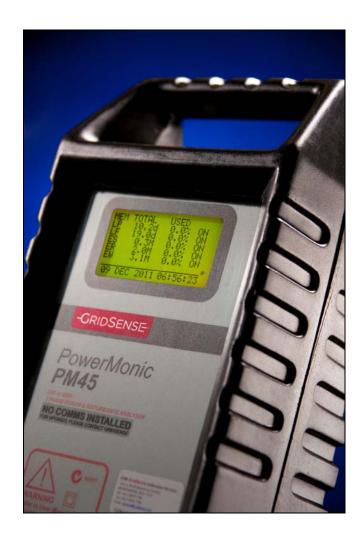


PM Sync User Manual



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1 Introduction

PM Sync software enables high speed, remote download of logged PowerMonic data. Please note that remote communications are available in the PowerMonic 35 and PowerMonic 45. It has two modes of application:

- a) Manual mode for downloading from individual PowerMonic devices.
- b) Automatic mode for downloading from multiple PowerMonic devices.

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2 Mode Selection

When the PM Sync application is launched, the mode selection window will appear.

💻 PowerMonic Sync Version 0.1 rev 🔳 🗖 🔀						
Select Mode						
Manual Mode	Automatic Mode					

Figure 1: Mode Selection Window

Click either the Manual or Automatic button to select the desired mode. When launched from PowerView, PM Sync will go into Manual Mode automatically.

PowerMonic Connectio	n Mode		
Select PowerMonic Mode PM25/35/40/45	C PM20/30	C PM15	
	Direct Cable	Connection	
	Remote Mode	m Connection	
Internet IP4 Address: 10.10.10.	10	Port: 13000	
P	emote Internet Cor	nection (TCP/IP4)	
	PowerMonic Sync	(Remote App)	
	Cancel	Help	

Figure 2: PowerView Sync

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3 Manual Mode

	PM S	Sync Manual Mode Versio	n 0.1 rev 71	- Details			
[Device	Name					
L	Enword	Add Ren	nove All				
	ID: 1	Devices Device Name Example 1	IPAddress 192.0.2.5		Site Description	Serial Number	Test Delete
	2	Example 2	192.0.2.7				Test Delete
	3	Example 3 PM35_1	192.0.2.12 10.10.20.218		Test_PM35_Meadowbank	0000002	Test Delete
	5	PM45_1	10.10.20.212		Test_PM45_Meadowbank	0000003	Test Delete
	6	PM35_2	10.10.20.216		Test_PM35_Meadowbank_2	0000001	Test Delete
		Erase and Reset PowerMonic a	fter download		Erase and Reset PowerMoni	c Now	GridSense
		Download Selected		Cancel D	ownload Firmware Up	ograde	Reboot
L							

3.1 Add, Remove and Edit a PowerMonic Device

Figure 3: Add, remove and edit device in manual mode

To add a device, enter a device name and an IP address to identify the device and click **Add**. The device will appear in the "Saved Devices" as shown in Figure 3.

- Add Device	
Device Name	PM45
IP Address	192.0.2.23
Add	Remove All

Figure 4: Adding a device

If the device is configured to use a port other than the default (port 13000), insert ':' followed by the port number to the end of the IP address. For example, a test device is using port 13042 in lieu of default port 13000; enter 192.0.2.7**:13042** in the IP Address box.

Add Device			
Device Name	PM45 Port Test		
IP Address	192.0.2.23:13042		
Add	Remove All		

Figure 5: Configuring Port Address

To edit a device, double click the field that needs to be changed in the Saved Devices list, and press Enter when it has been modified. Please note that the changeable fields are Device Name and IP Address. Site Description and Serial Number are retrieved from the device.

To delete a device, click on the **Delete** button.

To remove all devices from the saved device list, click the **Remove All** button.

