

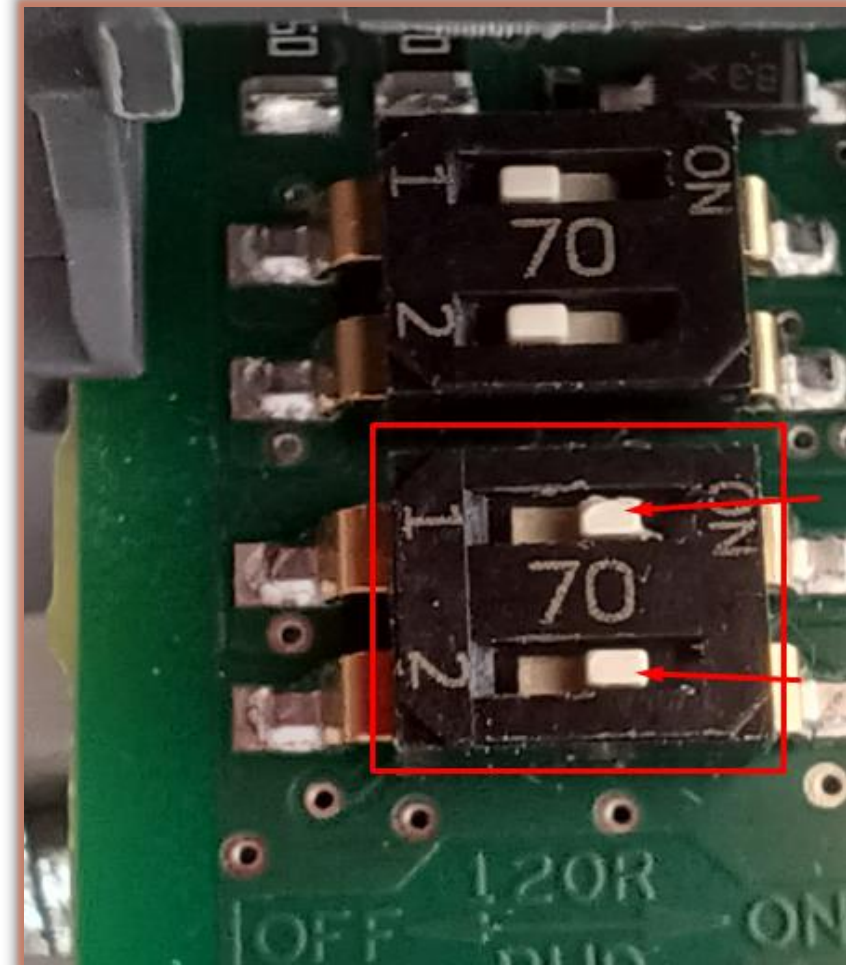


GrowSphere™ SingleNet Mapping

using "Polenet2Max" Application.

Jan 2023

SingleNet interface with GS is only via RS485. RS485 Module must be installed on Upper Port. Note the “DIP Switch” position on the RS 485 Module marked in RED must be towards the “ON” Side



Wiring Between Host & GS max Controller

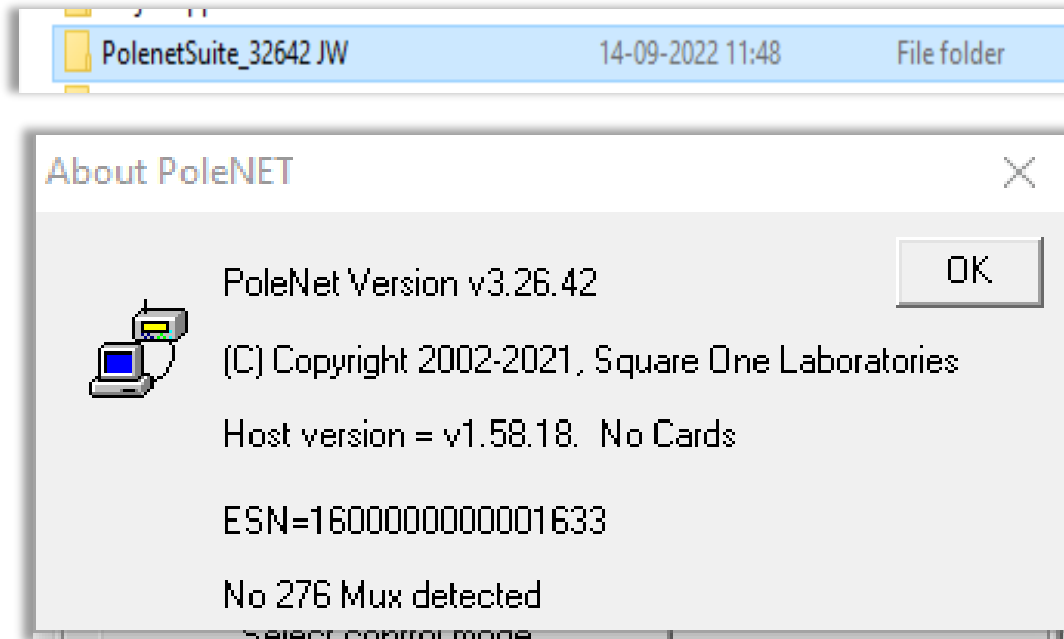
A to A & B To B. also LK1 & LK2 Jumper on the SingleNet Host should be Upper side



Required Polenet Version

Always Check for Latest & Recommended Versions of PoleNet & Polenet2Max App.

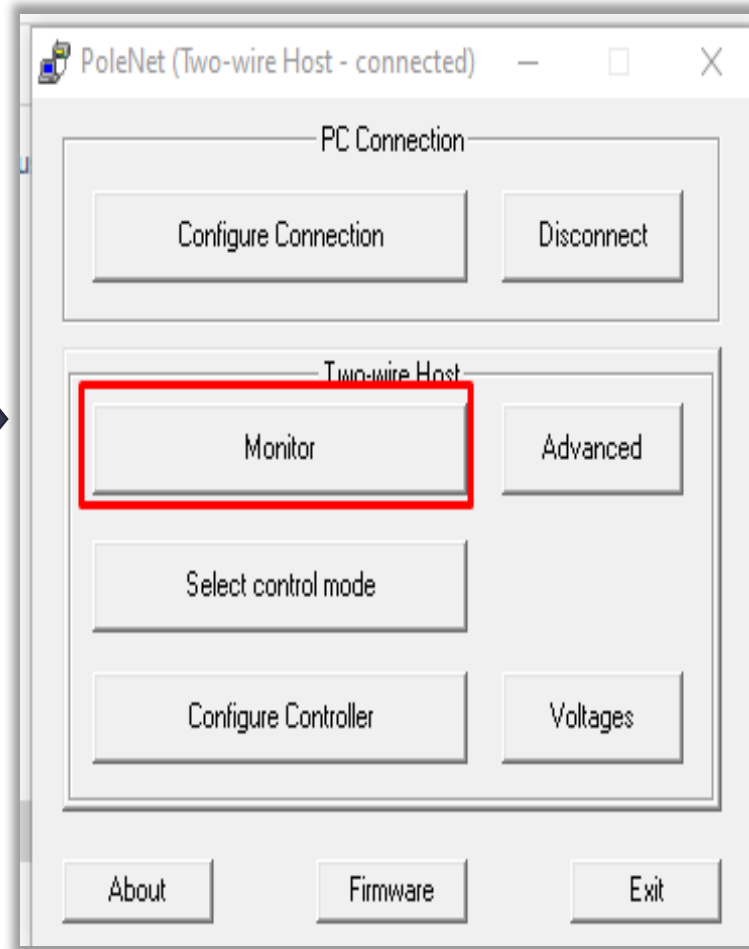
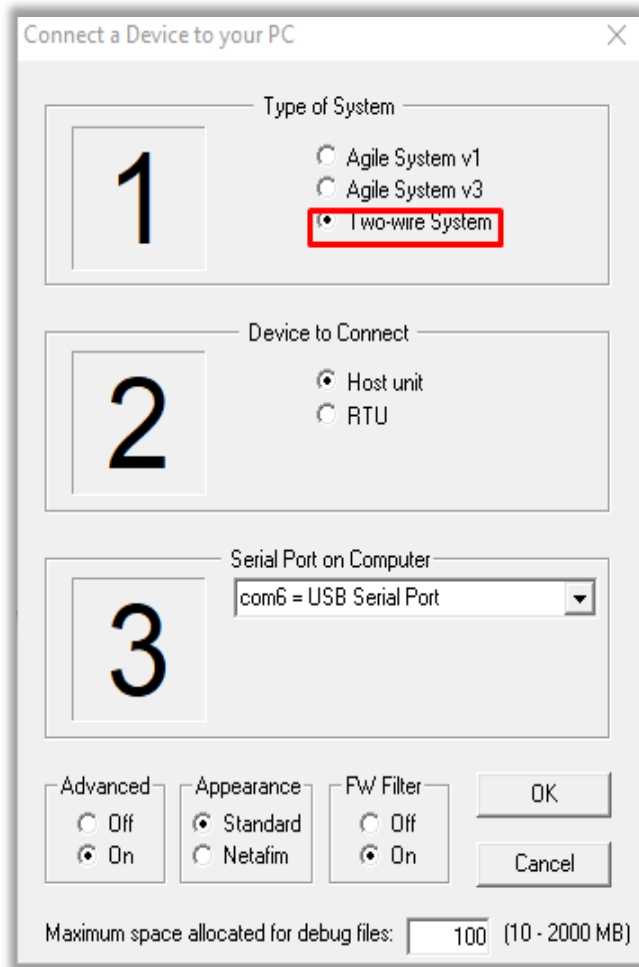
- **Use Polenet Version: 3.26.42 Or Newer Version**



