

# NC series

Digital PID Controllers

NC 2438

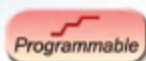
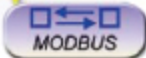
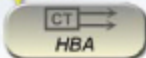
NC 2538

NC 2638

NC 2738

NC 2838

CE



# BEST CHOICE FOR PROCESS AND TEMPERATURE CONTROL

Application: Control temperature, humidity, pressure, flow and PH.

NC series controllers are microprocessor based controllers. Which have been designed with high accuracy input, various output selection, useful options and good reliability at a competitive price.

NC series use "PID+FUZZY" algorithm to implement excellent control.

The output status is displayed on the built in "Bar-Graph" display.

NC series not only provide the basic control output selections but also plus advanced options such as "Motor Valve Control", "SCR/TRIAC Trigger", and "Programmable RAMP/SOAK".

NC Series support MODBUS protocol. Communication with HMI is more convenient. New additional HBA function with competitive price, user can upgrade system safely easily.

Available in 5 sizes, the models and sizes are as below:

NC 2438: 48X48mm (DIN 1/16) NC 2538/NC 2638: 48X96mm (DIN 1/8)

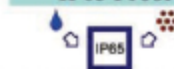
NC 2738: 72X72mm (DIN 3/16) NC 2838: 96X96mm (DIN 1/4)



## CE approval & free power

All models get CE approval.  
Operate on any voltage from AC 85-265V at 50/60Hz.  
DC 24V is also available (optional function).

## IP65 Proof



IP65 dust & water proof is available for all models (optional function).

## Heater Break Alarm (HBA)



Heater current flowing through CT can be displayed on controller.  
If heater current is less than HBA set value, AL1 will be activated (optional function).

## Autotuning (AT)



AT Function can calculate the optimize PID value for your control system, without trying and error manually.

## MODBUS Communication



NC series support both MODBUS RTU and MODBUS ASCII protocol.  
Communication between controller and HMI or other equipment is more convenient (optional feature).

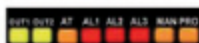
## Auto/Manual mode



Click!

Conveniently switched between auto/manual output mode by clicking "A/M" key (except "NC-2438").

## Various Indication Lamps



Real time monitor the status of output (OUT1/OUT2), AT, alarm (AL1/AL2/AL3), manual output (MAN) and program (PRO).

## Bar-Graph



Output percent displayed on the bar-graph in 10 LEDs resolution (except "NC-2438").

## High Accuracy

Input with 14bit A/D resolution, 0.2% accuracy of FS.  
Built in "AutoZero-AutoSpan" function keep good accuracy.

## Data Lock Function

All parameters are separated in 3 operation levels.  
Each parameter can be hidden or locked to prevent unauthorized changes.

# Features

NC Series

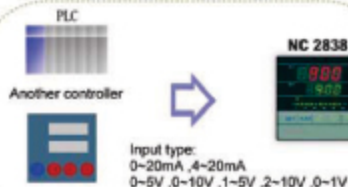
Digital PID Controller

## Various I/O Types

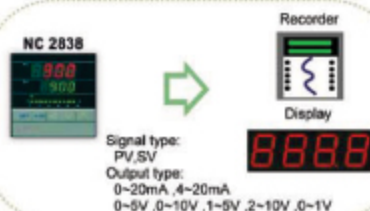


## Peripheral Options

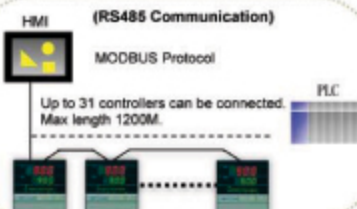
### Remote SV



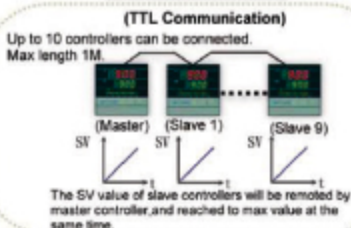
### Transmission



### Communication

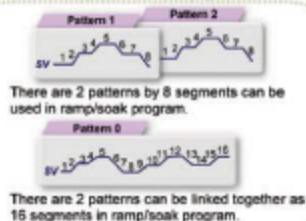


### Communication

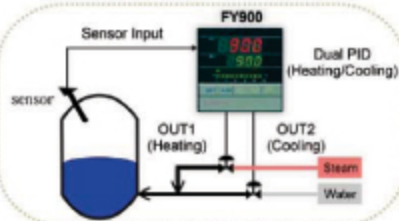


## Special Application

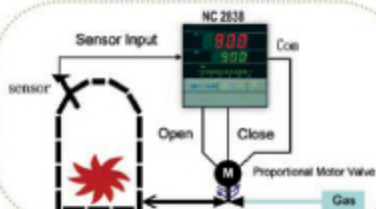
### Ramp/Soak Program



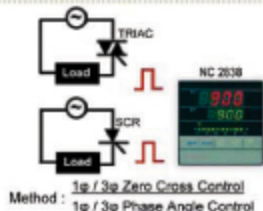
### Heating and Cooling Control



### Motor Valve Control



### SCR/TRIAC Trigger



# Features

NC Series

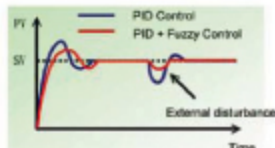
Digital PID Controller

## Excellent Control

### Control Method

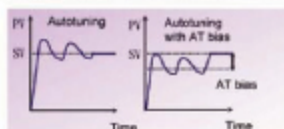


### Fuzzy Logic



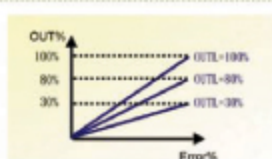
Built in fuzzy logic suppress the overshoot due to SV changes or external disturbance.

### Autotuning (AT)



When autotuning acts it will make PV hunting 1~2 cycle to calculate optimize PID value. To protect user's device NC series controller can perform PV hunting below SV by setting AT bias value(ATVL).

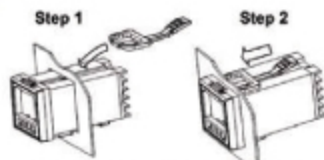
### Limit Setting



Built in output limit function. Use this function to get different gradient output and set limit for output.

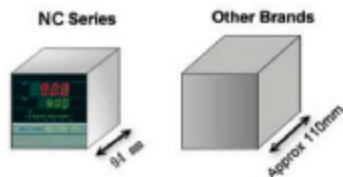
## Convenient Installation

### Easy Mounting



Just push the mounting bracket to panel. Without using any screws.

### Saving Space



NC Series are shorter than other brands. But with more functions.

## Alarm Function

### Alarm Types

Maximum with 3 sets of alarm.

Alarm types list as below:

#### Deviation

Deviation High Alarm  
Deviation Low Alarm  
Deviation High/Low Alarm  
Band Alarm

#### System

System Failed Alarm  
System Normal Alarm

#### PV

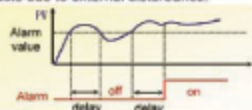
PV High Alarm  
PV Low Alarm

#### Program

Program Run Alarm  
Program End Alarm  
Segment End Alarm

### Delay Time

Use this function can avoid alarm acts frequently or acts due to external disturbance.



### Hold Function

Use this function can avoid alarm acts at start-up. The alarm action is suppressed at start-up until PV enters the non-alarm range.