

SuperNova vs Nova



SuperNova 1/4 DIN Controller



Nova 1/4 DIN Controller

Compare the New SuperNova PID Process & Temperature Controllers to the Old Nova PID Process & Temperature Controllers

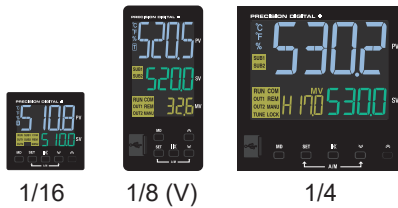
SuperNova Series

vs

Nova Series

DIN Sizes

The SuperNova includes the most popular DIN sizes available on the Nova line.



The Nova included the following DIN sizes.



Display & Digit Type

The SuperNova has a 14-Segment 3-color reverse polarity LCD display that is more striking, and shows more readable alphanumeric characters during programming.

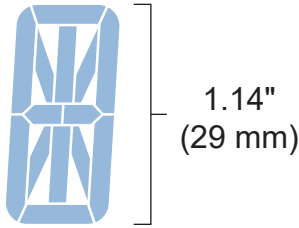


The Nova included only a 7-Segment red LED display that was not as readable as a display with alphanumeric characters.



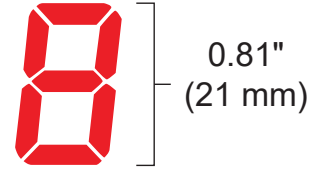
Display Height

The SuperNova's largest PV display height on the 1/4 DIN size controller is 1.14" (29 mm) high.



SuperNova Actual Size Digit

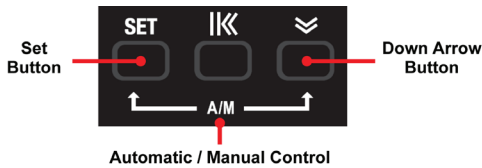
The Nova's largest PV display height on the 1/4 DIN size controller is only 0.81" (20 mm) high.



Nova Actual Size Digit

Auto/Manual Control Switching

Changing between auto and manual control modes on the SuperNova is accomplished by holding two buttons that are labeled SET and . A graphic on the front panel indicates that these buttons control the Auto/Manual (A/M) function:



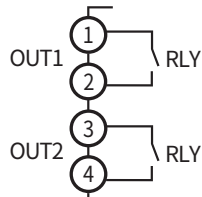
Changing between auto and manual control modes on the Nova took several steps involving pressing the SET/ENT key twice and then using the Arrow keys to select auto or manual, and then selecting SET/ENT again to confirm.



Main Control Relay

SuperNova -R models with a relay as the main control output use a type A relay. All models include a secondary control relay for heating & cooling mode operation.

While the SuperNova has a type A relay, failsafe mode can be used to change the operation of the relay from NO to act like a NC relay.



Nova's OUT1 control relay was a form C relay.

| OUT1 | |
|-------|--------------|
| RELAY | Select Type |
| | HEAT COOL |
| | ALM1 ALM2 |
| | ALM3 RUN |

Front Panel Buttons

The SuperNova includes durable hard rugged plastic pushbuttons. These more robust buttons will reduce wear and tare and increase the lifespan of the controller.



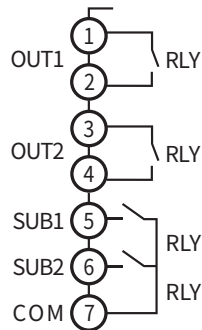
The Nova included a membrane overlay on the pushbuttons that are prone to wear out over time.



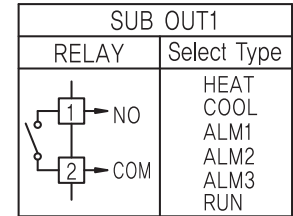
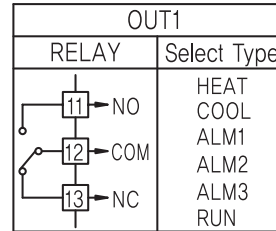
Relay Types

All relays are Form A (SPST) on the SuperNova. The SUB alarm relays share a common.

Failsafe mode can be used to change the operation of the relay from NO to act like a NC relay when the controller is powered.

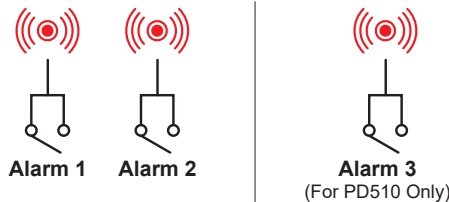


The Nova had a Form C Relay (SPDT) for control output, and the form A (SPST) SUB alarm relays were isolated.

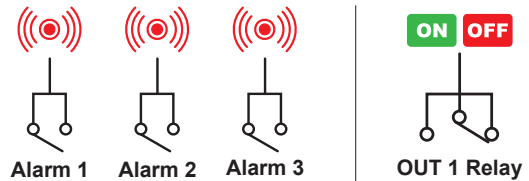


Number of Alarm Relays

The SuperNova includes 2 alarm relays, 3 alarm relays for the PD510 only, if using Control Output 2 relay as an alarm.

