Honeywell

FLAMETOOLS-HMI VERSION 4.2.0.0



USER GUIDE

WELCOME TO FLAMETOOLS-HMI

FLAMETOOLS-HMI is a panel mount touch screen display that allows remote configuration, monitoring and alarm logging of the following products:

- 700 Signal Processor with S702 and S706 Viewing Heads
- P520/P522 Signal Processors with S55xBE Viewing Head
- P531/P532 Signal Processors with S55xBE and S70X Viewing Heads
- U2 Combination Viewing Head and Signal Processor

700 with S702 and S706, P520/P522 with S55xBE, P531/P532 with S55xBE, and the U2. Due to screen size, a maximum of 32 devices are supported on each COM port. Two independent RS485 (ModBus) communication ports are available (COM 1 & COM 2). A PC-based system is recommended if the number of loops exceeds 32 or the number of ModBus networks (buses) exceeds two (otherwise, multiple FLAMETOOLS-HMI displays can be used). Wiring connections to the FLAMETOOLS-HMI are through a removable 8-pin wiring connector. The FLAMETOOLS-HMI display can be front-mounted or rear-mounted into a panel cutout. Cut-out templates are included at the end of the document.

FLAMETOOLS-HMI is best suited for applications with 1-8 devices, but can support up to 64 devices on two ModBus networks.

Definition of terms

Loop is a Processor with a Viewing Head and, where applicable, interconnecting cable. For the integrated system U2-10xx, it applies to the unit.

RECOMMENDATION

It is recommended that users be familiar with specific product information by reviewing the latest publication of appropriate manuals.

Product Manual #		Remarks
700	66-2069	
P520	66-2066	
P522	66-2067	

Product	Manual #	Remarks
P531 P532	66-2068	
U2	66-2071	
S550XBE	66-2064	For use with P520/ 521/531 and P532
S70x S80x	Included in 66-2069	For use with 700

SPECIFICATIONS

Electrical Ratings:

Input Voltage AC: 18 - 30 Vac (24Vac nominal), 50/60 Hz

Input Voltage DC: 23 - 30 Vdc (24Vdc typical)

Input Current: 500 mA max

Power consumption: 12W max

Operating Temperature: -4 to 158 °F (-20 to 70 °C)

Storage/Shipping Temperature: -22 to 176 °F (-30 to 80 °C)

Humidity: 90% RH, non condensing

Enclosure rating: IP10 / NEMA 1

Approvals:

FCC Part 15, Class A Digital Device Underwriter's Laboratories, Inc. (UL) (cUL) Component Recognized (for non-continuous operation): File Number MH17367 (MJAT2, MJAT8).

Replacement Parts

50063482-001 Bag assembly includes:

- 8-pin connector
- CR2032 coin battery
- Mounting hardware
- 3 clamp filters (1 for 24V power and 1 for each ModBus)

CAUTION PROCESSOR LOCKOUT RESET FOR ALL MODELS IS NOT PERMITTED FROM FLAMETOOLS-HMI OR MODBUS. FOR SAFETY REASONS, RESET MUST BE PERFORMED AT THE DEVICE.



Section 1 General

FLAMETOOLS-HMI supports an application (software) that is used for monitoring and configuring Honeywell Industrial Flame Monitoring signal processors. FLAMETOOLS-HMI supports the following Honeywell models:

- 700 series up to 32 devices daisy-chained on one ModBus network
- P520 and P522 up to 32 devices daisy-chained on one ModBus network
- P531 and P532 up to 32 devices daisy-chained on one ModBus network
- Uniscan 2 (U2-10xx and U2-10xxPF) up to 32 devices daisy-chained on one ModBus network

"Device⁷ consists of processor, viewing head and interconnecting cable. U2 is integrated (all in one) and considered a device. Each device requires a unique address from 1 to maximum number supported. Address zero (0) is default and should not be used when connecting more than one device.

While adding a processor, user will be required to select model from the list. It is very important to select the correct model. Incorrect selection may result in halting system operation and in severe case may damage component and make system erratic in operation. A manual reset at the processor may be required.

NOTE: As the operation of processors P531 and P532 is identical, the application shows P532 although the processor is P531.

Section 2 FLAMETOOLS-HMI Features

FLAMETOOLS-HMI has two levels of access: limited access for operator for monitoring and full access for configuration and adjustment. The full access is password protected. The default password is "honeywell" (lower case).

Depending upon the model, the following will be displayed for monitoring:

- a. 4-20 mA analog signal bar-graph
- b. Tag, Address and model number
- c. Flame On/ Flame Off set point
- d. Digital read out of the flame signal in real time
- e. Temperature
- f. File name
- g. If the model support multiple viewing heads, indicate viewing head number (1, 2 or 3).
- h. Trending and Alarm

The following features will be available for configuration. A password is required to access this menu. The default password is "honeywell".

- 1. Tag (user selected name) for each device
- 2. Adjust UV Gain where applicable
- 3. Adjust IR Gain and IR Filter where applicable
- 4. Adjust UVss Gain and UVss Filter where applicable
- 5. Flame On and Flame Off threshold set point (Relay On and Relay Off Ratio on 700)

- 6. Flame Failure response time
- 7. Flame On delay time
- 8. mA multiplier where applicable
- 9. ModBus Address

Information: The system includes mA gain designated as Gain, UV gain designated as UV gain and IR gain as IR gain. Make sure correct menu is selected. mA gain allows user to adjust analog output 0-20 mA or 4-20 mA to desired value on external meter or DCS/PLC display.

Section 3 Installation – Must read

Quick Setup

- Connect processors one by one through RS485/422 bus to COM terminals. Configure ModBus addresses of the processors according to the prepared list (see Preparation below). Refer to the Wiring section for details on wiring the communication bus and flame processors.
- 2. Connect 24 VAC (or 24 VDC) to 24 VAC terminals

NOTE: 24 VAC (COMMON), COM 1 C and COM 2 C are internally connected inside the display.

Preparation

FLAMETOOLS-HMI supports several products. It is important to note that different modes of communication (RS422 and RS485) will require segregated wiring and separate COM port on FLAMETOOLS-HMI.

