

[WWW.CROUZET-AUTOMATION.COM](http://WWW.CROUZET-AUTOMATION.COM)

# CROUZET AUTOMATION SELECTION GUIDE



# ABOUT CROUZET AUTOMATION

Supported by an experienced technical team, Crouzet Automation is a pioneer in the simplification of programming.

The brand offers the easiest-to-use and most adaptable alternative automation solution for specialized and demanding needs.

Crouzet Automation is a brand of InnoVista Sensors™.

**INNOVISTA**  
SENSORS

InnoVista Sensors™: your trusted partner of choice to face industrial challenges of today and tomorrow.

InnoVista Sensors™ is a worldwide industrial specialist of sensors, controllers and actuators for automated systems.

Through its brands, Crouzet Aerospace, Crouzet Automation, Crouzet Control, Crouzet Motors, Crouzet Switches and Systron Donner Inertial, InnoVista Sensors™ offers a wide range of reliable, efficient and customizable components dedicated to the Aerospace & Defence, Transportation and Industrial market and segments.

Thanks to the recognized expertise of its teams and a strong innovation policy, InnoVista Sensors™ brings performance enhancing solutions to its customers worldwide.

[www.innovistasensors.com](http://www.innovistasensors.com)

## Designs & Manufactures



Sensors



Controls



Actuators

## For



Aerospace & Defense



Transportation



Industry

## With commercial brands



# ADAPTATION WHEEL

To meet market expectations and provide customers with the right solutions within the shortest timeframes, Crouzet Automation has structured its processes around the different types of product available: standard products, adapted products or products specially developed for a customer. Introducing the adaptation wheel...



### 1 STANDARD COMPONENTS

A complete range of logic controllers immediately available to create your automation application.

### 2 COMPONENTS WITH ADDED VALUE

Standard products complemented by factory-mounted auxiliaries or accessories (connectors, wire outputs, cables, etc.) in order to assist integration into your equipment, simplify your logistics and maximize the reliability of your installation.

### 3 ADAPTED PRODUCTS

Defined jointly with our technical sales teams, these adapted products offer the exact performance and functions you need for your application.

### 4 SPECIFIC PRODUCTS

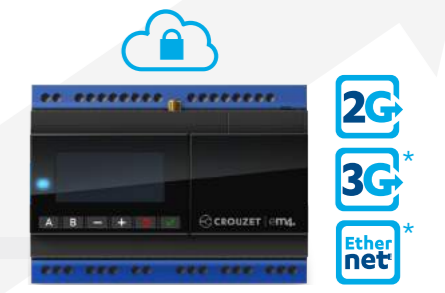
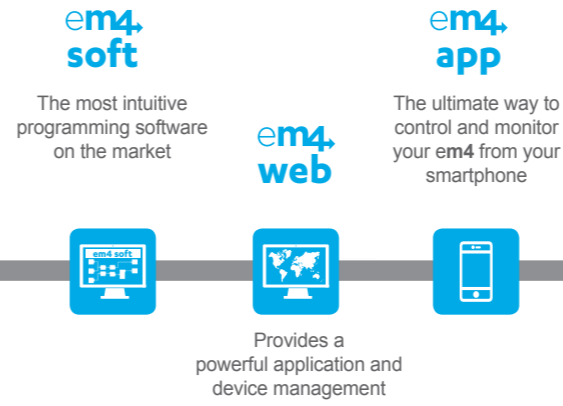
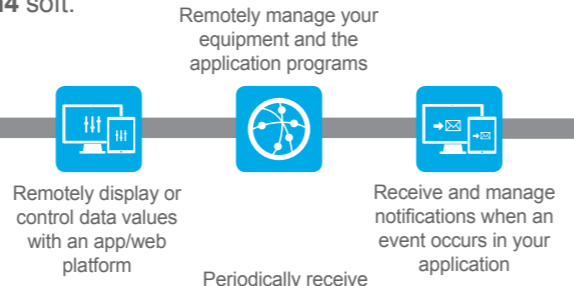
All our design and industrialization expertise in automation systems at your service, to design and create specific products dedicated to your application.

# WHICH SOLUTION DO YOU NEED?

em4 is more than just a nano-PLC: it is a leading edge device supported by best-in-class tools that enables you to create and implement the smartest automation applications with em4 soft.

## em4 remote

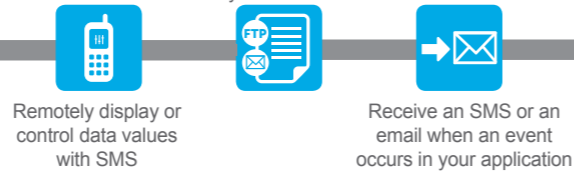
The first all-in-one solution to bring your application into the Internet of Things



em4 remote

## em4 alert

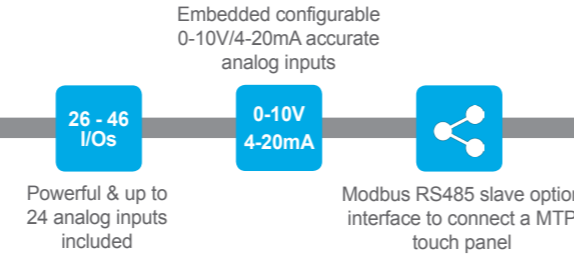
The PLC which sends alerts via SMS, stores data logs in .csv (Excel) and sends them by email or FTP



em4 alert

## em4 local

The em4 for stand alone use or local area network



em4 local

\* The 3G and Ethernet versions will be available in 2016.

**Water treatment**

With the capability to manage pump circulation, monitor liquid levels, and measure the temperature and conductivity of water, em4 can help you take your application to the next level.

