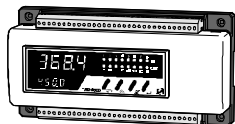


# DAS-8000

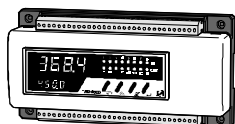


## Data Acquisition System

Version 2.5

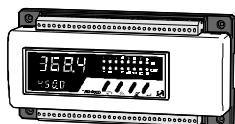


**DAS-8000**



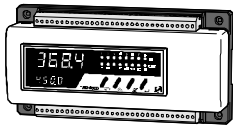
## CONTENTS

<b>CONTENTS.....</b>	<b>3</b>
<b>USER'S FRIENDLY DATA LOGGER.....</b>	<b>5</b>
<b>A COMPLETE DATA ACQUISITION SYSTEM.....</b>	<b>5</b>
<b>DAS-8000 MAIN FEATURES .....</b>	<b>6</b>
<b>NEW CAPABILITIES IN VERSION 2.5.....</b>	<b>6</b>
<b>ANALOG INPUTS .....</b>	<b>7</b>
<b>DIGITAL INPUTS .....</b>	<b>7</b>
<b>DIGITAL OUTPUTS .....</b>	<b>7</b>
<b>DAS-8000 COUNTER FUNCTION.....</b>	<b>8</b>
EXAMPLE: .....	8
<b>ALARM ACKNOWLEDGEMENT .....</b>	<b>8</b>
DIAGRAM OF ALARM ACKNOWLEDGEMENT .....	8
<b>THERMOCOUPLE LINEARIZATION .....</b>	<b>9</b>
<b>CHARACTERIZATION TABLE.....</b>	<b>9</b>
<b>FUNCTIONS OF THE MODULAR SYSTEM DAS-8000.....</b>	<b>10</b>
OPERATING FUNCTIONS.....	10
DIGITAL INPUTS FUNCTIONS.....	10
PRINTING FUNCTIONS.....	10
CHECK TEST FUNCTIONS.....	10
CONFIGURATION FUNCTIONS OF DAS-8000 SYSTEM .....	10
CONFIGURATION OF ALARM LOOPS.....	10
CONFIGURATION OF ANALOG CHANNELS FUNCTIONS.....	11
CONFIGURATION OF DIGITAL OUTPUTS.....	11
CONFIGURATION OF COMMUNICATIONS.....	11
CONFIGURATION OF THE COUNTERS.....	11
CONFIGURATION OF LOCAL PRINTING FUNCTION.....	11
CONFIGURATION OF PASSWORD ACCESS.....	11
CALIBRATION OF ANALOG CHANNELS.....	11
<b>SECURITY SYSTEM .....</b>	<b>12</b>
<b>DAS-8000 DIGITAL COMMUNICATION.....</b>	<b>13</b>
A) DIGITAL COMMUNICATION USING RS-232.....	13
B) DIGITAL COMMUNICATION USING RS-485 .....	13
C) DAS-8000 IN NET-WORK.....	13
D) DIRECT CONNECTION TO PRINTER VIA RS-232 .....	13
E) RS-485 DIGITAL COMMUNICATION WITH PLC'S.....	13
<b>CONFIGURATION MODES .....</b>	<b>14</b>
REMOTE MODE: .....	14
LOCAL MODE: .....	14
<b>ASSEMBLY WAYS.....</b>	<b>14</b>
<b>MINIMUM REQUIREMENTS OF THE COMPUTER .....</b>	<b>15</b>
<b>PROASIS® DAS-WIN SOFTWARE CHARACTERISTICS.....</b>	<b>15</b>
<b>CONFIGURATION THROUGH COMPUTER .....</b>	<b>16</b>
<b>HISTORIC CONFIGURATION .....</b>	<b>17</b>



# DAS-8000

<b>REAL TIME INFORMATION.....</b>	<b>17</b>
<b>BASIC INFORMATION OF A DAS-8000 .....</b>	<b>18</b>
<b>ALARMS STATUS .....</b>	<b>18</b>
<b>SYNOPTICS OF PROCESS.....</b>	<b>19</b>
<b>HISTORIC ANALYSIS .....</b>	<b>19</b>
<b>HISTORIC LISTING.....</b>	<b>19</b>
<b>DAS-8000 APPLICATIONS: .....</b>	<b>20</b>
<b>APPLICATIONS.....</b>	<b>20</b>
HOTELS AND INTELLIGENT BUILDINGS .....	21
CONTROL AND SUPERVISION OF FLOOR PLANTS.....	21
TANK SUPERVISION .....	21
<b>TYPICAL ARCHITECTURES .....</b>	<b>22</b>
ONE DAS-8000 DATA-LOGGER WITH DISPLAY AND PRINTER.....	22
DATA-LOGGER MULTIPOINT AND PRINTER .....	22
DATA ACQUISITION CARD FOR PLC .....	22
DATA ACQUISITION SYSTEM .....	22
<b>TECHNICAL SPECIFICATIONS .....</b>	<b>23</b>
<b>COMMERCIAL PRESENTATION.....</b>	<b>24</b>
<b>EVALUATION KIT DAS-8000 .....</b>	<b>24</b>



# DAS-8000

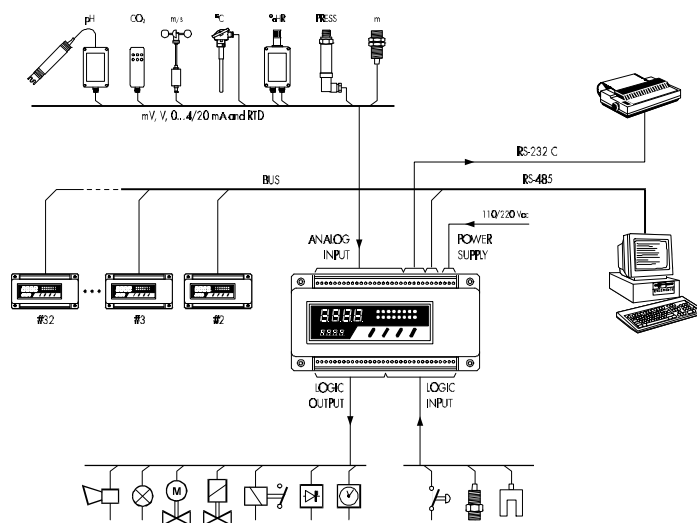
## USER'S FRIENDLY DATA LOGGER

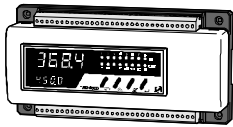
### What Would you request from a Data Acquisition System?

- ✓ **To be easy to configure and use (No specialist is needed).**  
Most of the equipments of the market are very complex, when the in the 80% of the applications, only Data Acquisition and surveillance are needed.
- ✓ **Flexibility (No limits are imposed).**  
In general, PLC's and Data Acquisition Systems can only grow adding a number of cards until a limit after this points a new system is needed.
- ✓ **Good Price (True low cost for analog channel for digital channel).**  
In any Data Acquisition equipment (PLC's, Recorders, etc.) the cost / channel is around 2 times the cost in DAS-8000.

## A COMPLETE DATA ACQUISITION SYSTEM

- One of the main characteristics of this new equipment is: easy to use in any process by persons with a minimum experience in instrumentation.
- It allows to configure and define ranges for Pt-100, mV, and/or 4-20 mA inputs, with local indication and digital communications with a PC.
- Capability to print numerical data without being connected to a PC. In a net of 32 units, one of the DAS-8000 is used as a "Master" to print data from any other unit connected in the net.
- **PROASIS® DAS-Win** man machine software, running under Windows, allows to manage and configure all the units of a net of DAS-8000, as well as, historical records, alarms, graphics, etc.





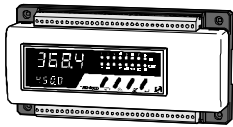
# DAS-8000

## DAS-8000 MAIN FEATURES

- Stand alone function mode or with **PROASIS®DAS-Win** Software package (included).
- Local configuration using the Front panel terminal or through **PROASIS®DAS-Win**.
- 8 Analog Inputs with 2 built-in digital filters.
- 8 Digital Inputs.
- 8 Digital Outputs. Isolation: 1500 V.
- 8 Configurable Alarm loops.
- Independent and configurable Acknowledge Alarm.
- 2 Counters through 2 Digital Inputs are available. Reset, Preset and Inhibit functions included.
- Remote control of Digital Actuators.
- Analog Inputs configurable for: RTD Pt-100, mV., 0..4/20mA. Linearize 4/20 mA analog inputs corresponding to Thermocouples E, J, K, T, S, R, B and N.
- 16 points Characterization table.
- Unit selection: °C or °F.
- A/D converter resolution: 40.000 Points.
- Display Process variable, Channel No. and Alarms.
- Digital communication selectable: RS-232 or RS-485.
- Operates in Stand alone mode or in a net with up to 255 units.
- 2-Wire RS-485 digital communication MOD-BUS protocol RTU binary mode.
- Direct printing of analog measurements via RS-232.
- Direct printing of Alarms via RS-232.
- DIN rail mounting, Front/ Rear panel mounting or on Wall mounting.
- CE marked.
- Advanced Watch-Dog security system.

## NEW CAPABILITIES IN VERSION 2.5

- Distance between display and main board up to 2 meters through flat extension cable.
- A new type of configurable Alarm: Inverted Window.
- Alarms with delayed action, (configurable delay in time when connecting)



# DAS-8000

## ANALOG INPUTS

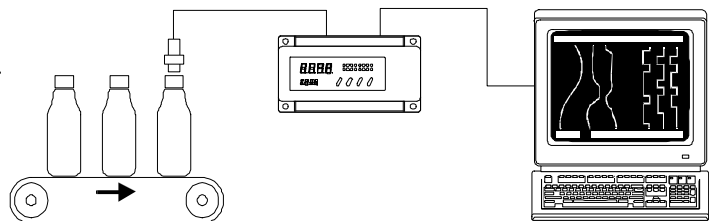
- DAS-8000 Modules allows 8 analog inputs configurables: Pt-100, mV., V, 0..4-20 mA.
- Linearize 4/20mA analog inputs corresponding to Thermocouples E, J, K, T, S, R, B and N.
- High resolution A/D converter (15 bits) with 2 types of adjustable digital filters.

## DIGITAL INPUTS

8 Opto-isolated digital inputs are available in the DAS-8000 Module. Input voltage between 12 and 48 Volts (DC or AC).

The digital inputs can be used as:

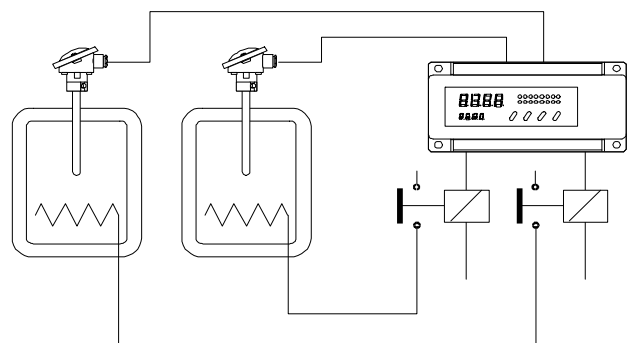
- Alarm inhibit for temporal deactivation of the activated digital outputs.
- To register an supervise digital signals, Alarm events, contactors, pulses, relays, proximity detectors etc...

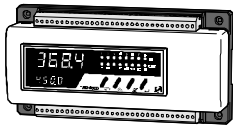


## DIGITAL OUTPUTS

The DAS-8000 Module is supplied with 8 Opto-isolated digital outputs capable to shift external voltage of up to 48Vdc (max). It can be used as:

- **Alarm Action:**  
Used as an output for the alarm threshold or as Setpoint output for On/Off control mode corresponding to analog input channels.
- **Remote Action:**  
Remote output control by digital communication link.

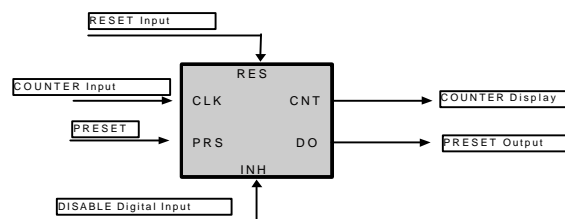




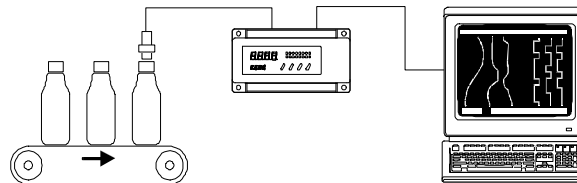
# DAS-8000

## DAS-8000 COUNTER FUNCTION

- **Two Counters are available.**
- Counting through Digital Input channel.
- Maximum counting frequency: 40 Hz.
- RESET by keyboard or digital input.
- INHIBIT by keyboard or digital input.
- Counter PRESET.
- The Counting Setpoint or Preset configurable by keyboard or by **PROASIS®DAS-Win.**
- Configurable PRESET Digital Output.



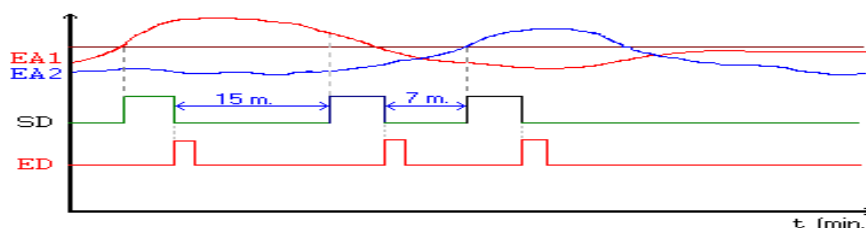
### Example:



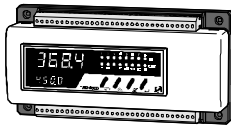
## ALARM ACKNOWLEDGEMENT

- Special alarms added to those already existed.
- All activated alarms are acknowledged by the same digital input.
- All alarms activate the same “ horn “.
- 15 minutes Acknowledgement timing.
- Alarm acknowledgement by keyboard or logic input.

### Diagram of Alarm Acknowledgement



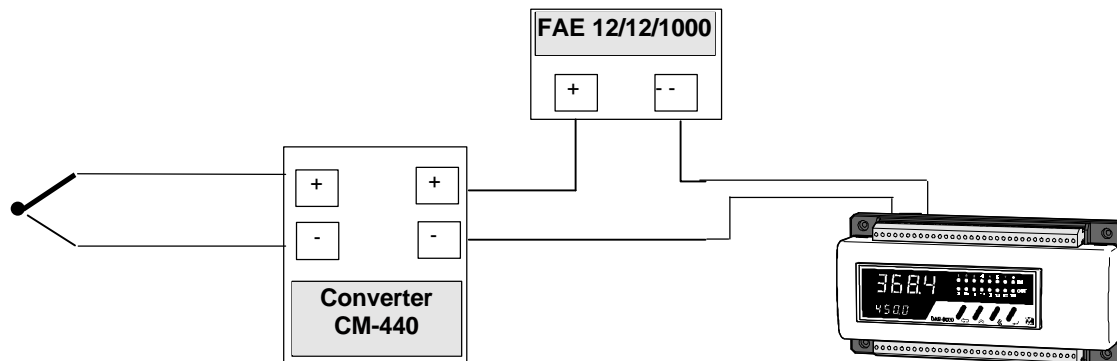




# DAS-8000

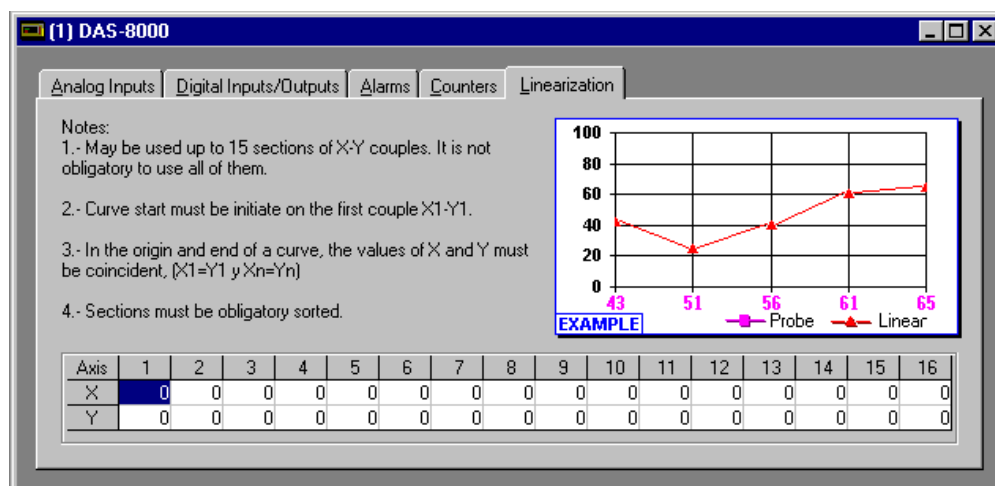
## THERMOCOUPLE LINEARIZATION

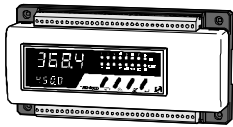
- DAS-8000 Module linearize 4/20mA analog signals corresponding to thermocouples, received from non-linearized transmitters (Ex. PM-311, CM-440, CM-40, etc.).
- Linearize the curves of the most common thermocouples ( E, J, K, T, S, R, B and N ).



## CHARACTERIZATION TABLE

- ✓ 16-point freely programmable characterization table, used to linearize non-linear processes.
- ✓ 15 segments defined with 16 points X-Y.
- ✓ Configurable by communication link.





# DAS-8000

## FUNCTIONS OF THE MODULAR SYSTEM DAS-8000

The DAS-8000 is designed to be used in, most applications where a monitoring and supervising is needed, by no experienced staff.

### OPERATINGS FUNCTIONS.

- ✓ Manual Monitoring of any module connected in the net.
- ✓ Automating Monitoring of any module connected in the net.
- ✓ Monitoring of Alarm loops.
- ✓ Enabling and modifying Alarm parameters.
- ✓ Alarm threshold and hysteresis.
- ✓ Monitoring of Counters.
- ✓ Counting Preset.

### DIGITAL INPUTS FUNCTIONS.

- ✓ Alarms Acknowledgment.
- ✓ Alarm Inhibition.
- ✓ Counter Reset.
- ✓ Counter Inhibition.

### PRINTING FUNCTIONS.

- ✓ Automatic measurement printing of any module of the net.
- ✓ Manual measurement printing of the module.
- ✓ Remote measurement printing of the module.
- ✓ Alarm Status printing.

### CHECK TEST FUNCTIONS.

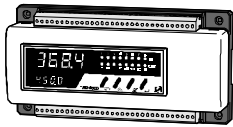
- ✓ Display Check (leds and segments).
- ✓ Communication Test.
- ✓ Monitoring of DAS-8000 version when turn-on.

### CONFIGURATION FUNCTIONS OF DAS-8000 SYSTEM

The configuration of the DAS-8000 is really easy, supported by the “help” messages and protected by means of a “PassWord”.

#### CONFIGURATION OF ALARM LOOPS.

- ✓ Assignment of alarm loop related to analog input and digital output.
- ✓ Inhibition Digital Input assignment.
- ✓ Alarm type selection, (Minimum, Maximum, Window).
- ✓ Alarm Acknowledgment enabling.
- ✓ Acknowledgment Digital INPUT and OUTPUT assignment.



# DAS-8000

## CONFIGURATION OF ANALOG CHANNELS FUNCTIONS.

- ✓ Input type, (Pt-100, 0-20 mA, 4-20 mA)
- ✓ Linearization of 4/20 mA analog input corresponding to Thermocouples E, J, K, T, S, R, B and 16 pairs of User Characterization Curve.
- ✓ Temperature Unit Selection, (Degrees Celsius or Degrees Fahrenheit).
- ✓ Enabling “Peak” Filter and selection of “Mean” filter value.
- ✓ Number of decimals.
- ✓ Range Assignment for linear analog signals.
- ✓ Offset of indication
- ✓ Range limits enabling.

## CONFIGURATION OF DIGITAL OUTPUTS.

- ✓ Type of digital Output: “local” or Alarm and “Remote Action”.
- ✓ Security Status.
- ✓ Communication Security, (Watch-Dog).
- ✓ Self-Test.
- ✓ Digital Output Inversion.

## CONFIGURATION OF COMMUNICATIONS.

- ✓ Module Address: from 1 up 255 addresses.
- ✓ Communications Rate, (9600, 19200 or 38400 bauds).
- ✓ Master/Slave status assignment.

## CONFIGURATION OF THE COUNTERS.

- ✓ Counter Enable.
- ✓ Assignment of Reset function to Digital Input.
- ✓ Assignment of Inhibit function to Digital Input.
- ✓ Assignment of Preset Output to correspondent Digital output.

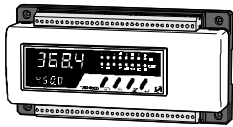
## CONFIGURATION OF LOCAL PRINTING FUNCTION.

- ✓ Configuration of printing period.
- ✓ Selection of DAS-8000 unit to print.
- ✓ Configuration of communication parameters.
- ✓ Remote printing through a prestablished digital input.
- ✓ Enabling alarm printing.

## CONFIGURATION OF PASSWORD ACCESS.

## CALIBRATION OF ANALOG CHANNELS.

- ✓ Offset.
- ✓ Recovering original Calibration set at factory.

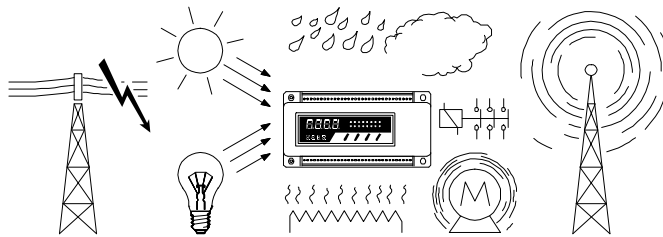


# DAS-8000

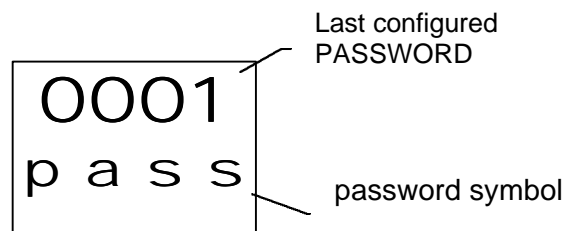
## SECURITY SYSTEM

The DAS-8000 system, Hardware & Software, is designed with high level of protection.

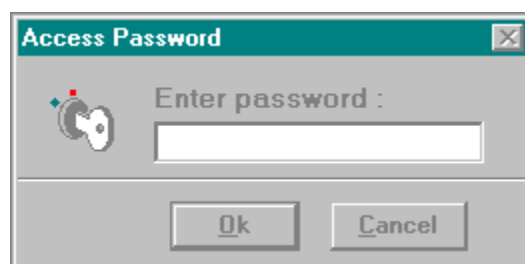
- ✓ WATCH-DOG electronic security circuit, detect any irregularity in the normal function of the microprocessor caused by electrical parasites, reestablishing the normal condition immediately.

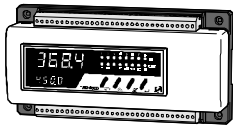


- ✓ The digital communication is protected by a “Software” WATCH-DOG, which activate a logic output if in 30 seconds no transmission is done.
- ✓ Security STATUS. Is a value assigned to activate a logic output en case of an analog input failure.
- ✓ **PASSWORD** is needed to accede to Configuration menu of the DAS-8000.



- ✓ **PASSWORD** is needed to modify the configuration of the system as well as to exit from the program **PROASIS ® DAS-Win**.



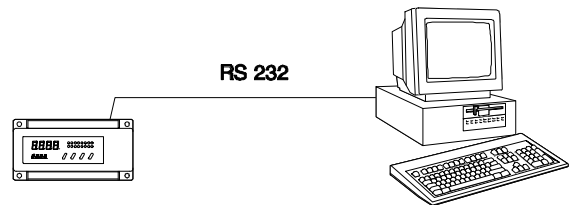


# DAS-8000

## DAS-8000 DIGITAL COMMUNICATION

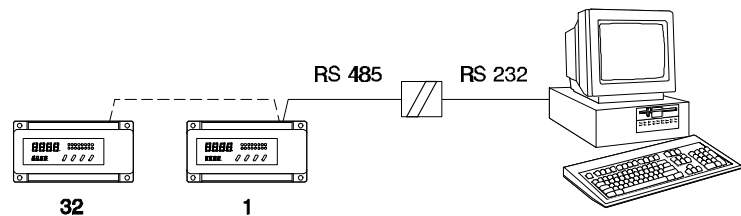
### A) Digital communication using RS-232

- The DAS-8000 is supplied with RS-232C channel to communicate with a PC, when only one unit is used. Point-to-Point connection.



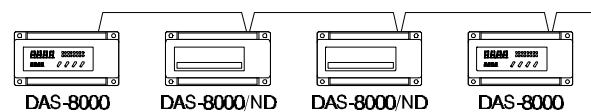
### B) Digital communication using RS-485

- Used to link more than one DAS-8000 to a PC, in MOD-BUS protocol and baud rate configurable:
- 9600, 19200 or 38400 bauds.



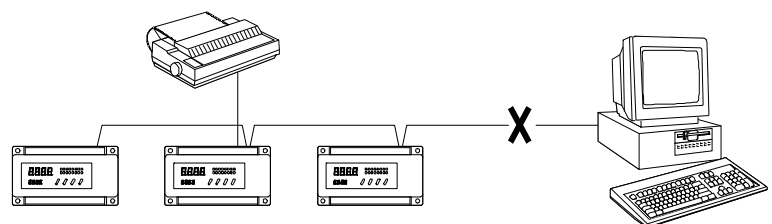
### C) DAS-8000 in network

- Each RS-485 bus allows the connection of 32 units, a network of up to 255 DAS-8000 units can be addressed.
- Allows to display as well as to modify parameters from the Master unit.



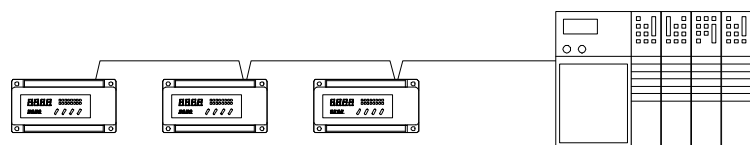
### D) Direct connection to printer via RS-232

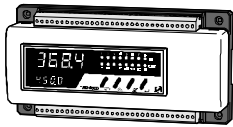
- DAS-8000 is supplied with another RS-232 channel for direct printing. No PC is needed.



### E) RS-485 Digital communication with PLC's

- DAS-8000 modules can be used as an Input/ Output card for PLC's.





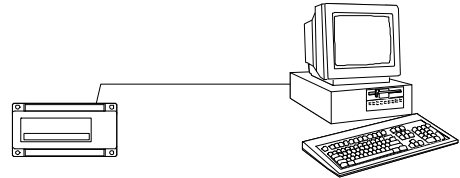
# DAS-8000

## CONFIGURATION MODES

There are two ways to configure a DAS-8000.

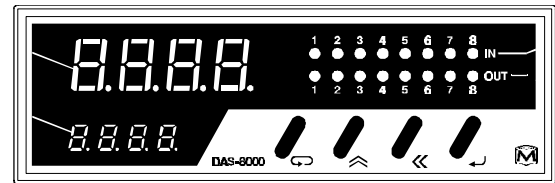
### Remote mode:

Using a PC and the **PROASIS® DAS-Win** software through RS-232 RS-485 digital communication link.



### Local mode:

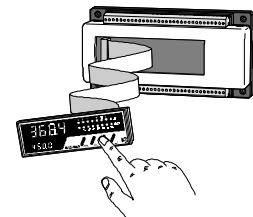
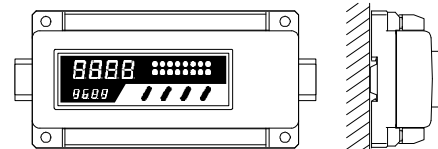
The multifunction front panel keyboard is used to display the process variables and allows the general configuration of all the parameters involved in the process.



