

SDK Software DEVELOPMENT KIT

Fast integration of our NIRONE® spectral Sensors into your measurement systems.

The Software Developments Kit (SDK) provides you with the relevant hands-on tools to build your own software to control spectral sensors and light sources. With just a few clicks, you can connect Spectral Engines' products to your own measurement systems and save time.

The SDK contains a comprehensive description of the serial communication protocol. The protocol description gives you the freedom to implement the commands into any other programming language. With the communication protocol, it is straightforward to integrate spectral sensors into embedded platforms.

Example code samples are provided for LabviewTM, C#, Android and Python to get your development started.

Benefits

- Quick start for your software
 development
- Comprehensive documentation
- 1 year of free updates and support

Key features

- Manual and command descriptions
- Full communication protocol
- Labview[™], C#, Android and Python code samples

DESCRIPTION OF CONTENTS

General description

Electrical interface Pin description

UART Communication interface

Sensor info commands Check device response Get device info Get sensor type Get sensor hardware version Get serial number Get sensor minimum wavelength Get sensor maximum wavelength Get firmware version Basic measurement parameters Set wavelengths for the measurement scan Get sensor wavelength from array index Get number of wavelengths in control array Set wavelength average and scan average Get wavelength average and scan average parameters Get estimated time for the measurement scan Get estimated time for reference measurement scan Get estimated time for dark measurement scan Set light source power level Get light source power level Set light source control mode Get light source control mode Set light source warm-up time Get light source warm-up time Advanced measurement parameters Set automatic Dark mode Get automatic dark mode Set dark subtraction mode Get dark subtraction mode Set divide mode Get divide mode Set logarithm mode Get logarithm mode Set scaling function A Get scaling function A Set moving average Get moving average Set derivative order Get derivative order Set scaling function B Get scaling function B Save measurement parameters to index Load measurement parameters from index Load default measurement parameters Measurement Start a measurement scan Read measurement result Start a reference measurement Read reference measurement result Start a dark measurement scan Read dark measurement result I2C

Communication interface

I2C command register write I2C command register read I2C sensor info registers Sensor type Hardware version Serial number Minimum wavelength Maximum wavelength Firmware version I2C basic measurement parameters Data access index Data access length Wavelength array Number of wavelengths Wavelength average Scan average Measurement time Reference measurement time Dark measurement time Lamp power level Lamp control mode Lamp warm-up time I2C advanced measurement parameters Automatic dark Dark subtraction Divide Logarithm Scale 1 Moving average Averaging width Derivative Scale 2 Save measurement parameters to memory index Load parameters from memory index Load default parameters I2C measurement Measure spectrum Measurement result array Measure reference spectrum Reference result array Clear reference spectrum Measure dark spectrum Dark measurement result array Clear dark spectrum Read temperature

Measurement flow chart

Basic measurement procedure Set measurement wavelengths Set wavelength average and scan average Set light source intensity level Measure Read result Turn light source off

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