Guía Rápida Argee Comunicación Beijer Modbus TCP/IP Quick Start



Argee comunicación Beijer Modbus TCP/IP

Versión: 1.0

03/07/2017

Servicio Asistencia Técnica Farell, 5 08014 Barcelona Tel. 932 982 040 soporte.tecnico@elion.es



## 1. Alcance

En esta guía se mostrará un ejemplo de cómo crear una configuración en un bloque Argee para comunicar con un maestro Beijer PC como Modbus Master TCP/IP a través de los de los registros de comunicación 0x4000 (registro 16384 en decimal) y el registro 0x4400 (registro 17408 en decimal).

El registro 0x4000 es un registro de solo lectura, mientras que el 0x4400 es de lectura y escritura.

En este ejemplo veremos la escritura y lectura recíproca de un registro entre el bloque Argee y un dispositivo Modbus Master TCP/IP,

| Anclar al eso rápido | <ul> <li>✓ Cortar</li> <li>✓ Copiar ruta de acceso</li> <li>Pegar acceso directo</li> </ul> | Mover Copiar<br>a • a • Copiar   | Nueva<br>carpeta | Nuevo elemento 🝷<br>ácil acceso 👻 | Propiedades   |
|----------------------|---|----------------------------------|------------------|-----------------------------------|---------------|
| Portapap             | oeles   | Organizar                        | N                | luevo                             | Abri          |
| → × T                | equipo > Escritorio > Sv  | V_ARGEE_Environment_V2 > 2.0.26. | 0 > Program      | ming Environmen                   | t v2_0_26_0 → |
| Acceso rápido        | Nombre  | Fecha de mo                      | difica Tipo      |                                   | Tamaño        |
| Acceso lapido        | Earlier_Environments  | 23/01/2017 1                     | 8:26 Carp        | oeta de archivos                  |               |
| OneDrive             | 📓 argee_ajax  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 39 KB         |
| Erte equipe          | 📓 argee_compiler  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 50 KB         |
|                      | 📓 argee_conf  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 1 KB          |
| Descargas            | 😹 argee_env   | 23/01/2017 1                     | 8:31 Arch        | nivo JavaScript                   | 201 KB        |
| Documentos           | 📓 argee_library_loader  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 14 KB         |
| Scritorio            | 🗷 argee_print   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 10 KB         |
| 📰 Imágenes           | 遼 argee_sim   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 52 KB         |
| 👌 Música             | 📓 argee_trace   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 7 KB          |
| Nueva carpeta        | 📓 argee_v_1_3_import  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 53 KB         |
| Videor               | BLC_modules   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 101 KB        |
|                      | ache.manifest   | 23/01/2017 1                     | 8:26 Arch        | nivo MANIFEST                     | 1 KB          |
| Windows8_OS (C:)     | 🗷 Date  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 13 KB         |
| PROD.MARKETING       | Evaluator   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 36 KB         |
| COMUNBCN (\\ELI      | FEN20_modules   | 18/01/2017 2                     | 3:20 Arch        | nivo JavaScript                   | 13 KB         |
| COMERCIAL (\\ELIC    | I flowchart   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 29 KB         |
| COMUNORG (\\ELI      | 💿 hmi   | 23/01/2017 1                     | 8:26 Chro        | ome HTML Do                       | 10 KB         |
| tarifas (\ELIONBCN   | 🛞 JsHashMap   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 4 KB          |
|                      | 💿 pg  | 23/01/2017 1                     | 8:26 Chro        | ome HTML Do                       | 11 KB         |
| SOLE (()ELIONBEL     | Stack   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 4 KB          |
| 🕨 Red                | TBEN_modules  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 35 KB         |
|                      | TBEN_S1_modules   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 26 KB         |
|                      | 📓 Tokanizer   | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 19 KB         |
|                      | 🖉 util  | 23/01/2017 1                     | 8:26 Arch        | nivo JavaScript                   | 6 KB          |

## 2. Configurar el Bloque Argee

Buscaremos en el directorio donde tengamos instalada la herramienta de programación Argee y ejecutaremos la utilidad para programar el módulo, PG.

| Program Mode             |  |
|--------------------------|--|
| ARGEE Device IP Address: |  |
| 192.168.1.5              |  |
| Enter Program Mode       |  |
| <br>Simulation Mode      |  |
| Enter Simulation Mode    |  |

Escribiremos la dirección IP asignada al bloque Argee. En este ejemplo la 192.168.1.5.

| Project Title:   | Run   Debug   Open/Save As   New Project   Convert to ARG        |
|--|--|
|  |  |
| Timer 1 Expiration (in milliseconds): 0<br>Timer 2 Expiration (in milliseconds): 0 | Counter 1 - Count From 0 To: 0<br>Counter 2 - Count From 0 To: 0 |
| Slot 0.Module_Diagnostics_Available  | Pass Through     Pass Through     No Action                      |
| Slot 0.Module_Diagnostics_Available  | Pass Through     Pass Through     No Action                      |
| Slot 0.Module_Diagnostics_Available  | Pass Through     Pass Through     No Action                      |
| Slot 0.Module Diagnostics Available  | Pass Through T Pass Through T No Action                          |

