AutoCONFIG™

User Configurable Screen Function User Guide P/N 1-0485-070

Revision B





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Revision History

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Chapter 1 Introduction

The user configurable screen function in the Thermo Scientific AutoCONFIG[™] configuration software provides users with a way to create a library of customized screens. These screens may contain almost any of the table items available for the Thermo Scientific AutoEXEC and AutoPILOT PRO flow computers. Once a screen has been created and saved, users can easily copy it to another user's library or distribute it via email. This capability provides the foundation for the management of a personal library file holding an accumulation of custom screens as well as possibilities for a "master" library, which can be easily shared among and updated by all users.

This document provides information on the user configurable screen function. It does not provide specific instructions on all the software's capabilities. For that information, refer to the AutoCONFIG help system, which can be accessed from the software's Help menu.

Note It is assumed that the AutoCONFIG software has been installed. ▲

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Chapter 2 The Programmable Screen

Getting Started

The first step to creating a custom screen is to open a new programmable (configurable) screen. In AutoCONFIG, go to **Programmable Screen > New**. The screen shown in Figure 2–1 will appear.

Note The feature is accessible in offline mode or when connected to an instrument. ▲

The three main sections of the programmable screen are listed below:

- The toolbox
- The working area
- The status bar





The Toolbox

Hover over the toolbox area, and the toolbox will expand. Figure 2-2 shows a screen that is partially configured so the sections of the toolbox contain data. Instructions on how to add the fields to the working space will be covered in a later section.



Current control properties



The toolbox consists of the following items.

• Trash icon: Click this icon to delete the control that is currently selected. For an example, refer to "Deleting a Control" later in this chapter.



• Clear screen icon: Click this icon to delete all controls on the working area.



• Lock / unlock toolbox icon: When the icon is green, the toolbox is unlocked. This is the default position. Click the icon to lock the toolbox in the expanded position. The icon will change to red. Click it again to collapse (hide) the toolbox.



•	Hide Controls button: Click this button to hide the new control
	buttons below and display more of the table links tree.

- New control buttons: Controls are the types of fields that can be added to the working area. For instructions on how to add these controls, refer to "Adding Controls" later in this chapter.
- Table links tree: This area of the toolbox lists the AutoCONFIG tables and displays any items that are linked to controls on the working area. (Linking controls are discussed in "Linking / Unlinking Controls" later in this chapter.)
- Selected control ID: The ID of the selected control is displayed here. In Figure 2–2, the NewGroupBox_6 is the control that is currently selected.
- Current control properties: The properties of the control that is currently selected are shown here. Properties include the name of the control, its location on the working area, its height and width, whether it is linked to another control, and whether it is grouped with another control.

Referring again to Figure 2–2, the NewGroupBox_6 is the name of the control that is currently selected. The control is located at 747 x 389 and it is 216 h x 224 w. The control is currently not linked to or grouped with another control.

The Working Area The working area is the grid where you actually add controls to the screen. In Figure 2–2, five controls have been added to the working area.

The Status Bar There are three items shown in the status bar:

- Location: As you move your mouse around the working area, the location is displayed here. This information is helpful for lining up controls and creating a neat screen.
- State Machine: This part of the status bar indicates what action is taking place. For instance, if you click the New Label button, the status will be **CREATE**.

State Machine: CREATE

Once the control is placed on the screen, the status will change to IDLE. Other possible status messages include RESIZE, MOVE, and GROUP.

• Working Area: This part of the status bar indicates what part of the programmable screen you are working in. For example, position the mouse over the working area. The message will be MAIN_PANEL.

```
Working Area: MAIN_PANEL
```

Place a control on the working area, a label for example. When you hover over the new label, the message will change to LABEL. Other possible displays include TEXTBOX, COMBOX, CHECKBOX, GRPBOX, and TABS.

Adding Controls

Controls are the types of fields that can be added to the working area. The six types of controls are shown below.



Figure 2–3. Types of controls

There are two ways to add a control to the working area: using the New Control buttons or using copy and paste.

New Control
ButtonsAdding a control using the New Control buttons is similar for all control
types. The example provided here is for adding a new label.

- 1. Click the New Label button in the toolbox.
- 2. Move the mouse to the location on the working area where the control should be placed and click. The new control will appear on the working area.

		/ Adding th	e control	
Programmable Screens Create/Edit				() x
Toolbox	_	/		
🖤 🏢	135	/		
Hide Controls		<u> </u>		
L New Label				
T New Text				
C Combo Box				
New Checkbox				
G New Groupbox				
1 - Floating Point Value	2			
2 - Discrete Value 3 - Byte	~			
C I I Di Wash				
Name: NewLabel Location: X = 79, Y = 62				
Height: 23 Width: 130				
Location: X = 79, Y = 62			State Machine: CREATE	Working Area: MAIN_PANEL
Programmable Screens Create/Edit		Contr	ol added	() X
Toolbax		/		
*	13			
Hide Controls		NewLabel_1		
L New Label				
T New Text				
C Combo Bax				
G New Groupbox				
1 - Floating Point Value	2			
2 - Discrete Value 3 - Byte				
	<u>×</u>			
Name: NewLabel Location: X = 113, Y = 70				
Height: 23 Width: 130				

Figure 2–4. Adding a control to the working area

Once the control is added, you can move it to a different location on the working area, resize it, group it with other controls on the screen, and more. Instructions on how to perform these tasks are covered in "Working with Controls" later in this chapter.

