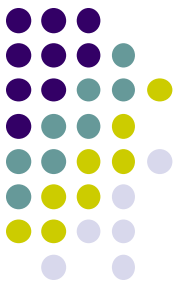




Database & Report Functions in PanelExpress & PM Designer

Database in PM Designer



- Use Database

The screenshot displays the PM Designer interface. On the left is the Project Manager tree, where the 'Database' folder is highlighted with a red box. A red arrow points from this folder to the 'Database' configuration window. The 'Database' window has a 'General' tab with the following settings: 'Use Database' is checked (highlighted with a red box), 'Database Type' is set to 'SQL' (with a dropdown menu open showing 'SQL', 'Access', 'MySQL', and 'SQL' highlighted), and 'Database Name' is 'Test'. In the foreground, the 'Recipe Block' window is also open, showing its 'General' tab with 'Use Database' checked (highlighted with a red box), 'Table Name' set to 'RBOO', 'Save Recipe To Database' checked, and 'Time to Save' set to 'Every day at 12:00'.



Database in PM Designer

- Save Application Data Into Database

The image displays three overlapping configuration windows from the PM Designer software:

- Data Logger:** Located at the top left, it has a 'General' tab. The 'Use Database' checkbox is checked. The 'Table Name' is 'DL00'. The 'Save Data to Database' checkbox is checked and highlighted with a red box. The 'Time to Save' is set to 'Every minute (For test only)'.
- Function Button:** Located at the bottom left, it has a 'General' tab. The 'ID' is 'FB0000'. The 'Operation' dropdown menu is set to 'Save Operation History To Database' and is highlighted with a red box.
- Operation Logging:** Located on the right, it has a 'Use Database' checkbox checked. The 'Table Name' is 'Operation_Logging'. The 'Column Names' button is 'Edit...'. The 'Save Operation Log To Database' checkbox is checked and highlighted with a red box. The 'Time to Save' is set to 'Every minute (For test only)'.



Database in PM Designer

- Set Column Names of Data Table

Data Logger

General | **Data Item**

Address	Name	Column Name
L1:0	D0	D0
L1:2	D1	D1
L1:4	D2	D2
L1:6	D3	D3

Database Table

Show Column Names

Language Of The Data Item Names To Be Used As The Column Names:

English

Alarm Properties

Use Database

Table Name: Alarm_History

Column Names: **Edit...**

Save Alarm History To Database

Time to Save: Every minute (For test only)

Column

No.	Name
1	Date_Time
2	Alarm1BlockID
3	AlarmLevel
4	AlarmID
5	AlarmStatus
6	AlarmMsg

Column names must comply with the rules for identifiers and must be unique in the table.
The rules for identifiers, please see
[http://msdn.microsoft.com/en-us/library/aa223962\(SQL.80\).aspx](http://msdn.microsoft.com/en-us/library/aa223962(SQL.80).aspx)

