



SOFTWARE PECO-GRAPH

User Manual



**COUNTING DATA GRAPHICAL REPRESENTATION
AND MANAGEMENT SOFTWARE**

User Manual version - 4.10

ENGLISH

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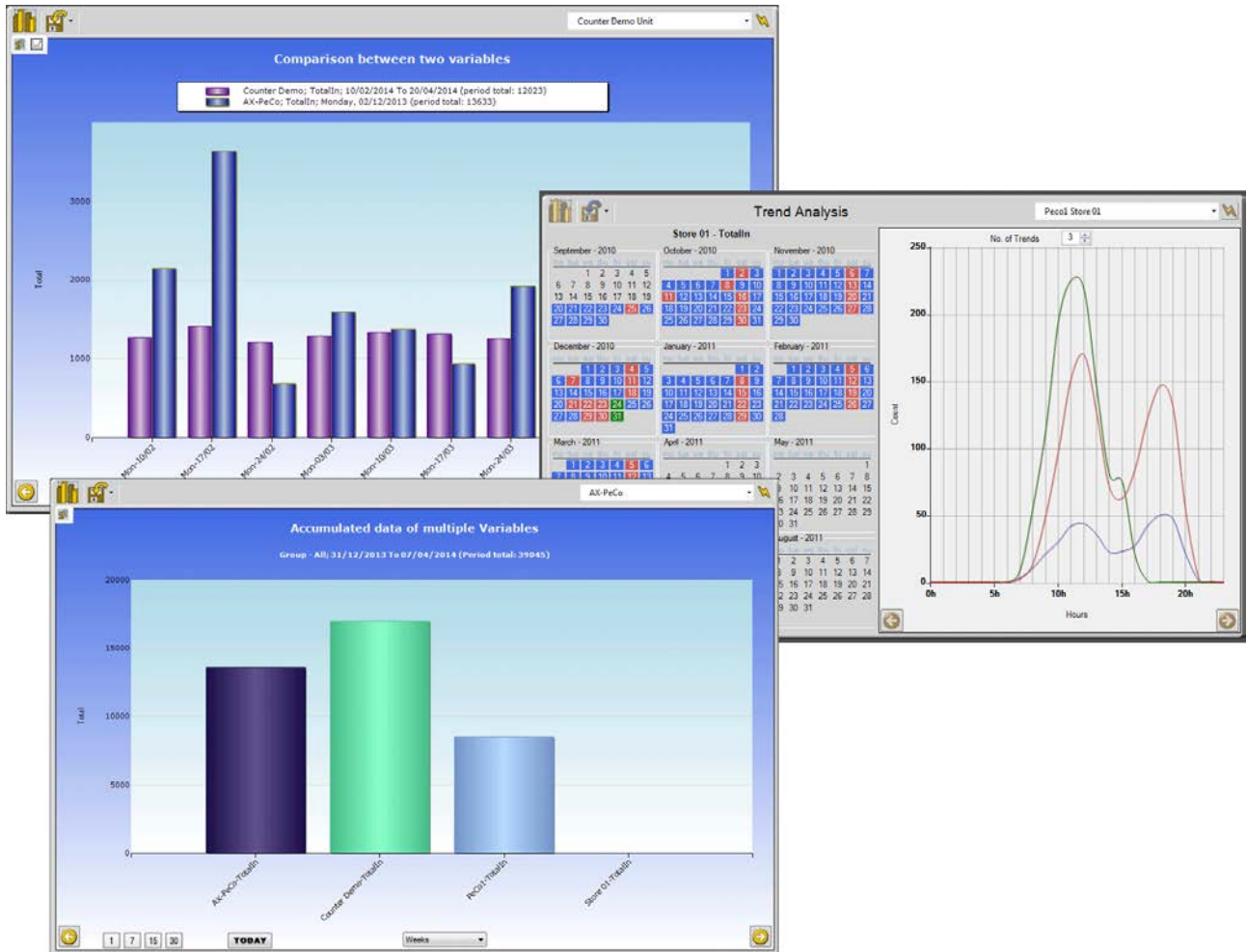
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1. INTRODUCTION

PeCo-Graph is a Windows based multilingual application compatible with the PeCo people counting units and with the application for AXIS cameras AX-PeCo and AX-Click.

PeCo-Graph permits the jointly download of people counting data from different units or cameras, their query, graphical visualization and export.

Data management is performed in an intuitive way, by classifying data by premises and groups. This way all kind of comparisons among premises, counters on the same premises or people counting values in different days from the same counter can be achieved and client traffic analysis can be performed in detail.



2. INSTALLATION

2.1. Requirements

The PeCo-Graph application can be installed on a PC or on a Laptop with the following programs previously installed:

- Operating System: Windows Vista, Windows XP with Service Pack 2 or Windows 7, 8 or 10.
- Minimum: .NET Framework v 4.0

In case of not having the NET Framework v 4 installed, the application will show a warning message and an Internet address to obtain it.

Note:

If you have a previous version of PeCo-Graph, when installing the new version, the existing counting data are preserved. The premises data base and the configuration are converted to the new version without loss.

2.2. Installation and execution

Once the requirements are fulfilled, download the PeCo-Graph application from our website

Run the setup.exe file and follow the installation instructions of the assistant. Once the installation has finished you can open the application from Start/Programs/PeCo-Graph or from the shortcut icon on your desktop.

When running the application for the first time, a dialogue box will appear to select the language.

This dialogue box will not appear again when running the application from then on, however the language can be changed at any time by selecting the *Advanced* men of the *Configuration/Options menu*.

3. FUNCTIONALITY

The PeCo-Graph application is designed to simplify the analysis and management of the data obtained from the PeCo units and from the AX-PeCo and AX-Click applications. Its main functionality implies:

- **Definition of premises with one or more PeCo, AX-PeCo and AX-Click counters**
for any premises the variables for each one of the different counters can be defined. The application automatically detects the number of counters and their type. By default, a variable that gathers the total data from all the counters in a specific establishment is created.
- **Creation of Groups**
Permits to gather premises by thematic areas to easily access their information. By default, a group that includes all premises in the data base is created.
- **Premises and groups data downloads**
The downloads can be performed manually, running instantly, or programmed in multiple scheduled downloads. The speed of the simultaneous downloads has been improved to reduce the required download time.
The type of download can be incremental from the last download or total, which gathers all available data (6 months for PeCo1 units and 24 months for the rest).
- **Downloads information**
Detailed information of the downloading can be required, with possibility of filtering, sorting and exporting the information.
- **Downloaded data edition**
once data have been downloaded, it is possible to delete or clone complete days to avoid outliers.
- **Data validation**
Counting data of each variable can be validated by setting in their configuration a maximum and a minimum value. There is the option of sending a warning email when reaching any of these values, or if the result equals 0.
- **Sending of reports**
The application can be configured to send an e-mail with a report depending on the result of the download, attaching or not the corresponding data files.
- **Creation of different types of charts**
There are different charts depending on the premises and groups and the time intervals to be used. Allows for immediate change of the timescale in the chart and access to the current day with the "TODAY" button.
- **Graphic analysis of trends**
It includes a trend chart to analyze the behavior along a day of a selected variable during a configurable period (a quarter, for instance). It is possible to select the information levels to be displayed and ignore certain days to ease the results representation and analysis.
- **Record and retrieval of graphic templates**
It allows saving the most used graphics to be retrieved at any time.
- **Graphs export and printing**
The generated charts can be exported or printed as images or as numeric data in files with CSV format.
- **Automatic data export**
The downloaded counting data can be export to a format configurable by the user for their use from external applications.
- **Import of premises from other data bases**
Premises from other data bases can be import and is available the option of exporting and printing the list of premises and groups on the own data base.

4. PECO-GRAPH USE

PeCo-Graph has a user-friendly interface with an easy navigation menu, which is placed on the upper part of the screen and allows access to the different parts of the program: **View Chart, Analysis, Download and Configuration**.

On the lower part of the screen there is a status bar that provides information about the system time. Also, there is a help icon, which displays this manual and information about the installed version.

The basic operation is as follows:

STEP 1: configuration

First step is to create the premises from which you want to obtain information. A premise corresponds to an installation that has one or several units in which it is necessary to define the name, connection user and IP address, as well as the variables of the counters to be used.

Please remember that the application detects automatically the available counters in each unit, eases the variables creation. By default, each counter (unit or camera) has a variable named *TotalIn* that groups the data of the incoming counters.

Next, we can create groups of premises; this option is useful to simplify data downloading. A group named. *All* is created by default and includes all the defined premises.

STEP 2: Data download

The following step is to download the data.