Adding a Tab Page Follow the steps below to add a tab page to a tab control.

- 1. Add a tab control as described in the section above.
- 2. Right-click on the tab control and select **New TabPage**. The new tab will be added to the control (TabPage3 in this example).







Figure 2–6. New tab page

Using Copy and Paste You can copy a parameter from an AutoCONFIG table and paste it onto the working area.

Note The following instructions only apply to label, text, and combo box controls. Check boxes, group boxes, and tabs cannot be copied. ▲

- Open the AutoCONFIG table that has the parameter you want to copy. In this example, the Gas Temperature parameter from the Table #38 (DP Flow Calculation) Instantaneous tab will be copied.
- 2. Right-click over the parameter to be copied and select Copy.

rammable Screens Create/Edit Dp Fl Auto Refresh Refresh	ow Calculation - DP Flow Calc#1 Apply Calibrate	Help	41
Static Instant	aneous Eng. Unit	Min/Max History	Energy/Fww/Well Stream Location Factor
Zb Factor	0	Gas Temperature	
Zf Factor	0	Differential Pressu	0
Zs Factor	0	Static Pressure Clear	
Sqrt. Ext.	0	Fpv Factor Access S	th physical descriptive update security
Curr Hour Volume	0 MCF	Curr Month Volume	0 MCF
Prev Hour Volume	0 MCF	Prev Month Volume	0 MCF
Curr Hour Energy	0 MMBTU	Curr Month Energy	0 MMBTU
Prev Hour Energy	0 MMBTU	Prev Month Energy	0 MMBTU
Flow Status	Not Flowing	Current Day Flow Time	0 Hour

Figure 2–7. Copying a parameter

3. Go to the programmable screen. Position the mouse on the working area, right-click, and select **Paste point** (**Create Field from Copy**).

The Programmable Screen

Adding Controls

Programmable Screens Create/Edit Dp Flow Calcu	ation - DP Flow Calc#1	4 b x
Toolbox		
Show Controls	DP Flow Cak#1 AGA 7 Cak#1	
38 - Differential Pressure Flow Cc DP Flow Calc#1 SC Calculation SO Descriptor SO DD Calculation Method Fpv Calculation Method Pipe Diameter Orifice Diameter Atmospheric Pressure	iggi Meter Number ID ID	
Pressure Base Temperature Base Pipe Thermal Exp Coeff Orifice Thermal Exp Coeff Isentropic Exponent Calculation Specific FP Con Calculation Specific FP Con	Move Resize Delete Rename Group Unfroquip Link To New TabPage	
NewGroupBox_2	Unlink Paste point (Create Field from Copy)	
Location: X = 38, Y = 30	State Machine: IDLE	Working Area: GRPBOX

Figure 2-8. Pasting the parameter onto the working area

The control will appear on the working area with the correct name (Gas Temperature). If the control is linked or grouped, that will be displayed also. In this example, the Gas Temperature control is linked to the text box. Grouping and linking controls are discussed later in this chapter.

Toolbox		California
DP Flow Calc#1 AGA 7 Calc#1 Stalt Stalt		
Virdih: 774 Grouped: LinkTo: Location: X = 140, Y = 151	State Machine: IDLE Working Area: GRPBOX	

Figure 2–9. New control added using copy and paste

Working with Controls

Once a control has been added to the working area, there are several things you can do to make it appear and work the way you want. This section provides instructions on how to do the following:

- Move a control
- Resize a control
- Delete a control
- Rename a control
- Group / ungroup a control
- Link / unlink a control

Note that whenever you select a control to work with, it is highlighted in orange. This is particularly important when you want to delete a control within a group box and not the entire group box.

Moving a Control You can move any control to a different location on the working area. The following example will show you how to move a group box control.

1. Right-click on the control you want to move (NewGroupBox_1 in this example) and select **Move**.





2. Move the mouse around the grid. Notice that the axis lines connected to the control and a red outline of the control appears on the grid. Click on the grid to place the control.



Figure 2–11. Moving the control



Figure 2–12. Group box control set in its new position

Resizing a Control You can change the size of a control. The following example will show you how to enlarge a group box control.

1. Right-click on the control you want to resize (NewGroupBox_1 in this example) and select **Resize**.



Figure 2–13.

2. Move the mouse until the axis lines connected to the control appear to be the desired size and click.



Figure 2–14. Enlarging the control



Figure 2–15. Control resized

Deleting a Control

There are two ways to delete a control. You can right-click on the control and select **Delete**. Alternatively, click on the control and click the Trash icon in the toolbox.



In both cases, you will be prompted to confirm that you want to delete the control. If the control is linked to another control, you will be prompted to acknowledge that deleting the control will break the link.

Note that if you delete a control that has other controls in it, such as a group box or tab control, all those controls will be deleted also. For example, if you delete the NewGroupBox_1 shown in the figure below, the Gas Temperature, Differential Pressure, Static Pressure, and text controls will also be deleted.