## Entraremos en la página principal del módulo y pulsaremos la opción Convert to Argee.

| ( n             |                 |            |           |                 |                   |         | -           |   |
|-----------------|-----------------|------------|-----------|-----------------|-------------------|---------|-------------|---|
| Project Litle:  |                 |            |           |                 |                   |         | Run De      | thug   Print   Edit HMI   View HMI   Project   A                              |
|                 |                 |            |           |                 |                   |         | 1           |   |
| Program Variab  | les             |            |           |                 |                   |         |             | ARGEE Program   |
| Name            | Type            | Actions    |           |                 |                   |         |             | Keyboard shortcuts:   |
| PLC_connected   | Integer         | -          |           |                 |                   |         |             | Press Ctrl-q for list of program variables                                    |
| PROG_cycle_time | Integer         |            |           |                 |                   |         |             | Press Ctrl-f for list of operations   |
| reg1            | Integer •       | Delete     | Add A     | bove Init       |                   |         |             | Press Ctrl-s for list of State Names  |
| reg2            | Integer 🔻       | Delete     | ) Add A   | bove ) Init )   |                   |         |             | These shortcuts are used to write variables and expressions in all the screen |
| tm1             | Timer/Counter 🔻 | Delete     | ) Add A   | bove )          |                   |         |             | In order to configure the IO of the station, follow the Link                  |
| tm2             | Timer/Counter 🔻 | Delete     | ) Add A   | bove )          |                   |         |             |   |
| cnt1            | Timer/Counter 🔻 | Delete     | ) Add A   | bove )          |                   |         |             | Add Condition   |
| cnt2            | Timer/Counter 🔻 | Delete     | ) Add A   | bove )          |                   |         |             |   |
| Add Variable    |                 |            |           |                 |                   |         |             |   |
| DI C.V.         |                 |            |           |                 |                   |         |             |   |
| PLC Variables   |                 |            |           |                 |                   |         |             |   |
| Name            | Direction       | Word index | Bit offse | t Size          | Signed            | Actions |             |   |
| plc_in_reg1     | ARGEE->PLC V    | 0          | 0 .       | Word (16 bit) * | unsigned <b>*</b> | Delete  | Add Above ) |   |
| plc_in_reg2     | ARGEE->PLC ¥    | 1          | 0 •       | Word (16 bit) * | unsigned •        | Delete  | Add Above ) |   |
| plc_out_reg1    | PLC->ARGEE •    | 0          | 0 •       | Word (16 bit) • | unsigned •        | Delete  | Add Above   |   |
| -               | 1               |            |           |                 | -                 | -       |             |   |

Una vez dentro, tendremos el entorno de programación Argee y pulsaremos la opción de Add Variable.

| Project Title:   |                 |         |             |        | Run   Debug   Print   Edit HMI   View HMI   Pr                                      | oject   Al        |
|------------------|-----------------|---------|-------------|--------|---|-------------------|
| Program Variable | s               |         |             |        | ARGEE Program   |                   |
| Name             | Type            | Actions |             |        | Keyboard shortcuts:   |                   |
| PLC_connected    | Integer         |         |             | _      | Press Ctrl-q for list of program variables  |                   |
| PROG_cycle_time  | Integer         |         |             |        | Press Ctrl-1 for list of I/O variables<br>Press Ctrl-f for list of operations       |                   |
| reg1             | Integer 🔹       | Delete  | Add Above ) | Init ) | Press Ctrl-s for list of State Names  |                   |
| reg2             | Integer 🔻       | Delete  | Add Above ) | Init ) | These shortcuts are used to write variables and expressions in                      | in all the screen |
| tm1              | Timer/Counter 🔻 | Delete  | Add Above ) |        | In order to configure the IO of the station, follow the $\underline{\mathrm{Link}}$ |                   |
| tm2              | Timer/Counter • | Delete  | Add Above ) |        |   |                   |
| cnt1             | Timer/Counter • | Delete  | Add Above ) |        | Add Condition   |                   |
| cnt2             | Timer/Counter 🔻 | Delete  | Add Above ) |        |   |                   |
| deplc            | Integer 🔹       | Delete  | Add Above   | Init ) |   |                   |
|                  | Integer 🔹       | Delete  | Add Above ) | Init ) |   |                   |
| Add Veriable     |                 |         |             |        |   |                   |

Generaremos la variable "deplc".