🔜 РМ	🖪 PM Sync Manual Mode Version 0.1 rev 71									
Add De	evice	_ Details								
Device IP Ado	lress									
	Add Ren	nove All								
Saved	Devices									
ID:	Device Name	IPAddress	Site Description	Serial Number						
1	Example 1	192.0.2.5			Test Delete					
2	Example 2	192.0.2.7			Test Delete					
3	Example 3	192.0.2.12			Test Delete					
4	PM35_1	10.10.20.218	Test_PM35_Meadowbank	0000002	Test Delete					
5	PM45_1	10.10.20.212	Test_PM45_Meadowbank	0000003	Test Delete					
6	PM35_2	10.10.20.216	Test_PM35_Meadowbank_2	0000001	Test Delete					
[Erase and Reset PowerMonic a	after download	Erase and Reset PowerMoni	c Now	GridSense*					
	Download Selected	Cancel D	ownload Firmware U	oqrade	Reboot					
]					

Figure 6: Details list

The Details list will show details during downloading and other operations.

The device list is saved automatically after every addition, every removal, and every time a change is made.

3.2 Test a PowerMonic

To test a device, click the **Test** button as shown in Figure 7. This will retrieve the Site Description and Serial Number of the PowerMonic device. The Details list will display additional information, such as the firmware version of the communication module and the PowerMonic.

🎆 РМ	Sync Manual Mode Versio	n 0.1 rev 71					
- Add De	avice		- Details				
	Device Name		09:35:53.527 Testing 09:35:58.339 Test successful. Site description: Test_PM35_Meadowbank 09:35:58.339 PM35 HW version: 3 FW version: 4.53 SN: 0000002 09:35:58.339 Comms Module FW Revision: 101 BSP Revision: 5 HW Revision: 2				
	Add Ren	nove All	<	00			
Saved	Devices						
ID:	Device Name	IPAddress		Site Description	Serial Number		
1	Example 1	192.0.2.5				Test Delete	
2	Example 2	192.0.2.7				Test Delete	
3	Example 3	192.0.2.12				Test Delete	
4	PM35_1	10.10.20.218		Test_PM35_Meadowbank	0000002	Test Delete	
5	PM45_1	10.10.20.212		Test_PM45_Meadowbank	0000003	Test Delete	
6	PM35_2	10.10.20.216		Test_PM35_Meadowbank_2	0000001	Test Delete	
	Erase and Reset PowerMonic a	fter download		Erase and Reset PowerMonie	c Now	GridSense*	
	Download Selected		Cancel D	ownload Firmware Up	oqrade	Reboot	

Figure 7: Device under test

3.3 Download Data from PowerMonic

To select a device for download, click the required device in the list and the row of the selected device will be highlighted as shown in Figure 8. Please note that only one device can be selected at a time.

🛃 PN	l Sync Manual Mode Versio	n 0.1 rev 71			
- Add D	evice	Details			
Devic IP Ad	e Name				
		nove All			
	d Devices				
ID.	Device Name	IPAddress	Site Description	Serial Number	
1	Example 1	192.0.2.5			Test Delete
2	Example 2	192.0.2.7			Test Delete
3	Example 3	192.0.2.12			Test Delete
4	PM35_1	10.10.20.218	Test_PM35_Meadowbank	0000002	Test Delete
5	PM45_1	10.10.20.212	Test_PM45_Meadowbank	0000003	Test Delete
6	PM35_2	10.10.20.216	Test_PM35_Meadowbank_2	0000001	Test Delete
	Erase and Reset PowerMonic	after download	Erase and Reset PowerMoni	ic Now	GridSense*
	Download Selected	Cancel D	ownload Firmware U	pqrade	Reboot

Figure 8: Download selected

To start a download, click the **Download Selected** button. Save the data file (file extension .PM4) to the desired location as prompted by the window. Please note, download speed will depend on the cache settings, network connection speed, PowerMonic logging task settings, and data file size. Download can take anywhere from one minute to one hour, with a typical time of three to five minutes. The progress bar and details list will indicate the approximate progress of the download.

Once the download is completed, a prompt window will ask if the data is to be viewed in PowerView. Click on **Yes** to verify data validity.

To cancel a download in progress, click **Cancel Download.** This action will not erase previous logged data and the Communications Module will resume retrieving data to be stored in its cache.

3.4 Erase Logged Data

Check the **Erase and Reset PowerMonic after Download** option prior to download in order to automatically erase logged data and restart logging after a download. To manually erase the logged data, click on **Erase and Reset PowerMonic Now.** See Figure 9 below.