Working with Controls

mmab	ole Screens Create/Edit				
			· · · · · · · · · · · · · · · · · · ·		
NewGroupBox_1					
	📼 Gas Temperature	0			
			· · · · · · · · · · · · · · · · · · ·		
			· · · · · · · · · · · · · · · · · · ·		
	💷 Differential Pressure	0			
			· · · · · · · · · · · · · · · · · · ·		
	2011 - 10 - 10 - 10 - 10 - 10 - 10 - 10	and the second			
	Static Pressure	0			
		, e			
				• • • • • • • • • • • • • • • • • • •	
📘			Move		
			Resize		
			Delete	• • • • • • • • • • • • • • • • • • •	
			Delete		
			Rename		
			Wrendine		
			Group		
			UnGroup		
			Link To		
			New TabPage		
			Unlink		
			Unlink		
			Paste point (Create Field from Copy)		
			Paste point (Create Field from Copy)		
			• • • • • • • • • • • • • • • • • • • •		
		<u> </u>	· · · · · · · · · · · · · · · · · · ·		
Locati	tion: X = 333, Y = 143		State Machine: IDI	F	Working Area: GRPBOX

Figure 2–16. Deleting a group box

To delete a control within a group box or a tab page, right-click on just that control and select **Delete** (or select just that control and click the Trash icon).



Figure 2–17. Deleting a control within a group box

Renaming a Control

You can change the name of a control to something that is a more appropriate description of the control. The following example will show you how to rename a group box control.

1. Right-click on the control you want to rename (NewGroupBox_1 in this example) and select **Rename**.



Figure 2–18.

2. A text box will appear. Enter the new name of the control and press **Enter**.



Figure 2–19. Renaming the control



Figure 2–20. Control renamed to Instantaneous Data

Note You cannot rename a tab control, but you can rename the tab pages. The procedure is the same as described above. ▲

/ Grouping Ungrouping Controls

Controls need to be grouped together. For instance, the Gas Temperature control shown in the figure below needs to be grouped with a text box control so that when the new screen is in use, the data has a place to appear. Note that group box and check box controls cannot be grouped, and a control can only be grouped with one other control.



Figure 2–21. Ungrouped label control

To group the label control with a text box control, follow the steps below.

1. Add the text box control as described in "Adding a Control" earlier in this chapter.



Figure 2–22. Ungrouped label and text box controls

2. Right-click on the control you want to group (Gas Temperature in this example) and select **Group**.



Figure 2–23.

3. The Group with Window will appear. Click the drop-down and select the item to group with the control. In this example, there is only one item to select, NewTextBox_1. Click **Apply** to group the two together.



Figure 2–24. Selecting the control to group with

4. The Grouped icon will appear next to the Gas Temperature control, and the Current Control Properties section of the toolbox will be updated and show that the selected control is grouped.

Programmable Screens Create/Edit Toolbox
Height: 23 Width: 130 Grouped.NewTextBox_1 LinkTo:

Figure 2–25. The newly grouped controls

When you click on a grouped control, that control and the one it is grouped with will flash briefly in an orange color. Any other controls on the working area will be dimmed out.



Figure 2-26.

There are three ways to ungroup a control:

- Right-click on the grouped control and select UnGroup.
- Move a grouped control that is in a group box out of the group box.
- Delete a grouped control.

In the last two instances, you will be prompted to confirm that continuing with the current action will break the group. Once the group is broken, the Group icon will be removed from the control.

Grouped control Instantaneous Data Sigio Gas Temperature NewTextBox_1 Differential Pressure NewTextBox_2 Differential Pressure NewTextBox_2

Figure 2–27. Examples of grouped and ungrouped controls

Linking / Unlinking Controls

Grouped controls need to be linked to AutoCONFIG parameters in order to function. For example, the grouped controls shown in the figure below need to be linked to corresponding AutoCONFIG parameters.

gran	mable Screens Creat	e/Eait			<
9	Calculation	Dischland			
1 1 1 1 1	Calculation	Disabled	•		
			<u></u>		
11	Descriptor	DP Flow Calc#1			
· ·] •]	Pr Descriptor	. DF Flow Calc#1			
	Meter Run Number				
2	Meter Run Number	Mtr# AGA3#1			
W	Descriptor	Mtr# AGA3#1			
	Descriptor				
			• • • • • • • • • • • • • • • • • • • •		
	Instantaneous Data				
1.1					
1.1	Gas Temperature	NewTextBox_1			
	and out remperature				
11					• • • • • • • • • • • • • • • • • • • •
		1725			
	Differential Pressure	NewTextBox_2			
	Differendar Fressare	New rexubux_2			
1.1					
					• • • • • • • • • • • • • • • • • • • •
	Location: X = 660, Y = 2	44		State Machine: IDLE	Working Area: MAIN_PANEL

Figure 2–28. Multiple grouped controls

To link the controls, follow the steps below.

1. Right-click on the control you want to link and select Link To. In the figure below, the grouped Calculation control will be linked.



Figure 2–29.

2. If necessary, expand the toolbox. Locate the table item to which you want to link the control and click on it. The Linked icon will appear by the control and by the item in the table tree. The Current Control Properties section of the toolbox will also be updated.

