# Guía Rápida ARGEE Quick Start





Configuración Sistema ARGEE

Versión: 1.0

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www.elion.es

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## 1. Alcance

En esta guía se mostrará un ejemplo de cómo crear una configuración ARGEE.

- Como usar el diagrama de flujo de ARGEE.
- Como usar la sintaxis para ARGEE PRO
- Proporcionar código para aplicaciones comunes.
- Definición de todas las etiquetas asociadas a las tarjetas de E/S TURCK.

## 2. Funcionalidades y limitaciones

## a. Funcionalidades:

- Argee en funcionamiento autónomo.
  - Puede ejecutar una lógica propia.
- Argee en funcionamiento Back Up.
  - En caso de perder la comunicación con el PLC principal, ARGEE puede tomar el control y conducir a sus elementos de campo asociados a una situación segura.
- Argee trabajando conjuntamente con el PLC
  - Puede realizar la supervisión de una aplicación y mandar información por comunicaciones al PLC.
  - b. Limitaciones:
- Un bloque programado en ARGEE NO puede controlar a otro bloque.
- ARGEE no es adecuado para aplicaciones de MOTION.

## 3. Como conseguir el entorno de programación ARGEE

- Escribir la siguiente dirección en el explorador WEB.
  - o http://www.turck.de/en/
- Una vez en la página principal, seleccionar la pestaña SUPPORT.



- Aparecerá la siguiente pantalla y se procederá a pulsar la pestaña SOFTWARE..

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- Dentro del área de Software, filtraremos por nombre.



- Una vez seleccionado el filtro, buscaremos el software por su nombre, ARGEE.



- Una vez seleccionado ARGEE, pasamos a pulsar DOWNLOAD. .



- A continuación , seleccionamos Programming Software.



- A continuación, marcamos con el puntero el tamaño del fichero..



- A continuación pulsaremos el botón Abrir..

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- Al ser un fichero comprimido, deberemos marcar la opción Extraer.

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- En nuestro caso, seleccionamos Escritorio y aceptamos..

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- Con ello, habremos instalado el software de programación Argee en el escritorio..



- Haciendo doble Click, aparecerá el contenido del directorio, y haremos doble Click sobre el icono PG.

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- A continuación, procederemos a rellenar la dirección IP del módulo programable.

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- Nos aparecerá la siguiente página donde veremos el Menú de RUN, DEBUG, OPEN / SAVE AS, NEW PROJECT, CONVERT TO ARGEE, ABOUT y SET TITLE.
- Si apuntamos al desplegable marcado, nos aparecerán las opciones disponibles como variables de entrada.

roject Talle.		Run Debug	Open/Sa	e As   Non	w Project	Convert to	ARGEE I	PRO   Abou	at   Set Title		BL	CEN-8M11	LT-4IOL-	IOL (1	92.168.1
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- Seleccionaremos la variable, en el bloque de condiciones de entrada, que nos interese para empezar a confeccionar nuestra programación.

ner 1 Expiration (in milliseconds): 0	Counter	1 - Count	From 0 To: 0			
ner 2 Expiration (in milliseconds): 0	Counter	2 - Count	From 0 To: 0			
Slot 0.Module_Diagnostics_Available	-Pass Throug	h •)	Pass Through	•)-	No Action	•
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slot 1.Input_value_valid_2 slot 1.Input_value_valid_3 Slot 1 XSG_input_4						

- A continuación, podemos seleccionar funciones lógicas a realizar con la variable previamente seleccionada o dejar paso a la siguiente selección

Project Title:	Run   Debug   Open/Save As
Timer 1 Expiration (in milliseconds): 0	Counter 1 - Count From 0 To: 0
Timer 2 Expiration (in milliseconds): 0	Counter 2 - Count From 0 To: 0
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Disponemos de más funcionas lógicas para añadirlas a la anterior si nos interesa.