| Project Title:   |                 |         |             |        | Run   Debug   Print   Edit HMI   View HMI   Project   4                     |
|------------------|-----------------|---------|-------------|--------|---|
| Program Variable | :5              |         |             |        | ARGEE Program   |
| Name             | Type            | Actions |             |        | Keyboard shortcuts:   |
| PLC_connected    | Integer         |         |             |        | Press Ctrl-q for list of program variables                                  |
| PROG_cycle_time  | Integer         |         |             |        | Press Ctrl-1 for list of D O variables                                      |
| reg1             | Integer 🔻       | Delete  | Add Above ) | Init ) | Press Ctrl-s for list of State Names  |
| reg2             | Integer 🔹       | Delete  | Add Above ) | Init ) | These shortcuts are used to write variables and expressions in all the scre |
| tm1              | Timer/Counter 🔻 | Delete  | Add Above ) |        | In order to configure the IO of the station, follow the Link                |
| tm2              | Timer/Counter 🔻 | Delete  | Add Above ) |        |   |
| cnt1             | Timer/Counter 🔻 | Delete  | Add Above ) |        | Add Condition   |
| cnt2             | Timer/Counter 🔻 | Delete  | Add Above ) |        |   |
| deplc            | Integer 🔻       | Delete  | Add Above ) | Init ) |   |
| apic             | Integer 🔹       | Delete  | Add Above ) | Init ) |   |
| Add Variable     |                 |         |             |        |   |

Daremos a la opción Add variable y añadiremos la variable "aplc".

En la parte de Argee Program, seleccionaremos la pestaña Add condition, donde podremos programar las condiciones que se han de cumplir para realizar las acciones.

| Project Title:    |                 |         |           |          | Run   Debug   Print   Edit HMI   View HMI   Project   A                      |
|-------------------|-----------------|---------|-----------|----------|--|
| Program Variables |                 |         |           |          | ARGEE Program  |
| ame               | Туре            | Actions |           |          | Keyboard shortcuts:  |
| LC_connected      | Integer         |         |           |          | Press Ctrl-q for list of program variables                                   |
| ROG_cycle_time    | Integer         |         |           |          | Press Ctrl-f for list of operations  |
| eg1               | Integer •       | Delete  | Add Above | ) Init ) | Press Ctrl-s for list of State Names   |
| eg2               | Integer •       | Delete  | Add Above | ) Init ) | These shortcuts are used to write variables and expressions in all the scree |
| m1                | Timer/Counter • | Delete  | Add Above | )        | In order to configure the IO of the station, follow the Link                 |
| m2                | Timer/Counter • | Delete  | Add Above | )        | Condition  |
| ent1              | Timer/Counter • | Delete  | Add Above | )        |  |
| :nt2              | Timer/Counter • | Delete  | Add Above | )        | Q  |
| lepic             | Integer •       | Delete  | Add Above | ) Init ) | Assignment  Add Action   |
| aplc              | Integer •       | Delete  | Add Above | ) Init ) |  |
| Add Variable      |                 |         |           |          | Add Condition  |

Habremos llegado a la pantalla anterior. Las dos variables creadas y el campo creado para escribir las condiciones de ejecución de la sección.

| ARGEE on TBEN-S  | 1-8DX ×  |  |   |   |                   |          |                |   |
|--|--|--|---|---|-------------------|----------|----------------|---|
| ← → C ① file   | :///C:/Users/J.SOLE.ELION  | I/Desktop  | /SW_A   | RGEE_Environmen   | t_v2/2.0.26.0,    | Programm | ning%20Enviror | ment%20v2_0_26_0/Earlier_Environments/2_0_15_30/pg.html#stay  |
| Project Title:   |  |  |   |   |                   |          | Run   D        | ebug   Print   Edit HMI   View HMI   Project   About   Set Title  |
| Program Variable   | es   |  |   |   |                   |          |                | ARGEE Program   |
| Name<br>PLC_consected<br>PLC_consected<br>PLC_consected<br>reg1<br>reg2<br>tm1<br>tm2<br>cm1<br>tm2<br>cm1<br>cm1<br>deptc<br>aptc<br>Add Vanable<br>PLC Variables | Type<br>Integer<br>Integer<br>Integer<br>Timer/Counter<br>Timer/Counter<br>Timer/Counter<br>Integer<br>Integer<br>Integer<br>Integer | Actions Delete Delete Delete Delete Delete Delete Delete Delete Delete | ) Add<br>) Add<br>) Add<br>) Add<br>) Add<br>) Add<br>) Add<br>) Add<br>) Add | Above ) int )<br>Above ) int )<br>Above )<br>Above )<br>Above )<br>Above ) int ]<br>Above ) int ] |                   |          |                | Key board abarces:       Press Chit & foil in of Operations         Press Chit & foil in of Operations       Press Chit & foil in of Operations         Press Chit & foil in of Operations       Press Chit & foil in of Operations         Press Chit & foil in of Operations       Press Chit & foil in of Operations         Press Chit & foil in of Operations       Press Chit & foil in of Operations         In order to configure the IO of the station, foilow the Link       Configure the IO of the station, foilow the Link         Experision:       Expressions:       Expressions:         L       Assignment       Expressions:         L       Assignment       Expressions: |
| Name   | Direction  | Word index   | Bit offs  | et Size   | Signed            | Actions  |                |   |
| plc_in_reg1  | ARGEE->PLC *   | 0  | 0 •   | Word (16 bit) *   | unsigned •        | Delete   | Add Above      | Assignment Add Acadi  |
| plc_in_reg2  | ARGEE->PLC •   | 1  | 0 •   | Word (16 bit) •   | unsigned •        | Delete   | Add Above      |   |
| plc_out_reg1   | PLC->ARGEE •   | 0  | 0 •   | Word (16 bit) •   | unsigned <b>v</b> | Delete   | Add Above )    | Add Condition   |
| plc_out_reg2   | PLC->ARGEE •   | 1  | 0 .   | Word (16 bit) *   | unsigned •        | Delete   | Add Above )    |   |
| Add Variable   |  |  |   |   |                   |          |                |   |