- **Use Host Firmware Version: 1.58.18 Or Newer**
- **Use RTU Firmware Version : 1.66 Or Newer**

** UI Interface is subject to change with New Versions

Connect to SingleNet Host and confirm is all RTUs are captured and available



Two-wire Monitor


Units: 14 On: 0 Missing: 0 Extra: 0

Unit	Out1	Out2	In1	In2	Capt	Avail	Drops
0			2	0	Yes	Yes	0
1			0	0	Yes	Yes	0
2			0	0	Yes	Yes	0
3			0	0	Yes	Yes	0
4			0	0	Yes	Yes	0
5			0	0	Yes	Yes	0
6			0	0	Yes	Yes	0
7			0	0	Yes	Yes	0
8			0	0	Yes	Yes	0
9			0	0	Yes	Yes	0
10			0	0	Yes	Yes	0
11			2	8	Yes	Yes	0
12			0	0	Yes	Yes	0
13			0	0	Yes	Yes	0

Test Capture Close

GrowSphere Hydraulic Configuration

Not secure | 192.168.0.10/webvisu.htm

GrowSphere™ by NETAFIM GS03 Main line 1 Settings  SD Fri 13 Jan 2023 16:09:00 36

Configuration Local I/O Remote I/O Communication Wiring Diagram

Mainline Pump Station Filter Station Dosing Station Valves Other Devices

Mainline

Valves 40

- Pump
- Pump Station
- Filter Station
- Dosing Station
- Main Valve
- Main WM Local Pump station
- Main Pressure sensor After filter Local

GK

Navigate to Settings >> Communication >> Select SingleNet >> Enter Modbus ID (2 for Singlenet) >> Export Hydraulic Model

The screenshot shows the GrowSphere web interface. The top navigation bar includes 'Farm', 'Mainline 1', and 'Settings'. Below this, there are tabs for 'Configuration', 'Local I/O', 'Remote I/O', 'Communication', and 'Wiring Diagram'. The 'Communication' tab is selected, and within it, the 'SingleNet Allocation' sub-tab is active. The 'Modbus ID' field is set to '2', and the 'Export Hydraulic model' button is highlighted. A table with columns '#ID', 'Name', and 'Status' is visible below the form.













The screenshot shows the 'Modbus Setup' dialog box. The 'Modbus Id' field is set to '2'. The 'Configure Controller' button is highlighted. The dialog box also includes fields for 'Phantom Id', 'Network', 'Speed', 'Parity', 'Variant', 'Tx Delay', 'Error Timeout', and 'Report Errors as Input Id'. There are also radio buttons for 'Use Simple Linear Mapping' and 'Use Non-Linear Mapping'.

** UI Interface is subject to change with New Versions

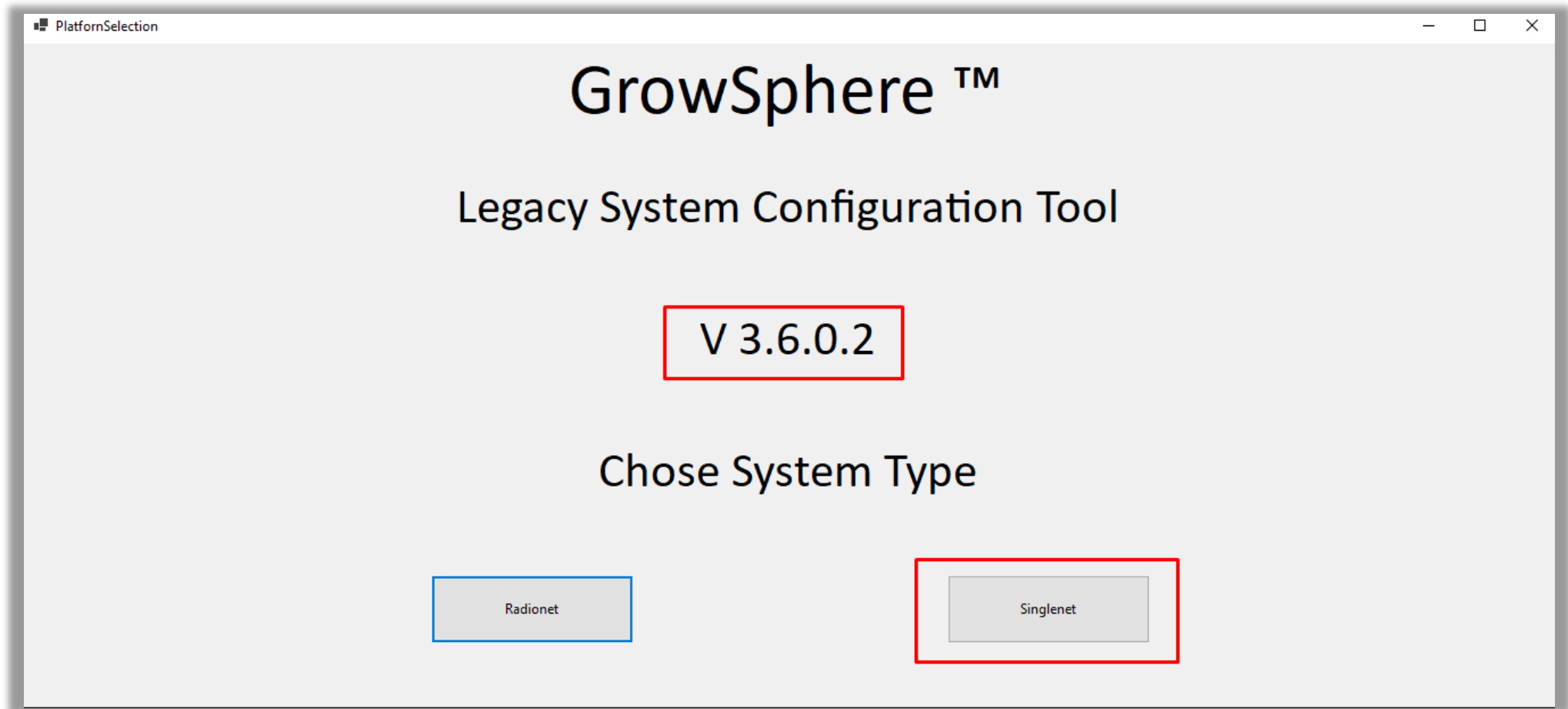
After Successful “Export” >> Click Done

The screenshot shows the GrowSphere web interface. The browser address bar displays "Not secure | 192.168.0.10/webvisu.htm". The interface includes a top navigation bar with "Farm", "Mainline 3", and "Preferences". Below this is a secondary navigation bar with tabs for "Configuration", "Local I/O", "Remote I/O", "Communication", and "Wiring Diagram". The "Communication" tab is active, showing sub-sections for "SingleNet Allocation", "RadioNet Allocation", "NetRTU (GW) Allocation", and "Weather Station". A modal dialog box is centered on the screen, titled "Hydraulic model", with the message "Hydraulic model successfully exported" and a "Done" button. The background interface is dimmed.