It is recommended that a list of devices for the application is prepared to include Name/Tag, address, model number, COM port the device is connected to, and, where applicable, viewing head number similar to the following example:

Name/Tag	Address	Model	Comm. Port
BLR2 -BNR6	02	S552BE	1
BLR3-BNR7	03	U2	1
FUR1- BNR3	02	700	2

Name/Tag number is user selectable. However, it is recommended, that tag number should be chosen carefully to identify applicable boiler/furnace and burner. For example Boiler 7, Burner #6 may have name/tag BLR7-BNR6 for easy identification. The Name/Tag character length is restricted to 25 characters maximum.

ModBus Addresses should be carefully numbered to avoid duplicate addresses when used in the same FLAMETOOLS-HMI COM Port..

- NOTE: A duplicate address is permissible as long as different COM ports are used. FLAMETOOLS-HMI provides for two COM ports (COM 1 and COM 2).
- NOTE: 700, P522, P531 and P532 ModBus addresses are factory set to 0, while the U2 address is preset to 1. ModBus communication ignores address 0 while address 1 is valid. However, more than one U2 with address 1 will result in communication fault.

After the list is prepared, it is recommended that appropriate address is edited into the processor or U2^a. Refer to appropriate product manual for wiring and editing ModBus address.



Connecting multiple devices without changing the default address ("0" or "1") will stop all ModBus communication. It is very important to connect one device at a time and give it a unique ModBus address. An already used address will create conflict and communication will stop.

Sequential addresses may be skipped to make it easier for an operator to identify a specific unit. For example, two boilers with 2 and 6 burners, respectively, and using the same Honeywell model are connected in a single network. It may be useful to assign the first boiler addresses 11 and 12, and then assign the second boiler addresses 21, 22, 23, 24, 25, and 26. It is assumed that particular model permits selected address. This will make identification easier during configuration and monitoring.

Wiring

For communication wiring, 2 wire or 4 wire twisted pair with shield is recommended. Braided shield is preferred over wrapped shield especially for long runs.

Shielded Cable gauge should be minimum 18 AWG (1.0 mm) for short runs (50 ft. / 15 m) and minimum 16 AWG (1.3 mm) for longer runs. The outer material should be plant standard to meet environment requirements.

To protect against conducted and radiated transient noise, use clamp filters (included in 50063482-001 bag assembly) as illustrated in figures 1 and 2.



Fig. 1. Install clamp filters on 24V and ModBus connections.



Fig. 2. Clamp filter in place.

Tabla 1

COM Terminals

FLAMETOOLS-HMI includes a plug-in connector. Pin configuration is as indicated below.

	COM1 A	TX+/RX+			
	COM1 B	TX-/RX-			
	COM1 C	INTERNALLY CONNECTED TO COM2 C AND 24 VA COMMON AND MAY BE CONNECTED TO EARTH GROUND			
	COM2 A	TX+/RX+			
FLAMETOOLS-HMI	COM2 B	TX-/RX-			
	COM2 C	24 VAC COMMON / 24 V DC – (GND) INTERNALLY CONNECTED TO COM1 C AND 24 VA COMMON AND MAY BE CONNECTED TO EARTH GROUND			
	24 VAC (COM)	INTERNALLY CONNECTED TO COM1 C AND COM2 C AND MAY BE CONNECTED TO EARTH GROUND			
	24 V AC/DC				
	24 VAC	24 V AC LINE / 24 V DC +			

^a If all processors (or U2's) are connected in a ModBus network without first setting unique addresses, FLAMETOOLS-HMI will not connect to the processors or U2.

700 AC and DC

The 700 AC and DC processor includes two (2) RJ-11 connections on the top of the device. When installing in panel make sure sufficient space is left to install cables.



Fig. 3. RJ-11 connector.



Fig. 5. P522 wiring.

A WARNING

Default protocol of the 700 unit must be changed in order to use ModBus communication. It may be set for ModBus by using key sequence below at the front panel of the 700 as follows:

- 1. Press and hold BNR-OFF SEQ START/END button for 2 seconds.
- Press up arrow to change setting from P0 to P1.
 Press STORE.





P520, P522 AC and P522 DC

The P520 and P522 processors include a 4-wire plug-in connector located at the bottom of the device. The panel internal wiring can be smaller gauge wire than field wire as long as shielded cables are used.

P531 and P532

The P531 and P532 AC and DC processor includes two (2) RJ-11 connections on the bottom of device on either side.



Fig. 6. P531 wiring.

U2-10XX and U2-10XX PF

U2-10xx is an integrated unit. For connection details, refer to form 66-2071. For quick disconnect, -RS485 wire is yellow and +RS485 is white. For PF version, -RS485 is Brown and +RS485 is white.

Connect grounds to shield wire and to COMx C terminal.



Fig. 7. U2 wiring.

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When all loops are added and checked, FLAMETOOLS-HMI is ready for use.

Power-up the FLAMETOOLS-HMI unit. A home page will be displayed.

CHAPTER 1 HOME PAGE



Fig. 8. Home Page

This is the start up screen

Home - Returns current display back to this Home page

Settings - Permits modification of application settings (password, logging parameters etc.)

COM2 - Switches to the other available COM port (COM 1 or COM 2). Display will show all loops connected to the selected COM.

Monitor – Opens monitoring page for the currently selected loop. In monitoring page, relevant data for each loop is displayed in real time. The displayed information cannot be changed.

Configure – Opens configuration page for the currently selected loop. Permits access to parameters that can be observed and changed. Access to this menu requires Password.

Add/Remove Processor - Opens a dialog to add or remove processors to or from the actual COM port.

CHAPTER 2 KEYPAD WITH CAPITAL AND NUMERIC

The keypad is divided into two portions – Capital and Numeric, and Lower case with special Characters. Use the SHIFT key to switch between the two portions. This keyboard will be automatically displayed when input from the user is required.





Fig. 9. Keyboard.

Use the green check button in the top right corner to confirm the entry, or the red cross to discard the entry.

CHAPTER 3 CHANGING PASSWORD

On the home page, select "Settings", then "Security".