Haremos un dos Clicks sobre Add condition, con el comando Assignment, y nos aparecerán los dos campos, donde podremos rellenar la Expresión y el Destino.

| D               |                 |            |           |                 |            |         |             |   |
|-----------------|-----------------|------------|-----------|-----------------|------------|---------|-------------|---|
| Project little: |                 |            |           |                 |            |         | D. D.       |   |
|                 |                 |            |           |                 |            |         | Kun   D     | Jebug   Print   Edit HAII   View HAII   Project   A                           |
|                 |                 |            |           |                 |            |         |             |   |
| rogram Variable | s               |            |           |                 |            |         |             | ARGEE Program   |
|                 | Terre           | Antinus    |           |                 |            |         |             | Karboard shortcute  |
| C connected     | Integer         | Actions    |           |                 |            |         |             | Press Ctrl-q for list of program variables                                    |
| .OG_cycle_time  | Integer         |            |           |                 |            |         |             | Press Ctrl-i for list of I/O variables  |
| g1              | Integer 🔻       | Delete     | Add A     | bove ) Init )   |            |         |             | Press Ctrl-s for list of State Names  |
| g2              | Integer 🔻       | Delete     | Add A     | bove ) Init )   |            |         |             | These shortcuts are used to write variables and expressions in all the screer |
| a1              | Timer/Counter V | Delete     | Add A     | bove )          |            |         |             | In order to configure the IO of the station, follow the Link                  |
| 12              | Timer/Counter V | Delete     | Add A     | bove )          |            |         |             | Condition   |
| nt1             | Timer/Counter V | Delete     | Add A     | bove )          |            |         |             | true  |
| nt2             | Timer/Counter V | Delete     | Add A     | bove )          |            |         |             | Actions   |
| epic            | Integer •       | Delete     | Add A     | bove Init       |            |         |             | Destination: propo to plo root  |
| plc             | Integer         | Delete     | Add A     | bove Init       |            |         |             | Assignment     Expression: anic   |
| Add Variable    |                 |            |           |                 |            |         |             | 0.  |
| I C Variables   |                 |            |           |                 |            |         |             | 1. Assignment Destination: deplc  |
| LC Variables    |                 |            |           |                 |            |         |             | Expression: plc_to_argee_reg1   |
| me              | Direction       | Word index | Bit offse | Size            | Signed     | Actions |             |   |
| gee_to_plc_reg1 | ARGEE->PLC V    | 0          | 0 •       | Word (16 bit) • | unsigned • | Delete  | Add Above ) | Assignment  Add Action  |
| gee_to_plc_reg2 | ARGEE->PLC •    | 1          | 0 •       | Word (16 bit) • | unsigned 🔻 | Delete  | Add Above   |   |
| c_to_argee_reg1 | PLC->ARGEE ▼    | 0          | 0 •       | Word (16 bit) • | unsigned • | Delete  | Add Above   | Add Condition   |
| c to argee reg2 | PLC->ARGEE *    | 1          | 0 .       | Word (16 bit) * | unsigned * | Delete  | Add Above   |   |

Una vez en la pantalla rellenaremos los siguientes campos:

- Condition = True. Se ejecutará constantemente.
- En la primera acción, asignaremos de la sección Program variables, la variable "aplc" al registro interno del Bloque Argee, en la sección de PLC variables, "Argee\_to\_plc\_reg1.
- En la segunda acción, asignaremos de la sección Program variables, la variable "dplc" al registro interno del Bloque Argee, en la sección de PLC variables, "Plc\_to\_argee\_reg1".
- Con ello ya tendremos acceso en variables de programación los valores contenidos en en variables del PLC, y ejecutaremos esta copia a través del comando True en el campo Conditions.