Open “Polenet2Max” Application

Name	Date modified	Type	Size
 configuration.properties	11/15/2022 1:13 PM	PROPERTIES File	1 KB
 D3DCompiler_47_cor3.dll	5/6/2022 8:46 PM	Application extens...	4,031 KB
 devices_types	11/10/2022 7:00 PM	JSON File	23 KB
 illust58-1841	11/28/2022 5:35 PM	JPG File	1,468 KB
 Penlmc_cor3.dll	11/19/2022 11:16 PM	Application extens...	143 KB
 Polenet2Max	1/18/2023 2:32 PM	Application	155,001 KB
 Polenet2Max.pdb	1/18/2023 2:31 PM	PDB File	50 KB
 PresentationNative_cor3.dll	10/13/2022 11:46 PM	Application extens...	924 KB
 sni.dll	7/12/2017 4:54 PM	Application extens...	134 KB
 SQLite.Interop.dll	11/2/2021 11:17 PM	Application extens...	1,343 KB
 vcruntime140_cor3.dll	11/10/2022 8:04 AM	Application extens...	89 KB
 wpfgfx_cor3.dll	11/19/2022 11:18 PM	Application extens...	1,763 KB

Select SingleNet

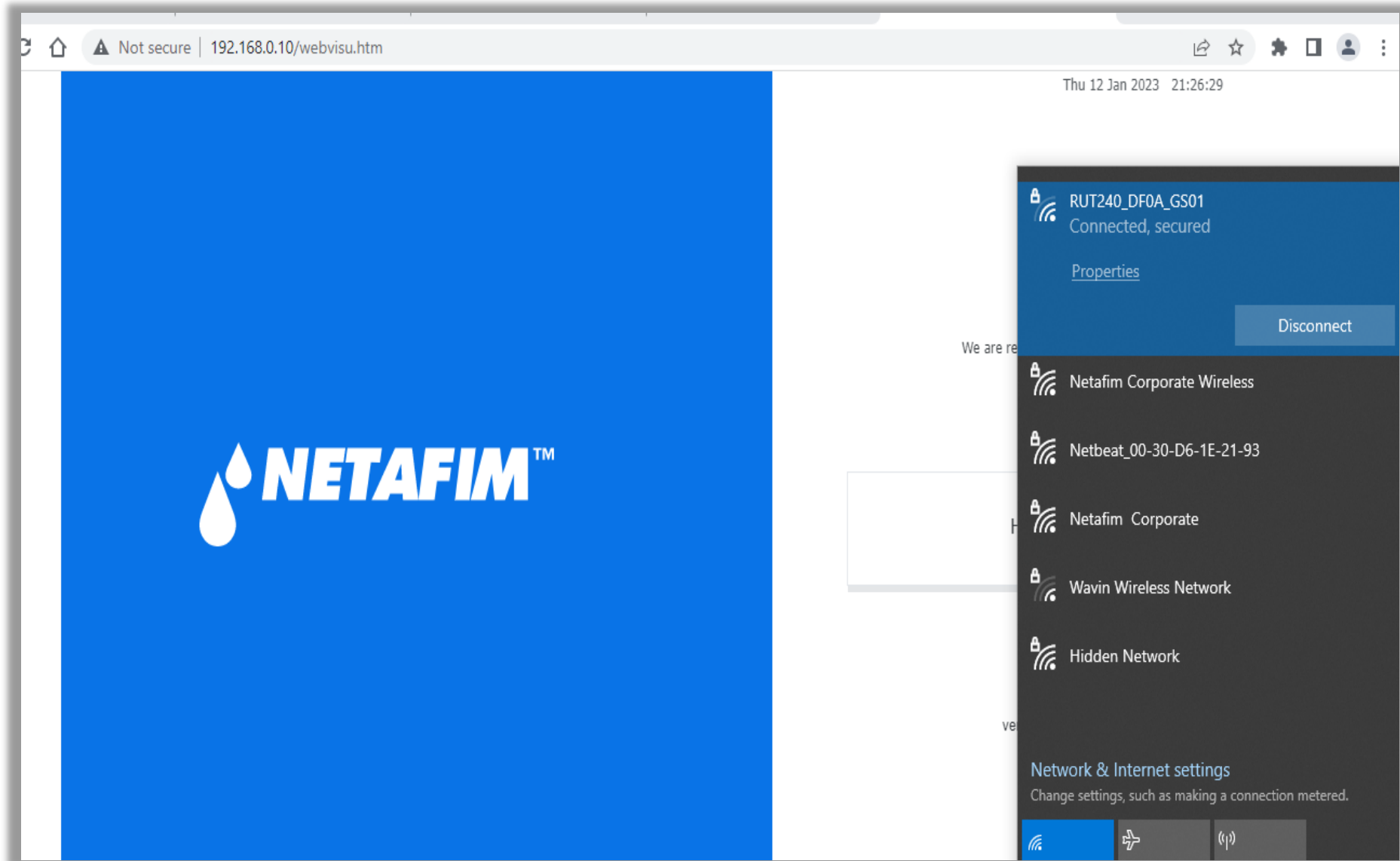


Total 128 Units 0 to 127, will be listed by default

The screenshot shows a software window titled "Form1" with several tabs: "Load Hydraulic Model", "Digital Outputs", "Digital Inputs", and "AI+Serial". A dropdown menu is set to "Singlenet". On the left, a tree view shows a list of units from "Unit 000 (000)" to "Unit 026 (026)", with the first 26 units highlighted in red. The main area contains a table with the following columns: Name, Unit Name, Unit ID, Mapped Device Type, Main Line, Remote/Local, IO Card, IO Address, Modbus Address A, and Modbus Address B. The table is currently empty. On the right, there is a "Utilities" panel with buttons for "Open Polenet", "Auto Modbus Mapping", "configuration", "Load Previous System", and "Save and Export".

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address	Modbus Address A	Modbus Address B
------	-----------	---------	--------------------	-----------	--------------	---------	------------	------------------	------------------

Connect to GS (In Pic Below it is via RUT240 xx Modem)



Click on "Load Hydraulic Model", Select Path sdcard >> RemoteSys >> Hydraulic Model.csv & Click on Open

The screenshot displays a software application window titled 'Form1'. At the top, there are several buttons: 'Load Hydraulic Model' (highlighted with a red box), 'Digital Outputs', 'Digital Inputs', and 'AI+Serial'. On the left, a tree view shows a folder named 'singlenet' containing a list of units from 'Unit 000 (000)' to 'Unit 029 (029)'. On the right, there is a 'Utilities' panel with buttons for 'Open Polenet', 'Auto Modbus Mapping', 'configuration', and 'Load Previous System'. Below the utilities is a table with 'IO Address' values (1 and 2) and a 'Save and Export' button at the bottom.

