

Manual

Dashboards functionalities

Industrial IoT solution for industrial machines





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1. Introduction

This manual is complementary to the Innobox Operation and Configuration Manual. With the device configured and connected to the PLC, it will start to record timers, general operation calculations, alarms, etc. that can be consulted through the different panels implemented.

2. Access to the application

To access the data monitoring it is only necessary to go to any browser, on a computer configured on the same network as the device, and enter the IP previously configured when starting the device. By default, the URL would be the following:

http://10.10.10.20/innobox

The initial view is the current Production Analytics view, accessible without the need to log in:



At the top left, next to the previously loaded logo, we will find the icon that will open the drop-down navigation menu. The accessible views will change depending on the user's access level, with initial access to the 4 most useful views for the operator. At the top right, below the date, we will find the button to log in:



	Current Production	RUNNING 00:04:	04	STORAGE	CONNECTION	ELEMENTS	5/5/2023 14:49:50
Analytical Current Production							윈 год и
✓ Production Predictive		Name: ampolla_25cl		Starting date:	2023-05-05 06:00:00		
Q Datalogger Captures		From recipe start					
👚 Alarm Log	99.86%	Efficiency	99.78%				
Settings	58.33%	Availability	52.97%	100	OEE Màquina 🚺 OEE	Global	
Iniciar Sesión	100.00%	Quality	80.00%	75			
	100.00%	county .	50.0070	60			
	Current Production	RUNNING 00:04:	04	STORAGE	CONNECTION	ELEMENTS	5/5/2023 13:39:09
Analytical Current Production						📫 inr	nobox 🕞
Analytics Production Recipe		Name: ampolla_25cl		Starting date:	2023-05-05 06:00:00		
30 Shift Analytics		From recipe start					
Production Predictive	99.86%	Efficiency	99.78%				
Analytics Failures By Recipe	59 22%	Availability	52 07%	100	OEE Màquina 🚺 OEE	Global	
Preventive Maintenance	50.55%	Availability	52.5770	75			
+ Datalogger	100.00%	Quality	80.00%	50			
Q Datalogger Captures	59.99%	OEE Machine	45.68%	25			
🏠 Alarm Log	59.99%	OEE Global	45.68%	10	n	12	13
Settings	ates	Processed units		Quality control			
Temporary Users		Processed units		II-fitting cap			12

Likewise, common to all the screens, we will have the header with quick information about the machine, such as the current status and the continuous time in this status, the availability of the device's memory, the status of the connection with the PLC and if there is any maintenance task to be carried out. The latter will be explained in detail in its own section, but all the indicators follow the premise of green -> good, red -> bad.

We will now go on to explain in detail each of the screens available on the device.



3. Production data exploitation dashboards

3.1. Analytical Current Production



In the default screen of the device we find the monitoring of the current production. Here we can find the following information:

- a. Start date, name and code of the current recipe.
- b. Summary of OEE metrics for the last minute, the OEE generated since the start of the recipe and a progression of this over the hours.

NOTE: If additional information on the calculation or meaning of OEE is needed, it can be found in the introduction of the operating manual of the device.

- c. Piechart with the time of each machine state.
- d. Doughnut charts with the comparison between good and rejected products, as well as the status of the additional counters.
- e. Horizontal bar chart with the detected machine alarms.



