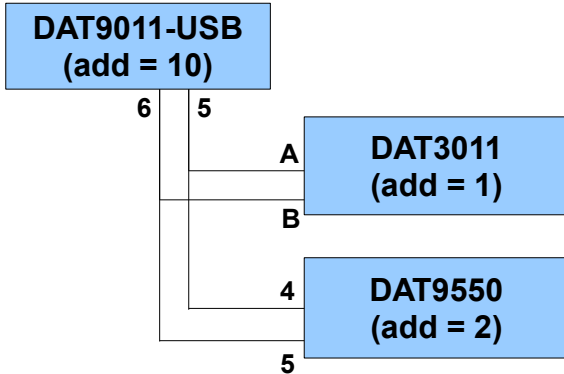


DAT9000 Project example: Reading of analog input from DAT3011, send the value to DAT9550 and store in log file.

STEP 1 – Checking configuration

Connect the devices in RS485 as following:



* NOTE: Addresses may be different

In Dev9K, follow this procedure:

- Tools → Search
Search for DAT9011, then right-click on it and select “Set as Controller”
Check for Communication OK
Right-click and select “Search Sub Nodes”, check if it finds DAT3011 and DAT9550 (check their addresses)
- Tools → Config
Set Address = 10 and Type = DAT9011-USB, then click on “Update”
In the “Comm” tab, check for Port1 (master) baudrate 38400, parity None, stop bit 1
- View → Registers
In the Register Table, click on the “R” button to upgrade the register values
Check for %R17 (Gateway Mask) is set to 00FF (hex)
- Tools → Config
Set Address = 1 and Type = DAT3011, then click on “Update”
In the “Analog Input” tab, Check for input type (Pot)

STEP 2 – Creating Application Project

Main project of DAT9000-USB (or DAT9011-USB)
Click on New Project and insert the following function blocks:

Function Block 1)
“Read Input” function to read the register %R26 of DAT3011, containing the value of the analog input channel, and store the value in the internal register %R40.

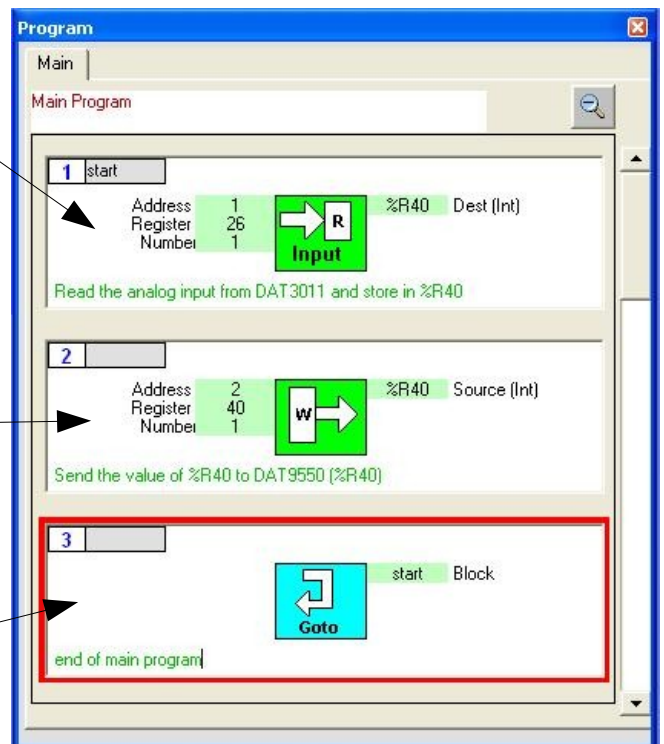
Label = “start”
Address = modbus node of DAT3011 (1)
Register = register to read (26)
Number = number of registers to read (1)
Dest = DAT9011 internal register destination (40)

Function Block 2)
“Write” function to send the value of the internal register %R40 to the register %R40 of DAT9550.

Address = modbus node of DAT9550 (2)
Register = register to write (40)
Number = number of registers to read (1)
Source = DAT9011 internal register source (40)

Function Block 3)
Goto function to return the main program to the first function Block.