Project Title:		Run Debug Open/Save
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imer 2 Expiration (in milliseconds): 0	Counter 2 - Count From 0 To: 0	
Slot 0.Module_Diagnostics_Available	Pass Through  Pass Through Pass Through AND OR NOT	No Action
Slot 0.Module_Diagnostics_Available	Pass Through   Pass Through	No Action
Slot 0.Module Diagnostics Available	Pass Through   Pass Through	No Action

 Por último, asignamos al resultado de la lógica anterior a la variable que nos interese del menú desplegable, en el bloque de asignaciones. A continuación, pulsaremos la pestaña de RUN y tendremos visualización sobre la resolución de la lógica. El paso de la señal y la activación de la salida si procede, se representará en verde.

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Project Title:				Run Debug On	n/S
Timer 1 Expiration (in milliseconds): 0		Counter 1 - Cour	nt From 0 To: 0		
Timer 2 Expiration (in milliseconds): 0		Counter 2 - Cour	tt From 0 To: 0		
Slot 0.Module_Diagnostics_Available	•)(Pas	ss Through 🔹 -	Pass Through	No Action	•
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- En este ejemplo, al activar un sensor asociado a una entrada digital, siguiendo la lógica programada, podemos ver el resultado en la salida.

Project Title:			
		Code loaded into	the station: Loadable size: 1.
mer 1 Expiration (in milliseconds): 0	Counter 1 - Count From 0 To: 0		
mer 2 Expiration (in milliseconds): 0	Counter 2 - Count From 0 To: 0		
Slot 1 Digital input 0	Pass Through	Slot 1 XSG_outpu	<u>4 7</u>
NGW//////CO2000-///CO2-1		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     Pass Through	No Action	•

- Si en la pantalla anterior, pulsamos el botón Edit, nos devolverá de nuevo a la pantalla de edición de programa. Si necesitamos de más funcionalidades o comunicaciones con el módulo, para nuestra aplicación, desde este punto, podemos acceder a ArgePro.

Designet Tetlay		· · · · · · · · · · · · · · · ·				- <u>j</u>		
Project Thie.						Run Del	oug   Open/Save	As
imer 1 Expiration (in milliseconds): 0		Cour	iter 1 - Cou	int From 0 To: 0				
imer 2 Expiration (in milliseconds): 0		Cour	iter 2 - Cou	mt From 0 To: 0				
		Dave There		Deve Thread		Slot 1 DXP_1	_DXP_Output_value	•
Slot 1.IOL_0_DI_Input		Pass Inroug	in .	Pass Inrough		No Action		•
Slot 0.Module_Diagnostics_Available	•)	Pass Throug	gh 💌	Pass Through	•	No Action		۲
Slot 0.Module_Diagnostics_Available	•	-Pass Throug	gh 🔹	Pass Through	•)	No Action		•
Slot 0 Module Diagnostics Available	•	- Pass Throug	h .	-Pass Through	-	No Action		•

ArgeePro es una herramienta que dispone de funciones más potentes y compatible con los programas confeccionados con Argee. En este punto, si decidimos convertir el programa realizado con Argee a ArgeePro, ya no será posible volver a recuperar la estructura de programación original realizada en Argee.

Desde la pantalla anterior, pulsaremos el botón de Convert to Argee Pro. En este punto, si tuviéramos lógica programada, sería convertida automáticamente, como en el ejemplo siguiente. Se generaría una sección donde habría la parte de Condiciones y la parte de asignación a Acciones.

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Project Title:								BLCEN-3	MI2LT-4IOL-8XSG-P (	Simulation)
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reg2	Integer •	Delete	Add Above	) int )				These shortcuts are used to write variables and expressions is all the screens		
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# 4. ARGEE PRO.