3.2. Analytics Production Recipe

Rec						Start date		• 01/84/	2023			
						End date		04/05/	2023			,
D -	Recipe -	Name -	OEE Machine	· OEE Global	- Start -	End	Running (s)	- Fault (s) -	Setup (s)	 Pause (s) 	Faults	Proce
137	250	ampolles_50cl	105.11	105.11	2023/04/28. 17:10:22	2023/05/01, 12:47:21	4523.6069	0	60.021	50.015	0	138
136	420	llaunes_50cl	35.89	35.89	2023/04/28, 14:10:22	2023/04/28, 17:10:22	6781.8271	3898.385	120.03	0	17	323
2135	128	llaunes_33cl	58.06	50	2023/04/28, 11:10:22	2023/04/28, 14:10:22	8959.8818	0	240.067	100.024	0	1500
134	360	ampolles_100cl	25.66	25.66	2023/04/28, 08:10:21	2023/04/28, 11:10:22	6560.9419	999.975	240.063	2999.8979	8	385
133	250	ampolles_50cl	91,47	90.2	2023/04/28, 05:10:22	2023/04/28.08:10:21	10499.2109	40.022	60.073	50.025	1	276
132	420	Ilaunes_50cl	35.89	35.89	2023/04/28.02:10:22	2023/04/28, 05:10:22	6778.3188	3901.7859	120.032	0	17	323
151	128	llaunes_33cl	58.00	50	2023/04/27, 23:10:22	2023/04/28, 02:10:22	8900.5552	0	240.067	100.032	0	150
120	250	ampolles_1000	44.07 01.47	44.07	2023/04/27 17:10:22	2023/04/27, 23:10:22	10500.249	40.004	60.012	40 127	1	276
128	420	llaunes_50cl	35.89	35.89	2023/04/27. 14:10:22	2023/04/27, 17:10:22	6780.1929	3899.8501	120.063	0	17	323
Reg	istered	recipes table				ci - 2022	10.1.10.1.00.0			10000		
Sele	ected re	cipe				Start: 2023,	/04/01 00:0	0:00	End: 2	2023/05/04 0	00:00:00	
Nan	ne:		1	D:				Elaps	ed Time:			
1/4/	2023											
1/4/ Stati Proc Fai Fai Sei Sei	(2023 e: duction : duction : duction : seed up rysed	states	start:	o sha vita	End:	OEE Accur	Ela Ela Mulated OEE Machin 57.09%	psed time: e unters	7 1755 18	0EE GI 54.7	2744 22 lobal 9%	46
1/4/ Stati Proc Fai Sei Stati Fai Sei Stati Sei Stati No No	2023 e: duction : uit used tup rysed ckad production connection	auge of	Start:	odia olia o	End:	OEE Accur	Ela mulated OEE Machin 57.09% duction cou	psed time: ne unters J.Rejected	7 17:55 18:5 U	ы 1951 2850 ОЕЕ GI 54.7 I.total	2148 22 lobal 9% Qu	46 ality
1/4/ Stat Proc Fai Sei Stat Sei Sia Bio No	2023 e: duction used up vised cked production connection	states	Start:	octo osta o	End:	OEE Accur Units prod U.Process 14849	Ela mulated OEE Machin 57.09% duction cou	psed time: ne unters J.Rejected 35715	7 17.55 14.5 U 18	OEE G 54.7 .total 4205	2140 22 lobal 9% Qua 80.4	46 ality 61%
1/4/ Stat Proc Ru Fai Bic No No	2023 e: duction : ut used up inved colad production connection	states	Start:	sela sita o	20d : 12h : 13m : 55	OEE Accur Units prod U.Process 14849 95 Quality co	Ela mulated OEE Machin 57.09% duction cou sed t 0 0	psed time: ne J.Rejected 35715	7 17.55 143 U 18	OEE G 54.7 .total 4205	2149 22 lobal 9% Qu. 80.4	46 ality 61%
