

# em4

**em4 alert,  
THE BEST NANO-PLC  
FOR COMMUNICATING VIA TEXT, EMAIL OR FTP**



# em4 alert, A MOUNTAIN OF OPPORTUNITIES...

The programmable logic controller which sends alerts via text messaging, stores data logs in .csv format (Excel) and sends them by email or FTP.

For complete access to your equipment:



## Start, stop, control

Monitor and control your application from your mobile phone or PC



## Event notifications

Receive events (alarms) by email or SMS



## Essential information

Save data (data log) from your installation and periodically receive a .csv file \*\* by email or FTP server\*



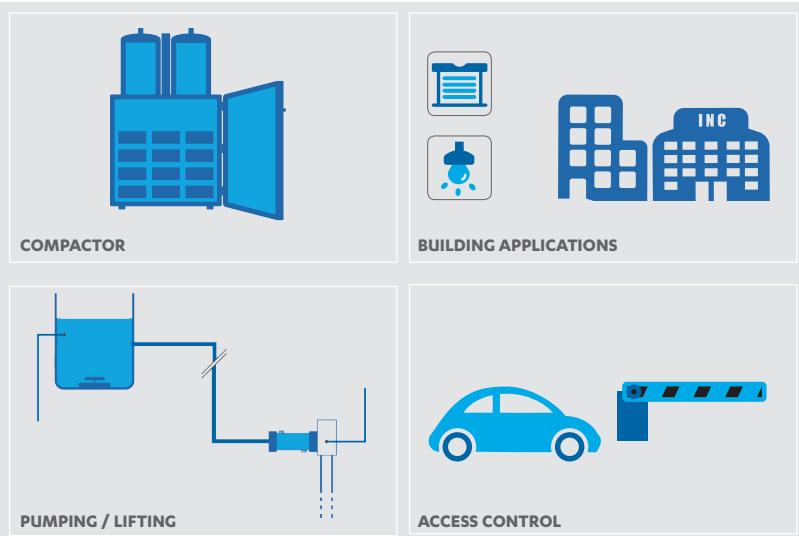
## Simplified process

Optimize your machine's process by remotely modifying its program via an FTP server\*

Whether you are an **installer, electrician, integrator, manufacturer of small machines** or you work in a **design office or local authority**, em4 alert is perfectly suited to your needs.



**Crouzet Automation has identified four application examples where em4 alert is particularly appropriate.**



\* The FTP (File Transfer Protocol) server transfers files via the Internet or a local computer network (intranet). Any person with the appropriate permission can upload and send files to a remote computer running such a server.

\*\* Text file which can be manipulated in an Excel spreadsheet.

**The most intelligent and easiest solution for remotely managing your installations**

- › Easier to learn and use
- › More efficient maintenance
- › Reduced transport costs
- › Reduced operating costs
- › Better energy management
- › Easier data archiving
- › Accurate measurements from your industrial sensors
- › No training costs to consider

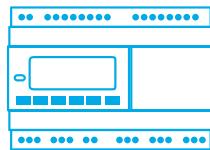


Watch the em4 alert videos

## THE em4 alert RANGE



### em4 alert



**Small programmable logic controller which alerts you by text message or email**

- › Programming the application and communication functions, using unique software, em4 soft
- › Secure solution, only identified users can interact with it
- › Data logging via email or FTP
- › Directory updated remotely
- › Programs downloaded remotely via an FTP server



### Remote monitoring of an installation by SMS or email

- › The installation sends an alert if an event occurs
- › Sends data logs
- › Machines can exchange messages with each other

## em4 tool box

### em4 soft



#### Event management by text message or email

Receive a text message or email, as soon as an event occurs in your application



#### Data report via text message, data log via email or FTP

Receive periodic reports by text message or email and .csv files via email or FTP



#### Simple monitoring and control via text messaging

Display and check the data values from your application via text messaging



#### Communication between logic controllers via text messaging

Data exchange between logic controllers via text messaging



#### Remote directory management

Remotely manage telephone numbers and email addresses via text messaging

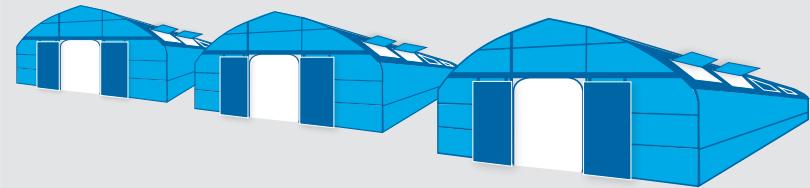


#### Remotely update the application program

Remotely update your application program via FTP server and SMS commands

# DEDICATED APPLICATIONS

- ▶ Example:  
greenhouse  
management



## Optimize your installations with **em4.alert**

### Your needs



You want to measure the **temperature, hygrometry, light intensity** or even the wind speed?