| ← → C ① file:/// | C:/Users/J.SOLE.ELION/I | Desktop/S     | W_ARG         | EE_Environment_v2 | 2/2.0.26.0/Prog | ramming% | 20Environm | nent%20v2_0_26_0/Earlier_Environments/2_0_15_30/pg.html#stay  |
|------------------|-------------------------|---------------|---------------|-------------------|-----------------|----------|------------|---|
| Project Title:   |                         |               |               |                   |                 | Run      | n   .Debuį | g   <i>Print</i>   Edit HMI   View HMI   Project   Abo  |
| rogram Variable  | s                       |               |               |                   |                 |          |            | ARGEE Program   |
| ame              | Type                    | Actions       |               | 22                |                 |          |            | Keyboard shortcuts:   |
| LC_connected     | Integer                 |               |               |                   |                 |          |            | Press Ctrl-q for list of program variables  |
| COG_cycle_time   | Integer                 |               |               |                   |                 |          |            | Press Ctrl-f for list of operations   |
| ±g1              | Integer •               | Delete        | Add           | Above Init        |                 |          |            | Press Ctrl-s for list of State Names  |
| :g2              | Integer •               | Delete        | Add           | Above Init        |                 |          |            | i nese shortcuts are used to write variables and expressions in all the scree   |
| 11               | Timer/Counter •         | Delete        | ) Add         | Above )           |                 |          |            | In order to configure the IO of the station, follow the Link  |
| 12               | Timer/Counter •         | Delete        | ) Add         | Above )           |                 |          |            | Condition   |
| it1              | Timer/Counter •         | Delete        | ) Add         | Above )           |                 |          |            | true  |
| nt2              | Timer/Counter •         | Delete        | ) Add         | Above )           |                 |          |            | < Actions   |
| epic             | Integer •               | Delete        | ) Add         | Above ) Init )    |                 |          |            | Durthanian arrest to als rest   |
| plc              | Integer •               | Delete        | ) Add         | Above ) Init )    |                 |          |            | Assignment     A |
| Add Variable     |                         |               |               |                   |                 |          |            |   |
| LC Variables     |                         |               |               |                   |                 |          |            | Assignment Destination: deplc<br>Expression: plc_to_argee_reg1  |
| ime              | Direction               | Word<br>index | Bit<br>offset | Size              | Signed          | Actions  |            | Assignment  Add Action  |
| gee_to_plc_reg1  | ARGEE->PLC •            | 0             | 0 •           | Word (16 bit) •   | unsigned •      | Delete   | Add Abov   |   |
| gee_to_plc_reg2  | ARGEE->PLC •            | 1             | 0 .           | Word (16 bit) •   | unsigned •      | Delete   | ) Add Abov | Add Condition   |
| c_to_argee_reg1  | PLC->ARGEE •            | 0             | 0 •           | Word (16 bit) •   | unsigned •      | Delete   | Add Abov   |   |
|                  |                         |               | 0 -           | Mard (10 hit) -   | (unsigned =     | Dulue    | V          | 1   |

Seguidamente, pulsaremos la opción de RUN y pondremos el programa del bloque Argee en funcionamiento.

| Project Title:      |         |            |                        |             | Code loaded into th | Edi | it C | ode   View   | HMI   Modify Variables   Reset |
|---------------------|---------|------------|------------------------|-------------|---------------------|-----|------|--------------|--------------------------------|
| Program Variat      | oles    |            |                        |             | í                   | ARC | GEI  | E Progran    | (                              |
| Name PLC connected  | Value 0 |            |                        |             |                     |     | -0   | ondition     |                                |
| ame PROG cycle time | Value:5 |            |                        |             |                     |     | tr   | 10           |                                |
| ame reg1            | Value:0 |            |                        |             |                     |     | C    |              |                                |
| lame reg2           | Value:0 |            |                        |             |                     |     | CA   | ctions       |                                |
| Name tml            | Done: 0 | Engaged: 0 | Expiration Time: 0 Tin | ner tick: 0 |                     |     | I E  |              | Destination: argee to plc reg1 |
| lame tm2            | Done: 0 | Engaged: 0 | Expiration Time: 0 Tin | mer tick: 0 |                     | 0.  |      | . Assignment | Expression: aplc               |
| ame cnt1            | Done: 0 | Engaged: 0 | Expiration Time: 0 Tin | mer tick: 0 |                     |     |      |              |                                |
| lame cnt2           | Done: 0 | Engaged: 0 | Expiration Time: 0 Tin | mer tick: 0 |                     |     |      |              | Destination: deplc             |
| lame deplc          | Value:0 |            |                        |             |                     |     | 11.  | . Assignment | Expression: plc_to_argee_reg1  |
| Name aplc           | Value:0 |            |                        |             |                     |     | Ľ    |              |                                |
| PLC Variables       |         |            |                        |             |                     |     |      |              |                                |

Si todo está correcto, deberemos visualizar en la zona de Argee program, el campo de Conditions en VERDE, lo cual indica que se está ejecutando la sección programada.

Con este último paso ya tenemos terminada la parte de configuración y programación del Bloque Argee para comunicar con el Maestro Modbus TCP/IP, Beijer PC.

3. Configurar el Beijer PC como Maestro Modbus TCP/IP



Ejecutaremos la aplicación IX Developer y nos aparecerá la pantalla de inicio como la de arriba. Pulsaremos la opción Create New Project.



