CROUZET AUTOMATION
SELECTION GUIDE

CROUZET AUTOMATION

A BRAND OF **INNOVISTA SENSORS**
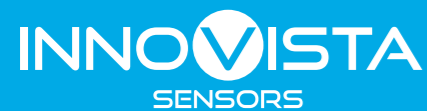
ABOUT
CROUZET AUTOMATION

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

Designs & Manufactures

| Sensors | Controls | Actuators |

For

| Aerospace & Defense | Transportation | Industry |

With commercial brands

CROUZET AEROSPACE   CROUZET AUTOMATION   CROUZET CONTROL

CROUZET MOTORS   CROUZET SWITCHES   SYSTRON DONNER INERTIAL

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.

NANO-PLC

em4 remote

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

em4 alert

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

em4 local

The em4 for stand alone use or local area network

Remotely manage your equipment and the application programs

Remotely display or control data values with an app/web platform

Receive and manage notifications when an event occurs in your application
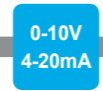
Periodically receive data log reports by email or FTP

Remotely display or control data values with SMS

Receive an SMS or an email when an event occurs in your application

Embedded configurable 0-10V/4-20mA accurate analog inputs

26 - 46 I/Os

0-10V 4-20mA

Powerful & up to 24 analog inputs included

Modbus RS485 slave option interface to connect a MTP touch panel

em4 soft
The most intuitive programming software on the market

em4 web

em4 app
The ultimate way to control and monitor your em4 from your smartphone

Provides a powerful application and device management

em4 remote
2G **3G** * **Ethernet** *

em4 alert
2G **3G** *

em4 local
Ethernet *

Application example

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.

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

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.

LOGIC CONTROLLER
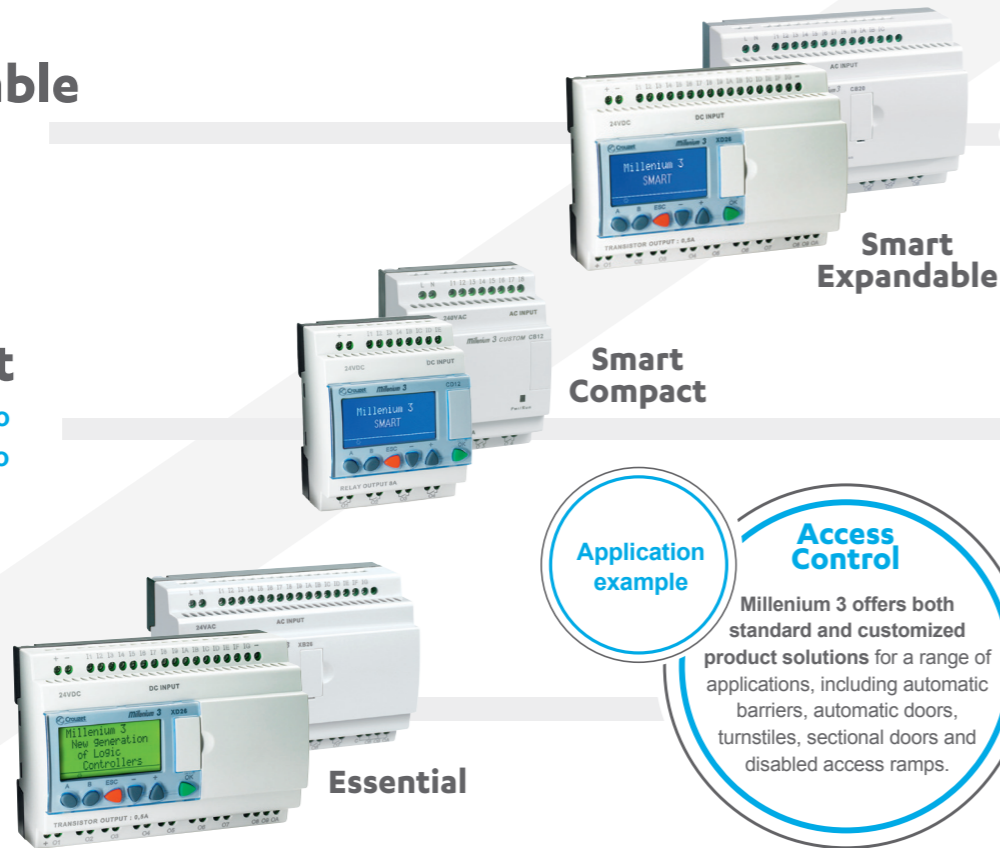
Smart Expandable

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

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

Digital expansions (up to 50 I/Os) & analog (0-10V, 4-20mA, Pt100)

50 I/Os 0-10V 4-20mA

Additional application specific functions (autotuning PID, astronomical clock, ...)