Block = function block to go to (“start”)



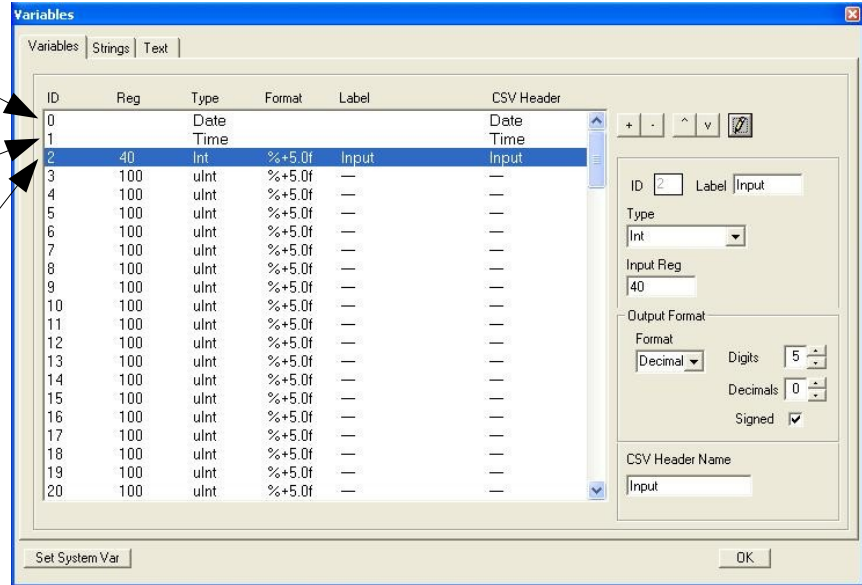
Variables setting

Set the variables to use in the Log record.

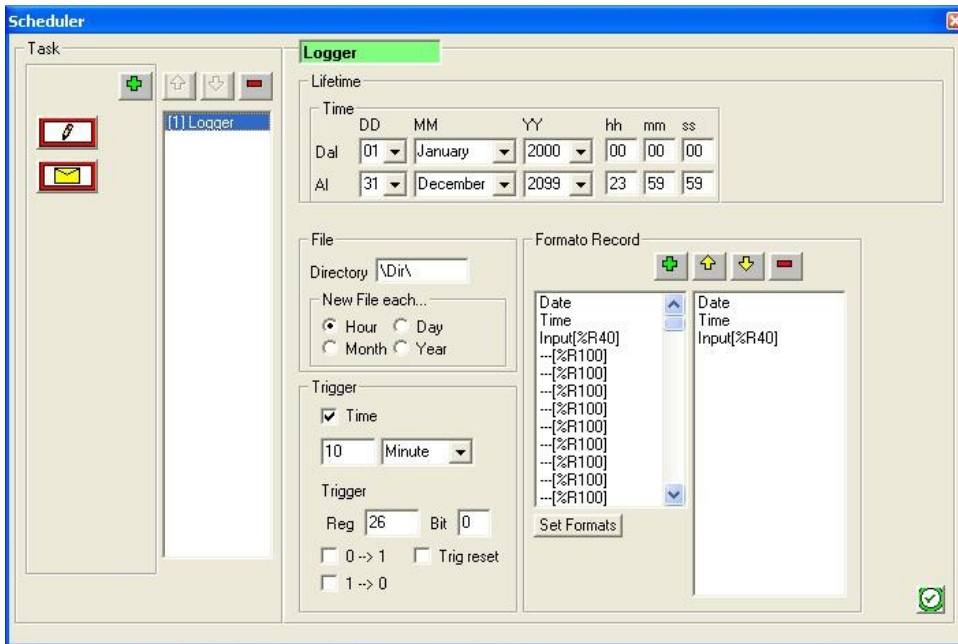
Variable for Date time
 ID = 0
 Label = "Date"
 Type = Date
 CSV Header = "Date"

Variable for Hour time
 ID = 1
 Label = "Time"
 Type = Time
 CSV Header = "Time"

Variable for Input value
 ID = 2
 Label = "Input"
 Type = Int
 CSV Header = "Date"



Logger setting



Example of CSV file:

Date	Time	Input
10/07/13	09.17.05 m.	0
10/07/13	09.17.15 m.	0
10/07/13	09.17.25 m.	0
10/07/13	09.17.35 m.	0
10/07/13	09.17.45 m.	0
10/07/13	09.17.56 m.	0
10/07/13	09.18.06 m.	0
10/07/13	09.18.26 m.	0
10/07/13	09.18.36 m.	0
10/07/13	09.20.24 m.	100
10/07/13	09.20.34 m.	100

Insert a Logger task and set the following parameters:

- Lifetime
 - From 01 January 2000 to 31 December 2099
- File
 - Directory = " \\Dir\ " (directory where to store the CSV file)
 - New file each = Hour (create a new file at hour)
- Trigger
 - Time = checked – 10 minute (save a record each 10 minutes)
- Record Format
 - Insert the first three variables:
 - Date
 - Time
 - Input

→ Save the project, reconnect the controller and set DAT9011 in Debug mode (click on Debug button, the STS led start blinking). Click on Download button and in the Download form click on Ok.

STEP 3 – Set Display visualization

Connect DAT9550 as Controller, using DAT9011 as Gateway.

