



APPLICATION NOTE

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Product Family: Do-More

Number: AN-DM-001

Subject: Do-More email setup and functionality

Date Issued: 10-3-2013

Revision:

Do-more Email functionality

- What it can do and what it can't do
- Setting up the email function
- Other configuration items necessary for email to function



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What it can and can't do...

Edit SMTP Client Settings

Device Name: @Email1

SMTP Server IP Address: 255 . 255 . 255 . 255

SMTP Server Port: 25

Timeout: 30 seconds

'From' Email Address: myemail@automationdirect.com

Authentication

Disabled

AUTH LOGIN

AUTH PLAIN

POP before SMTP

Account Information

Username: account_name

Password: *****

Configuration Notes:

Default SMTP Port number is 25. This normally should not need to be changed.

'From' Email Address is limited to 128 characters.

For LOGIN and PLAIN authentication, the account information is for the SMTP account. For POP before SMTP, it is for the POP3 account.

Default POP3 port is 110. This normally should not need to be changed.

The Authentication Username is limited to 64 characters.

The Authentication Password is limited to 19 characters.

Do-more can do SMTP, SMTP Authenticated and POP3 before SMTP Authentication.

Do-more CANNOT do SSL or STARTTLS.



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Other caveats...

- A Do-more CPU with a built-in Ethernet port is required. (Cannot use an ECOM)
- The specific port numbers entered must be determined by the email provider.
- POP3 before SMTP Authentication is supported however... the ISP/Email provider must use the same IP address for the SMTP server and POP3 server. They are not separate fields in Do-more.



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Who do we work with?

- Any email server that supports SMTP, SMTP Authentication or POP3 before SMTP Authentication.
- AuthSMTP.com. Going through a service like this allows any other email server to work. (GMAIL is in this camp)

Steps to Configure Email

- Gather all necessary information to connect to ISP/Email Provider to include:
 - Authentication method required by ISP (SMTP AUTH, POP before SMTP, SSL, etc...)
 - SMTP server IP/DNS and port number
 - POP server IP/DNS and port number
 - Log on credentials
 - Domain name (IE... myemail@xxxxx.xxx)
 - Allowed email addresses for account
 - Email addresses to send to

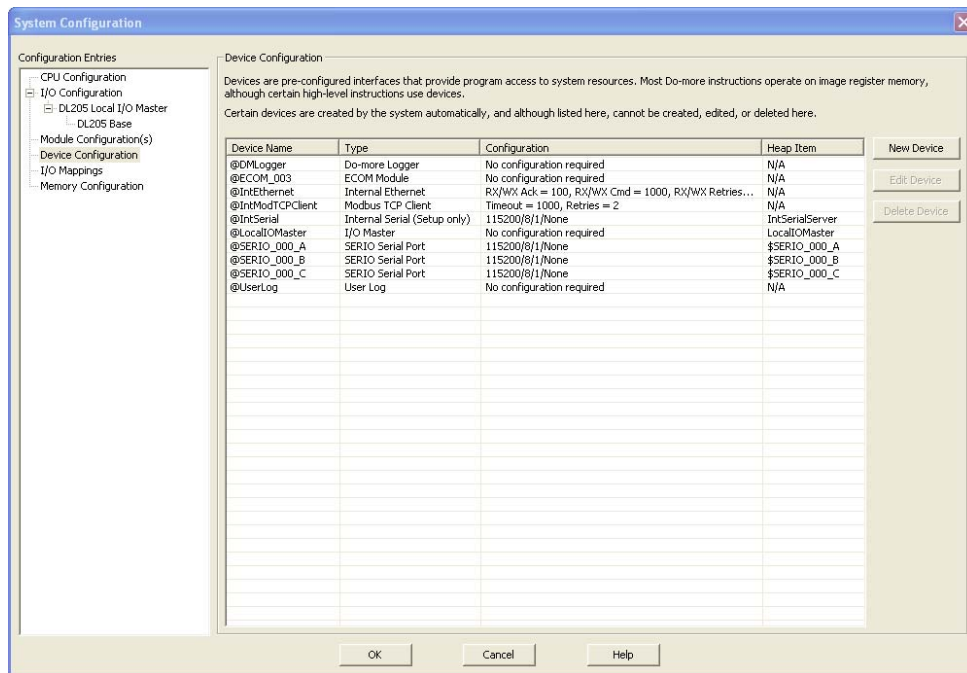


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Steps to Configure Email

Server Config



Go to the System Configuration screen, click on “Device Configuration” on the left hand side.