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Add Variable )	
itate Names	
Name Actions	
Delete Add Above )	
Add State	

En Argee Pro, disponemos de las siguientes áreas, marcadas en rojo:

- Area de Variables de programa:
  - Es donde podemos visualizar, dar Tipo, Borrar, Añadir o Inicializar las variables que vienen por defecto y las que queramos crear.
- PLC Variables:
  - En esa zona se crean las variables de comunicación con dispositivos externos.
- State Names:
  - Son Variables de Estado las que nos ayudan a identificar cual es el estado en el programa de usuario. Se usa para identificar un paso de programa en un momento específico.
- Argee Program:
  - Área donde por los acceso directos, accedemos al listado de los diferentes tipos de variables y a los comandos de operaciones.
- Link:
  - Al pulsar sobre Link, tenemos acceso al WebServer del módulo. Donde podemos ver estados y configurar los parámetros del dispositivo.
- Add Condition:
  - Al pulsar ADD Condition, se creará una condición en blanco en proyecto de Argee. Este entorno, ejecuta como modo IF / THEN. Argee ejecuta Condiciones (IF) y realiza las Acciones (THEN).

A continuación, un ejemplo de como acceder a las variables de programa, ejecutando la acción CTRL Q.

Run   Del	rbug   Print   Edit HMI   View HMI   Project   About   Set Title
Trisone Delete Add Above int Delete Add Above int Delete Add Above int Delete Add Above Delete Add Above	ARGEE Program Krybard shortness Pres Cell & for its of Oprogram suitable Pres Cell & for its of Oprogram suitable Pres Cell & for its of Oprogram suitable Pres Cell & for its of Oprogram suitables and expressions in all the stress. Is order to configure the IO of the station, follow the Link:  Cendition C

A continuación, un ejemplo de como acceder a las variables de E/S, ejecutando la acción CTRL I.

Run   Del	oug   Print   Edit HMI   View HMI   Project   About	Set Title
	ARGEE Program	
d Above Int 21 Above Int 23 Above Int	Keyboard ohorecut: Press Chi, for list of program variables Press Chi, for list of Ovantables Press Chi, for list of operations Press Chi, for list of State Name These shortcuts are used to write variables and expressions in all the screens In order to configure the IO of the station, follow the Link	Acceso Directo: PRESS CTRL-I FOR LIST OF I/O VARIABLES
tid Above di Above di Above di Above di Above di Above tid Above v Word (16 bit) v unsigned v Delete Add Above v Word (16 bit) v unsigned v Delete Add Above v Word (16 bit) v unsigned v Delete Add Above v Word (16 bit) v unsigned v Delete Add Above	Cadasa Codasa	Sigital input 1 10.Slot1.Input.Digital input 2



A continuación, un ejemplo de como acceder a los comandos de programa, ejecutando la acción CTRL F.

Run De	bug   Print   Edit HMI   View HMI   Project   Abou	t   Set Title
Image: Size       Signed       Actons         St Above       Above       Above         St Above       Signed       Actons         St Above       Mord (16 bit) * unsigned *       Delete       Add Above         *       Word (16 bit) * unsigned *       Delete       Add Above         *       Word (16 bit) * unsigned *       Delete       Add Above         *       Word (16 bit) * unsigned *       Delete       Add Above	ARGEE Program Press Cutle for list of program varables Press Cutle for list of openized Press Cutle for l	Acceso Directo: PRESS CTRL-F FOR LIST OF OPERATION

Ejemplo de confección de una sección de programa. En una condición True, asignamos una acción.

Run   Do	ebug   Print   Edit HMI   View HMI   Project   About   Set Title
	ARGEE Program
Actions	Keyboard abortcum: Press Chris (ar bin for frogram, variables Press Chris (for hin of 110 variables Press Chris (for hin of 100 variables
Delete Add Above Init     Delete Add Above Init	Press Cirl-s for list of State Names These shortcuts are used to write variables and expressions in all the screens
Delete Add Above     Add Above	In order to configure the IO of the station, follow the Link: Condition
Delete     Add Above       Delete     Add Above	
Delete Add Above Init	Assignment V Add Action Assignment Timer start
	Coll Timer On Timer Off Trace
Word index Bit offset Size Signed Actions	Count Up Count Down
1 0 ▼ Word (16 bit) ▼ Unsigned ▼ Delete ) Add Above	Reset Counter
Image: Organization         Image: Organization	



Ejemplo de las condiciones que son la puerta AND de dos variables OR de otra variable.

