

CT- SAINT WIEN PROGRAMMABLE COUNTER/TIMER

CT- SERIES IS A PROGRAMMABLE COUNTER OR TIMER INDICATION/CONTROL METER.
 AS A COUNTER ITS FUNCTION CAN BE SELECTED FROM 3 COUNTING VERSIONS AND 4 COUNTING SPEED.
 THERE IS ALSO A WIDE PRE-SCALE SCALING RANGE FOR COUNTER.
 FOR TIMING, THERE ARE 4 TIME RANGES.
 ALL UNIT PROVIDES AUTO/MANUAL/POWER OFF RESET, EEPROM MEMORY, OFFSET, GATE FUNCTIONS.

#1 ELECTRICAL & GENERAL CHARACTERISTIC

- 1 SUPPLY VOLTAGE: 24,110,220VAC 50/60HZ
- 2 OPERATING VOLTAGE: 90~110% SUPPLY VOLTAGE
- 3 POWER CONSUMPTION: APPROX. 3VA~7VA
- 4 AMBIENT CONDITIONS: -10~55oC, 35~85%RH
- 5 WEIGHT: APPROX. 300~600g



- 6 SETTING METHOD: 4 KEYS TO SET/PROGRAMME uR[uR], MODE[M], SHIFT[<] & UP[^]
 uR [uR]:(A) TO RESET COUNTER, TIMER
 (B) TO SELECT DP WHEN USED WITH [<] (EXCEPT TIMER)

(C) TO SAVE SETTING VALUE

- MODE [M]:TO CHECK/SET PARAMETTERS
 SHIFT [<]:(A) TO SHIFT DIGIT
 (B) TO CHECK/SET OFST, DSP WHEN USED WITH [M]
 UP [^]:(A) TO INCREASE NUMERAL
 (B) TO CHECK/SELECT COUNT SPEED, TIMER RANGE, NCR
 WHEN USED WITH MODE [M]
 (C) TO CHECK/SELECT MODEL WHEN USED WITH [<]

- 7 SETTING ACCURACY: 0%
- 8 INDICATION METHOD: 4 OR 6 DIGITS, 1 SET OF DIGITAL DISPLAY, CHARACTER HEIGHT
 CT1-=14.2mm(4D,6D); CT2-=14.2mm(4D), 10mm(6D); CT3-=7.6mm(4D)
- 9 SIGNAL INPUT: HIGH ACTIVE 6~30VDC 3K3 OHM

	COUNTER		TIMER		SIGNAL FUNCTION
CPI	PHASE IN A	SIGNAL IN	NO USE	NO USE	SIGNAL IN
CP2/G	PHASE IN B	GATE IN	GATE IN	GATE IN	SIGNAL IN/INHIBIT
UR IN	RESET IN	RESET IN	RESET IN	RESET IN	1.PV=0 OR OFST 2.OUTPUT OFF
GATE	GATE IN	NO USE	NO USE	NO USE	INHIBIT CPI,CP2 IN

- 10 CONTROL OUTPUT: (A) RELAY:3A250VAC RES. LOAD RESET)
- 11 POWER FOR SENSOR: (A) CT1-, CT2-:12VDC 60mA (B) CT3-:12VDC 20mA
- 12 PROTECTION: (A) EEPROM MEMORY BACKUP. (B) WATCHDOG.
 (C) CPU RESET IF CORRUPTED :HOLD [M] [<] [^] 3 KEYS PRESSED
 AND POWER ON AGAIN. AFTER THE METER IS RESTORED TO NORMAL
 OPERATION, RE-CONFIGURE THE METER FOR THE REQUIRED FUNCTIONS