1/4/ Stat Proc Ru Fai Stu Bio No Runr Fault	2023 e: duction ut used up ived cked production connection	states	Start:	outre othe o	20d:12h:13m:55 3d:11:58m:2	OEE Accur Units prod U.Process 14849 95 Quality co 25 III-fitting ca	Itela 1492 1 Ela mulated OEE Machin 57.09% Juction cou sed 1 0 ontrol	psed time: ne unters J.Rejected 35715	7 1735 183 U Deform	OEE GI 54.7	2049 22 lobal 9% Qu. 80.4	46 ality 61%
1/4/ Stat Proc Run Fai No Runr Fault Paus	(2023 e: duction : alt up rived coled production connection	states	Start:		20d : 12h : 13m : 59 3d : 1h : 58m : 2 1d : 23h : 15m : 53	OEE Accur Units prod U.Process 14849 OES Quality co 2s III-fitting ca 3s Bad label	International Additional Control Additional Additional Control Additional Additiona Additional Additional Additiona Addit	psed time: Inters J.Rejected 35715 7269 4958 7500	7 1735 143 UU 18 Deform Wrong	CEE GI 54.7 Litotal 4205 mation g product	2149 22 lobal 9% 80.0	46 ality 61% 1132 369
1/4/ Stat Proc Fau Fa Set Setup Starv Starv	(2023 e: duction : ut used ched production connection hing ed p	states	25 0221 0121 Start:		20d : 12h : 13m : 59 3d : 1h : 58m : 2 1d : 23h : 15m : 53 10h : 1m : 29 1h : 29m : 53	OEE Accur Units prod U.Process 14849 05 Quality co 25 III-fitting ca 36 Bad label 05 Packaging of 75	1104 1402 1 Ela mulated OEE Machin 57.09% Juction cou ied l 0 ontrol p defect	psed time: psed time: unters J.Rejected 35715 7269 4958 7500	U U U Deform Wrong Wrong	CEE GI 54.7 Itotal itazo5 mation g product g Code	2149 225 lobal 9% Qu. 80.4	44 ality 61% 369 96
1/4/ Stat Proc Fai Fai Set No No Runr Fault Paus Setui Starv Block	(2023 e: duction : used used connection ning ed p ed ed ced	states	25 0221 0121 Start:		20d : 12h : 13m : 59 3d : 1h : 58m : 2 1d : 23h : 15m : 53 10h : 1m : 29 1h : 29m : 53 23h : 14m : 57	OEE Accur Units prod U.Process 14849 OES Quality co 25 III-fitting ca 36 Bad label OS Packaging of 75	International Action Control C	psed time: e Unters J.Rejected 35715 7269 4958 7500	U U U Deforr Wrong Wrong	CEE GI 54.7 Litotal 4205 mation g product g Code	2149 225 lobal 9% Qu. 80.4	ality 61% 369 96
1/4/ Stat Proc Run Fai Set Stat No Runr Fault Paus Setul Starv Block	(2023 e: duction : used bup production connection hing ed p ed red red red	states	23 0223 0221 Start:		20d : 12h : 13m : 59 3d : 1h : 58m : 2 1d : 23h : 15m : 53 10h : 1m : 29 1h : 29m : 57 23h : 14m : 57	OEE Accur Units prod U.Process 14849 OS Quality co 25 III-fitting ca 36 Bad label OS Packaging of 75	Ela mulated OEE Machin 57.09% duction cou sed (0 ontrol p defect	psed time: unters J.Rejected 35715 7269 4958 7500	U Deform Wrong Wrong	CEE GI 54.7 Litotal 4205 mation g product g Code	2149 225 lobal 9% Qu. 80.4	ality 61% 369 96