📕 PM Sync Manual	Mode Version 1.0.2				
Add Device Device Name IP Address		Details —			
Add	Remove All				
Saved Devices					
ID: Device Name 1 test	IPAddress 10.10.20.100		Site Description Test_PM35_Meadowbar	Serial Number	Test Delete
Erase and Res	et PowerMonic after download		Erase and Reset Powe	rMonic Now	-GRIDSENS
Down	lload Selected	Cance	el Download Firmv	vare Upgrade	Reboot

Figure 9: Erase logged data

3.5 Firmware Upgrade

Click on the **Firmware Upgrade** button to update the Communications Module firmware. Select the new *GsnCommsTask* file from the designated PC or network location as prompted by the pop–up window. Please ensure that network connection is present when performing the firmware upgrade.

Once the upgrade is completed, the Communications Module should resume operations within a minute. Click on **Test** to verify that the correct version has been loaded; firmware revision will be displayed in the **Details** list. Please be sure to upload a valid firmware file, as the device may fail to establish a remote connection if rebooted with invalid firmware. If the user does upload invalid firmware, it will need to be corrected with a manual upgrade process via local network. See Figure 10 below.

Device		etails		
vice Name				
Address				
Add	Remove All			
ved Devices	- J.·			
Device Name	IPAddress	Site Description	Serial Number	
test	10.10.20.100	Test_PM35_Meadowbank	0000002	Test Delete
test	10.10.20.100	Test_PM35_Meadowbank	0000002	Test Delete
	10.10.20.100	Erase and Reset Power		-GRIDSEI

Figure 10: Firmware upgrade

3.6 Reboot

If the Communications Module ceases to respond during normal operation, click the **Reboot** button to reboot the Communications Module. Please do not click **Reboot** after a failed firmware upgrade. However, the user can do so after a successful firmware upgrade.

4 Automatic Mode

4.1 Add, Remove and Edit a PowerMonic Device

The process of Adding, Editing, Deleting and Testing devices in automatic mode is the same as in Manual Mode. The automatic mode has an additional Download checkbox (see Figure 11 below), which is used to select devices to be included in the scheduled automatic download. The device selection will be saved when the scheduler is started. The column on far right will indicate the progress bar.

		natic Mode Ve	rsion 0.1 rev 71				
Add Dev	/ice		Y	Details			
Device I	Name						
IP Addre	ess						
	Add		Remove All				
aved D	evices						
IC	Downloa	Device Name	IPAddress !	ite Description	Serial		
1		Example 1	192.0.2.4		6	Test Delete FW Upgrade Reboot	
2		Example 2	192.0.2.5		1	Test Delete FW Upgrade Reboot	
3		Example 3	192.0.2.9		-	Test Delete FW Upgrade Reboot	
4		Example 4	192.0.2.11			Test Delete FW Upgrade Reboot	
5		PM35 1	10.10.20.218	est PM35 Meadowbank	00000000		
	_	-			L	Test Delete FW Upgrade Reboot	
6		PM45_1		Fest_PM45_Meadowbank		Test Delete FW Upgrade Reboot	
7	~	PM35_2	10.10.20.216	<pre>[est_PM35_Meadowbank_2</pre>	0000001	Test Delete FW Upgrade Reboot	
				Columbus Collins			
			ad Path:	Scheduler Settings —			
C:\Dow	nloads\Powe		ad Path:		Weekly ON	Nonthly OCron Expression (Adva	
					Weekly ON	Nonthly OCron Expression (Adva	
		rMonic is After Download			Weekly ON	Nonthly OCron Expression (Adva	Max Concurren
-		rMonic s After Download Start Downlo	ing	Daily O		Nonthly OCron Expression (Adva	Max Concurren Downloads

Figure 11: Automatic mode selection

4.2 Details List

This is similar to the manual mode. It will display download details, firmware and software revision (when Test is clicked) and other revisions. Any change to the list is saved automatically.

4.3 Downloading Data

Downloading in automatic mode can be performed either by clicking the **Download Now** button or by utilizing the **Start Download Scheduler** button. When a download starts, the progress bars will display the progress of the download for each PowerMonic. PM Sync will automatically re-try on failure. If a download fails repeatedly, then the text "Failed" will be displayed in red on top of the progress bar.