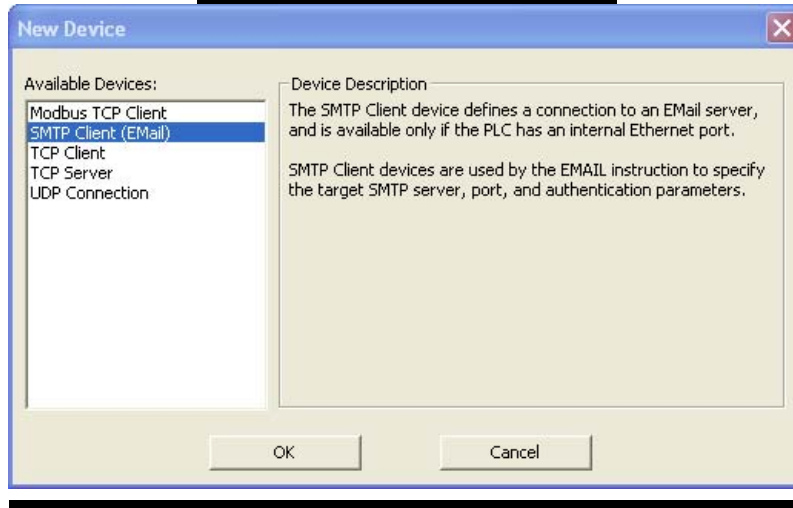
Click on the “New Device” button on the right hand side.



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Server Config



Choose "SMTP Client (Email)" and click Ok.



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Steps to Configure Email Server Config (Ladder method)

Edit SMTP Client Settings

Device Name: @Email1

SMTP Server IP Address: 255 . 255 . 255 . 255 DNS Lookup...

SMTP Server Port: 25

Timeout: 30 seconds

'From' Email Address: myemail@automationdirect.com

Authentication:

Disabled

AUTH LOGIN

AUTH PLAIN

POP before SMTP POP3 Port: 110

Account Information:

Username: account_name

Password: *****

Configuration Notes:

Default SMTP Port number is 25. This normally should not need to be changed.

'From' Email Address is limited to 128 characters.

For LOGIN and PLAIN authentication, the account information is for the SMTP account. For POP before SMTP, it is for the POP3 account.

Default POP3 port is 110. This normally should not need to be changed.

The Authentication Username is limited to 64 characters.

The Authentication Password is limited to 19 characters.

OK Cancel

Fill in the information acquired from the ISP/Email provider in this instruction.

If you want to use a DNS name for the Email server, leave the "SMTP Server IP Address" as is and use the DNS Lookup instruction in ladder.



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Steps to Configure EMAIL

The screenshot shows a window titled "EMAIL" with a "Send EMail" button in the top right corner. The window contains the following fields and options:

- SMTP Device:** A dropdown menu with "@Email1" selected.
- To:** A checked checkbox followed by a text field containing "johndoe@emailprovider.com".
- Cc:** An unchecked checkbox followed by an empty text field.
- Bcc:** An unchecked checkbox followed by an empty text field.
- Subject:** A text field containing "Test from Do-more".
- Message Body:** A large text area containing "Testing 1, 2, 3..." \$Now.Second".
- Options:** An unchecked checkbox labeled "Automatically insert space after each term".
- On Success:** Radio buttons for "Set bit" (selected) and "JMP to Stage", followed by a text field containing "C0".
- On Error:** Radio buttons for "Set bit" (selected) and "JMP to Stage", followed by a text field containing "C1".