OK Cancel



Database in PM Designer

- Select Database as the Data Source for the object

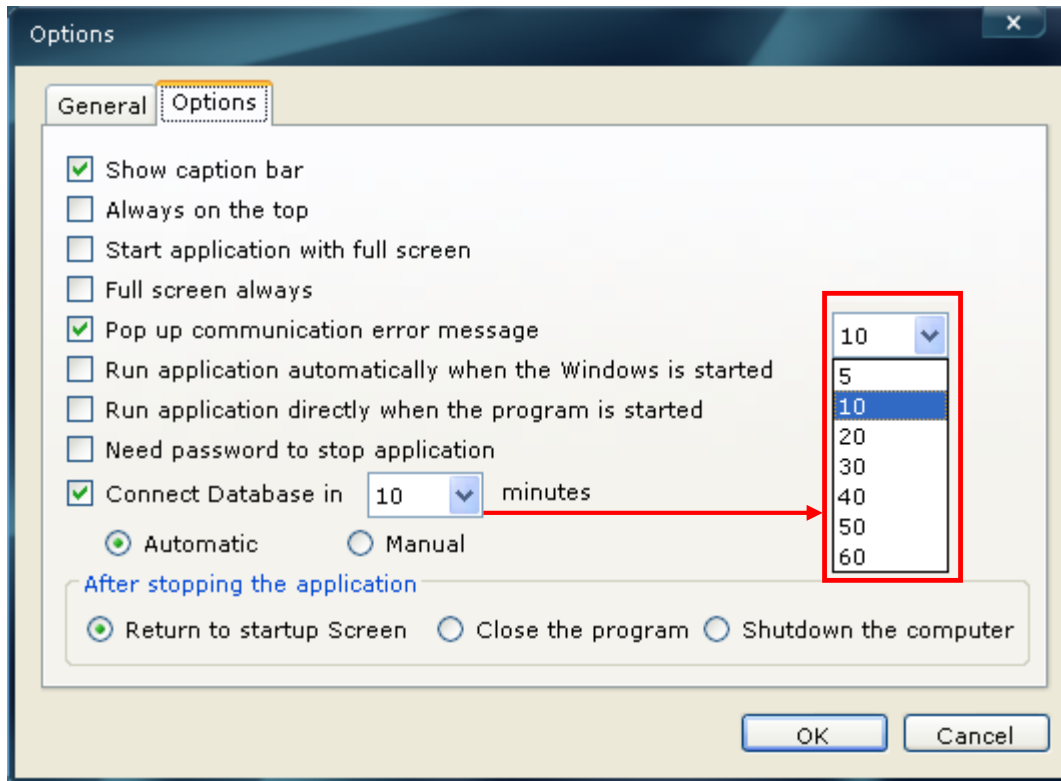
The image displays two configuration windows from the PM Designer software. The left window is titled "Historic Trend Graph" and has tabs for "General", "Curve", "Axis", and "Visibility". The "General" tab is active, showing an ID of "HTD0000" and a "Note" field. Below this is a preview of a green square labeled "NO_BDR". To the right of the preview are "Shape" options: "Transparent" (unchecked), a "Select..." button, and "BG Color" (set to green). Below the preview, the "Associated Data Logger" is "Trend Graph (1)". At the bottom, "Data Source" options are "Data Logger", "File", and "Database" (selected and highlighted with a red box).

The right window is titled "Alarm Display" and has tabs for "General", "Query", and "Visibility". The "General" tab is active, showing an ID of "AD0000" and a "Note" field. Below this is a preview of a grey square labeled "GF_0011". To the right of the preview are "Frame...", "Border Color" (set to black), and "BG Color" (set to grey). Below the preview, the "Type" is "Alarm History" (selected with a radio button). Under "Type", "Data Source" options are "Alarm Logger", "File", and "Database" (selected and highlighted with a red box).



Database in PanelExpress

- Connect Database automatically or manually when application is running





Database in PanelExpress

- Login

The screenshot shows a 'Login' dialog box with the following fields: 'Database name' (test), 'Server name' (THERRY\SQLEXPRESS), 'User name' (sa), and 'Password' (masked with asterisks). A red box highlights the password field, and a red arrow points from this box to a text box on the right.

Encrypt password can be saved in xml file

The screenshot shows the 'Login' dialog box with the 'Server name' dropdown menu open. The menu lists 'THERRY\SQLEXPRESS' and '<Browser...>'. A red arrow points from the '<Browser...>' option to a text box on the right.

Click <Browser...> to list all the servers

Database in PanelExpress



- Save Data, Load Data or Data Display in Objects



Database Data Display in :

- Historic Trend Graph
- Single Record Line Chart
- Historic Data Table
- Historic Scatter Chart
- Historic Radar Chart
- Operation Log Display
- Alarm History
- Alarm History (Query)
- Recipe Table

Database in PanelExpress

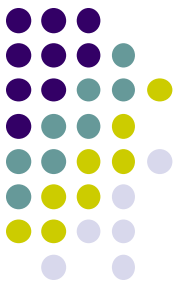


- Error Handling

		Before app. running	App is running	
			Connect Manually	Connect Automatically
1	Log in is canceled by user	Running app. without any database operation ✓	N/A	
2	Fail to connect the server	Need to reconnect/create/open successfully to exit the log in dialog ✓	Running app. without any database operation ✓	
3	Ask to create database if not exist ✓		Create if not exist	
4	Create database is canceled by user		N/A	
5	Fail to create database		Running app. without any database operation ✓	
6	Fail to open database			
7	Ask to create data table if not exist ✓	Running app. without the data table related operation. ✓	Create if not exist	
8	Create data table is canceled by user		N/A	
9	Fail to create table		Running app. without the data table related operation. ✓	
10	Table exists but column attribute is different			