#2 **SPECIFICATIONS**

* COUNTER

- 1 3 COUNTING VERSIONS(FIG 1C,1D); 4 COUNTING SPEEDS(FIG 5A,5B).
 - 1) ONE WAY(UP COUNTING):30,100,300,FLOATING(3000HZ)
 - 2) PHASE IN CYCLE COUNT:15,50,150,FLOATING(2000HZ, CYCLE COUNTx1=2,000 COUNT)
 - 3) PHASE IN EDGE COUNT :15,50,150,FLOATING(1000HZ, EDGE COUNTx4=4,000 COUNT)
- 2 PRE SCALE FACTOR(DSP): 000.000~999.999(EXCEPT WHEN FLOATING COUNTING SPEED INPUT IS SELECTED)
- 3 OPERATION MODES 1 OR 2 PRESET OR INDICATION ONLY
- 4 RESET: (A)AUTO/MANUAL MODES: N.C.R, 000.000~999.999S ADJUSTABLE FOR AUTO RESET C.R. MODES.
 - (B) EXTERNAL RESET.
 - (C) POWER OFF RESET.(FOR POWER OFF RESET: DRAW OUT PCB, PLACE MINI JUMPER ON PINS MARKED P.R.)
- 5 OFFSET(OFFST) STARTING COUNT : 00-999999.COUNTER STARTS FROM OFFSET SETTING, INSTEAD OF 0, AFTER MANUAL RESETTING THE COUNTER
- 6 GATE IN:(1) COUNT INHIBIT FOR PHASE IN. (2) CP2 IS GATE IN FOR ONE WAY IN
- 7 DECIMAL POINT:3 POSITIONS FOR PV,P1,P2,OFST.HOLD [<] USE [uR] TO SELECT DP
- 8 MINUS(-) SIGN: THE DP OF LEAST SIGNIFICANT DIGIT ACT AS A MINUS (-) SIGN WHEN CP1 COUNT BECOMES LESS THAN CP2 METER WILL NOT SHOW MINUS.

* TIMER

- 1 4 TIMER RANGES & ACCURACY: (AT 25oC)
 - 1) 9999H59M: +-0.1S+-50PPM/oC
 - 2) 9999M59S: +-1mS+-50PPM/oC
 - 3) 99999.9S: +-1mS+-50PPM/oC
 - 4) 999.999S: +-1mS+-50PPM/oC
- 2 1 OR 2 PRESET OR TWIN PRESET RE-CYCLE TIMER (FIG 2) OR INDICATION ONLY
- 3 OFFSET (OFFST) TIMING START: 0~999999. TIMER STARTS FROM OFST, INSTEAD OF 0 AFTER ANNUAL RESETTING THE TIMER
- 4 RESET: (A)AUTO/MANUAL MODES: N.C.R, 000.000~999.999S ADJUSTABLE FOR AUTO RESET C.R. MODES.
 - (B) EXTERNAL RESET.
 - (C) POWER OFF RESET.(POWER OFF RESET: DRAW OUT PCB, PLACE MINI JUMPER ON PINS OF P.R.)
- 5 GATE IN: CP2 IS GATE IN, CP2 HIGH IS TIMING INHIBIT

#3 **MODEL PROGRAMMING** (FOR COUNTER/TIMER ONLY, USE [<]+[^]) FIG 1-2

- 1 HOLD SHIFT [<] THEN PRESS UP [^] TO DISPLAY MODE.
- 2 USE UP [^] TO SELECT REQUIRED MODE.
- 3 PRESS [M] RETURN TO PV AFTER MODE SELECTED.

#4 **PRESET/RESET SETTING** (FOR P1,P2 & AUTO RESET MODE C,R)

PRESET =(SETPOINT)

RESET TIME =(RELAY HOLD IN TIMER AFTER TIMER OR COUNTER SETPOINT HAS ELAPSED)

AUTO RESET MODE C=RELAY TIME DELAY FOR MODE C

AUTO RESET MODE R=RELAY TIME DELAY FOR MODE R

1 PRESS [M]. TO CHANGE DISPLAY FROM MAIN SCREEN TO "P1"

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 P1

5 PRESS [M] AFTER SETTING TO DISPLAY P2

6 PERFORM STEP 2,3 FOR ALL DIGITS OF P2

7 PRESS [M] AFTER SETTING TO DISPLAY

SETTING OF C OR R

8 REPEAT STEP 2,3 FOR ALL DIGITS OF C(R)

* NO RESET TIME IF SELECT N MODE

9 PRESS [M] TO RETURN TO MAIN SCREEN

#5 **OFFSET/PRESCALE** (DSP) SETTINGS

OFST = (OFFSET BEFORE COUNT/TIME IS STARTED)

DSP = (DISPLAY VALUE EQUALING 1 COUNT INPUT)

$DSP=1/NO.OF INPUT PULSES$

1 HOLD [<] THEN [M]. TO CHANGE DISPLAY

FROM MAIN SCREEN TO OFST

2 USE SHIFT [<] TO SELECT DIGIT,

SELECTED DIGIT WILL FLASH.