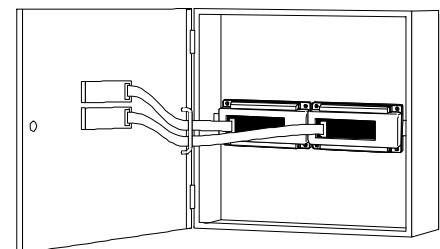
## ASSEMBLY WAYS

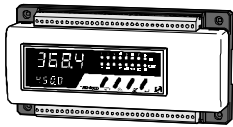
The DAS-8000 is designed to be mounted in different ways:

- ✓ Rear panel DIN rail mounting.
- ✓ Standard electric mounting panel.
- ✓ On wall direct mounting..
- ✓ On desk-top in laboratory applications.



- ✓ Using the Multifunction terminal in mounting panel  
The detachable front panel terminal of the DAS-8000 allows to separate it from the main body, so that it can be mounted on the front door of a mounting panel, where the main body remains in the rear panel.





# DAS-8000

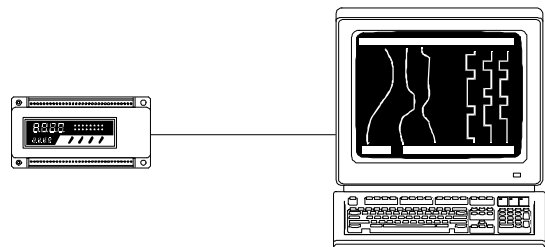
## MINIMUM REQUIREMENTS OF THE COMPUTER

**PROASIS® DAS-Win** is designed to communicate with the **DAS-8000** modules. As for the data processing system, it needs an IBM-compatible PC computer running under Windows with the following minimum requirements:

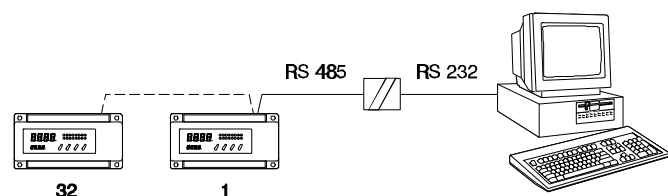
- IBM-PC or Compatible, PENTIUM or Higher.
- WINDOWS 95, 98 or NT.
- 32 Mb RAM, (we recommend 64 or more).
- SVGA video mode or better superior, (we recommend 1024x768 pixels with 65.536 colors).
- Hard disk with space for the creation of historical files, (recommend a minimum of 1 Gbyte).
- Mouse or Pointer device.
- One RS-232 serial port, - two if the mouse is connected to one of them.
- 1 Parallel Port LPT1.

## PROASIS® DAS-WIN SOFTWARE CHARACTERISTICS

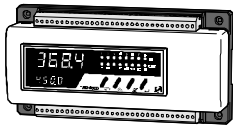
- **PROASIS® DAS-Win** is a complete MMI / SCADA package that allows to display and manage signals in any industrial process.



- Allows to manage a net of up to 255 DAS-8000 Modules connected in RS-485 MOD-BUS.  
No need to local configuration unit by unit.



- **PROASIS® DAS-Win** can be modified to fulfil the requirements of the customer.



# DAS-8000

## CONFIGURATION THROUGH COMPUTER

Easy and quick modification of the EPROM of each one of the modules DAS-8000, so much at level of analogic and digital channels, as of alarms and counters.

**(1) DAS-8000 - Analog Inputs**

Degrees in: ☒ Celsius ☐ Fahrenheit

Channel	Tag	Input type	Lo-range	Hi-range	Peaks F./Overflow	Average Filter	No. of Decimals	Offset	P.V.	Unit
1	Temp. in Room 1	0-20 mA	-15.00	99.00	No/No	2	2	0.00	7.52	Degree
2	Temp. in Room 2	0-20 mA	-15.00	99.00	No/No	2	2	0.00	6.19	Degree
3	Temp. in Room 3	0-20 mA	-150.0	600.0	No/No	2	1	0.0	23.4	Degree
4	External Temp.	0-20 mA	-150.0	600.0	No/No	2	1	0.0	18.0	Degree
5	HR in Room 1	4-20 mA	0.00	99.00	No/No	2	2	0.00	0.51	H.R.
6	HR in Room 2	4-20 mA	0.00	99.00	No/No	2	2	0.00	0.51	H.R.
7	HR in Room 3	4-20 mA	0.0	100.0	No/No	2	2	0.00	0.51	H.R.
8	External HR	4-20 mA	0.0	100.0	No/No	2	2	0.00	0.51	H.R.

**(1) DAS-8000 - Digital Inputs**

Channel	Tag	Status
1	Fire in Room 1	Off
2	Gas in Room 1	Off
3	Fire in Room 2	Off
4	Gas in Room 2	Off
5	Fire in Room 3	Off
6	Gas in Room 3	Off
7	Fire: Corridor	Off
8	Corridor Light	Off

**(1) DAS-8000 - Digital Outputs**

Channel	Tag	Status
1	Caution: Fire 1	Off
2	Caution: Fire 2	Off
3	Caution: Fire 3	Off
4	Caution: Gas 1	Off
5	Caution: Gas 2	Off
6	Caution: Gas 3	Off
7	Gral. Sound 1	Off
8	Gral. Alarm 1	Off

**(1) DAS-8000 - Counters**

**Counter 1**

Enabled ?	Yes
Tag	Bottles
Access memory...	1 minute
DO of alarm	1
DI of control	Disable
Preset	100
Count	51
Unit	Units

**Counter 2**

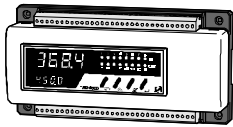
Enabled ?	Yes
Tag	Stoppers
Access memory...	1 minute
DO of alarm	1
DI of control	Disable
Preset	100
Count	51
Unit	Units

**(1) DAS-8000 - Alarms**

DI of acknowledge: 0  
DO of acknowledge: 0

Alarm	Type	AI	Setpoint	Hysteresis	DI	DO	DO Type	Inverse Outout	Active Security	Security Status	Initial Status
1	Maximum	1	0.0	0.5	1	1	Local	No	Yes	Off	Off
2	Maximum	2	0.0	0.5	1	2	Local	No	Yes	Off	Off
3	Maximum	3	0.0	0.5	1	3	Local	No	Yes	Off	Off
4	Maximum	4	0.0	0.5	1	4	Local	No	Yes	Off	Off
5	Maximum	5	0.0	0.5	1	5	Local	No	Yes	Off	Off
6	Maximum	6	0.0	0.5	1	6	Local	No	Yes	Off	Off
7	Maximum	7	0.0	0.5	1	7	Local	No	Yes	Off	Off
8	Maximum	8	0.0	0.5	1	8	Local	No	Yes	Off	Off