Seleccionaremos el Hardware PC y pulsaremos Next.

| Choose larget<br>Choose your target in the menu | Choose Controller<br>Choose your preferred controller<br>or OPC server in the menu below | Select Location<br>Select the location of your project<br>in the menu below |
|---|--|---|
| Controllers                                     |  |   |
| Select brand                                    | Select protocol  | Next >  |
| MATSUSHITA                                      | Modbus Master  | < Previous  |
| MELSEC  | indubus slave in sy rer  |   |
| MELSERVO  |  | Finish  |
| MODICON   |  | Cancel  |
| OPC UA Server                                   |  |   |
| URL:  |  |   |
| OPC Classic Server                              |  |   |
| Localhost                                       |  |   |
| Remote Server                                   | Browse   |   |
| OPC Server:                                     | <ul> <li>Refresh</li> </ul>  |   |
|   |  |   |

Aparecerá la selección de controlador y protocolo. Seleccionaremos como controlador Modicon y como protocolo Modbus Master.



Y finalmente, asignaremos un nombre al proyecto y pulsaremos Finish.



Nos aparecerá la pantalla de configuración del terminal, en la pantalla por defecto Screen, y pulsaremos el botón de Tags. En este apartado configuramos las variables de comunicación del bloque Argee con su protocolo de comunicación y dirección IP.

Después asociaremos estas variables de comunicación a las variables de programa DEL Terminal Beijer PC.

| iX Developer 2.20               | - Com_Argee_plc Properties             |               |              |              |               |                       |
|---------------------------------|--|---------------|--------------|--------------|---------------|-----------------------|
| Home Project System Ins         | sert View Dynamics Actions             |               | 10           |              |               |                       |
| Cut Dela                        | ete Screen                             | 7 121 ОК      |              | *            |               | Shape Fill •          |
| Paste Add Parent                | Screen                                 |               | A A          | -            | Arrange Quick | Other                 |
| Format Painter Screen - Default | an real rate Ob                        |               | - B I        | <u>U</u> A - | * Styles      | Colors  Shape Effects |
| Clipboard Scree                 | n Objects                              | 1             |              | ront         |               | Format                |
| ect Explorer + 4 × So           | reen1 × Tags ×                         |               |              |              |               |                       |
| Screens (1)                     | Tage                                   |               |              |              |               |                       |
| 🛇 All Screens                   | Jiays                                  |               |              |              |               |                       |
| Тад                             | s Controllers Triggers Poll Groups Ind | dex Registers |              |              |               |                       |
|                                 | · · · · ·                              | -             |              |              |               |                       |
| Ho                              | ome                                    |               |              |              |               |                       |
|                                 | Column                                 | s Visible     |              | -            |               |                       |
| Screen                          | Add 🔸 Delete 🔹 🖓 Scal                  | ing [         | ✓ Others     |              |               |                       |
| line line                       | Data                                   | Exchange      |              |              |               |                       |
|                                 | 1<br>                                  |               |              |              |               | 1                     |
| T                               | ag                                     |               |              | Controllers  |               | Others                |
|                                 | lame                                   | Data Type     | Access Right | Data Type    | Controller1   | Description           |
|                                 | agı                                    | PERAULT       | Readvyrite   | DEFAULT      | _             |                       |
|                                 |  |               |              |              |               |                       |
|                                 |  |               |              |              |               |                       |
|                                 |  |               |              |              |               |                       |
| o o                             |  |               |              |              |               |                       |
|                                 |  |               |              |              |               |                       |
| Search (XI)                     |  |               |              |              |               |                       |
| ·                               |  |               |              |              |               |                       |

A continuación se nos abrirá la pestaña Tags, y pulsaremos el campo Tag1.



Se abrirá la pestaña para asignar el nombre de la variable seleccionada. En este caso, crearemos la variable "Readargee".

| 🔞 🚽 - 🗠 🕨 🕨 🗎  | iX Developer 2.20 - Com_Argee_p                        | plc Properties   |
|--|--|--|
| Home Project   | System Insert View                                     | Dynamics Actions   |
| Paste Copy<br>Paste Format Painter<br>Clipboard  | Add<br>Screen • Default • Screen                       | ab Cbjects   |
| Project Explorer   | → 및 × Screen1 × Tag                                    | igs ×  |
| Screens (1)  | Tags<br>Tags Controllers<br>Home<br>Add Tag<br>Add Tag | Triggers       Poll Groups       Index Registers         Delete       Columns Visible         Scaling       Others         Data Exchange       Tag |
|  | Name   | Data Type Access Right Data Type Cor   |
|  | > Readargee  | ··· DEFAULT ReadWrite DEFAULT  |
| O Contraction of the second se | - 0  |  |

Pulsaremos la pestaña de Add, Add Tag y se nos añadirá otro campo para configurar otra variable.

