XZ8 Multifunction Transmitters

- ***Math, process, and complex process models available***
- ***Wide range of user-programmable functions per model***
- ***1 to 4 analog inputs (similar or mixed types)***
- ***2 digital/pulse inputs***
- ***1 voltage or mA output; 1 digital/pulse/alarm output***
- ***Inexpensive handheld programmer***
- ***Choice of 3 power supplies (ac and dc)***
- ***CSA approved general purpose/FM approved non-incendive***
- ***Surface or rack mounting***
- ***ASCII communications between rack system and computer or terminal***

mTech's XZ8 microprocessor based, multifunction transmitters are available as standard in three versions to perform mathematical (M), process (P), or complex process (C) type functions. Users can use a low cost handheld programmer to field change and calibrate the math and process transmitters to set a wide range of functions. Each of the complex process models can be factory programmed to a single dedicated function.

Programmable math model functions include: addition/subtraction; multiplication/ division; average and weighted average; square root extraction; sum and root extraction; analog linearization; linearization and sum; and pulse sum. Programmable process model functions include: signal selection; signal limit; pulse sum; pulse duration transmission; pulse duration reception; ramp generation; rate limit; sample track and hold; peak hold; ratio and bias; and analog signal characterization. Dedicated complex process models are available fro the following functions: pulse accumulation; volume gas flow; energy flow; solids mass flow; natural gas flow; process control (configurable as single loop, dual cascaded, or ratio type PID); and steam flow.

At least 1,000 input/output/type/range changes can be performed on the same XZ8 math and process models before exhausting the non-volatile memory capacity (replacement memory chips are available).

mTech offers XZ8 function converters as stand-alone surface mount models or for 19" DIN rack mounting. With an XZ9-COM communications module, an XZ8 rack can be used as a data acquisition system linked with computers, terminals, or printers. Data is transferred in ASCII format RS232.

Specifications

INPUTS

Analog Input

Signal Levels	Impedance
0-10 Vdc (e.g. 1-5 V)	into 100 megohms
0-10 mA dc (e.g. 1-5 mA)	into 100 ohms
0-20 mA dc (e.g. 4-20 mA or 1-5 mA)	into 100 ohms
0-40 mA dc (e.g. 0-30 mA)	into 100 ohms
0-50 mA dc (e.g. 10-50 mA)	into 100 ohms

Digital/Pulse Input Signal:
0-120 Hz/PPS into 30 kilohms (TTL Level with 4 ms minimum pulse width)

OUTPUTS

Analog Output

Signal Levels	Impedance
0-10 Vdc (e.g. 1-5 V)	into 100 kilohms min
0-10 mA dc (e.g. 1-5 mA)	into 0-2 kilohms
0-20 mA dc (e.g. 4-20 mA or 1-5 mA)	into 0-1 kilohms
0-40 mA dc (e.g. 0-30 mA)	into 0-500 ohms
0-50 mA dc (e.g. 10-50 mA)	into 0-400 ohms

Digital/PulseOutput Signal:
0-125 Hz/PPS Open collector NPN transistor (30 V, 100 mA max); consult operating manual for details

Output Signal Resolution:
12 bits on full range

Input Protection:
Current limiting with diode clamping

Accuracy:
For Constant Conditions: ±0.1% of range
Temperature Effect: ±0.004% per °C of range between 0-50°C
Line Voltage Effect: negligible

Conversion Accuracy:
12 bits ±LSB

Response Time:
0.5 seconds per input typical

Ambient Temperature Conditions:
Operating: -20 to 45°C (-4 to 113°F)
Storage: -40 to 80°C (-40 to 176°F)
Humidity 95%: non-condensing

Isolation:
Input and output signals and power supply fully isolated to 500 Vdc

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Power Supply:
115 V, 230 Vac, 50/60 Hz ± 10% 8 VA
24 Vdc ± 15% 8 W

Classification:
CSA approved – General purpose
FM approved – non-incendive for use In class I, Division 2, Groups A, B, C, and D, and suitable for use in Class II, Division 2, Group G and Class III, Divisions 1 and 2 hazardous areas

