TCT201-1ABC USER MANUAL

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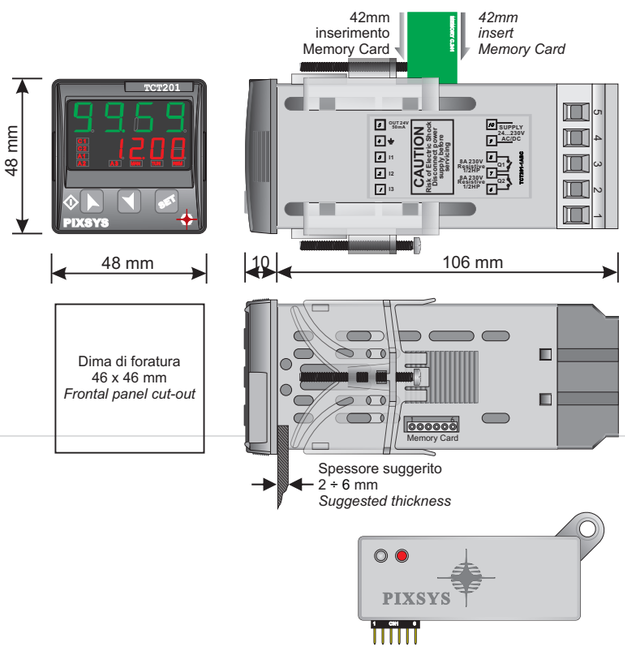
Software V 2.03
2300.10.137-RevA 130510

SIZE AND INSTALLATION



SETPOINT MODIFICATION

	PRESS	DISPLAY
1	SET	Visualizes SETPOINT 1 / 2
2	or	Modifies selecter SET

TECHNICAL DATA

Operating temperature	*Operating temperature 0-40°C, humidity 35..95uR%*
Sealing	*IP65 (with gasket) on front panel, Ip20 box and terminal bloks*
Material	*PC ABS UL94V0 self-extinguishing*
Digital Inputs	*3PNP/NPN configurable as analogue for potentiometers.*
Outputs	*2 relays 5A resistive charge*
Back-UP	*Rechargeable battery, approx. 60days autonomy*
Programming Software	*Labsoftview 2.0*
Power Supply	*24...230Vac/Vdc +/-15% 50/60Hz / 2W*

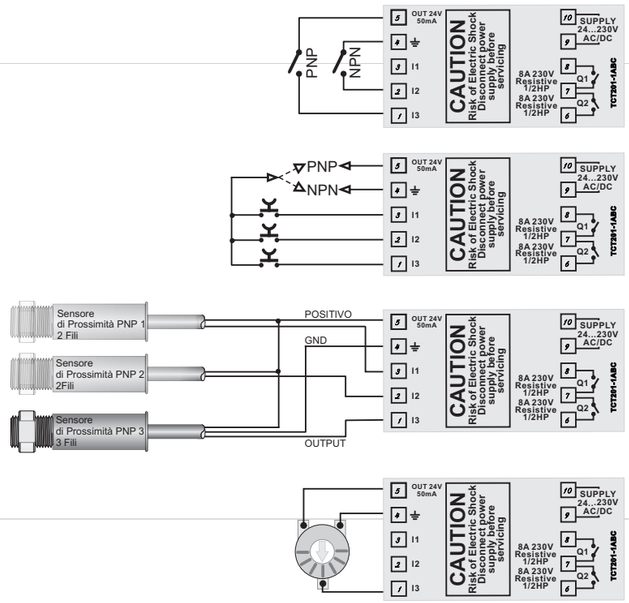
INTRODUCTION

Thanks for choosing a Pixsys device.

Timer TCT201 can be set in 5 different modes; Timer-ON, Timer-OFF, Pause-Work, Oscillator, PWM (time-proportioned output), all options with independent setting of ON-OFF time.
3 universal digital inputs are availables (NPN/PNP) for external commands like Start, Stop and Reset; one input is also analogue in order to allow the modification of working times by an external potentiometer.
5 different time bases (hundredths, tenths, seconds, minutes, hours).

Counting can be incremental or decremental.