An 'Open' dialog box is overlaid on the application. The path is set to 'sdcard > RemoteSys'. The file 'Hydraulic Model.csv' is selected and highlighted. The 'File name' field contains 'Hydraulic Model.csv' and the file type is set to 'CSV files (*.CSV)'. The 'Open' button in the dialog is highlighted with a red box. Red arrows indicate the sequence of actions: from the 'Load Hydraulic Model' button to the 'sdcard > RemoteSys' path, then to the 'Hydraulic Model.csv' file, and finally to the 'Open' button.

Wait for Message "File loaded successfully", Click OK

The screenshot shows a software application window titled 'Form1'. The interface includes a top navigation bar with buttons for 'Load Hydraulic Model', 'Digital Outputs', 'Digital Inputs', and 'AI+Serial'. On the left, there is a tree view under the 'singlenet' folder, listing units from 'Unit 000 (000)' to 'Unit 029 (029)'. The main area is a table with columns: Name, Unit Name, Unit ID, Mapped Device Type, Main Line, Remote/Local, IO Card, and IO Address. A central dialog box with a red border displays the message 'File loaded successfully' with an information icon and an 'OK' button. On the right, a 'Utilities' panel contains buttons for 'Open Polenet', 'Auto Modbus Mapping', 'configuration', 'Load Previous System', and 'Save and Export'.

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address
------	-----------	---------	--------------------	-----------	--------------	---------	------------

Digital Outputs / Inputs can be assigned by selecting relevant Tabs

The screenshot shows a software window titled "Form1" with a top navigation bar containing three tabs: "Load Hydraulic Model", "Digital Outputs", and "Digital Inputs". The "Digital Outputs" and "Digital Inputs" tabs are highlighted with red boxes. Below the tabs is a tree view on the left showing a hierarchy starting with "singlenet" and containing a list of units from "Unit 000 (000)" to "Unit 029 (029)". The main area is a table with the following columns: Name, Unit Name, Unit ID, Mapped Device Type, Main Line, Remote/Local, IO Card, and IO Address. The table is currently empty. On the right side, there is a "Utilities" panel with buttons for "Open Polenet", "Auto Modbus Mapping", "configuration", and "Load Previous System". At the bottom right, there is a "Save and Export" button.

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address
------	-----------	---------	--------------------	-----------	--------------	---------	------------

Click on "Digital Outputs" Tab, this will show DOs available on all RTUs.

Load Hydraulic Model

Digital Outputs

Digital Inputs

AI+Serial

Name	Unit Name	IO Card	IO Address	Modbus Addresses	Mapped Device Type	Main Line	Device Type ID	Device Number	Nominal Area	Nominal Flow Rate
Sn Pump1	Unit 000	1	1	1 257 0		0	0	0	1	4
DO 0.2	Unit 000	1	2	2 258 0		0	0	0	0	0
DO 1.1	Unit 001	1	1	3 259 0		0	0	0	0	0
DO 1.2	Unit 001	1	2	4 260 0		0	0	0	0	0
DO 2.1	Unit 002	1	1	5 261 0		0	0	0	0	0
DO 2.2	Unit 002	1	2	6 262 0		0	0	0	0	0
DO 3.1	Unit 003	1	1	7 263 0		0	0	0	0	0
DO 3.2	Unit 003	1	2	8 264 0		0	0	0	0	0
DO 4.1	Unit 004	1	1	9 265 0		0	0	0	0	0
DO 4.2	Unit 004	1	2	10 266 0		0	0	0	0	0
DO 5.1	Unit 005	1	1	11 267 0		0	0	0	0	0
DO 5.2	Unit 005	1	2	12 268 0		0	0	0	0	0
DO 6.1	Unit 006	1	1	13 269 0		0	0	0	0	0
DO 6.2	Unit 006	1	2	14 270 0		0	0	0	0	0
DO 7.1	Unit 007	1	1	15 271 0		0	0	0	0	0
DO 7.2	Unit 007	1	2	16 272 0		0	0	0	0	0
DO 8.1	Unit 008	1	1	17 273 0		0	0	0	0	0

Utilities

Open Polenet

configuration

Load Previous System

Device Parameters Select Device to Allocate to this IO

IO Type: **Digital Output**

RTU: Unit 000

IO Number: 1

Mainline: Main Line 1

Device Name: Sn Pump1

Flow: 4

Area: 1

Flow indicator:

Unit:

Card:

Input:

[reset indication](#)

Valve 4

Valve 5

Valve 6

Valve 7

Valve 8

Valve 9

Valve 10

Valve 11

Valve 12

Valve 13

Valve 14

Valve 15

Valve 16

Valve 17

Valve 18

Valve 19

Valve 20

Valve 21

Valve 22

Valve 23

Valve 24

Valve 25

Dosing channel 1

Dosing channel 2

Dosing channel 3

Dosing channel 4

Dosing booster 1

Main valve 1

Pump 1

Click on any DO. This will open the window below, Enter details such as Mainline, Device Name, Flow, Area & Flow indicator.

The screenshot displays the 'Digital Outputs' configuration window. On the left, a tree view shows the system hierarchy with '1-DO SugarCane V1' selected. The main table lists digital outputs with columns for Name, Unit Name, Unit ID, Mapped Device Type, Main Line, Remote/Local, IO Card, IO Address, and three Modbus Address fields (A, B, C). The row for 'DO 1.1' is highlighted in red, with an arrow pointing to it. Below the table, the 'Device Parameters' window is open for 'Digital Output' 'Valve 1'. This window contains several input fields: 'RTU' (Unit 001), 'IO Number' (1), 'Mainline' (Main Line 1), 'Device Name' (SugarCane V1), 'Flow' (4), 'Area' (1), 'Unit' (Unit 001), 'Card' (1), and 'Input' (1). A 'reset indication' link is visible at the bottom of the parameters section. On the right side of the interface, a 'Utilities' panel contains buttons for 'Open Polenet', 'Auto Modbus Mapping', 'configuration', and 'Load Previous System'. At the bottom right, there are 'Attach', 'Detach', and 'Save and Export' buttons.

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address	Modbus Address A	Modbus Address B	Modbus Address C	IO
DO 0.1	Unit 000	000		0	4	1	1	1	257	0	0
DO 0.2	Unit 000	000		0	4	1	2	2	258	0	0
DO 1.1	Unit 001	001		0	4	1	1	3	259	0	0
DO 1.2	Unit 001	001		0	4	1	2	4	260	0	0
DO 2.1	Unit 002	002		0	4	1	1	5	261	0	0
DO 2.2	Unit 002	002		0	4	1	2	6	262	0	0
DO 3.1	Unit 003	003		0	4	1	1	7	263	0	0
DO 3.2	Unit 003	003		0	4	1	2	8	264	0	0
DO 4.1	Unit 004	004		0	4	1	1	9	265	0	0
DO 4.2	Unit 004	004		0	4	1	2	10	266	0	0
DO 5.1	Unit 005	005		0	4	1	1	11	267	0	0
DO 5.2	Unit 005	005		0	4	1	2	12	268	0	0
DO 6.1	Unit 006	006		0	4	1	1	13	269	0	0
DO 6.2	Unit 006	006		0	4	1	2	14	270	0	0
DO 7.1	Unit 007	007		0	4	1	1	15	271	0	0
DO 7.2	Unit 007	007		0	4	1	2	16	272	0	0
DO 8.1	Unit 008	008		0	4	1	1	17	273	0	0

Select Device to allocate IO. Enter Details Device Name, Flow and Area Click Attach

The screenshot shows a software interface for configuring IO devices. On the left is a tree view showing a hierarchy of units under 'singlenet'. The main area contains a table of IO configurations. Below the table is a 'Device Parameters' form for configuring a 'Digital Output' for 'Unit 001'. The form includes fields for 'Main Line', 'Device Name', 'Flow', 'Area', 'Unit', 'Card', and 'Input'. A 'reset indication' link is also present. To the right of the form is a list of 'Valve' options. At the bottom right are 'Attach' and 'Detach' buttons. A 'Utilities' panel on the far right contains buttons for 'Open Polenet', 'Auto Modbus Mapping', 'configuration', and 'Load Previous System'. A 'Save and Export' button is at the bottom right.

