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How do you configure the horn in SIMATIC PCS 7?

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1 Horn Configuration in SIMATIC PCS 7

Introduction

You use the horn to trigger optical or acoustic signal transmitters. You use the Horn Editor you configure which signals are to trigger which messages on arrival.

Notes

- The horn can be configured on OS single stations, OS servers and OS clients.
- It can be configured on one or more of these stations.
- It can be configured separately on each of these stations.
- Each of these horns can be acknowledged both only locally and from multiple stations through an acknowledgment group.
- Multiple acknowledgment through an acknowledge tag continues to be possible for the sake of compatibility with earlier versions. A description of this is available in the FAQ response in Entry ID <u>17778088</u>.

Validity

The following configuration has been made with the SIMATIC PCS 7 V8.1. This example applies for the versions PCS 7 V8.1 and WinCC V7.3.

2 Configuring and Selecting the Message Classes

Introduction

In the horn you create the signal tags which you link to message properties. In the case of an incoming message the signal tag of the assigned message class is set to "1". If you do not specify a message class, every incoming message enables the signal tag.

Prerequisites

Configure all the single-user stations, servers, redundant servers and client OS stations in the SIMATIC Manager in accordance with the configuration manual "<u>PCS 7 - Engineering System V8.1</u>".

Open the desired SIMATIC PCS 7 OS station through the WinCC Explorer on the Engineering Station.

Procedure

- 1. Open the Horn Editor by double-clicking the horn icon in the WinCC Explorer.
- 2. Now go to the event class pull-down menu and select the "Alarm" message class in the "Message Assignment" tab, in the "Message class" column and select "Warning" in the next line.
- 3. Insert any other message classes that are required.
- 4. Then, in the "Tag" column, you enter names for the tags of the message classes.

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Horn «		Message Assi	gnment				Find		۰ م		Prope
III Message Assignment		Message class	Priority	Source	Area	Event	Authorization	Tag	-		Selectio
Signal Assignment	1	Alarm	*					Horn_Alarm			Object ty
	2	Warning	T					Horn_Warning			Object n
	3	※	X	*	22	景			- 11	Ξ	Acoustic
	4										Message
	5										Priority
	6										Source
	7										Area
	8										Event
	9										Authoriza
	10)									Tag
	11										

5. In the previous versions of PCS 7 and WinCC the tags were created automatically with a click on the "Apply" button. In PCS 7 V8.1 you must create the tags yourself by going to the "Tag Management", opening the "Internal Tags/Horn" directory and creating the required tags as "Binary Tags". The trigger for the horn is controlled at a later point in the assignment process by means of these tags.

Tag Management - WinCC Confi	gura	tion Studio						
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Tag Management «		Tags [Horn]		Find		۰ م	1	Prop
E-III Tag Management		Name	Data type		Length	Format ad +	Ξ	Selecti
🖻 🥰 Internal tags	1	@HornReset	Binary Tag		1			Object
- Biagnostics	2	@HornSettingTagsActive	Binary Tag		1			Object
- 😑 Horn	3	@HornTriggeringSignalsActive	Binary Tag		1			Genera
- B LBM	4	@RestartHorn	Binary Tag		1			Name
- Script	5	@Signal1	Binary Tag		1			ID Data ba
- Split Screen Manager	6	@Signal2	Binary Tag		1			Data ty
Tacl coningSt	7	@Signal3	Binary Tag		1			Length
TagTable	8	@SignalInput1	Binary Tag		1			ASLen
	9	@SignalInput2	Binary Tag		1			Addrees
B - Large Structure tags	10	@SignalInput3	Binary Tag		1			Assign
H-15 @AssetControbtruct	11	Horn_Alarm	Binary Tag		1		1	Commu
	12	Horn_Warning	Binary Tag		*			Channe
	13	22 C						Connec
	14							Group
	10							

3 Selecting the Message Priority

Introduction

In the "Message Assignment" tab, you can restrict messages to a specific area and/or specific priorities, for example.