The following screen is designed especially for production managers, where we can consult the data of the finished productions. It has a filter by dates and by recipes, to choose the productions we want to see in the central table. When a specific production is not selected, the information in the widgets below will be the sum of all the productions in the table.



Below the table we find the start and end dates of the recipe, its name and the ID of the record to be able to locate it. In addition, we have a timeline where we can see the different status changes during the production, being able to see the exact time of the change.

The rest of the information would be the same as we have been able to see in the current production screen: machine status pie chart, final OEEs, total production and its quality and the values of the additional counters.

3.3. Analytics Failures By Recipe

	ipes						Start da	te	01/	04/2023			
_							End date	2	ē 04/	05/2023			- •
ID -	Recipe 🖷	Name -	Start 🔺	Enabled time 🔶	MTTR -	MTBF -	MTFF -	Running (s) 🔺	Setup (s) 🖷	Pause (s) 🔺	Fault (s) 🗠	Starved (s) -	Blocke
2137	250	ampolles_50cl	2023/04/28, 17:10:22	2 days.19:36:58	0	0	0	4523.6069	60.021	50.015	0	0	0
2136	420	llaunes_50cl	2023/04/28, 14:10:22	0 days,03:00:00	3.82	5.88	13	6781.8271	120.03	0	3898.385	0	0
2135	128	llaunes_33cl	2023/04/28, 11:10:22	0 days.02:59:59	0	0	0	8959.8818	240.067	100.024	0	0	1499.9
134	360	ampolles_100cl	2023/04/28, 08:10:21	0 days.03:00:00	2.08	9.17	86.01	6560.9419	240.063	2999.8979	999.975	0	0
133	250	ampolles_50cl	2023/04/28.05:10:22	0 days.02:59:59	0.67	19.32	159	10499.2109	60.073	50.025	40.022	100.03	50.014
132	420	llaunes_50cl	2023/04/28, 02:10:22	0 days.03:00:00	3.83	5.88	13	6778.3188	120.032	0	3901.7859	0	0
131	128	Ilaunes_33cl	2023/04/27, 23:10:22	0 days,03:00:00	0	0	0	8960.5332	240.067	100.032	0	0	1499.4
130	360	ampolies_100cl	2023/04/27, 20:10:22	0 days.02:59:59	2.08	9.16	86	6558.416	240.107	3000.603	1000.823	0	0
129	250	ampolles_50cl	2023/04/27, 17:10:22	0 days.02:59:59	0.67	19.33	159	10500.248	60.012	49.137	40.004	100.545	50.011
128	420	llaunes_50cl	2023/04/27, 14:10:22	0 days.03:00:00	3.82	5.88	13	6780.1929	120.063	0	3899.8501	0	0
	100	Harran 22.4		a.d	0	0	0	0060 3006	Storer	****	n .		+ + + = = = = = = = = = = = = = = = = =
ur	nmary of	metrics											
Sur	nmary of	metrics											
		MTTR				MT	BF				MTFF		
	3	2 (avd) min		7.	4 (av	a) mi	n		10.0	(avg)	min	
	-		,		•••	. (9,				(419)		
Fau	llts, time	in minutes					Faults	at times					
		4				-		-1					
Wr	ong caps/closu	res				4	Zone 2 eme	rgency stop					
	Conveyor jar	n 1					Wrong c	aps/closures				_	
COULS.	z emergency s	lop					Car	tveyor jam 2	_				
	Common int	- 2						IVENUS SAITL I					
	Conveyor jar	n 2											
	Conveyor jar	n 2 0 200	400 600 800 1	000 1200 1400	1600 160	0 2000		0	100	200	300 40	0 500	60
VD	Conveyor jar	n 2 0 200	400 600 800 1	000 1200 1400	1600 160	0 2000		0	100	200	300 40	0 500	60
ур	Conveyor jar	n 2 0 200	400 600 800 1	000 1200 1400	1600 180	10 2000		0	100	200 :	900 40	0 500	60
ур	Conveyor jar	n 2 0 200	400 600 800 1	000 1200 1400	1600 180	10 2000		a	100	200 :	300 40	0 500	60
Typ Inte	Conveyor jar e of stop	n 2 0 200	400 600 800 1	000 1200 1400	1600 180	0 2000		Q	100	200 :	300 40	0 500	60
Inte Ext	Conveyor jar e of stop emal emal	n 2 0 200	400 800 800 1	000 1200 1400	1600 180	0 2000		0	100	200 :	200 40	0 500	60
Typ Inte	Conveyor jar e of stop emal emal	n 2	400 600 800 1	000 1200 1400	1600 180	0 2000		o	100	200 :	800 40	0 500	60
Typ Inte Ext	Conveyor jar e of stop emal emal	n 2	400 800 800 1	000 1200 1400	1600 180	0 2000		Q	100	200	800 40	0 500	60
Inter Ext	Conveyor jar e of stop emal emal	n 2	400 800 800 1	000 1200 1400	1600 180	0 2000		D	100	200	300 40	0 500	60
[yp ∎ Inte ∎ Ext	Conveyor jar e of stop emal emal	0 200		000 1200 1400	1600 160	10 2000		0	100	200 1	200 40	0 500	60
Yp Inte	Conveyor jar e of stop emal emal	n 2 0 200		000 1200 1400	1800 180	10 2000		0	100	200	300 40	0 500	60
inte Ext	Conveyor jar e of stop emal emal	0 200			1600 160	0 2000		o	100	200 :	300 40	0 500	60

The following screen is designed especially for maintenance managers, where in the same way that we can consult the production information in the previous screen, in this one we find the specific information of errors and stoppages. We have the same filter and



query table, where immediately below we find the final calculation of the maintenance KPI metrics (MTTR, MTBF and MTFF).

