FlexPort Quick Start Guide

Congratulations on choosing the FlexPort Gage Interface from Midwest FlexSystems, Inc.

The FlexPort Gage Interface units (FP-2U/4U/8U and FP-4M/8M) are capable of interfacing measuring instruments with SPC output to a computer that is equipped with an RS-232 (EIA-232-D) communication interface (serial port).

No setup is required. The FlexPort interface will work right out of the box with no DIP switches to set or software to run. Simply connect your measuring device and collect data immediately.

Default Configuration:

Gage input:	Mitutoyo compatible devices
Data send:	Individual footswitch triggering
Options:	5V supplied on Pin 9
Output:	Standard RS232 output (9600,N, 8,1)
	- 9600 baud, no parity, 8 data bits, 1 stop bit

Standard RS232 Output Format: Full output format: 26 characters

Character position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Data String	#	#	#	#	,	#	#	#	#	#	#	#	#	#	#	,	-	-	-	-	-	,	#	#	CR	LF
Field name	Count					Reading											Mode						ID			

Count	- Sequential counter for number of readings sent.
Reading	- Measurement data captured from device and sent to PC.
Mode	- Displays the setup options that are activated.
ID	- Identifies from which input this reading originated.
CR/LF	- Line termination for output.
(,)	- Comma delimited fields for easy data parsing
Polarity	- Negative numbers are preceded by a '-' sign in reading field.

Advanced features of the FlexPort Gage Interface:

The FlexPort units are advanced interfaces with many features not available in other standard interfaces. The FlexPort units do not require software to operate, but do allow access to advanced features through firmware built into the units. The firmware can be accessed via any terminal software program. (Microsoft includes Terminal in Win3.1 and HyperTerminal in Win 95/98/2000/NT/XP)

1:   Open HyperTerminal Software, select the serial port the FlexPort is attached to and set serial settings for 9600 baud, no parity, 8 data bits, 1 stop bit **and flow control to NONE.**

2:   To access firmware type: *SPC* (or !@# or MWF)

3: Follow on-screen instructions to setup.

This setup routine allows advanced or custom features to be accessed.

The standard FlexPort interface can be configured to create a custom data gathering system by simply customizing the many options available.

For example: the firmware will allow configuration of the data send feature. The default setting for each port is individual port readings, but it can also be set to read all ports or any combination of ports.

Main Menu Screen

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Universal FlexPort Gage Interface Setup

Port#   Gage Type(G)      Data Send(D)       Options(O)
01      Mitutoyo          Individual         5V
02      Mitutoyo          Individual         5V
03      Mitutoyo          Individual         5V
04      Mitutoyo          Individual         5V

Pass-Thru Port (No Connection)
Special Options (None)

Enter column and row to change: (e.g. To change Data Send on Port 2 - D02)
        Gage Type       - G##     About FlexPort Interface   - AB
        Data Send       - D##     Exit and Save              - EX
        Options         - O##     Exit Without Saving        - QU
        Pass-Thru Port  - PASS    Default Configuration      - CFG

Enter Choice:
```

Host commands: Partial list of commands for interaction with the FlexPort Gage Interface

Action	Command	Response
Read an input (Ports 1–99)	R##\<CR\>	Will return gage reading on port ## (Replace ## with 2 digit port ID for desired port)
Read ALL inputs	RG\<CR\>	Will read all gages connected
Reset the unit	I@RST	Will reset the CPU of the FlexPort unit

Digimatic Code Connector Pin Assignments:

Pin	Name	Description
1	GND	Reference ground
2	Data	Data
3	Clock	Clock
4	Ready	Data ready
5	Request	Request for data
9	Optional 5v output	Optional 5v output to gage/cable
10	GND	Reference ground
6, 7, 8	NC	No connection

RS-232 (DB25F) (EIA-232-D) Output Pin Assignments

Pin Number	Signal Name
2	TxD
3	RxD
7	Ground

Configuration options Partial list – many additional configuration options available

Type	Description	Results/Options
SPC	Send to FlexPort to enter configuration menu	Opens configuration menu…allows custom features
Commands	*Select the feature you want to modify*	*Allows customization of features*
D##	Controls what happens when footswitch is triggered	None - ignore the footswitch
		Individual - send the reading from individual port
		Global - send data from all gages connected
		Individual TIR - perform TIR on individual port
		Global TIR - perform TIR on all gages connected
		Selective – choose up to 5 ports to be sent when triggered
		Signal trigger - sends 'FOOTSWITCH' in reading field
O##	Select options, effects only port selected	Force output to IN or MM, regardless of gage output
		Supply gage with 5 volts DC on pin 9 of connector
		Change sign (+/-) of output data
		Timeout - reset gage request if no response from port (i.e. dead battery / gage unplugged)
SPL	Select special options, effects all inputs	Output baud rate - select 4800, 9600 or 19200 (regardless of input or output formats)
		Output format - Full, ID & Reading, Reading Only and Mitutoyo MIG output
PASS	Set up parameters for the Pass-Thru Port (DB9M)	Default - Pass reading & channel number to PC
		RS232 Input – Capture up to 5 readings from a single output string (i.e. X,Y and Z readouts)
AB	Displays manufacturer information	Includes address and phone number of manufacturer
CFG	Resets unit to default configuration	Reset to factory defaults
EX	Exit and save configuration	Saves configuration and exits program