**Application example**

NANO-PLC

The Millenium 3 Smart logic controller is the easiest programmable module to use on the market. Easy to program thanks to M3 Soft, it enables the the control and monitoring of machines and automation installations with up to 50 I/Os.

## Smart Expandable

Offers a large variety of expansions (digital, analog I/Os...), up to 50 I/Os



Smart Expandable

## Smart Compact

The easiest logic controller to implement, to program and to use on the market



Smart Compact

## Essential

The right product to tackle simple applications that still require a powerful logic controller



Essential

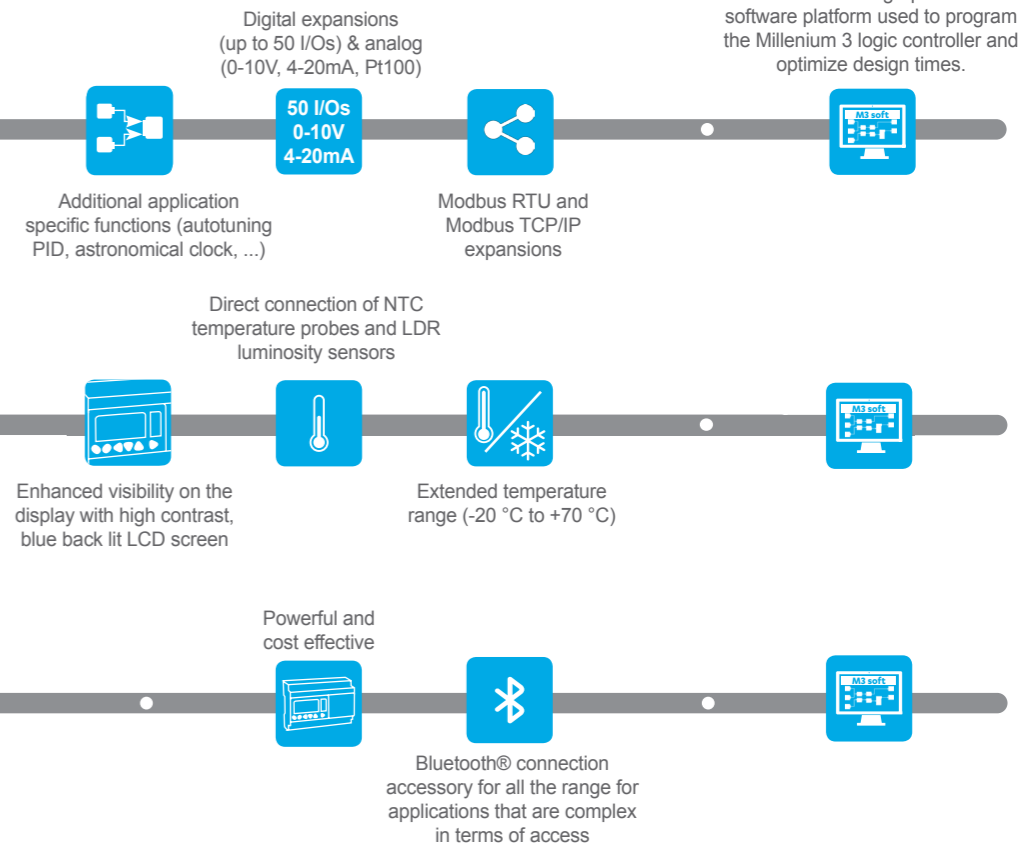
**Access Control**

Millenium 3 offers both standard and customized product solutions for a range of applications, including automatic barriers, automatic doors, turnstiles, sectional doors and disabled access ramps.

**Application example**

## M3 soft

The M3 Soft is a high-performance software platform used to program the Millenium 3 logic controller and optimize design times.



LOGIC CONTROLLER

# WHICH SOLUTION DO YOU NEED?

The Millenium 3 logic controller and the em4 nano-PLC are the easiest to use programmable modules in various applications. With simple and intuitive software, controlling and monitoring of machines and automation installations is incredibly simple.



## Millenium 3 Smart Expandable

Offers a large variety of expansions (digital, analog I/Os...), up to 50 I/Os

› Expandable versions: 10 I/Os and 26 I/Os

› Exists with or without display, in 24 V $\overline{\text{---}}$ , 12 V $\overline{\text{---}}$ , 24 V $\sim$  and 100  $\rightarrow$  240 V $\sim$  versions

- 50 I/Os** Digital expansions up to 50 I/Os
- 0-10V 4-20mA** Analog 0-10V, 4-20 mA, Pt100 expansions
- Modbus RTU and Modbus TCP/IP expansions**
- Highly visible blue LCD**
- Direct connection of NTC temperature probes**
- Additional application specific functions**
- Extended temperature range (-20 °C to +70 °C)**
- Bluetooth® connection accessory**



Multiple configuration options derived from an extensive product range with numerous accessories

### Millenium 3 toolbox

### M3 soft



## Millenium 3 Smart Compact

The easiest logic controller to implement, to program and to use on the market

› Compact versions: 12 I/Os and 20 I/Os

› Exist with or without display, in 24 V $\overline{\text{---}}$ , 12 V $\overline{\text{---}}$ , 24 V $\sim$  and 100  $\rightarrow$  240 V $\sim$  versions

- Highly visible blue LCD**
- Direct connection of NTC temperature probes**
- Additional application specific functions**
- Extended temperature range (-20 °C to +70 °C)**
- Bluetooth® connection accessory**



Application-specific solutions thanks to dedicated and easy to use specific function blocks

