

Millenium Controllers

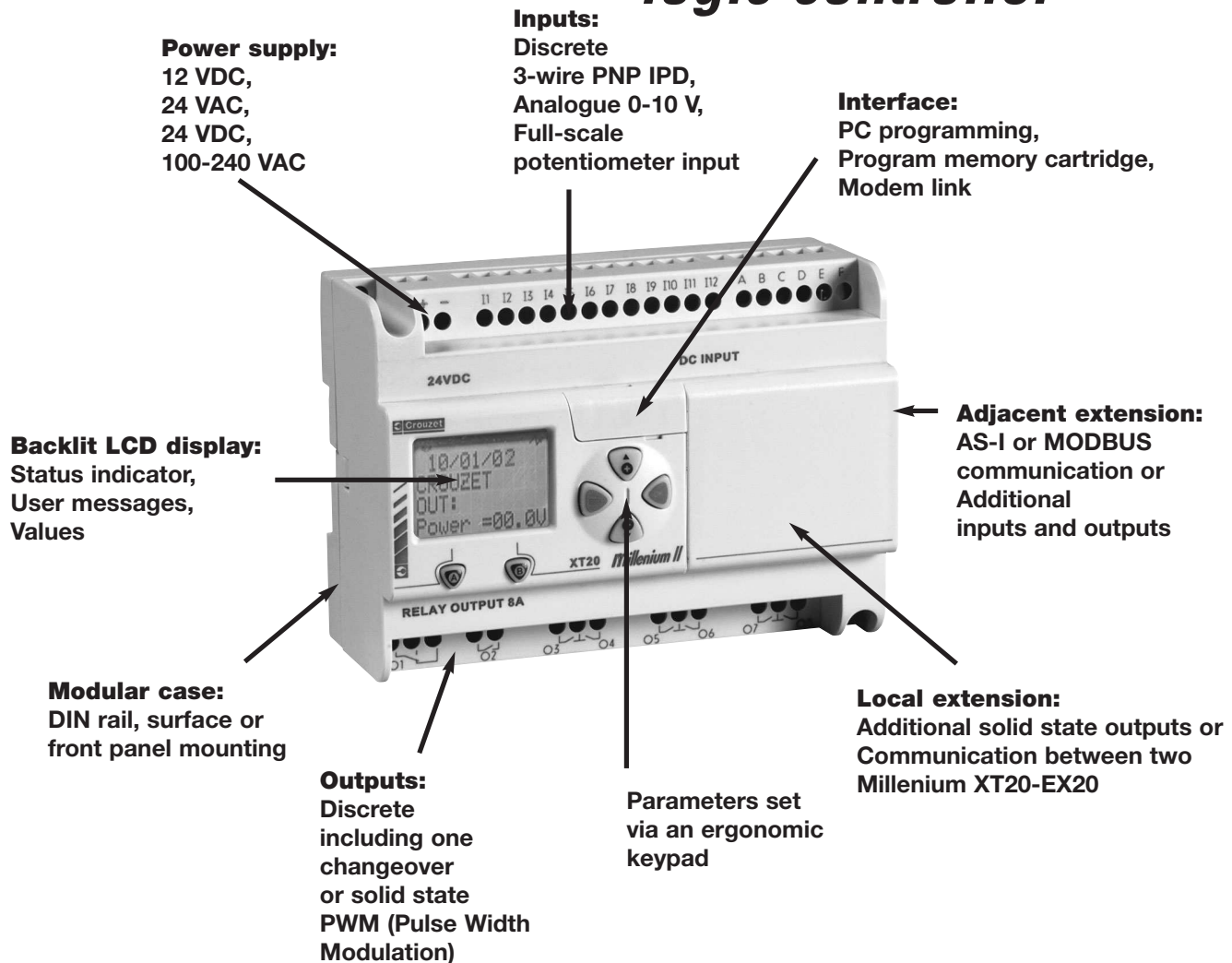


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Millenium II+

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.

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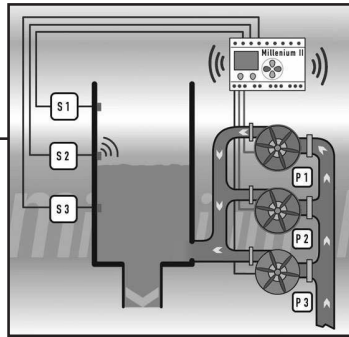
Your applications already pre-programmed with our application-specific functions!