Data download can be carried out individually for each premise or as a group. There are two types of downloads: the download of the cumulative data of the last two years (6 months for Peco1 units) or incremental download from the last one made. Each download can be performed manually or can be scheduled.

Usually the first download from a premise or from a group is performed by requiring the accumulated data from the last two years so that later schedule incremental downloads, which will be performed taking as a starting point the last download carried out.

STEP 3: charts creation

Once the data of the premises/groups have been obtained, in the *View Chart* tab several types of charts based on the variables and the chosen time intervals can be generated.

STEP 4: analysis

The Analysis chart is very useful to analyze the behavior and evolution of a variable that belongs to a premise throughout a period. The results are displayed gathering similar values and creating behavioral groups

5. PASO 1: CONFIGURATION

The premises and groups that are going to be used in the Chart generation, as well as the application options, are defined in the Configuration menu.

5.1. Definition and Configuration of premises

Premises are installations formed by one or several Peco/AX-PeCo or AX-Click and one or several variables that have been defined depending on the number of counters of each device.

The premises management screen appears by default when the configuration menu is selected.

1

In the upper part of the screen there is a table where all the defined premises are displayed. The table fields can be sorted by clicking on the name column. To select a premise just click on the corresponding entry. You can export and print the list of premises and groups defined in the data base.

2

The searching and filtering tools are located beside the table. To search premises, write down the data you are searching in the *key* field, select the criteria and the field on which the search is going to be done and finally click on the *Search* button. The first premise to match the criteria will be displayed on the table. Click on the *Filter* button to see only the units that has been selected in the searching.

3

Once the premises selection has been made, information about the properties of the premises, its units and the variables defined for each one of its unit is displayed.

Peco-Graph

View Chart Analysis Downloads Configuration ?

Premises Group Options

Search

Key Search

Criteria *Anywhere* Next

Field *Name* Filter

Undo filter

Name	Address	City	Zip	State	Country	Comments
Counter Demo	Isla Graciosa 1	Madrid	28034		Spain	
Shop Visual Tools	Isla Graciosa 1	Madrid	28034	Madrid	Spain	

New Edit Delete Print Export Importar

Properties Units Variables

Name

Address Zip

City State Country

Comments

Premises creation and edition

The buttons, *New*, *Edit* and *Delete* allow the management of the premises database. To define new premises, click on the *New* button, in the window that appears. Then you can define the properties, units and variables comprising the premises.

Premises

Propiedades

Name: Counter Demo

Address: Isla Graciosa 1 Zip: 28034

City: Madrid State: Country: Spain

Formula (Chain store): Demos

Comments:

Units

	Name	User name	IP Address:Port (By default)	Location	Type
▶	Counter Demo Unit	peco	vspeco.vtdemo.net	C	VS-Peco

New Edit Delete

Variables

	Name	Variable type	Max valid value	Min valid value	Variable A	Variable B
▶	TotalIn	Calculated Vars.	-	-	-	-

New Edit Delete

Save Cancel

Premises Properties

The properties of the premises are defined in the upper part of the screen: Name, Address (City, State, Zip), Formula (Chain store) as well as a *Comments* field, where additional data about the installation can be added.

Only the Name is mandatory. The rest of the properties are to identify the premises, ease the searching and to be included when downloading the data (as an option)

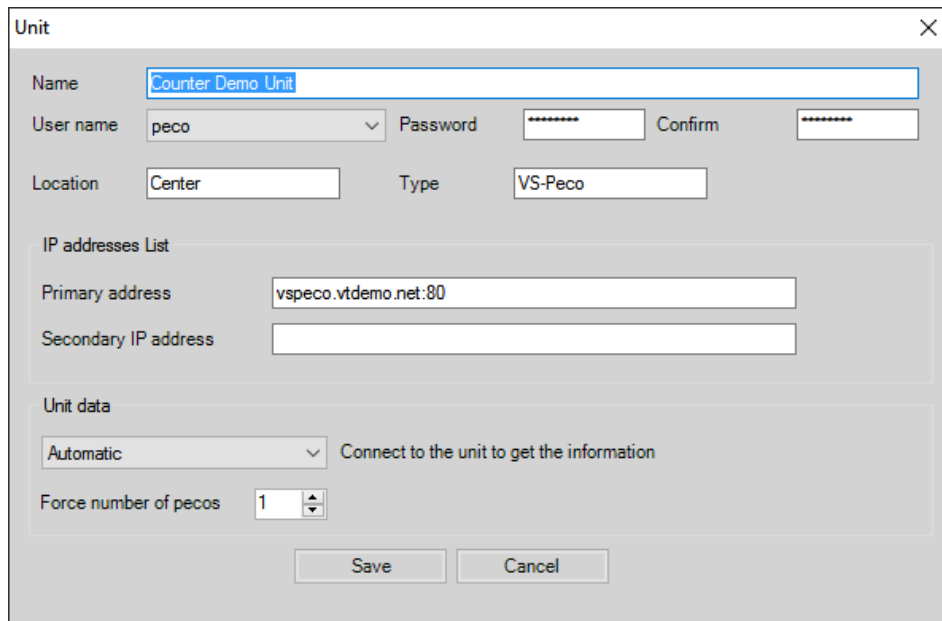
5.1.1. Units of the premises

The units belonging to the premises are added in the central part of the Premises configuration screen. Click on the *New* button and in the window displayed next, define the unit name. Location and Type are elective fields to better identify the unit or have the information when downloading data.

The user by default to connect to a unit and to download the count data is Peco, although for VX-PeCo units there are also available the *Supervisor* and *Administrator* users. When selecting a user, the password field is filled in with the default password. If you have changed the password in the counting unit, please modify it.

Add the IP address and the port separated by “:” (a.e: 192.168.1.122:80) By default the port is 80.

When the unit has several IP addresses one of them is always selected to be used as default. The secondary IP will automatically be used when the first one doesn't connect.



The 'Unit' dialog box contains the following fields and controls:

- Name:** Counter Demo Unit
- User name:** peco (dropdown)
- Password:** [masked]
- Confirm:** [masked]
- Location:** Center
- Type:** VS-Peco
- IP addresses List:**
 - Primary address:** vspeco.vtdemo.net:80
 - Secondary IP address:** [empty]
- Unit data:**
 - Unit data:** Automatic (dropdown)
 - Connect to the unit to get the information:** [checkbox]
 - Force number of pecos:** 1 (spinner)
- Buttons:** Save, Cancel

5.1.2. Variables of the premises

The variables that will be used to generate the graphs and the tendency chart are defined in the lower part of the Premises configuration screen.

Variables by default

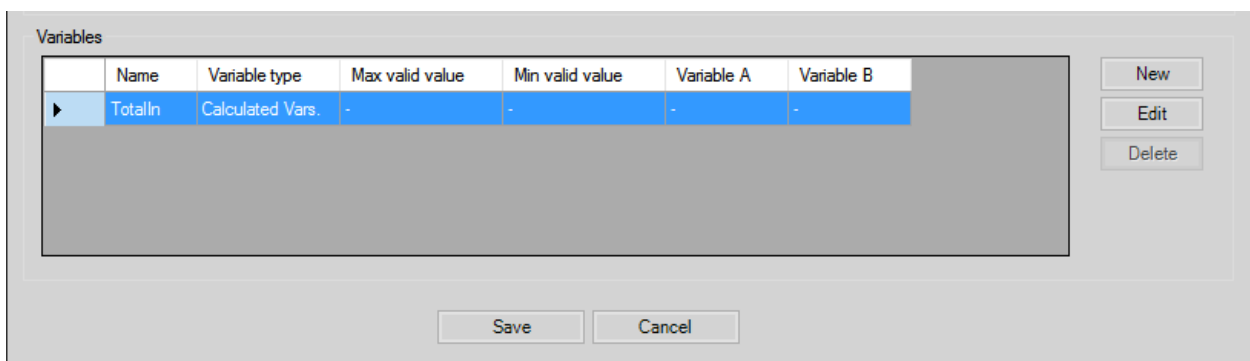
All the premises have defined a calculated variable by default named TotalIn. It groups all the incoming counters of the installation units.

Those premises with people traffic counters AX-Click will also have two additional variables by default: **TotalClick** for the traffic people counting and **TotalRatio** for the relationship TotalIn/TotalClick; this is the percentage of persons that come in a premise related to the total of persons that walk-in front of the premises.

The default variables (TotalIn, TotalClick & TotalRatio) cannot be deleted but can be modified.

Adding or editing variables

To define a new variable, click on the *New* button placed at the right of the variables list. To edit an existing variable, select it first and then click on the button *Edit*.