Cuando cualquiera de esta condiciones del puerta OR son True, aisgnamos un "1" a Output\_4, asignamos un "5" a Reg1 y un "1" a Output\_5 y Output\_6.

Run   Debug   Print   Edit HMI   View HMI   Project   About   Set Title							
d Above int d d Above int d d Above d d Above d d Above d d Above d	ARGEE Program         Keyband abortcat:         Press CUt-for list of program variables         Press CUt-for list of Suba Name         Press CUt-for list of Suba Name         There abortcat are used to write variables and expressions in all the screens:         In order to configure the IO of the station, follow the Link:         Condition:         ID. Slot1.Input.Digital_input_0 & IO.Slot1.Input.Digital_input_1         Action:         © Cell       Cell: [O.Slot1.Output XSG_output_4         Destination: reg1						
Bief Size         Signed         Actions           •         Word (16 bit) •         unsigned •         Delete         Add Above           •         Word (16 bit) •         unsigned •         Delete         Add Above           •         Word (16 bit) •         unsigned •         Delete         Add Above           •         Word (16 bit) •         unsigned •         Delete         Add Above           •         Word (16 bit) •         unsigned •         Delete         Add Above	1       Anument       Expression: 5         2       Coll       Cell:  O Slot1 Output XSG_output_5         2       Coll       Cell:  O Slot1 Output XSG_output_6         Assignment       Add Action						

En la siguiente pantalla, hay un ejemplo sencillo de asignación de una valor a una variable, y de la activación de una señal.

Add Above inti         Viror (16 biti) unsigned * Delete Add Above inti	Run	<i>Print</i> Edit HMI       View HMI       Project       About       Set Title         Compilation Status: Error in Condition () Action ]. Details: no such variable: m1.0         ARGEE Program
Add Above         Int         Add Above         Add Above         Int         Coll	Add Above ) Init ) Add Above ) Init ) Add Above )	Keyboard shortcuts: Press Ctrl- for list of program variables Press Ctrl- for list of JLO variables Press Ctrl- for list of State Names Press Ctrl- for list of State Names These shortcuts are used to write variables and expressions in all the screens In order to configure the IO of the station, follow the <u>Link</u>
it offiel Size Signed Actions 0 Y Word (16 bit) Y unsigned Y Delete Add Above 0 Y Word (16 bit) Y unsigned Y Delete Add Above 0 Y Word (16 bit) Y unsigned Y Delete Add Above 0 Y Word (16 bit) Y unsigned Y Delete Add Above 0 Y Word (16 bit) Y unsigned Y Delete Add Above	Add Above ) Add Above ) Add Above ) Add Above ) Add Above ) Add Above ) Add Above ) Init ) Add Above ) Init )	Q         Assignment         Destination: [reg1           Q         Assignment         Expression: 500           1         Coil         Coil: [m1]
Add Condition       V       Word (16 bit) *       unsigned *       Delete       Add Above       V       Word (16 bit) *       unsigned *       Delete       Add Above       V       Word (16 bit) *       unsigned *       Delete       Add Above       V       Word (16 bit) *       unsigned *       Delete       Add Above	StiroffielSing Dimad Actions	Assignment • Add Action
	at curret suze     suze     Actions       0     Word (16 bit)     unsigned     Delete     Add Above       0     Word (16 bit)     unsigned     Delete     Add Above	Add Condition

Al pulsar RUN, como vemos en la página anterior, obtenemos la pantalla siguiente, la ventana en verde significa que las condiciones son Verdaderas y nos muestra el resultado en las acciones.

Podemos ver el valor de las variables en las áreas de visualización al lado izquierdo de la pantalla de programa Argee.