WIRING DIAGRAM



POTENTIOMETER 5..10 Kohm
Accuracy 1000 points

Potentiometer:
To modify Set1 or Set2 by external potentiometer follow the steps below:
1- use potentiometers 5kOhm to 10kohm
2- connect cursor to pin I3; a wrong connection may damage the potentiometer and lead to lock of the device.
3- accuracy on input is max 1000 points, therefore set the parameters "Upper limit" and "Lower limit" with a max difference of 1000 units.
(Ex.: LoS1 to 50,0 and uPS1 to 150,0 to modify time value related to Set1 between 50 and 150 seconds with steps of one tenth). Greater differences would make unstable the less significant digit.
4- To calibrate the scale of potentiometer enter the configuration mode and select:
Hin.3 as Pot
Fin.3 as Set1 or Set2
P.tAr as Enable
Exit configuration mode and place potentiometer at minimum level and press key, then place potentiometer at max level and press premere key: the device automatically exit the calibration procedure.
N.B.: A switch-off of the device would interrupt the calibration.

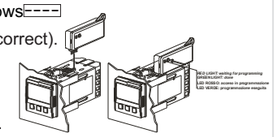
MEMORY CARD (optional)

Parameters and setpoint values can be copied from one device to another using the Memory car.

There are two methods:

> With the device connected to the power supply
insert the memory card **when the controller is off**.

On activation display 1 shows and display 2 shows ----
(Only if the values stored on Mmeory Card are correct).
By pressing the key display 2 shows LoAd
Confirm using the key .
The device loads the new data and starts again.



> With the controller disconnected from the power supply:

The memory card is equipped with an internal battery with a life of about 1000 uses.

Insert the memory card and press the programming button.

When writing the parameters, the LED turns red and on completing the procedure it changes to green. It is possible to repeat the procedure.

⚠ UPDATING MEMORY CARD.

To *update* the memory card values, follow the procedure described in the first method, setting display 2 to ---- so as not to load the parameters on controller.

Enter configuration and **change at least one parameter**.
Exit configuration. Changes are saved automatically.

LOADING DEFAULT VALUES

This procedure restores the factory settings of the instrument.

CONFIGURATION PARAMETER MODIFICATION

	PRESS	DISPLAY	DO
1	SET for 3 seconds	On display 1 appears 0000 with 1st digit blinking, while display 2 shows PASS	
2	or	Modify blinking digit and pass to the next one pressing	Enter Password 1234
3	to confirm	Display shows first parameter of configuration table Func	
4	or	Scroll parameters	
5	SET + or	Increase or decrease visualized value pressing and an arrow key	Enter the new data that will be saved when releasing keys
6	+	End configuration, controller exits from configuration	

LOADING DEFAULT VALUES

	PRESS	DISPLAY	DO
1	SET for 3 seconds	On display 1 appears 0000 with 1st digit blinking, while display 2 shows PASS	
2	or	Modify blinking digit and pass to the next one pressing	Enter Password 9999
3	to confirm	Device loads default values	Switch the device off and restart it

LIST OF PARAMETERS

FUNCTION CONFIGURATION

Func	**P-01 Timer Function**	*Timer functions*	
ton	Timer On	*Activates output at count end*	Default
toFF	Timer Off	*Deactivates output at count end*	
PAUS	Pause/Work	*T1 and T2 start in sequency*	
oSC	Oscillator	*T1 and T2 start in sequency repeatedly*	
PUN	PWM	*Percentage output activation on fixed time base*	

BACKUP MEMORY CONFIGURATION

PoME	**P-02 Power-off Memory**	*Power-off memory*	
dis	Disable	*Disabled*	Default
ot in	Only Timer	*Only timer value in memory*	
ALL	Timer / State	*Timer value and START/STOP status in memory*	