Horn - WinCC Configuration Stu	dio										
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Horn «		Message Assi	gnment			F	Find		۰ م	Ξ	Prope
Message Assignment		Message class	Priority	Source	Area	Event	Authorization	Tag		Θ	Selectio
Signal Assignment	1	Alarm	5-16		RMT 1			Horn_Alarm			Object t
	2	Warning						Horn_Warning			Object n
	3	×	業	景	説	説					Acousti
	4										Message
	5										Priority
	6										Source
	7										Area
	8										Event
	9										Authoriz
	10										Tag

With the message priority you specify in addition and independent of the message class which messages are to trigger a signal first. You define the priorities for single messages in the Alarm Logging.

Procedure

In the "Message Assignment" tab you enter the message priority number in the "Priority" column. You can use the following entries.

Entry in "Priority"	Example	Meaning
No entry		The messages set the signal tags regardless of the priority.
Number	5	One specific priority.
Number, number, number	5, 7, 9	Multiple specific priorities.
Number x - Number n	5 - 9	Priorities between Number x and Number n inclusive.
< Number or > Number	< 5 or > 5	Priorities less than or greater than the number.
<= Number or >= Number	<= 5 or >= 5	Priorities less than or equal or greater than and equal to the number.
0	0	The signal tag is set only for "0" priorities.

Note

It is not possible to combine entries, "1-5, 10, <50" for example.

Do not assign to a signal tag a combination of message priority and message class that is already being used in another signal tag. In this case, an incoming message could not set this signal tag, as the first assignment already fulfills the conditions for the triggering of the signal. A variable must not be described by several conditions.

The following example shows how the system behaves:

Table 3-1:	Example 1	
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Message class	Priority	Source	Area	Event	Authorization	Tag
Alarm					<default></default>	AlarmTag
Alarm	10				<default></default>	AlarmHighTag

Table 3-2: Example 2

Message class	Priority	Source	Area	Event	Authorization	Тад
Alarm	>5				<default></default>	AlarmTag
Alarm	10				<default></default>	AlarmHighTag

Incoming messages of message class "Alarm" with priority "10" never activate the signal tag "AlarmHighTag". In both cases the first condition sets the "AlarmTag" signal tag and triggers the associated signal.

4 Defining Trigger Authorization of the Signal Tags

Introduction

In the "Message Assignment" tab you define in the "Authorization" column whether the signal tag is triggered user-specifically. The authorizations of the logged-on user are taken from the configurations of the User Administrator.

"<default>" Authorization

If the "<default>" authorization is set for the horn, it is enabled only for plant areas to which the logged-on user is assigned. This corresponds to the authorization "Authorization for area" in the User Administrator.

This setting is useful for OS stations on which an operator is working who only has access to single areas and only has the messages from these areas displayed. In this way the horn is enabled only for messages that that user can also see.

Authorization check: Disable "Authorization for area"

If the OS station is one of many OS stations in a central control room, the horn should always be enabled regardless of the authorization of the user currently logged on. For this you check the option "Deactivate default authorization check "Authorization for area"".

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Eile <u>E</u> dit ⊻iew <u>H</u> elp									
Horn	9¢.	E	nd		ρ.	E	Properties - Settings		30
Message Assignment			Message class	Priority	Sour *	E	Selection		
III Signal Assignment		1	Alarm	*			Object type	Settings	
		2	Warning				Object name	Message Assignment	
		3	22	뽎	22	6	Message settings		
		4					Set tag	For every incoming message	
		5					Disable default authorization check "Authorization for area"	2	
		6							
		7							
		8							

5 Defining the Trigger of the Horn

Introduction

In the case of rapidly repeated messages, the horn is enabled once again for each incoming message. This can be uncomfortable for the operators if messages are repeated frequently.

Not for incoming messages without acknowledgment

If you select "Not for incoming messages without acknowledgment", the horn is enabled only when an incoming message has been acknowledged beforehand.

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Horn «	Find	۰ م		Properties - Settings	35
Message Assignment	Message class	s Priority Sour		3 Selection	
III Signal Assignment	1 Alarm	¥.		Object type	Settings
	2 Warning			Object name	Message Assignment
	3 💥	業 業	E	Message settings	
	4			Set tag	For every incoming message
	5			Disable default authorization check "Authorit For every	incomina message
	6			Not for inc	oming message without acknowledgment
	7				

In this way the operator has the option of acknowledging only the horn and not the message itself. When a new message arrives, the horn is not enabled again.