3 USE UP [^] TO SET REQUIRED NUMERAL.

4 REPEAT STEP 2,3 FOR ALL DIGITS OF OFST.

5 PRESS [M] AFTER SETTING TO DISPLAY DSP.

6 PERFORM STEP 2,3 FOR ALL DIGITS OF DSP

7 PRESS [M] TO PV DISPLAY

THE COUNTER DISPLAYS ONLY INTEGRAL (WHOLE NUMBERS) (AND RETAINS THE FRACTION PARTS IN METER) USE DSP TO MEASURE THE TRUE MAXIMUM ACCURATE OF ENGINEER'S UNIT OF COUNT, SUCH AS LENGTH, VOLUME, QUANTITY & ETC.

AFTER MAKING CHANGES PUSH uR TO SAVE SETTINGS

#6 **COUNT SPEED & NCR**

COUNT SPEED (C)= INPUT PULSE FREQUENCY

NCR (NCR)= RESET MODE

1 HOLD UP [^] THEN PRESS [M]. TO CHANGE DISPLAY FROM MAIN SCREEN TO COUNT SPEED

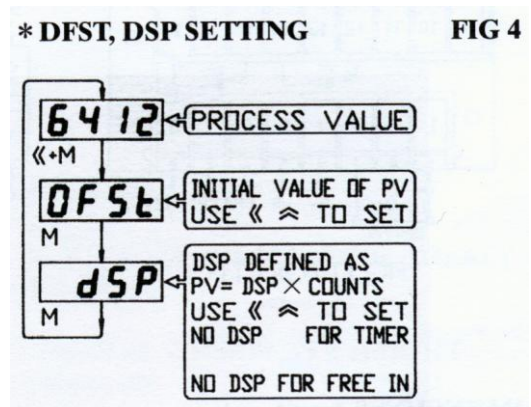
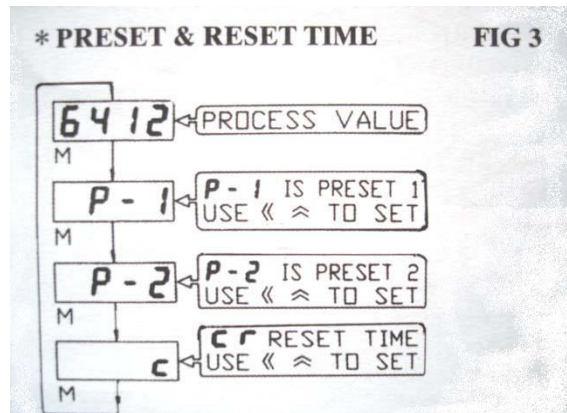
2 USE UP [^] TO SELECT COUNT

SPEED. 4 COUNT SPEEDS AVAILABLE (USE THE CORRECT SPEED FOR THE EXPECTED INPUT FREQUENCY)

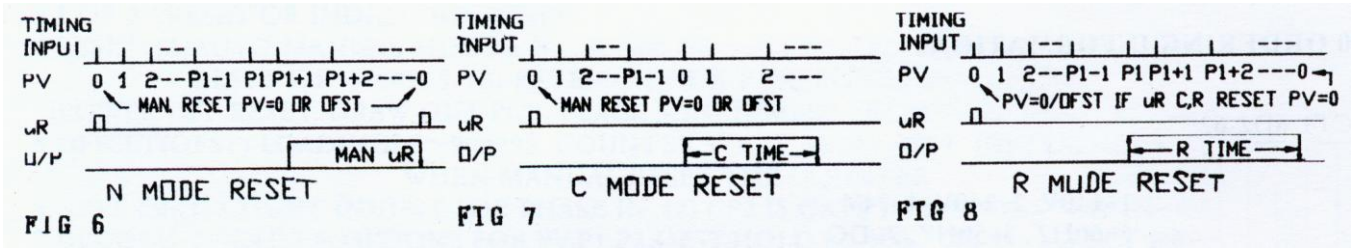
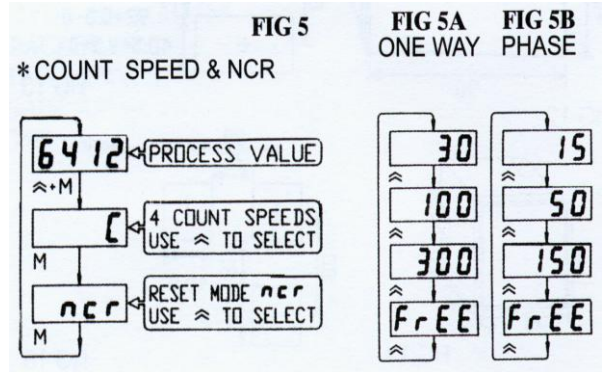
3 PRESS [M] TO DISPLAY NCR SETTING.