Project Title:					Code loade	d into the station	lit C Loai	C <b>ode   View</b> dable size: 144 by	HMI Modify Variables Reset
Program Variable	25					AR	GE	E Program	
Nume PLC_connected Nume PROG_cycle_time Nume reg1 Nume reg2 Nume nn1 Nume nn2 Nume nn1 Nume nn1 Nume nn1 Nume nn1 Nume nn1 Nume nn1 Nume nn1 PLC Variables arges_to_plc_reg10 plc_to_urges_reg10 plc_to_urges_reg10 plc_to_urges_reg10 plc_to_urges_reg10	Value 0 Value 0 Value 300 Value 0 Done: 0 Done: 0 Done: 0 Done: 0 Zvalue 0 Value 0 Value 1	Engaged: 0 Engaged: 0 Engaged: 0	Expiration Time Expiration Time ( Expiration Time ( Expiration Time (	Timer tick: 0 Timer tick: 0 Timer tick: 0		0.		Condition	Destination: reg1 Expression: 500 Coll: m1
Local IO									

Si pulsamos la opción de modificar variables, veremos la siguiente página.

En ella nos aparecerá la opción de poder modificar las variables que estén habilitadas.

La opción de Reset, solamente pone a Cero, el valor acumulado, en contadores y temporizadores.

Project Title:	Code loaded into the station: Loadable size: 144 bytes (out of	ndifications 6144 bytes). Total Project size:1517 bytes(out of 262144 byte
Program Variables           Name PLC_connected         Value 0           Name PROG_cycle_time         Value 0           Name reg1         Value 500           Name reg2         Value 0           Name reg1         Value 500           Name reg2         Value 0           Name reg1         Done 0           Name reg1         Done 0           Name cm1         Done 0           Name faculo_Actual Eje_X Value 0         Name faculo_Actual Eje_Y Value 0           Name m1         Value 1           PLC Variables         Images_to_plc.reg1 0           plc.to_mzges_reg2 0         plc.to_mzges_reg2 0	ARGEE Program	tion: regi iio: 500 ii

Al pulsar Finish Modifications, finalizaremos con la opción de modificar variables.

- 5. Ejemplos de Interpretación de datos de proceso de diferentes dispositivos:
  - Gamiser Sections Vertices Vertices Vertices Nueve Organizar Divisir ventiana laste Q La DO Vertical Side + × Navegación ø o de su Sensor Linear de Posición Inductivo manera de teber dónte se Como Interpretar el dato de posición comicinas, voyo a la postaña inicio y velestilos detitulo a los títulos de su del sensor: -Posicion [mm]=valor de proceso X Gradiente / 100000 1. Gradiente en 16-bit modo Longitud 1526 100 mm 200 mm 3052 4578 300 mm O Fa 🖽 🤮 🛤 🏄 📴 🥰 🧔 🕅 ^ \$ € € €8 24/07/2017 □
- a. Sensor Lineal de posición Inductivo

En la pantalla siguiente, podemos ver la ejecución de la fórmula que nos da el valor de Posición [mm]

Project Title:				Edi	lit Code   View HMI   Modify Variables   Reset
Program Variak	oles	_	^	AR	IGEE Program
Name PROG cycle time	e Value:0				tme
Name reg1	Value:0				
Name reg2	Value:0				Actions
Name tm1	Done: 0	Engaged: 0 Expiration Time: 0 Timer tick: 0		0.	Destination: position mm
Name tm2	Done: 0	Engaged: 0 Expiration Time: 0 Timer tick: 0			0. Assignment Expression: IO Slot1 Input Input data word 0*4578/1000000
Name cnt1	Done: 0	Engaged: 0 Expiration Time: 0 Timer tick: 0			Laprenten recent inpartique and recent recent
Name cnt2	Done: 0	Engaged: 0 Expiration Time: 0 Timer tick: 0			
Name position_mm	Value:0				_
PLC Variables					
argee_to_plc_reg1 0 argee_to_plc_reg2 0 plc_to_argee_reg1 0 plc_to_argee_reg2 0					
Local IO					

## b. Sensor Ultrasonidos



En la pantalla siguiente, podemos ver la ejecución de la fórmula que nos da el valor de Distancia al objetivo [mm].