The 'Variables' dialog box contains a table with the following data:

	Name	Variable type	Max valid value	Min valid value	Variable A	Variable B
▶	TotalIn	Calculated Vars.	-	-	-	-

Buttons: New, Edit, Delete, Save, Cancel

1

Enter the name of the variable and select the desired unit or units of the premise and the counters to be included in the calculated variable. On the left side of the screen there is a dropdown list to select the units and in the middle of the screen there is a list with the available counters in each unit, so you can select the ones to be added to the variable.

The counters enabled for each unit are read automatically from the counting unit. Press the button “Refresh counters” on the left to update the information if this seems not to be correct. When defining a variable and it is not possible to connect to the unit, the option “Force number of pecos” permits defining manually the number of the counters.

2

On the right side of the screen there is a box where you can see all the counters included in the calculated variable so far. You can unmark the counters using the check box or its left or selecting them on the list and pressing the button “remove selected”

Type of variables:

3

The type of variable by default is “**Calculated Variable**”, that is the addition of all the counters included in it. A variable can be defined with counters from different units if these belong to the same premise.

The types of variables can be:

Calculated variable: defined as the addition of the selected counters from one or different units from the same premise.

Imported counter: allow the application to add external data, such as number of tickets or sales numbers. The imported counters can be used as a unit variable or as data for a ratio calculation.

Ratio: Defined as the proportion of a calculated variable related to another calculated variable. Both variables must be previously defined for the premise (For instance, for calculating the percentage of incoming people from a certain gate regarding the total of incomings) Select the variables to be used and save the new variable.

Daily data validation:

4

The data of each variable, once downloaded, can be validated by setting a maximum and a minimum daily value. There is also the option to send a warning if within the selected days the variable value is zero.

When the downloaded data not exceed the minimum or exceed the maximum, a warning is generated and sent by mail. To that, the mail address must have been enabled previously in the section *Configuration/Options/Advanced/Report of download by e-mail*.

To save all defined data, press the button Save.

5.1.3. Edition of downloaded data

In the unit's tab (inside Configuration/Premises) there is an option to delete the data of complete days in case they have outliers. First select the unit you want to delete information from, then select the day and press the *Delete* button. It is also possible to clone the data of a selected day on another one.

The screenshot shows the 'Configuration' tab in the software interface. The top navigation bar includes 'View Chart', 'Analysis', 'Downloads', 'Configuration' (selected), and a help icon. Below this, there are sub-tabs: 'Premises', 'Group', and 'Options'. The main area is divided into several sections:

- Search:** Includes a 'Key' input field, a 'Search' button, and a 'Criteria' dropdown set to 'Anywhere'. There is also a 'Field' dropdown set to 'Name' and an 'Undo filter' button.
- Table:** A table with columns: Name, Address, City, Zip, State, Country, and Comments. It contains two rows: 'Counter Demo' (Isla Graciosa 1, Madrid, 28034, Spain) and 'Shop Visual Tools' (Isla Graciosa 1, Madrid, 28034). Action buttons (New, Edit, Delete, Print, Export, Importar) are on the right.
- Properties:** A tabbed interface with 'Units' selected. It shows a table with columns: Name, User name, Location, and Unit Type. The selected unit is 'Counter Demo Unit' (User: peco, Location: C, Unit Type: VS-Peco).
- Unit Section:** Contains input fields for 'Name' (Counter Demo Unit) and 'User name' (peco). Below is an 'IP addresses List' table with columns: IP Address, Port, and By default. One entry is 'vspeco.vtdemo.net' with port 80 and 'By default' checked.
- Datos del equipo:** Shows 'Date of the oldest data: 19/07/2015' and 'Date of the latter data: 28/04/2016'. It includes a calendar for April 2016 with the 28th selected. Radio buttons for 'Remove selected day' (selected) and 'Clone selected day' are present, along with a 'Delete' button.

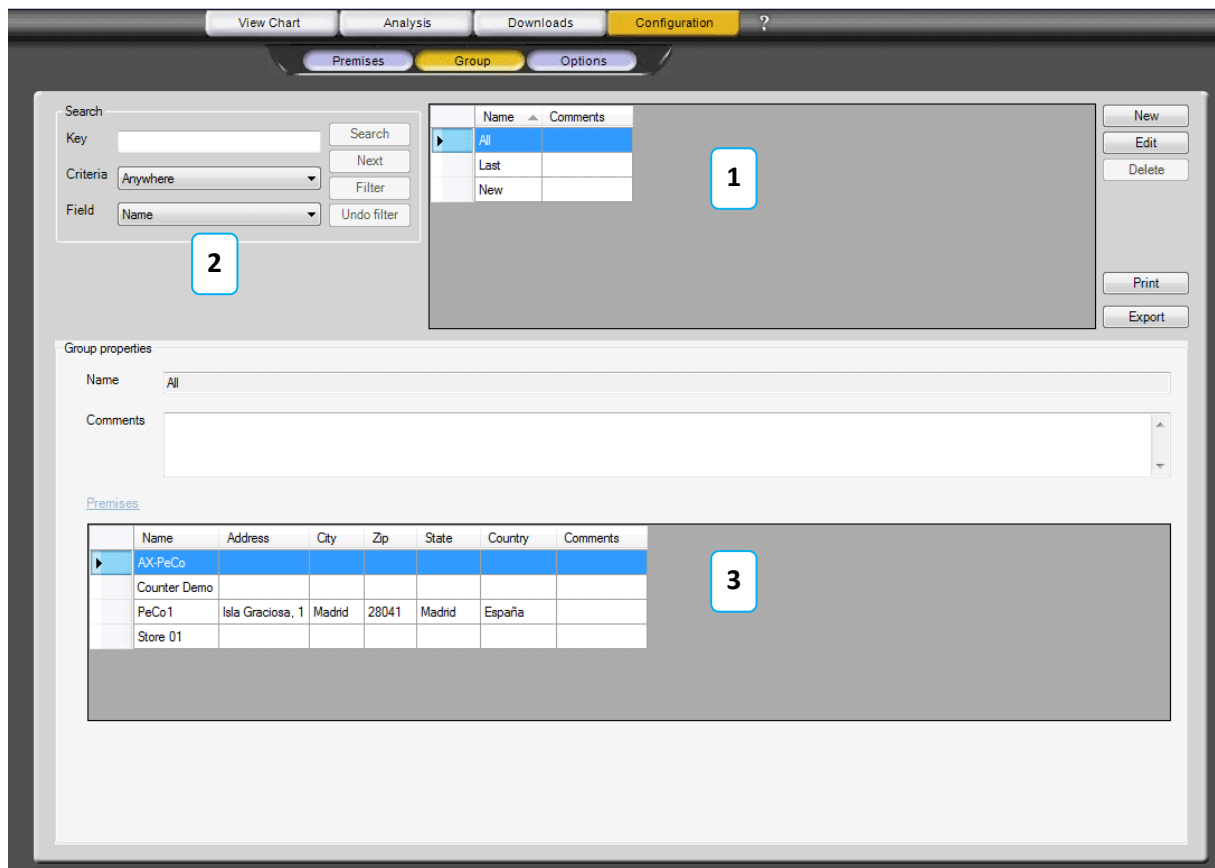
5.2. Group definition

Choose the option Groups in the Configuration menu to create unit groups and to simultaneously carry out actions on them (downloads or chart representation of the cumulative of the group).

1 In the window on the upper right side of the screen, all the defined groups are displayed in a table. The table fields can be sorted by clicking on the name column. To select a group just click on the corresponding record.

2 As in the premises configuration menu, on the left side of the screen there is a panel to make searches and filters on the table that contains the group data.

3 Each group is defined by a name and the premises that are included in it. Optionally commentaries can be added also.



By default, the application includes the group "All", which includes all the premises defined in the database. This group cannot be deleted, only modified.

By using the buttons beside the table, you can add a new group to the database (New) modify its data (Edit) or erase it from the database (Delete).

5.3. Options

The Options screen can be found into the Configuration menu. In it the options of the application can be modified. The window has two different parts: *General*, visible by default, and **Advanced** only visible by clicking on the button *Advanced*, placed in the lower part of the screen.

1 The Trend Analysis displays 4 trends by default Selects the starts of working time 00 By default

2 Select the interface language English

3 Database file C:\ProgramData\Counter-Graph\countergraph.mdb Count files path C:\ProgramData\Counter-Graph\countfiles Downloads history path C:\ProgramData\Counter-Graph

4 Report of download by e-mail From To SMTP Server Port 25 (25 By default) Check

5 Use authentication to send email notification User name Password Confirm Password Enable SSL encryption

Conditions for sending report Send an e-mail for all downloads Send an e-mail in case of failure or warning Show detailed info in report Add counts to the mail

Daily data validation Max valid value 0 Min valid value 0 In case of zero value, warn only the selected days: Monday Wednesday Friday Sunday Tuesday Thursday Saturday

Convert downloaded data Selected converter C:\ProgramData\Counter-Graph\DefaultConverter.converter Result path for converted data C:\ProgramData\Counter-Graph\Converter_Data Converter Admin

<<Hide Apply

1 In the general section the number of levels to be displayed by default in the trend analysis and the beginning of the working time are defined (by default 00:00).