		Linked icon		
	Programmable Screens Create/Edit			4 ▷ 🗙
Linked icon —	Programmable Screens Create/Edit Toolbox Show Controls Show Controls Show Controls Show Controls Show Controls Defense Science S	Calculation Calculation Descriptor NewTextBu NewTextBu NewTextBu NewTextBu Differential Pressure NewTextBu Differential Pressure NewTextBu	x_1	★ ↓
	Location: XY 19,14 Height: 23 Width: 130 Grouped: ComboBox_3 LinkTo: 38,1,1			
	Location: X = 0, Y = 121		State Machine: IDLE	Tools PanelMAIN_PANEL

Figure 2–30. A linked control

3. Repeat this process for the remaining grouped controls that need to be linked.

Note An item in the table tree can be linked to an unlimited number of controls, but a control can only be linked to one item. ▲

Note Controls can only be linked to fields of the same type, i.e. a check box control cannot be linked to a text field. ▲

Note If you change or update a linked field or control on one screen, the change will also be reflected on the other screen. In Figure 2–30, the Calculation field is linked to the Calculation field on the DP Flow Calc#1 table. Changing the value from Enabled to Disabled or vice versa will be reflected on both screens.

There are four ways to unlink a control:

- Right-click on the linked control and select Unlink.
- Ungroup the linked control.
- Move a linked control that is in a group box out of the group box.
- Delete a linked control.

Saving the Programmable Screen

In the last two instances, you will be prompted to confirm that continuing with the current action will break the group, which breaks the link automatically.

To save the programmable screen, select **Programmable Screen > Save**. In the Save As screen, enter the name of the screen and press **Save**. The screen will be saved as an .xml file, and the software will inform you that the screen has been saved.

Note To email a programmable screen, save it and attach the .xml file to the email. ▲



Figure 2–31. Saving the programmable screen

Using the New Screen

Once you have saved a programmable screen, you can add it to the AutoCONFIG menu tree. Follow the steps below to do this.

1. Expand the User Configurable heading of the menu tree. Notice that there are no nodes under Programmable Screens.

Thermo SCIENTIFIC - AutoCONFIG System Elles Tools Options Colors Programmable Screen Help					_ [×□
# FF & 4 @ \$ > ?					Advanced N	fode
Navigation Bar 9 ×					4	D X
Physical Data Point(s) ¥						_
Calculation(s)						
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii						
Communication(s) ¥						
Interface Miscellaneous ¥						
User Configurable Programmable Screens						
	Access Level: Superuser	Off Line	SID = N/A	TX:103	RX:103 ERR:	0 /

Figure 2–32. User Configurable heading of AutoCONFIG menu tree

2. Go to **Programmable Screen** > **User Display Selection Setup**. The User Display Selection window opens. This window contains all the programmable screens that have been saved. Select the screen(s), and click **Accept**. A message will inform you that the display (screen) selection has been saved.

The Programmable Screen

Using the New Screen

alculation(s)		and a surger of the second distances	stion				
alculation(s)			User Display Screen	s Configured for Selection	n		
32-Calculation Thread Allocation	_	Enabled	Display Name	AutoConfigVersion	ProgScreenVersion	Date	
33-PID			16-Bit Word - 4	WA30MB0M	1.0	2/18/2011 12:14:47 PM	
35-High/Low Selection		Г	16-Physical Analog Input - 16	WA30MB0M	1.0	2/22/2011 4:30:47 PM	
38-Differential Pressure Flow		Ē	Byte Value - 3	WA30MB0M	1.0	2/18/2011 12:11:47 PM	
- DP Flow Calc#1		Ē	checkbox	WA30MB0M	1.0	3/15/2011 8:28:02 AM	
DP Flow Calc#2		Ē	Discrete Value - 2	WA30MB0M	1.0	2/18/2011 12:05:38 PM	
- DP Flow Calc#3		F	DP Flow 38.2	WA30MB0M	1.0	2/18/2011 10:34:39 AM	
DP Flow Calc#4		Ē	DP Flow 38	WA30MB0M	1.0	2/17/2011 4:12:12 PM	
- 39-AGA 7 Flow		Г	Floating Point Value - 1	WA30MB0M	1.0	2/18/2011 11:31:37 AM	
AGA7 Calc#1		Г	Howneywell - 18	WA30MB0M	1.0	2/28/2011 2:21:50 AM	
-AGA7 Calc#2		Г	log Alarms	WA30MB0M	1.0	3/14/2011 9.35:38 AM	
AGA7 Calc#3			New Screen	WASDMBOM	1.0	3/15/2011 2:47:43 PM	
AGA7 Calc#4		Ē	NewCode	WA30MB0M	1.0	2/16/2011 2:35:11 PM	
40-AGA 10 Speed of Sound		Г	Physical Disc - 19	WA30MB0M	1.0	2/28/2011 2:28:31 AM	
41-Meter Station			Physical Smart - 17	WA30MB0M	1.0	2/28/2011 1:35:45 AM	
43-Historical Average		Г	table1	WA30MB0M	1.0	2/14/2011 3:37:31 PM	
49-PLC Program	*		table i	HPS0H00H	1.0	2714/2011 0.01.01111	
60-Sampler Accumulator			4		0		
65-Plunger Lift							
66-CallOut							
128-Gas Quality Data							
ommunication(s) ¥							
terface							
iscellaneous ¥							
			Accept	Can			

Figure 2–33. User Display Selection window

3. The User Configurable node will be updated. Click **Programmable Screens**, and the screen(s) selected in the previous step will be listed.