# DAS-8000

## HISTORIC CONFIGURATION

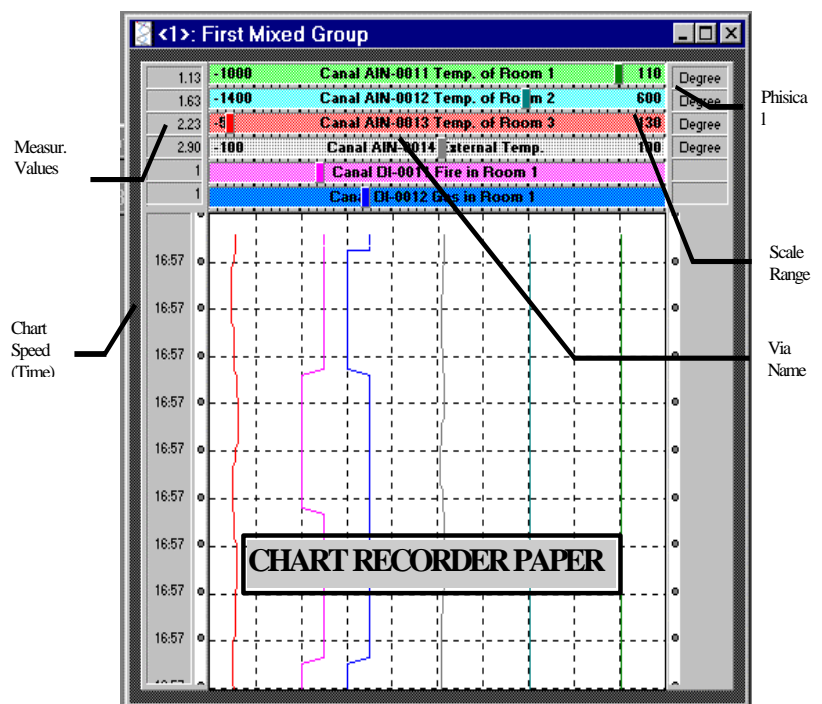
The PROASIS<sup>®</sup> DAS-Win program allows variables from DAS-8000 modules to be stored in a Historic file, with a series of features that should be Preset before the supervision program is made operational.

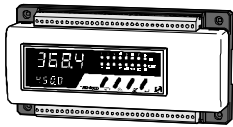
Stored variables from the DAS-8000 modules are as follows:

- Analog inputs.
- Logic inputs.
- Logic outputs.
- Counters.

## REAL TIME INFORMATION

Display of graphic trends of 6 channels, emulating the paper classic multipoint recorder.





# DAS-8000

## BASIC INFORMATION OF A DAS-8000

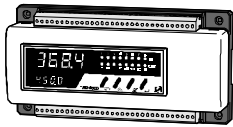
Visualization of the process variables and the status the digital channels.

DAS-8000 No. 1				
Analog input	Designation	Measure	Physical Unit	
AIN-0011	Temp. of Room 1	2.42	Degree	
AIN-0012	Temp. of Room 2	1.84	Degree	
AIN-0013	Temp. of Room 3	1.59	Degree	
AIN-0014	External Temp.	1.66	Degree	
AIN-0015	R.H. of Room 1	7.50	R.H.	
AIN-0016	R.H. of Room 2	5.30	R.H.	
AIN-0017	R.H. of Room 3	63.4	R.H.	
AIN-0018	External R.H.	58.6	R.H.	
Digital Output	Designation	Digital Input	Designation	
DO-0011	Fire Warning 1	DI-0011	Fire in Room 1	
DO-0012	Fire Warning 2	DI-0012	Gas in Room 1	
DO-0013	Fire Warning 3	DI-0013	Fire in Room 2	
DO-0014	Gas Warning 1	DI-0014	Gas in Room 2	
DO-0015	Gas Warning 2	DI-0015	Fire in Room 3	
DO-0016	Gas Warning 3	DI-0016	Gas in Room 3	
DO-0017	General Siren	DI-0017	Fire: Corridor	
DO-0018	General Alarm	DI-0018	Corridor light	

## ALARMS STATUS

You can observe the status of the alarms of each DAS-8000 in individual window, that is to say, the 8 channels that a DAS-8000 has defined will be displayed in a window, and for those that have an alarm defined, its values and the state of the alarms will remain specified as a response to such event, provided that they had been assigned.

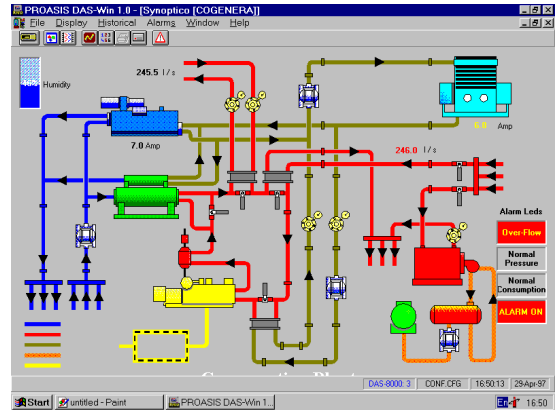
Alarms from the DAS-8000 No. 1						
Alarm	Analog input Number, Designation	Measure	Physical Unit	Setpoint	Hysteresis	
1	1 - Temp. of Room 1	2.47	Degree	1.00	0.13	
2	1 - Temp. of Room 1	2.47	Degree	1.00	0.13	
3	1 - Temp. of Room 1	2.47	Degree	1.00	0.13	
4	1 - Temp. of Room 1	2.47	Degree	1.00	0.13	
5	1 - Temp. of Room 1	2.47	Degree	1.00	0.13	
6	1 - Temp. of Room 1	2.47	Degree	1.00	0.13	
7	1 - Temp. of Room 1	2.47	Degree	100.0	13.0	
8	1 - Temp. of Room 1	2.47	Degree	100.0	13.0	



# DAS-8000

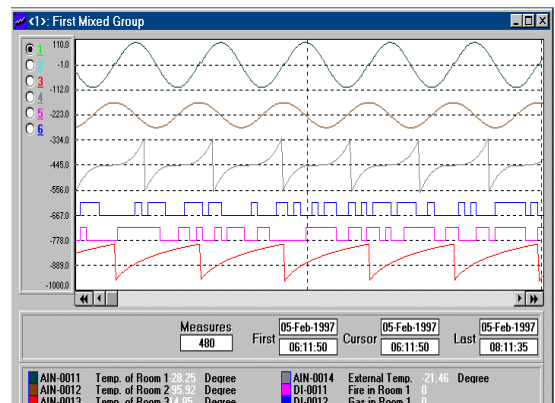
## SYNOPTICS OF PROCESS

Allows drawings of synoptic screens with digital indication of data and measurements, introduced in BMP format, (BitMap), with program tools, (CorelDraw, Paint, etc.) or digitalized photographs.



## HISTORIC ANALYSIS

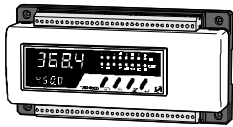
The information stored in historics can be checked by 999 graphics screens which allows to search by date and time, change of ranges and zoom able to represent the minimum limits of a measurements stored in the historic.



## HISTORIC LISTING

Presentation of the datas of the historical in numerical format, which allows to search of datas and numerical printing.

