FIBER OPTICAL MULTIPLEXER FMX

Digitally controlled, uni- and bidirectional multiplexer for spectroscopic sample interfacing

The Multiplexer FMX allows a single spectroscopic instrument to be switched between up to sixteen different sampling devices. You can monitor multiple product streams without the need to purchase, maintain, and calibrate multiple spectrometers.

INNOVATIVE HIGH PERFORMANCE DESIGN1

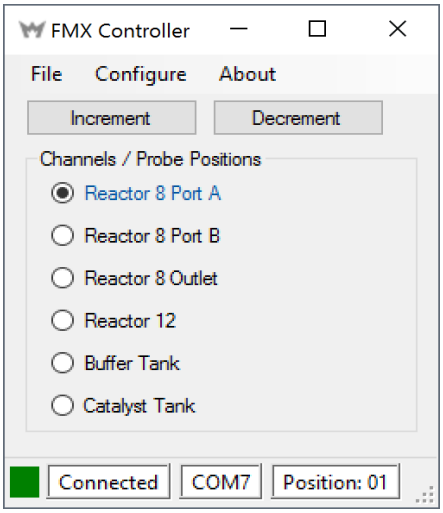
The FMX can switch both the transmitted signal from the spectrometer and the signal returning to the detector. This bi-directional or "dual pole" capability eliminates the channel matching problems which can occur when the spectrometer output beam is spatially divided between several channels.

A unidirectional or "single pole" model is also available.

Key to the high performance of the Multiplexer FMX is the use of a permanently aligned rotating retroreflector to switch a collimated optical beam. This approach eliminates the frequency shifts between channels that can occur when switching a focused beam.[1]

REMOTE OR LOCAL CONTROL

The Multiplexer FMX can be controlled from a process control system or a remote computer via a choice of RS-232, RS-422, or RS-485 ports. System commands are provided in two forms: An ASCII protocol and a subset of the OPTO-22 instruction protocol.



Example of the control software for a 6-channel multiplexer

Hellma also provides a Multiplexer FMX controller application (SIM-FMX01) which operates under any current Windows operating system (from XP to 10).

The application enables easy manual operation of the FMX, for example during setup or maintenance of the spectroscopic system.

EASY UPGRADES

The modular construction of the FMX multiplexer increases both, the economy and flexibility of your measurement system. Two basic versions are available, one version supports a maximum of 10 channels, while the other version accommodates up to 16 channels. Units can be purchased with any number of channels ranging from 2 to 16. Channels can easily be added at a later date according to current needs.

FEATURES

- Electronic switching between up to 16 channels
- Switches both transmitted and received signals
- Excellent channel matching and high transmission
- No frequency shift between channels
- No crosstalk between the channels

[1] References: U.S. Patent No. 6,009,219

PRODUCT CONFIGURATION

Modell	FMX
Lightpath	Unidirectional / Bidirectional
Maximum number of channels	Up to 10 channels (max. 10 measuring points) / Up to 16 channels (max. 16 measuring points)
Installed Channels	3-16
Spectral Range	NIR/ UV/ Vis
Fiber Optical Connection	F-SMA / FC/PC
Environmental Conditions	Standard (no ATEX)
Switching Time	< 1 second between any two channels
Serial Interface Ports	RS-422 / RS-232 / RS-485
Command Protocols	ASCII command set; OPTO-22 subset

FMX MULTIPLEXER SOFTWARE INTERFACE

- Allows the Multiplexer FMX to be controlled by a PC
- Facilitates the setup including specification of number of channels and assignment of names to channels
- Enables local display and manual control of standard multiplexer functions, such as advancing, resetting, and switching to any channel
- Runs under any current Windows OS from XP to 10

[1] References: U.S. Patent No. 6,009,219