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address	Modbus Address A	Modbus Address B	Modbus Address C	IO
DO 0.1	Unit 000	000		0	4	1	1	1	257	0	0
DO 0.2	Unit 000	000		0	4	1	2	2	258	0	0
SugarCane V1	Unit 001	001		0	4	1	1	3	259	0	0
DO 1.2	Unit 001	001		0	4	1	2	4	260	0	0
DO 2.1	Unit 002	002		0	4	1	1	5	261	0	0
DO 2.2	Unit 002	002		0	4	1	2	6	262	0	0
DO 3.1	Unit 003	003		0	4	1	1	7	263	0	0
DO 3.2	Unit 003	003		0	4	1	2	8	264	0	0
DO 4.1	Unit 004	004		0	4	1	1	9	265	0	0
DO 4.2	Unit 004	004		0	4	1	2	10	266	0	0
DO 5.1	Unit 005	005		0	4	1	1	11	267	0	0
DO 5.2	Unit 005	005		0	4	1	2	12	268	0	0
DO 6.1	Unit 006	006		0	4	1	1	13	269	0	0
DO 6.2	Unit 006	006		0	4	1	2	14	270	0	0
DO 7.1	Unit 007	007		0	4	1	1	15	271	0	0
DO 7.2	Unit 007	007		0	4	1	2	16	272	0	0
DO 8.1	Unit 008	008		0	4	1	1	17	273	0	0

Device Parameters

IO Type: Digital Output

RTU: Unit 001

IO Number: 1

Main Line: Main Line 1

Device Name: SugarCane V1

Flow: 4

Area: 1

Flow indicator: []

Unit: Unit 001

Card: 1

Input: 1

[reset indication](#)

Valve List: Valve 1, Valve 2, Valve 3, Valve 4, Valve 5, Valve 6, Valve 7, Valve 8, Valve 9, Valve 10, Valve 11, Valve 12, Valve 13, Valve 14, Valve 15, Valve 16, Valve 17, Valve 18, Valve 19, Valve 20, Valve 21, Valve 22, Valve 23, Valve 24, Valve 25, Valve 26, Valve 27, Valve 28, Valve 29

Buttons: Attach, Detach, Save and Export

Device Name & Details

Flow Indicator: Select Unit and Input to which it is connected

A Prompt message will appear, click Yes

The screenshot displays a software interface for configuring digital outputs. On the left, a tree view shows a hierarchy of units from Unit 000 to Unit 038. The main area contains a table of digital outputs with columns for Name, Unit Name, Unit ID, Mapped Device Type, Main Line, Remote/Local, IO Card, IO Address, Modbus Address A, Modbus Address B, and Modbus Address C. The 'SugarCane V1' unit is selected. Below the table, the 'Device Parameters' section shows 'Digital Output' configuration for Unit 001, IO Number 1, Main Line 1, Device Name 'SugarCane V1', Flow 4, Area 1, Unit 001, Card 1, and Input 1. A 'reset indication' link is visible. A dialog box titled 'Attach' is open, asking 'Attach Valve 1 To DigitalOutput?' with 'Yes' and 'No' buttons. The 'Yes' button is highlighted with a red box. To the right, a 'Utilities' panel includes buttons for 'Open Polenet', 'Auto Modbus Mapping', 'configuration', 'Load Previous System', 'Attach', 'Dettach', and 'Save and Export'.

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address	Modbus Address A	Modbus Address B	Modbus Address C
Pump 1	Unit 000	000		0	4	1	1	1	257	0
MV 1	Unit 000	000		0	4	1	2	2	258	0
SugarCane V1	Unit 001	001		0	4	1	1	3	259	0
DO 1.2	Unit 001	001		0	4	1	2	4	260	0
DO 2.1	Unit 002	002		0	4	1	1	5	261	0
DO 2.2	Unit 002	002		0	4	1	2	6	262	0
DO 3.1	Unit 003	003		0	4	1	1	7	263	0
Pump 1	Unit 003	003		0	4	1	2	8	264	0
DO 4.1	Unit 004	004		0	4	1	1	9	265	0
DO 4.2	Unit 004	004		0	4	1	2	10	266	0
DO 5.1	Unit 005	005		0	4	1	1	11	267	0
DO 5.2	Unit 005	005		0	4	1	2	12	268	0
DO 6.1	Unit 006	006		0	4	1	1	13	269	0
DO 6.2	Unit 006	006		0	4	1	2	14	270	0

Device Parameters

IO Type: Digital Output

RTU: Unit 001

IO Number: 1

Mainline: Main Line 1

Device Name: SugarCane V1

Flow: 4

Area: 1

Flow indicator:

Unit: Unit 001

Card: 1

Input: 1

[reset indication](#)

Attach

Attach Valve 1 To DigitalOutput?

Yes No

Attach

Dettach

Save and Export

Device will be mapped to Output on RTU & will be displayed in table

Form1

Load Hydraulic Model

Digital Outputs

Digital Inputs

AI+ Serial

Name	Unit Name	Unit ID	Mapped Device Type	Main Line	Remote/Local	IO Card	IO Address	Modbus Address A	Modbus Address B	Modbus Address C
Pump 1	Unit 000	000		0	4	1	1	1	257	0
MV 1	Unit 000	000		0	4	1	2	2	258	0
SugarCane V1	Unit 001	001	Valve 1	1	4	1	1	3	515	0
Banana V2	Unit 001	001		0	4	1	2	4	260	0
DO 2.1	Unit 002	002		0	4	1	1	5	261	0
DO 2.2	Unit 002	002		0	4	1	2	6	262	0
DO 3.1	Unit 003	003		0	4	1	1	7	263	0
DO 3.2	Unit 003	003		0	4	1	2	8	264	0
DO 4.1	Unit 004	004		0	4	1	1	9	265	0
DO 4.2	Unit 004	004		0	4	1	2	10	266	0
DO 5.1	Unit 005	005		0	4	1	1	11	267	0
DO 5.2	Unit 005	005		0	4	1	2	12	268	0
DO 6.1	Unit 006	006		0	4	1	1	13	269	0
DO 6.2	Unit 006	006		0	4	1	2	14	270	0

Utilities

Open Polenet

Auto Modbus Mapping

configuration

Load Previous System

Device Parameters

Select Device to Allocate to this IO

IO Type: **Digital Output**

RTU: Unit 001

IO Number: 2

Mainline: Main Line 1

Device Name: Banana V2

Flow: 4

Area: 1

Flow indicator:

Unit: Unit 001

Card: 1

Input: 2

reset indication

Attach

Detach

Save and Export

In Digital Inputs Details of flow Indicator assigned to DO can be seen here

Name	Unit Name	IO Card	IO Address	Modbus Addresses	Mapped Device Type	Main Line	Device Type ID	Device Number	Pulse
SnWMter	Unit 000	1	1	49 49 305		0	0	0	10
DI 0.2	Unit 000	1	2	50 50 306		0	0	0	0
Flow indicator 1	Unit 001	1	1	51 51 307	Flow indicator 1		31	1	0
Flow indicator 2	Unit 001	1	2	52 52 308	Flow indicator 2		31	2	0
DI 2.1	Unit 002	1	1	53 53 309		0	0	0	0
DI 2.2	Unit 002	1	2	54 54 310		0	0	0	0
DI 3.1	Unit 003	1	1	55 55 311		0	0	0	0
DI 3.2	Unit 003	1	2	56 56 312		0	0	0	0
DI 4.1	Unit 004	1	1	57 57 313		0	0	0	0
DI 4.2	Unit 004	1	2	58 58 314		0	0	0	0
DI 5.1	Unit 005	1	1	59 59 315		0	0	0	0
DI 5.2	Unit 005	1	2	60 60 316		0	0	0	0