Figure 2–34. Selected programmable screens listed in the AutoCONFIG menu tree

4. To run (load) the screen, double-click on the screen (New Screen in this example).

System Elles Icols Options	- AutoCONFIG Colors BrogrammableScreen Help	<u>-0×</u>
n FF Q 4	3 😕 🔊 🛷	Advanced Mode
Newpotentise ● × Physical Dita Point(s) × Communication(s) × Communication(s) × Missellameous × © Programmable a ■ Programmable Screens Missellameous	Network Network Network Version Deadled Contract How 9 Henrichicker Deadled Pressure Base 14.65 Henrichicker Top # AddAte1 Pressure Base 40.0 Borner D001 Base Henrichicker 00 Borner D01 Base Henrichicker 00 Pressure Base 40.0 Base Henrichicker 00 Pressure Base 00 Caludation Method AdA2330-1992 Image: Adapted Henrichicker Network Base 10 Deadled Image: Adapted Henrichicker Image: Adapted Henrichicker Image: Adapted Henrichicker Image: Adapted Henrichicker Image: Adapted Henrichicker Image: Adapted Henrichicker Image: Adapted Henrichicker	x ()
	AccessLevel: Superuser Off Line SID = NA	TX:17 RX:17 ERR:0

Figure 2–35. Running the new screen

Editing the Programmable Screen

Once you have saved a programmable screen, you can edit it at any time. Simply go to **Programmable Screen > Open/Edit**. Select the screen in the window that opens, and the programmable screen will be loaded.
Appendix A Examples of Programmable Screens

To help illustrate what users can do with the user configurable function, some examples are provided in this appendix. Note that the steps listed do not provide instructions on how to perform each action. Refer to Chapter 2 for instructions on adding controls, resizing, renaming, etc.

Example 1 walks you through creating a programmable screen with two tabs, one for DP flow calculations and one for AGA7. The DP flow calculation tab will have group boxes for three meter runs. Two group boxes, one for static data and one for instantaneous data, will be added to each meter run group box.

In example 2, you will add a tab page for an analog input to the screen from example 1. The tab page will have group boxes for security access, data blocks, and alarms. Check boxes will be added and linked to the appropriate AutoCONFIG table fields.

Example 3 shows you how to use the controls to create white space on the screen for improved display.

Example 1	1. Add the tab control.	
	a. Resize it and move it as necessary.	
	b. Rename the first tab page to DP Flow Calc and the second ta page to AGA7 Flow Calc .	Ь
DP Flow Calc AGA7 FLow Calc		

Figure A–1. Two tab pages added

- 2. Select the DP Flow Calc tab and add a group box.
 - a. Resize and move it as necessary.
 - b. Rename the group box to DP Flow Calc#1.



Figure A-2. Group box added to the DP Flow Calc tab page

- 3. Create two more group boxes inside DP Flow Calc#1.
 - a. Resize and move them as necessary.
 - b. Rename the top group box to **Static** and the bottom group box to **Instantaneous**.

Flow Calc#1		
tatic		
stantaneous		

Figure A–3. Two group boxes added to the DP Flow Calc#1 group box

4. Repeat steps 1–2 to add group boxes for DP Flow Calc#2 and DP Flow Calc#3. Repeat step 3 to add the Static and Instantaneous group boxes.



Figure A-4. DP Flow Calc#2 and DP Flow Calc#3 group boxes with Static and Instantaneous boxes

5. Add controls to DP Flow Calc#1, DP Flow Calc#2, and DP Flow Calc#3 by copying and pasting the parameters from the corresponding DP flow calculation tables. By using copy / paste, the controls will automatically be named, grouped, and linked correctly.

Calculation Disable Calculation Disable Disabl	w Calc#1 AGA3#1 ed	Meter Run Number Descriptor Calculation Calculation Descriptor Descriptor	DP Flow Calc#2 Mtr# AGA3#2 Disabled 38002 8.071 4.02		feter Run Number Descriptor Calculation ID Pipe Diameter	DP Flow Calc#3 Mtr# AGA3#1 Disabled 38002 8.071	•
Meter Run Number Descriptor Calculation Disable Calculation Disable Disable Disable Disable Disable Ripe Diameter 4.02 Contract Hour 8 Static Pressure Type Gauge	AGA3#1	Meter Run Number Descriptor Calculation Calculation Descriptor Descriptor	Mtr# AGA3#2 Disabled 38002 8.071 4.02		feter Run Number Descriptor Calculation ID Pipe Diameter	Mtr# AGA3#1 Disabled 38002	
Descriptor (1999) Calculation Disable		Descriptor Calculation D Pipe Diameter Orifice Diameter	Disabled 38002 8.071 4.02		Descriptor Calculation ID Pipe Diameter	Disabled 38002	•
D 38002 Pipe Diameter 8.071 Confrice Diameter 4.02 Contract Hour 8 Static Pressure Type Gauge		ID Pipe Diameter Orifice Diameter	38002 8.071 4.02		ID Pipe Diameter	38002	-
Pipe Diameter 8.071 Orifice Diameter 4.02 Contract Hour 8 Static Pressure Type Gauge		Pipe Diameter Colifice Diameter	8.071 4.02		Pipe Diameter		
Confrice Diameter 4.02 Contract Hour 8 Static Pressure Type Gauge		Orifice Diameter	4.02			8.071	_
Contract Hour 8 Static Pressure Type Gauge				63			
Static Pressure Type Gauge		Contract Hour			Orifice Diameter	4.02	_
			8	8.0	Contract Hour	8	
	Pressure 💌	Static Pressure Type	Gauge Pressure 💌	CE Sta	tic Pressure Type	Gauge Pressure	•
Calculation Method AGA 2	530-1992 💌	Calculation Method	AGA 2530-1992 💌		alculation Method	AGA 2530-1992	•
Data Definition Block 2		CONTRACT Data Definition Block	2	CER Da	ta Definition Block	2	_
Instantaneous		Instantaneous		Instanta	neous		
Gas Temperature -25.34	93	Gas Temperature	-25.3493	0.0	Gas Temperature	-25.3493	
Static Pressure -25.32	173	Static Pressure	-25.32173	6.0	Static Pressure	-25.32173	_
Differential Pressure -25.45	963	Differential Pressure	-25.45963		ferential Pressure	-25.45963	_
Fpv Factor 0		E Fpv Factor	0	0.0	Fpv Factor	0	_
Flow Status Not Flo	wing 💌	Flow Status	Not Flowing	0.0	Flow Status	Not Flowing	¥