### Millenium 3 toolbox

### M3 soft



## Millenium 3 Essential

The right product to tackle simple applications that still require a powerful logic controller

› Compact versions: 12 I/Os and 20 I/Os

› Expandable versions: 10 I/Os and 26 I/Os

› Exist with or without display, in 24 V $\overline{\text{---}}$ , 12 V $\overline{\text{---}}$  versions

- Powerful and cost effective**
- 50 I/Os** Digital expansions up to 50 I/Os
- 0-10V 4-20mA** Analog 0-10 V, 4-20 mA, Pt100 expansions
- Modbus RTU and Modbus TCP/IP expansions**
- Simplified Bluetooth® connectivity**



The Millenium 3 Essential range is the cost effective solution for simple applications

### Millenium 3 toolbox

### M3 soft



## em4 remote

The first all-in-one solution to bring your application into the Internet of Things

› First PLC capable of fleet management including map localization

› Highly secured solution, using e-banking practices and infrastructure

› Expandable version: 26 I/Os up to 46 I/Os



SIM card (2G & 3G versions) & remote management subscription included for one year (em4 web, em4 app)

### em4 toolbox

### em4 soft

### em4 web

### em4 app

- Machine / Equipment fleet management**
- Advanced event management**
- Secured platform and connections**
- Advanced data history**
- Device maintenance & management**
- Advanced monitoring and control functions**
- Map localization**
- Advanced remote services for your customers**
- Automatic clock synchronization**
- Customizable web interface**



## em4 alert

Nano-PLC that can alert you via SMS and email

› Needs only GSM network to operate (SMS)

› Secured solution, only users identified in the PLC can interact

› Expandable version: 26 I/Os up to 46 I/Os



No need to perform complicated integration between the PLC and a modem/gateway

### em4 toolbox

### em4 soft

- Event management via SMS and email**
- Monitoring and control functions via SMS**
- Data report via SMS and datalogs via email or FTP**
- PLC to PLC SMS communication**
- Remote application program update**
- Remote directory management**



## em4 local

The em4 for stand alone use or local area network

› The most compact and powerful of its category

› Includes highly accurate 4-20 mA analog inputs for industrial sensors

› Expandable version: 26 I/Os up to 46 I/Os



Easily swap from one version to another version (remote and alert), enabling the upgrade of the equipment

### em4 toolbox

### em4 soft

- PLC with local functions only**
- Modbus RS485 slave option interface**
- 0-10V 4-20mA** Embedded configurable 0-10V/4-20 mA accurate analog inputs
- The most intuitive graphical function block language**
- Modbus TCP/IP** Modbus TCP/IP client and server

\* The 3G and Ethernet versions will be available in 2016.

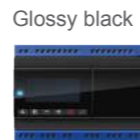
# SELECT YOUR CONTROLLER

Our products are specifically suited for integration in a wide range of applications.



- Highly visible blue LCD with 4 lines of 18 characters and configurable backlighting
- Allow the use of the entire library of specific function blocks of the software workshop
- Extended temperature range (-20 °C to +70 °C)
- Analog inputs 0-10 V $\sim$ , Potentiometer, NTC, LDR (0-20 mA/Pt100 with converters)

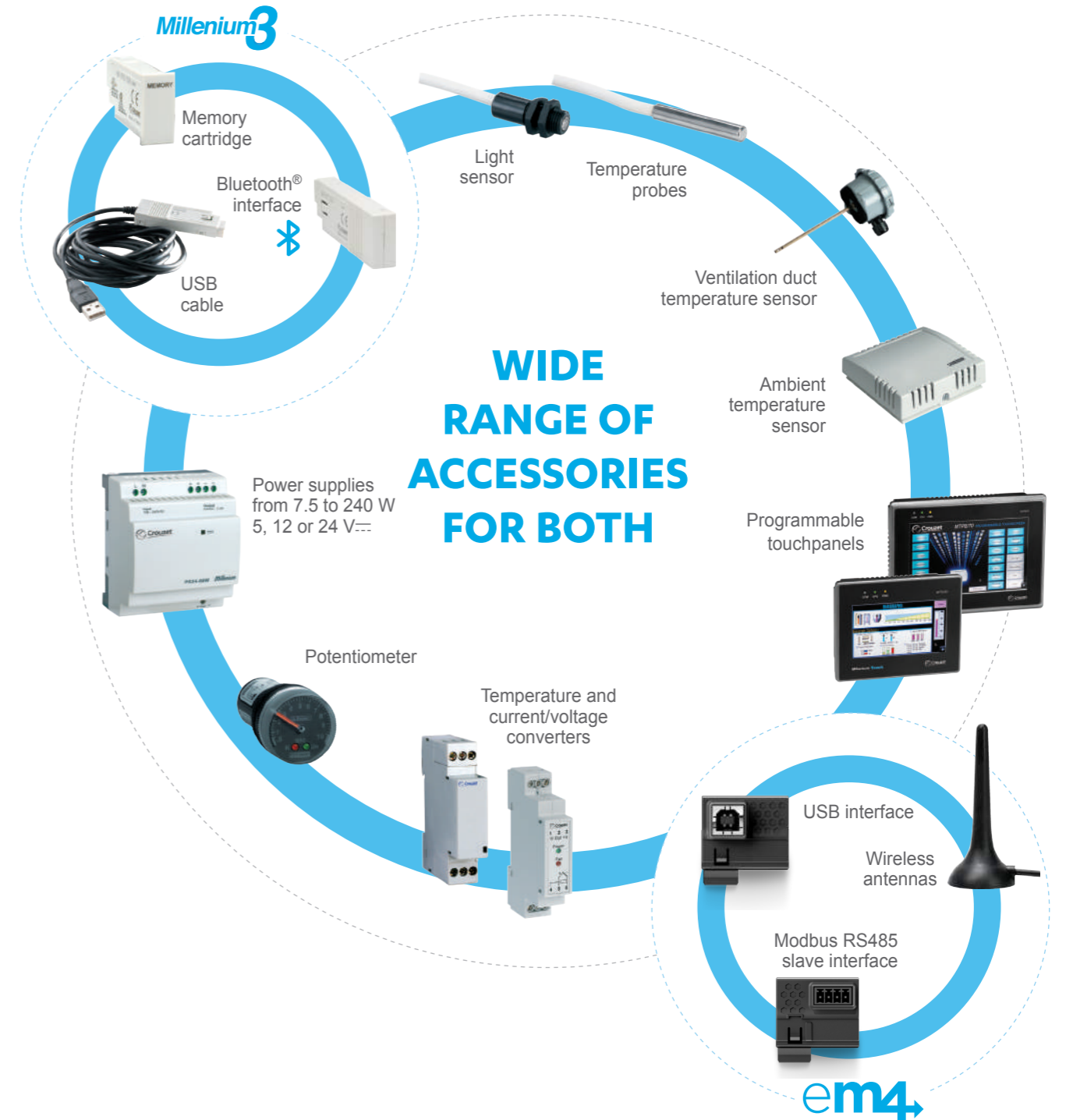
- Save time designing your application and remote functions using the most intuitive graphical function block language on the market
- Accurately measure your high end industrial sensors with the embedded configurable analog inputs (including 4-20 mA)
- Easily integrate one of our three high tech designs in your machine
- Adapt your application during its lifecycle thanks to the enhanced controlling performances



