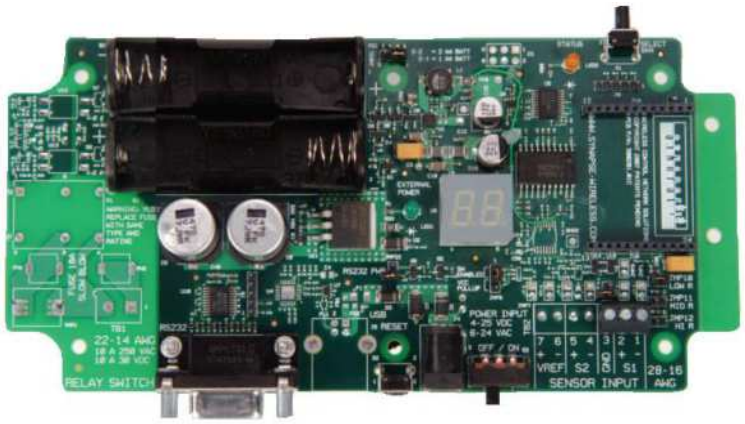
Wireless Technology to Control and Monitor Anything from Anywhere™

SNAP Node End Device (SN111)

Demonstration Board



SN111 - End Device

The SNAP End Device has the onboard peripherals to demonstrate powerful monitoring and control capabilities right out of the box. You can control external electrical devices with the power-relay, display link-quality or other parameters on the 7-segment LEDs, wake up with a button-press, and more. Several of Portal's sample scripts make specific use of these boards. Modify one of the sample scripts to make your own application – demonstrate for yourself the power of SNAP!

SNAP Node End Device™ (SN111)

The SN111 End Device provides a latching relay for controlling external devices, and a sensor input with jumper-selectable pullup resistors which allows the connection of a number of off-the-shelf resistive sensor types such as photocells and thermistors.

Compatible with all Synapse RF Engines

RS-232 port with full hardware flow control(UART1)

2-Digit 7-segment LED, softwarecontrollable

Status LED and select switch, also under users oftwarecontrol

Battery or external power option

USB port (UART0) which can also provide power

10A latching relay

Analog input terminals (ADC-CH0) 10-bit A/D with selectable pullup

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Product Features

Feature	Description
RS-232 Port	Full RS-232 support with HW flow control (RTS/CTS)
Display	2-digit seven-segment green LED Display
Input Power	4 - 9 VDC wall transformer, USB 5V (SN163 - Bridge only), 2x AA battery
Select Button	User function definable
Status LED	User function definable (yellow)
External Power LED	On when external power from wall transformer or USB is supplied (green)
Power Switch	On/Off switch for all power modes
Reset	Reboot RF Engine
Relay	Contacts rated 10A at 250 VAC or 30 VDC. Replaceable fuse protection for relay circuit
Analog Input	10-bit A/D input, 0-3.2V range. Jumper selectable pullup resistors: 10k, 100k, 1M

Part Selection

Part No.	
SN111F5-NR	End Device

RF Engine Socket Allocationon Demonstration Board

Pin No.	Name	Direction	Description	Demonstration Board Connection
1	GND	-	Power Supply/Return	GND
2	GPIO0_TPM1CH2	Bidirectional	GPI/O, or Timer1 Channel 2	Status LED
3	GPIO1_KBI10	Bidirectional	GPI/O, Keyboard In	Select Switch
4	GPIO2_KBI11	Bidirectional	GPI/O, Keyboard In	ADC - 24-bit CS
5	GPIO3_RX_UART0	Input	UART0 Data In	
6	GPIO4_TX_UART0	Output	UART0 Data Out	
7	GPIO5_KBI4_CTS0	Bidirectional	GPI/O, Keyboard In, or UART0 CTS	
8	GPIO6_KBI5_RTS0	Bidirectional	GPI/O, Keyboard In, or UART0 RTS	
9	GPIO7_RX_UART1	Input	UART1 Data In	MAX232
10	GPIO8_TX_UART1	Output	UART1 Data Out	MAX232
11	GPIO9_KBI6_CTS1	Bidirectional	GPI/O, Keyboard In, or UART1_CTS	MAX232
12	GPIO10_KBI7_RTS1	Bidirectional	GPI/O, Keyboard In, or UART1_RTS	MAX232
13	GPIO11_AD7	Bidirectional	GPI/O, or Analog In	ADC-24-bit DATA
14	GPIO12_AD6	Bidirectional	GPI/O, or Analog In	ADC-24-bit CLK
15	GPIO13_AD5	Bidirectional	GPI/O, or Analog In	LED - 7 seg CLK
16	GPIO14_AD4	Bidirectional	GPI/O, or Analog In	LED - 7 seg DATA
17	GPIO15_AD3	Bidirectional	GPI/O, or Analog In	Battery level (analog)
18	GPIO16_AD2	Bidirectional	GPI/O, or Analog In	Relay RESET
19	GPIO17_AD1	Bidirectional	GPI/O, or Analog In	Relay SET
20	GPIO18_AD0	Bidirectional	GPI/O, or Analog In	Sensor Input
21	VCC	-	Power Supply	VCC
22	PTG0/BKDG	Bidirectional	Background Debug Communication	PTG0/BKDG
23	RESET_L	Bidirectional	Module Reset, Active Low	RESET
24	GND	-	Power Supply/Return	GND

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