Figure A-5. Final programmable screen for example 1

6. Save the new screen.

Example 2

1. Open the screen created in the first example and add a new tab page. Rename it to **16-Physical Analog Input**.

DP Flow Calc AGA7 FLow Calc 16-Physical Analog Input

Figure A-6. Tab page added

2. Go to **Analog Input#1** in Table #16. Copy the **Descriptor #1** field and paste it onto the new tab page. The control will automatically be correctly named, grouped, and linked. Resize and move it as necessary.

w Calc	AGA7 FLow Calc 16	-Physical Analog Input		
C D	Descriptor #1	Analog Input#1		
	Descriptor #1	Analog Input#1		

Figure A–7. Descriptor field pasted onto the tab page

- 3. Create three group boxes.
 - a. Resize and move them as necessary.
 - b. Rename the top group box to Security Access, the middle to Data Blocks, and the bottom to Alarms.

DP Flow Calc AGA7 FLow Calc 16-Physical Analog Input	
Descriptor #1 Analog Input#1	
Security Access	
Joculiky Access	
Data Blocks	
Alarms	

Figure A-8. Three group boxes added

- 4. Add check boxes to the group boxes and rename them as described below. Resize and move them as necessary.
 - a. Security Access: Measurement, Technician, Control, Supervisor.
 - b. Data Blocks: Log Audits, Log Alarms
 - c. Alarms: Low Alarm Enable, Low Low Alarm Enable, Low Value Limit Enable, High Alarm Enable, High High Alarm Enable, High Limit Value Enable.

Descriptor #1 Analog Input#1	
Security Access	
Measurement	T Technician
Control	
, control	
Data Blocks	
Log Audits	
, Log Hould	
C Log Alarms	
Alarms	
	Entry and
Low Alarm Enable	High Alarm Enable
Low Low Alarm Enable	High High Alarm Enable
Low Value Limit Enable	Figh Value Limit Enable
Low Value Limit Enable	J High Value Limit Enable

Figure A-9. Check boxes added

5. Link all the check boxes to the corresponding Analog Input#1 table items.

Toolbox	DP Flow Calc AGA7 FLow Calc 16-Physical Analog Input		
Show Controls	Descriptor #1 Analog Input#1		
	Security Access		
Security Access	Measurement	Technician	
- SD Measurement - SD Control	Control	Supervisor	
 AuditAlarm Data Block Inde: S Log Audits 	- Data Blocks		
- SS Log Alarms - LimitsAlarms Enable - SS Low Alarm Enabled	Cog Audits		
	C 💷 Log Alarms		
- 39 High High Alarm Enable Log Value Changes - 39 Low Value Limit Enablec	Alarms		
See High Value Limit Enable Low Value Limit	Low Alarm Enable	High Alarm Enable	
NewTabControl_1	Contraction Contraction Contraction	GEBigh High Alarm Enable	
Location: X:Y 6,9 Height: 658 Width: 1060 Grouped: LinkTo:	C C C C C C C C C C C C C C C C C C C	Callegh Value Limit Enable	

Figure A–10. Final programmable screen for example 2

6. Save the screen.

Example 3

1. Open the screen saved in the second example. Add a new tab page and new text box. Rename the tab page to **More Controls**. Resize and move the text box as necessary.

DP Flow Calc AGA7 FLow Calc 16-Physical Analog Input	More Controls
NewTextBox_58	

Figure A–11. Tab page and text box added

2. Add a new label and another text box inside the first text box. Add other controls. Add group boxes within group boxes to create more separation. Group and link them as necessary until you have a screen that looks similar to the one below.

TextBox_58		
Descriptor #1 AGA7 Calc# 1	TabPage7 TabPage8	NewCheckBox_26
Upon Hi/Lo Failure Dont Used Default	NewGroupBox_24	
	Descriptor #1 AGA7 Calc# 1	NewCheckBox_27
C Log Alarm Enable	Gas Temperature 4.284544	NewCheckBox_28
NewGroupBox_25	Contraction of the state of the	
Temperature Base		
Temperature Base	Static Pressure -5.469205	

Figure A–12. Final programmable screen for example 3

- 3. Save the screen.
- 4. Run the screen in AutoCONFIG. It will look similar to what is shown below.