- Settings → Controller

Keep Ethernet setting as configured for DAT9011-USB (same IP address, port and timeout)

Set NodeID = 2 and Type = DAT9550, then click on Ok

Click on Connect button

Check for Communication OK

Main project of DAT9550

Click on New Project and insert the following function blocks:

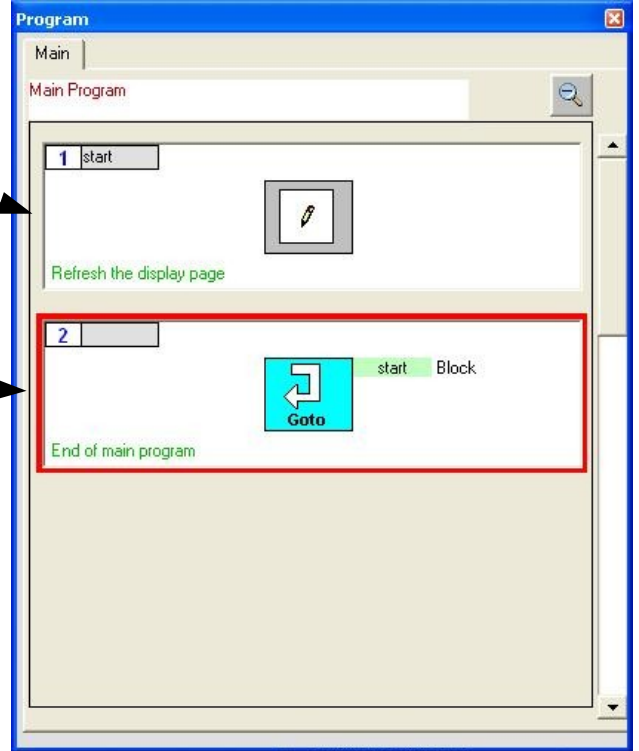
Function Block 1)

“Display” function to refresh the display page

Function Block 2)

Goto function to return the main program to the first function Block.

Block = function block to go to (“start”)



Display page setting

To compose the display graphical page, insert the following objects:

“Input =” label type

Format = small

Label = “Input =”

Position = 0, 0

Reg, Bit and Alternative = not used

“%R40” number type

Format = small

Label = “%+5.1f”

Position = 48, 0

Reg, Bit and Alternative = not used

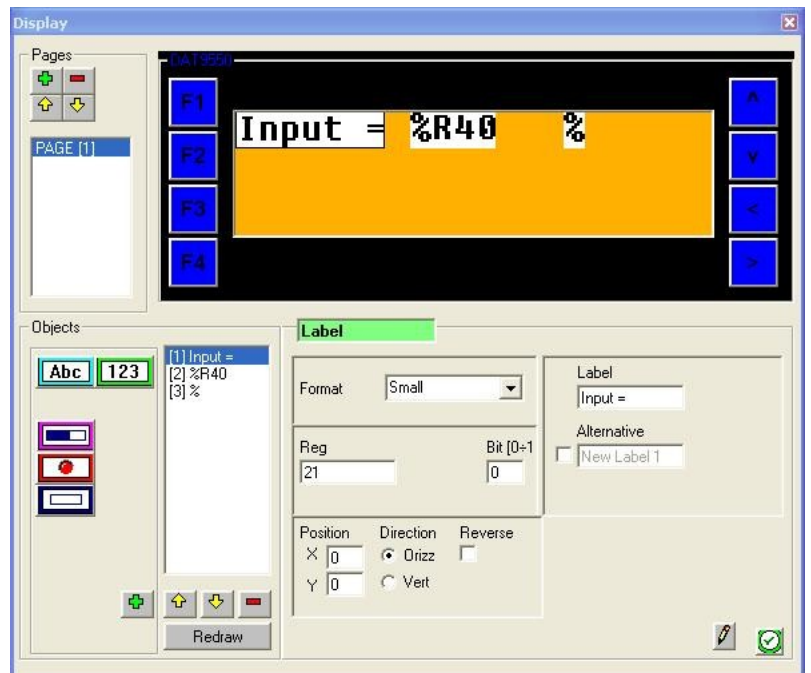
“%” label type

Format = small

Label = “%”

Position = 90, 0

Reg, Bit and Alternative = not used



→ Save the project, reconnect the controller and set DAT9550 in Debug mode (click on Debug button, the yellow led start blinking). Click on Download button and in the Download form click on Ok. At the end, set in Release mode.

STEP 4 – Running application

Connect DAT9011 as Controller

- Settings → Controller

Keep Ethernet setting as configured for DAT9011-USB (same IP address, port and timeout)

Set NodeID = 10 and Type = DAT9011-USB, then click on Ok

Click on Connect button

Check for Communication OK

→ Set in Release mode.

Now, the STS led will stop blinking and DAT9011 will poll DAT3011 to read the analog input value and transfer it on DAT9550 (see the TX2 and RX2 leds blinking), and log the value in the USB memory storage.