Next, we have two horizontal bar charts with the errors and alarms raised by the PLC for the selected production. These graphs differentiate between the number of times a fault is raised and the amount of time taken to clear the fault, ordered from top to bottom in order from highest to lowest. Finally, we have another pie chart to know, of the total number of stoppages, how many were due to internal factors of the machine and how many were due to external factors.

3.4. Shift Analytics



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Here we find the last production data screen, where we can find the same graphs and data as the two previous screens, but in this case separated by work shifts.

At the top we find the date filter we want to consult, which will load three columns (morning, afternoon and night) with the data and weighted averages generated during that work shift. This view is designed for production supervisors, to analyse the differences in the quality of work of the different shifts.

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4. Dashboards of additional functionalities

In addition to the four screens for the operation of the machine's production data, the system provides the user with additional functionalities that make it possible to anticipate serious mechanical faults, to monitor critical data on demand or to know in advance how long it will take to finish a typical recipe.

Name	 Variable 	 Time Type 	- Active		Elapsed Time	- Remain	ning 🔶	Life Time	÷ ta	ask
Motobomba_E500	CF_SOT	time	0		11213781		TIMEOUT	1440000	e	ngrase
Cilindro SQ45	QS_BGD	flanc	1		13484750	-		60000000	fit	mpieza
Motor C123	CE_ENT	time	1		2601538.5	-	Ð	36000000	e	ngrase
Cilindro_SX45	CF_SOT	flanc	0		2264239	_		25000000	lin	mpieza
Motobomba E1235	CD_ADR	flanc	1		450350	_		50000000	e	ngrase
Correa D33	CD_ADR	flanc	1		450359	_		2000000	fit	mpieza
Motobomba E1231	RW_PLM	flanc	1		1609253	_		50000000	e	ngrase
Correa D555	RW_PLM	flanc	1		1802546	_		4000000	lit	mpieza
Correa E3	QS_BGD	flanc	1		4467043	_		10800000	11	mpieza
Motor C129	QS_BGD	flanc	1		15678965		TIME OUT	5000000	e	ngrase
Cilladra CA11	CE COT	Road	A		0	_		1500	10.	maiara?
000000000		ACTIVAR	Elapsed va	ilue:	RESE	1	00			UPDATE
Register		ALTIVAK	Elapsed va	ilue:	RESE	1 1	00			UPDATE
Register	Date *	Action *	Elapsed va	Active	A Counter	type -	Elapsed value	- Life value	*	UPDATE
Register	Date	Action *	Elapsed va	Active	Counter cycles	type	Elapsed value	* Life value 50000000		UPDATE User USER
Register D ^	Date	Action + activate activate	Name Additional Motobomba E1231 Correa D33	Active	Counter cycles cycles	type	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	* Life value 50000000 2000000	*	UPDATE User USER USER
Register	Date	Action Activate activate reset reset	Name Motobomba E1231 Correa D33 Cillindro SQ45 Motobomba E123	Active	Counter oycles oycles oycles oycles	type *	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	* Life value 5000000 200000 6000000 1440000	*	UPDATE User USER USER innobox
Register	Date	Action ^ activate activate reset reset undate	Elapsed va Motobomba E1231 Correa D33 Cilinot SQ45 Motobomba_E123 Motobomba_E123	Active Active 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Counter Ovcles O	type	Elapsed value	 Life value 50000000 2000000 60000000 1440000 36000000 	*	UPDATE USER USER USER innobox Eros Eros
Register 10 - 99 98 97 96 95 94	Date	Action Activate activate activate reset update reset	Elapsed va Motobomba E1231 Correa D33 Cillindro SQ45 Motor C123 Motor C123	Active 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Counter oycles oycles oycles oycles oycles	type *	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	 Life value 5000000 200000 6000000 1440000 3600000 3600000 	*	UPDATE USER USER USER Eros Eros Eros
Register D	Date	Action Activate activate activate reset update reset update	Name Motobomba E1231 Correa D33 Cilindro SQ45 Motobomba_E123 Motor C123 Motor C123 Motor C129	Active Active 1 1 1 1 1 1 1 1 1 1 1 1 1	Counter Ovcles Ovcles Ovcles Ovcles Ovcles Ovcles Ovcles Ovcles	type	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	 Life value 5000000 200000 6000000 1440000 3600000 3600000 5000000 	*	UPDATE USER USER USER Eros Eros Eros Eros
Register	Date 2023/04/17, 14:23:37 2023/04/17, 14:23:20 2023/03/27, 11:58:32 2023/03/24, 11:58:03 2023/03/24, 11:53:41 2023/03/24, 11:53:41 2023/03/24, 11:53:41 2023/03/24, 11:53:41 2023/03/24, 11:53:41 2023/03/24, 11:53:41	Action Activate activate reset update reset update reset	Elapsed va Motobomba E1231 Correa D33 Cilindro SQ45 Motobomba_E123 Motor C123 Motor C123 Motor C129 Motoproba_E123	Active 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Counter Co	type	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	 Life value 5000000 200000 6000000 1440000 3600000 3600000 1440000 	*	UPDATE USER USER USER innobox Eros Eros Eros Eros Eros
Register	Date	Action ^ activate activate reset update reset update reset reset reset	Elapsed va Motobomba E1231 Correa D33 Cilindro SQ45 Motobomba_E123 Motor C123 Motor C129 Motobomba_E123 Motor C129	Active Active Active 1 1 1 1 1 1 1 1 1 1 1 1 1	Counter Ovcles Ovcle	type *	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	 Life value 5000000 200000 6000000 1440000 3600000 3600000 1440000 3600000 1440000 3600000 		UPDATE USER USER USER Innobox Eros Eros Eros Eros Innobox Innobox
Register 10 ~ 99 95 97 96 95 94 93 92 91 90	Date	Action ^ activate activate reset reset reset update reset reset reset update reset reset update	Kame Motobomba E1231 Correa D33 Cilindro SQ45 Motobomba_E123 Motor C123 Motor C123 Motor C129 Motoomba_E123 Motor C123 Motor C123 Motor C123	Active 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Counter cycles cycle	type	Elapsed value 0 0 0 0 0 0 0 0 0 0 0 0 0	 Life value 5000000 2000000 6000000 1440000 3600000 500000 1440000 3600000 3600000 3600000 		USER USER USER Innobox Eros Eros Eros Eros Innobox Innobox Innobox