Examples of Programmable Screens Example 3

AGA7 Calc# 1	TabPage7 TabPage8	NewCheckBox_26
on Hi/Lo Failure Dont Used Default	-NewGroupBox_24	
	Descriptor #1 AGA7 Calc# 1	NewCheckBox_27
Log Alarm Enable	Gas Temperature 4.856925	NewCheckBox_28
NewGroupBox_25	Differential Pressure -2.765496	
Temperature Base		
60	Static Pressure -4.888579	

Figure A-13. New screen loaded in AutoCONFIG

Appendix B Programmable Screens in Other Languages

The user configurable screen function supports the use of languages other than English. This appendix describes how to enable this feature.

Installing the Language

The first step to using another language on a programmable screen is to install the language on the PC.

1. Go to My Computer on the PC and open the Control Panel.

2. Select Regional and Language Options.	2.	Select Regional	and Language	Options.
--	----	-----------------	--------------	----------

F Control Panel		× 0_
File Edit View Favorites	Tools Help	🥂 🕺 🕺 🕺 🖉
🕒 🕲 Back 🔻 🕥 🔻 🏂 🖌	🔍 Search 🄀 Folders 🛛 🎹 🔻	
Address 📴 Control Panel		💌 🔁 Go
-	Name 🔺	Comments
Control Panel * Switch to Category View	∬ Java ‱ Keyboard Ø Mail ♡ Mouse S Network Connections	Java(TM) Control Panel Customize your keyboard settings, such as the cursor blink rate and the character rep Microsoft Office Outlook Profiles Customize your mouse settings, such as the button configuration, double-click speed, Connects to other computers, networks, and the Internet.
See Also *	Phone and Modem Options Power Options	Configure your telephone dialing rules and modem settings. Configure energy-saving settings for your computer.
Windows UpdateHelp and Support	🐪 Printers and Faxes 🍶 Program Download Monitor 🕲 QuickFinder Manager	Shows installed printers and fax printers and helps you add new ones. Manages downloading of Configuration Manager Programs QuickFinder (tm) Manager, (C) 1992-1996 Novell, Inc.
	Regional and Language Options Remote Control Run Advertised Programs SAP Configuration	Customize settings for the display of languages, numbers, times, and dates. Configures remote control settings. Runs advertised programs from Configuration Manager SAP Visual Design Settings
	SAPConsole Administrator	Maintain SAPConsole configuration profiles. Add, remove, and configure scanners and cameras.
	Scheduled Tasks	Schedule computer tasks to run automatically. View your current security status and access important settings
	SigmaTel Audio Sounds and Audio Devices	Controls SigmaTel C-Major Audio advanced settings. Change the sound scheme for your computer, or configure the settings for your speak Change settings for text-to-speech and for speech recognition (if installed)

Figure B–1. Selecting Regional and Language Options

Installing the Language

3. Click the Languages tab. Review the options in the Supplemental Language Support block and make the necessary selections. Click Apply. You will need to reboot the PC for these changes to take effect.

	1	1		
Regional Options	3 Languages	Advanced		
			ods you can use to	enter
			De	adiis
Supplemental	language supp	oort		
	es are installed ropriate check		nstall additional lan	guages,
<mark>Install file</mark> Thai)	es for complex :	script and right-to	o-left languages (in	cluding
Install file	es for East Asia	n languages		

Figure B-2. Supplemental language support options

4. If you had to reboot the PC, return to the Languages tab. Click **Details**. From the Text Services and Input Languages dialog, click **Add**. Select the desired input language. Click **OK**.

Settings Advanced Advanced Add Input Language	· · · · · · · · · · · · · · · · · · ·
Input language: English (United States) Arrikaans Arabic (Agenia) Arabic (Bahrain) Arabic (Bahrain) Arabic (Bahrain) Arabic (Isahrain) Arabic (Qatar) Arabic (Sana) Arabic (Sana) Basayue Belansian Benjai (India) Bosnian (Latin, Bosnia and H Bulgarian Catalan Chinese (Hong Kong S.A.R.)	E: ek vior: OK Cancel OK Cancel Ings

Figure B–3. Adding an input language

5. Click **Apply**. The language is now installed on the PC. A new bar will appear on the desktop task bar. It will enable you to select the language you want to work with. The example below shows that four languages in addition to English have been installed.



Figure B–4. Additional languages installed on the PC

You are now ready to use another language on a programmable screen. Continue to the next section.

Using Another Language on the Programmable Screen

- Open AutoCONFIG and either create a new programmable screen (Programmable Screen > New) or open a saved screen (Programmable Screen > Open/Edit).
- 2. If you created a new programmable screen, add a control. The control will be in English. Right-click on the control and select **Rename**. A text box appears on the screen that allows you to change the name, but first you need to change the language. Click the new bar on the desktop task bar and select the language you want to use.



Figure B–5. Changing the language to be used on the programmable screen

3. When you begin typing the new name it will be in the selected language. The example below shows the Flow Status field has been renamed in Arabic.