INPUT CONFIGURATION

Hin.1	**P-03 Hardware Input 1**	*Input 1 configuration*	
nPn	NPN	*NPN*	
PnP	PNP	*PNP*	Default
tEL	TTL	*TTL*	
Hin.2	**P-04 Hardware Input 2**	*Input 2 configuration*	
nPn	NPN	*NPN*	
PnP	PNP	*PNP*	Default
tEL	TTL	*TTL*	
Hin.3	**P-05 Hardware Input 3**	*Input 3 configuration*	
PnP	PNP	*PNP*	Default
tEL	TTL	*TTL*	
Pot	Potent.	*Potentiometer*	
Ain.1	**P-06 Active State Input 1**	*Input 1 activation*	
HLEv	High Level	*High level*	
LLEv	Low Level	*Low level*	
r.S.i	Rising edge	*Transitory in rising*	Default
Ain.2	P-07 Active State Input 2	*Input 2 activation*	
HLEv	High Level	*High level*	
LLEv	Low Level	*Low level*	
r.S.i	Rising edge	*Transitory in rising*	Default
Ain.3	**P-08 Active State Input 3**	*Input 3 activation*	
HLEv	High Level	*High level*	
LLEv	Low Level	*Low level*	
r.S.i	Rising edge	*Transitory in rising*	Default
Fin.1	**P-09 Function Input 1**	*Input 1 function*	
dis	Disable	*Disabled*	
StSt	Start / Stop	*Start / Stop*	Default
StSr	Start / Stop-Reset	*Start / Stop-Reset*	
rSSt	Reset-Start / Stop	*Reset-Start / Stop*	
rSrS	Reset / Start / Stop	*Reset / Start / Stop*	
Fin.2	**P-10 Function Input 2**	*Input 2 function*	
dis	Disable	*Disabled*	
rES	Reset	*Reset*	Default
Fin.3	**P-11 Function Input 3**	*Input 3 function*	
dis	Disable	*Disabled*	
WAit	Wait	*Wait (count lock)*	
HoLd	Hold	*Hold (locks display but count continuels)*	Default
SEt1	Potent. To SET1	*Modify SET1 by potentiometer*	
SEt2	Potent. To SET2	*Modify SET2 by potentiometer*	
FtuP	**P-12 Function Key UP**	*Function of*	
dis	Disable	*Disabled*	Default
StSt	Start / Stop	*Start / Stop*	
StSr	Start / Stop-Reset	*Start / Stop-Reset*	
rSSt	Reset-Start / Stop	*Reset-Start / Stop*	
rSrS	Reset / Start / Stop	*Reset / Start / Stop*	
rES	Reset	*Reset*	
WAit	Wait	*Wait (count lock)*	
HoLd	Hold	*Hold (locks display but count continuels)*	

OUTPUT CONFIGURATION

out.1	**P-13 Output Q1 Setup**	*Output Q1 selection*	
dis	Disable	*Disabled*	
t.on	Out Timer 1 n.o.	*Timer output 1 n.o.*	Default
t.nc	Out Timer 1 n.c.	*Timer output 1 n.c.*	
t2on	Out Timer 2 n.o.	*Timer output 2 n.o.*	
t2nc	Out Timer 2 n.c.	*Timer output 2 n.c.*	
StAr	Start	*Start*	
StoP	Stop	*Stop*	
out.2	**P-14 Output Q2 Setup**	*Output Q2 selection*	
dis	Disable	*Disabled*	Default
t.on	Out Timer 1 n.o.	*Timer output 1 n.o.*	
t.nc	Out Timer 1 n.c.	*Timer output 1 n.c.*	
t2on	Out Timer 2 n.o.	*Timer output 2 n.o.*	
t2nc	Out Timer 2 n.c.	*Timer output 2 n.c.*	
StAr	Start	*Start*	
StoP	Stop	*Stop*	

DISPLAY CONFIGURATION

tYPE	**P-15 Type of Timer**	*Count mode*	
incr	Incremental	*Incremental*	Default
dEcr	Decremental	*Decremental*	