Date		Hour	1 Degree	2 Degree	3 Degree	4 Degree	5	6
05-Feb-1997	08:05:50		-78.71	61.66	18.51	0.01	0	0
05-Feb-1997	08:07:05		-74.21	67.01	18.61	0.02	0	0
05-Feb-1997	08:07:20		-68.61	72.73	18.74	0.04	0	0
05-Feb-1997	08:07:35		-63.35	77.35	18.85	0.07	0	0
05-Feb-1997	08:07:50		-56.98	82.17	18.96	0.12	0	0
05-Feb-1997	08:08:05		-51.09	85.94	19.08	0.19	0	0
05-Feb-1997	08:08:20		-44.96	89.30	19.18	0.28	0	1
05-Feb-1997	08:08:35		-37.68	92.61	19.29	0.41	0	1
05-Feb-1997	08:08:50		-31.11	95.03	19.40	0.55	0	1
05-Feb-1997	08:09:05		-24.40	96.97	19.50	0.70	0	1
05-Feb-1997	08:09:20		-16.58	98.61	19.50	0.94	0	1
05-Feb-1997	08:09:35		-9.63	99.53	19.70	1.17	0	1
05-Feb-1997	08:09:50		-1.66	99.97	19.82	1.49	0	1
05-Feb-1997	08:10:05		5.31	99.85	19.91	1.79	1	0
05-Feb-1997	08:10:20		0.98	99.99	0.00	2.15	1	0
05-Feb-1997	08:10:35		8.97	99.58	0.76	2.61	1	0
05-Feb-1997	08:10:50		15.91	98.72	1.39	3.07	1	0
05-Feb-1997	08:11:05		22.77	97.36	1.97	3.58	1	0
05-Feb-1997	08:11:20		30.48	95.22	2.61	4.21	1	0
05-Feb-1997	08:11:35		37.05	92.86	3.13	4.83	1	0



# DAS-8000

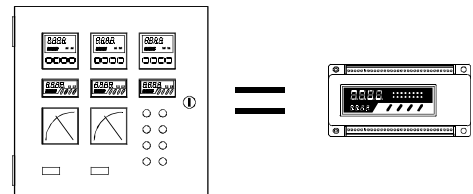
## DAS-8000 APPLICATIONS:

- Designed to be used in simple or complex applications.
- Simple (user friendly) + low price makes it suitable in any process.
- Real time Analog and Events (Logic) data acquisition system.
- Remote control of Logic actuators.
- Field monitoring of all parameters.
- Can be used as an Input / Output card for PLC.
- Supervising of process alarms.
- On / Off Control in simple processes.
- Measurement, register and data recording.
- Analysis of the controlled process behavior through the data saved in PC.

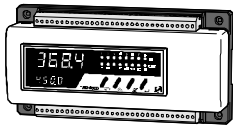
## APPLICATIONS

- ✓ DAS-8000 is used to substitute control panels in simple processes where 8 variables or / and alarm loops is needed.

- Eliminate panel Instruments.
- Saving connection terminals.
- Saving mounting space.
- Reduce mechanization in the control panel.
- Reduce internal wiring.

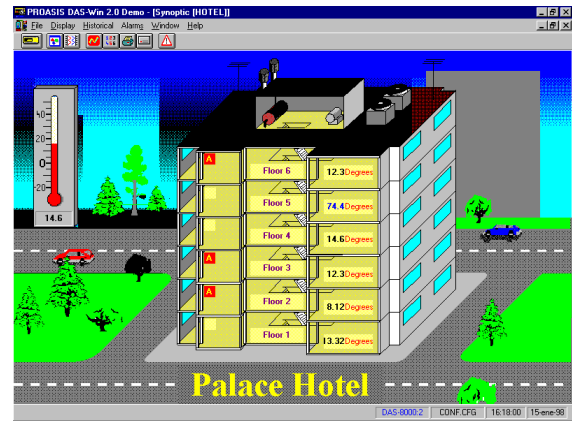


- Data acquisition in industrial processes: Cold- storage room, Dryers, Slaughterhouse, Heat processes, Laboratories, etc....
- Surveillance: In grain silos or products susceptible to rottenness, Level in tank management, Bearings, Motors, Electric transformer, Hotels, Buildings etc...
- Control: Intelligent buildings, Air-conditioning, Ceramic tunnel furnace, Paintings, Food industry, etc.
- Supervision: Production management, Time counting, Presence control...

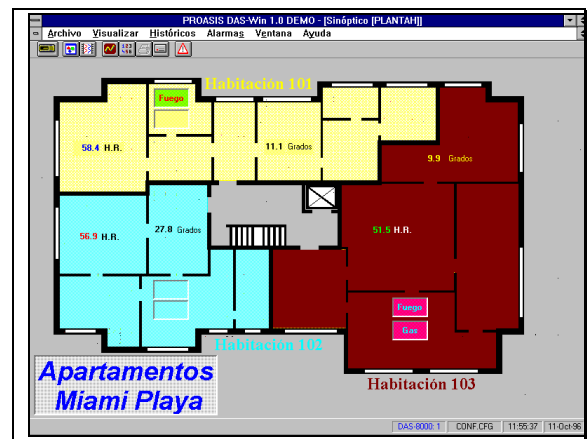


# DAS-8000

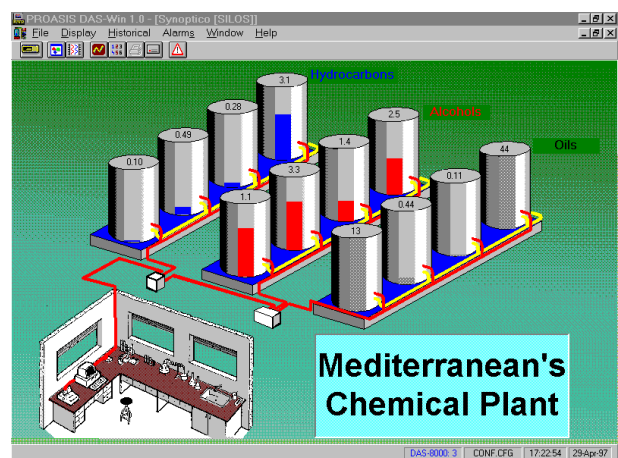
## Hotels and intelligent buildings

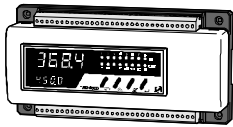


## Control and Supervision of floor plants



## Tank Supervision



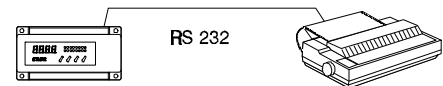


# DAS-8000

## TYPICAL ARCHITECTURES

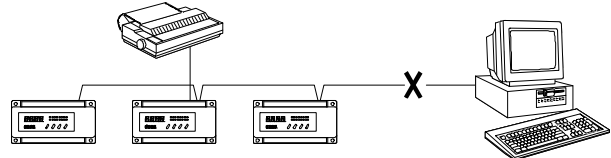
### One DAS-8000 Data-Logger with Display and printer

- The DAS-8000 is stand-alone a multi-channel analog and digital indicator.
- Digital indication of measurement and channel number.
- The variables can be displayed in Manual or Automatic mode. A sequenced display is used to monitor the 8 analog channels.
- Low cost alternative to panels of 4 to 8 indicators, On / Off controllers, etc.
- Direct programmable printing of the analog input measurements.