| 🗙 🔄 🕤 - 🖓 🕨 🖡 Tix Develop  | er 2.20 - Com_Argee_pi                     | Properties   |  |              |                   |                       |                                  |
|--|--|--|--|--------------|-------------------|-----------------------|----------------------------------|
| Home Project System  | Insert View                                | Dynamics Actions   |  |              |                   |                       |                                  |
| Kott     Lia Copy       Paste     ✓ Format Painter       Clipboard     Clipboard | Parent Screen Parent Screen Default Screen | ab 🔜 🕄 🖓 S   | ў 121 ок<br>— 0— 🕥<br>s                              |              | +<br>⊻ A+<br>Font | Arrange Quic<br>Style | k Other<br>s Colors St<br>Format |
| roject Explorer 🗸 🗘 🗙  | Screen1 × Tags                             | ×  |  |              |                   |                       |                                  |
| Screens (1)     All Screens     Screen1  | Tags<br>Tags Controlers                    | Triggers Poll Groups I<br>Delete V<br>Delete Delete Delete | ndex Registers<br>ns Visible<br>aling<br>ta Exchange | ☑ Others     |                   |                       |                                  |
|  | Tag  |  |  |              | Controllers       |                       | Others                           |
|  | Name                                       |  | Data Type  | Access Right | Data Type         | Controller 1          | Description                      |
|  | Readargee                                  |  | DEFAULT  | ReadWrite    | DEFAULT           |                       |                                  |
|  | ) Writeargee                               |  | DEFAULT  | ReadWrite    | DEFAULT           |                       |                                  |
| Search   |  |  |  |              |                   |                       |                                  |

Siguiendo el método de arriba, en esta página, crearemos la variable "Writeargee".

| 🕱 🚽 🤊 - 🖓 🕨 🖡 IX Developer       | 2.20 - Comargee p                | roperties                  |                          |                               |              |             |
|----------------------------------|----------------------------------|----------------------------|--------------------------|-------------------------------|--------------|-------------|
| Home Project System              | Insert View Dynamics             | Actions                    |                          |                               |              |             |
| Build Rebuild Run Simulate Debug | Download Upload Export B         | ack Up Settings<br>Project | Referenced<br>Assemblies | lame Comarge<br>itle Project2 | •            |             |
| Run                              | Transfer                         | _                          | Project                  | _                             |              |             |
| Project Explorer 🗸 🖣 🗙           | Screen1 × Tags ×                 |                            |                          |                               |              |             |
| Screens (1)     All Screens      | 🔁 Tags                           |                            |                          |                               |              |             |
|                                  | Tags Controllers Triggers Poll G | roups Index Reg            | isters                   |                               |              |             |
|                                  | Home                             |                            |                          |                               |              |             |
| Screen1                          | Add • Delete •                   | Columns Visibl             | e<br>☑ Others<br>nge     |                               |              |             |
|                                  | Tag                              |                            |                          | Controllers                   | -            | Others      |
|                                  | Name                             | Data 1                     | Type Access Right        | Data Type                     | Controller 1 | Description |
|                                  | Readargee                        | DEFAL                      | ILT ReadWrite            | INT 16                        | 416384       |             |
|                                  | > Writeargee                     | ··· DEFAU                  | ILT ReadWrite            | INT 16                        | 417408       |             |
| Contractions (4)                 |                                  |                            |                          |                               |              |             |

En el punto marcado arriba, asociaremos las variables creadas a las variables Modbus que queremos leer y escribir. (Ver apartado 1, Alcance).



El siguiente paso, es pulsar la pestaña Controllers, y aparecerá el controlador y protocolo seleccionado anteriormente. En caso de que queramos modificarlo, podremos hacerlo. Si es correcto, pulsaremos Ok.



Una vez configurado el controlador, pulsaremos la pestaña Settings, y en el campo Communication Mode, seleccionaremos Ethernet TCP/IP. Y pulsaremos la pestaña Stations.



Rellenaremos en la pestaña Station, la dirección IP del dispositivo a comunicar y daremos a aceptar. En este caso, esta es la dirección IP con la que tenemos configurado el Bloque Argee.



Seremos devueltos a esta pantalla, y verificaremos que las comunicaciones están enlazadas con el proyecto del terminal Beijer PC.



A continuación, pulsaremos sobre la pestaña Screen1, y seleccionaremos un Objeto Analógico Numérico.



Una vez arrastrado a la pantalla, en la parte derecha, se nos abrirá una zona de propiedades del objeto (Property Grid), seleccionaremos Tag, y asociaremos la variable "Readargee" al objeto numérico analógico.



Haremos lo mismo para el siguiente objeto, donde asociaremos al mismo la variable "Writeargee".



Deberemos tener la pantalla superior, con los dos objetos configurados.



Seleccionaremos, la opción de Texto, y la colocaremos encima del objeto.

Lo mismo para el otro contiguo.



Identificaremos el objeto de la derecha, como Lectura del Argee y el de la izquierda, como Escritura al Argee.