SETPOINT CONFIGURATION

FoS.1	**P-16 Format Set 1**	*Count format*	
FoS.2	**P-17 Format Set 2**	*Count format*	
SSCC	Second.Cent	*Seconds, Cents*	
SSSd	Second.Decimal	*Seconds, Tenths*	Default
SSSS	Second	*Seconds*	
MMSS	Minute.Second	*Minutes, Seconds*	
HHMM	Hour.Minute	*Hour, Minutes*	
HHHH	Hour	*Hour*	
diS.1	**P-18 Display Set 1**	*Set 1 visualization*	
dis	Disable	*Disabled*	
Visu	Visualized	*Visualized*	
Modi	Modifiable	*Visualized and modifiable*	Default
diS.2	**P-19 Display Set 2**	*Set 2 visualization*	
dis	Disable	*Disabled*	Default
Visu	Visualized	*Visualized*	
Modi	Modifiable	*Visualized and modifiable*	
LoS.1	**P-20 Lower limit Set 1**	*Set 1 lower limit*	0.0
uPS.1	**P-21 Upper limit Set 1**	*Set 1 upper limit*	99.9
LoS2	**P-22 Lower limit Set 2**	*Set 2 lower limit*	0.0
uPS2	**P-23 Upper limit Set 2**	*Set 2 upper limit*	99.9
PtAr	**P-24 Potent. tarature**	*Potentiometer calibration procedure*	
dis	Disable	*Disabled*	Default
En	Enable	*Enabled*	

TCT201-1ABC “TIMER”

FUNCTION CONFIGURATION

P-01 Timer Function

- ton Timer On (Nota 1)
- toFF Timer Off (Nota 1)
- PAUS Pause/Work (Nota 1)
- oSC. Oscillator
- PUN PWM

BACKUP MEMORY CONFIGURATION

POWER-ON RESET

P-02 Power-off Memory

- dis Disable
- oN Only Timer
- ALL Timer / State

INPUT CONFIGURATION

I1

P-03 Hardware Input 1

- nPn NPN
- PnP PNP
- tTL TTL

P-06 Active State Input 1

- HLEV High Level
- LLEV Low Level
- r.SU Rising edge

P-09 Function Input 1

- dis Disable
- St.St Start / Stop (Nota 2)
- St.Sr Start / Stop-Reset (Nota 3)
- rSSt Reset-Start / Stop (Nota 4)
- rSS Reset / Start / Stop (Nota 5)

I2

P-04 Hardware Input 2

- nPn NPN
- PnP PNP
- tTL TTL

P-07 Active State Input 2

- HLEV High Level
- LLEV Low Level
- r.SU Rising edge

P-10 Function Input 2

- dis Disable
- rES Reset

I3

P-05 Hardware Input 3

- PnP PNP
- tTL TTL
- Pot. Potent.

P-08 Active State Input 3

- HLEV High Level
- LLEV Low Level
- r.SU Rising edge

P-11 Function Input 3

- dis Disable
- WAit Wait
- HoLd Hold
- SEt1 Potent. To SET1
- SEt2 Potent. To SET2

P-24 Potentiometer tarature

- PtAr
  - dis Disable
  - En Enable

Key UP

P-12 Function Key UP

- dis Disable
- St.St Start / Stop (Nota 2)
- St.Sr Start / Stop-Reset (Nota 3)
- rSSt Reset-Start / Stop (Nota 4)
- rSS Reset / Start / Stop
- rES Reset
- WAit Wait
- HoLd Hold

SETPOINT CONFIGURATION

P-16 Format Set 1

- Fo.S1
  - SSCC Second.Cent
  - SSSd Second.Decimal
  - SSSS Second
  - MMSS Minute.Second
  - HHMM Hour.Minute
  - HHHH Hour

P-18 Display Set 1

- diS1
  - dis Disable
  - VISU Visualized
  - Mod. Modifiable

P-21 Upper limit Set 1 — UPS1

P-20 Lower limit Set 1 — LoS1

P-17 Format Set 2

- Fo.S2
  - SSCC Second.Cent
  - SSSd Second.Decimal
  - SSSS Second
  - MMSS Minute.Second
  - HHMM Hour.Minute
  - HHHH Hour

