

# Millenium Controllers

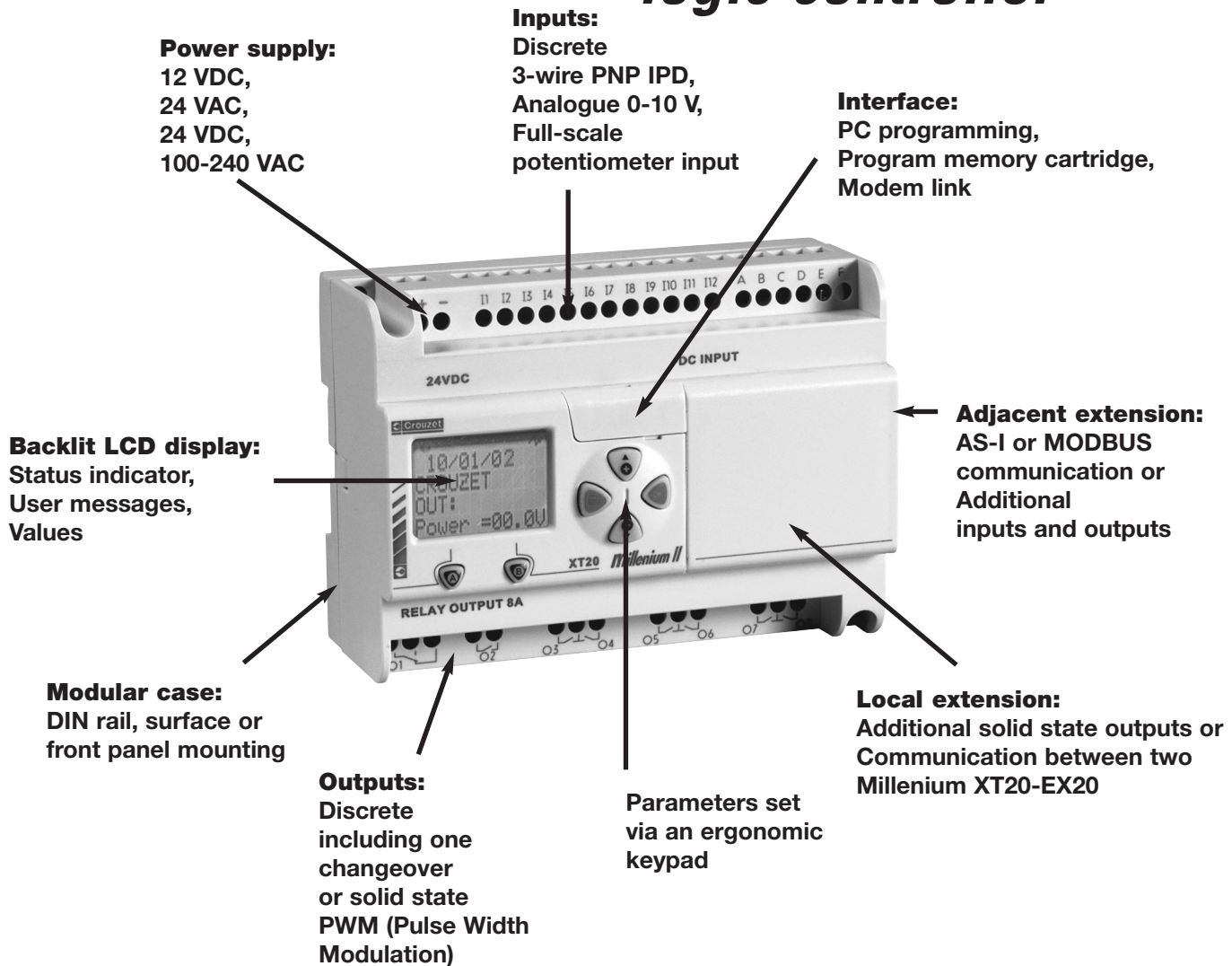


Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / [www.crouzet-usa.com](http://www.crouzet-usa.com)

# Millenium II+

## logic controller



### Your open, adaptable configuration

Millenium 2 consists of a complete range with versions which are:

- user-definable from the front panel
- low-cost (no displays and parameter-setting buttons)
- bare boards for mass-production applications
- numerous extensions (I/O, communication, etc)

### Your pre-programmed functions

Millenium 2 incorporates the most extensive function library on the market, which now includes application-specific functions (calculation, pump rotation, Cam timer, etc). Moreover, Crouzet will offer to design the function which is perfect for your application.