The value for the working time can be modified to avoid that the data of days that end up after 00h are displayed in different trends.

The button “By default” will charge all default options of the PeCo-Graph application, deleting the values changed in the general configuration and in the advanced options as well.

In the **Advanced option** you can configure several concepts:

2 The advanced menu shows the database and count files location as well as the interface language.

By default, the database application (countergraph.mdb) is stored, in Windows Vista and windows XP in the folder: *C:\Documents and Settings\All Users\Program Data\Counter-Graph* while the count file data is stored in the folder: *C:\Documents and Settings\All Users\Program Data\Counter-Graph\CountFiles*.

In Windows 7 the data base is stored in *C:\ProgramData\Counter-Graph\countergraph.mdb* and the count file data in *C:\ProgramData\Counter-Graph\countfiles*.

To select the interface language, click on the drop-down menu and select the language you want to use.

3

With each download, the application allows to send an e-mail. Inside the option *Report of download by e-mail*, the sender e-mail address, the recipient address and the SMTP server can be defined. If the SMTP server needs authentication additional data must be provided.

The e-mail can be sent for all downloads, or only in case of those with any warning or failure. The option *Show detailed info in report* will show info of the result of the download of each unit. Besides the report, the count files can be attached to the message.

4

Once data have been downloaded, they can be validated by setting a maximum and a minimum value. There is also the option to send a warning if within the selected days the variable value is zero. This validation only applies to those premises without a data validation in the premise configuration.

5

Finally, the downloaded data can be automatically exported to a path and with a format configurable by the user. To active this alternative, check the box of the option “Convert downloaded data”.

For further information refer to the technical note that can be found in our website.

Once all modifications have been set, press on the button “Apply”. Bear in mind that for the changes to take effect the application must be restarted.

6. STEP 2: DATA DOWNLOAD

Once the premises and/or groups where the PeCo units are installed have been defined, open the Downloads tab to define and carry out the counting data download.

1

The download can be manual or programmed, can be referred to a premise or to a group and can obtain all the data accumulated in the counter (Up to 2 years -6 months in case of PeCo1 units) or only the incremental data from the last download (recommended).

Ver gráfico Análisis **Descargar datos** Configuración ?

Descarga Manual

Local / Grupo: AX-PeCo Descargar Ahora Última Descarga Manual: Grupo: Todos, Fecha: 24/04/2014 11:05:08

Tipo de Descarga:

- ☒ Incremental desde la última descarga
- ☐ Todo de los últimos dos años (Seis meses si es PeCo1)

Validar datos

Descarga Programada

Añadir descarga Editar descarga Borrar descarga

Local / Grupo	Frecuencia	Tipo de Descarga	Hora de inicio	Hora límite	Última ejecución	Próxima ejecución
Store 01	Cada día	Incremental	05:00	24:00	24/04/2014 9:12	25/04/2014 9:12

Estado del servicio de descargas: OK

Descarga	Fecha	Local	Equipo	Mensaje
20140424002 (4)				
✓ 20140424002	24/04/2014 11:03:55	Counter Demo	Counter Demo Unit	Equipo 'Counter Demo Unit': descarga realizada con éxito.
20140422005 (1)				
✓ 20140422005	22/04/2014 13:53:16	PeCo1	PeCo1	Equipo 'PeCo1': descarga realizada con éxito.
20140422004 (1)				
✓ 20140422004	22/04/2014 13:50:55	Counter Demo	Counter Demo Unit	Equipo 'Counter Demo Unit': descarga realizada con éxito.
20140422003 (1)				
✓ 20140422003	22/04/2014 13:50:29	AX-PeCo	AX-PeCo	Equipo 'AX-PeCo': descarga realizada con éxito.

Mostrar Filtros Historial de logs Refrescar Limpiar Guardar log en fichero

2

There is also an event log panel that includes the result of the download data: name of the file, date, premises, unit and informative message. The last download appears in the top of the list.

The downloads are showed arranged by the download number (AAAMMDDXXX, where AAAA is the year, MM the month, DD the day and XXX the daily download number). The information panel can be sorted by columns or through filters. To use the filters, select the option *Show Filters*. Then, on each column header will appear windows to enter the filtering criteria.

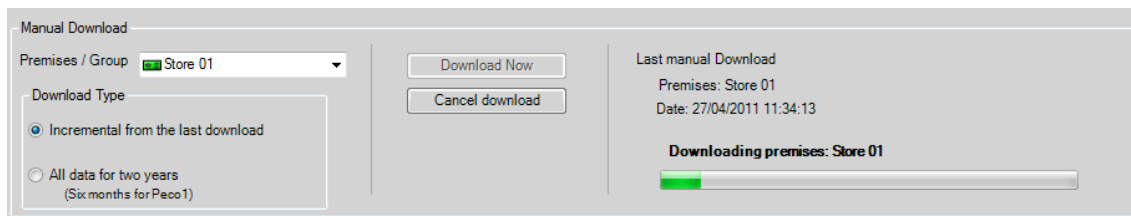
This information can be exported as a text file or can be deleted by pressing on the button "Clean"

The previous logs are accessible by using the button "Logs history".

6.1. Manual Download

By performing a manual downloading the user can retrieve, from any defined unit or group, the data of the last two years accumulated in the unit (6 months for Peco1 units) or update the data from the last performed download (incremental download).

In the upper part of the screen is placed the area to define and perform a manual download. Select the local or the **group and the type of download** you want to perform.



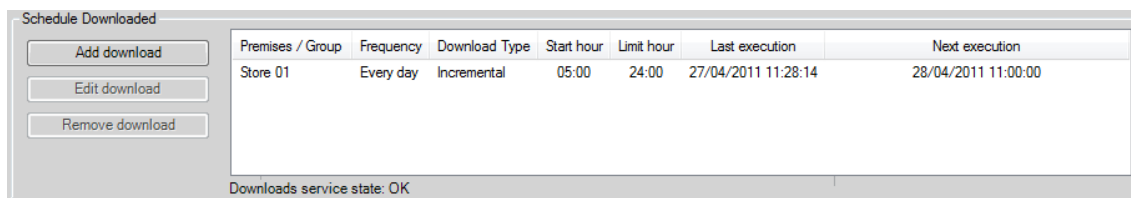
The "Manual Download" dialog box contains the following elements:

- Premises / Group:** A dropdown menu showing "Store 01".
- Download Type:** Two radio buttons: "Incremental from the last download" (selected) and "All data for two years (Six months for Peco1)".
- Buttons:** "Download Now" and "Cancel download".
- Last manual Download:** A section showing "Premises: Store 01" and "Date: 27/04/2011 11:34:13".
- Progress Bar:** A bar labeled "Downloading premises: Store 01" with a green progress indicator.

To start the process, click on the **“Download Now”** button. The download can be cancelled by clicking on the **“Cancel download”** button. On the right side of the window information about the last download performed is displayed (premise and date)

6.2. Scheduled downloads

By performing a scheduled download, the user can periodically and automatically fulfill downloads of the accumulated or incremental data of a premise or a group.

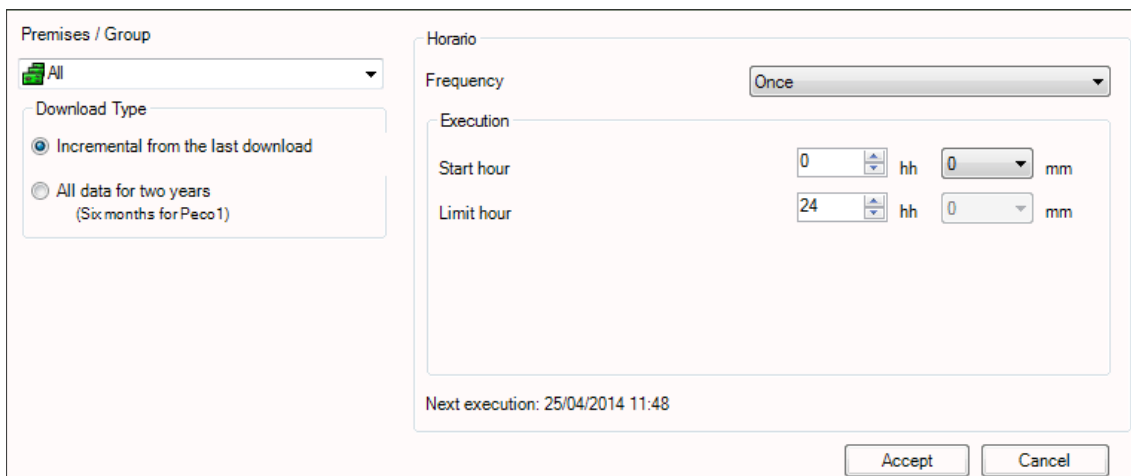


The "Schedule Downloaded" dialog box contains the following elements:

- Buttons:** "Add download", "Edit download", and "Remove download".
- Table:** A table with columns: Premises / Group, Frequency, Download Type, Start hour, Limit hour, Last execution, and Next execution.