✓ : Show messages

Report in PM Designer



- Add / Delete / Import / Export a report

The screenshot shows the PM Designer interface. On the left, the 'Project Manager' tree is visible, with the 'Reports' folder expanded and 'Report 1 (#1)' highlighted. A red arrow points from this folder to the 'Report' dialog box. The dialog box has a 'General' tab and contains the following fields and options:

- ID: 2
- Report Name: Report 2
- Template: Table, Chart
- Header and Footer
- Title
- Tail
- Data Source: Data Loggers
- Data Source ID: Trend Graph(1)
- Buttons: OK, Cancel, Help

Two preview windows show the report layout with 'Header' and 'Footer' labels, and 'TITLE' and 'TAIL' text.

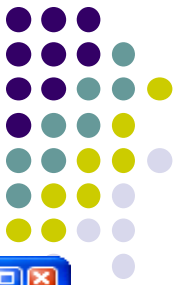


Report in PM Designer

- Open Report by Function Button

The image shows two parts of the PM Designer interface. On the left, two function buttons are displayed: 'Open All Reports' and 'Open Report 1'. On the right, the 'Function Button' configuration dialog is open, showing the 'General' tab. The dialog includes fields for ID (FB0000) and Note, a preview window showing a button labeled 'SW_0031', and a 'Shape' section with options for 'Transparent', 'Picture Shape', 'Touch' (set to 'Sunken'), and 'Test'. Below the shape section, there are dropdown menus for 'Operator' (set to 'Open Report') and 'Report' (set to 'All'). A list of reports is shown below the 'Report' dropdown, including 'All' and 'Report 1 (#1)'. The 'Report' dropdown is currently open, showing 'All' selected.

Report in PM Designer



- Create or open a table report

The screenshot displays the PM Designer interface for creating a table report. The main window, titled "Report - Report 1 (#1)", shows a table with a header and data rows. The header row is labeled "Header" and contains columns "D0", "D1", "D2", and "D3". The data rows are labeled "Data" and contain "9" characters. The Properties window on the right shows the following settings:

General	
ID	1
Name	Report 1
DataType	DataLogger
DataSource	
Header	
Height	30
Caption	Header
Color	Black
Font	Arial, 10.5pt
Alignment	AlignCenter
ExtraHeaders	(Collection)
ShowHeader	True
Title	
Table	
HeaderFont	Arial, 9pt
HeaderHeight	20
HeaderAlignment	AlignCenter
DataFont	Arial, 9pt
DataRowHeight	20
DataItems	(Collection)
Grids	Grids
ShowTable	True
Tail	
Footer	
PageSetup	
Size	A4 21.0cm x 29.7cm
Orientation	Landscape
PageMargin	0.5cm,0.5cm,0.5cm,0.5cm

HeaderHeight
Header height, unit: pixels.



Report in PM Designer

- Property Settings – General/Header/Title/Tail/Footer/PageSetup

General	
ID	1
Name	Report 1
Data Type	DataLogger
Data Source	
Header	
Height	30
Caption	Header
Color	Black
Font	宋体, 9pt
Alignment	AlignCenter
ExtraHeaders	(Collection)
ShowHeader	True
Title	
Table	
Tail	
Footer	
PageSetup	
Size	A4 21.0cm x 29.7cm
Orientation	Landscape
PageMargin	0.5cm,0.5cm,0.5cm,0.5cm
Left	0.5
Top	0.5
Right	0.5
Bottom	0.5

Caption

Caption: [Date] [Time] Header [Page#]/[Total#]

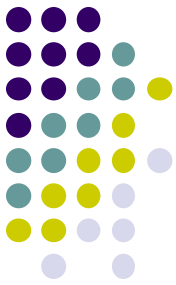
Options

Name	Expression	Format	Use
Date:	[Date]	YYYY-MM-DD	
Time:	[Time]	HH:MM:SS	
Page Number:	[Page#]	1, 2, 3...	
Total Page Number:	[Total#]	1, 2, 3...	