### Your flexibility for programming

Millenium 2 is the only logic controller to combine flexible programming using function blocks with the added benefit of sequential flow chart blocks. Its user-oriented design simplifies the process of designing your programs.

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / [www.crouzet-usa.com](http://www.crouzet-usa.com)

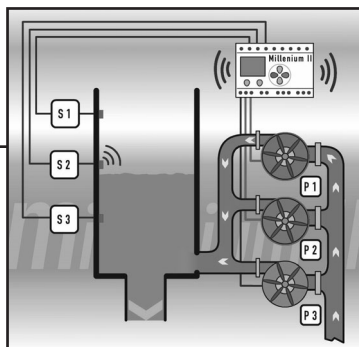
# Your applications already pre-programmed with our application-specific functions!

CROUZET offers you a library of application-specific functions which can be added to according to your requirements:

- **Calculation function**  
Multiplication/Division  
Addition/Subtraction
- **Data archiving function**
- **Cam timer function**
- **Clock function with parameter modification**
- **Pump rotation function**
- **Up/down counter with calculation function**

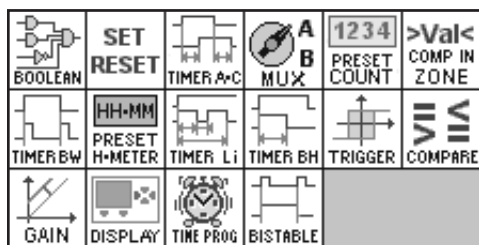
## Example of application-specific function: Rotation of 3 pumps

The pump rotation function is used to manage the water level in a tank by means of 3 sensors and 3 pumps.



## Function toolbar

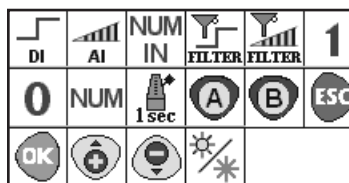
### ► FBD functions



21 pre-programmed functions are available for counting, timing, comparison, multiplexing, timer programming and display.

	<b>BOOLEAN</b> Used to create logic equations between connected inputs.		<b>TIMER Li</b> Pulse generator (ON setting, OFF setting).
	<b>SET - RESET</b> Bistable memory - Priority assigned to either SET or RESET.		<b>TIMER B/H</b> Timer. Function BH. (adjustable impulse signal).
	<b>TIMER A/C</b> Timer - Function A/C (On-delay and off-delay).		<b>TRIGGER</b> Defines an activation zone with Hysteresis.
	<b>MUX</b> Multiplexing functions on 2 analogue values.		<b>COMPARE</b> Comparison of 2 analogue values using =, >, <, ≥, ≤ operators.
	<b>PRESET COUNT</b> Up/down counter.		<b>GAIN</b> Used to convert an analogue value by changing scale and offset.
	<b>COMP IN ZONE</b> Zone comparison (MIN ≤ VALEUR ≤ MAX).		<b>DISPLAY</b> Display of digital and analogue data, date, time, messages for man-machine interface.
	<b>TIMER B/W</b> Timer - Function B/W (impulse on a rising or falling edge).		<b>TIME PROG</b> Hourly, weekly and annual programmer.
	<b>PRESET H-METER</b> Hour counter (presetting of hour, minute).		<b>BISTABLE</b> Impulse relay function.

### ► Inputs



You can connect physical inputs, whether discrete, analogue or potentiometer. There are also internal inputs such as the keypad, constants, etc.

### ► Outputs



You have two types of output:

- physical: discrete, solid state with PWM (Pulse Width Modulation),
- internal: display backlighting.

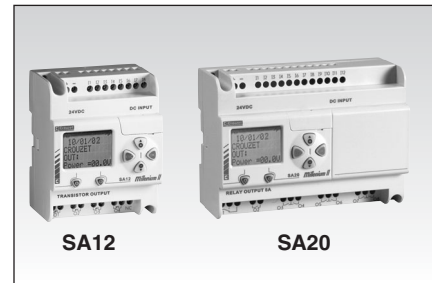
### ► Logic functions



AND, OR, NAND, NOR, XOR, NOT functions.