Premises / Group	Frequency	Download Type	Start hour	Limit hour	Last execution	Next execution
Store 01	Every day	Incremental	05:00	24:00	27/04/2011 11:28:14	28/04/2011 11:00:00
- Status:** "Downloads service state: OK"

To add a new scheduled download, press on the button **“Add download”** to display the configuration window.



The download configuration window contains the following elements:

- Premises / Group:** A dropdown menu showing "All".
- Download Type:** Two radio buttons: "Incremental from the last download" (selected) and "All data for two years (Six months for Peco1)".
- Horario:** A section with a "Frequency" dropdown set to "Once".
- Execution:** Fields for "Start hour" (0 hh, 0 mm) and "Limit hour" (24 hh, 0 mm).
- Next execution:** A text field showing "Next execution: 25/04/2014 11:48".
- Buttons:** "Accept" and "Cancel".

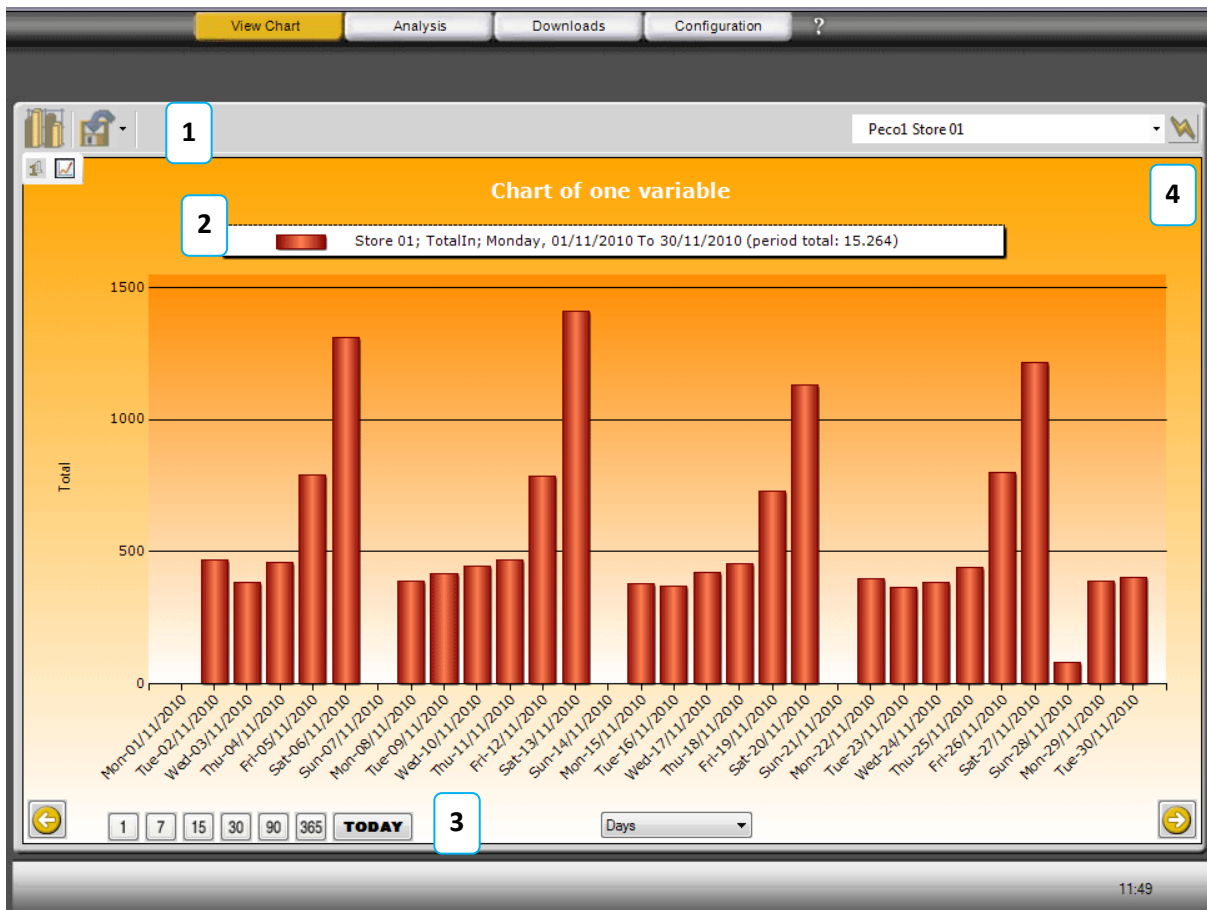
Select the premise/group and the download type. Then select the frequency, the *Start hour* and the *Limit hour*. The download will only be launched in such interval. Press Accept to end the process.

Multiple downloads with different timetables and premises/groups can be scheduled.

7. STEP 3: CHARTS CREATION

Once the premises/groups have been defined and the corresponding counting data have been downloaded, the user can start with the generation of charts by opening the tab “View Chart” of the main menu.

In this screen the user will be able to define the actions to display the resultant charts. By default, every time the user runs the application this screen will be displayed showing the last chart used by the user.



1

On the left side of the upper bar there are the controls to define the graphs, the way to display it on screen and to export or import them.

2

In the middle of the screen there is the display panel with the type of the selected chart, the information related to the variables selected and the corresponding graph.

3

In the lower part of the screen there are the time controls to move forward and backward, change the length of the graph or the way to group the data (in hours, days, weeks or months). It is also available the TODAY option that allows to place the graphic on the current day.

4

On the right side of the upper bar there is a list with the units involved in the graph and there is the chance to connect to them to access their web interface (for verification and maintenance purposes for instance)

7.1. Charts edition



To define a chart, click on the Select chart parameters icon. A window to set the chart parameters will be displayed.

Select the type of chart using the dropdown menu on the upper side of the window. Depending on the type of graph, the data required for its configuration can change.

The application can display 7 different predefined types of charts:

- Chart of one variable.
- Chart of one day of the week
- Comparison between two intervals
- Comparison between two variables
- Accumulated data of multiple premises
- Accumulated data of multiple variables
- Accumulated data of all groups

Each chart is defined by the selection of the variables and the chosen time interval. The time interval is defined by a certain length (1 – n days, 1 – n weeks) or by the start and end date of the time period.

Select the **variable or variables** to be graphically displayed

Select the **interval of time** to be used to display the data. When defining the duration bear in mind that is not the same to show 60 days (60 days grouped by days) than 2 months (2 data grouped by months).

The option **hour selection** at the lower part of the screen allows filtering the data so that only the ones within the interval of time selected are used.

Press **Apply** to see the chart without leaving the edition window. Press **Accept** to display the chart closing the edition window. Once the chart has been displayed, data related to the time interval or duration can be modified on the same screen.

7.2. Type of charts

Chart of one variable

It is meant to see the evolution of the data of a variable during a period. The parameters to be defined are the premise or groups, the variable to be used and the time interval.

The data will be displayed in hourly bars or in daily bars depending on the time interval chosen.