4.1. Preventive Maintenance

This is a functionality that will allow the operator to know when a particular mechanical element needs maintenance or a spare part before it breaks and causes a major problem. The system accepts the definition of up to 20 different elements, indicating which of the Boolean variables previously defined in its module indicates that the element is working, whether to monitor by time the variable is active (e.g. the variable that indicates whether a drive belt is rotating) or by operating cycles (e.g. a variable that manages a piston), how long the element has a manufacturer-defined lifetime and the descriptions of the tasks to be performed when the working time approaches the maximum lifetime. There is a field to indicate whether a defined element is active or not, being able to define all the elements used in the machine, but monitor only those working for the current production recipe. When any of the defined elements reaches 70% of its life time, the system will raise a pre-alarm and the corresponding sign in the header will turn red. This will be the indicator to go to this dashboard to find out which element needs attention. When it reaches 100% of the life time, the system will register an alarm and a more visual TIMEOUT sign will appear on the element.



From this screen, you can activate or deactivate an element, edit the maximum life time or reset the working time after the specific task has been performed. The system will register which user is performing which action, in order to be able to keep a correct supervision of the management of the machine elements.

4.2. Production Predictive



In this screen we find the functionality that will allow us to have an approximate idea of when it will take to finish the production in progress or to carry out a simulation.

The system will have a better prediction accuracy as it has more historical data of the machine. On machines that are very stable in terms of production, the three values (optimistic, expected and pessimistic) will be similar. On machines that have a dispersion of production from day to day, the values will differ greatly. This also gives us an idea of how robust the machine is.





4.3. Datalogger i Datalogger Captures

The datalogger functionality is the one with the simplest operating premise, but which can provide the most personalised information: monitoring the values or states that variables acquire over time.



To start monitoring, we indicate whether we want to record the values every X time or when a variable changes state, which of the variables indicated in its specific module we want to monitor and whether we want to take a specific number of samples or let the system stop on its own (at 10,000 samples).