Honeywell	FlameTool	Jun 19 2014 11:39:55 version 4.2.0.0
Settings >> Security settings		
Change your Password:		
Old Password:]
New Password:]
Re-enter New Password:]
	Apply]
Home Settings Security	y	

Fig. 10.

Enter current password. The factory default password is "honeywell". For higher level of security, the new password should be minimum eight (8) characters of which at least six (6) characters are alpha numeric and at least two (2) are special characters, such as $! @ # $ % ^ & () <> =$.

Honeyw	ell	FlameTool Jun 19 2014 11:41:21 version 4.2.0.0				
Settings >>	Security setting	js				
Change y	our Passwo	rd:				
Old Passw New Passv Re-enter N	ord: vord: lew Password	******** HameTool Password doo Password shou has to be alph	es not meet minimum uld be minimum 8 cha na numeric along with 1	complexity criteria. racters, 6 characters 2 special characters.		
	-		ОК			
	L					
Home	Settings	Security				

Fig. 11.



There is no backdoor through the system to recover password. It is, therefore, imperative to write down and keep a copy in a safe place. A forgotten password cannot be recovered and a new panel system will be required.

Password Mismatch

Honeyw	ell	F	lameTool	Jun 19 2014 11:41:	49 version 4.2.0.0
Settings >>	Security setting	js			
Change	your Passwo	rd:			
Old Passw New Passv Re-enter N	vord: word: New Password	**** FlameTool Current password	d does not match wit	h existing password.	
			OK		
	L				
Home	Settings	Security			

Fig. 12. Old Password does not match existing password.

If the New Password does not match the Re-enter New Password, the system will display the following message. Select OK and re-enter new password.

Honeywell	FlameTool	Jun 19 2014 11:42:27 version 4.2.0.0
Settings >> Security setting	ngs	
Change your Passwo	ord:	
Old Password:	****** FlameTool	
Re-enter New Password	New password and reentered new match.	password does not
	ОК	
Home Settings	Security	

Fig. 13. New password and reentered new password do not match.

Honeyw	ell	FlameTool Jun 19 2014 11:44:02 version 4.2.0.0				
Settings >>	Security settin	gs				
Change y	our Passwo	rd:				
Old Passwo	ord:	********]		
New Passw Re-enter N	vord: Iew Password	Pa	Password changed successfully.			
			ОК			
Home	Settings	Security				

Fig. 14. Password changed successfully.

CHAPTER 4 MANUALLY ADDING PROCESSOR (DEVICE)

Once the unique address is given to each device, the Discover function may be used to find all processors or U2's that are connected to the ModBus network (see Chapter 5 on page 12) or each processor or U2 can be added manually.

Before adding a processor or U2 to the ModBus network, make sure all wiring is complete (see Section 3 on page 2), and the processor or U2 is in operation mode (no lockout).

As recommended earlier, a device list should be prepared to include and assign Name (or Tag), address (numeric value from 1 to the maximum number of devices supported by FLAMETOOLS-HMI), Model number, and COM port.

- 1. On Home Page select Add/Remove Processor, then "Manual Add".
- Refer to the list that was prepared as recommended in 2. "Preparation" on page 2.

Complete the following for each processor (see Fig. 15):

- a. Fill In the Name/Tag this is the tag or name that is
- given to a particular processor or U2. Fill In the Address this will be the ModBus b. address of the processor or U2.
- Select the Model Number from the drop-down C. menu. Remember P531 and P532 supports three viewing heads.



It is very important to ensure correct model is selected. Incorrect selection may result in halting system operation and in severe case may damage component and make system erratic in operation.

- Select the Comm port that is used for this applicad. tion from the drop-down menu.
- Click "Add". e.

Honeywell	FlameTool	Jun 19 2014 11	:58:32 version 4.2.0.0
Add Processor >> Processors			
☑ Select All	Manually Add	X]
Tag I	Tag MANUAL P5	22	l Port
	Address 4		
	Model P522		
	Port COM2	•	
			-
	Add		
Home Settings		Discover I	Remove Manual Add

Fig. 15.

A request to confirm addition of the Processor will be displayed as shown below in Fig. 16.



Fig. 16.

When processor is added successfully, the following message is displayed (Fig. 17).



Fig. 17.

CHAPTER 5 ADDING PROCESSOR USING DISCOVERY MENU

On Home Page select "Add/Remove Processor"

Initially, when no processors are added yet an empty list of stations (processors) will be displayed (Fig. 18).

Honeywell	Flame	ameTool Jun 19 2014 11:48:21 version 4.		rsion 4.2.0.0			
Add Processor >> Processors							
Select All							
Tag	Model	Address	Serial Port				
[□] No Stations	NA	NA	NA				
Home Settings		Discove	r Remove	Manual Add			

Fig. 18.

Select "Discover" from the bottom menu bar.

Add Proce	Discover Proce	essor							X	
Select A	Serial Port:	СОМ	1	•						
Tag	Tag	COM	1		Ser	ialPort	Add	ress		
[⊔] No St		COM.	2							
	Add P	rocess	ог							
	Start									
Home	Settings					Discover	Í	Remove	Manı	ual Add



Select one of the two available COM ports to be scanned for connected processors and select Start. The discovery procedure is initiated. The discovery procedure can be stopped at any time by using the Stop button.

When processors are discovered the screen will appear as shown in Fig. 20. An hourglass is shown during the scan as data is collected and the list is populated.

Add Proce	Discover Processor				X
Select A	Serial Port: CON	12 🔻			
Tag	Tag	Model	SerialPort	Address	
[–] No St	^D ST 1 - PT 2	P700	COM2	1	
	^{III} ST 2 - PT 2	P700	COM2	2	
	^{III} ST 3 - PT 2	P522	COM2	3	
	^D ST 4 - PT 2	P532	COM2	4	
	ST 5 - PT 2	P532	COM2	5	
	Add Proces	SOF			
	Stop	Searching for processor or	n COM Port: COM2, Add	lress: 22	
Home	Settings		Discover	Remove	Manual Add

Fig. 20.

After the discovery process is complete or Stop button is used, display will show all processors that were found during Discovery process.

The next step is to add processors to the system. Select the processor to be added by selecting from check box.