NOTE : Pl. note that Flow Indicator Input is not to be defined in GrowSphere Hydraulic Configuration anywhere. It is only to “confirm”, the Valve is OPEN & there is flow. On GrowSphere >> Remote Valves, it will show “P”
This facility is only for Valves on RTU

Continue mapping all Digital Outputs are connected to RTU

Form1
Load Hydraulic Model
Digital Outputs
Digital Inputs
AI+Serial

singlenet

- singlenet
 - Unit 000 (000)
 - 1-208
 - 1-DI SnWMter
 - 2-DI DI 0.2
 - 1-DO Sn Pump1
 - 2-DO SnMV1
 - Unit 001 (001)
 - Unit 002 (002)
 - Unit 003 (003)
 - Unit 004 (004)
 - Unit 005 (005)
 - Unit 006 (006)
 - 1-208
 - 1-DI DI 6.1
 - 2-DI DI 6.2
 - 1-DO DO 6.1
 - 2-DO DO 6.2
 - Unit 007 (007)
 - Unit 008 (008)
 - Unit 009 (009)
 - Unit 010 (010)
 - Unit 011 (011)
 - Unit 012 (012)
 - Unit 013 (013)
 - Unit 014 (014)
 - Unit 015 (015)
 - Unit 016 (016)
 - Unit 017 (017)
 - Unit 018 (018)
 - Unit 019 (019)
 - Unit 020 (020)
 - Unit 021 (021)
 - Unit 022 (022)
 - Unit 023 (023)
 - Unit 024 (024)
 - Unit 025 (025)
 - Unit 026 (026)
 - Unit 027 (027)
 - Unit 028 (028)

Name	Unit Name	IO Card	IO Address	Modbus Addresses	Mapped Device Type	Main Line	Device Type ID	Device Number	Nom Area
Sn Pump1	Unit 000	1	1	1 257 0	Pump 1	1	3	1	1
SnMV1	Unit 000	1	2	2 258 0	Main valve 1	1	2	1	0
SugarCane V1	Unit 001	1	1	3 515 0	Valve 1	1	1	1	1
Banana V2	Unit 001	1	2	4 516 0	Valve 2	1	1	2	1
Pomo V2	Unit 002	1	1	5 261 0	Valve 3	1	1	3	1
Ginger V4	Unit 002	1	2	6 262 0	Valve 4	1	1	4	1
Custard V5	Unit 003	1	1	7 263 0	Valve 5	1	1	5	1
Banana V6	Unit 003	1	2	8 264 0	Valve 6	1	1	6	1
SugarCane V7	Unit 004	1	1	9 265 0	Valve 7	1	1	7	1
Pomo V8	Unit 004	1	2	10 266 0	Valve 8	1	1	8	1
Custard V9	Unit 005	1	1	11 267 0	Valve 9	1	1	9	1
Ginger V10	Unit 005	1	2	12 268 0	Valve 10	1	1	10	1
Pomo V11	Unit 006	1	1	13 269 0	Valve 11	1	1	11	1
Veg V12	Unit 006	1	2	14 270 0	Valve 12	1	1	12	1

Device Parameters Select Device to Allocate to this IO

IO Type: **Digital Output**

RTU: Unit 000

IO Number: 1

Mainline: Main Line 1

Device Name: Sn Pump1

Flow: 4

Area: 1

Flow indicator:

Unit:

Card:

Input:

[reset indication](#)

- Valve 13
- Valve 14
- Valve 15
- Valve 16
- Valve 17
- Valve 18
- Valve 19
- Valve 20
- Valve 21
- Valve 22
- Valve 23
- Valve 24
- Valve 25
- Dosing channel 1
- Dosing channel 2
- Dosing channel 3
- Dosing channel 4
- Dosing booster 1
- Pump 1

Attach

Dettach

Utilities

Open Polenet

configuration

Load Previous System

Save and Export

If there are Digital Input on RTU , Click on relevant Tab to assign it.

The screenshot shows a software interface for configuring digital inputs on an RTU. The 'Digital Inputs' tab is selected. A table lists various digital input points, with 'SnWMter' highlighted. Below the table, a configuration panel shows parameters for the selected device, including IO Type (Digital Input), RTU (Unit 000), IO Number (1), Mainline (Main Line 1), Device Name (SnWMter), and Pulse Rate (10). A list of device options is shown, with 'Pump Overload 1' selected. Buttons for 'Attach', 'Detach', and 'Save and Export' are visible.

Name	Unit Name	IO Card	IO Address	Modbus Addresses	Mapped Device Type	Main Line	Device Type ID	Device Number	Pulse
SnWMter	Unit 000	1	1	49 49 305		0	0	0	10
DI 0.2	Unit 000	1	2	50 50 306		0	0	0	0
Flow indicator 1	Unit 001	1	1	51 51 307	Flow indicator 1	1	31	1	0
Flow indicator 2	Unit 001	1	2	52 52 308	Flow indicator 2	1	31	2	0
DI 2.1	Unit 002	1	1	53 53 309		0	0	0	0
DI 2.2	Unit 002	1	2	54 54 310		0	0	0	0
DI 3.1	Unit 003	1	1	55 55 311		0	0	0	0
DI 3.2	Unit 003	1	2	56 56 312		0	0	0	0
DI 4.1	Unit 004	1	1	57 57 313		0	0	0	0
DI 4.2	Unit 004	1	2	58 58 314		0	0	0	0
DI 5.1	Unit 005	1	1	59 59 315		0	0	0	0
DI 5.2	Unit 005	1	2	60 60 316		0	0	0	0
DI 6.1	Unit 006	1	1	61 61 317		0	0	0	0
DI 6.2	Unit 006	1	2	62 62 318		0	0	0	0

Device Parameters

IO Type: **Digital Input**

RTU: Unit 000

IO Number: 1

Mainline: Main Line 1

Device Name: SnWMter

Pulse Rate: 10

Select Device to Allocate to this IO

- Pump Overload 1
- Water meter 1
- Dosing Meter 1
- Dosing Meter 2
- Dosing Meter 3
- Dosing pressure switch 1
- Dosing booster protection 1

Buttons: Attach, Detatch, Save and Export

Click **Digital Inputs Tab** and proceed to add **Digital Input**, select **Mainline**, enter **Device name** etc, and click **Attach Device Name** (ex.SnWmtr1 here and associated with DI)

The screenshot shows a software interface with a table of digital inputs and a configuration dialog box. The table lists various digital inputs with their respective parameters. The dialog box is titled "Attach" and asks "Attach Pump Overload 1 To DigitalInput?". It has "Yes" and "No" buttons. Below the dialog box, there are "Attach" and "Detach" buttons.

