SMTP Configuration for PLCnext 2152

The SMTP Library allows for sending alarms with the PLCnext. It requires some minor configuration in PLCnext Engineer and copying a script to the PLCnext.

Python is preinstalled on the PLCnext, this will be utilised to complete the SMTP emails.

1. Ensure the PLCnext has FW 2024 LTS. See this guide if assistance is required.
2. Copy the *sendemail.py* to the PLC. See these steps is assistance is required.

The library also has some HMI elements included to assist with interacting with the library.

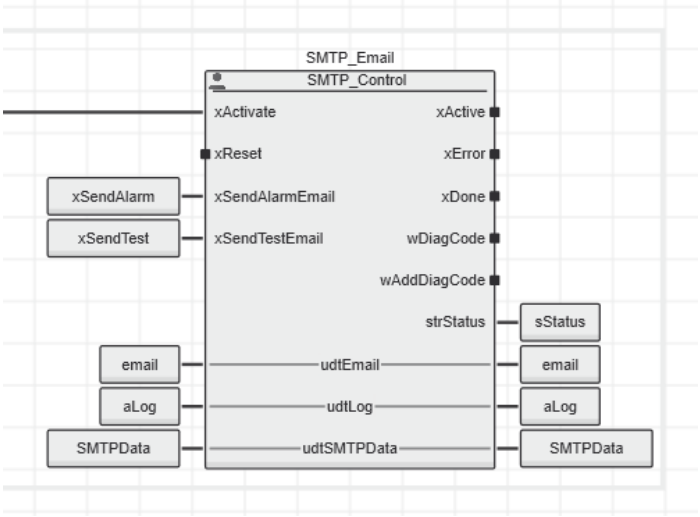
See *SMTP_Example_1_1* project for more information.

Revision Notes

Version	Notes
1.0	Initial release
1.1	• Support for string up to 512 characters long in email body. • Added HTML tag support for email body

1 Function Blocks

1.1 SMTP_Control



SMTP_Control is the main function block responsible for managing of the emails.

1.1.1 INPUTS

Variable	Datatype	Description
xActivate	BOOL	Activates the block
xReset	BOOL	Resets errors
xSendAlarmEmail	BOOL	Triggers to send an email from the udtAlarm
xSendTestEmail	BOOL	Triggers a test email to send to recipients

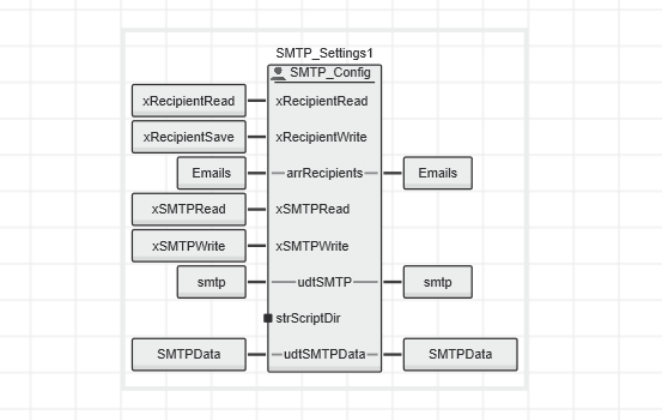
1.1.2 OUTPUTS

Variable	Datatype	Description
xActive	BOOL	Indicates the block is active
xError	BOOL	Indicates an error. See wDiagCode and strStatus for more details.
xDone	BOOL	Indicates the email has sent
wDiagCode	BOOL	See appendix for diagnostic codes
wAddDiagCode	BOOL	See appendix
strStatus	STRING	Gives an overview of the current state of the block

1.1.3 INOUTS

Variable	Datatype	Description
udtAlarm	AlarmDT	The alarm that is to be sent.
udtLog	arrLog	The logs of the emails sent.
udtSMTPData	SMTPDataDT	Data being transferred between the SMTP Function Blocks.

1.2 SMTP_Settings



1.2.1 INPUTS

Variable	Datatype	Description
xRecipientRead	BOOL	Triggers a load of the recipient list. Note: an initial load is done at startup
xRecipientWrite	BOOL	Triggers a write of the recipient list
xSMTPRead	BOOL	Triggers a load of the SMTP configuration Note: an initial load is done at startup
xSMTPWrite	BOOL	Triggers a write of the SMTP configuration
strScriptDir	STRING	The directory the python script is saved. Note: default is '/opt/plcnext' (home folder) if nothing is connected.

1.2.2 OUTPUTS

N/A

1.2.3 INOUTS

Variable	Datatype	Description
arrRecipients	arrEmails	Array of the recipients
udtSMTP	SMTPDT	SMTP configuration settings
udtSMTPData	SMTPDataDT	Data being transferred between the SMTP Function Blocks.

2 DATATYPES

2.1 AlarmDT

Variable	Datatype	Description
almName	STRING	The name of the alarm
almStatus	STRING	The state of the alarm
almTime	STRING	The time the alarm was announciated: Note: this will be done automatically when being sent and does not need to be written to
strSubject	STRING	The subject of the email to be sent
strBody	INT	The body of the email. Note: this can be used for any additional custom requirements
iStatus	INT	The status of the alarm. Only used for the log and does not need to be written to.

2.2 SMTPDT

Variable	Datatype	Description
server	STRING	The URL or IP address of the SMTP server
username	STRING	The username for the SMTP server
password	STRING	The password for the SMTP server
port	INT	The port number used. Note: it is 587 by default.

3 APPENDIX

3.1 Diagnostics

wDiagCode	wAddDiagCode	Description
16#0000 (DEC#0)	16#0000 (DEC#0)	Function block is deactivated
16#8000 (DEC#32768)	16#0000 (DEC#0)	Activated and ready
16#8100 (DEC#33024)	16#0000 (DEC#0)	Initialising
16#8200 (DEC#33280)	16#0000 (DEC#0)	Sending email
16#C110 (DEC#49424)	16#8000 (DEC#32768)	Error during initialising. Check that the script sendemail.py is saved on the PLC
16#C110 (DEC#49424)	16#1000 (DEC#4096)	Error reading configuration. SMTP configuration file not found. Write the file to the PLC
16#C110 (DEC#49424)	16#4000 (DEC#16384)	Error reading configuration. Recipient list file not found. Write the file to the PLC
16#C110 (DEC#49424)	16#1600 (DEC#5632)	Error sending the email.