



Stores nine
patterns of
up to 20
segments each.

Each pattern can
contain up to nine
individual PID
settings with
Ramp/Soak.

The Fuji Electric PVX can be programmed to hold nine different patterns with 20 segments each. This makes it ideal for machines producing many different products, each one requiring its own complex "recipe."

*The Fuji
Electric PVX
Programmable
Controller*

**Perfect
for
Food,
Textiles,
and
a lot
more!**

If you find yourself reprogramming the same controller over and over again to run a variety of different processes, take a look at how Fuji's PVX can save a lot of time. The PVX has the ability to store a number of process control "patterns" to call up and run at any time without re-entering control variables. Besides saving time, the stored patterns ensure that the same process is run according to specification each time without the risk of entering incorrect values on reprogramming.

The PVX is perfect for manufacturers using the same system to make a variety of products—each requiring its own unique control "recipe." A total of nine separate patterns can be stored with up to 20 segments each. Individual patterns can even be linked with other patterns or set to repeat in a continuous cycle.

The PVX also offers you the convenience of a three-parameter simultaneous display. At a glance, the current temperature (process variable, PV), the setpoint (set variable, SV), and the unit's current output level (manipulated variable, MV) are clearly visible. Front panel indicators tell what pattern is used and what individual segment the process is currently on; also whether the current segment is ramping up, holding steady, or ramping down.

A list of some of the key features and how they'll benefit you is shown on the last page.

PVX SPECIFICATIONS

GENERAL SPECIFICATIONS

Panel size: 96mm x 96mm

Input: full multi-input

Thermocouple: J, K, R, B, T, E, S, N, U, WRe5-26, PL-II

RTD: Pt100Ω

DC voltage/current

Input accuracy: ±0.2% FS, ±1 digit, cold junction compensation error: ±1°C

Input sampling cycle: 100ms

Control action: PID with autotuning

Control output: Relay contact

Voltage pulse output (for SSR drive)

Current output

Alarm output: 2 points (ALM1, ALM2)

Program function: Number of patterns: 9 patterns max.

Number of segments/patterns: 20 segments

Multimemory (PID, etc.): 9 sets

Pattern linkage/repeat function: Possible

Time setting: Hour/minute or minutes/seconds

Operation mode: Program operation

Fixed value (FIX) operation

Manual (MAN) operation

Digital input/output:

Time signal output: 4 points (TS1, TS2, TS3, TS4)

External command input: 4 points (Reset, Run, Hold, Advance)

Pattern select input: BCD 1 digit (2³, 2², 2¹, 2⁰)

Status output (output information): 3 points (Reset, Run/Hold, End)

Options: Auxiliary analog output: 2 points (AO1, AO2)

Expansion digital output: 2 points (TS5, TS6 or ALM3, ALM4)

Power source: Flexible supply voltage: 100 to 240V AC

CONTROL OUTPUT

Relay contact output: 220V AC/30V DC, 3A (resistive load) SPDT contact

Expected electrical life: More than 10⁵ operations

Minimum On/Off current: 0.1A (24V DC)

SSR drive output: On: 10 to 18V DC

Off: Max. 0.5V

Max. current: 20mA DC

Current output: 4 to 20mA DC (allowable load: 600Ω or less)

Alarm output: (ALM1, ALM2)

Relay contact output: 2 points

220V AC/30V DC, 1A (resistive load)

SPST contact

Expected electrical life: More than 10⁵ operations

Min On/Off current: 0.1A (24V DC)

PROGRAM SETTING

Program function:

Number of patterns: 9 patterns max.

Number of segments/pattern: 20 segments

Multimemory (PID, etc.): 9 sets

Operation mode: Program operation

Fixed value (FIX) operation

Manual (MAN) operation

Program operation: Pattern selection, program reset, start, stop, and skip are possible with front panel key, digital input

Time setting: Setting of hours/minutes or minutes/seconds

Hours/minutes: 0 hours 0 minutes to 99 hours 59 minutes

Minutes/seconds: 0 minutes 0 seconds to 99 minutes 59 seconds

CONTROL ACTION

Autotuning PID action:

P: 0.0 to 999.9% (On/Off control, P=0)

I: 0 to 3200 seconds (integral action Off, I=0)

D: 0.0 to 900.0 seconds (derivative action Off, D=0)

INPUT RANGE TABLE

Thermocouple (range code setting)

