

SERVICE INFORMATION LETTER SIL-BER004

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New Software Release Announcement for Beran PlantProtech[™] 7600 PCMS & PlantProtech[™] PROTOR Mobile

We are excited to announce the latest update in Beran Instruments' ongoing commitment to product enhancement. As part of our continuous product improvement program, we are pleased to offer a new software release for the Beran PlantProtech[™] 7600 PCMS & PROTOR Mobile product suite. The following version is now available for upgrade:

• Version 4.0.0

Please note, it is essential that all product modifications, including software upgrades release files, are supplied by a Beran authorised Service Centre to ensure quality and compliance.

Software V4.0.0 updates:

Import Cutlass Data Files.

This feature allows users to import data from a Cutlass system so that they can review the data within the condition monitoring system.

*Please note, this update is only available for users that have a PlantProtech[™] 7600 PCMS System.

× Edit Machine 1 -	Machine	:1				
GENERAL						
MONITORS		Process Channels				
CHANNELS		Source External ▼		Channel Search		
FFT & SYNC TD					â	
EXTERNAL			External	Please enter a value	_	
ТАСНО						
			Cutless		+	
PERIOD BUFFER			Duplicate			
ADVANCED SETTINGS			Duplicate			
		Digital Channels				

Figure 1 - Importing Cutlass Data Files





System Log Enhancements

This feature updates the system log to now contain a larger range of notable events that would assist when diagnosing plant problems. The log now contains records of all machine state changes as well as speed signal losses.

=	PlantProtech			<i>S</i> BERAN
(¥) ≓	> (‡) Alarms > (‡) Logs	System Log		
	System Log			
	🏩 Alarm Log	Time	Message	
		14/03/2024, 08:41:15	Machine 2: Run Down Started	
E		14/03/2024, 08:41:15	Machine 1: Run Down Started	
		14/03/2024, 08:41:15	Machine 4: Run Down Started	
		14/03/2024, 08:45:28	Machine 4: No Longer Run Down	
		14/03/2024, 08:45:28	Machine 4: Speed Signal Loss Timed-Out	
		14/03/2024, 08:45:28	Machine 1: No Longer Run Down	
		14/03/2024, 08:45:28	Machine 1: Speed Signal Loss Timed-Out	
		14/03/2024, 08:45:28	Machine 2: No Longer Run Down	
		14/03/2024, 08:45:28	Machine 2: Speed Signal Loss Timed-Out	
		14/03/2024, 08:45:29	Machine 3: No Longer Run Down	
		14/03/2024, 08:45:29	Machine 3: Speed Signal Loss Timed-Out	
		14/03/2024, 09:28:30	Machine 1: Speed Signal Restored	
		14/03/2024, 09:28:30	Machine 3: Speed Signal Restored	
		14/03/2024, 09:28:30	Machine 2: Speed Signal Restored	
		14/03/2024, 09:28:30	Machine 4: Speed Signal Restored	
		14/03/2024, 09:28:30	Machine 1: Online Started	
		14/03/2024, 09:28:30	Machine 3: Online Started	
		14/03/2024, 09:28:30	Machine 4: Online Started	
		14/03/2024, 09:28:30	Machine 2: Online Started	
		19/03/2024, 15:09:27	Machine 1: Speed Signal Loss Timed-Out	
		19/03/2024, 15:09:27	Machine 2: Speed Signal Loss Timed-Out	
		19/03/2024, 15:09:28	Machine 3: Speed Signal Loss Timed-Out	
		19/03/2024, 15:09:29	Machine 4: Speed Signal Loss Timed-Out	
		19/03/2024, 15:22:07	Configuration Updated	

Figure 2 - System Log Enhancements

Store full Configuration in the datastore each time it changes.

Provide the ability to recover all complete user configuration files applied to the system so that it is possible to avoid having to remake configurations. The admin panel allows for the download of all the historic user configuration files.

	PlantProtech						<i>S</i> beran
≇ ≓	፰ Test		Historic Configurations		100.175 🗘 👲	Ŧ B C	
8	Machine 1	⑥ 荦 ៕	Page: 1 PREVIOUS NEXT		DOWNLOAD CURRE		
			Timestamp	Download			
	Run Down	Barring	Wednesday, 20 March 2024	<u>.</u>			
	Over-speed	Stopped	Tuesday, 19 March 2024	<u>±</u>			
	32.55	E. TE.	Tuesday, 12 March 2024	<u>+</u>			
			Tuesday, 12 March 2024	<u>+</u>			
			Tuesday, 12 March 2024	<u> </u>			
				CLOSE			

Figure 3 - Store User Configuration Interfaces

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Display Machine Name when Editing.

This feature allows the user to see the relevant machine name easily when editing a specific machine so that the user can be sure they are modifying the intended machine configuration.

× Edit Machine 1	- Machine 1	SAVE
GENERAL		
MONITORS	General	
CHANNELS	Name Machine 1 Test ID	
FFT & SYNC TD		
EXTERNAL		
ТАСНО		
PERIOD BUFFER		
ADVANCED SETTINGS		

Figure 4 - Display Machine Name When Editing

Axis Rotation on Vector/Ellipse Alarm Displays

Ellipse and Vector alarm configuration displays now plot historic data points to provide context to the alarm boundaries. The displayed data takes account of the axis rotation settings, and the user can select the channel & files to display data from.



Figure 5 - Axis Rotation Example

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Set Magnitude Scalars for User Defined Units

Allows the user to define magnitude scalars for the user defined units so that these can be displayed in PlantProtech Vision correctly.

=	PlantProtech			<i>9</i> BERAN
(¥) ≓	≇ Test	Global Settings	192.9.200.175 🗘 🛓 Ŧ 🖬 🗀 🖿	11 ()
	Machine 1 ③	Acceleration Velocity Displacement g mm/s um Phase 0:360 Lead Magnitude Scalars		
	Run Down Barring Over-speed Stopped	Acceleration Velocity Displacement MS Pk-Pk Pk Pk User Defined MS J Disable/Enable New User Tours		
		ok cancel	V V	

Figure 6 - Magnitude Scalers

Ability to Clear the Alarm Log

This feature allows the user to see alarms that have not yet been accepted. This ensures that the alarm log does not fill up excessively.

≡	PlantProtech							<i>9</i> beran
\$ ≓	✓ (▲) Alarms Ⅲ Matrix ■ List	Alarm Log						
_	→ Él Logs	Time	Event	Site Name	Machine Name	Channel Name	Alarm Name	
	🏠 Coju System Log	14/03/2024, 09-28-11 14/03/2024, 09-28:11 14/03/2024, 09-28:11 14/03/2024, 09-28:31 14/03/2024, 09-28:31 14/03/2024, 09-28:31 14/03/2024, 09-28:31	Entered SAFE Entered SAFE Entered SAFE Entered ALARM Entered ALARM Entered ALARM Entered ALARM	GraphQLTesting GraphQLTesting GraphQLTesting GraphQLTesting GraphQLTesting GraphQLTesting GraphQLTesting	Machine 2 Machine 2 Machine 2 Machine 2 Machine 2 Machine 2 Machine 2	Channel 16 Channel 15 Channel 11 Channel 19 Channel 10 Channel 14 Rows per pa	Alarm 2 Alarm 2 Alarm 2 Alarm 1 Alarm 1 Alarm 1 Alarm 1 Alarm 1 a. 10 ▼ 31–37 of 37	< >
			RSELECTION	DELETED SELECTED ROWS				

Figure 7 - Clear Alarm Log

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Review Alarm Config from Alarm List

Enables the user to review the alarm config and its live values from the alarm list. This improves the usability and efficiency of using the system.



Figure 8 - Alarm Configuration from alarm List View

Download Configuration Naming

Downloaded configurations now use more informative descriptions. This means the user will not have to search among various generic configuration files.



Figure 9 - Download Configuration Naming





Probe Angle Display

Allows the user to further review the definition of the probe angles set in the configuration so that they understand the configuration is correct and appropriate.



Figure 10 - Probe Angle

Adjust the Tacho Pulse Width

Allows the user to configure the Minimum Tacho Pulse width for the Beran PlantProtech[™] 7600 PCMS/PROTOR Mobile. This allows the system to be configured to record speed information on fast-rotating machines with very low mark/space ratios (which have correspondingly shorter pulse widths)



Figure 11 – Adjusting Tacho Pulse Width





Calculate Alarms Based on Last Period Buffer Values.

The Alarm Update and Buffer Rate setting controls the frequency at which alarms are triggered. This setting also determines the data storage rate during the one-hour buffer period when an alarm is active. By default, the buffer logging rate is set to 10 seconds, which typically logs data more frequently than the normal system logging frequency. Adjusting the Alarm Update and Buffer Rate will change both the alarm triggering interval and the buffer logging rate, ensuring that critical vibration data is captured more frequently during periods of concern

Please note, the "Last Hour Buffer" file is no longer stored as a separate file. Instead, the data is stored in the current file at a higher recording rate (e.g. configurable value).