P-19 Display Set 2

- diS2
  - dis Disable
  - VISU Visualized
  - Mod. Modifiable

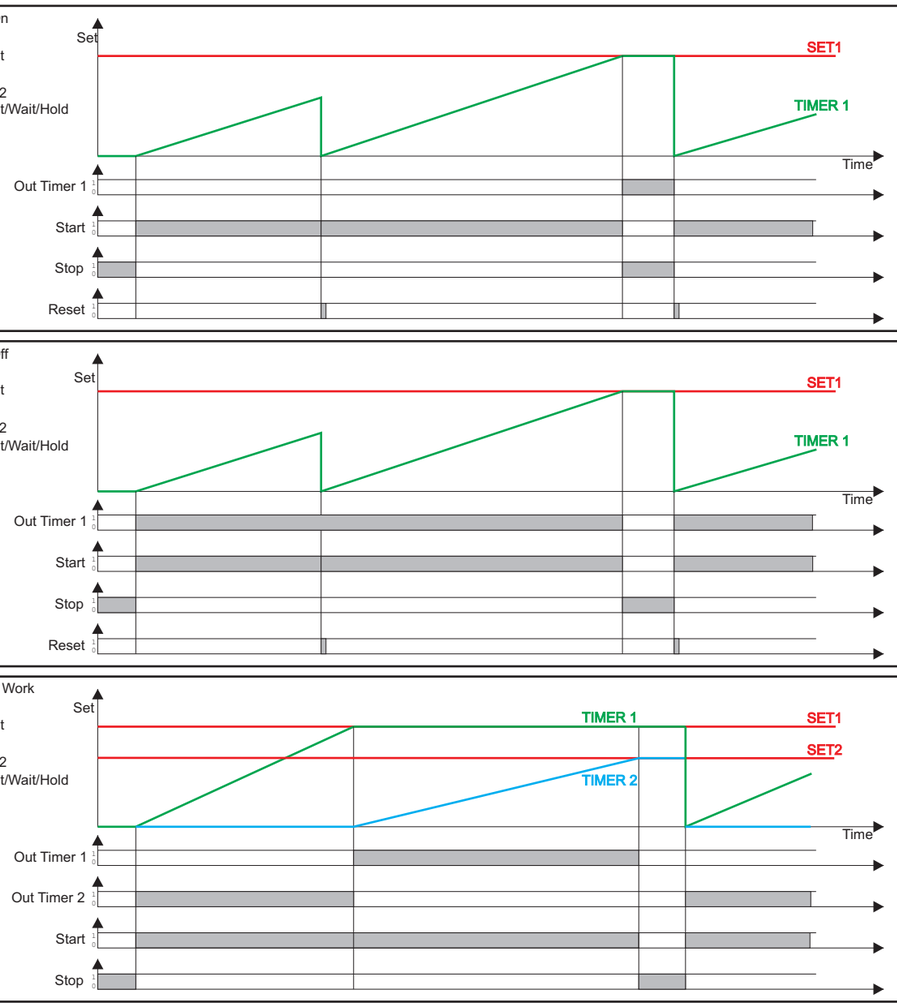
P-23 Upper limit Set 2 — UPS2

P-22 Lower limit Set 2 — LoS2

Nota 1: In this timer functioning, if P-06 Active State Input 1 = Rising Edge or P-09 Function Input 1 = Disable, at count end (reaching setpoint), timer will switch automatically to STOP.
Nota 2: This function not reset timer value, and so it requires an input for the reset.
Nota 3: This function reset timer at STOP.
Nota 4: This function reset timer at START.
Nota 5: This function è attiva solo se P-06 Active State Input 1 = Rising Edge

ton — Timer On

Stop/Reset
Start/Stop/Reset
Reset
Wait/Hold/Set1-2
Start/Stop/Reset/Wait/Hold
Set1
Set2



Timer value
Out Timer 1
Out Timer 2

toFF — Timer Off

Stop/Reset
Start/Stop/Reset
Reset
Wait/Hold/Set1-2
Start/Stop/Reset/Wait/Hold
Set1
Set2