You just fill in the target email address, any CCs or BCCs you need, the Subject and the Message Body. You can also embed variable data in the Message Body.



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Steps to Configure Email

DNSLOOKUP — Name to IP Address

Device: @IntEthernet

Preferred DNS Server:

- Fixed IP Address: 205 . 152 . 37 . 23
- Variable IP Address: D0

Get PC's DNS Server Settings

Alternate DNS Server:

- No Alternate DNS Server
- Fixed IP Address: 205 . 152 . 150 . 23
- Variable IP Address: D1

Name: smtp.emailprovider.com

IP Address Result: D0

On Success: Set bit (selected), JMP to Stage: C2

On Error: Set bit (selected), JMP to Stage: C3

	Element	Status
1	D0	-1574464710
2	D0	162.039.147.058
3		
4		
5		

Using DNS name for the Mail server requires 2 steps: the DNSLOOKUP instruction (added to Do-more in version 1.1) and a DEVWRITE instruction. The DNSLOOKUP finds the IP address for the DNS mail server name. The DEVWRITE then plugs that IP address into the EMAIL setup. You can view the IP address retrieved by the DNSLOOKUP instruction in Data View. There is a selection to view the value in IP address format.



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Other items: Default Gateway

Setup Node and IP Address

Module ID: 2

Name: H2-DM1x

Description: Do-more PLC!

IP Address: 172 . 16 . 0 . 84

Subnet Mask: 255 . 255 . 0 . 0

Gateway: 172 . 16 . 0 . 1

NOTE: For CPUs without an Ethernet port, these fields aren't used for configuration, but are still available as variables in status memory and can be used for identification.

OK Cancel

Probably one of the most common mistakes made when setting up Do-more to send email (or to be accessible on the Internet) is not specifying the Gateway address. The Do-more CPU cannot respond to nor target an IP address that is not on its subnet without the Gateway (which a public IP address WILL be). The default gateway IP address is the IP address of the router.

Other items: Error Bits/Codes

EMAIL Send Email

SMTP Device @Email1

To johndoe@emailprovider.com

Cc

Bcc

Subject Test from Do-more

Automatically insert space after each term

Message

Testing 1, 2, 3..." \$Now.Second

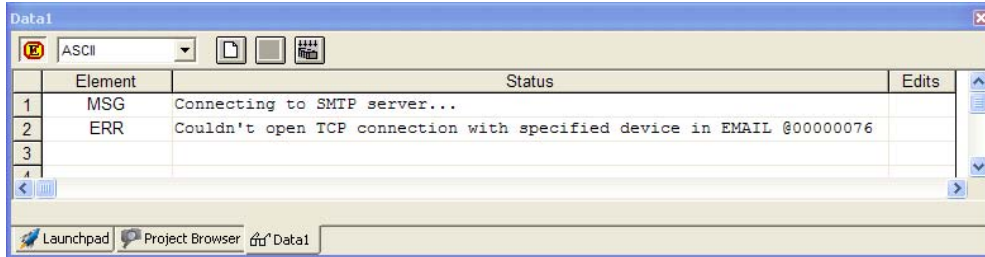
On Success: Set bit JMP to Stage C0

On Error: Set bit JMP to Stage C1



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There are Success and Error bits in the EMAIL instruction to alert the status of an email. To see more details about why an Error occurred when sending an email, use the System Tag called, "ERR". The System Tag called, "MSG" will give information about which step in the emailing process that Do-more is currently in.



