



Fiber Optic Multiplexer

Galaxy Scientific's Fiber Optic Multiplexer allows a single spectrometer to automatically switch between up to ten different sampling devices enabling near-infrared measurements from multiple sampling points or multiple product streams.

The Multiplexer switches the input and output fibers from the spectrometer using a rotary steering mechanism. A pair of high precision stepper motors, utilizing advanced motion control algorithms, steer a pair of flat mirrors that guide the optical beam between the selected channels with accuracy better than 1 milliradian, ensuring repeatable positioning on each channel. The rotary arrangement eliminates the unpredictable optical effects from pathlength differences found in most linear mechanisms, and results in excellent channel-to-channel wavelength and throughput matching. The mechanism can move between channels in less than 500 milliseconds allowing rapid switching between measurements.



The Multiplexer is designed to accept standard SMA905 low-OH optical fiber inputs and is designed to switch 600um solid core fiber. Smaller core fiber or larger core fiber bundles are also compatible. The multiplexer is factory configurable at the time of order to have any number of channels between 2 and 10 and more channels can be added after purchase. The compact and rugged design allows the unit to be placed close to the sample points and distant from the spectrometer, reducing the cost of long fiber optic runs while still protecting the sensitive instrumentation.

The unit uses a standard 24V DC power supply with a durable locking connector as well as IP65-rated USB and RS-422/485 input connectors to allow performance in harsh factory environments. A convenient blue LED display on the side of the unit shows the selected channel. A rugged powder coated, gasketed aluminum housing eliminates susceptibility to dust and dirt. High quality sorbthane rubber feet protect the unit from ambient vibrations and can be removed to provide mounting points to sub-panels or other installation points. The entire unit can be placed inside a secondary enclosure to meet hazardous environment specifications.

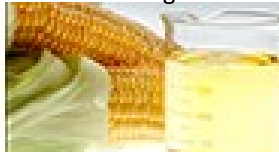
The Multiplexer can be controlled from a remote computer via a choice of USB, RS-422, or RS-485 ports. System commands use a simple ASCII protocol which is compatible with our Spectral Sage software as well as common third-party process control packages. Galaxy Scientific's Multiplexer can be coupled with either the QuasIR 2000 fiber optic or QuasIR 2000E emission FT-NIR systems to provide a cost-effective solution to measurement needs at multiple sample points. The multiplexer is also compatible with other major NIR spectrometers. Contact Galaxy Scientific for more information.

Key Applications:

Mining



Fuel & Refining



Pharmaceutical



Chemical Production



Food Processing



Features:

- Factory configurable from 2 to 10 channels; if more channels are required after purchase, Galaxy offers an optional upgrade not to exceed a total of 10 channels
- Available in single or dual configuration for switching a single fiber or dual fiber (input/output) setup
- 24V / 3A DC input with locking power connector
- USB (virtual serial port), RS-422/RS-485 interface with simple ASCII command set
- LED channel indicator
- High precision microstepping motors with advanced motion control driver
- Accepts SMA905 fiber optic connections, compatible with most commercial near-infrared probes and spectrometers
- Compatible with Spectral Sage, Symbion, and other process control software packages