OK

Cancel

Report in PM Designer



- Property Settings - Table

W0	W1	W2
9999	9999	9999
9999	9999	9999
9999	9999	9999
9999	9999	9999
9999	9999	9999

Table	
HeaderFont	Arial, 9pt
HeaderHeight	20
HeaderAlignment	AlignCenter
DataFont	Arial, 9pt
DataRowHeight	20
DataItems	(Collection) ...
Grids	
BorderStyle	Solid
BorderWidth	1
BorderColor	Black
HeaderGridStyle	Solid
HeaderGridWidth	1
HeaderGridColor	Red
DataGridStyle	Solid
DataGridWidth	1
DataGridColor	DodgerBlue
ShowTable	True

Edit Columns

- W0
- W1
- W2
- W3
- W4
- W5
- W6

General
Width: 60

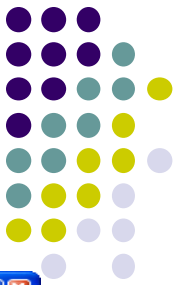
Header
Text: W0
ColumnCaption:
TextColor: Black
BgColor: LightBlue

Data
TextColor: Black
EvenRowBgcolor: AliceBlue
OddRowBgcolor: White
Alignment: AlignCenter

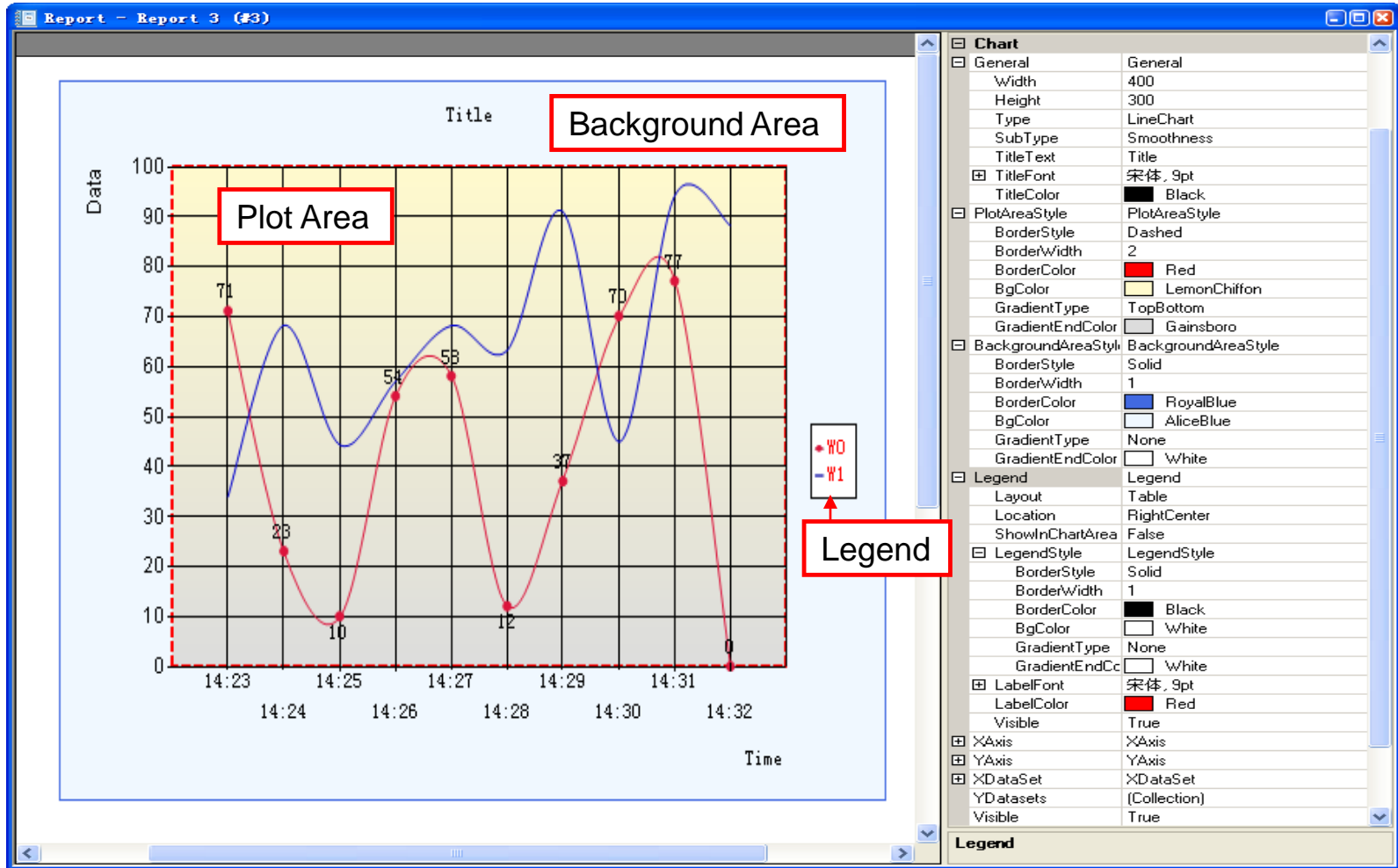
Width
Column width, unit: pixels.