J 0 to 400°C

J 0 to 800°C

K 0 to 400°C

K 0 to 800°C

K 0 to 1200°C

R 0 to 1600°C

B 0 to 1800°C

T -199.9 to 200°C

T -150 to 400°C

E 0 to 800°C

E -199.9 to 800°C

S 0 to 1600°C

N 0 to 1300°C

U -199.9 to 400°C

WRe5-26 0 to 2300°C

PL-II 0 to 1300°C

RTD (range code setting)

Pt100Ω* 0 to 150°C

0 to 300°C

0 to 500°C

0 to 600°C

-50 to 100°C

-100 to 200°C

-199.9 to 600°C

-199.9 to 850°C

R: ±1% accuracy within the range of 0 to 400°C

B: ±5% accuracy within the range of 0 to 500°C

°F display possible

0.1°C/°F display possible

(1000°C/°F span or less)

DC voltage/current full programmable scale -999 to 9999

0 to 10mV DC, 0 to 100mV DC, 0 to 1V DC, 0 to 5V DC,

1 to 5V DC, 0 to 10V DC, 4 to 20mA DC

*Pt100Ω: IEC Pub 751-1983

DIGITAL INPUT/OUTPUT

Digital input:

Usual specification: 16V DC, 15mA

External command input:

Reset: Program reset

Run: Program start

Hold: Program stop

Advance: Segment feed

Pattern select input: BCD input; 1 digit (2³, 2², 2¹, 2⁰)

Digital output:

Time signal output (TS1, TS2, TS3, TS4)

Open collector output: 4 points, 24V DC, 50mA

Status output:

Open-collector output:

Three points, 24V DC, 50mA

Reset: Program reset status

Run/hold: Program start/stop status

End: Program end status

OPERATING CONDITIONS, ETC

Power supply voltage: 85 to 264V AC, 50/60Hz

Power consumption: 30VA or less

Ambient temperature: 0 to 50°C

Ambient humidity: 90% relative humidity or less (non-condensing)

Memory backup: Lithium battery (5 years expected: 0 to 40°C)

Dimensions: 96mm (H) x 96mm (W) x 173.5mm (D)

Weight: Approximately 1kg

Mounting angle: Not more than 15°

OPTION OUTPUT

Expansion digital output:

Expansion alarm output (ALM3, ALM4) or
expansion time signal outputs (TS5, TS6):

Open-collector output: 2 points, 24V DC, 50mA

Auxiliary analog output:

Output points: 1 or 2 points

Output data: Measured value, set value, or manipulated value

Output accuracy: $\pm 0.2\%$ FS

Kinds of output:

1 to 5V DC

0 to 5V DC

0 to 10V DC

Additional function: Scaling



PVX BENEFITS:

100ms sampling rate—handles fast responding processes like flow and pressure

Triple display—shows PV, SV, and MV simultaneously

Independent PID setting for each pattern setting

Nine 20-segment control patterns—allows you to store and recall individual programs for separate runs

Inputs—E, J, K, R, T, S, B, PL-II, 1 to 5V DC, 0 to 10mV, 1 to 100mV, 0 to 1V, 0 to 5V, 0 to 10V, 1 to 5V, 4 to 20mA, RTD

Outputs—relay, DC voltage, 4 to 20mA

PID autotuning—automatically calculates PID control settings for you, thereby optimizing system performance

Password protection—prevents accidental or unauthorized changing of parameters

Fault indication—LEDs identify existing system problems

Digital filtering—prevents external noise from affecting the input signal

Sensor break protection—protects your process if the input sensor fails

User-selectable temperature scale—allows you to choose either °F or °C indication

FREE calibration—for the first three years you own your Fuji controller

FREE technical support—from our team of factory-trained engineers

Three-year warranty—protects against manufacturing defects

PVX MODEL CONFIGURATION

1 2 3 4 5 6 7 8 9 10 11 12 13
P V X T S 1 - R Y E

CONTROL OUTPUT	CODE
Relay contact output	1
SSR/SSC drive output	2
Current output (4 to 20mA DC)	3

DIGITAL INPUT	CODE
None	Y
External command input (four points)	C
Pattern select input (four points)	P
External command input plus pattern select input	D

Time signal output, 1 to 4	T
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Output status	S
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EXPANSION DIGITAL OUTPUT	CODE
(Open-collector output, two points)	
Without	Y
Used as time signal (TS5, TS6)	T
Used as alarm (ALM3, ALM4)	A

AUXILIARY ANALOG OUTPUT SIGNAL	
Without	0
Voltage output, one point	1
Voltage output, two points	2
Note: Prior to delivery from factory: 0 to 10V DC	

FREE Windows-based Program Loader Software available.

N

OTE: If the range is not designated on the order form, the product will be delivered with the following range selected: K thermocouple, 0 to 400°C.