NOTE: In discovery process all connected processors will be discovered, including the processors that were "discovered" or manually added earlier.

Select all or individual processors to add to the system. We recommend adding one device at time to avoid errors.

The tool automatically detects the model of processors. However, it is strongly recommended to check the correct model has been detected and change the model if necessary.

If incorrect model is selected the system will not work properly. Processor model can be changed by clicking the model

indicator and selecting the correct model from the menu (see Fig. 21).

Add Proce	Discover Processor				X	
Select A	Serial Port: COM	2				
Tag	Тад	Change Model		ddress		
[□] No St	[™] ST 1 - PT 2	O P522	1			
	^O ST 2 - PT 2	O P532	2			
	[□] ST 3 - PT 2	D 700	3			
	[□] ST 4 - PT 2	e P700	4			
	[□] ST 5 - PT 2	O U2	5			
	Add Process	о ОК				
	Start					
Home	Settings		Discover	Remove	Manual Add	

Fig. 21.

To complete the process of adding processors to the system, make sure Com selection is correct and then select desired units to be added to the system and finish with using the Add Processor button.

Add Proce	Discover Proc	cessor				Х	
Select A	Serial Port:	COM2	•				
Tag	Tag		Model	SerialPort	Address		
[⊔] No St	^{II} ST 1 - P	PT 2	P700	COM2	1		
	[🗆] ST 2 - P	РТ 2	P700	COM2	2		
	<mark>∽</mark> ST 3 - P	PT 2	P522	COM2	3		
	^D ST 4 - P	PT 2	P522	COM2	4		
	^{III} ST 5 - P	PT 2	P532	COM2	5		
	Add	Processor					
	Start						
Home	Settings			Discover	Remove	Manu	ıal Add

Fig. 22.

CHAPTER 6 REMOVING PROCESSOR (DEVICE)

To remove the processor from the list (Discover or manually added), select "Add/Remove Processor" on the home page.

Honeywell	Flar	neTool	Jun 19	2014 12:02:36 ve	rsion 4.2.0.0
Add Processor >> Processo	rs				
Select All					
Tag	Model	Address		Serial Port	
^D ST 1 - PT 2	P700	1		COM2	
^{III} ST 3 - PT 2	P522	3		COM2	
^{III} ST 5 - PT 2	P532	5		COM2	
^D MANUAL P522	P522	4		COM2	
Home Settings			Discove	r Remove	Manual Add

Fig. 23.

Select processor(s) to be removed by placing a check mark in their rows, then click on "Remove".

A confirmation dialog will be displayed (Fig. 24).

Honeywell	Flame	e Tool Ju	n 19 2014 12:0 3	:54 ver	sion 4.2.0.0
Add Processor >> Process	sors				
Select All					
Тад	Model	Address	Serial F	Port	
^D ST 1 - PT 2	FlameTool				
[□] ST 3 - PT 2	Are you sure you wan	t to remove selecte	ed processor(s)?		
[□] ST 5 - PT 2					
MANUAL P522					
	Yes		No		
		·		-	
Home Settings		Dis	cover Rer	nove	Manual Add

Fig. 24.

Select "YES" to complete removal. If "NO" is selected, the system will revert to the previous display.

When a processor (device) is removed from the list, a confirmation will be displayed (Fig. 25).

Honeywell FlameTool Jun 19 2014 12:04:12 version 4.2.								
Add Processo	Add Processor >> Processors							
Select All								
Tag		Model	Address	Serial Po	rt			
^O ST 1 -	PT 2	lameTool			· ·			
^O ST 3 -	PT 2	Processors removed successfully.						
^O ST 5 -	PT 2							
			ОК					
Home	Settings		Discove	r Remov	e Manual Add			

Fig. 25.

CHAPTER 7 SELECTING PROCESSOR (DEVICE) FOR CONFIGURATION

Once processors (devices) are added, the Home page shows them in the list. (Fig. 26)

Honeywell			FlameToc	Jur	19 2014 12:0	94:39 versio	n 4.2.0.0
Processor >> View Processors - COM 2							
ST 1 - PT 2	ST 3 - PT 2	ST 5 - PT 2					
Home	Settings		COM 1	Monitor	Configure	Add / Remo	ve Processor

Fig. 26.

NOTE: The tool displays processors of only one COM port at a time. To switch between the display of COM 1 and COM 2 ports, use the COM 1 or COM 2 buttons at the bottom menu bar.

Select the processor (device) to be configured by tapping on its green cell. The selected cell will change color from light green to dark green. (Fig. 27)

Honeywell		FlameToc	Jun	19 2014 12:0	4:54 versio	n 4.2.0. 0	
Processor >>	> View Processo	ors - COM 2					
ST 1 - PT 2	ST 3 - PT 2	ST 5 - PT 2					
Home	Settings		COM 1	Monitor	Configure	Add / Remo	ve Processor

Fig. 27.

Click the "Configure" button to enter configuration page.

Enter the password when asked (Fig. 28).	The default password is	"honeywell". To change	the password, refer	o "Chapter 3
Changing Password" on page 7.				

ocessor



NOTE: The configuration procedure shown is for the P522, but it is similar to all other models 700, P531/P532 and U2. Other models are detailed later in this document.

The configuration page will be displayed (Fig. 29):

Honeywell	FlameTool	Jun 19 2014 12:06:	47 version 4.2.0.0
Configure >> ST 5 - PT 2	2 (1 of 3)		
Model: P532	Tag : ST 5 - PT 2	Port: COM2	Address : 5
HeadType : S702		File: 0	FLAME OFF 🔴
Flame Signal :	30 40 50 60 70 80 90 100% 899	Temperature 0	°C 32 °F
mA Gain : 🔘 0	·	100	18 18
Flame On : O 1		2999	1200 1200
Flame Off: 🔿 🛛 🛛 🛛 0		1199	1000 1000
Home Settings	Change Head / File Download	Open Save	e As < >

Fig. 29.

The first active viewing head and the active file is shown.

To change the Tag (Name) of the device, click on the Tag input field and enter the new name.