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

BOOLEAN	SET RESET	TIMER A/C	MUX	1234 PRESET COUNT	>Val< COMP IN ZONE
TIMER B/W	HH-MM PRESET H-METER	TIMER Li	TIMER B/H	TRIGGER	COMPARE
GAIN	DISPLAY	TIME PROG	BISTABLE		

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

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

► Inputs

DI	AI	NUM IN	FILTER	FILTER	1
0	NUM	1 sec	A	B	ESC
OK					

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

► Outputs

DO	PWM	NUM OUT	
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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
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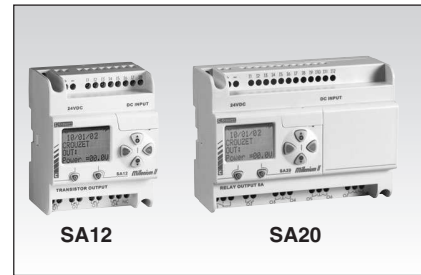
AND, OR, NAND, NOR, XOR, NOT functions.

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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

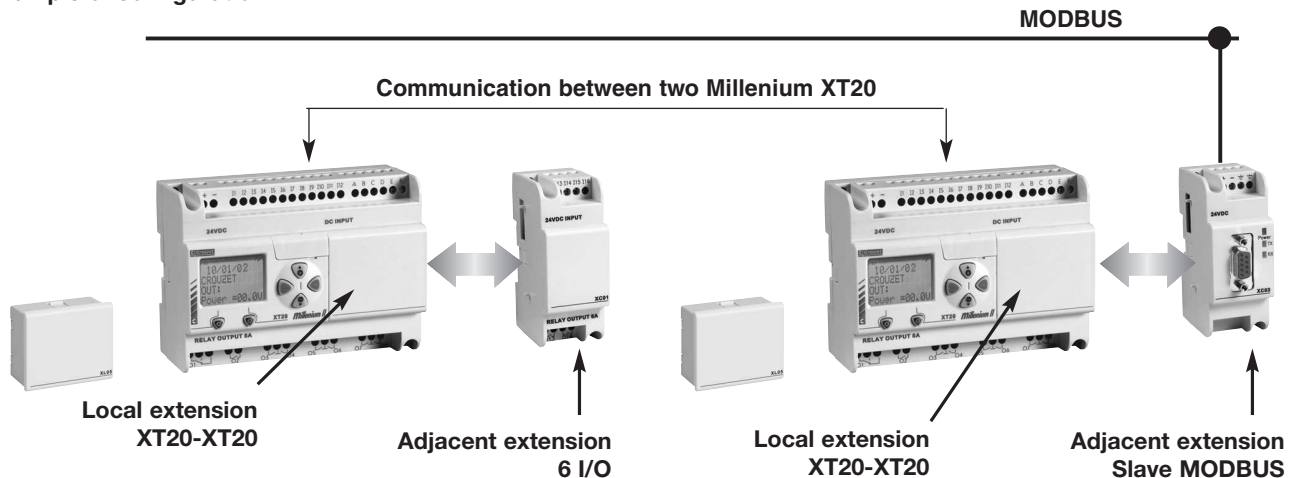
Expandable version

- 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



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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



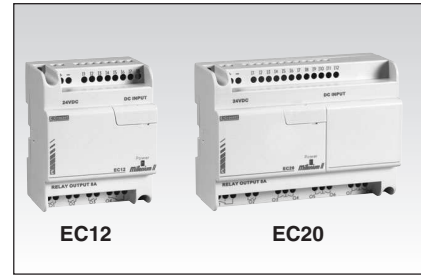
Type	Description	Part Number
XC01	4 inputs 2 relay outputs	24 VDC
	4 inputs 2 relay outputs	24 VAC
	4 inputs 2 relay outputs	110 - 240 VAC
	4 inputs 2 relay outputs	12 VDC
	4 NPN inputs 2 relay outputs	12 VDC
XC02	AS-i exchange unit	24 VDC
XC03	MODBUS exchange unit	24 VDC
Modems	RTC	88 950 106
	GSM	88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

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Economy versions

- No display or parameter-setting buttons
- Intuitive programming via function block (FBD) or grafacet (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

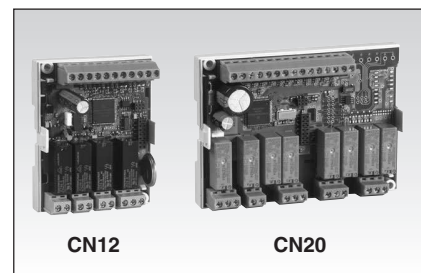
- Each kit includes:
 - a standard or expandable Millenium 2
 - a PC/Millenium 2 link interface
 - an interactive CD-Rom including the software workshop, tutorial, application library and technical brochures



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 grafacet (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
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