Modbus RTU and Modbus TCP/IP expansions

Direct connection of NTC temperature probes and LDR luminosity sensors

Enhanced visibility on the display with high contrast, blue back lit LCD screen

Extended temperature range (-20 °C to +70 °C)

Application example

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.

Powerful and cost effective

Bluetooth® connection accessory for all the range for applications that are complex in terms of access

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.

Millenium3 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⎓, 12 V⎓, 24 V∿ and 100 → 240 V∿ 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

Millenium3 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⎓, 12 V⎓, 24 V∿ and 100 → 240 V∿ 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

Millenium3 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⎓, 12 V⎓ versions
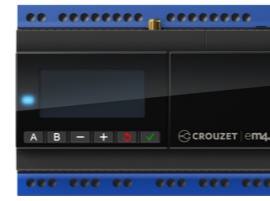
	Powerful and cost effective
50 I/Os	Digital expansions up to 50 I/Os
0-10V 4-20mA	Analog 0-10 V, 4-20 mA, Pt100 expansions
	Modbus RTU and Modbus TCP/IP expansions
	Simplified Bluetooth® connectivity

+ 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

2G 3G* **Ether net***

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

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

em4 toolbox
em4 soft **em4 web** **em4 app**

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

2G 3G*

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

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

em4 toolbox
em4 soft

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

Ether net*

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 *

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

em4 toolbox
em4 soft

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.

Millenium3

› 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⎓, Potentiometer, NTC, LDR (0-20 mA/Pt100 with converters)

em4

› 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
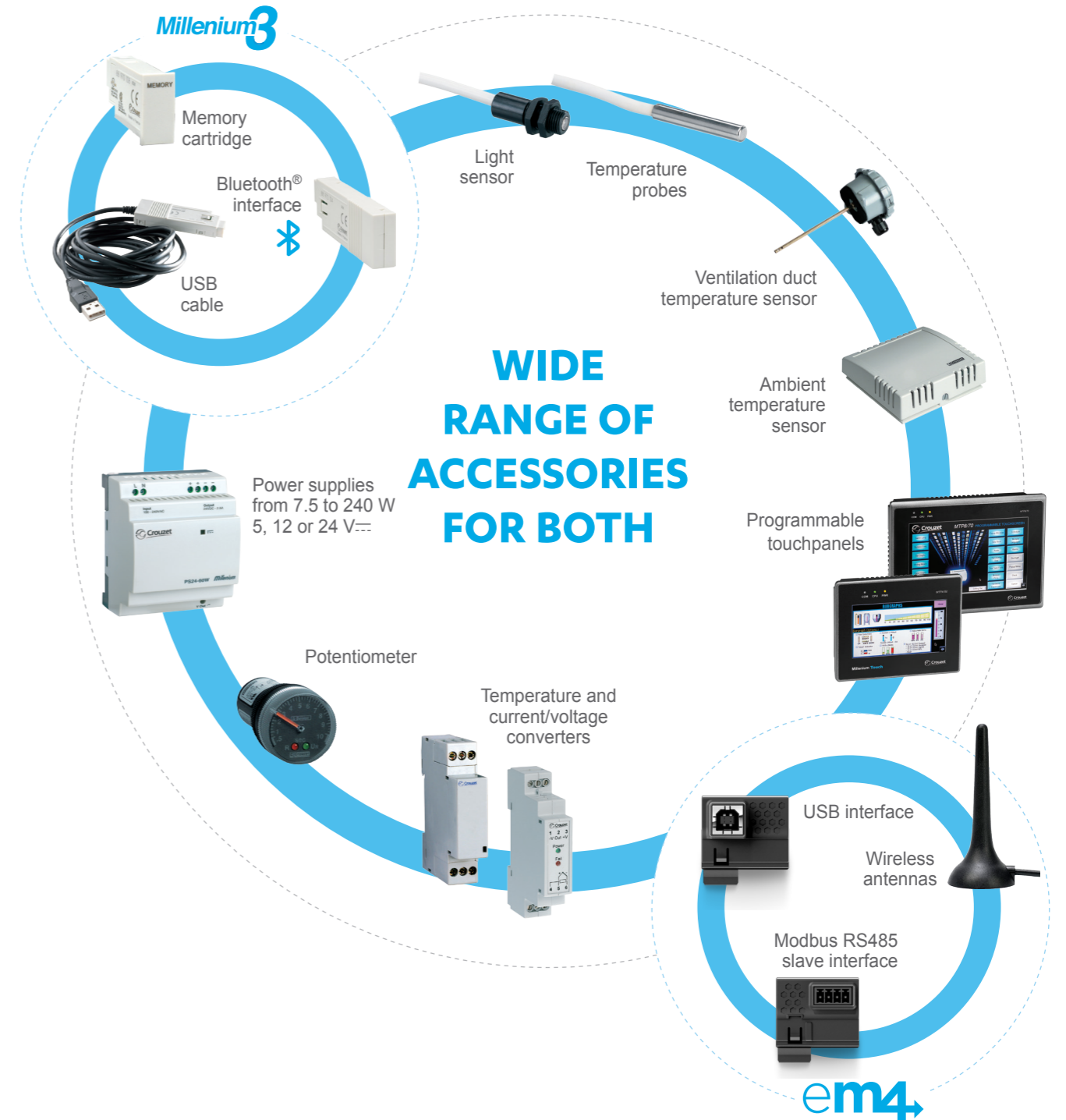
Smart Essential