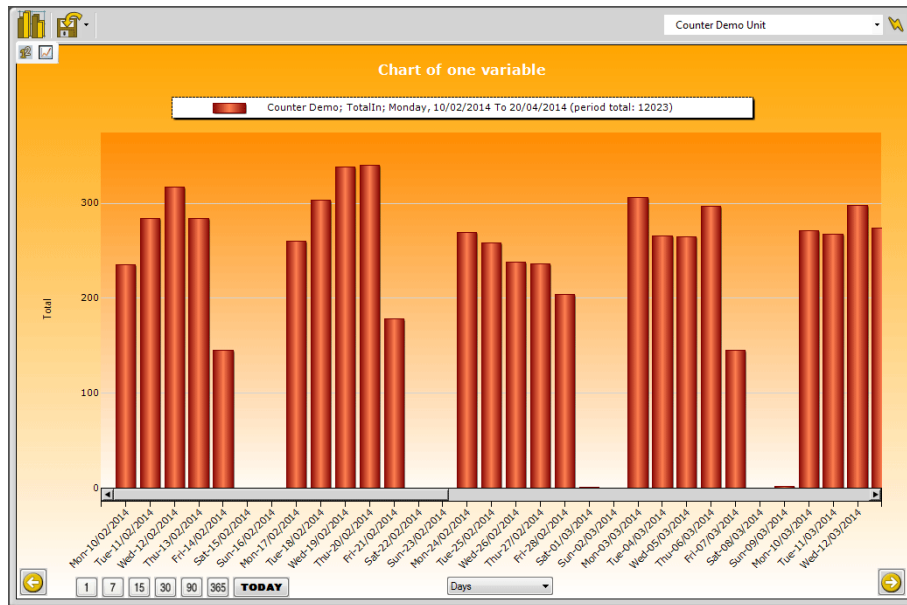
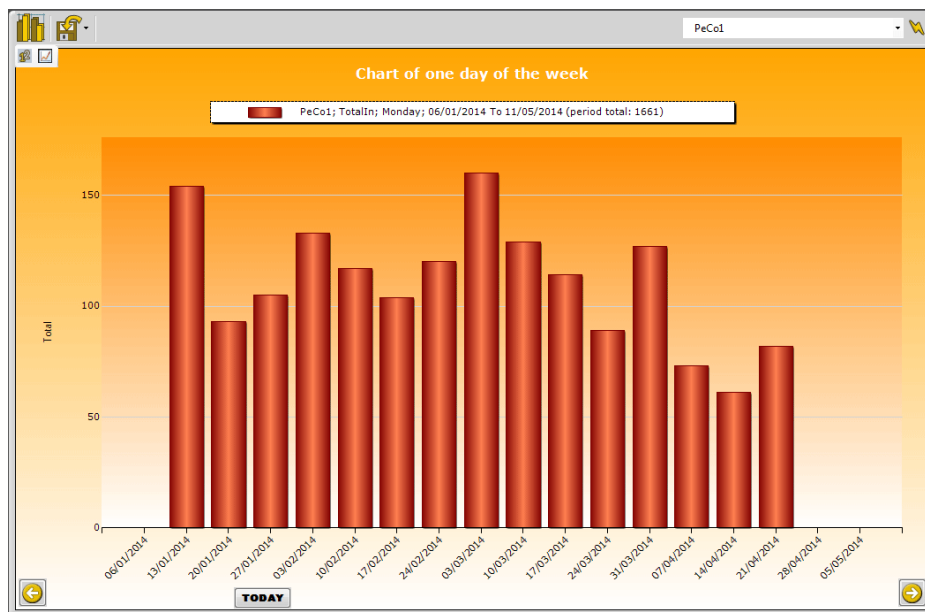


Chart of one day of the week

It is meant to analyze the data obtained in a specific day of the week during a period (maximum of 52 weeks). The parameters to be defined are the premises, the variable, the day of the week and the period of time: total number of weeks to display or the beginning and end of the time period.

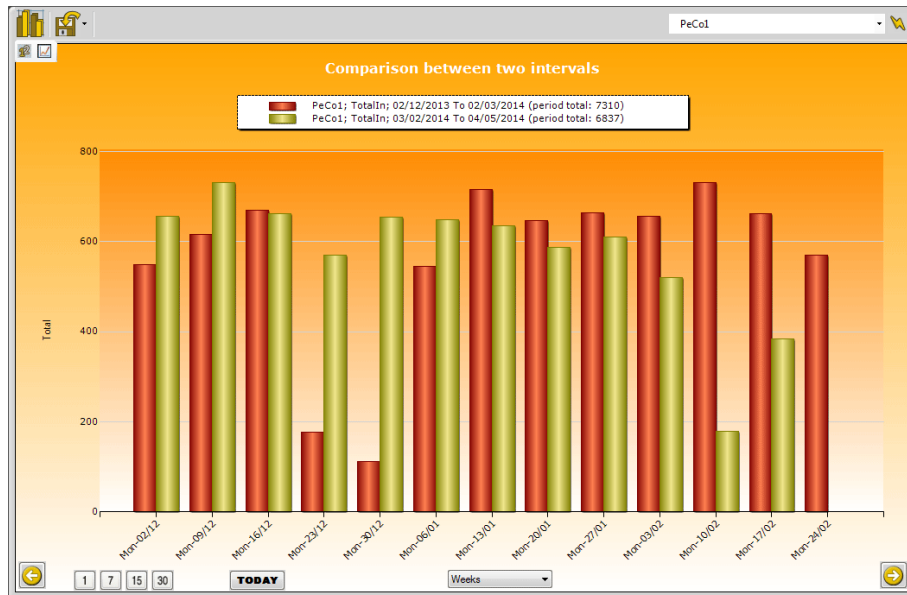
The data will be displayed in weekly bars.



Comparison between two intervals

Chart to see the evolution of the same variable during two different periods. The parameters to be defined are the premises, the variable and two different time intervals defined by a starting date and the duration of the periods to compare.

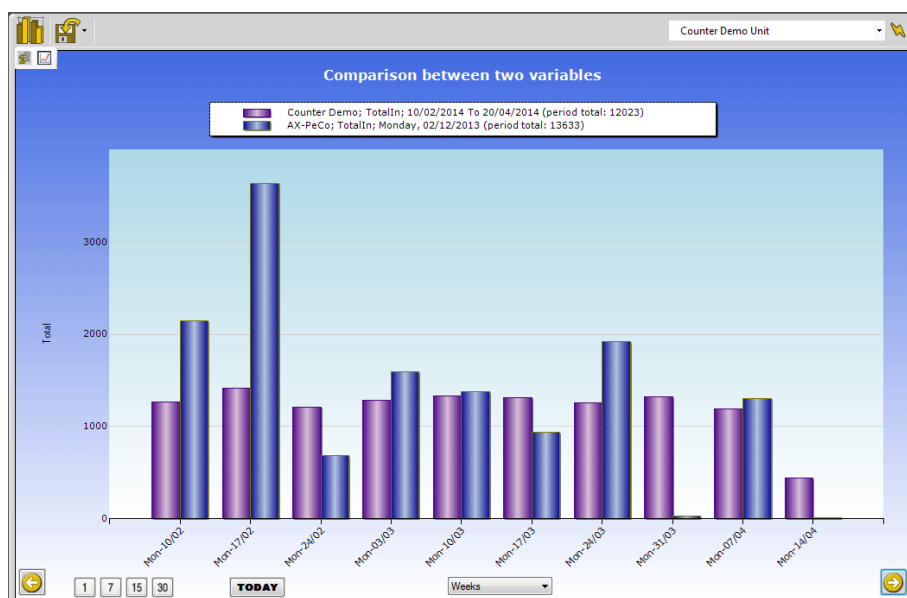
The data will be displayed in hourly or daily bars as corresponds.



Comparison between two variables

Chart to compare two different variables in a time interval. The parameters to be defined are the premises and the variables to be compared, the time interval and its duration in days.

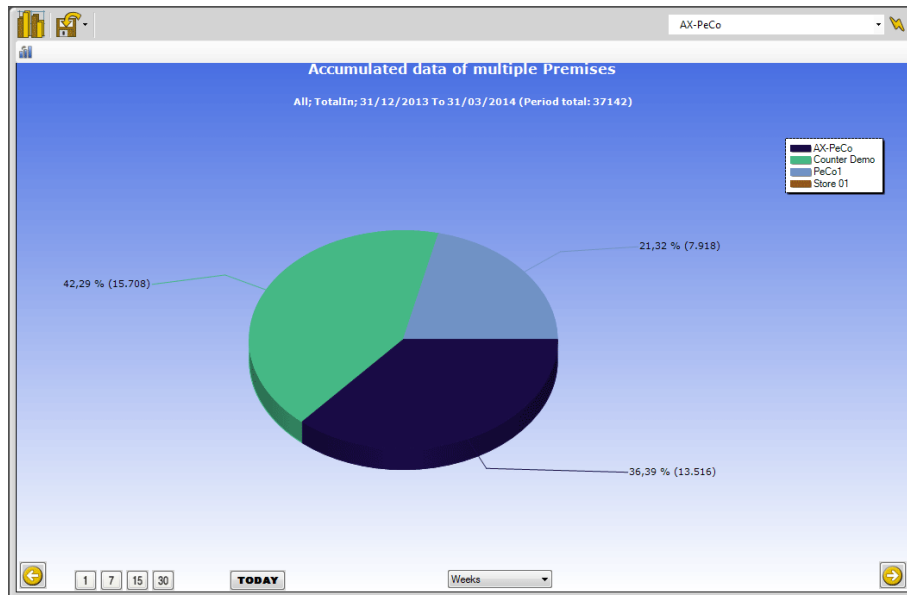
The data will be displayed in hourly or daily bars as appropriate.