	Millenium 3 range	em4 range
Power Supply	12 V $\sim$ , 24 V $\sim$ 24 V $\sim$ , 100 $\rightarrow$ 240 V $\sim$	24 V $\sim$
Highly Visible HMI	Blue (Smart) or Green (Essential)	Black and white / white and black
Versions	4 rows of 18 characters	
Inputs on the base	Compact versions: 12 and 20 I/Os Expandable versions: 10 and 26 I/Os up to 50 I/Os	Expandable version: 26 I/Os up to 46 I/Os
Outputs on the base	Digital, High speed 6kHz Analog 0-10V 5%, Potentiometer, NTC, LDR	Digital, High speed 60kHz Analog 0-10 V, 4-20 mA 1%, Potentiometer, NTC, LDR
Inputs on expansions	Relays 8 A or 5 A Static Digital or PWM	Relays 8 A or 6 A Static Digital or PWM
Outputs on expansions	Digital Analog 0-10V 2% 4-20 mA 1% PT100 1,5°C	Digital Analog 0-10 V 1% 4-20 mA 1%
Programming interface	Relay 8 A or 5 A 0-10V 5% Static Digital or PWM	Relay 8 A or 6 A 0-10 V 1% 4-20 mA 1% Static Digital or PWM
Ethernet /Com	USB cable	USB interface Ethernet port Remote download
Interface	USB Modbus TCP/IP (server) Modbus RS485 (slave) on expansion	Ethernet version: on base (Modbus TCP/IP server & client) Wireless 2G and 3G versions
Programming language	USB, Bluetooth, memory, RS232	USB, Modbus RS485 (slave)
Temperature range	FBD/SFC or LD 400 Function Blocks 200 Ladder lines	FBD/SFC 1000 Function Blocks
Real time clock backup	-20 °C +55 °C (Essential range) -20 °C +70 °C (Smart range)	-20 °C +60 °C
		10 years

# COMPLETE YOUR EXPERIENCE!

Sensors, power supplies, converters, remote screens and communication accessories offer solutions to control your automation systems with the greatest ease of use.



## MOST INTUITIVE PROGRAMMING SOFTWARE ON THE MARKET

### Simple

- Quick, simple and intuitive programming which does not require specialist knowledge
- Self-teaching made easier thanks to a user-friendly online help guide and programming examples
- A simulation mode that consistently represents controller operation

### Powerful

- A complete range of more than 100 function blocks
- All basic functions: counting, timing, comparison, display, logic, gain, sin/cos, etc. are also available
- A wide range of dedicated functions: pump rotation, PID regulation, movement, pressure, level, water ratio, solar tracking, and flow

### User-friendly and ergonomic

- Software available in 5 languages: English, French, Italian, German and Spanish
- Function block programming is fun and very visual
- Programming languages:
  - FBD (Function Bloc Diagram)
  - SFC (Sequential Function Chart/Grafcet)
  - LD (Ladder Diagram) only on M3 soft

### User-definable and effective

- Possibility of creating and saving custom macros allowing the user to simplify programs
- Possibility of locking macros with a password for greater security

### Download your software:



Download M3 soft



Download em4 soft

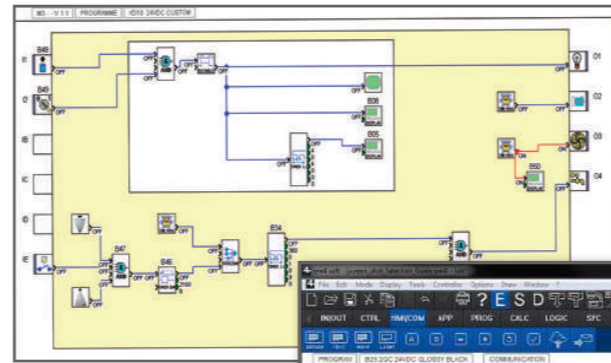
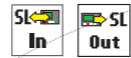
## M3 SOFT

M3 Soft is the easiest programming software to use on the market. It is also incredibly powerful and user-friendly. Thanks to the most comprehensive library of application-specific function blocks in the industry, it allows you to customize your applications.