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Other items: Detailed diagnostics

The screenshot shows the 'Do-more Logger' application window. The title bar reads 'Do-more Logger [Any address - Port 0x7272]'. The interface includes several configuration options: 'UDP Port: 0x7272' with a 'Change' button; 'Accepting packets from: Any' with a 'Change' button; 'Max # of Records: 100' with a 'Change' button; and checkboxes for 'Display sending address' (checked), 'Display time' (checked), and 'Insert at top' (checked). There are also radio buttons for 'ASCII' (selected) and 'Hex', and buttons for 'About', 'Pause', 'Save', and 'Clear'. The main area is a table with three columns: 'Address', 'Time', and 'Message'. The table contains 30 rows of log entries, each starting with '172.16.0.84 Port 29298(0x7272)' followed by a timestamp and a message. The messages include SMTP-related events such as 'SMTP disconnected!', '221 pacmmta53 closing connection', 'QUIT..', '250 OK 83/61-14823-3612F225', 'Sending message...', 'MIME-Version: 1.0..Content-type: text/plain; charset=US-ASCII....', 'Message-ID: <07DD090A02092837@172.16.0.84>..', 'Date: Tue, 10 Sep 2013 09:40:55 -0400..', 'Subject: Test from Do-more..', 'To: johndoe@emailprovider.com..', 'From: myemail@automationdirect.com..', '354 continue. finished with "\r\n.\r\n"', '250 RCPT TO accepted', 'RCPT TO: <johndoe@emailprovider.com>..', '250 MAIL FROM accepted', 'MAIL FROM: <myemail@automationdirect.com>..', '235 Authed. Go on..', 'Q2hzdgpbbWUxNjEw..', '334 UGFzc3dvcmQ6', 'Y2hyaXN0b3BoZXJ0eXJyaXNAd2luZHN0cmVhb55uZXQ=..', '334 WXNlcmShbWU6', 'AUTH LOGIN..', '250 ENHANCEDSTATUSCODES', '250-PIPELINING', '250-8BITMIME', '250-AUTH LOGIN PLAIN', '250-AUTH=LOGIN PLAIN', '250-pacmmta53 says EHLO to 123.45.56.78:23458', 'EHLO 172.16.0.84..', '220 *****', and 'SMTP connected!'.

Address	Time	Message
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:57.983	"SMTP disconnected!"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:57.983	"221 pacmmta53 closing connection"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:57.983	"QUIT.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:57.983	"250 OK 83/61-14823-3612F225"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"Sending message..."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"MIME-Version: 1.0..Content-type: text/plain; charset=US-ASCII...."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"Message-ID: <07DD090A02092837@172.16.0.84>.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"Date: Tue, 10 Sep 2013 09:40:55 -0400.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"Subject: Test from Do-more.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"To: johndoe@emailprovider.com.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"From: myemail@automationdirect.com.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.873	"354 continue. finished with "\r\n.\r\n"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:55.795	"250 RCPT TO accepted"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:53.764	"RCPT TO: <johndoe@emailprovider.com>.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:53.764	"250 MAIL FROM accepted"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.654	"MAIL FROM: <myemail@automationdirect.com>.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.654	"235 Authed. Go on.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.576	"Q2hzdgpbbWUxNjEw.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.576	"334 UGFzc3dvcmQ6"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"Y2hyaXN0b3BoZXJ0eXJyaXNAd2luZHN0cmVhb55uZXQ=.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"334 WXNlcmShbWU6"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"AUTH LOGIN.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"250 ENHANCEDSTATUSCODES"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"250-PIPELINING"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"250-8BITMIME"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"250-AUTH LOGIN PLAIN"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"250-AUTH=LOGIN PLAIN"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.498	"250-pacmmta53 says EHLO to 123.45.56.78:23458"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.420	"EHLO 172.16.0.84.."
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:51.420	"220 *****"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:49.389	"SMTP connected!"
172.16.0.84 Port 29298(0x7272)	09/10/13 09:40:49.311	"Connecting to SMTP server..."

You can gather a great deal of info about the emailing process by enabling a System Bit called, "\$EnableMsgDump". Then run the Do-more Logger application (found in Launchpad applications), to log the steps of the email process.

Technical

Assistance: If you have questions regarding this Application Note, please contact us at 770-844-4200 for further assistance.