Once monitoring has started, we will see a table with the current values of the variables indicated. With the button to visualise we will access some graphics in real time with the evolution of these and with the button to finish we will generate a .csv file with the name specified at the start of the frame capture.





From the Datalogger Captures screen we can view the generated files, delete them or download them to be exploited with any other software that works with this format.

Id	File Name	Number of Captures	Count	Date Update
20	capture_alarm2_forTest	alarm	15	2023-02-09T12:29:31.000Z
22	TestFlanc	alarm	4	2023-03-23T10:42:57.000Z
23	testinterval	interval	236	2023-03-23T10:43:51.000Z
27	TestReset	alarm	7	2023-03-23T11:06:23.000Z
29	test	interval	7	2023-03-24T12:42:01.000Z
30	testCapturas	interval	3	2023-04-12T11:49:54.000Z
31	testCapt	interval	370	2023-04-12T11:50:40.000Z
32	aewga	interval	6061	2023-04-12T11:57:26.000Z
33	testDev-Demo	interval	10	2023-05-03T07:11:24.000Z
34	Alarma 1	interval	5	2023-05-05T09:51:57.000Z
35	Alarma 2	interval	8	2023-05-05T10:24:36.000Z
36	Alarm 1	interval	29	2023-05-05T13:43:08.000Z
C REFRESH TestRes	et DownLoad	DELETE		

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4.4. Alarm Log

The alarm log screen, as its name indicates, is a screen in which there are two tables:

The upper table is the log of alarms generated by the preventive maintenance functionality, being able to check the date and time when an element has reached its life time. In the lower table, we find the record of alarms generated by the PLC of the monitored machine, with date and time, error code and description.