To change the viewing head or the file, click on "Change Head /File" button. The menu for Viewing Head and file selection is displayed. Select appropriate viewing head from the drop-down menu.

Honeywell		FlameTool	Jun 19 2014 12	:07:46 version 4.2.0.0
Configure >> ST 5 - P	T 2 (1 of 3)			
Model: P532	Tag : ST	5 - PT 2	Port: COM2	Address : 5
HeadType : \$702			File: 0	FLAME OFF
Flame Signal :	Select			X • C 32 • F
mA Gain : 🔘	Viewing Head	S702 or S8	302	8 18
Flame On : 🔿		S706 or S8	306	200 1200
Flame Off : 🔿	0	S550B S552B		1000 1000
Home Setting	s Change Hea	id / File Download	d Open S	Save As < >



Select appropriate file from the drop-down menu. Click Proceed to apply changes.

Honeywell	FlameTool Jun 19 2014 12:08:55 vo			8:55 version 4.2.0.0
Configure >> ST 5 - P	T 2 (1 of 3)			
Model: P532	Tag: ST 5	5 - PT 2	Port : COM2	Address : 5
HeadType : S702			File: 0	FLAME ON
Flame Signal :	Select			X °C 32 °F
mA Gain : 🔘	Viewing Head	S702 or S8	02 🔻	8 18
	File	File 0		
Flame On : 🔿		File 0		200 1200
Flame Off: 🔿	0	File 1	1199	1000 1000
Home Setting	s Change Hea	d / File Download	Open Sa	ve As < >

Fig. 31.

If the selected combination of viewing head and file is not available, a warning message will be displayed (Fig. 32 and Fig. 33).

Honeywell	FlameTool Jun 19 2014 12:09:26 version 4.2.0.0			
Configure >> ST 5 - PT 2 ((1 of 3)			
Model: P532	Tag : ST 5 - PT 2	Port : COM2	Address: 5	
HeadType : S702		File: 0	FLAME ON 😑	
Flame Signal :	FlameTool		°C 32 °F	
mA Gain: 🖲 0	Selected Viewing Head is not atta	ched.Please check.	18 18	
Flame On : 🔿 10	ОК		1200 1200	
Flame Off: 〇 0		1199	1000 1000	
Home Settings	Change Head / File Download	Open Save	e As < >	

Fig. 32.

Honeywell	FlameTool	Jun 19 2014 12:09	:26 version 4.2.0.0
Configure >> ST 5 - PT 2	(1 of 3)		
Model: P532	Tag : ST 5 - PT 2	Port : COM2	Address: 5
HeadType : S702		File: 0	FLAME ON 😑
Flame Signal :	HameTool		°C 32 °F
mA Gain: 🖲 🛛 ()	Configuration not available for the s and file combinat	selected viewing head ion.	18 18
Flame On : 🔿 1	ОК		1200 1200
Flame Off: 〇 0		1199	1000 1000
Home Settings	Change Head / File Download	Open Save	e As < >

Fig. 33.

NOTE: File activation on the processor requires contact closure to processor input. The FLAMETOOLS-HMI tool allows for file configuration changes but the file cannot be activated from the tool.

Adjustment to the system can now be made by clicking on appropriate radio button.

Parameters can be adjusted either by moving the slider horizontally or by directly entering a new value to the input box on the right next to the slider.

Multiple configuration changes cannot be made. After making one change, click on "Download" button.

It is important that effect of configuration change to Gain, Filter, Flame On, Flame Off and other critical changes is observed over a period of time before attempting to make additional changes. Making multiple changes before observing affect may lead to unsafe conditions.

The configuration has three pages. To move to the next or previous page, use ">" or "<" buttons respectively.



Fig. 34. Page 1 of 3 — mA gain, Flame On and Flame Off threshold adjustment.



Fig. 35. Page 2 of 3 — Time delay, FFRT and UV gain adjustment/selection.

Honeyw	ell	Flame	Tool J	un 19 2014 1	2:15:58	version 4.2.0.0	
Configure >	Configure >> ST 3 - PT 2 (3 of 3)						
Model: F	·522	Tag : ST 3 - PT 2	P	ort: COM2		Address: 3	
HeadType	: S552		F	i le: 0		FLAME ON	
Flame Sign	o 10 20 :	30 40 50 60 70 80 90	2504 T	emperature	-30 °	C -22 ° F	
IR Gain	O 0	Ţ			699 15	0 150	
IR Filter	0	3/33 Hz				3/33	
Home	Settings	Change Head / File	Download	Open	Save As	< >	

Fig. 36. Page 3 of 3 — IR gain And IR Filter Adjustment/selection.

After configuration changed, it should be downloaded to the processor or U2.

Use the "Download" button and confirm the download.

Honeyw	ell		FlameTool Jun 19 2014 12:16:40 version 4.2.0.0			
Configure >	> ST 3	- PT 2 ((1 of 3)			
Model: P	522		Tag : ST 3 - PT 2	Port : COM2	Address: 3	
HeadType	: S	552		File: 0	FLAME OFF 🔴	
Flame Sign	al :	10 20	FlameTool		°C -22 °F	
mA Gain	۲	0	Do you want to download connected	Do you want to download modified parameters to the connected processor?		
Flame On	0	150	Yes	No	2000 2000	
Flame Off	0	0		1	999 1500 1500	
Home	Sett	ings	Change Head / File Dov	wnload Open	Save As < >	

Fig. 37.

Successful download is confirmed as indicated in Fig. 38.



Fig. 38.

If no changes were made to the configuration, the tool will inform the user and will not perform the download.

Honeywell	FlameTool	:16 version 4.2.0.0	
Configure >> ST 3 - PT 2 ((1 of 3)		
Model: P522	Tag : ST 3 - PT 2	Port : COM2	Address : 3
HeadType: S552		File: 0	FLAME OFF 🔴
Flame Signal :	TameTool		°C-22 °F
mA Gain 🝙 🕠	No changes are dete	ected.	40 40
Flame On 🔿 150	OK		2000 2000
Flame Off O 0		J 1999	1500 1500
Home Settings	Change Head / File Download	Open Sav	e As < >



To leave the configuration pages for the Home Page, use the "Home" button.