WinCo	-Runtime -															
	8	14/01/14 17	:06:26.77	'4 0 F	RMT1/TAN	G111/Tang	el2	PV	- High alarm l	mit violated			CG 🔛		1/14/20	14 4:08:38 PM
	ROTT	- E	V 5	0.	RMT2	1	V 5	- Q.	REAC1	- U S	4	REAC2	5	0	SI	MENS
	OVER			0	SET		5	- 6-	THEFT					1 0		CC 7
				<i>D</i> .				-6-			- 0			- 0-		
				- D										L DI	2	OHIO
									incoming a	larm list						
3	83	慶 🟦	4 1	72		2 &	8 🍃									
	Date	Time	,	Pri	orit Sour	0e			Ever	rt				Status	Info	Comment
1	14/01/14	4 17:0	5:26.075	0	RMT	I/TANG11	1/Tange	12	PV -	High warning	limit violat	ed		CG		
2	14/01/14	4 17:0	5:26.774	0	RMT	I/TANG11	1/Tange	12	PV -	High alarm lir	nit violated			CG 🛛		
3					_											
4					_											
0					_											
					_					_						
Read	5											Pending 58	To acknowled;	#:2 Hid	den 0 List	2
	2	2	2	2			3	1	-						a) 🥋	

6

Assigning Signal Transmitters to a Signal Tag

Introduction

The signals can be output either through an installed signal module, in a PCI slot, for example, or using the sound files (*.wav) which can be output through the installed sound card of the PC.

Procedure

- 1. Open the "Signal Assignment" tab.
- 2. With a double-click in the field of the "Tag" column you can select the created tags.
- 3. Double-click in the "Signal module" column to select one of the three possible hardware outputs of the signal module.

Horn «	111	Signal Assig	Find			م م	•	1	🗓 Properties - Signal configuration	1
Message Assignment		Tag	Signal Mod	ule :	Sound			8	Selection	
III Signal Assignment	1	Horn_Alarm			*				Object type Signal configuration	
	2	Horn_Warning	Output1	_					Object name Horn_Alarm	
	3	2	Output2					Ξ	Acoustic alarm signal configuration	
	4		Output3			_			Tag Horn_Alarm	
	5								Signal Module	
	6					_			Sound	
	7									
	8					_				
	9									
	10									
	11									
	12					_				
	13									
	14					- 1				
	15					_				
	16					- 1				
	17					_				
Tag Management	10									
· · · · ·	10									
Alarm logging	20					- 1				
Tag Logging	20					- 1				
THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY ADDRESS OF THE PROPERTY ADDRESS OF THE REAL PROP	21									

4. Double-click in the "Sound" column to select one of the existing sound files from the Standard PCS 7 version.

Horn - WinCC Configuration	n Stud	io										
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Horn	~	111	Signal Assign Find 🔎 👻					🛄 Properties - Signal conf »				
Message Assignment			Tag Signal Mod		lule Sound		-		Selection			
III Signal Assignment		1	Horn_Alarm						Object type	Signal configuration	n	
		2	Horn_Warning			<u> </u>			Object name	Horn_Alarm		
			深					E	Acoustic ala	arm signal configu	iratio	
		4							Tao	Horn Alarm		
	_	5	Sound file	9 Sound file								
		6	6 WinCC_Project_OS(1)_1 + Horn								67	
		7										
	- 1	8	Organize 🔻	New folder								
		9	-		Name *				1	Date modified	TVD	
		10	Y Favorites									
			Desktop		Horn_Attention	08.09.2014 10:54	Wa					
		12 Downloads		ds	Horn_Danger	08.09.2014 10:54	Wa					
		13	Recent P	laces	Horn_Note					08.09.2014 10:54	Wa	
		14	🔚 Lbraries									
		15	Documer	de .								

Note You can also use your own sound files. Details about creating your own sound files are available in the WinCC Online Help. We would advise you also to save the files and the template files in your project path. In this case the sound files are also saved when the project is saved, and the path details are still correct even after loading the OS station.

Configuring the Horn Acknowledgment Behavior

The acknowledgment of the horn can be done either locally by the OS station on which the horn is configured or also by other OS stations through multiple acknowledgment.

Local acknowledgment

7

If the acknowledgment is to be exclusively by the local OS station, select the "Only local" under "Horn acknowledgment:".