Name	Unit Name	IO Card	IO Address	Modbus Addresses	Mapped Device Type	Main Line	Device Type ID	Device Number	Pulse
SnWmtr	Unit 000	1	1	49 49 305		0	0	0	10
DI 0.2	Unit 000	1	2	50 50 306		0	0	0	0
Flow indicator 1	Unit 001	1	1	51 51 307	Flow indicator 1	1	31	1	0
Flow indicator 2	Unit 001	1	2	52 52 308	Flow indicator 2	1	31	2	0
DI 2.1	Unit 002	1	1	53 53 309		0	0	0	0
DI 2.2	Unit 002	1	2	54 54 310		0	0	0	0
DI 3.1	Unit 003	1	1	55 55 311		0	0	0	0
DI 3.2	Unit 003	1	2	56 56 312		0	0	0	0
DI 4.1	Unit 004	1	1	57 57 313		0	0	0	0
DI 4.2	Unit 004	1	2	58 58 314		0	0	0	0
DI 5.1	Unit 005	1	1	59 59 315		0	0	0	0
DI 5.2	Unit 005	1	2	60 60 316		0	0	0	0
DI 6.1	Unit 006	1	1	61 61 317		0	0	0	0
DI 6.2	Unit 006	1	2	62 62 318		0	0	0	0

Device Parameters

IO Type: **Digital Input**

RTU: Unit 000

IO Number: 1

Mainline: Main Line 1

Device Name: SnWmtr

Pulse Rate: 10

Attach

Detach

Save and Export

After all I/O devices are assigned, Click "Save and Export ".
A message will Appear "Saved to CSV". Click OK

The screenshot displays a software interface for configuring I/O devices. On the left, a tree view shows a hierarchy starting with 'singlenet' and containing 45 sub-items labeled 'Unit 000 (000)' through 'Unit 045 (045)'. The main area features a table with columns: Name, Unit Name, IO Card, IO Address, Modbus Addresses, Mapped Device Type, Main Line, Device Type ID, Device Number, and Pulse Factor. The table lists various digital input (DI) devices like 'SnWMter', 'Flow indicator 1', and 'Flow indicator 2' across units 000 to 008. A 'Device Parameters' panel at the bottom shows settings for a 'Digital Input' device, including RTU (Unit 000), IO Number (1), Mainline (Main Line 1), Device Name (SnWMter), and Pulse Rate (10). A 'Save and Export' button is visible at the bottom right. A small dialog box titled 'Saved To CSV' with an 'OK' button is overlaid on the table, indicating the successful export of the data.

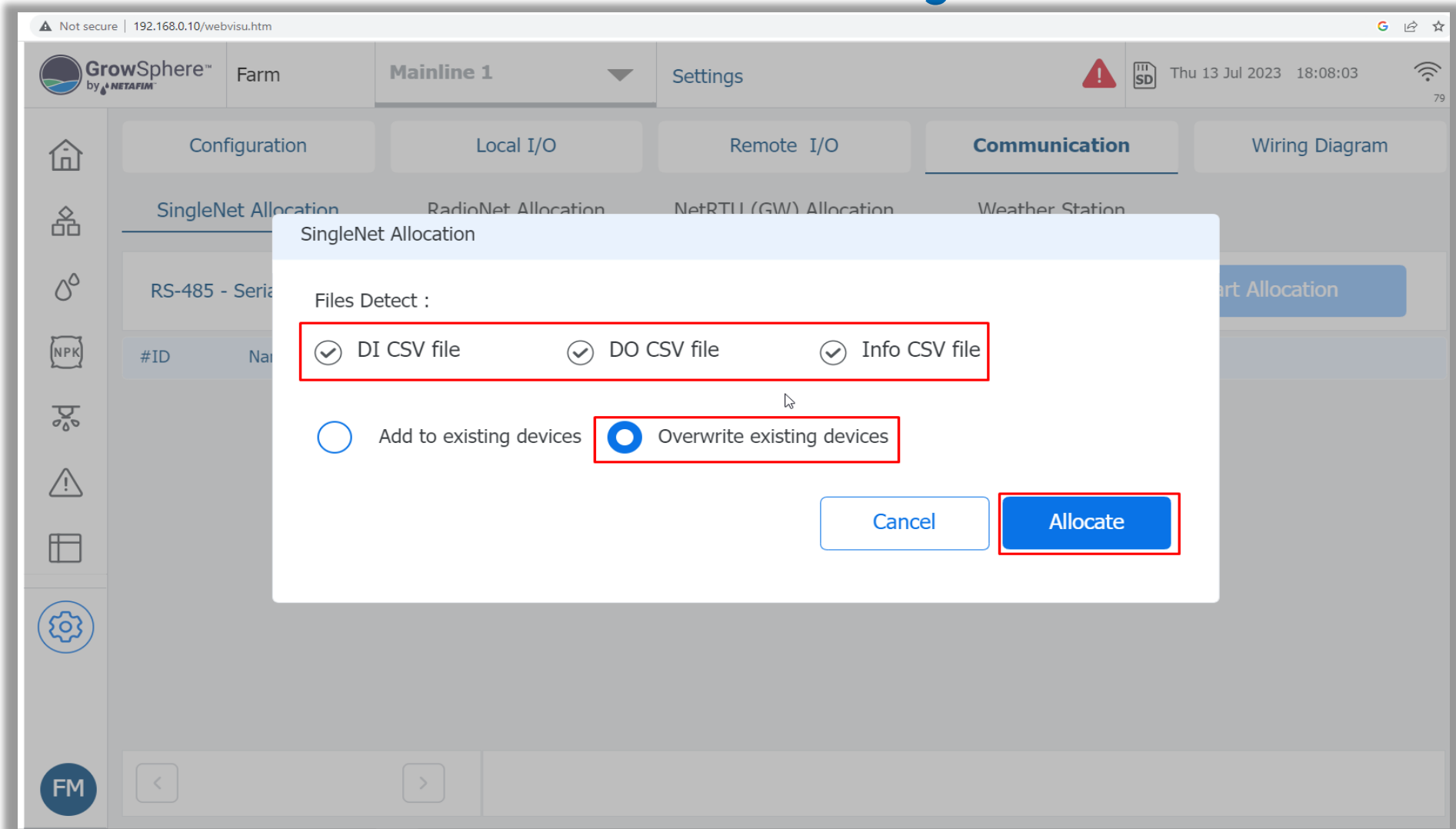
Name	Unit Name	IO Card	IO Address	Modbus Addresses	Mapped Device Type	Main Line	Device Type ID	Device Number	Pulse Factor
SnWMter	Unit 000	1	1	49 49 305		0	0	0	10
DI 0.2	Unit 000	1	2	50 50 306		0	0	0	0
Flow indicator 1	Unit 001	1	1	51 51 307	Flow indicator 1	1	31	1	0
Flow indicator 2	Unit 001	1	2	52 52 308	Flow indicator 2	1	31	2	0
DI 2.1	Unit 002	1	1	53 53 309		0	0	0	0
DI 2.2	Unit 002	1	2	54 54 310		0	0	0	0
DI 3.1	Unit 003	1	1	55 55 311		0	0	0	0
DI 3.2	Unit 003	1	2	56 56 312		0	0	0	0
DI 4.1	Unit 004	1	1	57 57 313		0	0	0	0
DI 4.2	Unit 004	1	2	58 58 314		0	0	0	0
DI 5.1	Unit 005	1	1	59 59 315		0	0	0	0
DI 5.2	Unit 005	1	2	60 60 316		0	0	0	0
DI 6.1	Unit 006	1	1	61 61 317		0	0	0	0
DI 6.2	Unit 006	1	2	62 62 318		0	0	0	0
DI 7.1	Unit 007	1	1	63 63 319		0	0	0	0
DI 7.2	Unit 007	1	2			0	0	0	0
DI 8.1	Unit 008	1	1			0	0	0	0

Go to GrowSphere Settings screen, under “Communication” select “SingleNet Allocation” and click on “Start Allocation”

The screenshot shows the GrowSphere web interface. The browser address bar indicates the URL is 192.168.0.10/webvisu.htm. The interface includes a top navigation bar with 'Farm', 'Mainline 3', and 'Preferences'. A secondary navigation bar contains 'Configuration', 'Local I/O', 'Remote I/O', 'Communication', and 'Wiring Diagram'. Under 'Communication', there are sub-tabs for 'SingleNet Allocation', 'RadioNet Allocation', 'NetRTU (GW) Allocation', and 'Weather Station'. The 'SingleNet Allocation' sub-tab is selected and highlighted with a red box. Below this, the 'RS-485 - Serial port (port 1)' is configured with a 'Modbus ID' of '2', which is also highlighted with a red box. A red arrow points to the '2' in the Modbus ID field, and a red box highlights the 'Start Allocation' button. A table below the configuration shows a header with '#ID', 'Name', and 'Status', and a red warning message: 'Verify Modbus Id Entered in Polenet'. The bottom of the interface features a navigation bar with 'FM' and navigation arrows.