Glossy black

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

Millenium3

WIDE RANGE OF ACCESSORIES FOR BOTH

Memory cartridge

Bluetooth® interface

USB cable

Light sensor

Temperature probes

Ventilation duct temperature sensor

Ambient temperature sensor

Programmable touchpanels

Power supplies from 7.5 to 240 W 5, 12 or 24 V⎓

Potentiometer

Temperature and current/voltage converters

USB interface

Wireless antennas

Modbus RS485 slave interface

em4

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 langages:
  - 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:

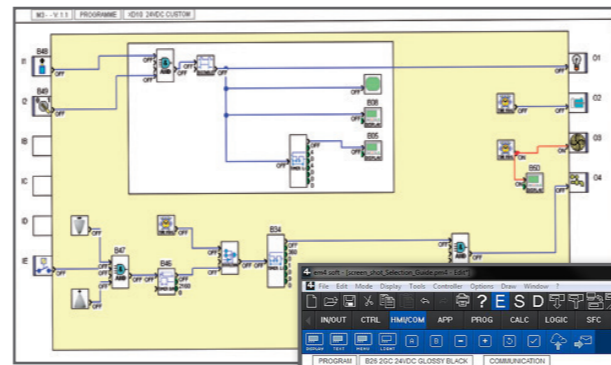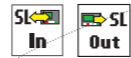**Download** M3 soft

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.

M3 soft
Function blocks

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

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)

PWM Output
Proportional output for easy valve control

M3 soft

Time Prog
Easily schedule time events based on calendar

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**.
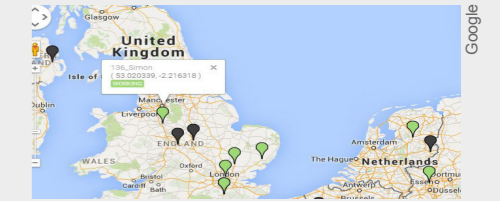
em4 soft
Function blocks

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

em4 soft

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

Sunset / Sunrise
Calculate the sunrise and sunset time

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.