You want to control **heating, irrigation and window opening remotely**, carry out daily dosing?



You want to be sure that **you have stored the daily history** for this information? You want **early warning** of any deviation from these values?



You want to **detect any intrusion** on your premises?



You have **several installations** and you want to **remotely control them all at the same time** (weather alerts)

You want to minimize the cost of your installation (example: one anemometer to cover several greenhouses)?

You want to **manage changes and optimize the operation** of your greenhouses?



### the solution

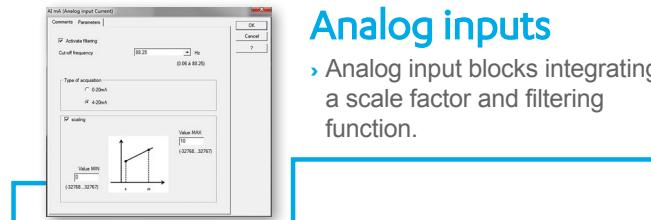
- ▶ **4-20mA, 0-10V analog inputs**, temperature measurement via NTC and light levels by LDR with no need for a converter, quick effective inputs (60 kHz).
- ▶ **Interrogations and modifications to parameters by text messaging** (temperature set-point, etc.). Send commands via text message (heating on/off). Intuitive functional blocks for time management and time slots (timer, calendar). Accurate regulation by self-adapting PID controller.
- ▶ **Data logging once a day** a .csv format file (Excel) via email or FTP.
- ▶ **Alarm notifications by text message or email**
- ▶ **Control via text messaging** (closing the windows in several greenhouses).
- ▶ **Information exchanges between products by text message** (wind speed).
- ▶ **Feature allowing the installer/electrician to change the application program remotely.**

# em4 soft, THE MOST INTUITIVE ON THE MARKET

4

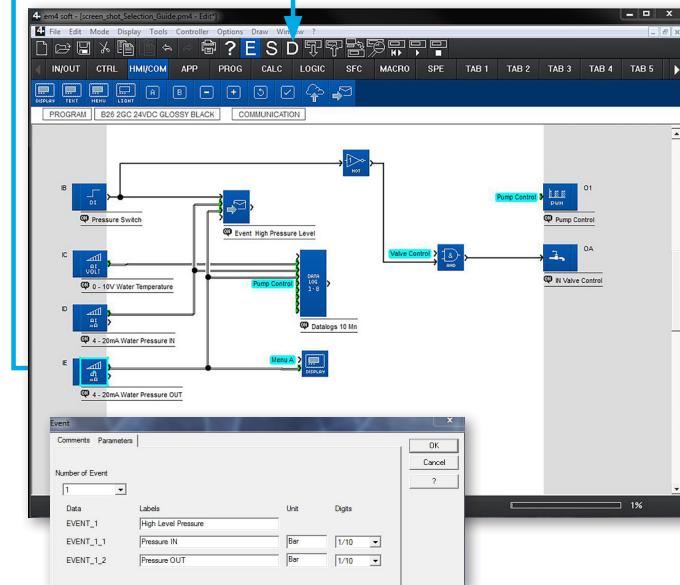
The most intuitive, free programming software on the market, em4 soft, includes all remote management functions in a single tool.

› **Saves time when designing your application** and remote functions by using a graphical programming language.



## Analog inputs

› Analog input blocks integrating a scale factor and filtering function.

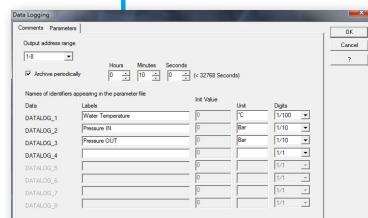


## Easy integration

› **Editing, Simulation and Debug modes** allow you to set up and configure your application program.

## Data log

› Up to three functional blocks allow the history of 24 values to be saved by sending a .csv file by email or FTP.