A warning is shown if any parameter or the tag has been modified but not downloaded yet to the processor or U2. If "Yes" is selected, modifications are downloaded to the processor or U2 before exiting the configuration mode. If "No" is selected, modifications are discarded and configuration mode is exited.

Honeyw	ell		FlameTool Jun 19 2014 12:18:01 version 4.2.0.0).0			
Configure >	> ST 3	- PT 2	(1 of 3)							
Model :	P522		Tag : ST 3 - PT 2 52	2	Po	ort: COM	12	Ado	lress :	3
HeadType	: s	552			Fil	le: 0		FLA	ME ON	•
Flame Sign	nal :	10 20	HameTool					° C	-22	٩F
mA Gain	۲	0	Do you w	ant to sa	ve modified	d tag?		40	40	
Flame On	0	150	Yes			No		2000	2000	
Flame Off	0	0			_Ū_		1999	1500	1500	
Home	Sett	tings	Change Head / File	Dow	nload	Open	Save	e As	<	>

Fig. 40.

CHAPTER 8 SAVING AND RESTORING DEVICE CONFIGURATION

A local copy of loop (processor) configuration can be stored either to internal storage media (display memory) or to external storage media (an USB drive connected through the USB port).

Click on "Save As". A screen like Fig. 41 will appear.

Honeywell	FlameTool	Jun 19 2014 12:18:51	version 4.2.0.0
Configure >> ST 3 -	PT 2 (1 of 3)		
Model: P522	Tag : ST 3 - PT 2	Port : COM2	Address: 3
HeadType : S5	Save Configuration		FLAME ON
0 10	Select the storage location :		
Flame Signal :	Internal Storage Media (NandFlash)		C -22 ° F
mA Gain 👝	O External Storage Media(USB)		40
U U U U U U U U U U U U U U U U U U U	©		
	Enter File Name : ST 3 - PT 2_S552_F	File 0	
Flame On 🔿			0 2000
	Save	Cancel	-
Flame Off 🛛 🔿	0	J 1999 [15	1500
Home Settir	ngs Change Head / File Download	Open Save As	< >



Select the target storage media and enter file name. The default file name is in the form "TAG_VHNAME_File", for P522, 700 and U2. For P532 it is "TAG_VHNAME_File_VHNUMBER".

If external storage is selected, but no external device is connected, the following will be displayed:

Honeywell	FlameTool	Jun 19 2014 12:19:11 version	4.2.0.0
Configure >> ST 3 -	PT 2 (1 of 3)		
Model: P522	Tag: ST 3 - PT 2	Port : COM2 Addres	ss: 3
HeadType : S5	Save Configuration	FLAME	off 🔴
Flame Signal :	Flame Tool	C -2	2 ° F
mA Gain 💿	External Hard disk (USB) is not o	connected. Please Check.	40
Flame On 💍	ErOK	0	2000
Flame Off 💍	Save	Cancel 1999 1500	1500
Home Settir	igs Change Head / File Downlo	ad Open Save As <	>

Fig. 42.

If a file with the same name already exists on the target media, confirmation to overwrite the existing file is required.

Honeywell		FlameToc	bl	Jun 19 2014 12:19	:46 version 4.2.0.0
Configure >> ST	3 - PT 2 (:	1 of 3)			
Model: P522		Tag: ST 3 - PT 2		Port : COM2	Address : 3
HeadType :	Save C	Configuration			
Flame Signal :					C -22 ° F
mA Gain 🍙	O Fr	Do you want to overv	write the e	existing file ?	40
Flame On 🛛 🔿		Yes		No	2000
Flame Off O	0	Save		Cancel	1500 1500
Home Se	ettings	Change Head / File Dow	wnload	Open Sav	e As < >

Fig. 43.

When file is saved successfully, a confirmation will be displayed (Fig. 44).





Each loop file is saved individually. "Save As" stores the configuration of the currently selected loop and file only. Every available combination of viewing heads and files should be saved separately to store a complete configuration backup of all devices.

The procedure outlined above for downloading to the processors or U2 and saving on the external device should be used for all processors and U2.

To open a processor (device) configuration from a file previously created by "Save As" function, use the "Open" button.

Select the source media. Available configuration files will be displayed as indicated in Fig. 45.

Honeywell	FlameToo	Jun 19 2014 12:24:59	version 4.2.0.0
Configure >> ST 3	Open Configuration		
Model: P522 HeadType: S	Select the storage location : Internal Storage Media (NandFl	ash)	Address: 3
Flame Signal :	O External Storage Media(USB) Select configuration file :	Delete Config File	C -22 ⁰F
mA Gain 💿	Configuration Files (*.cf ST 3 - PT 2 S552 File 0	g) .cfg	40
Flame On 💍	ST 1 - PT 2_S702 or S8(ST 8 - PT 2_1010 (IR +	02(HF, PF, HF-PF)_Fil - UV + UVSS)_File 0	2000
Flame Off O	-		1500
Home Set	Open	Cancel	< >

Fig. 45.

Select file from the list by clicking on it and use OK to load the configuration.

When the configuration is loaded successfully, a confirmation is displayed as in Fig. 46:

Honeywell	FlameTool Jun 19 2014 12:27:34 version 4.2.0.0			
Configure >> ST 3 - PT	2 (1 of 3)			
Model: P522	Tag : ST 3 - PT 2	Port : COM2	Address : 3	
HeadType : S552		File: 0	FLAME ON 🥚	
Flame Signal :	PameTool		°C-22 °F	
mA Gain 🔘 0	Configuration loaded suc	ccessfully.	40 40	
Flame On O 1	OK OK		2000 2000	
Flame Off O 0] 1999	1500 1500	
Home Settings	Change Head / File Download	Open Sav	e As < >	

Fig. 46.

CHAPTER 9

CONFIGURING P531/P532 P531/P532 supports three (3) viewing heads, two (2) of which will be S55xB or BE and one (1) S70x. Select viewing head from the dropdown menu (Fig. 47).