OK Cancel

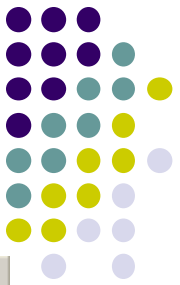
Report in PM Designer



- Create a chart report



Report in PM Designer



- Property Settings - Chart

Chart	General	General
General	Width	400
General	Height	300
General	Type	LineChart
General	SubType	Smoothness
General	TitleText	Title
General	TitleFont	宋体, 9pt
General	TitleColor	Black
PlotAreaStyle	PlotAreaStyle	PlotAreaStyle
PlotAreaStyle	BorderStyle	Dashed
PlotAreaStyle	BorderWidth	2
PlotAreaStyle	BorderColor	Red
PlotAreaStyle	BgColor	LemonChiffon
PlotAreaStyle	GradientType	TopBottom
PlotAreaStyle	GradientEndColor	Gainsboro
BackgroundAreaStyle	BackgroundAreaStyle	BackgroundAreaStyle
BackgroundAreaStyle	BorderStyle	Solid
BackgroundAreaStyle	BorderWidth	1
BackgroundAreaStyle	BorderColor	RoyalBlue
BackgroundAreaStyle	BgColor	AliceBlue
BackgroundAreaStyle	GradientType	None
BackgroundAreaStyle	GradientEndColor	White
Legend	Legend	Legend
XAxis	XAxis	XAxis
YAxis	YAxis	YAxis
XDataSet	XDataSet	XDataSet
XDataSet	Dataltem	Time
XDataSet	Format	HH:MM
XDataSet	YDatasets	(Collection)
XDataSet	Visible	True

Type	SubType
LineChart	Smoothness
LineChart	General
ScatterChart	SmoothnessScatter
ScatterChart	LineScatter
ScatterChart	XYScatter

BackgroundAreaStyle	BorderStyle
None	None
LeftRight	LeftRight
TopBottom	TopBottom
Center	Center
LeftDiagonal	LeftDiagonal
RightDiagonal	RightDiagonal
HorizontalCenter	HorizontalCenter
VerticalCenter	VerticalCenter

Chart	General	General
General	PlotAreaStyle	PlotAreaStyle
General	BackgroundAreaStyle	BackgroundAreaStyle
Legend	Legend	Legend
Legend	Layout	Table
Legend	Location	RightCenter
Legend	ShowInChartArea	False
LegendStyle	LegendStyle	LegendStyle
LegendStyle	BorderStyle	Solid
LegendStyle	BorderWidth	1
LegendStyle	BorderColor	Black
LegendStyle	BgColor	White
LegendStyle	GradientType	None
LegendStyle	GradientEndColor	White
LabelFont	LabelFont	宋体, 9pt
LabelFont	LabelColor	Red
LabelFont	Visible	True
XAxis	XAxis	XAxis
YAxis	YAxis	YAxis
XDataSet	XDataSet	XDataSet
XDataSet	Dataltem	Time
XDataSet	Format	HH:MM
XDataSet	YDatasets	(Collection)
XDataSet	Visible	True