Accumulated data of multiple premises

This chart is exclusive for groups. It allows comparing the accumulated data of a premises group during a period. The parameters to be defined are a group, a variable common to all of them and a time interval.

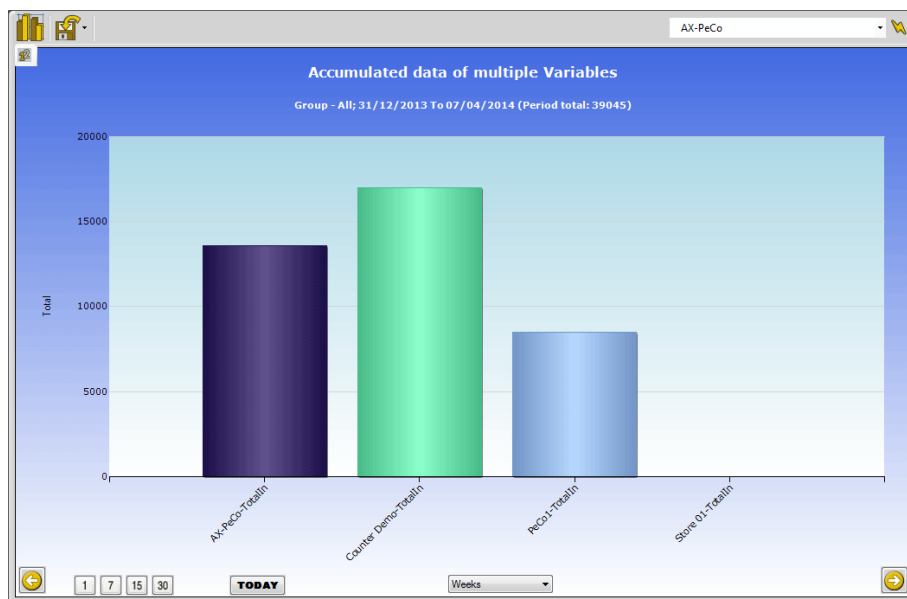
The data will be displayed in a pie-chart with as many divisions as premises are in the group, differentiated with colors and with their corresponding values or in a bar chart.



Accumulated data of multiple variables

This chart allows you to see the accumulated data of multiple variables from a premise or group. The parameters to be defined are a premise or group and a time interval.

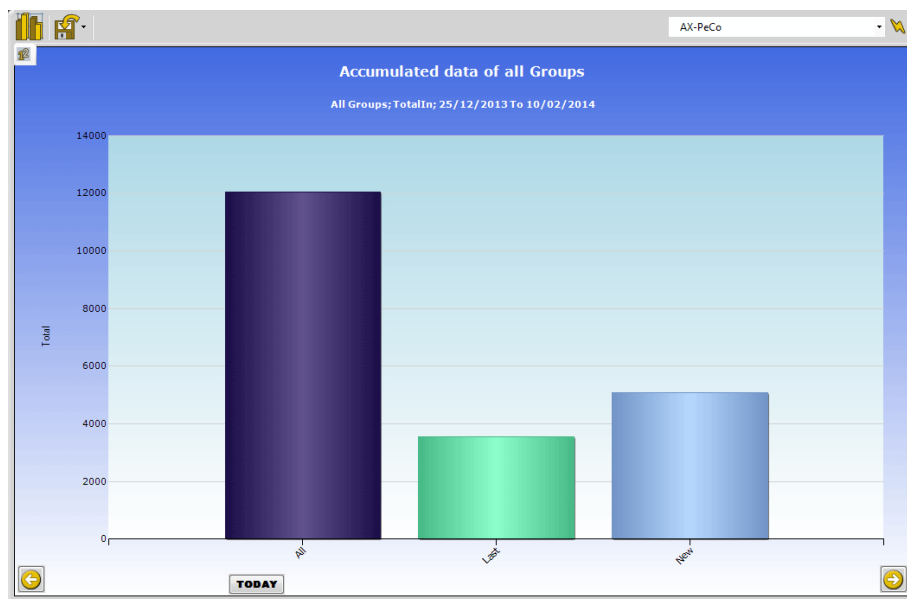
The data will be displayed with as many divisions as variables from the group or premise, differentiated with colors and with their corresponding values.



Accumulated data of all groups

This chart is exclusive for groups. You can see the accumulated data of all groups. The parameters to be defined are a common variable to all groups (Ex: TotalIn) and a time interval.

The data will be displayed with as many divisions as groups are defined.



7.3. Options of presentation and time adjustments

Once the chart is on screen, several adjustments can be made.

In the left upper side of the chart there are the presentation adjustments icons. Depending on the type of chart, the available icons will change.



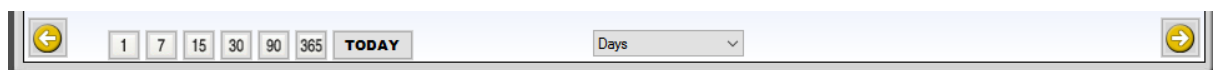
See Totals. Superimposes on the graphs the numerical values.

Line graph

Bar graph

Pie chart

Under the chart there are the **time controls**:



Arrows allows jumping from one interval of time to the previous or next one.

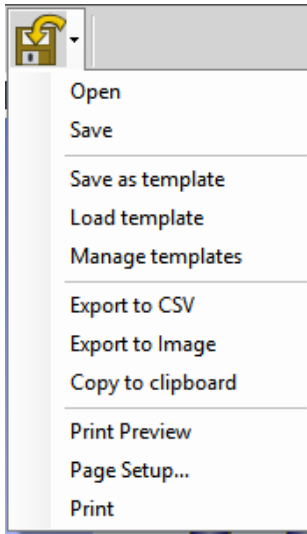
The button **TODAY** adjust the chart so this finishes in the current day

The dropdown button in the middle allows choosing the **time value** (hours, days, weeks or months) in which the data will be grouped.

The **numerical buttons** allow modifying the length of the chart according to the value set in the time value dropdown menu

7.4. Export data, create templates and manage charts

Once the chart with the variables and intervals has been chosen, some actions can be fulfilled by using the chart export control placed at the left of the upper bar:



Open / Save: for saving a chart the way it is being displayed, and to retrieve it and display it later. The data of the chart are stored in a.cfg format file. Once this file is open it cannot be modified. To be able to modify a chart, use the template option.

Save as template/Load template: for saving the configuration of the chart so it can be retrieved later and modify some of its values (a.e. the time interval) A file with the chart configuration in .xml format is created.

Manage templates: opens the file where the templates are stored to delete them or change their names.

Export to CSV: exports the values of the chart to a file in .csv format (texts separated by commas). The .csv file can be open with Excel to operate with its data or represent them graphically

Export to image: generates an image .jpg file for its use in reports, emails...

Copy to clipboard: copies an image of the chart to the Windows clipboard to paste it in an edition program or in a Windows open document.

Print preview: shows a preview of the chart

Page setup: for configuring the chart printing options

Print: opens the printing dialog

8. STEP 4: ANALYSIS

The Analysis tab of the main menu allows making a statistical study of the typical behavior or a counter during a day. By selecting the variable to be analyzed and the interval of time of the study, the application will gather together the daily results as they display similar values and behavioral profiles.