Honeywell		FlameTool	Jun 19 2014 12	:28:39 version 4.2.0.0
Configure >> ST 5 - P	T 2 (1 of 3)			
Model: P532	Tag : ST	5 - PT 2	Port : COM2	Address : 5
HeadType : S702			File: 0	FLAME OFF
Flame Signal :	Select			X • C 32 • F
m A Gain i 🔿	Viewing Head	S702 or S8	302	
	File	S702 or S8	.02	
Flame On : 🔿		S706 or S8	06	200 1200
Flame Off : O	0	S550B S552B		1000 1000
Home Setting	s Change Hea	nd / File Download	i Open s	Save As < >

Fig. 47. Viewing Head Selection Menu P531/P532.

Next, select the file for the viewing head (Fig. 48).

Honeywell		FlameTool	Jun 19 2014 12:29	:03 version 4.2.0.0
Configure >> ST 5 - P	T 2 (1 of 3)			
Model: P532	Tag : ST	5 - PT 2	Port : COM2	Address : 5
HeadType : S702			File: 0	FLAME ON
Flame Signal :	Select			X °C 32 °F
mA Gain : 🔘	Viewing Head	S702 or S8	802 -	8 18
	File	File 0	•	
Flame On : 🔿		File 0		200 1200
Flame Off : 🔿	0			1000 1000
Home Setting	s Change Hea	d / File Download	l Open Sav	^{e As} < >

Fig. 48.

The configuration has three (3) pages.

Honeywe	ell	FlameT	iool Jur	n 19 2014	12:29:40	version 4	4.2.0.0
Configure >:	> ST 5 - PT 2	(1 of 3)					
Model : P	532	Tag : ST 5 - PT 2	Por	rt: COM2		Address	: 5
HeadType	: \$702		File	e: 0		FLAME OF	Ŧ 🔴
Flame Sign	al :	30 40 50 60 70 80 90 10	^{00%} 422 Te	mperature	0	°C 32	٩F
mA Gain	: • 0	Ţ			100 1	8	18
Flame On	: 0 1	001			2999 1	200	1200
Flame Off	: O 0		[J—	1199 1	000	1000
Home	Settings	Change Head / File	Download	Open	Save As	<	>

Fig. 49. Page 1 of 3 — P531/P532 menus – mA gain, Flame On and Flame Off .

Honeyw	Honeywell FlameTool					2 version 4	.2.0.0		
Configure >:	Configure >> ST 5 - PT 2 (2 of 3)								
Model : P	532		Tag : ST 5 - PT 2	Port : COM2	2	Address	: 5		
HeadType	: S70	2		File: 0		FLAME OF	=		
Flame Sign	al :	20 3	³⁰ 40 50 60 70 80 90 100% 840) Temperature	e 0	°C 32	٩F		
FFRT :	0	1	Ţ		3	1	1		
Time Dela	y O	0	Ţ		3	0	0		
Alarm Set Point	0	0			2999	1000	1000		
Home	Setting	JS	Change Head / File Dowr	nload Open	Save	As <	>		

Fig. 50. Page 2 of 3 — P531/P532 menus – FFRT, Time Delay and Alarm Set (refer to processor manual for detail).

Honeyw	ell	Flan	neTool	Jun 19 2014 1	2:30:07 v	ersion 4.2.0.0			
Configure >	Configure >> ST 5 - PT 2 (3 of 3)								
Model: P	532	Tag: ST 5 - PT 2		Port: COM2	,	Address: 5			
HeadType	: S702			File: 0	F	LAME ON 😑			
Flame Sign	al :	30 40 50 60 70 80 9	100% 1539	Temperature	0 °(C 32 ° F			
UV Gain :	1	Ū		(9 1	1			
IR Gain :	0 1	Ū			9 1	1			
IR Filter :						~			
Home	Settings	Change Head / File	Download	Open	Save As	< >			

Fig. 51. Page 3 of 3 — P531/P532 menus – UV Gain, IR Gain and IR Filter.

CHAPTER 10 CONFIGURING 700

Relay On is replaced with Flame On, and Flame Off is replaced by Ratio On/Off in percentage of Relay On. Example: Relay On: 10 and Ratio On/Off: 56% (see Fig. 52) means

Flame On = 10 counts, and Flame Off = 0.56 x Flame On = 0.56 x 10 =	5.6 counts.
---	-------------



Fig. 52. Page 1 of 2 — Set up – Relay On, Ratio On/Off and Time Delay.

Honeyw	eywell FlameTool Jun 19 2014 12:31:39 version 4.2.					version 4.2.0.0	
Configure >	> ST 1 - P	Т 2 (2	of 2)				
Model: P	700		Tag : ST 1 - PT 2		Port : COM2		Address: 1
HeadType	S70)2 or S8	802(HF, PF, HF-PF)		File: 0		FLAME OFF 🔴
Flame Sign	nal :	20 30	40 50 60 70 80 9	100%			
FFRT	0	1	Ū			3	1 1
UV Gain		1	Ţ			9	1 1
IR Gain	0	1	Ţ			9	1 1
Home	Setting	is (Change Head / File	Download	Open	Save As	< >

Fig. 53. Page 2 of 2 — Set up – FFRT, UV Gain and IR Gain (Note only applicable gain control will be visible for S702 and S802. Flicker frequency setting is fixed at the factory.)

CHAPTER 11 CONFIGURING U2

The following list of viewing heads (Fig. 54) will be displayed when "Change Head/File" button is clicked on.





There are eight files available in U2 models (Fig. 55).

Honeywell	I	FlameTool	Jun 19 2014 12:32:55	version 4.2.0.0
Configure >> ST 8 - P	T 2 (1 of 3)			
Model: U2	Tag : ST 8 -	PT 2	Port : COM2	Address: 8
HeadType 1010)		File: 0	
Flame Signal :	Select		X	°C 23 °F
mA Gain 💿		L010 (IR +	• UV + L ▼	5 5
Flame On 🛛 🔿	File	File 0	•	2000 2000
Flame Off	F	ile 4 ile 5		1500 1500
Time Delay 🛛 🔿	○	ile 6		0 0
Home Setting	s Change Head,	ile 7		s < >

Fig. 55.

There are three configuration pages.

