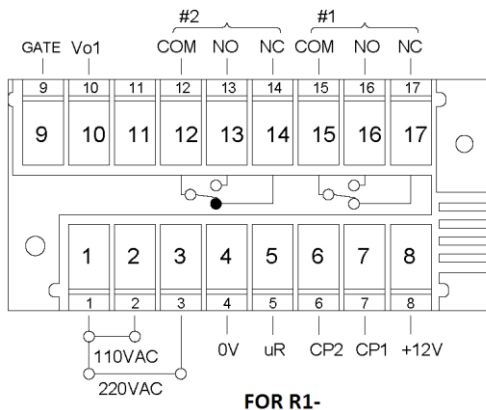
1 HOLD UP [^] THEN PRESS [M]. DISPLAY
  FROM PV TO PATTERN & NUMERAL OF DEL.
  PATTERN & NUMERAL SWAP AT 3S.
2 USE SHIFT [<] TO SELECT DIGIT, THE
  SELECTED DIGIT WILL FLASH.
3 USE UP [^] TO SET REQUIRED NUMERAL.
4 PERFORM STEP 2, 3 FOR ALL DIGITS OF DEL.
5 PRESS [M] AFTER SETTING AND TO HYS.
  DISPLAY TO PATTERN & NUMERAL OF HYS.
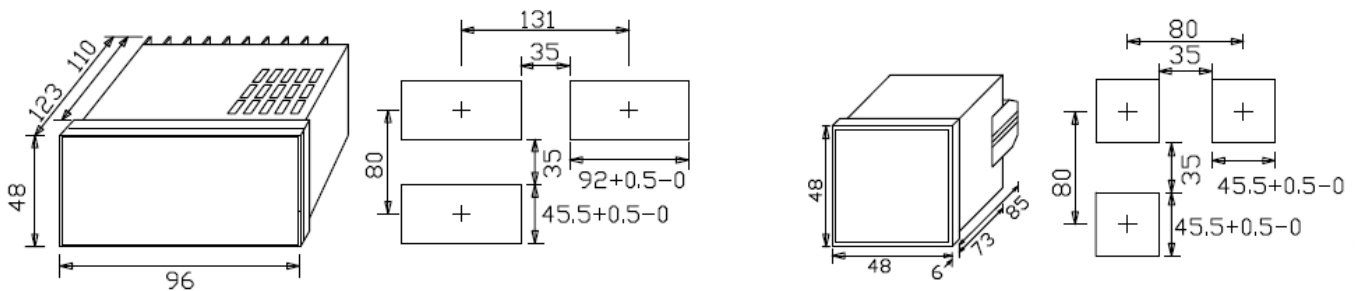6 PERFORM STEP 2, 3 FOR ALL DIGITS OF HYS.
7 PRESS [M] TO PV DISPLAY.
* DEL=DELAY. IF PV>=P1, P2 HAPPEN &MUST LAST LONGER THAN DEL TIME CONTINUOUSLY,
  THEN TURN OUTPUT ON. IF PV<=P1, P2, TURN OFF OUTPUT IMMEDIATELY.
* HYS=HYSTERISIS. OUTPUT ON: PV<=P1, P2+HYS; OUTPUT OFF: PV<=P1, P2–HYS.
* 1 PRESET 3 STATE (PRESET P1 ONLY & HYSTERISIS, FOR FORWARD/REVERSE CONTROL)
  PV>P1+HYS, #1 OUTPUT ON; PV=<P1+HYS, #1 OUTPUT OFF.
  PV<P1–HYS, #2 OUTPUT ON; PV=>P1+HYS, #2 OUTPUT OFF.

* DEL, HYS OF OUTPUT

PROCESS VALUE

AFTER DELAY TIME TO TURN OUTPUT ON ADJUST WITH 《 ≈ KEY

HYSTERISIS OF P1 P2 CONTROL OUTPUT IS ON=P1+HYS,OFF=P1-HYS ADJUST WITH KEY OF 《 ≈

■5 CONNECTION DIAGRAMS

FOR R1-

FOR R3-

■6 DIMENSIONS (mm)

■7 ORDERING INFORMATIONS

R 1 - 6D 2 - 6 2

1=110V, 2=240V, 4=24V
6=60HZ, 5=50HZ, 7=DC
2=2 PRESET, 1=1 PRESET, 0=NO PRESET, 3=1 PRESET 3 STATE OUTPUT
6D=6 DIGITS, 4D=4 DIGITS
1=H48xW96mm, 2=72x72mm, 3=48x48mm
TYPE NO, RATE METER