- Pump management**  
No more time involved to write extensive programs to set up auto pump rotation
- Level**  
Easy set up for tank level readings and control
- Filtration**  
Allows for automatic filtration time based on water temperatures
- Flow**  
Quickly calculate flow and control with set thresholds
- Gain**  
Easy analog calculation to convert analog values (scale, offset)

**SL In / SL Out**  
Allows easy monitoring of your application using a MTP Touch Panel



M3 soft



**Time Prog**  
Easily schedule time events based on calendar

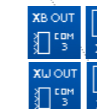
**Event**  
Allows up to 24 events SMS/email messages including 2 attached analog values



**Data Logging**  
Allows up to 3 blocks of 8 values to be logged at a specified time interval or on command signal



**Monitoring**  
Allows easy remote monitoring and control of your application



**32 bit function blocks**  
Allows high speed count, tachometer, power management, calculation with 32 bit values



**Display**  
Large 4x18 character display allows user to visualize text, status, times and control values in the program



**PID Regulator**  
Will interface with water booster drives for pressure needs based on demand



**Sunset / Sunrise**  
Calculate the sunrise and sunset time



## em4 SOFT

em4 soft integrates all the remote management features in a single tool. Based on our strong experience in Millenium programming software development, em4 soft is the new easy-to-use programming tool dedicated to em4.



## em4 WEB

With em4 remote, your equipment gets the simplest access to the Internet of Things

- The em4 web provides you with a powerful **device management** web-based platform.
- There is no need to configure the communication: log on, identify your em4 remote and instantly get connected!
- It allows you to easily manage your em4 fleet on demand:
  - manage your access rights, as well as your customers
  - download your application program or firmware
  - monitor and control your devices
  - localize them on a map
  - display your data history
  - receive event notifications by email and SMS

Last but not least, it implements the latest security systems and protocols.

### Map localization



Your em4 fleet available anywhere, anytime

## em4 APP

The em4 simply enters your smartphone

- Mobile complement to the em4 web, the em4 app is the ultimate way to control and monitor your em4 from your smartphone.
- It uses a **fully secured and optimized infrastructure** to ensure total protection of your data.
- Simply log in, scan the QR code on the product, and instantly begin **monitoring and controlling** your device.



# MAKE UP YOUR OWN SOLUTION

## MILLENIUM 3 RANGE

Type	Part number	Supply	Inputs	Outputs	Availability/Compatibility				
					12 V $\overline{\text{---}}$	24 V $\overline{\text{---}}$	Solid State Output 0.5 A/PWM	Essential version **	
<b>M3 Smart kits</b>									
	Kit 12 Smart*	88 974 080	24 V $\overline{\text{---}}$	8 (4 configurable as analog)	4 relays 8 A				
	Kit 12 Smart*	88 974 081	100 → 240 V $\sim$	8	4 relays 8 A				
	Kit 20 Smart*	88 974 082	24 V $\overline{\text{---}}$	12 (6 configurable as analog)	8 relays 8 A				
	Kit 20 Smart*	88 974 083	100 → 240 V $\sim$	12	8 relays 8 A				
	Kit 26 Smart*	88 974 084	24 V $\overline{\text{---}}$	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A				
	Kit 26 Smart*	88 974 085	100 → 240 V $\sim$	16	8 relays 8 A and 2 relays 5 A				
<b>Compact versions</b>									
	CD12 Smart*	88 974 041	24 V $\overline{\text{---}}$	8 (4 configurable as analog)	4 relays 8 A	✓		✓	✓
	CD12 Smart*	88 974 043	100 → 240 V $\sim$	8	4 relays 8 A		✓		
	CD20 Smart*	88 974 051	24 V $\overline{\text{---}}$	12 (6 configurable as analog)	8 relays 8 A	✓		✓	✓
	CD20 Smart*	88 974 053	100 → 240 V $\sim$	12	8 relays 8 A		✓		
	CB12 Smart*	88 974 021	24 V $\overline{\text{---}}$	8 (4 configurable as analog)	4 relays 8 A	✓			✓
	CB12 Smart*	88 974 023	100 → 240 V $\sim$	8	4 relays 8 A		✓		
	CB20 Smart*	88 974 031	24 V $\overline{\text{---}}$	12 (6 configurable as analog)	8 relays 8 A			✓	✓
	CB20 Smart*	88 974 033	100 → 240 V $\sim$	12	8 relays 8 A			✓	
<b>Expandable versions</b>									
	XD10 Smart*	88 974 141	24 V $\overline{\text{---}}$	6 (4 configurable as analog)	4 relays 8 A	✓		✓	✓
	XD10 Smart*	88 974 143	100 → 240 V $\sim$	6	4 relays 8 A		✓		
	XD26 Smart*	88 974 161	24 V $\overline{\text{---}}$	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A	✓		✓	✓
	XD26 Smart*	88 974 163	100 → 240 V $\sim$	16	8 relays 8 A and 2 relays 5 A		✓		
	XB10 Smart*	88 974 131	24 V $\overline{\text{---}}$	6 (4 configurable as analog)	4 relays 8 A	✓		✓	✓
	XB10 Smart*	88 974 133	100 → 240 V $\sim$	6	4 relays 8 A		✓		
	XB26 Smart*	88 974 151	24 V $\overline{\text{---}}$	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A	✓		✓	✓
	XB26 Smart*	88 974 153	100 → 240 V $\sim$	16	8 relays 8 A and 2 relays 5 A		✓		
	<b>With Removable Terminal Blocks</b>								
		CD12 RBT Smart*	88 974 441	24 V $\overline{\text{---}}$	8 (4 configurable as analog)	4 relays 8 A			
XD26 RBT Smart*		88 974 561	24 V $\overline{\text{---}}$	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A				
<b>Sandwich extensions</b>									
	XN05 Modbus TCP/IP	88 970 270	24 V $\overline{\text{---}}$						
	XN06 Modbus RS485	88 972 250	24 V $\overline{\text{---}}$						✓
	XN07 Master RS485	88 974 250	24 V $\overline{\text{---}}$						
	XE10	88 970 321	24 V $\overline{\text{---}}$	6	4 relays 5 A				✓
	XE10	88 970 323	100 → 240 V $\sim$	6	4 relays 5 A		✓		✓
	<b>Termination Extensions</b>								
	XR06	88 970 211	24 V $\overline{\text{---}}$	4	2 relays 8 A	✓			✓
	XR06	88 970 213	100 → 240 V $\sim$	4	2 relays 8 A		✓		✓
	XR10	88 970 221	24 V $\overline{\text{---}}$	6	4 relays 8 A	✓			✓
	XR10	88 970 223	100 → 240 V $\sim$	6	4 relays 8 A		✓		✓
	XR14	88 970 231	24 V $\overline{\text{---}}$	8	4 relays 8 A and 2 relays 5 A	✓			✓
	XR14	88 970 233	100 → 240 V $\sim$	8	4 relays 8 A and 2 relays 5 A		✓		✓
	XA03 3xPt100	88 970 800	24 V $\overline{\text{---}}$	3 analog (Pt100)					
	XA04 2AI/2AO	88 970 241	24 V $\overline{\text{---}}$	2 analog 0-10 V/0-20 mA (1 Pt100)	2 analog 0-10V/PWM				✓
	<b>Bare board and resin board versions</b>								
		NB12	88 970 001	24 V $\overline{\text{---}}$	8 (4 configurable as analog)	4 relays 8 A	✓		
NB12		88 970 003	100 → 240 V $\sim$	8	4 relays 8 A				
NB20		88 970 011	24 V $\overline{\text{---}}$	12 (6 configurable as analog)	8 relays 8 A				
NB20		88 970 013	100 → 240 V $\sim$	12	8 relays 8 A				
	NBR12	88 973 001	24 V $\overline{\text{---}}$	8 (4 configurable as analog)	4 relays 8 A	✓		✓	
	NBR26	88 973 061	24 V $\overline{\text{---}}$	16 (6 configurable as analog)	10 relays 8 A	✓		✓	
	NBR32	88 973 211	24 V $\overline{\text{---}}$	20 (6 configurable as analog)	12 relays 8 A	✓			
	NBR40	88 973 231	24 V $\overline{\text{---}}$	24 (6 configurable as analog)	16 relays 8 A	✓			

