

XPLORIS Specifications



Parameter	Description
SCIENCE DATA LOGGING	
Built-in Accessible Sensors	5 built in sensors: Ambient Temperature, External Temperature, Light, Distance, Sound
Max. Sampling Speed	100/s
Sampling Resolution	12-bit
Measurement memory size	100,000 samples
Display type	Numeric data, bar graph
Remote Data Collection	Yes
Automatic Sensor Testing & Calibration	Yes
CONTROL OUTPUTS	
Open Collector switches	2 x Open Collectors outputs able to switch up to 3A
Voltage output	2 x 5V @ 100mA
Servo engine drivers	2 x PWM servo engine drivers
ART	
Image memory size	256 images
Display type	16x16 pixels images and animations
GENERAL	
Display	RGB LED dot Matrix 16x16 pixels
Speaker	0.7W 8ohm
Keypad	Sensors and control keys
Internal Rechargeable Battery	LiPO 3.6V
Battery Life	> 10 hours
Size	$\phi = 104$, H = 30 mm

Weight	< 250gr.
Temperature Range	-10 to 50 °C
Standard Compliance	CE, FCC

Built-in Sensor Specifications

Sensor Type	Max. Range	Accuracy
Ambient Temperature	-10 to 50 °C	±1 °C
External Temperature	-25 to 125 °C	±1 °C
Distance	0.1 to 4 m	±3 mm
Light	1 to 60,000 lx	±10 %
Sound Level	40 to 93 dB	±4 dB

CodiLab software Specifications

Parameter	Description
CODING	
BLOCKLY (google) editor	Data Types, Variables, Logical Operators, If else conditions, Loops, Input and Output Operations
Python editor	Python editor, Blockly to Python
XPLORIS simulation	Executing the code on a virtual XPLORIS simulation
Code flashing	Flash the created code to the XPLORIS via USB/BT
SCIENCE DATA LOGGING	
Data Retrieval	Online up to 100 samples per second, or download Labdisc stored data
Data Display	Line graphs, bar graphs, tables, meters
Data Logging Configuration	Sensor selection, sampling rate, sampling points, trigger
Graph Manipulation	Placing and moving up to two markers on the graphs, zoom in/out, graph cropping, graph color change
Graph Annotation	Text annotations on the graph
Mathematical Functions	Derivative, linear regression, quadratic regression
Statistics	Minimum, maximum, average, standard deviation
ART	
Drawing tools	Pencil, color selection, color duplicator, line, rectangle, circle
Animation tools	Up to 256 image animation, repeat image, image speed change
Pixel art library	Download from a cloud base library of images and animation

image flashing	Flash an image or animation to the DAVINCI via USB/BT, to be displayed on XPLORIS display
GENERAL	
Data Manipulation	Save/open experiment data, projects and images, direct export of sensors measurements to EXCEL, hardcopy printout
Configuration	Sensor calibration, change of sensor units
Share	Uploading code, graphs and pixel art animation to a cloud library available for other users
Storyboard	Strip of slides delivering Lesson plans, quizzes and exercises in Science, Art and Coding
Firmware Update	Ability to update the XPLORIS firmware through a USB/BT
OS	PC, Mac, Linux, iPad, Android, Chromebook