Download on the App Store | ANDROID APP ON Google play

MAKE UP YOUR OWN SOLUTION

MILLENIUM 3 RANGE

Type		Part number	Supply	Inputs	Outputs	Availability/Compatibility			
						12 V⎓	24 V⎓	Solid State Output 0.5 A/PWM	Essential version **
M3 Smart kits									
	Kit 12 Smart*	88 974 080	24 V⎓	8 (4 configurable as analog)	4 relays 8 A				
	Kit 12 Smart*	88 974 081	100 → 240 V∿	8	4 relays 8 A				
	Kit 20 Smart*	88 974 082	24 V⎓	12 (6 configurable as analog)	8 relays 8 A				
	Kit 20 Smart*	88 974 083	100 → 240 V∿	12	8 relays 8 A				
	Kit 26 Smart*	88 974 084	24 V⎓	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A				
	Kit 26 Smart*	88 974 085	100 → 240 V∿	16	8 relays 8 A and 2 relays 5 A				
Compact versions									
With display	CD12 Smart*	88 974 041	24 V⎓	8 (4 configurable as analog)	4 relays 8 A	✔		✔	✔
	CD12 Smart*	88 974 043	100 → 240 V∿	8	4 relays 8 A		✔		
	CD20 Smart*	88 974 051	24 V⎓	12 (6 configurable as analog)	8 relays 8 A	✔		✔	✔
	CD20 Smart*	88 974 053	100 → 240 V∿	12	8 relays 8 A		✔		
Without display	CB12 Smart*	88 974 021	24 V⎓	8 (4 configurable as analog)	4 relays 8 A	✔			✔
	CB12 Smart*	88 974 023	100 → 240 V∿	8	4 relays 8 A		✔		
	CB20 Smart*	88 974 031	24 V⎓	12 (6 configurable as analog)	8 relays 8 A	✔			✔
	CB20 Smart*	88 974 033	100 → 240 V∿	12	8 relays 8 A		✔		
Expandable versions									
With display	XD10 Smart*	88 974 141	24 V⎓	6 (4 configurable as analog)	4 relays 8 A	✔		✔	✔
	XD10 Smart*	88 974 143	100 → 240 V∿	6	4 relays 8 A		✔		
	XD26 Smart*	88 974 161	24 V⎓	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A	✔		✔	✔
	XD26 Smart*	88 974 163	100 → 240 V∿	16	8 relays 8 A and 2 relays 5 A		✔		
Without display	XB10 Smart*	88 974 131	24 V⎓	6 (4 configurable as analog)	4 relays 8 A	✔		✔	✔
	XB10 Smart*	88 974 133	100 → 240 V∿	6	4 relays 8 A		✔		
	XB26 Smart*	88 974 151	24 V⎓	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A	✔		✔	✔
	XB26 Smart*	88 974 153	100 → 240 V∿	16	8 relays 8 A and 2 relays 5 A		✔		
With Removable Terminal Blocks									
	CD12 RBT Smart*	88 974 441	24 V⎓	8 (4 configurable as analog)	4 relays 8 A				
	XD26 RBT Smart*	88 974 561	24 V⎓	16 (6 configurable as analog)	8 relays 8 A and 2 relays 5 A				
Sandwich extensions									
Communication	XN05 Modbus TCP/IP	88 970 270	24 V⎓						
	XN06 Modbus RS485	88 972 250	24 V⎓						✔
	XN07 Master RS485	88 974 250	24 V⎓						
Digital	XE10	88 970 321	24 V⎓	6	4 relays 5 A				✔
	XE10	88 970 323	100 → 240 V∿	6	4 relays 5 A		✔		✔
Termination Extensions									
Digital	XR06	88 970 211	24 V⎓	4	2 relays 8 A	✔			✔
	XR06	88 970 213	100 → 240 V∿	4	2 relays 8 A		✔		✔
	XR10	88 970 221	24 V⎓	6	4 relays 8 A	✔			✔
	XR10	88 970 223	100 → 240 V∿	6	4 relays 8 A		✔		✔
	XR14	88 970 231	24 V⎓	8	4 relays 8 A and 2 relays 5 A	✔			✔
	XR14	88 970 233	100 → 240 V∿	8	4 relays 8 A and 2 relays 5 A		✔		✔
Analog	XA03 3xPt100	88 970 800	24 V⎓	3 analog (Pt100)					
	XA04 2AI/2AO	88 970 241	24 V⎓	2 analog 0-10 V/0-20 mA (1 Pt100)	2 analog 0-10V/PWM				✔
Bare board and resin board versions									
Bare board	NB12	88 970 001	24 V⎓	8 (4 configurable as analog)	4 relays 8 A	✔			
	NB12	88 970 003	100 → 240 V∿	8	4 relays 8 A				
	NB20	88 970 011	24 V⎓	12 (6 configurable as analog)	8 relays 8 A				
	NB20	88 970 013	100 → 240 V∿	12	8 relays 8 A				
Resin board	NBR12	88 973 001	24 V⎓	8 (4 configurable as analog)	4 relays 8 A	✔		✔	
	NBR26	88 973 061	24 V⎓	16 (6 configurable as analog)	10 relays 8 A	✔		✔	
	NBR32	88 973 211	24 V⎓	20 (6 configurable as analog)	12 relays 8 A	✔			
	NBR40	88 973 231	24 V⎓	24 (6 configurable as analog)	16 relays 8 A	✔			