Standard versions

- Intuitive programming via function block (FBD) or grafcet (SFC)
- Function: timing, counting, etc
- Application-specific functions: rotation, cam timers, calculation, etc.
- Discrete, analogue or potentiometer inputs
- Relay or solid state with PWM outputs
- Backlit LCD display
- Program protected by a password
- Calendar program clock
- User-definable from the front panel



Type	Input	Output	Power supply	Part Number
SA12	8	4 relay	24 VDC	88 950 041
	8	4 relay	100 - 240 VAC	88 950 043
	8	4 relay	24 VAC	88 950 044
	8	4 solid state/4 PWM	24 VDC	88 950 042
	8 NPN	4 relay	24 VDC	88 950 049
	8	4 relay	12 VDC	88 950 045
SA20	8	4 solid state/4 PWM	12 VDC	88 950 046
	12	8 relay	24 VDC	88 950 051
	12	8 relay	100 - 240 VAC	88 950 053
	12	8 relay	24 VAC	88 950 054
	12	8 solid state/6 PWM	24 VDC	88 950 052
	12 NPN	8 relay	12 VDC	88 950 059
	12	8 relay	12 VDC	88 950 055
	12	8 solid state/6 PWM	12 VDC	88 950 056

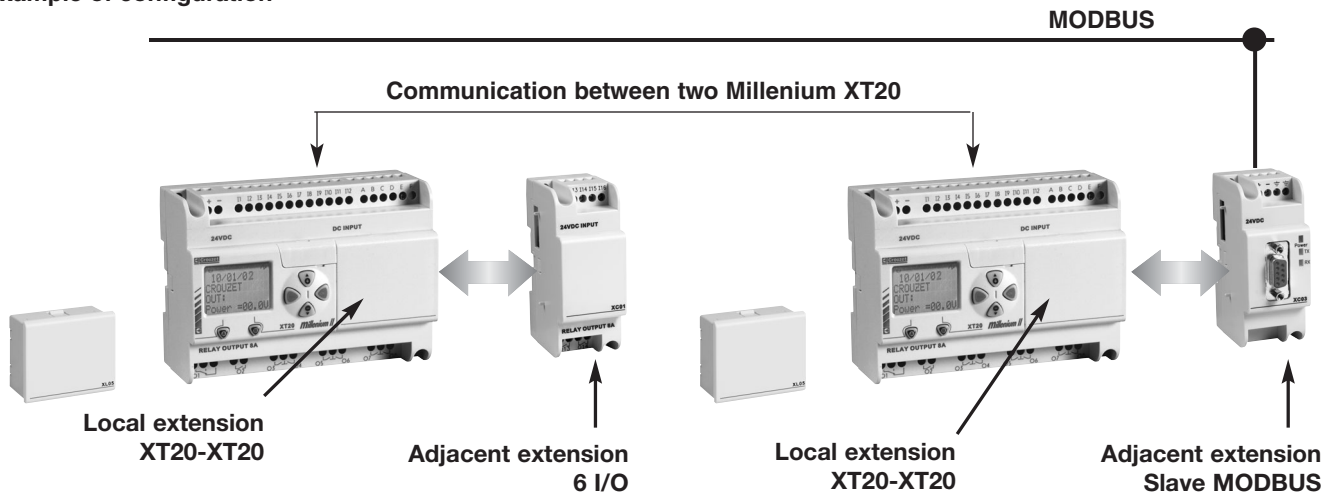
Expandable version

- Expandable: communication, inputs/outputs, etc
- Intuitive programming via function block (FBD) or grafcet (SFC)
- Function: timing, counting, etc
- Application-specific functions: load rotation, cam timers, calculation, etc.
- Discrete, analogue or potentiometer inputs
- Relay or solid state with PWM outputs
- Backlit LCD display
- Program protected by a password
- Calendar program clock
- User-definable from the front panel
- Can take an XC adjacent extension and an XL local extension



Type	Input	Output	Power supply	Part Number
XT20	12	8 relay	24 VDC	88 950 061
	12	8 relay	100 - 240 VAC	88 950 063
	12	8 relay	24 VAC	88 950 064
	12	8 solid state/6 PWM	24 VDC	88 950 062
	12 NPN	8 relay	24 VDC	88 950 069
	12	8 relay	12 VDC	88 950 065
	12	8 solid state/6 PWM	12 VDC	88 950 066

Example of configuration



Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

### Expandable Economy

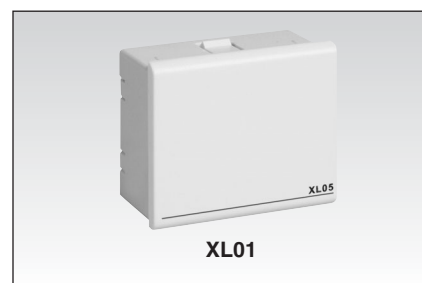
- Performs the same as the XT 20 but without the Display or the Front Panel
- Ideal for use in applications where modifications of the parameters from the front panel is not a requirement