💓 Thermo SCIENTIFIC - Auto	CONFIG						_ @ ×
System Elles Tools Options Co	lors Programmable Screen Help						
h t t t Q 4 🛷	1 × 1						W
	S N S						Advanced Mod
Navigation Bar 9 × F	diting: Test Dp Flow Calculation - DP Flow Calc#1						
Physical Data Point(s) *	Contract of the calculation of the calculation						
Calculation(s)							
E 32-Calculation Thread Allocation							
E 32-Calculation Inread Allocation							

35-High/Low Selection 36-Alarm Status							

37-Point Type Conversion 38-Differential Pressure Flow							
- DP Flow Calc#1							
DP Flow Calc#1							
DP Flow Calc#2							
DP Flow Calc#4							
DP Flow Calc#5		Flow Status Not Flowing					
DP Flow Calc#6		Terry Low Ages Invited					
- DP Flow Calc#7	* * * * * * * * * * * * * * * * * * * *						
DP Flow Calc#8							
S9-AGA 7 Flow							
40-AGA 10 Speed of Sound		حالة التدفق					
41-Meter Station							
42-Meter Run Switching							
# 43-Historical Average							
44-Floating Point Scaling							
⊕ 45-16-Bit Word Scaling	*****						
B 46-Discrete Logical OR							
Communication(s)							
Interface ¥							
<u>لارتمان المحمد المحم </u>	Location: X = 82, Y = 7		State Machine: IDLE		Working Area: MAIN	PANEL	
				Access Level: Superuser	Off Line	SID - NA	TX: 34 RX: 34 ERR: 0
🔊 Start 🔮 🌈 🖸 🚺 🔔 😻	D Thorma C				1.0	er 🖓 😵	7:29 AM

Figure B–6. Flow Status control renamed in Arabic

Using Another Language on the Programmable Screen

		Meter #4				
nstantaneous Data ——	16					
Flow Status	Not Flowing	Daily Flow Rate	0	Current Day Volume	0	
Differential Pressure*	0.03875004	Daily Energy Rate	0	Current Day Energy	0	
Static Pressure*	-0.5520101	Totalized Volume	0	Prev Day Volume	0	
Gas Temperature*	-24.80695	Totalized Energy	0	Prev Day Energy	0	
* = Physical Connection						
alculation	Disabled	Atmospheric Pressure	14.73	Calculation Method	AGA 2530-1992	
			, ,	Fpv Calculation Method	AGA8 Gross	
leter Name	DP Flow Calc#1	Pressure Base	14.65	rpv Calculation Method	AGA8 Gross 👻	
Mary and III	DP Flow Calc#1 8.071	Pressure Base Temperature Base	60	GQ Data Block		
ipe Diameter						
1eter Name 1ipe Diameter 2ifice Diameter ap Location = Downstream	8.071	Temperature Base	60	GQ Data Block 1-6 = Chrom Stream 7 = Download Block 1		

Other examples are shown in the following figures.

Figure B–7. Two languages used on one screen

Flow Status	Not Flowing 👻	Daily Flow Rate	0	Current Day Volume	0
Differential Pressure*	0.03875004	Daily Energy Rate	0	Current Day Energy	
Static Pressure*	-0.5520101	Totalized Volume	0	Prev Day Volume	
Gas Temperature*		Totalized Energy			
aas romperature	-24.81613	Totalized Energy	0	Prev Day Energy	0
leter Name	DP Flow Calc#1	Pressure Base	14.65	Fpv Calculation Method	AGA8 Gross
ipe Diameter	8.071	Temperature Base	60	GQ Data Block 1-6 = Chrom Stream	1
rifice Diameter	4.02	Low DP Cutoff	0.5	7 = Download Block 1 9 = Download Block 2	
ap Location = Downstream	1	Contract Hour	9	- 11 = Download Block 3	
i = Downstream					

Figure B-8. An orifice meter page in English

Programmable Screens in Other Languages

Using Another Language on the Programmable Screen

		AND IN A DOMESTIC			
حالة التدفز	Not Flowing	نسبة التدفق اليومي	0	حجم اليوم الحالي	0
اختلاف الضغ	0.1514598	نسبة الحرارة اليومية	0	طاقة اليوم الحالية	0
الضغط الساك	1.74772	الحجم الكلي	0	حجم الامس	0
درجة الحرار	0.4968402	الطاقة الكلية	0	طاقة الامس	0
= Physical Conner	ction				
حسابا	Disabled 🗾	الضغط الجوي	14.73	طريقة الحسابات	AGA 2530-1992 🗾
اسم العد	DP Flow Calc#2	الضغط القاعدي	14.65	طريقة حسابات فبف	AGA8 Gross
			2		
وتر الانبو	8.071	الحرارة الأولية	60	مجموع 1-1	2
وتر الأنبوه وتر الأرفس	8.071	الحرارة الأولية توقيف الضغط الاذني	60 0.5	از 6-1 تدفق الكروم	z] 2
				6-1 ji	عا ال

Figure B–9. An orifice meter page in Arabic

and the second				corriente	0
recion diferencial	-1.18229	tasa diaria de energia	0	volume actual de dia	0
recion contante	1.02837	volume totalizada	0	volume de dia anterior	0
emperatura de gas	0.4678202	energia totalizada	0	energia de dia anterior	0
ida de nombre	DP Flow Calc#3	precion de base	14.65	metodo de calculo Fpv	AGA8 Gross
onfiguration Data	Disabled 🗾	precion atmosferica	14.73	metodo de calculo	AGA 2530-1992
	8.071	temperatura de la base	60	los datos de GQ	AGA8 Gross
ametro			60	bloquean	3
ametro de orificio	4.02	corte de operaciones bajo de DP	0.5		
tilice de la ubicacion	1	contrate de hora	9		

Figure B-10. An orifice meter page in Spanish

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