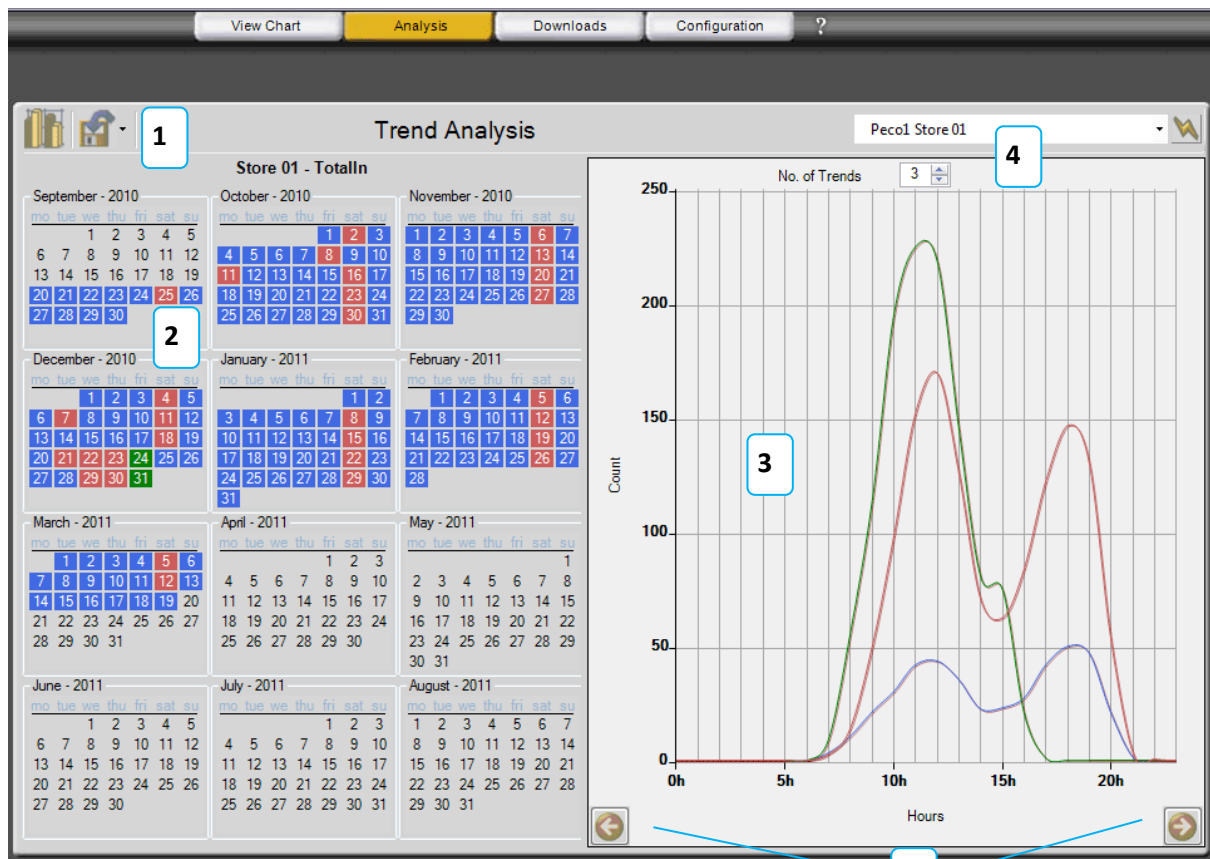


Click on the *Select Chart* icon placed at the left of the upper bar and in the window select the variable and the time interval. The interval is established by a starting and ending date or by its monthly duration with a maximum value of 12.

The screenshot shows a window titled "Chart parameters" with a "Trend Analysis" section. On the left, under "Variable", there are two dropdown menus: "Premises / Group" set to "Counter Demo" and "Variable" set to "TotalIn". On the right, under "Interval", there is a "Start" date dropdown set to "lunes, 29 de febrero de 2016". Below this, there are two radio buttons: "Duration" (selected) and "End". The "Duration" option has a numeric input set to "6" and a unit dropdown set to "Months". At the bottom of the "Interval" section, there is a checkbox labeled "Restore calendar to count every day of interval" which is currently unchecked. At the bottom of the dialog, there are three buttons: "Close", "Apply" (highlighted with a blue border), and "Accept".

When marking the option **"Restore calendar to count every day of interval"** all exceptions created by the user will be deleted. (See the epigraph calendar options)

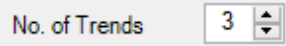
The trend tendency analysis of a variable is displayed as shown below:

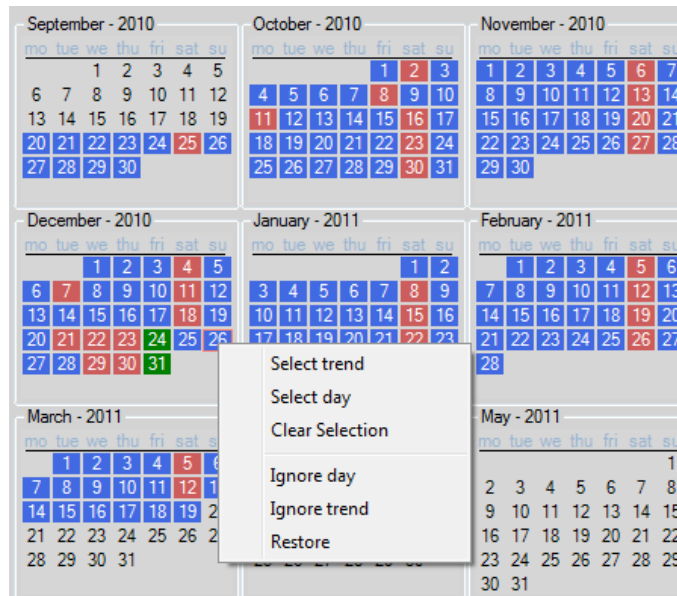


- 1 On the left upper side of the bar, there are the controls to define the parameters for the analysis and for export or import data.
- 2 On the left-hand side of the screen there is a calendar with the days object of the current analysis. These days are classified automatically in groups of similar behavior and each group of days is identified with a different color.
- 3 On the right-hand side of the screen there is the graphical representation of the typical behavior during a day of each group. Each trend corresponds to a group of similar days and has the same color as the days of the calendar.

8.1. Options of presentation and time adjustments

With the trends on screen we can set several adjustments:

- 4 Over the chart there is a control to modify the number of curves (number of groups) of the trend.
 When modifying this number automatically the application performs a new classification of the similar days according to the number of groups indicated and a new trend is created.
- 5 The chart corresponding to the previous or next time interval can be displayed by pressing the arrows placed right under the graph.
- 2 When a day shows outliers, this can be ignored so the values do not affect to the data of a day or group. Positioning the cursor on that day in the calendar and clicking the right mouse button appears a menu with different options:



Select trend: shows highlighted the trend that corresponds to the group to which that day belongs, with the hourly values superimposed on the trends.

Select day: shows a new trend with the data of the selected day

Clear selection: clear the previous selections

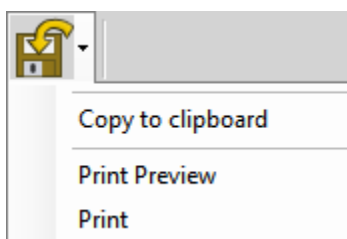
Ignore day: deletes a day from the analysis to avoid that its data detract the result of the analysis. It is possible to ignore several days.

Ignore trend: deletes from the analysis all the days that belong to the group of the selected day.

Restore: Removes all exceptions created by the user leaving the calendar in its initial status.

8.2. Export trends and print trends

Once the trend has been chosen, some actions can be fulfilled by using the chart export control placed at the left of the upper bar



Copy to clipboard: copies an image of the chart to the Windows clipboard to paste it in an edition program or in a Windows open document.

Print preview: shows a preview of the chart

Print: opens the printing dialog

9. MENU HELP

In the main menu there is a Help icon where besides the user manual (this document), the user can find the option “*About*”, which contains information about the version of the installed application.



The user manual in Windows XP and Windows Vista shall be in this directory:

C:\Documents and Settings\All Users\Program Data\Counter-Graph\

In Windows 7 or 10 the user manual shall be in the directory:

C:\ProgramData\Counter-Graph\

The format of the user manual name is the following:

CounterGraph_UserManual_XX.pdf

Where XX corresponds to the language acronyms (ES, EN, FR, IT, PT, PL, SI, HR and NL)

10. COUNTING DATA IMPORT AND EXPORT

10.1.1. Automatic data export

The downloaded data can be atomically export by PeCo-Graph to a path and with a format configurable by the user. This way they can be used from any other applications.

For further information, please refer to the technical note available at www.visual-tools.com

10.1.2. External data import

The application PeCo-Graph offers the possibility to use external counters or external data such as POS tickets. To include these external data the external application must convert the data to the structure and format required by PeCo-Graph.

For further information please contact Visual Tools at support@visual-tools.com.

10.1.3. PeCo-Graph counting files

The application PeCo-Graph automatically creates a folder for each premises/group registered in the database and, in each premise, a folder for each counting unit. In each folder the files of the downloads that have been carried out are stored

By default, the database application in Windows Vista and Windows XP is stored in the folder: *C:\Documents and Settings\All Users\Program Data\Counter-Graph* while the count file data are stored in the folder: *C:\Documents and Settings\All Users\Program Data\Counter-Graph\CountFiles*.

In Windows 7 or 10 the data base is stored in *C:\ProgramData\Counter-Graph\countergraph.mdb* and the count data files are stored in *C:\ProgramData\Counter-Graph\countfiles*.

The location of these files can be changed in the Option tab of the Configuration menu.

For further information about the format of the counting data files of PeCo-Graph, contact us at support@visual-tools.com

SOFTWARE PECO-GRAPH

User Manual - version 4.10

ENGLISH