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

**Millenium 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∿	24 V⎓	7.5 W	0.3 A
88 950 304	100 → 240 V∿	24 V⎓	15 W	0.6 A
88 950 307	100 → 240 V∿	24 V⎓	30 W	1.2 A
88 950 302	100 → 240 V∿	24 V⎓	60 W	2.5 A
88 950 305	100 → 240 V∿	5 V⎓	20 W	4 A
88 950 306	100 → 240 V∿	12 V⎓	24 W	2 A
88 950 320	9,2 → 18 V∿	12 V⎓	10 W	0.8 A
88 950 321	9,2 → 36 V∿	24 V⎓	6 → 10 W	0.4 A

Connection accessories, tools and programming software

Part number	Description
88 970 111	M3 Soft: Millenium 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 → Millenium 3
88 974 104	Millenium 3 → Bluetooth® interface (class A 10 m)
88 970 109	3 m USB link cable: PC → Millenium 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: Millenium 3 → DB9 M
88 974 106	Ready to use Millenium 3 Smart democase including: - a CD12 Smart, a CTN probe, a LDR probe, an I/O simulator - a 3 m USB link cable: PC → Millenium 3, a M3 Soft CD - a power supply 110-230 V∿

Millenium 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 Millenium 3 datasheets!

em4 RANGE

Product description		Connection type				Glossy black	Details
		📶	2G	3G	Ethernet		
Bases							Common characteristics:
	em4 remote 2G*		✔			88 981 153	- **Supply**: 24V
	em4 remote 3G*			✔		-	- **Inputs**: 16 digital inputs (including 4 high speed, 8 analog 0-10 V / potentiometers and 4 analog 0-10 V / 4-20 mA)
	em4 remote Ethernet*				✔	-	- **Outputs**: 10 digital outputs (including 2 static 0.5 A PWM, 2 relays 6 A and 6 relays 8 A)
	em4 alert 2G		✔			88 981 113	
	em4 alert 3G			✔		88 981 123**	
	em4 local	✔				88 981 103	
	em4 local Ethernet				✔	88 981 133**	
Starter kits							An em4 starter kit includes:
	Starter kit em4 remote 2G*		✔			88 981 156	- The em4 remote nano-PLC - The USB interface
	Starter kit em4 remote 3G*			✔		-	- The standard 3 m antenna - 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 USB interface
	Starter kit em4 alert 3G			✔		88 981 126**	- The standard 3 m antenna - 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

(Right column note: - The em4 soft (USB key))

Evaluation cases							The ready-to-use evaluation case includes:
	Evaluation case em4 remote 2G*		✔			88 980 185	- The starter kit (description above)
	Evaluation case em4 remote 3G*			✔		88 980 186**	- The power supply 110-230 Va with Europe and US adaptor
	Evaluation case em4 remote Ethernet*				✔	-	- The simulator PCB for the 16 Inputs with switches, potentiometers and terminals to connect your sensor for evaluation
	Evaluation case em4 alert 2G		✔			88 980 181	- 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 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
Expansions			
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
Interfaces	em4 USB interface black	88 980 110
	em4 interface RS485 Modbus slave black	88 980 120
Accessories	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
Power supplies	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
Programmable touch panels		
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

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