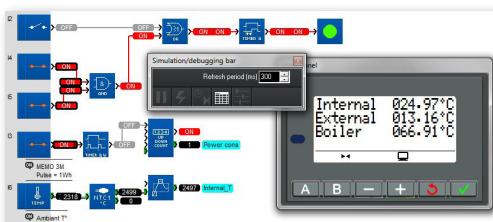


## Monitoring and control

› Functional monitoring blocks for remotely changing or reading values in the application program.

## Mode Simulation and Debugging

› Optimized mode simulation  
› Colors make active signals clearly visible



## Event management

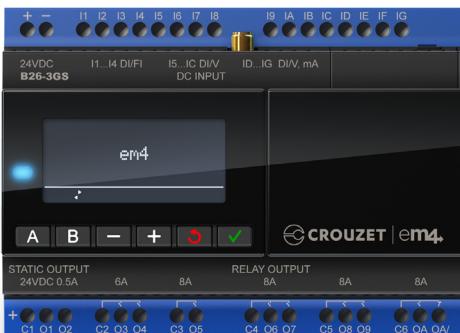
› Up to 24 functional "Event" blocks for sending customizable alert messages which can be understood by recipients or interpreted by your remote management application.

Download em4  
soft free of  
charge.



# em4 alert TECHNICAL DATA

## em4 alert nano-PLC



### em4 base - Inputs

No.	Main features
4	24 V DC on/off inputs
4	Quick encoder inputs (20kHz or 40kHz), counter (60kHz), tachometer, timer, time interval meter
8	24 V DC on/off inputs
8	12-bit analog inputs (Potent. or 0-28.8V ±2%) for NTC, LDR 10-bit analog inputs -10V ±1.1%)
4	24 V DC on/off inputs
4	12-bit analog inputs (0-10V ±0.8%) 11-bit analog inputs (0-20mA / 4-20mA ±1.2%)

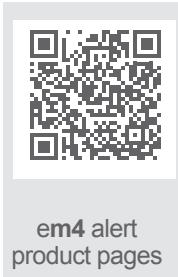
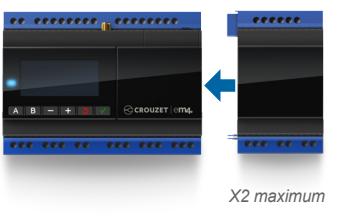
Accuracy of analog inputs at 25°C

### em4 extensions

#### E10A analog extension

No.	Principal features
6	24 V DC on/off inputs
6	12-bit analog inputs (0-10V ±0.8%) 11-bit analog inputs (0-20 / 4-20mA ±1.2%)
2	24 V DC 0.5A static outputs
2	24 V DC PWM analog outputs (0-10V or 4-20mA outputs with external converter)
2	10-bit 0-10V analog outputs (±1%)

Accuracy of analog inputs and outputs at 25°C



em4 alert  
product pages

# 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™.

[www.crouzet-automation.com](http://www.crouzet-automation.com)

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### em4 base - General data

	Main features
Power supply	24 V DC (-15% / +20%) 4W-6.5W
Operating temperature	-20°C to 60°C
MMI	4 lines of 18 characters (black and white) 6-button keypad
Programming	FBD (including SFC) Large capacity memory ~1000 functional blocks
Clock	Backed up by a recyclable internal battery with a 10-year lifespan
Connections	Mobile or Ethernet network
Optional interfaces	USB, RS485 slave Modbus
Protection	IP20 on I/O terminals IP40 on the Glossy front panel IP50 on the Robust front panel
Certification	CE, cULus listed

### em4 base - Outputs

No.	Main features
2	Static 24 V DC 0.5A digital outputs 10 bit PWM 24 V DC analog outputs (0-10V or 4-20mA with an external converter)
2	250 V AC / 6A relay outputs
6	250 V AC / 8A relay outputs One with NO/NC contact

### E10R digital extension

No.	Main features
6	24 V DC on/off inputs 12-bit analog inputs (Potent. or 0-28.8V ±2%) for digital time converter, LDR 10-bit analog inputs (0-10V ±1.1%)
2	250 V AC relay outputs / 6A digital outputs
2	250 V AC relay outputs / 8A digital outputs

Accuracy of analog inputs at 25°C

### em4 References

	Description	Reference
Glossy Black	em4 alert 2G	88 981 113
	em4 alert 3G	88 981 123
	Starter kit em4 alert 2G	88 981 116
	Starter kit em4 alert 3G	88 981 126
	em4 digital expansion E10R	88 982 113
	em4 analog expansion E10A	88 982 213
Antenna 3 m standard	88 980 160	
em4 USB interface black	88 980 110	