Type	Input	Output	Power supply	Part Number
EX20	12 PNP	8 relay	24 VDC	88 950 831
	12	8 relay	110 - 240 VAC	88 950 833
	12	8 relay	24 VAC	88 950 834
	12 PNP	8 solid state	24 VDC	88 950 832
	12 NPN	8 relay	24 VDC	88 950 839

### Local extensions

- For EX & XT 20 only (1 local extension per module)
- Millenium – Millenium local link
- Doubles the hardware and software capacities
- Transparent communication between 2 EX & XT 20
- Max. distance between 2 EX & XT 20: 10 meters
- Cable type: screened twisted pair
- 4 Solid State Outputs on XL05



Type	Description	Part Number
XL01	M2 – M2 local link (2 modules)	88 950 200
XL05	4 solid state outputs	88 950 204
XL06	2 relays	88 950 810

### Adjacent extensions

- For use with XT 20 Models (one adjacent extension per module)
- Communication using MODBUS or AS-i protocol (Slave module)
- 6 additional inputs/outputs on XC03



Type	Description	Part Number	
XC01	4 inputs 2 relay outputs	24 VDC	88 950 210
	4 inputs 2 relay outputs	24 VAC	88 950 211
	4 inputs 2 relay outputs	110 - 240 VAC	88 950 212
	4 inputs 2 relay outputs	12 VDC	88 950 215
	4 NPN inputs 2 relay outputs	12 VDC	88 950 219
XC02	AS-i exchange unit	24 VDC	88 950 213
XC03	MODBUS exchange unit	24 VDC	88 950 214
Modems	RTC		88 950 106
	GSM		88 950 107

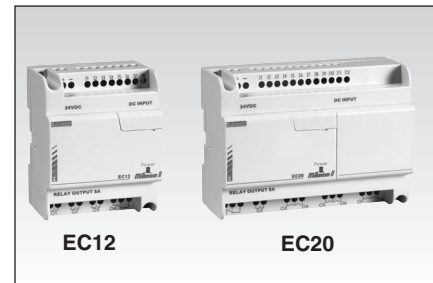
Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



Economy versions

- No display or parameter-setting buttons
- Intuitive programming via function block (FBD) or grafcet (SFC)
- Function: timing, counting, etc
- Application-specific functions: load rotation, cam timers, calculation, etc.
- Discrete, analogue or potentiometer inputs
- Relay or solid state with PWM outputs
- Program protected by a password
- Calendar program clock



Type	Input	Output	Power supply	Part Number
EC12	8	4 relay	24 VDC	88 950 021
	8	4 relay	100 - 240 VAC	88 950 023
	8	4 relay	24 VAC	88 950 024
	8	4 solid state/4 PWM	24 VDC	88 950 022
	8 NPN	4 relay	24 VDC	88 950 031
	8	4 relay	12 VDC	88 950 032
EC20	12	8 relay	24 VDC	88 950 031
	12	8 relay	100 - 240 VAC	88 950 033
	12	8 relay	24 VAC	88 950 034
	12	8 solid state/6 PWM	24 VDC	88 950 032
	12 NPN	8 relay	24 VDC	88 950 039
	12	8 relay	12 VDC	88 950 035
	12	8 solid state/6 PWM	12 VDC	88 950 036

Starter kit

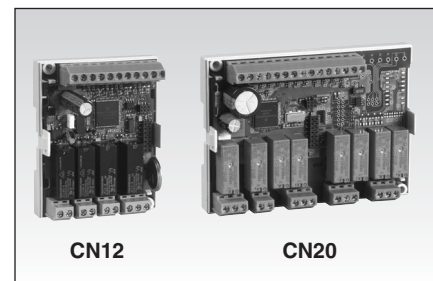
- Each kit includes:
  - a standard or expandable Millenium 2
  - a PC/Millenium 2 link interface
  - an interactive CD-Rom including the software workshop, tutorial, application library and technical brochures



Type	Input	Output	Power supply	Part Number
KIT SA 12	8	4 relay	24 VDC	88 950 070
	8	4 relay	100 - 240 VAC	88 950 071
KIT SA 20	12	8 relay	24 VDC	88 950 072
	12	8 relay	100 - 240 VAC	88 950 073
KIT XT 20	12	8 relay	24 VDC	88 950 074
	12	8 relay	100 - 240 VAC	88 950 075

Bare board versions

- For mass-production applications
- Intuitive programming via function block (FBD) or grafcet (SFC)
- Function: timing, counting, etc.
- Application-specific functions: load rotation, cam timers, calculation, etc.
- Discrete, analogue or potentiometer inputs
- Relay or solid state with PWM outputs
- Program protected by a password
- Calendar program clock



Consult factory  
for availability.

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com