Project Title:							Run   D	ebug   Print   Edit HMI   View HMI   Project   About   Set Title		
Program Variables								ARGEE Program		
Name PLC connected PLC connected PLC transformer reg1 tm1 tm2 cnt1 DistanciaObjetivo Add Vanable PLC Variables	Type Integer Integer Integer Timer/Counter Timer/Counter Timer/Counter Timer/Counter Integer V	Actions Delete Delete Delete Delete Delete Delete Delete Delete Delete	Add A Add A Add A Add A Add A Add A Add A	bove ) [Init] bove ) [Init] bove ) bove ) bove ) bove ) bove ) [Init]				Reformation contents: Press Coli, dar bin of CO variables Press Coli, dar bin of CO variables Press Coli, dar bin of CO variables Press Coli, dar bin of CO variables There shortcuts are used to write variables and expressions in all the screens In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station, follow the Link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In order to configure the IO of the station of the link In		
Name	Direction	Word index Bit offset Size			Signed	Actions		Assignment • Add Action		
argee_to_plc_reg1	ARGEE->PLC •	0	0 •	Word (16 bit) *	unsigned •	Delete	) Add Above )	Add Condition		
argee_to_plc_reg2	ARGEE->PLC •	1	0 •	Word (16 bit) •	unsigned •	Delete	Add Above )	Hou Condition		
plc_to_argee_reg1	PLC->ARGEE •	0	0 •	Word (16 bit) •	unsigned •	Delete	Add Above )			

### c. Sensor Lineal de temperatura



En la pantalla siguiente, podemos ver la ejecución de la fórmula que nos da el valor de Temperatura °C.

Project Title:		
	Edit Code         View HMI         Modify         Variables         Reset           Code loaded into:         Loadable size:         164 bytes (out of 5144 bytes).         Total Project size:         1509 bytes(out of 2521	144 bytes).
Program Variables	ARGEE Program	
Name PEC_connerted         Value 0           Name PEOG_cycle time (value 0         Name reg1           Name reg2         Value 0           Name reg2         Value 0           Name reg2         Value 0           Name reg1         Date 0           Engaged: 0 Expiration Time 0 Timer tok: 0           Name cml         Date 0           Date: 0         Engaged: 0 Expiration Time: 0 Timer tok: 0           Name (rml         Date: 0           Name (rml, C, Value: 100)         Engaged: 0 Expiration Time: 0 Timer tok: 0           Name (rml, parser, reg10)         Engaged: 0 Expiration Time: 0 Timer tok: 0           Imperture_to_name, reg10         Engaged: 0 Expiration Time: 0 Timer tok: 0           Local IO         Engaged: 0 Expiration	0. Continue true Actions 0. Assignment Derination: Temperatura_C Expression: ((()O.Stot) Input _intintintintintintintin	8415 5120):50)
	ELION, S.A.U S.A.T.	Páginas 16 de 18

## d. Sensor de inclinación



En la pantalla siguiente, podemos ver la ejecución de la fórmula que nos da el valor del sensor de inclinación, Eje X y Eje Y.

Project Title:			Edit Code   View HMI   Modify Variables   Reset
Program Variable	25 Value:0 Value:0		Code loaded into the station: Loadable size: 160 bytes (out of 6144 bytes). Total Project size: 1621 bytes(out of 362144 bytes).  ARGEE Program  Condition true
Name reg1 Name reg2 Name tm1 Name cm1 Name cm1 Name Angulo Actual Eje Name Angulo Actual Eje PLC Variables arges to plo reg1() arges to plo reg1() plo to arges reg1() plo to arges reg1() plo to arges reg1() plo to arges reg1()	Value:0 Value:0 Done: 0 Done: 0 Done: 0 Done: 0 Done: 0 X Value:0 Y Value:0	Engaged: 0 Expiration Time: 0/Timer ticl: 0 Engaged: 0 Expiration Time: 0/Timer ticl: 0 Engaged: 0 Expiration Time: 0/Timer ticl: 0 Engaged: 0 Expiration Time: 0/Timer ticl: 0	Acticut         Destination: Angulo_Actual_Eje_X           0.         Anigument         Expression: 10 Slot1 Input Input_data_word_0100           1.         Anigument         Destination: Angulo_Actual_Eje_Y           Expression: 10 Slot1 Input Input_data_word_0100         Destination: Angulo_Actual_Eje_Y



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