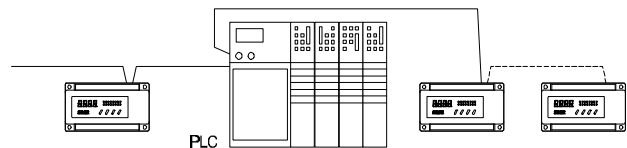
### Data-Logger Multipoint and printer

- Has the same features as a stand-alone unit.
- Up to 32 DAS-8000 units provides a decentralized monitoring system when connected to a printer. No need to use a PC.
- The MASTER DAS-8000 configured, provides the monitoring of the measurements of the other SLAVE units of the communication link.
- Sequential transmission of the measurements to the printer of all the DAS-8000 units in the link.



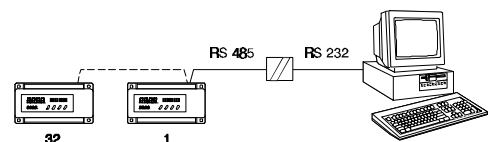
### Data acquisition card for PLC

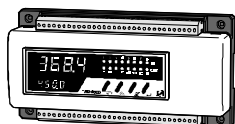
- This application allows a PLC with MOD-BUS communication protocol to command one or several DAS-8000 units as a peripheral cards.



### Data acquisition system

- The data acquisition system comprises up to 32 DAS-8000 units (256 analog inputs, 256 + 256 digital input/ output) directly linked with a PC computer.
- 255 DAS-8000 units (2040 analog inputs, 2040 + 2040 digital input/output) can be linked when a 4 channels RS-485 converter is used.





# DAS-8000

## TECHNICAL SPECIFICATIONS

### CONFIGURABLES CHANNELS

**ANALOG INPUTS:** ..... 8 channels in common mode. Configurable by internal "jumpers" such as:  
- **RTD** (Pt 100) ..... Unique range -150 + 600 °C (three-wire). According s/IEC-751 (DIN-43760).  
- **LIN** (Voltage) ..... 0 - 50 mV (Impedance 1 MΩ).  
- **LIN** (Current) ..... 0.4-20 mA (Shunt resistor of 2,5 Ω).  
- **LIN** (Non-Linearized Thermocouples) ..... 4-20 mA (Shunt of 2,5 Ω).  
Thermocouples Types (IEC-584 international standards):  
..... **T** (Cu - Const.), **J** (Fe - Const.), **K** (NiCr - NiAl.), **E** (NiCr - Const.),  
..... **N** (NiCrSi - NiSi.), **S** (PtRh 10% - Pt.), **R** (PtRh 13% - Pt.), **B** (PtRh 30% - PtRh 6%.).  
- User configurable linearization curve (15 segments) ..... (Configurable only via communications means).

Definable ranges (LIN): ..... -1999 a 9999 points.  
Precision: ..... 0,1% F.R.  
Resolution of A/D converter: ..... 40.000 points.  
Sampling time: ..... 120 milliseconds.  
Filters: ..... Active and passive, software configurable.

**LOGIC INPUTS:** ..... 8 optoinsulated channels.  
Margin of input: ..... Level HI: from 12 to 48 Vdc/ac; Level LO: from 0 to 7 Vdc/ac  
**LOGICAL OUTPUTS:** ..... 8 optoinsulated channels.  
Type of output: ..... NPN, Open Collector, 48 Vdc, 100 mA maximum.  
NOTE: ..... All the Logical Outputs and Logical Inputs are insulated electrically among themselves.  
**COUNTERS:** ..... 2 independent counters.  
Configurable reset and disable digital inputs. Configurable counter preset output.  
Counter increase: ..... Rise edge.  
Maximum frequency: 40 Hz and Minimum pulses: 15 ms.

### DIGITAL COMMUNICATION

Output ..... selectable RS-485 (2 wire) ó RS-232 (3 wire).  
Protocol: ..... MOD-BUS mode RTU binary.  
Transmission speed: ..... 9600, 19200 or 38400 baud.  
Access: ..... Read/Write access of all the parameters.  
Adressability: ..... from 1 to 255 stations.  
Direct output to serial printer ..... RS-232 (EPSON protocol).

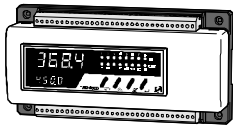
### GENERAL CHARACTERISTICS

Terminal of programming and monitoring ..... Detachable.  
Display front panel: ..... 4+4 digits, 16 pilot LEDs, 4 keys.  
Connection: ..... Two rows of 32 terminals unpluggable.  
Section of cables: ..... 2 millimeters maximum.  
Attachment: ..... DIN rail 46277/3 (EN 50022) or by screws.  
Working Temperature: ..... From 0° to 50° C.  
Electrical power: ..... 110/220 Vac.  
Consumption: ..... 5 VA.

### STANDARDS



Applicable Standards: ..... DIN 43760, NFC 60742  
..... UTE 46406, UL 94-V0.  
European Directive 89/336 EEC:  
EN 50081-1:1992 ..... EN 55022 Conducted 150 Khz. to 30 Mhz.  
..... Radiated 30 Mhz.to 1Ghz.  
EN 50082-1:1992 ..... IEC 801-2:1984 Electrostatic discharges.  
..... IEC 801-3:1984 Immunity to Radiation.



# DAS-8000

## COMMERCIAL PRESENTATION

Basically, there are 3 versions:

- **DAS-8000** . Version with removable terminal (display and keyboard). It includes **PROASIS® DAS-Win** data management software.
- **DAS-8000 /ND** . Version without front panel terminal.  
It also includes the **PROASIS® DAS-Win**. management software.
- **DAS-8000 /EK**. EVALUATION KIT Version.

## EVALUATION KIT DAS-8000

The **DAS-8000 /EK** Evaluation Kit is a version of this product prepared with all that is needed to test the capabilities of the **DAS-8000** module, including the data acquisition software **PROASIS® DAS-Win**.

This Kit provides all that is needed to get the equipment operational quickly, and connected to a PC computer with the Windows environment in order to learn all its capabilities.

In this version, the module DAS-8000 is provided with a standard configuration, which responds to the most common situations in industrial processes. (These configurations are totally accessible and modifiable by the user).

**The Material includes in the Evaluation KIT of the DAS-8000 + PROASIS® DAS-Win**

- **DAS-8000 Unit, including the multifunction terminal.**
- **Protection Cover for the DAS-8000 with the front panel removed.**
- **Connection Cable to the main Power 110/220 Vac.**
- **Connection Cable to the Computer in RS-232, with a 9 pin connector.**
- **9 to 25 pin adapter to the RS-232.**
- **Temperature Probe type Pt-100, model SR-NUH including 1 m. cable.**
- **4 Shunt Resistances 2,5 Ohm for 4-20 mA Inputs.**
- **Diskettes containing the PROASIS® DAS-Win preconfigured.**
- **DAS-8000 Instruction's Manual.**
- **PROASIS® DAS-Win User's Manual.**
- **1 Adhesive template indicating the connections.**

Document number 9950 P029-1

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