Mounting:
Individual surface or high density 19" Rack (DIN) mounting

Dimensions:
Surface: 7" (177.8 mm) H x 4.20" (106.7 mm) W x 2.62" (66.6 mm) L
Rack: 5.22" (132.5 mm) H x 9.42" (239.2 mm) W x 19" (483 mm) L

Weight:
Surface Model: 2.5 lbs (1.14 kg)
Rack Model: 1 lb (.045 kg)
DIN Rack (less modules): 1.5 lbs (0.68 kg)

Ordering Information

When ordering, please specify the full model number by mounting type, function, input types and ranges, output types and ranges, power input, option(s), and accessories desired:

Model Number	Description
XZ8S	Surface model
XZ8R	Rack model

Math Functions	Description
MUX	User field program "M" functions
M1X	Add/subtract
M2X	Multiply/divide
M3X	Averager
M4X	Square root extract
M5X	Sum and root extract
M6X	Analog linearize
M7X	Linearize and sum
M8X	Pulse sum/totalize

Process Functions	Description
PUX	User field program "P" functions
P1X	Signal select
P2X	Signal limit
P3X	Pulse duration transmit
P4X	Pulse duration receive
P5X	Pulse sum/totalize
P6X	Ramp generate
P7X	Rate limit
P8X	Track and hold
P9X	Peak pick
P10	Ratio and bias
P11	Analog signal characterize

Complex Process Functions	Description
C1X	Pulse accumulate
C2X	Volume gas flow
C3X	Energy flow
C4X	Solids mass flow
C5X	Natural gas flow
C6X	Process control
C7X	Steam flow

Specifications are subject to change without notice.

Input Types	Description
10	User can field select, program, and calibrate 1 to 4 inputs to any of input types 11 to 15
11	0-10 mA dc, 1 to 4 analog inputs + 2 digital inputs
12	0-20 mA dc, 1 to 4 analog inputs + 2 digital inputs
13	0-30 mA dc, 1 to 4 analog inputs + 2 digital inputs
14	0-50 mA dc, 1 to 4 analog inputs + 2 digital inputs
15	0-10 Vdc, 1 to 4 analog inputs + 2 digital inputs

Output Types	Description
SU	User can field select, program, and calibrate any of outputs S1 through S5 to any zero and span within specified range limits
S1	0-10 mA dc into 0-2000 ohms
S2	0-30 mA dc into 0-100 ohms
S3	0-40 mA dc into 0-500 ohms
S4	0-50 mA dc into 0-400 ohms
S5	0-10 Vdc into 10 kilohms min

Note: In addition to preceding outputs, a 0-125 Hz square wave max frequency/pulse/digital output (open collector, 100 mA sink-max 30 Vdc) is available at terminals E and F as standard.

Power	Description
P1	115 V 50/60 Hz
P2	230 V 50/60 Hz
P3	24 Vdc

Options	Description
XH	Conformal coating of PC boards
XT2	Lamecoid engraved tag
XT3	Stainless steel engraved Tag
XT1	Standard plastic tag
ZP	17 Vdc @ 40 mA max Power for xmtr
XH4	NEMA 4 water tight Enclosure (for XZ8S)
XE7	Explosion-proof enclosure (for XZ8S)
XM7	"Z" conduit/cable bracket (for XZ8S)

Racks/ Accessories	Description
XZ19-DIN	10-unit plug-in 19" rack
XZ19-DINF	DIN rack with front access terminations
XZ19-BL	Single unit blank front plate
XZ19-SVC	Module extender service card
XZ19-N1	NEMA 1 general purpose enclosure (for XZ19-DIN)
XZ19-N4	NEMA 4 water tight enclosure (for XZ19-DIN)
XZ19-N12	NEMA 12 oil-tight enclosure (for XZ19-DIN)
XZ9-COM	Communications module
XZ9D-PROG	Handheld programmer

REPRESENTED BY: