

Elite Monitoring System



Installation and Operation

Contents

oduct Overview and Definitions
mmunications wiring
ctory default Ethernet IP addresses
ftware Activation
Inning the application
ending
splay Screens
lditional Equipment Displays
ta Logging
oubleshooting Tips

Note: All screen shots and menu references in this manual are based on setting the MicroSoft Windows menu and task bar to the "Classic" setting.

Product Overview and Definitions

The Cleaver Brooks Elite Monitoring System is a software application designed to allow the user to monitor and record boiler activity and operating conditions from a location remote from the boiler room floor. The application does not permit any control functions of the boiler to be controlled from within the application, and boiler operation is not dependent on whether the remote monitoring software is running.

The base application is written by Cleaver-Brooks using Rockwell Automation Factory Talk SE and provided to the customer with a runtime license.

The runtime license allows limited changes to some parameters in the trending section; the rest of the application is fixed and locked.

The base application is detailed in the following pages.

This manual is meant as a general guide to install and set up this software. As with any computer system and network, the possible impediments to a successful implementation are too numerous to cover, and Cleaver-Brooks is not responsible for addressing all of these factors. A strong knowledge of computer systems, communications, and networking is required to use this product. If needed, assistance is available through our service department at our standard rates.

If these instructions are followed and the product is installed on a closed network, the installation should be successful.

Communications - OPC and Non OPC compliant

The Cleaver-Brooks remote monitoring application is written to communicate via Ethernet IP to the boilers, DA/ Surge or master panel only. All boilers are clients on the network. The customer PC on which the remote monitor package is installed must reside on the same network as the boilers. Deviation from this requirement is the responsibility of the customer.

The Cleaver-Brooks remote monitoring package Factory Talk portion includes RSLinx Enterprise, which must be installed and configured on the same computer as Factory Talk and the EMS application. RSLinx is the software communication server that is required to manage the client communications. Installation and configuration of all components is done at the factory - unless instructed at time of sale, default configurations and addressing will be used.

Communications wiring

See figure below as an example for a system with a master panel.



If the computer is going to be on the customer's Ethernet network, it is necessary to know which IP addresses are in use. The Hawk ICS and Remote Monitoring Software use fixed or Static IP addresses as defined on the next page. If the IP addresses are going to be changed to integrate into the customer network, a custom program change may be required for some devices as the IP address is hard coded into some applications. Call Milwaukee Sales for clarification on a job by job basis.

The distance limitation between any two Ethernet devices is 100 yards of wire. If the distance is greater than this, repeaters or hubs will be needed to extend the working range.

Cleaver Brooks is not responsible for the wiring or devices required between the master panel, individual boilers, and the computer with the Remote Monitoring application.

Factory default Ethernet IP addresses

Set IP addresses according to the table below for the devices in your system. Note that if you are trying to use different IP addresses on systems with Master Panels, you must contact Milwaukee R&D as these addresses are hard coded and cannot be changed by the end user.

Item	IP Address	Mask	Mask
Computer with RSLinx and Factory Talk	192.168.1.110	255.255.255.0	192.168.1.1
Master Panel PLC	192.168.1.100	255.255.255.0	192.168.1.1
Boiler 1 Panel PLC	192.168.1.101	255.255.255.0	192.168.1.1
Boiler 2 Panel PLC	192.168.1.102	255.255.255.0	192.168.1.1
Boiler 3 Panel PLC	192.168.1.103	255.255.255.0	192.168.1.1
Boiler 4 Panel PLC	192.168.1.104	255.255.255.0	192.168.1.1
Boiler 5 Panel PLC	192.168.1.105	255.255.255.0	192.168.1.1
Boiler 6 Panel PLC	192.168.1.106	255.255.255.0	192.168.1.1
Boiler 7 Panel PLC	192.168.1.107	255.255.255.0	192.168.1.1
Boiler 8 Panel PLC	192.168.1.108	255.255.255.0	192.168.1.1
Master Panel Ethernet Panelview Operator Interface	192.168.1.120	255.255.255.0	192.168.1.1
Boiler 1 Ethernet Operator Interface	192.168.1.121	255.255.255.0	192.168.1.1
Boiler 2 Ethernet Operator Interface	192.168.1.122	255.255.255.0	192.168.1.1
Boiler 3 Ethernet Operator Interface	192.168.1.123	255.255.255.0	192.168.1.1
Boiler 4 Ethernet Operator Interface	192.168.1.124	255.255.255.0	192.168.1.1
Boiler 5 Ethernet Operator Interface	192.168.1.125	255.255.255.0	192.168.1.1
Boiler 6 Ethernet Operator Interface	192.168.1.126	255.255.255.0	192.168.1.1
Boiler 7 Ethernet Operator Interface	192.168.1.127	255.255.255.0	192.168.1.1
Boiler 8 Ethernet Operator Interface	192.168.1.128	255.255.255.0	192.168.1.1
ADAC DA Single Tank PLC	192.168.1.150	255.255.255.0	192.168.1.1
ADAC Surge Single Tank	192.168.1.151	255.255.255.0	192.168.1.1
ADAC Dual Tank PLC	192.168.1.150	255.255.255.0	192.168.1.1
ADAC Ethernet Operator Interface DA Single	192.168.1.152	255.255.255.0	192.168.1.1
ADAC Ethernet Operator Interface Surge	192.168.1.153	255.255.255.0	192.168.1.1
ADAC Ethernet Operator Interface Dual Tank	192.168.1.152	255.255.255.0	192.168.1.1
Protocol translator	192.168.1.178	255.255.255.0	192.168.1.1
Protocol translator	192.168.1.200	255.255.255.0	192.168.1.1

Software Activation

The software is pre-installed but must be activated by the end user.

To activate the software, you will need the Serial number and Product Key (enclosed with your software) and access to the internet. You may need to disable your firewall or antivirus software to complete this task. Select defaults for the application - however, when prompted, be sure to tie the activation to the hard drive or Ethernet card and not to any other device.

Follow the instructions enclosed with the software disks.

Running the application

Once the PC with the Factory Talk application is connected to the same network as the boiler PLC and all IP addresses are verified, power up the PC.

When it finishes booting up you should see the following screen:



Log in as "Operator" to access the normal run time components of the software. Click on the <Log In> button at the bottom of the screen and the pop up should appear. Enter the user name and password.

actoryTalk ¥i	ew SE Client Login	2
Type your user	name and password:	
User name:	operator	ОК

If login is successful you should see in the upper left, "Current User : Operator"

Let's explore the application. Starting at the far left bottom, click on <Trending Menu>.

Trending

Analog values read in from the PLCs are tracked on the screen with independent pens in an electronic chart-recording style.

	R Voix Of Cherry				1
CleaverBrooks				Acknowledge Alarm	Alarm Summary
urrent User: Operato		2			
		Cleaver	Brooks		
	Boller A Trend	Beller B Trend	Boller C Trand		
			-		

Based on the configuration, the appropriate trend options will appear. The configuration shown is for 3 boilers, no master panel.

Click on one of the boiler trends and this screen will appear:

Courses Research Factory Talk York S	(Bend		10
Cleanver Brister		Acknowledg Alarm	Alarm Summary
16,0012 3 20:59 PM	9	9	
- Anni Anni	No.	Baller A	
	13		
ALLANS.	10		
Directional Original Sec	1041710		
	1000		
	-		
	stator2 4140	areastri a	HILITAN .
Trending		BullerA	PRINT
Overview Menu		Overview	CHART

Each analog value is assigned to a "tag" which is read by the computer. The pen assigned to that tag value traces any change in a continuous line.

The chart can be scrolled through in either direction using the arrow buttons at the bottom.

The chart can be printed by selecting the *<*Print Chart*>* button. A typical Windows printer pop up appears.

Name:	\\STR-FS1\STR-ENG-Ricol	15501 Properties
Status:	Ready	
Type:	RICOH Aficio MP C5501 PCL	6
Where:	Office-Engineering	
Comment	Ricoh 5501 (Fax Port - 271-6)	156)
Print range	-	- Copies
		Number of copies: 1
C Page	from: to:	
C		11 22 33 Colle
 Select 	uon	

Clicking on the trend inserts a marker and records the values at that point in time.



On the left side of the trend is the key which tells you each pen's name, assigned color, min and max, and engineering units

Firing Rate	100
%	0
O2 Level	25
%	0
Steam Pressure Or Hot Water Temperature	150
PSI/Deg F	0

On the right side of the trend, the current value of each pen is displayed.

	3:21:53 PM
<u>_</u>	100
	2
	73

Right click on the trend and the following pop up appears:



"Chart Properties" allows the user to modify the appearance of the chart and pens, and to select which pens show on the chart. Min, Max, and Engineering Units are also listed. Some of these changes can be saved to a template file while using the runtime license. Overwriting the existing template files can result in an undesirable change to your trends. The existing trend templates are hard coded to the buttons on your trending screen. If permanent changes are required, please contact the Cleaver Brooks Controls and Conversions Department.

The following screens show the various trend properties. Refer to the online user manuals installed on the Factory Talk PC for detailed information.

General Tab

Display chart title		Data Server:	
BOILER A TREN	D	Real-time data server	•
Display progress I	bar while loading historica	i data	
Chart style			
Standard			
Contraction of the second s			
C XY Plot			
C XY Plot X-Axis perc			
C XY Plot X-Axis perc			
C XY Plot X-Axis per			
C XY Plot X-Axis per:			
C XY Plot X-Axis perc Chart update mode C Manual		A	
C XY Plot X-Axts perc Chart update mode C Manual C Automatic	Refresh Rate:	10 - Second(s) 💌	
C XY Plot X-Axts per: Chart update mode C Manual C Automatic C On Change	Refresh Rate:	0 Second(s) ×	

Display Tab

Chart display options Time format		Current value legend Display pen values	
Use system time setting 💌 🔽 Displa	y milliseconds	🖾 Display time	
Chart radix 🔽 Displa	y value bar	P Display pen icons	
Decimal 💌 📕 Back	ground color		
Data point connection Text	color		
Connect points 🗶 For	K		
Line legend	Scioling	4	
Display line legend	Allow scrolling	ng	
	Continuous	Scroll	
Pen caption	Display scat	ding mechanism	
Description 🔄	Buffer for extra	data	
Masanum pen caption length	200	iecords per peri	

Pens Tab (scroll right to see the tag names, engineering units, and Min/Max)

	Tag\Expr	Model	Color	Visible	Width	Type	Style	Marker
1	AR1\04	BoilesA		0m	2	Analog -		None
2	AR1\05	BodesA		On	2	Analog -		None
3	AR1\08	BoilerA		0n	2	Analog -		None
4	AB1\10	BoiletA		Citt	2	Analog -		None
5	AR1\16	BoletA		0.	2	Analog -		None
6	AB1\17	BolesA		CH	2	Analog -		None
7	AR1\18	BoiletA	_	1011	2	Analog -		None
8	AB1\19	BoleoA		0m	2	Analog -		None
9	AB1\21	BolesA		OW	2	Analog -		None
ulto	le Pen Edits	one crasat				oo r arest		ora 1 2010
Vin	ble Width	Туре	Style	Marker 1	Min Ma	Eng Un	<u>ks</u>	
_				_		-		_

X Axis

- Chart line Lar	Pens X	Axis Y-Axis Overlays Temple	xe	
Start date 4/18/201 Start time 2:15:53P Time span 5 ÷	2 <u>x</u> Minute(s) <u>x</u>	Start Date and Start Time are not available when scrolling is allowed. To clear Allow Scrolling, use the Display tab		
Display option	na er ale			
Ding	slay date on so	alo		
Display	grid lines Major grid li Minor grid li id color	nes		

Y Axis

Minimum / maximum value options C Automatic (best fit based on actual data) Preset (use min/max setting from Pens tab) C Custom	
Merinah akar Ø Actual menan valar Ø Merinah valar Ø Merinah valar lägtesp	
Masmun value © Actual manun value © Maxmun value tagvece	
Display options Isolated graphing Display scale Display grid lines Display grid lines	Scale options C All pens on same scale C Each pen on independent scale C Scale using pen

Overlay Tab

Titale	Archia 5	ar Unsec[4]	1 1000	Finten C	ast Prefit
Add		Fier	ndony	Delete	Snapshot

Template Tab

Pens tab (Axis tab	Display Min/Max Values	
9085 180	Background Color	Load Template
	Display Pen Birmaps	Delete Template
	Solar Note Solar Mechanism Display Value Bar Data Point Connection Chart Radix Custom Colors Display Millisconds Display Value Format Ford Size	Template commands take effect immediately and cancelled
All options:	Check All Uncheck All Default	

Display Screens

The next button on the main menu screen is <Overview>; click to access the overview menu. Based on the system's configuration, the appropriate overview buttons will appear. The configuration shown is for 3 boilers, no master panel or ADAC.



Click on one of the boiler overview buttons. The overview screen for the boiler appears. This is similar to the overview screen on the boiler's own controls. Options such as VFD, Economizer, and O2 Trim all populate on this screen if they are part of this boiler's Hawk control system.



From this screen you can reach the other screens related to this boiler.

Firing Rate - this screen shows you the boiler's set point, on/off points, manual/auto mode, status, calculated efficiency, and fuel selected



Burner Management - this screen shows the status of the connected points on the burner management device as well as messages, flame signal strength, and other data similar to what appears on the boiler operator interface.



Alarm History

Change Brucks	factory fails them 50 CB					+ .0
CleaverBree	-0				Alarm	Alarm
41800123361	10 PM	30		9		COMPLEX STREET
tofini 💌	O O O E O	11	19445			
C. Senty T.	Q EventTele	-Siam Nate	C1 Herrope	Star Name 10	in Colores	
1000	4110/01/1410/01/01	46115401	T BURK ALL HE CAPE			
1000	6/16/2012 3:44 15:44	ART 560	 Asses to 2 cleaned many reput (cally a good) Asses to 2 cleaned from card to disk result. 			
1000	A-100/2017-1-100/15-2017-2018	401 1047	V Alam in 8 shared Alam in 4 to die a food			
1000	A/15/0012-9-44 15 AM	481 546	7 Alam last shared Alam cash is site is pool			
1900	Arts OUT2 3 44 TEAM	481 545	T. Alars had cleared diam tend multiply pool			
1000	A/16/0012/3 44 15 AM	A21 1944	1 Alars had then the state and a good			
1900	4/10/0012 9 44 15 244	JUST SHATE	7 Alam had cleared Alam equal to all a good			
1,000	4/16/0012/9-44 15 AM	Juli 19414	1 Alam tauk cheaned Alam reput puells is pool			
1000	\$/18/2012 3 44 15 AM	A85 SM(3	T Aliam tault cleared. Aliam input puelly is pool			
1000	4/10/0012/9-44/15/444	AB1 5bx12	7 Alam fault cleaned. Alam input quality is good			
1000	4/10/2012/3 44/15 AM	ART THAT	7 Alien Lauft cheard. Alien your puelty is good			
1000	4/10/2012 3 44 15 AM	A81 5M10	7 Alam last shared Alam read pully's pool			
1000	A/10/2012/9/#4115.4H	A01 1949	7 Alam last cleanet Alam equal quality is good			
AL 1100	# 314-160 T/A 24 28 434	200 mint .	7. Alexandra A. Annual Alexandra and a 1961 (1991)			
larm State	Stone Unliked	Current Value	53			
stand June Waster	100	Land Value Excended Log 1 Value	0.942			
lam Class		Yag 2 Value				
week Type:	Candlen	Tag 3 Value				
an Name	07012-0	Computer				
ten Comment						
CALL INC.	the Filment					1.5
	1					
Main	Trending	1 ANNO 1				
Menu	Manu	Overview				
Constant!						
Sec. 15.4	the second second second second	N 100 A 100 A 10 A 10	K - M - M - A - K		-	Cond. Cond.
Advertise Contention	Derived conserved, herbertage	Partnametic+perays	Contraction of the			The Case is

This display has three sections. The top section contains the date and time, alarm banner, <Acknowledge Alarm> and <Alarm Summary> buttons. The alarm banner scrolls through any active alarms. To acknowledge an alarm, select it then select <Acknowledge Alarm>. <Alarm Summary> takes you to a page showing active alarms only.

The middle section shows all of the alarms that have taken place, even those acknowledged and cleared.

If you click on an alarm in that window, the bottom section gives you extended information about that alarm.

Alarm Summary - This screen accesses additional alarm details and alarm management functions.

The Alarm Banner shows all active alarms.

Cleaver-Brooks - FactoryTalk View	5E Client		
4	👜 🌲 4/18/2012 3:30:58 PM Boiler A Aux Input Fail		
CleaverBrooks			Acknowledge
4/18/2012 3:34:10 PM	B	Q	Alarm

The Active Alarm Summary, found right below the banner, lists all the active alarms and provides some tools and other useful information.

A	Diler A 4/18/2012 3:30:58 PM Boiler A	Aux Input Fail		
CleaverBrooks M				Acknowledge
4/18/2012 3:34:40 PM	(P)		0	20040111
🖌 🗹 🖉 🚫 🚰 🕐 🔒 (No Fiker)	· ¥ ♀ ⊟ ¢			
! 수 Event Time	Alarm Name Conditio	n N Message		
4/18/2012 3:30:58 PM	AB1 1bit14 TRIP	Boiler A Aux Input Fail		
4/18/2012 2:02:13 PM	AB1 1bit13 TRIP	Boiler A Low CAPS		

Here is the key for the icons shown in front of the alarms.

This icon	Indicates the alarm condition has this state
(red)	In Alarm and Unacknowledged
🐓 (red)	In Alarm and Acknowledged
(blue)	Normal and Unacknowledged

Acknowledging the selected alarm

Acknowledge selected alarm To acknowledge selected alarms in an alarm and event summary, use one of these methods:

- Select the alarms, and then click the toolbar button Acknowledge selected alarm.
- Select the alarms, right-click, and then click Acknowledge.

Acknowledging all alarms

To acknowledge all alarms in an alarm and event summary, use one of these methods:

- To acknowledge all currently visible alarms, click the toolbar button Acknowledge page of alarms.
- Acknowledge all alarms

Acknowledge

page of alarms

 \mathbf{V}

 To acknowledge all alarms, including those that aren't visible in the current page of the list, click the toolbar button Acknowledge all alarms contained in the list.

If an alarm filter is applied, acknowledging all alarms excludes alarms that have been filtered from the list.

To suppress alarms

Suppress selected alarm

- In the alarm and event summary, select one or more alarms, and then click the toolbar button, Suppress selected alarm.
- In the Suppress Alarm dialog box, type an optional comment, and then click Suppress. The comment is recorded with the suppressed alarms, in the alarm and event log.

Viewing alarm details

To view details for the selected alarm, on the alarm status explorer's toolbar, click View details (or right-click the alarm, and then click View Alarm Details).

The Alarm Details dialog box (shown in the following illustration) shows the last time an alarm was disabled or enabled, and suppressed or unsuppressed, and by whom. You can also view information about the most recent alarm condition, and the priority and severity associated with the alarm.

Dat	sile	All ACNIONIEUged. Tes
E	State	Value
8	Disabled	No
	Enable Time	
	Enable User Name	
	Enable Comment	
Ξ	Suppressed	No
	Unsuppress Time	Saturday, February 03, 2007 5:52:28.991 AM
	Unsuppress User Name	FactoryTalk Service
	Unsuppress Comment	
÷	TRIP	Normal, Acknowledged
		Reset All Alarm ⊆ounts

Alarm condition details vary, depending on the type of alarm. For a level alarm, for example, details are listed for each alarm level (High High, High, Low, and Low Low). For details about options in the Alarm Details dialog box, click Help.



0

View details

Examples

Active alarms

1	92	i 🚫 🚰 🕐 🔒 (No Filter)
1	4	Event Time
	1.	4/18/2012 3:49:54 PM
	4	4/18/2012 3:49:52 PM

Top alarm is active, second alarm is still active but has been acknowledged



Both alarms are Acknowledged



Details of the first alarms

1	11	Q E	vent Tim	Э	1			Alarm Name	Condition N	Message	1
		4	/18/2012	2 3:52:09 F	РМ			AB1 1bit14	TRIP	Boiler A Aux Input Fail	
		4.	/18/2012	2 3:50:38 F	РМ			AB1 1bit15	TRIP	Boiler A Aux Input 2 Fail	
Prior Alarr Ever In A	rity: m S nt T larm	itate: lime: n Time	e:	Urgent In Alarm, 4/18/201 4/18/201	Acked 12 3:52:09 PM 12 3:49:52 PM	Severity Current Limit Va Tag 1 V	: Value: lue Exce alue:	1000 1 eeded:			
Acki Out Coni Ever Alari Area	of / ditiont C m C	vledge Alarm on Na Catego Class:	e Time: Time: ime: ory:	4/18/201 TRIP Discrete	12 3:52:09 PM	Tag 2 V Tag 3 V Tag 4 V Alarm C	alue: alue: alue: ount:	6			
Serv Alan Mes	m N sag	Name lame: je:	E	Alarms AB1 1bit1 Boiler A A	14 Aux Input Fail						
1	#	2			A 0	\$∕2	A 0	2 364		Filter: Not Filtered Sorted by: Alarm State (Descending), Priority	(Descend

Acknowledge with comment

NXON	2 吕 (No Filter)	- NKC							
: 4 Event Tim	2 2 30 58 PM			Alam Name	Condition N	Message Roles A Aut	front Fall		1
A Arianton	23.30.30 FM			ABI IDRIA	THE	2005 14 1907	(Input Fail		
					Acknowl	edge Alarm v	with Comment		
					Acknowl Alarm no	edge Alarm (me:	with Comment		
					Acknowl Alarmine Commen	cdge Alarm v me: £	with Comment	-	
<i>2</i> /1	41	*0	. 0	2 364	Acknowl Alarmine Commen	edge Alarm v ane: k	with Comment		2
) (#) 1	<mark>.</mark> € t	\$∕0	a 0	₹ 364	Acknowl Alarmine Commen	cdge Alarm v me: £	with Comment		-

This feature allows you to add a specific comment to an alarm. For example, it may be a note that you found a loose connection that is now fixed.

Alarm Faults Summary - Clicking on the question mark pops up another window summarizing the current day's alarms.

	Anthon Control	Ne A Suitestal	1
	Children I will be		and the second se
	it cont firms	E-er bara	State of the second
	4/10/09/218:44 15:44	Harme (High 1 Mart) (1994	A Bad Gooks - Contegention Der
	4/10/2012/3:44 T5 and	Alama 2007 (Ext 1794	(Ballants: Delantin bi
	A/16/20/2 9 44 75 AM	Joans Solit: NoC/THE	Und Solly Delgaster De
	4/10/2012/19:44 15:444	Alams 2481 1846 (201	h Kat Gody - Configuation Da
	A10/001234875366	Alares Emil? (UA) (TPA	harbody Gelgartenbe
	4/10/02/2/5 44 25,444	rianc(447,644(79)	9 Keel Scole: Configuration Exc.
	4/10/021213.44 75.844	-Manufordh (ke0)/744	NotSinty Delgenie be
	A/06/09/2 9 44 75 AM	disens [Juli 1642](Thi	Chel Solle: Celgistie De
1 20	A 116/2012/8 46 15-464	Algers 2A81 60411(788	N Bel Skeller-Enrigentin Sil
	AVERAGE AVERAGE & AN VERAGE	Hairy(\$481,80413179	1 Bulliolly Cellprote by
	4/10/2012 5 44 15,444	ManuLADI BAT (79)	1 Kei Seite Cettentie De
A distance of the	6e 4/10/2012/1-44-FLae4	itigens End?1 Hall (194	A Ballioky Gelgeniesbo
	4/16/30/2 5 44 15 A44	-diam. [.nl]3 (194)	Red Goaley Contagenties Do
	4/18/2012/3 44 15-144	-Harris 2482 1847 (200	h Ball Golge - Congration De
New York Control of Control	A1020023A815AM	Harry DHE1 Tall (176	Stat Gody Cetgester Ex
Trending	A/16/00/2 8 44/15.44	company (contra transf) (That	% Kellbady: Catgarine Dr.
and the second se		and the second	the state of the s

Select the alarm in the alarm summary screen and then click on <Acknowledge>. This button functions the same as the Acknowledge Alarm button.

Reports - From this display you can select current or previous reports.



If you click on View Previous Reports it opens up Microsoft Word Pad.

Click on File>Open, and from the root of your C drive you will see a folder named Reports

📕 Document - WordPa	d		
File Edit View Insert	Format Help		
	ある 日間 い 見		
Arial	▼ 10 ▼ Western	• B Z U	
A 1 2	3 • • • 4 • • • 5 • • • 6 • • • 7 •	1, · 8 · · · 9 · · · 10, · · 1	11 - 12 - 13 - 13 - 1
	Open		
	Look in:	🥪 OS (C:)	
		bmontgomery_files	Reports
	MuBecent	CDIS	CRockwell Soft

Click on Reports and you will see Daily, Hourly, Shift, Yearly.



Click on the folder for the type of report you want to view.

Ele Edit View	WordPad
Arial	▼ 10 ▼ Western ▼ B / U 🔊 🔳
8	2 • 1 • 3 • 1 • 4 • 1 • 5 • 1 • 6 • 1 • 7 • 1 • 8 • 1 • 9 • 1 • 10 • 1 • 11 • 1 • 12
	Upen
	Look in: Control Hourly

Then select the report you want to open.

You can edit or print the report from there.

Example report:

		HOURTY	REPORT	
		4/11	/2012	
		12.22	./2012	
		12:22	.20 PM	
	Steam Usage	Gas Consumed	Water Usage	Oil Consumed
	(Klbs)	(Kscf)	(Kgal)	(Kgal)
Boiler A	0.041	0.021	0.033	0.082
Boiler B	0.041	0.021	0.033	0.082
Boiler C	0.041	0.021	0.033	0.082
Boiler D	0.041	0.021	0.033	0.082
Boiler E	0.041	0.021	0.033	0.082
Boiler F	0.041	0.021	0.033	0.082
Boiler G	0.041	0.021	0.033	0.082
Boiler H	0.041	0.021	0.033	0.082
Totals	0.328	0.168	0.264	0.656
	Fue	l Runtime		
	Fuel 1	Fuel 2	Fuel 3	
	(Hrs)	(Hrs)	(Hrs)	
Boiler A	0	0	0.07	
Boiler B	0	0	0.07	
Boiler C	0	0	0.07	
Boiler D	0	0	0.07	
Boiler E	0	0	0.07	
Boiler F	0	0	0.07	
Boiler G	0	0	0.07	
Boiler H	0	0	0.07	
	Hours of Opera	tion	Elapsed Time	
Boiler A	2		859	
Boiler B	2		859	
Boiler C	2		859	
Boiler D	2		859	
Boiler E	2		859	
Boiler F	2		859	
Boiler G	2		859	
Boiler H	2		859	
1				

Additional Equipment Displays

If properly equipped, your system can also connect to our Master Panel and ADAC (Advanced Deaerator Control) and can read in and display data from their respective control systems.

The Master Panel is a separate PLC-based system that controls the Lead Lag sequence, firing rates, and rotation of up to 8 boilers. This is the one instance where you can write data to the PLC using our application. Below is a summary of the master panel displays and functions from within our software.

Master Overview - Displays the status, actual and control points for up to 8 boilers, the header pressure (steam) or temperature (hot water), Header setpoint, boiler availability, and current mode



Master Firing Rate - This is one of the two screens that can write data to the Master Panel PLC. This screen allows you to change the system set point for the Master Panel. Note it is a two step process; you enter the new value and press enter, then click on Apply Changes to write the changes to the PLC.

Current User:			55555S		5555	Auto ##H SSESSES	Rotation In
			Master F	iring Rate		Change Setpoint	1
			Land Off Para South Congress C	Auto Ling Mass Temp SP Lind Hop Brit SP Lind Hop Brit Brit Data	Enter New Press the Then to write Lead Of Pairs	Firing Rate Set Enter Key to Ac Click on Apply of the value to the Set of the value to the Set of the value of the value Changes	peint Then scept Value change he PLC Sequelat
Main Menu	Trending Menu	Overview	Master Firing Rate	Lend-Lag & Sequence			

Lead Lag and Sequence Setup - This screen allows you to write changes to the master panel PLC. You can define or change the Start point, Start delay, Stop Point, Stop delay, and the lead lag sequence of the boilers.

111-inalian a	nd Scown	en - Martin	for some 2 kind	1/ (Deserved)						كلع
Current Use										Auto Rotation in
And a second sec							***********			
		dia tan	000	39.99	0000000		0000	0000	- Carrie	
Leader	cay at	tup							ard	active.
	Start	Start Deller	Sing	Step. Detay		1 f	Hollor A	Lag/		1
Log Baller #1	-	HIT Sec	-	sts Sec		1 1	Buller B	Lag7		
Lag Buller #2	-	ANA Sec.	-	and Sec.			Bullet C	Lagi		
Lag Bullet #2	-	AN Sec.	-	AND Sec.	Change		Buller D	Legi		Change
Log Baller #4	-	HIII Sec		die Las	Setpoint		Bullet E	LagJ		Sequence
Lag Buller #5	-	ANT Sec		ses Sec.		ווי	Hollor F	Lag7		
Lag Buller M.	-	ANT Sec	-	and Sec.		1 1	Buller G	Lagi		· · · · ·
Lag Baller #	-	HAT Sec	HIN.	HI Sec		JU	Beller II	Legi		
	Stat	Start	200	Stop Delay		n r	Land	100	1-Baller A	
Log Bullet #1		Caller	1 65	(A Sec		1 1	Legi	0.00	2-Builer 8	
Log Buller #2			1.00			1 1	1.497		3-Bailer C	
Log Buller #3	100	C. O Marco	1.4.4	C. D. Kent	· dantas		1.493		4-Buller D	Apply
Lag Boller #4		to the bart		C I Sec.	Changes		Lagi		5-Builer E	Changes
Lag Buller PS	-	C. O'Les	1.45	0.500	and and a second		LegS		6-Buller F.	
Lag Baller IS	100	(Bien	0.65	(#Sec			1.496	0.00	7-Builer G	terrolisi Sengennen
Lag Buller #/		(. etc.)	1.45	(18km)			LegT		D-Buller H	
		propilate (tes and I a	ter New Set	paint	J	Old in	appropriate	Des and Late	n New Segureer
Main		Ininding		-	Master	Lead				
Menul		Menu	l °	rendew	Firing Rate	& Sequ	ence			

Refer to the latest O&M manual for the Master Panel for explanations of each of these functions.

Master Panel Trend - A trend screen is automatically added to provide a trend of the process value of the system header and shows the system set point for reference.



Two Boiler Integrated Lead Lag Overview



For installations that consist of two boilers, and do not have a master panel, some Cleaver-Brooks Hawk controls have 2 boiler lead lag functionality integrated into the product. For those systems, this display can be activated to give you an overview. Note that you cannot write any commands to these PLCs.

Please refer to the latest product manuals for details.

ADAC (Advanced Deaerator Control) This is a PLC based control system for DA and Surge tanks. We read the data and alarms in from the ADAC PLC and provide the following displays.



DA Tank

This example shows DA Level, Primary Make up Valve Setpoint, Secondary Make Up Valve Setpoint, Primary Make Up Valve Output, Tank Pressure, Tank Pressure Setpoint, Tank Pressure Reducing Valve Output, DA Pump Header Discharge Pressure, DA Recirculation Valve State, Number of Boiler Feed Pumps, Lead Lag Sequence, VSD Speed if on, Off if Off, Run Time Hours, Operating Mode, and IP address of the processor.

See ADAC literature for more information or contact your Cleaver-Brooks Representative.

Surge Tank



This example shows Surge Tank Level, Primary Make up Valve Setpoint, Secondary Make Up Valve Setpoint, Primary Make Up Valve Output, Surge Pump Header Discharge Pressure, Number of Transfer Pumps, Lead Lag Sequence, Pump Status, Run Time Hours, Operating Mode, and IP address of the processor.

See ADAC literature for more information or contact your Cleaver-Brooks Representative.

Duo Tank combination of DA and Surge in one vessel



This example shows both the DA and Surge Tank Level, Primary Make up Valve Setpoint, Secondary Make Up Valve Setpoint, Primary Make Up Valve Output, Surge Pump Header Discharge Pressure, Number of Boiler Feed and Transfer Pumps, Lead Lag Sequence, Pump Status, Run Time Hours, Operating Mode, and IP address of the processor.

See ADAC literature or contact your Cleaver-Brooks representative for more information on the ADAC system.

Data Logging

Data logging is part of the trending function. Changes to data logging cannot be made with a runtime license. Parameters must be set in advance when placing the order. By default, CB sets the data logging to log all trended values, once every 30 seconds, keeping all values for 1 year. This consumes 30-40 gigabytes of hard drive space.

Alarm and Activity Logging

These files are created automatically by the system. Should there be a need to reprint, summarize, or review this data, the files can be opened in spreadsheet programs such as MicroSoft Excel or by other viewing software. Alarm and activity log files are stored on your computer's local drive.



Select the file, Right click and click on Open with...



If Microsoft Excel or another spreadsheet program is on your machine, select it or use "Open With".



Click on <OK>.

And in this window, find your spreadsheet program (not provided by Cleaver-Brooks) and click on < OK>.

Open With	? ×
Choose the program you want to use to ope File: 20120426AL.DAT	n this file:
Recommended Programs: Image: Microsoft Office Excel Image: Notepad Image: Other Programs: Image: Adobe Acrobat 9.5 Image: Adobe Acroba	ew Studio
If the program you want is not in the list or on your of for the appropriate program on the Web.	Browse computer, you can <u>look</u>

The file opens in its raw data format. For example, in the first column, the time stamp may be a very long number as shown here.

	A	В	С	DE	F	G	H I	JK
1	TimeStmp	MilliTime	TransType	A SrcArea	TagName	TagValue	T ThreshVal	T ThreshLbl
2	41017.40572916660000000000000	502	InAlm	RNA://\$Local/MasterVersion Final	AB1\1bit13	1.000000000	0.0000000000	B1 Low Comb. Air Pres
3	41017.584606481400000000000000	458	InAlm	RNA://\$Local/MasterVersion Final	AB1\2bit9	1.000000000	0.0000000000	B1 Main Fuel VIv Open
4	41017.58460648140000000000000	458	InAlm	RNA://\$Local/MasterVersion Final	AB1\3bit11	1.000000000	0.0000000000	B1 Firing Rate Manual
5	41017.58460648140000000000000	458	InAlm	RNA://SLocal/MasterVersion Final	AB1\2bit0	1.0000000000	0.0000000000	B1 Blower
6	41017.58460648140000000000000	458	InAlm	RNA://\$Local/MasterVersion Final	AB1\2bit10	1.000000000	0.000000000	B1 Fuel 1 Selected
7	41017.58486111110000000000000	456	OutAl	RNA://SLocal/MasterVersion Final	AB1\1bit13	0.0000000000	0.0000000000	

To convert it to a date and time, Right click>Format Cells>Time, scroll down to date and time and select OK.



Now you see it has changed to the date and time.

Please refer to your spread sheet software documentation on how to perform other functions.

4	A	В
1	TimeStmp	MilliTin
2	4/18/12 9:44	51
3	41017.5846064814000000000000	4!
4	41017.5846064814000000000000	4!

Troubleshooting Tips

The most common issue with any data acquisition system is establishing communications. Possible problems are:

- Distance and location of Ethernet wiring. It must be no longer than 100 yards of wire, and kept away from electrically noisy devices such as drives and high voltage lighting.
- Terminations. The quality of the termination and correct order of conductors have significant impact on the consistency and quality of establishing and maintaining communications.
- Spelling and path. This must be accurate. If your path does not match the actual path, your application will not run properly and you may not be able to establish communications.
- Addressing. Just like getting mail from the post office, if your IP Addresses, Subnet, and Gateway are not correct, you will not send or receive messages.

First, confirm your PC Ethernet connection is set up properly. The quickest way is to use the "ipconfig" command.

To do this, click on Start>Run on your computer task bar.

dows		Run					
Win	0	Shut D	own				
8	l sta	rt	Ø	Ø	•	**	💮 В

In the box that appears, type in "command" and click on <OK>



When the command prompt window opens, type "ipconfig" and press the enter key.

Your screen will come back with the cuurent setup of your Ethernet connections.

Your information will be different from what is shown here. It should show the IP address, Subnet Mask, and Default Gateway as defined by your installation or the Cleaver-Brooks defaults defined at the start of this document.

If those addresses are correct then proceed to the next page.

If you cannot establish communications in RSLinx, you can try to "ping" the devices from your computer.

To do this, click on Start>Run on your computer task bar.



In the box that appears, type in "command" and click on "OK"

Run		?
-	Type the name of a program, folder, doo Internet resource, and Windows will ope	tument, or n it for you.
Open:	command	*
	OK Cancel	Browse

In the window that pops up, type in the following command, for example, to ping the first boiler:

Ping 192.168.1.101

Press the <Enter> key.

```
C:\WINDOWS\System32\command.com
Cannot load UDM IPX/SPX support
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.
C:\DOCUME~1\BMONTG~1>ping 192.168.1.101
```

If you have an active connection, you should see this type of response.

```
C:\WINDOWS\System32\command.com
Gannot load UDM IPX/SPX support
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.
C:\DOCUME~1\BMONTG~1>ping 192.168.1.101
Pinging 192.168.1.101 with 32 bytes of data:
Reply from 192.168.1.101: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.1.101:
Packets: Sent = 4. Received = 4. Lost = 0 <0% loss>.
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\DOCUME~1\BMONTG~1>_
```

If you do not have an active connection, you will see a message like this.

```
C:\WINDOWS\System32\command.com

Cannot load UDM IPX/SPX support

Microsoft(R) Windows DOS

(C)Copyright Microsoft Corp 1990-2001.

C:\DOCUME~1\BMONTG~1>ping 192.168.1.101

Pinging 192.168.1.101 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

Ping statistics for 192.168.1.101:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\DOCUME~1\BMONTG~1>
```

If you are getting timed out responses, you need to check the IP Addresses, Subnet, and Gateway of all connected devices as well as your Ethernet wiring between your PC and the boilers.

For all other information or troubleshooting data, refer to your online Factory Talk SE manuals or to your Cleaver-Brooks O&M manuals, or contact your local Cleaver-Brooks representative.

