

SMART-Control

User Manual – v1.0



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1. Introduction to SMART-Control



The SMART-Control device offers communication flexibility and application specific customization for any StellarNet spectrometer. This add-on interface includes an integrated CPU with 1GB RAM and many communication protocols such as **RS232, SPI, 4-20mA Analog for PLCs, Digital I/O, Ethernet, Wi-Fi** and many other options. The SMART-Control allows customers to move their spectrometers into process or OEM environments and stream their selected real world data.

2. Front panel

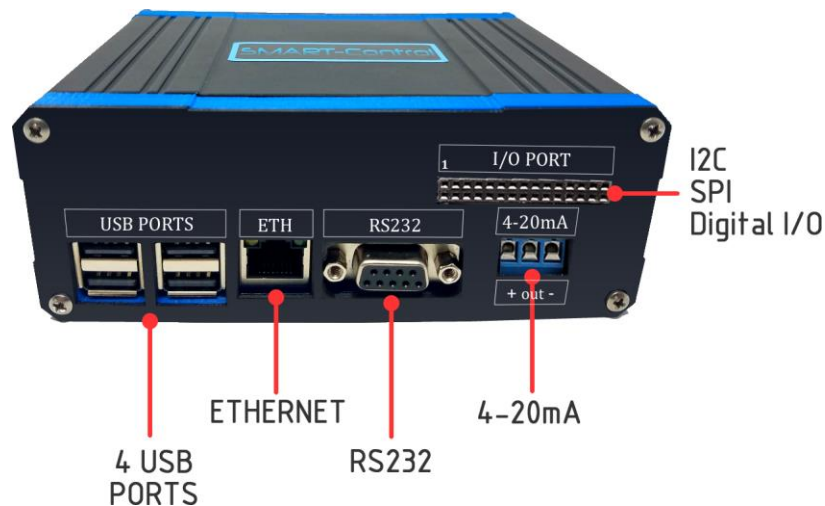


Figure 1. Front panel

3. Back panel

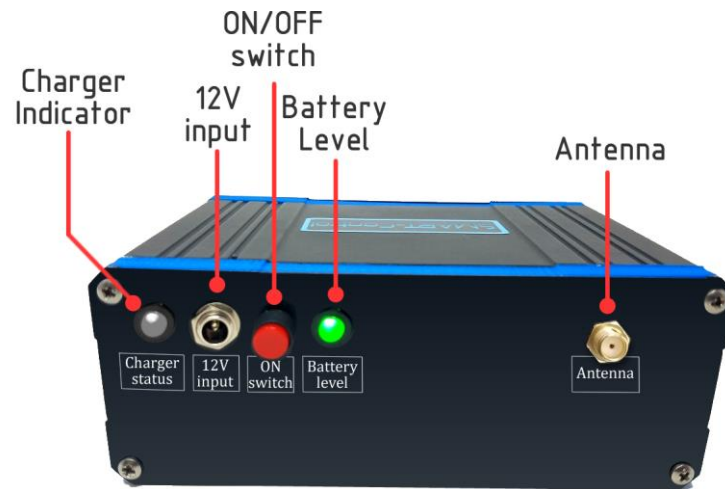


Figure 2. Back panel

4. Specs

SMART Control specifications	
Spectrometer compatibility	BLUE-Wave, BLACK-Comet, SILVER-Nova, DWARF-Star, and all OEM modules
Dimensions (LxWxD)	5.23"x3.72"x2.00" (134x95x51 mm)
Input voltage	12V
UPS time	3hrs
CPU	xARM Cortex-A53, 1.2GHz
RAM	1Gb
Supported interfaces	Wi-Fi, Ethernet, RS232, UART, SPI, I ² C, up to 26 Digital I/O, 4-20mA, HDMI
Wi-Fi	802.11n – TCP/IP communication
Ethernet	10/100 MBPS – TCP/IP communication
RS232/UART	Baudrate up to 115200
SPI	Speed up to 125MHz
I ² C	Address 0x62 already in use
Digital I/O	Up to 26 digital inputs/outputs (17 regular I/O + 5 SPI + 2 I ² C + 2 UART) 3.3V operating voltage
4-20mA	3 pins output (PWR+, Iout, GND) Power supply voltage: DC 7V-35V
HDMI	SMART-Control desktop output



5. 4-20mA connector

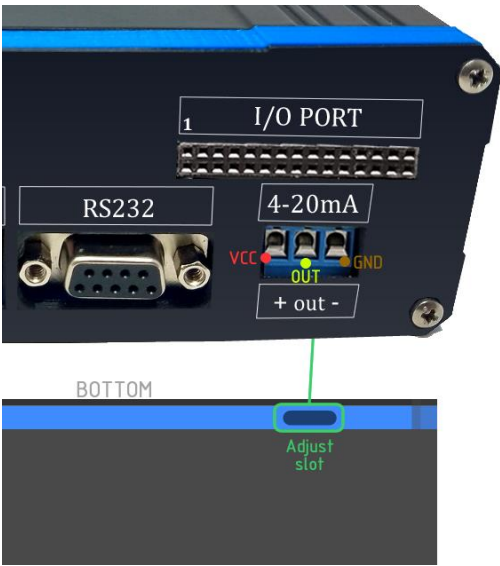


Figure 3. 4-20 mA connector pinout

6. Digital I/O connector

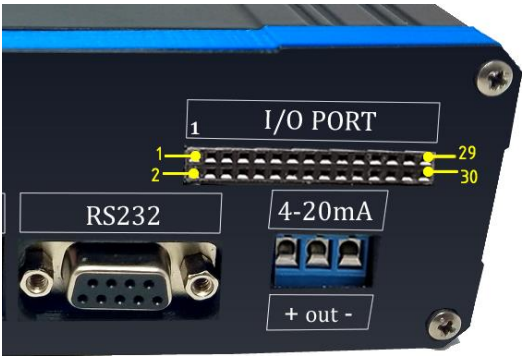


Figure 4. Digital I/O connector pinout

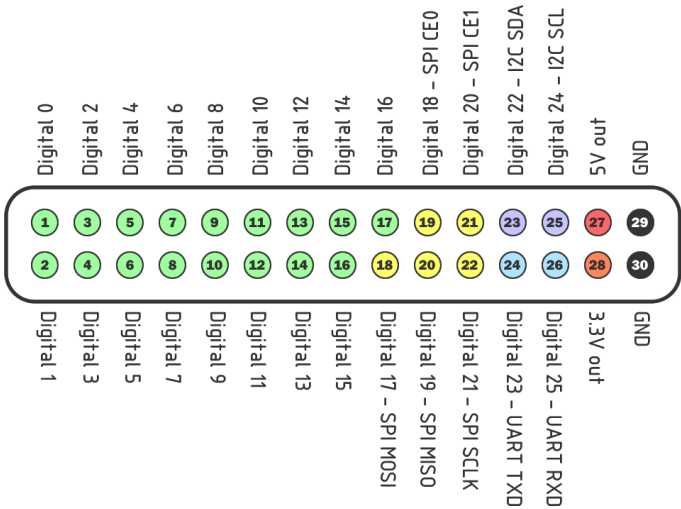


Figure 5. Digital Pinout




7. Power and UPS

The SMART-Control includes a lithium-ion battery that can work as a UPS and run the system for about 3hrs (battery fully charged)




To charge the battery and run the system from the external power, plug a 12V/2.5A power supply to the voltage input connector.

Charging time from completely discharged to fully charged battery: ~4hrs

Battery indicator

Indicator	Status
	<i>Battery fully charged or Running from external power</i>
	<i>Battery at medium charge (charge the battery)</i>
	<i>Battery low (15 minutes remains)</i>

Charger indicator

Indicator	Status
	<i>Battery is fully charged</i>
	<i>Charging</i>
	<i>Error – Call support</i>

8. Remote access

Check out our [zAP2 user manual](#) for detailed information.

9. Export data via SpectraWiz Mobile Apps

Using our set of SpectraWiz Mobile Apps data can be export through different protocols by clicking under vertical 3 dots beside menu bar as shown in **Figure 6** and clicking on *export data* which will open the popup with the switches for protocols to transmits data, simply click the switch to turn on and off to start and stop data transmission.

Check out our [SpectraWiz Mobile Apps user manual](#) for detailed information.

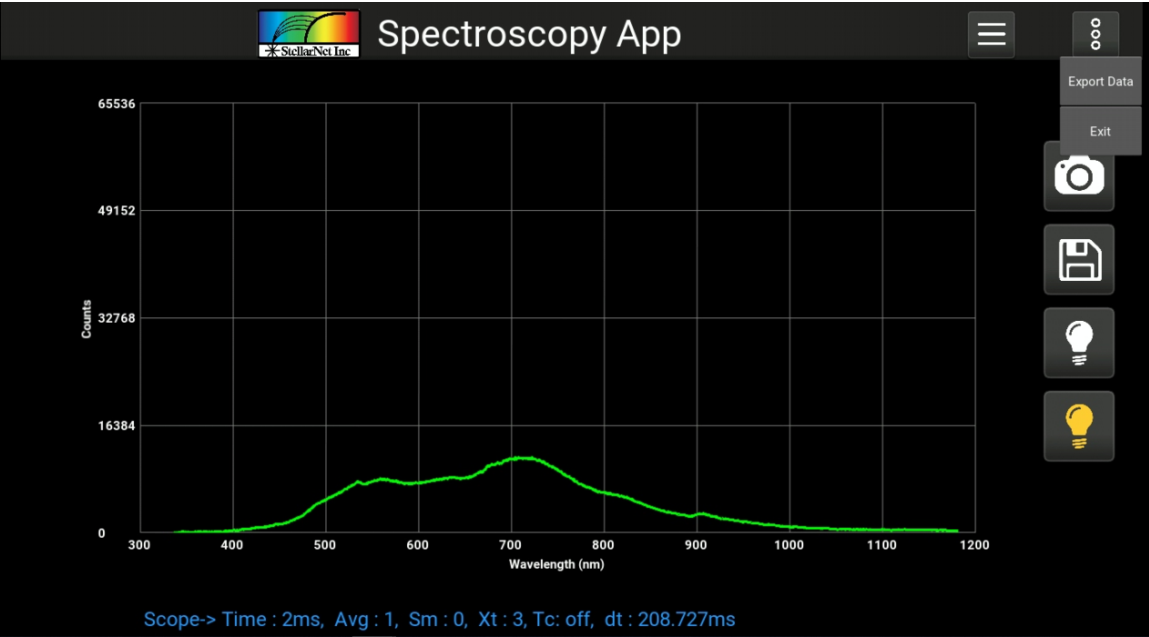


Figure 6. Export data

Export Data

RS232

OFF

SPI

OFF

I2C

OFF

4-20 mA Analog

OFF

Ethernet / WiFi

OFF

LCD Display

ON

Figure 7. Protocols enable list