Modbus Read Interface

Allows the user to read real-time data from their Beran PlantProtech[™] 7600 PCMS/PROTOR Mobile so they can integrate this with other external systems.

External Channel Filtering for Process Channels

Additional search/filter facilities have been added to assist when editing configurations on systems with large numbers of process channels. The process channel configuration screen has a new search bar to search for particular channels to edit:

× Edit Machine 1 -	Machine 1							
GENERAL								
MONITORS		Process Channels						
CHANNELS				- Channel			•	
FFT & SYNC TD		External -	Туре	Temp		×	<u>≺</u>	
		Bearing A Temperature	External		deg C		-	
тасно		Name Bearing B Temperature	Type External		Units deg C		î	
PERIOD BUFFER								
ADVANCED SETTINGS								



Source External -		Channel Tempe	Search ———— P r	×	Q
Name	Туре		Units		
Bearing A Temperature	External	•	deg C		_
Name	Туре		Units		
Bearing B Temperature	External	-	deg C		

Figure 13 - External Channel Filtering

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The alarm screen also has a search functionality to assist in finding process channels to use as activation criteria for alarms.

× Edit Magnitude Step Alarm	
	Achivetion Hold Off 0 s Email Alerts Save Buffer on Activation Store High Resolution Data While Active
	Alarm Activation Criteria
	States within which to calculate alarity
	State Active For Seconds RPM range within which to calculate alarm
	Lower RPM DUpper RPM DC ranges within which to calculate alarm (all ranges must be met)
	tempi X • Lower 0 Upper 99999999 Bearing A Temperature
	Bearing & reinperature Lower Upper

Figure 14 - External Channel Filtering

Auto-Generate Ellipse Alarms

Allows the user to automatically generate alarm parameters based on their previous data set. This means the user can have a confidence level of 95%/99% that the alarm setting has captured a typical vibration pattern. Previously configured ellipse alert and alarms can be easily configured to reflect the change in the machine's dynamic behavior, for example following a return to service.

Generate Ell	inse Alarms		
		Order Severity	
My New Ellipse Alarm	95%	✓ 1 ✓ Alarm ✓	
State Selection			^
State	Start	End	
Online	11/04/2024, 15:11:34	11/04/2024, 15:30:01	
Barring	11/04/2024, 15:30:01	11/04/2024, 15:30:03	
Stopped	11/04/2024, 15:30:03	11/04/2024, 15:42:26	
Barring	11/04/2024, 15:42:26	11/04/2024, 15:42:26	

Figure 15 - Auto-Generate Ellipse Alarms

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Generate Ellipse Alarms	
Alarm Name Confidence Level Ord My New Ellipse Alarm 95% - 1	er Severity Alarm
State Selection	×
Channel Selection	~
Alarm Activation Criteria	^
States within which to calculate alarm	
🛑 Run Up 🛑 Online 📢	Run Down
Over-speed Stopped	No Speed 🔫 Idle
State Active For Second	B
RPM range within which to calculate alarm	
Lower RPM Upper RPN	и 🗩
DC ranges within which to calculate alarm (all range	es must be met)
Choose a channel Choose a channel Choose a channel	Upper
	CANCEL GENERATE ELLIPSE ALARMS

Figure 16 - Auto-Generate Ellipse Alarms

Generate Ellipse Alarms							
Alarm Name My New Ellipse Alarm	Confidence Level 95%	• <u>1</u>	brder	•	Severity Alarm	•	
State Selection							~
Channel Selection							^
Channel Name	Override E	xisting E	illipse Alarm				Select Channels
Channel 1							
Channel 2							—

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The Creation of an alternative View of Configured Alarms

A new 'Channel View' allows the user to see all alarms associated with a particular channel quickly, which is especially useful for alarm types that are typically configured on a single channel. The user can also create alarms specific to this channel.

O CHANNEL VIEW				
Configured Alarm	s			
		CHANNEL 1 🗸		
		CHANNEL 2 A		
Alarm Name	Alarm Type	Measurement Type		Actions
Alarm 1	Level	Overali Level	Ē	r ×
Alarm 2	Level	Overall Level	Ŀ	r ×
				+
		CHANNEL 3 🗸		
		CHANNEL 4 🗸		
		CHANNEL 5 V		
		CHANNEL 6 🗸		
		CHANNEL 7 🗸		
		CHANNEL 8 🗸		

Figure 18 – Alternative View of Configured Alarms





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