\* Millennium 3 Smart: backlit blue LCD display. Extended operating temperature range and function block library

\*\* Millennium 3 Essential: Logic Controller with green screen and industrial temperature range

## MILLENIUM 3 ACCESSORIES

### Power supplies and DC/DC converters in modular casings

	Part number	Input Voltage	Output voltage	Nominal power	Output current
	88 950 303	100 → 240 V $\sim$	24 V $\overline{\text{---}}$	7.5 W	0.3 A
	88 950 304	100 → 240 V $\sim$	24 V $\overline{\text{---}}$	15 W	0.6 A
	88 950 307	100 → 240 V $\sim$	24 V $\overline{\text{---}}$	30 W	1.2 A
	88 950 302	100 → 240 V $\sim$	24 V $\overline{\text{---}}$	60 W	2.5 A
	88 950 305	100 → 240 V $\sim$	5 V $\overline{\text{---}}$	20 W	4 A
	88 950 306	100 → 240 V $\sim$	12 V $\overline{\text{---}}$	24 W	2 A
	88 950 320	9,2 → 18 V $\sim$	12 V $\overline{\text{---}}$	10 W	0.8 A
	88 950 321	9,2 → 36 V $\sim$	24 V $\overline{\text{---}}$	6 → 10 W	0.4 A

### Connection accessories, tools and programming software

	Part number	Description
	88 970 111	M3 Soft: Millennium 3 programming software (CD-ROM)
	88 970 108	Memory cartridge for transfer and saving of programs
	88 970 102	3 m serial link cable: PC DB9 F → Millennium 3
	88 974 104	Millennium 3 → Bluetooth® interface (class A 10 m)
	88 970 109	3 m USB link cable: PC → Millennium 3
	88 970 110	Bluetooth® adaptor → USB (class A 10 m)
	88 970 123	1.80 m serial link cable: DB9 M/DB9 F
	88 970 510	0.5 m serial link cable: Millennium 3 → DB9 M
	88 974 106	Ready to use Millennium 3 Smart democase including: - a CD12 Smart, a CTN probe, a LDR probe, an I/O simulator - a 3 m USB link cable: PC → Millennium 3, a M3 Soft CD - a power supply 110-230 V $\sim$

### Millennium 3 Virtual Display



Android smartphone and tablet as well as Windows XP/7 PC application

### Man/Machine interface



TFT-LCD compact 4.3" and 7" resistive touch panels - MTP6/50, MTP8/50 & MTP8/70  
Plug & Play remote LCD displays/keypads  
Remote LED display - Input 0-10 V

### Temperature probes and light sensors



NTC Temperature probes  
LDR Light sensors  
0-10 V Temperature sensors  
Temperature probes Pt100 & Thermocouple

### Temperature and signal converters



Thermocouple Pt100/Pt1000 → 0-10 V  
PWM to 0-10 V/4-20 mA to 0-10 V

### Other accessories and kits






Standard Smart and Essential product kits  
Removable connectors  
Potentiometer Ø 22 mm  
Faceplates



Check out the Millennium 3 datasheets!