** UI Interface is subject to change with New Versions

Confirm all CSV files are detected. Click on “Overwrite existing devices”



After allocation process , all devices successfully added. Click on “Go to Remote I/O Tab”

Allocation process

36 devices have been successfully added!

1 unallocated devices

Ignore this 1 Unallocated devices for Flow Indicator

Go to Remote I/O tab Done

#ID	Name	Status
0	Ho	
0	Un	
1	Un	
2	Unit002	Connected
3	Unit003	Connected
4	Unit004	Connected
5	Unit005	Connected
6	Unit006	Connected

**Flow Indicator will always
show as Unallocated**

RTU	Card	IO	IO Type	Device type	NO.	Source	Name	Unallocated device type
1	1	1	DI	Assign	1	M.Line1	Flowindi	Flow Indicator

** UI Interface is subject to change with New Versions

Check All devices (Host / RTUs) appear under Singlenet Allocation tab as below

GrowSphere™ by NETAFIM | Farm | Mainline 1 | Settings | Thu 13 Jul 2023 18:48:00

Configuration | Local I/O | Remote I/O | **Communication** | Wiring Diagram

SingleNet Allocation | RadioNet Allocation | NetRTU (GW) Allocation | Weather Station

RS-485 - Serial port (port 1) Modbus ID 2 [Export Hydraulic model] [Unassign]

#ID	Name	Status
0	Host unit	Connected
0	Unit000	Disconnected
1	Unit001	Connected
2	Unit002	Connected
3	Unit003	Connected
4	Unit004	Connected
5	Unit005	Connected
6	Unit006	Connected

page 1 of page 2

GrowSphere™ by NETAFIM | Farm | Mainline 1 | Settings | Thu 13 Jul 2023 18:49:50

Configuration | Local I/O | Remote I/O | **Communication** | Wiring Diagram

SingleNet Allocation | RadioNet Allocation | NetRTU (GW) Allocation | Weather Station

RS-485 - Serial port (port 1) Modbus ID 2 [Export Hydraulic model] [Unassign]

#ID	Name	Status
7	Unit007	Connected
8	Unit008	Connected
9	Unit009	Connected
10	Unit010	Connected
11	Unit011	Connected
12	Unit012	Connected
13	Unit013	Connected

page 2 of page 2

Check all I/O s are allocated

The screenshot shows the 'Remote I/O' configuration page for 'Remote digital output'. A red box highlights the 'Remote digital output' tab and the table below it. The table lists various devices connected to RTU 0.

RTU	Card	IO	Device type	NO.	Source	Name
0	1	1	Pump	1	M.Line1	SnPMP1
0	1	2	MainValve	1	M.Line1	SnMV1
1	1	1	Valve	1	M.Line1	SnV1
1	1	2	Valve	2	M.Line1	SnV2
2	1	1	Valve	3	M.Line1	SnV3
2	1	2	Valve	4	M.Line1	SnV4
3	1	1	Valve	5	M.Line1	SnV5

The screenshot shows the 'Remote I/O' configuration page for 'Remote digital input'. A red box highlights the 'Remote digital input' tab and the table below it. The table lists various devices connected to RTU 0 and 11, 12, and 13.

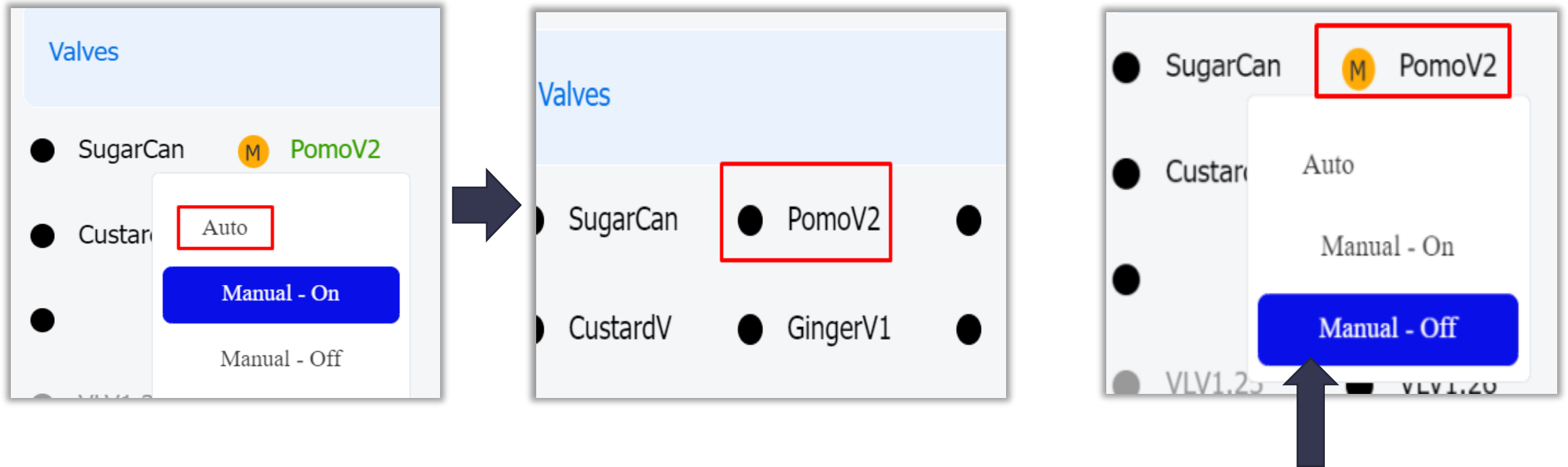
RTU	Card	IO	Device type	NO.	Source	Name	Type	Rate	Assigned
0	1	1	Water Meter	1	M.Line1	SnWMTR1	LPP	30.00	Unassign
11	1	1	Dosing Pressure S	1	M.Line1	SnDpSw1	NO	—	Unassign
11	1	2	Dosing Booster Pro	1	M.Line1	SnDBprot	NO	—	Unassign
12	1	1	Pump Overload	1	M.Line1	SnPmpOvl	NO	—	Unassign
12	1	2	Dosing Meter	1	M.Line1	SnDM1	LPP	1.00	Unassign
13	1	1	Dosing Meter	2	M.Line1	SnDM2	LPP	1.00	Unassign
13	1	2	Dosing Meter	3	M.Line1	SnDM3	LPP	1.00	Unassign

To test , Click on Valve, Select Manual - On >>
“M”(Manual) & “P”(Pending) will appear. “P” will disappear and Valve will turn Green when Status Changes to ON in PoleNet

The image illustrates the process of manually turning a valve on in the GrowSphere interface. It consists of three sequential screenshots showing the valve status changing from 'Auto' to 'Manual - On', then to 'M P' (Manual Pending), and finally to 'M' (Manual) and turning green. A 'Two-wire Monitor' window is also shown, displaying a table of valve status data.

Unit	Out1	Out2	In1	In2	Capt	Avail	Drops
0			8	0	Yes	Yes	0
1			0	0	Yes	Yes	0
2			0	0	Yes	Yes	0
3			0	0	Yes	Yes	0
4			0	0	Yes	Yes	0
5			0	0	Yes	Yes	0
6			0	0	Yes	Yes	0
7			0	0	Yes	Yes	0
8			0	0	Yes	Yes	0
9			0	0	Yes	Yes	0
10			0	0	Yes	Yes	0
11			2	8	Yes	Yes	0
12			0	0	Yes	Yes	0
13			0	0	Yes	Yes	0

To close Valve from UI, click the Valve & Select Auto >> You can see the Valve Status disappears in Polenet and Valve In UI turns Black



Note: If **Manual - Off** is chosen, Valve will not open in AUTO mode.

Need to Select **AUTO** to make it active.

M against the Valve is the indication of Manual operation.

GO FOR IT !