📕 РМ	Sync Auto	matic Mode	Version 0.1 rev 71					
Add D	evice			Details				
	e Name			09:46:37.424 Testing 10.10.20.218 09:46:42.611 Test successful, Site description: Test_PM35_Meadowbank 09:46:42.627 PM35 HW version: 3 FW version: 4.53 SN: 00000002 09:46:42.627 Comms Module FW Revision: 101 BSP Revision: 5 HW Revision: 2 SN: 20424242				
	Add		Remove All	09:47:49.077 Scheduler started with 3 sites 09:47:49.077 Next scheduled download: 2012-03-07 03:00:00				
Saved Devices								
IC	Downloa	Device Name	IPAddress	Site Description	Serial			
1		Example 1	192.0.2.4			Test Delete FW Upgrade Reboot		
2		Example 2	192.0.2.5			Test Delete FW Upgrade Reboot		
3		Example 3	192.0.2.9			Test Delete FW Upgrade Reboot		
4		Example 4	192.0.2.11			Test Delete FW Upgrade Reboot		
5	~	PM35_1	10.10.20.218	Test_PM35_Meadowbank	00000002	Test Delete FW Upgrade Reboot		
6		PM45_1	10.10.20.212	Test_PM45_Meadowbank	0000003	Test Delete FW Upgrade Reboot		
7	~	PM35_2	10.10.20.216	Test_PM35_Meadowbank_2	00000001	Test Delete FW Upgrade Reboot		
	Download Path:							
	wnloads\Pow			💿 Daily 🔘	Weekly (Monthly OCron Expression (Advanced)	Max Concurrent	
Era	Erase PowerMonics After Downloading							
		Start Dow	nload Scheduler				8	
			nload Scheduler	Scheduler S	Scheduler Status: Next Download At 2012-03-07 03:00:00			
		Dow	nload Now				GridSense [*]	

Figure 12: Download settings

4.4 Download Now and Download Path

Check the PowerMonic device or devices for the required data download. Click on "..." to select the download location to save the PowerMonic (file extension .PM4) data file.

4.5 Scheduler Settings

The Scheduler Settings are used for setting up a regular download activation time. The scheduler supports four modes:

- a) Daily download at a particular hour
- b) Weekly download at a particular hour on a particular weekday
- c) Monthly download at a particular hour on a particular day
- d) Cron Expression for advanced, flexible scheduling. Please see 4.3.3

Once the desired scheduler setting is selected, additional settings, such as time of download and day, will become available to the user. Select the scheduler timeframe as desired.

Click the **Start Download Scheduler** button to start the scheduler. This will validate and save all relevant settings. The next download time will appear in the details list.

Click the Stop Download Scheduler button to stop the scheduler.

4.6 Cron Expression

A cron expression consists of seven fields separated by spaces:

Seconds-Minutes-Hours-DayOfMonth-Month-DayOfWeek-Year

- a) Only one DayOfMonth and DayOfWeek should be specified the next field must be a '?'.
- b) The DayOfWeek and Month fields should be specified as the first three letters of the day or month in capital letter.
- c) The Year field is optional.
- d) Time interval is specified with a '*I*'. For example, 0/6 in the Hours field would represent every 6 hours from (and including) midnight (0, 6, 12, 18).
- e) A range can be specified with a '-'.
- f) Multiple values can be specified with a ','. For example, 0 15/30 18-23 ? APR MON, WED, FRI - would match 15 and 45 minutes past the hours 18 to 23 on every Monday, Wednesday and Friday in April.
- g) The '*' symbol represents a wildcard, which will match any value. For example: 0 0 3 * * ?, would match 03:00:00 on every day of the month of every month.

4.7 Concurrent Download

PM Sync Automatic Mode supports up to 64 concurrent downloads. Number of downloads is set using the slider to the right of Scheduler Settings. The default selection of 8 is recommended.

4.8 Erase Logged Data

To automatically erase and restart each PowerMonic device after downloading, check the **Erase PowerMonics after Downloading** checkbox.

5 Sales and Support

For sales, technical support or any other inquiries, please contact the appropriate office below:

Australia, New Zealand, Africa, Asia-Pacific, Europe, and Middle East

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