Horn - WinCC Configuration Stu				_IO ×
<u>File Edit View H</u> elp				
Horn «	III S., Find	- م	22 Properties - Settings	30
Message Assignment	Tag	Signal Module Sounc	Selection	
Signal Assignment	1 Horn_Alarm	Horn_	Object type	Settings
	2 Horn_Warning	Horn_	Object name	Signal Assignment
	3 🛄		Signal Settings	
	4		Acknowledgment Tags	Only local ·
	5		Multiple acknowledgment using the following ackn	iowledgment tag <mark>i Only local</mark>
	6		Multiple acknowledgment in the following group:	Multiple acknowledgment in group
	7		PBy Sounds	Par an sounds annously
	8		Number of smutaneously paying sounds:	U
	9			
	10			
	11			
	12			
	13			
	14			
	15			
	16			
KKK The Manual State	17			
ALL ing management	18			
Alarm logging	19			
	20			
Tag Logging	21		Defines the way signals are acknowledged. A	cknowledgment of the horn resets the signal
🗐 🖗 20 <mark>41</mark> -	22 IE E D Signal A	ssigr I I	 Local only: By default, the horn is acknow 	wiedged locally on a separate computer.
Ready			Inglish (United States) Table: 2.0	Configured signals 100 %

Multiple acknowledgment via a group

If you want it to be possible for the horn to be acknowledged also by other OS stations, you have to configure an acknowledgment group. For this, under "Horn acknowledgment:" you select the option "Multiple acknowledgment in the following group:" and enter a group name of your choice.

All OS stations which have the same group name configured form an acknowledgment group. If the "Acknowledge horn" or "Acknowledge message" button is pressed on one of these OS stations, an enabled horn will be acknowledged on all the OS stations configured in the same acknowledgment group.

< Horn - WinCC Configuration Studio							
File Edit View Help							
Horn «	222	S. Find		ρ.	1	Properties - Settings	20
Message Assignment		Tag	Signal Module	Sounc *	Ð	Selection	
III Signal Assignment	1	Horn_Alarm		Horn		Object type	Settings
	2	Horn_Warning		Horn		Object name	Signal Assignment
	3	12			B	Signal Settings	
	4					Acknowledgment Tags	Multiple acknowledgment in group
	5				Ι.	Multiple acknowledgment using the following acknowledgment tags:	
	6					Multiple acknowledgment in the following group:	ControlRoom
	7					Play Sounds	Play all sounds simultaneously
	8					Number of smultaneously playing sounds:	0
	9						
	10						
	11						
	12						
	13						
	14						
	15						
	16						
222	17						
Tag Management	18						
Alarm konsing	19						
Nerri ogging	20				F		
Tag Logging	21				1	n a coordinated client-server system, you specify multiple ac	knowledgment with a group
555	22				9	of computers.	
🔟 🖗 🕮 💶 -	14	Signal A	ssigr +	• //	Ŀ	Aultiple acknowledgment by a group is possible for all WinCC	project types. Any
Ready					Eng	(ish (United States) Table: 2 Configured signals	100 % (in) (i)

8 Completion

Introduction

After configuring the horn you must enter the task "HMRT.exe" in the startup list of your OS project to make the configuration effective.

Procedure

1. In the WinCC Explorer you click "Computer" and in the computer name pop-up menu you select "Properties".



2. Go to the "Startup" tab and click the "Add..." button.

Figure 8-2

Computer properties	×
General Startup Parameters Graphics Runtime Runtime	
WinCC Runtime	
Global Script Runtime	
Tag Logging Runtime	
User Archive	
	Edit
Additional Tasks/Applications:	
CCEmergencyWatchRTServer.exe	Add
CCCSigRTServer.exe CCTTRTServer.exe	lemove 2
OSLTMHandlerX.exe SFCRT.EXE	Up
S/JCBAAX.EXE	Down
	Edit
	Lon
OK Cancel	Help

3. In the "Application:" text field you enter "HMRT.exe" and click the "OK" button.

Figure 8-3

Add Application	100	x
Application:		
HMRT.exe		Browse
Command Lin		
Working Directory:	Project Direct	ory
		Browse
Window on Opening		
Minimized	Oefault	Maximized
Path and name of the p	rogram	
		OK Cancel

4. Click the "OK" button.

Figure 8-4



5. Acknowledge the message and restart your project.

Figure 8-5