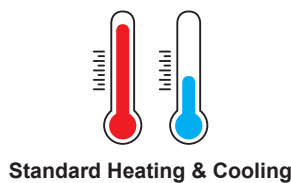


The Nova included 3 alarm relays, 2 alarm relays if using Out 1 for On/Off control.

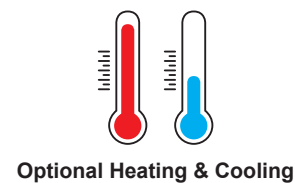


Heating & Cooling Capability

Heating & Cooling is included as a standard feature with control output 2 relay on all SuperNova models.



Heating & Cooling was only an option for the Nova models and had a different set of part numbers.



Process & Temperature Inputs

Thermocouple: J, K, T, E, R, B, S, L, N, U, W, Platinel II
RTD: Pt100 (0.00385), JPt100 (0.00392)
Process: 1-5 V (4-20 mA), 0-5 V, 0-10 V, 0-50 mV, 0-100 mV
 External 250 Ω resistor is required to read 4-20 mA. Recommended accessory PDX-RES2.

Thermocouple: J, K, T, E, R, B, S, L, N, U, W, Platinel II
RTD: Pt100 (0.00385), JPt100 (0.00392)
Process: 0.4 to 2.0 V, 1 to 5 V, 0 to 10 V, -10 to 20 mV, 0 to 100 mV
 4-20 mA input required a 100 Ω resistor connected across input terminals.

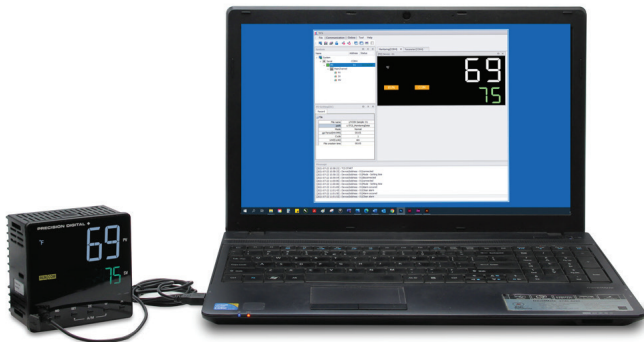
Programming

The SuperNova is programmed using either the front panel buttons or SuperNova TCS Software via the RS-485 or micro-USB port.

SuperNova Front Panel Buttons



SuperNova TCS Software



The Nova could only be programmed using the front panel buttons and had no programming capability with a PC.

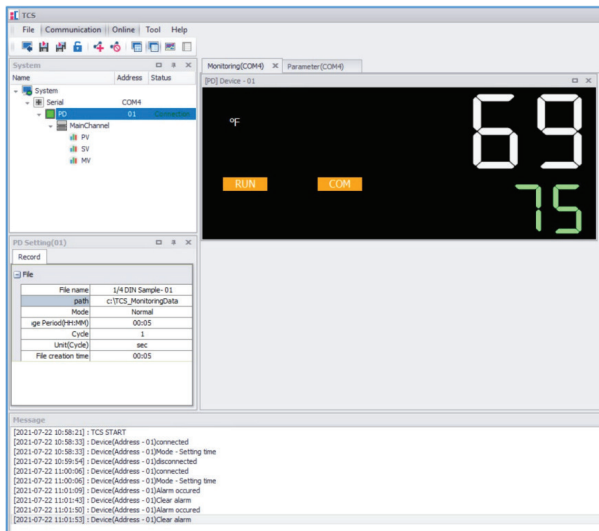
Nova Front Panel Buttons



Monitoring

SuperNova TCS software can be used to monitor up to 31 SuperNova controllers on a PC.

Nova PC software was used to monitor up to 30 controllers, and each using independent data logging.



Nova Multi-Monitoring PC Software



Transmitter Power Supply

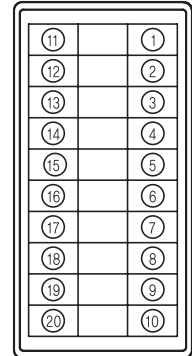
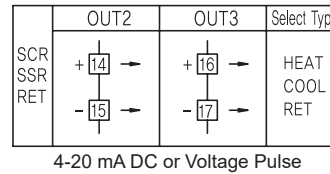
The SuperNova does not come equipped with a transmitter power supply.

When using the SuperNova, an external power supply such as the PDA1024-01 transmitter power supply is required to power the transmitter.



PDA1024-01 Power Supply

The Nova was equipped with 14 to 18 VDC @ 20 mA; available at terminals OUT2 or OUT3.



Input & Output Accuracy

Input Accuracy: ±0.2% FS ±1 digit
Output Accuracy: ±0.1% FS

Input Accuracy: ±0.1% FS ±1 digit
Output Accuracy: ±0.1% FS

Remote SV Input

The SuperNova has an option for the process input to remotely change SV.



Remote SV Input option was not available on the Nova Series.