Timer value
Out Timer 1
Out Timer 2

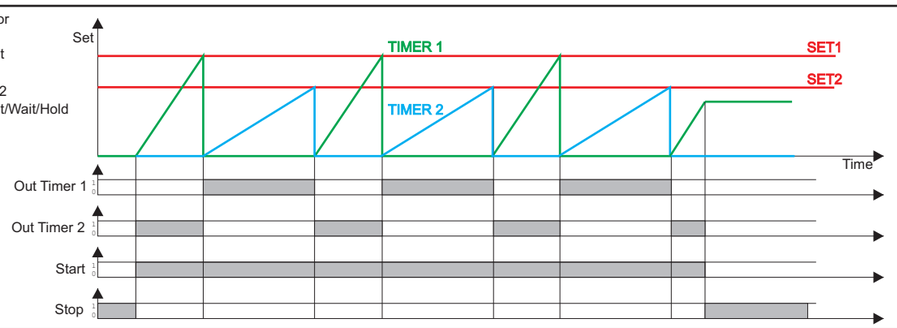
PAUS — Pause / Work

Stop/Reset
Start/Stop/Reset
Reset
Wait/Hold/Set1-2
Start/Stop/Reset/Wait/Hold
Set1
Set2

Timer value
Out Timer 1
Out Timer 2

oSC. — Oscillator

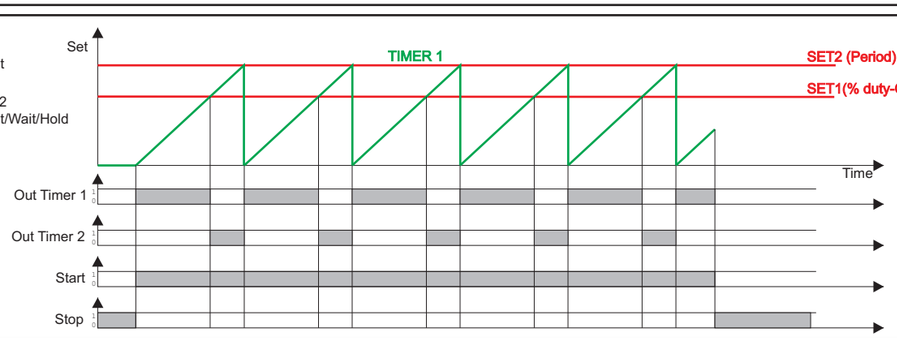
Stop/Reset
Start/Stop/Reset
Reset
Wait/Hold/Set1-2
Start/Stop/Reset/Wait/Hold
Set1
Set2



Timer value
Out Timer 1
Out Timer 2

PUN — PWM

Stop/Reset
Start/Stop/Reset
Reset
Wait/Hold/Set1-2
Start/Stop/Reset/Wait/Hold
Set1
Set2

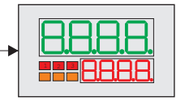


Timer value
Out Timer 1
Out Timer 2

DISPLAY CONFIGURATION

P-15 Type of Timer

- tYPE
  - incr Incremental
  - dEcr Decremental



OUTPUT CONFIGURATION

P-13 Output Q1 Setup — out1

- dis Disable
- t.no Out Timer 1 n.o.
- t.nc Out Timer 1 n.c.
- t2no Out Timer 2 n.o.
- t2nc Out Timer 2 n.c.
- StAr Start
- StoP Stop

→ Q1

P-14 Output Q2 Setup — out2

- dis Disable
- t.no Out Timer 1 n.o.
- t.nc Out Timer 1 n.c.
- t2no Out Timer 2 n.o.
- t2nc Out Timer 2 n.c.
- StAr Start
- StoP Stop

→ Q2

Logic Level \ Input Type	NPN Input	PNP Input	TTL Input
H	< 9,0 v	>10,5 v (I1, I2) >12,3 v (I3)	>2,9 v
L	> 10,5 v	< 9,0 v (I1, I2) < 11,0 v (I3)	< 2,4 v

TABLE of ERROR MESSAGES

E-01	ERROR in WRITING of EEPROM Memory
E-02	ERROR in READING of EEPROM Memory
E-03	Incorrect parameters (Note 1)
E-04	Incorrect calibration data (Note 1)
E-05	Incorrect status data (Note 1)
E-06	Incorrect BACKUP registersI (Note 2)

Note 1: Switch the device off and restart it; if error is still notified, contact technical service
Note 2:
Discharged battery: keep the device connected to power supply in order to recharge the battery.

⚠ In PWM mode, the only option available on parameters 16 FoS1 and 17 FoS2 for format of SET1 and SET2 is SSSS (seconds).
Low and upper limits for SET1 (related to percentage of work or Duty Cycle) are allowed in the range 0 ... 100 (%). da 0 a 100 (%).