# em4 RANGE

Product description		Connection type				Glossy black	Details
		2G	3G	Ethernet			
<b>Bases</b>		<b>Common characteristics:</b>					
	em4 remote 2G*	✓				88 981 153	- Supply: 24V--- - Inputs: 16 digital inputs (including 4 high speed, 8 analog 0-10 V / potentiometers and 4 analog 0-10 V / 4-20 mA) - Outputs: 10 digital outputs (including 2 static 0.5 A PWM, 2 relays 6 A and 6 relays 8 A)
	em4 remote 3G*		✓			-	
	em4 remote Ethernet*			✓		-	
	em4 alert 2G	✓				88 981 113	
	em4 alert 3G		✓			88 981 123**	
	em4 local	✓				88 981 103	
	em4 local Ethernet			✓		88 981 133**	
<b>Starter kits</b>		<b>An em4 starter kit includes:</b>					
	Starter kit em4 remote 2G*	✓				88 981 156	- The em4 remote nano-PLC - The standard 3 m antenna
	Starter kit em4 remote 3G*		✓			-	- The USB interface - The USB programming cable
	Starter kit em4 remote Ethernet*			✓		-	- The em4 remote nano-PLC - The Ethernet cable
	Starter kit em4 alert 2G	✓				88 981 116	- The em4 alert nano-PLC - The standard 3 m antenna
	Starter kit em4 alert 3G		✓			88 981 126**	- The USB interface - The USB programming cable
	Starter kit em4 local	✓				88 981 106	- The em4 local nano-PLC
	Starter kit em4 local Ethernet			✓		88 981 136**	- The Ethernet cable
<b>Evaluation cases</b>		<b>The ready-to-use evaluation case includes:</b>					
	Evaluation case em4 remote 2G*	✓				88 980 185	- The starter kit (description above) - The power supply 110-230 Va with Europe and US adaptor - The simulator PCB for the 16 Inputs with switches, potentiometers and terminals to connect your sensor for evaluation - The simulator PCB for the 10 Outputs with 11 LEDs and terminals to connect the 2 static outputs to a device for evaluation
	Evaluation case em4 remote 3G*		✓			88 980 186**	
	Evaluation case em4 remote Ethernet*			✓		-	
	Evaluation case em4 alert 2G	✓				88 980 181	
	Evaluation case em4 alert 3G		✓			88 980 182**	
	Evaluation case em4 local	✓				88 980 180**	
	Evaluation case em4 local Ethernet			✓		-	

\* em4 remote 2G, 3G and Ethernet include the first year of subscription to em4 remote access (em4 web & em4 app), with a SIM card for the 2G and 3G versions.  
 \*\*The 3G and Ethernet versions will be available in 2016.

Product description	Inputs	Outputs	Glossy black
<b>Expansions</b>			
em4 digital expansion E10R	6 digital inputs (configurable as analog 0-10 V or potentiometer)	4 digital outputs (2 relays 6 A and 2 relays 8 A)	88 982 113
em4 analog expansion E10A	6 digital inputs (configurable as analog 0-10 V / 4-20 mA)	4 outputs (2 static 0.5 A PWM and 2 analog 0-10 V)	88 982 213

	Product description	Part number
<b>Interfaces</b>	em4 USB interface black	88 980 110
	em4 interface RS485 Modbus slave black	88 980 120
<b>Accessories</b>	em4 Set of I/O simulator for bases	88 980 150
	Antenna 3 m standard	88 980 160
	Antenna 3 m int/ext flat	88 980 161
	Antenna 10 m ext	88 980 162
	USB cable 3 m B type	88 980 170
	em4 soft (USB key)	88 980 140
<b>Power supplies</b>	Modular power supply 24 V--- 7.5 W	88 950 303
	Modular power supply 24 V--- 15 W	88 950 304
	Modular power supply 24 V--- 30 W	88 950 307
	Modular power supply 24 V--- 60 W	88 950 302

Description	Key features	Part number
<b>Programmable touch panels</b>		
MTP6/50 user kit	- 4.3" color touch panel - Modbus RS232/RS485 serial port - USB port	88 970 492
MTP8/50 user kit	- 4.3" color touch panel - Modbus RS232/RS485 serial port - Ethernet TCP/IP port	88 970 494
Cable em4-MTP6/50 & MTP8/50	Need em4 interface RS485 Modbus (88 980 120/121)	88 980 171
MTP8/70 user kit	- 7" color touch panel - 2x Modbus RS232/RS485 serial port - USB port, Ethernet TCP/IP port	88 970 496
Cable em4-MTP8/70	Need em4 interface RS485 Modbus (88 980 120/121)	88 980 172
MTP6/50 - MTP8/70 programming kit (USB)	- USB - Mini USB cable - EB Software (CD)	88 970 501
MTP8/50 - MTP8/70 programming kit (Ethernet)	- Ethernet crossover cable - EB Software (CD)	88 970 502

# PERFECTLY MATCH ALL OF YOUR REQUIREMENTS

Crouzet Automation has identified six major applications for which Millenium 3 and em4 are particularly suitable:



## ACCESS CONTROL

Control opening and closing of doors. Allow or restrict access with automatic detection, on a timer, or on certain days/time.



## TEMPERATURES

Management of various parameters such as heating, cooling, fluid temperatures, operation, calendar-based function, frost protection mode, alarm management, etc.