Baud Rate

The SuperNova has a Baud Rate of **4,800 to 57,600 bps**.

The Nova had a Baud Rate of **600 to 19,200 bps**.

Serial Communications Protocol

SuperNova Serial Communications Protocol:
 PC-LINK STD, PC-LINK SUM, MODBUS-ASCII, MODBUS-RTU

Nova Serial Communications Protocol:
 PC, Modbus (ASCII, RTU), Sync (Master/Slave SP Control)

DI Logic Levels

SuperNova Digital Input Logic Levels:
 On: >1.5 V
 Off: <0.1 V

Nova Digital Input Logic Levels:
 On: >4.7 V
 Off: <0.8 V

Digital Input Functions

On the SuperNova the Digital Inputs can be set to ON or OFF. If set to ON, DI1 controls the Run/Stop Mode and DI2 determines the use of SV1 to SV4.



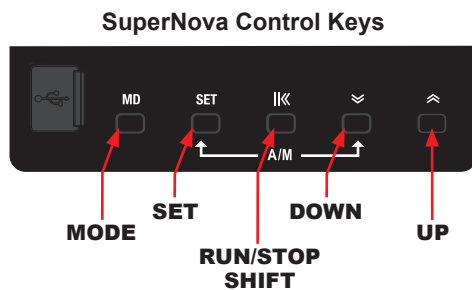
On the Nova, each Digital Input could be set to either Run/Stop Control based on set points 1 or 2 or used to select between set points 1 through 4.



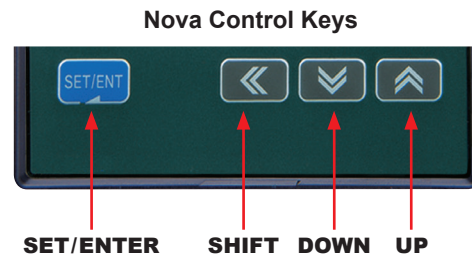
Front Panel Control Keys

The SuperNova control keys are used for basic button commands. Press and hold the Mode button (MD) for 1 second to enter programming.

It has several button combinations for quick changes such as: Locking and unlocking SV and settings, switch from auto to manual modes, starting auto tune, change run/stop mode, and acknowledging latching alarms.

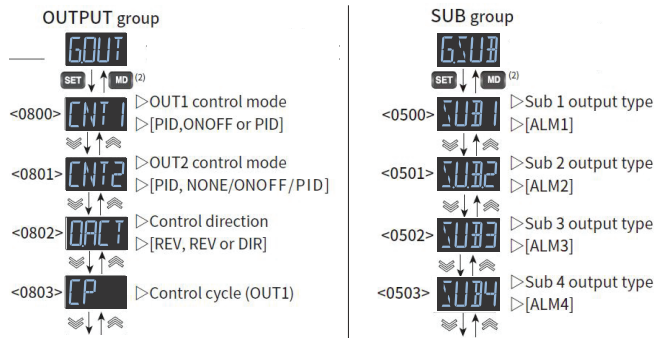


The control keys on the Nova were used to perform basic commands. To enter programming mode you had to press and hold the SET/ENT key for 3 seconds.

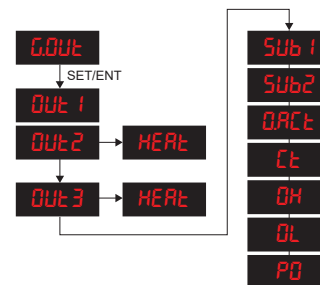


Output Programming Groups

The outputs on the SuperNova are split into two groups; the G.Out menu and the G.Sub menu separating the primary control outputs from the SUB/secondary alarm relays.



For the Nova all outputs were in the G.Out menu.



Run Time and On Delay

On the SuperNova, there is no way to automatically turn On/Off Run Mode based on time.

The Nova included programmable Run Mode delay time and run time settings.

Enclosures

A larger selection of NEMA 4 and 4X enclosures is available for 1/4 and 1/16 DIN size SuperNova controllers.

1/4 DIN Cutouts



PDA2301-4



PDA2302-4



PDA2811-4



PDA3408

1/16 DIN Cutouts



PDA2301-16



PDA2302-16



PDA2801-16



PDA2802-16



PDA2811-16



PDA2814-16



PDA2812-16



PDA2813-16

A limited selection of enclosures were available for 1/4 and 1/16 DIN size Nova controllers.

1/4 DIN Cutouts



PDA2501-4



PDA3408

1/16 DIN Cutouts



PDA2501-16

PD9501 Multi-Function Calibrator



The PD9501 Multi-Function Calibrator has a variety of signal measurement and output functions, including voltage, current, thermocouple, and RTD.

- Measure and Source T/Cs, RTDs, Ohms, Current, Voltage
- Compact & Lightweight
- Battery or USB Powered
- Descriptive LCD Display
- 24 V Power to Drive the Transmitter
- Auto Stepping & Auto Ramping
- Selective Auto Off Mode
- LCD includes an LED backlight

Click to See More Details



Need help selecting the right enclosure? Visit www.predig.com/esu