Honeywell		د FlameTool	un 19 2014	12:33:18	version 4.2.0.0	
Configure >> S	T 8 - PT 2 (1 of 3)					
Model: U2	Tag : ST	8 - PT 2	ort: COM2		Address : 8	
HeadType	1010	F	i le: 0		FLAME OFF 🛛 🛑	
Flame Signal :	0 10 20 30 40 50 60	70 80 90 100% 681 T	emperature	-5 o	C 23 ° F	
mA Gain	• • -J-			99 5	5	
Flame On	O 150			3425 20	2000	
Flame Off	O 50			1999 15	i00 1500	
Time Delay	○ 0 <u> </u>			3 0	0	
Home	Settings Change He	ad / File Download	Open	Save As	< >	

Fig. 56. Page 1of 3 – mA Gain, Flame On, Flame Off, Time Delay.

Honeywe	11	Flam	eTool Ju	n 19 2014 1	2:33:30	version 4.	2.0.0
Configure >>	ST 8 - PT 2	(2 of 3)					
Model: U2	!	Tag : ST 8 - PT 2	Po	rt: COM2		Address :	8
HeadType	1010		File	e: 0	1	FLAME OFF	•
Flame Signa	0 10 20	30 40 50 60 70 80 90	100% Te	emperature	-5 o	C 23	٩F
FFRT	O 1	Ţ			3 1		1
IR Gain	0 0	-Ţ			99 5		5
IR Filter	0	3/33 Hz				~	3/33 Hz
Home	Settings	Change Head / File	Download	Open	Save As	<	>

Fig. 57. Page 2 of 3 – FFRT, IR Gain and IR Filter.

Honeyw	ell	FlameTool	Jun 19 2014 1	2:33:43 version 4.2.0.0
Configure >	> ST 8 - PT 2	(3 of 3)		
Model: U	12	Tag : ST 8 - PT 2	Port: COM2	Address : 8
HeadType	1010		File: 0	FLAME OFF 🔴
Flame Sign	al :	³⁰ 40 50 60 70 80 90 100% 1871	Temperature	-5 °C 23 °F
UV Gain	O 0	-[]		99 5 5
UVSS Gain	0 0	-[]		99 5 5
UVSS Filter	0	3/33 Hz		3/33
Home	Settings	Change Head / File Download	Open	Save As < >

Fig. 58. Page 3 of 3 – UVTron Gain, UVSS gain and UVSS Filter.

CHAPTER 12 MONITORING AND LOGGING

FLAMETOOLS-HMI allows user to display real time data without access to configuration.

Honeywe	ll		FlameTool Jun		19 2014 12:34:07 version 4.2.0.0		
Processor >> View Processors - COM 2							
ST 1 - PT 2	ST 3 - PT 2	ST 5 - PT 2	ST 8 - PT 2				
Home	Settings		COM 1	Monitor	Configure	Add / Remo	ve Processor

Fig. 59.

To select a processor or U2 to be monitored, click on the icon for that processor or U2. Note only tags are displayed and therefore tag descriptor should be self-explanatory.

The icons of actively communicating (connected) processors or U2's are colored light green.

Dark green icon indicates the selected processor or U2.

Gray icons indicate empty cells, processors or U2's that are not connected or not communicating at this moment.

The monitoring display includes: Tag, ModBus address, Communication port, processor or U2 model number, Flame On threshold set point, Flame Off threshold set point, analog flame signal, flame on real time count and depending upon model, UV gain, IR gain, IR filter setting, and temperature.

The real time graph of flame signal is located in the bottom right corner, with indication of Flame On and Flame Off levels.



Fig. 60. Display for P520 and P522.



Fig. 61. Display for P531/P532 Processor using S55xB and S55xBE (VH #1 and VH #2).

NOTE: To display a different head for P531/P532 Processor, use the VH #1, VH #2 and VH #3 buttons.



Fig. 62. Display for 700.



Fig. 63. Display for U2.

CHAPTER 13 LOGGING AND LOG SETTINGS

FLAMETOOLS-HMI allows for logging the analog flame signal, temperature, and alarms.

Logging can be enabled/disabled for each device (processor) individually from the Log Settings screen.

On the Home Page select "Settings".

Adjust the logging parameters:

Record after every - sampling interval in seconds

Store logs for – data older than this interval are deleted so that the tool always maintains only the selected length of most recent data in the log.

Date, Time – the date and time to be used for time stamps in the logs. Use the Save DateTime button to apply changes in date and/or time.

Logs are always stored to an external USB storage media connected to the USB port (External USB Drive).

Select the processor(s) or U2(s) to be monitored by clicking on their selection box. Note that Alarm Logging is applicable to the P531/P532 only. After making the changes, select Save button to activate.

Honeywell	FlameT	ool Jun 19	Jun 19 2014 01:01:48 version 4.2.0.0		
Settings >> Log settings					
Record after every	seconds.	I Flame sigr	nal and temper	ature loggi	ing
Store logs for 2	minutes.	Date:	5 /18/2014	•]
		Time:	3:39:13 PM	▲ ►	
Tag	Model	SerialPor	t Addre	SS	
^D ST 1 - PT 2	P700	COM2	1		
[🗆] ST 3 - PT 2	P522	COM2	3		
[🗆] ST 5 - PT 2	P532	COM2	5		
<u> ст 8 - рт 2</u>	112	<u></u>	8	-	•
Si	ave	Save DateTime			
Home Settings Sec	curity				

Fig. 64.

New setup when accepted will display as indicated in Fig. 65.

Honeywell	FlameT	ool Jun 19 20	Jun 19 2014 01:02:49 version 4.2.0.0					
Settings >> Log settings								
Record after every 1	▼ seconds.	☑ Flame signal a ☑ Alarm Logging	and temperature logging g					
Store logs for 2	FlameTool	Date: 6/18	8/2014					
Tag ST 1 - PT 2	Settings sa	ved successfully.	ress					
[⊔] ST 3 - PT 2								
^I ST 5 - PT 2	PDDZ	COMIZ						
ST 8 - Р <u>Т 2</u>	112	<u></u>	<u> </u>					
	Save	Save DateT	lime					
Home Settings	Security							

Fig. 65.





Automation and Control Solutions

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