## WATER TREATMENT

Managing circulation pumps, monitoring levels, temperature and conductivity of the water. Irrigation control based on temperature, humidity, and day/night cycle



## SMALL INDUSTRIAL MACHINES

Controlling the motor that unrolls the packing film. Controls cutting of the film after heat sealing and monitors the duration of the motor cycles. Controlling heat sealing times on blister packs, packaging bags, etc.



## SOLAR WATER HEATING

Automation of operation and heating regulation, remote management of the installation.



## LIGHTING

Managing flashing on illuminated signs



## AMERICAS

### CANADA

**InnoVista Sensors™**  
1461 Lawrence Drive  
Thousand Oaks, CA 91320  
USA  
Tel.: +1 (800) 677 5311  
Fax: +1 (800) 677 3865  
automationsales@crouzet.com

### MEXICO

**InnoVista Sensors™**  
Calzada Zavaleta 2505-C  
Santa Cruz Buenavista  
Puebla, 72150 - MEXICO  
Tel.: +52 (222) 409 7000  
mexico@crouzet.com

### USA

**InnoVista Sensors™**  
1461 Lawrence Drive  
Thousand Oaks, CA 91320  
USA  
Tel.: +1 (800) 677 5311  
Fax: +1 (800) 677 3865  
automationsales@crouzet.com

### COUNTRIES NOT LISTED

**InnoVista Sensors™**  
1461 Lawrence Drive  
Thousand Oaks, CA 91320  
USA  
Tel.: +1 (800) 677 5311  
Fax: +1 (800) 677 3865  
automationsales@crouzet.com

## EUROPE / MIDDLE EAST / AFRICA

### BELGIUM

**InnoVista Sensors™**  
Dieweg 3 B  
1180 Uccle - BELGIQUE  
Tel.: +32 (0) 2 462 07 30  
Fax: +32 (0) 2 461 00 23  
klientenservice@crouzet.com

### FRANCE

**InnoVista Sensors™**  
2 rue du Docteur Henri Abel,  
CS 60059  
26902 Valence Cedex 9  
FRANCE  
Tel.: +33 (0) 475 802 101  
Fax: +33 (0) 475 828 900  
relationclient@crouzet.com

### GERMANY / AUSTRIA

**InnoVista Sensors™**  
Otto-Hahn-Str. 3  
40721 Hilden  
DEUTSCHLAND  
Tel.: +49 (0) 2103/980-0  
Fax: +49 (0) 2103/980-222  
kundenservice@crouzet.com

### ITALY

**InnoVista Sensors™**  
Via Viganò De Vizzi, 93/95  
20092 Cinisello Balsamo (Mi)  
ITALIA  
Tel.: +39 (02) 66 599 211  
Fax: +39 (02) 66 599 218  
assistenzaclienti@crouzet.com

### SPAIN / PORTUGAL

**InnoVista Sensors™**  
C/Leó, 11-13 2ªª  
08911 Badalona - Barcelona  
ESPAÑA  
Tel.: +34 (93) 484 39 70  
Fax: +34 (93) 484 39 73  
atencionalcliente@crouzet.com

### SWITZERLAND

**InnoVista Sensors™**  
Gewerbepark - Postfach 56  
5506 Mägenwil - SCHWEIZ  
Tel.: +49 (0) 2103/980-0  
Fax: +49 (0) 2103/980-222  
kundenservice@crouzet.com

### THE NETHERLANDS

**InnoVista Sensors™**  
Industrieweg 17  
2382 NR Zoeterwoude  
NEDERLAND  
Tel.: +31 (0) 71-581 20 30  
Fax: +31 (0) 71-541 35 74  
klientenservice@crouzet.com

### COUNTRIES NOT LISTED

**InnoVista Sensors™**  
2 rue du Docteur Henri Abel,  
CS 60059  
26902 Valence Cedex 9  
FRANCE  
Tel.: +33 (0) 475 802 102  
Fax: +33 (0) 475 828 900  
customer.relation@crouzet.com

## ASIA / PACIFIC

### CHINA

**InnoVista Sensors™**  
11<sup>th</sup> floor, Chang Feng  
International Tower,  
89 Yunling Road (East),  
Putuo District,  
Shanghai 200 062 - CHINA  
Tel.: +86 (21) 8025 7166  
Fax: +86 (21) 6107 1771  
china@crouzet.com

### INDIA

**InnoVista Sensors™**  
4<sup>th</sup> floor, Trident Towers, #23 100  
Feet Ashoka Pillar Road,  
2nd Block, Jaynagar  
Bangalore 560 011 - INDIA  
Tel.: +91 (80) 4113 2204/05  
Fax: +91 (80) 4113 2206  
india@crouzet.com

### SOUTH KOREA

**InnoVista Sensors™**  
14F, Kbiz DMC Tower,  
189, Seongam-Ro, Mapo-Gu,  
Seoul 121-904  
SOUTH KOREA  
Tel.: +82 (2) 2629 8312  
Fax: +82 (2) 2630 9800  
korea@crouzet.com

### EAST ASIA PACIFIC

**InnoVista Sensors™**  
10/F, Wharf T&T Centre, Harbour  
City, 7 Canton Road, Tsim Sha Tsui,  
Kowloon, HONG KONG  
Tel.: +86 (21) 8025 7177  
Fax: +86 (21) 6107 1771  
eap@crouzet.com

[WWW.CROUZET-AUTOMATION.COM](http://WWW.CROUZET-AUTOMATION.COM)



[WWW.INNOVISTASENSORS.COM](http://WWW.INNOVISTASENSORS.COM)



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