Row	Column
Table	Table

Report in PM Designer



- Property Settings - Chart

[-] XAxis	XAxis
TitleText	Time
[+] TitleFont	宋体, 9pt
TitleColor	Black
TitleAlignment	AlignRigh
ShowLabel	True
MajorTickNumber	10
MajorGridStyle	Solid
MajorGridWidth	1
MajorGridColor	Black
MajorGridVisible	True
MinorTickNumber	0
MinorGridStyle	None
MinorGridWidth	1
MinorGridColor	Black
MinorGridVisible	False
MajorTick	Indide
MinorTick	Indide
MaxTick	0
MinTick	0
[+] AdvancedStyle	AdvancedStyle
[+] YAxis	YAxis
[-] XDataSet	XDataSet
DataItem	Time →
Format	HH:MM →
YDatasets	(Collection) ... →
Visible	True

Datatem	Format
Date	DD/.-MM/.-YY
	MM/.-DD/.-YY
	YY/.-MM/.-DD
	MMMDD
	DD/.-MM
	MM/.-DD
	YYYY-MM-DD
Time	MM:SS
	HH:MM:SS
	HH:MM

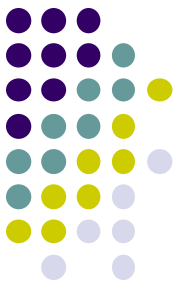
Edit Columns

- W0
- W1
- W2
- W3
- W4

DataItem	W0
Format	
[-] ConnectedLine	ConnectedLine
LineStyle	Solid
LineWidth	1
LineColor	Crimson
FullColor	White
FullType	None
FullEndColor	White
[-] PointMarker	PointMarker
Visible	True
Size	4
Type	Circle →
[-] PointValue	PointValue
Visible	True
Location	Auto →
Angle	0
[+] Font	宋体, 9pt
Color	Black

- Auto
- Cross
- Diamond
- Square
- Circle**
- Triangle

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Report in PanelExpress

- Report Manager



Click here to open report manager

Double Click the node to login the database and view the report

ReportManager

ReportList

- TrendGraph (#1)
- AlarmHistory (#2)
- OperationLogging (#4)

TrendGraph (#1)

Date:2014-4-25 Time: 15:19:6

太阳能发电数据

D0	D1	D2	D3
0	0	0	0
0	0	0	0
0	0	0	0
185	200	400	600
185	201	401	601
185	202	402	602

Caption Bar

Toolbar

Report Viewer

Report List

Report in PanelExpress



- Docking and Multiple Views

The screenshot displays the ReportManager application window with a toolbar at the top showing navigation and printing icons. The main area is divided into four docked panels:

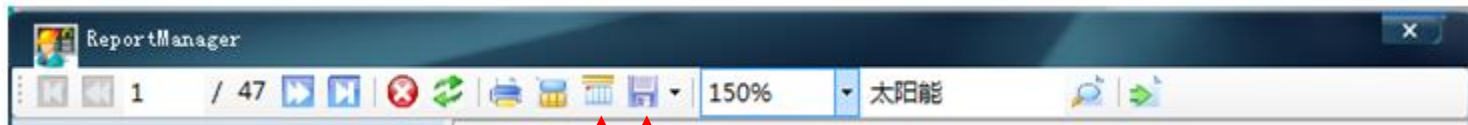
- AlarmHistory (#2):** A table titled "同服警报记录" (Server Alarm Record) with columns "AlarmID" and "AlarmStatus".
- OperationLogging (#4):** A table titled "主控面板操作记录" (Main Control Panel Operation Record) with columns "Time" and "Operation".
- TrendGraph (#1):** A table titled "太阳能发电数据" (Solar Power Generation Data) with columns "D1" and "D2".
- ReportList:** A tree view showing a hierarchy of reports: "Reports" containing "TrendGraph (#1)", "AlarmHistory (#2)", and "OperationLogging".

A red arrow points from a red-bordered box labeled "Dockable" to the ReportList panel, indicating its dockable nature.

Report in PanelExpress



- Supported Features --- Toolbar



- First Page
- Previous Page
- Current Page Number
- Total Pages
- Next Page
- Last Page
- Stop
- Refresh
- Print
- Print Preview
- Page Setup
- Export to PDF / EXCEL
- Zoom in / Zoom out
- Text To Find
- Find
- Find Next