	01/04	/2023		End date	04/0	5/2023		_
Preventive m	naintenance alarm	log						
D	Type	^ Name	- Counter ty	pe 🌰 Elapse	i value 👘 Va	lue of life	^ Date	
32	alarm	Motobomba_E500	time (H)	3115	40	0	2023/04/17, 14:29:1	12
š1	alarm	Correa E3	cycles	972271	9 10	800000	2023/04/14, 02:29:1	12
10	alarm	Correa D555	cycles	360173	5 40	00000	2023/04/12, 05:29:1	12
19	prealarm	Correa E3	cycles	756237	3 10	800000	2023/04/09, 01:14:1	12
78	prealarm	Correa D555	cycles	280142	9 40	00000	2023/04/07, 14:14:1	12
77	alarm	Motor C129	cycles	450009	2 50	00000	2023/04/01, 21:29:1	12
Machine faul	lt log							
Machine faul	It log	* Shift		Start	 Elapsed tim 		Description	
Machine faul	* Recipe	^ Shift		Start 2023/04/28. 17:06:22	Elapsed tim 00:01:40	e 4	Description Zone 2 emergency stop	
Machine faul D 0474 0473	Recipe 420 420	 Shift 2 2 		 Start 2023/04/28, 17:06:22 2023/04/28, 17:02:22 	 Elapsed tim 00:01:40 00:01:40 	e a	 Description Zone 2 emergency stop Zone 2 emergency stop 	
Machine faul D 10474 10473 10472	Recipe 420 420 420 420	Shift 2 2 2		Start 2023/04/28, 17:06:22 2023/04/28, 17:02:22 2023/04/28, 16:57:23	 Elapsed time 00:01:40 00:01:40 00:01:39 	8 4	Description Zone 2 emergency stop Zone 2 emergency stop Zone 2 emergency stop	
Machine faul D 10474 10473 10472 10471	Recipe 420 420 420 420 420 420	 Shift 2 2 2 2 		Start 2023/04/28, 17:06:22 2023/04/28, 17:02:22 2023/04/28, 16:57:23 2023/04/28, 16:51:23	 Elapsed tim 00:01:40 00:01:40 00:01:49 00:01:39 	8 4	Description Zone 2 emergency stop	
Machine faul D 0474 0473 0472 0471 0470	Recipe 420 420 420 420 420 420 420 420 420 420	 Shift 2 2 2 2 2 2 2 		 Start 2023/04/28, 17:06:22 2023/04/28, 16:57:23 2023/04/28, 16:57:23 2023/04/28, 16:51:23 2023/04/28, 16:42:23 	 Elapsed tim 00:01:40 00:01:40 00:01:39 00:01:39 00:01:39 	e 4	 Description Zone 2 emergency stop 	2
Machine faul D 0474 0473 0472 0472 0471 0470 0469	Recipe 420 420 420 420 420 420 420 420 420 420 420 420 420	 Shift 2 		 Start 2023/04/28, 17:06:22 2023/04/28, 16:57:23 2023/04/28, 16:57:23 2023/04/28, 16:51:23 2023/04/28, 16:42:23 2023/04/28, 16:42:23 	 Elapsed tim 00:01:40 00:01:40 00:01:39 00:01:39 00:01:39 00:01:40 	8 4	 Description Zone 2 emergency stop 	
Machine faul 0474 0473 0472 0471 0470 0469 0468	* Recipe 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420	 Shift 2 		 Start 2023/04/28, 17:06:22 2023/04/28, 17:02:22 2023/04/28, 16:57:23 2023/04/28, 16:51:23 2023/04/28, 16:42:23 2023/04/28, 16:34:22 2023/04/28, 16:34:22 2023/04/28, 16:34:22 	 Elapsed tim 00:01:40 00:01:40 00:01:39 00:01:39 00:01:39 00:01:40 00:01:40 	e s	Description Zone 2 emergency stop	
Machine faul D 10474 10473 10472 10472 10477 10469 10466 10467	Recipe 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420 420	 Shift 2 3 4 4<td></td><td>Start 2023/04/28, 17:06:22 2023/04/28, 17:02:22 2023/04/28, 16:57:23 2023/04/28, 16:51:23 2023/04/28, 16:42:23 2023/04/28, 16:42:22 2023/04/28, 16:29:22 2023/04/28, 16:29:22</td><td> Elapsed tim 00:01:40 00:01:40 00:01:39 00:01:39 00:01:39 00:01:40 00:01:40 00:01:40 </td><td>e s</td><td>Description Zone 2 emergency stop Zone 2 emergency stop</td><td></td>		Start 2023/04/28, 17:06:22 2023/04/28, 17:02:22 2023/04/28, 16:57:23 2023/04/28, 16:51:23 2023/04/28, 16:42:23 2023/04/28, 16:42:22 2023/04/28, 16:29:22 2023/04/28, 16:29:22	 Elapsed tim 00:01:40 00:01:40 00:01:39 00:01:39 00:01:39 00:01:40 00:01:40 00:01:40 	e s	Description Zone 2 emergency stop Zone 2 emergency stop	

4.5. Settings

Language	Edit counter names	ALARM EDITOR
English	- Ill-fitting cap	RECIPE EDITOR
	Deformation	SHIFT EDITOR
	Bad label	ELEMENT EDITOR
	Wrong product	
	Packaging defect	
	Wrong Code	
	G	

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Finally, we reach the configuration screen, where we can choose the language of the application (Catalan, Spanish or English), the names to be displayed in the additional counters and edit the definition tables loaded with the initial configurator. This quick editing allows us to quickly change, for example, the name or code of a recipe, the task to be carried out for a specific mechanical element or the description of one of the PLC alarms, without having to access the initial configurator again and reload a .csv file that updates the entire database table. It must be taken into account that these modifications will be seen in the registers after the change; the alarms and productions already carried out will be seen with the data defined at the moment of the historisation.

Recipe literals							
ID	* Recipe		- Name	*	P Theoretical (Pcs/h)	Description	
1	250		ampolles_50cl		102	Ampolles petites	
2	360		ampolles_100cl		500	Ampolies normais	
3	128		llaunes_33cl		1000	Liaunes normais	
4	420		llaunes_50cl		300	LLaunes grans	
5	0		no_production		0	Sin producción	
Update Recipe		New Recipe		BACK	t l		
Update Recipe		New Recipe		BACK	¢		
Recipe		Recipe					
Name		Name					
P Theoretical (Pcs/h)		P Theoretical (Pcs/h)					
Description		Description					
UPDATE		SA	/E				
DELETE							

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