4 USE UP [^] TO SELECT 1 OF N.C.R.

N=MANUAL RESET (COUNT CONTINUES UNTIL RESET, RELAY CLOSSES AT SETPOINT UNTIL RESET) 3/4



- C=AUTO RESET/WITH RELAY TIMER
(COUNT RESETS AND RELAY CLOSSES AT SETPOINT UNTIL RELAY TIMER ELAPSES)
- R= AUTO RESET/WITH RELAY TIMER
(COUNT CONTINUES PAST, AND RELAY CLOSSES AT SETPOINT UNTIL RELAY TIMER ELAPSES)
- COUNTER RESETS AFTER RELAY TIMER ELAPSES
- 5 PRESS [M] TO RETURN TO MAIN SCREEN DISPLAY

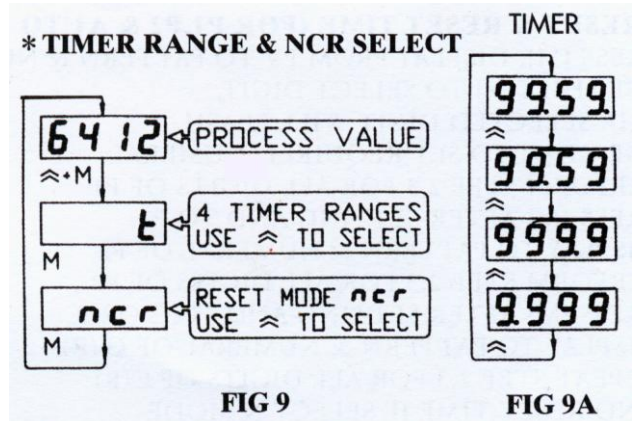


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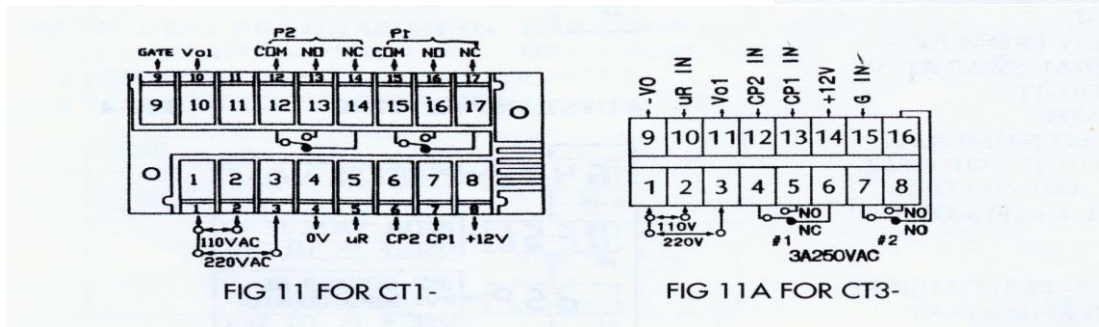
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#7 **TIMER RANGE & NCR SELECT** FIG 9

- 1 HOLD UP [^] THEN PRESS [M]. FROM MAIN SCREEN
- 2 USE UP [^] TO SELECT TIMER RANGE.
- 4 TIMER RANGES AVAILABLE FIG 9A
- 3 PRESS [M] TO DISPLAY SELECTION OF N,C,R
- 4 USE UP [^] TO SELECT 1 OF N.C.R MODE AS PER COUNTER SETUP
- 5 PRESS [M] TO RETURN TO MAIN SCREEN



#8 **CONNECTION DIAGRAMS**



#9 **DIMENSIONS** (mm)