La pantalla final, debe aparecer como la mostrada en la imagen de arriba.



Pulsaremos la pestaña Project y lanzaremos el comando RUN, que ejecutará la aplicación del terminal Beijer PC, así como las comunicaciones con los dispositivos configurados.

| E Com,Arges.ptc -<br>Controller1: Comm err station 0 | - 🗆 X |   |       |          |     | _ |
|--|-------|---|-------|----------|-----|---|
| Lectura Argee  |       |   |       |          |     |   |
|  |       |   | Escri | tura Arg | jee |   |
|  |       | 7 | 8     | #<br>9   | Esc |   |
|  |       | 4 | 5     | 6        | -   |   |
| Multiple Languages<br>Security                       |       | 1 | 2     | 3        | Del |   |
| Tags   |       | • | 0     | ,        |     |   |
|  |       | - |       |          |     |   |

Al pulsar con el ratón el campo de escritura Argee, nos aparecerá un teclado para escribir un valor e introducirlo. Escribiremos el valor 888.

| Com_Argee_pic -               | - 🗆 × |                 |  |
|-------------------------------|-------|-----------------|--|
|                               |       |                 |  |
|                               |       |                 |  |
|                               |       |                 |  |
|                               |       |                 |  |
| Lectura Argee Escritura Argee |       |                 |  |
|                               |       |                 |  |
| 0 888                         |       |                 |  |
|                               |       |                 |  |
|                               |       | Escritura Argee |  |
|                               |       | Escheric Aigee  |  |
|                               |       |                 |  |
|                               |       | #               |  |
|                               |       |                 |  |
|                               |       |                 |  |
|                               |       |                 |  |
|                               |       |                 |  |
| Samula                        |       |                 |  |
| The second                    |       |                 |  |
| iad?                          |       |                 |  |

Nos aparecerá en el campo, el valor escrito en el módulo Argee.

| Project Title:  | Finish Modifications           Code loaded into the station: Loadable size: 144 bytes (out of 6144 bytes). Total Project size:1505 bytes/out of the station of the stat |
|---|---|
| rogram Variables  | ARGEE Program   |
| me PROG_cycle_time Value:5  | true  |
| me reg1 Value 0   | Actions   |
| me regi Value 0<br>Engaged: O[Expiration Time 0] Timer tick: 0<br>me min Done: 0 Engaged: O[Expiration Time 0] Timer tick: 0<br>me (min Done: 0 Engaged: O[Expiration Time 0] Timer tick: 0<br>me (min Done: 0 Engaged: O[Expiration Time: 0] Timer tick: 0<br>me (appl: Value: 888<br>C Variables<br>me to also rest[11]]  | 0. Annymment Derination: arges_10_plc_reg1 Laperations: splc Laperation: deplc Laperation: deplc Laperation: deplc_stgl Laperation: depl_stgl_stgl_stgl Laperation: depl_stgl_stgl_stgl_stgl_stgl_stgl_stgl_stg   |
| (m, p), p), p)<br>(m, p), |   |

Si visualizamos de nuevo las variables en el módulo Argee, observaremos que la variable "deplc" ha obtenido el valor 888, que hemos introducido desde Beijer.

Pulsaremos la opción Modify variables, y escribiremos 111 en la variable aplc y daremos a Finish modifications.

| Com_Argee_plc -   |                    |  | - | ×   |                 |
|-------------------|--------------------|--|---|-----|-----------------|
|                   |                    |  |   |     |                 |
|                   |                    |  |   |     |                 |
|                   |                    |  |   |     |                 |
|                   | Lectura Argee      | Escritura Argee                                    |   |     |                 |
|                   |                    | 2000   |   |     |                 |
|                   | Running in demo mo | 888<br>ode (Missing Dongle)- time left: 30 minutes | 1 |     |                 |
|                   | <u> </u>           |  |   |     | Constitute Anno |
|                   |                    |  |   |     | Escritura Argee |
|                   |                    |  |   |     | #               |
|                   |                    |  |   |     |                 |
|                   |                    |  |   |     |                 |
|                   |                    |  |   |     |                 |
|                   |                    |  |   | it. |                 |
| Multiple Language | is 🛛               |  |   |     |                 |
| Security          |                    |  |   |     |                 |
| Tags              |                    |  |   |     |                 |
|                   |                    |  |   |     |                 |

En la pantalla de Beijer, podemos visualizar tanto el valor escrito en Bloque Argee, como el leído.



## DELEGACIONES:

Cataluña: Tel. 932 982 000 elion@elion.es

Centro: Tel. 913 835 709 elionmad@elion.es

Sur: Tel. 955 943 441 egiraldez@elion.es

Norte: Tel. 943 217 200 imorales@elion.es

Servicio Asistencia Técnica Farell, 5 0814 Barcelona servicio.tecnico@elion.es



ELION, S.A.

Farell, 5 08014 Barcelona Tel. 932 982 000 Fax 934 311 800 elion@elion.es www.elion.es

