

ENERCO

Energy Control and Optimisation

Presentation

Monitoring and archiving system of electrical consumption in industrial companies. On-line monitoring and archiving of electrical parameters of powerful machines.

01

Modular

Able to supervise an unlimited number of machines at a rate of eight machines per central.

Installation

Quick and easy installation without the need to stop the machines.

02

03

Display

Monitoring on web interfaces, mobile and local server.



Communication
WIFI or WIRED



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Technical specifications

- ⊗ Measures single-phase and three-phase voltages up to 700V
- ⊗ Measurement of the current in each line between 5 and 5000A.
- ⊗ Measurement of active, reactive and apparent power and $\cos(\varphi)$ per phase.
- ⊗ Calculation of the harmonic distortion rates at the power distribution cabinet.
- ⊗ Transient voltage analysis.
- ⊗ Wired Ethernet or WIFI connection.
- ⊗ Data recording every 10s to 60 min in a cloud storage space or local server.
- ⊗ User-friendly Web interface allowing real-time visualization and access to the measurement history in graphical or tabular mode.
- ⊗ Data export (Excel, csv, image,...)
- ⊗ Internal storage in offline mode and automatic synchronization until the connection is restored.
- ⊗ Generation of reports: faults, energy balance, history
- ⊗ Estimate of the invoice per machine or group of machines and for a programmable period in days and hours.

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Added value

With
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Real-time consumption monitoring

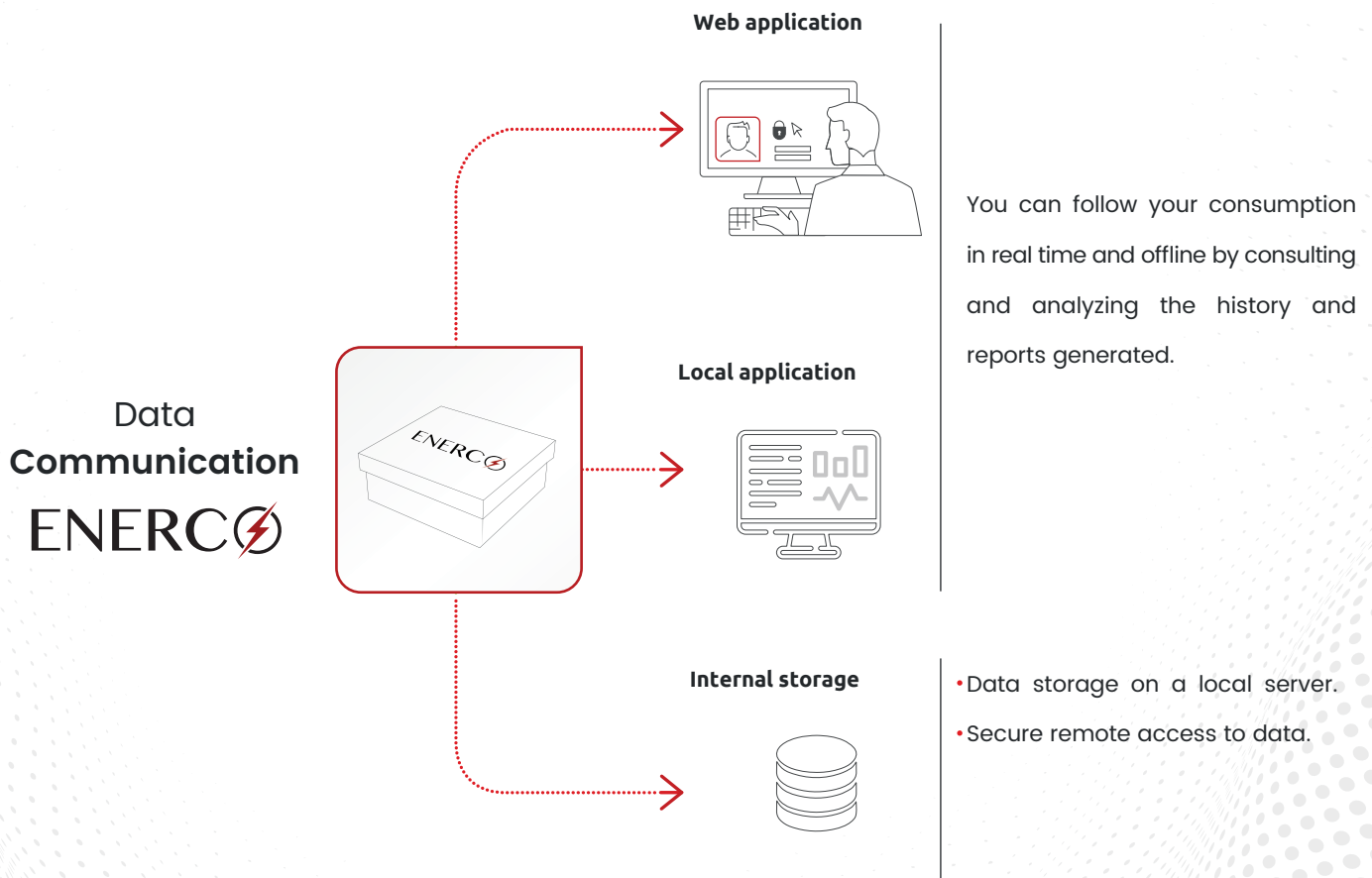
Real-time monitoring of all electrical parameters.

Faster detection of anomalies

Detection of unexpected grid faults:
Faster diagnosis and intervention

A control of the consumption

Availability of various analyses and statistics.
Energy audit and estimation of energy expenses.

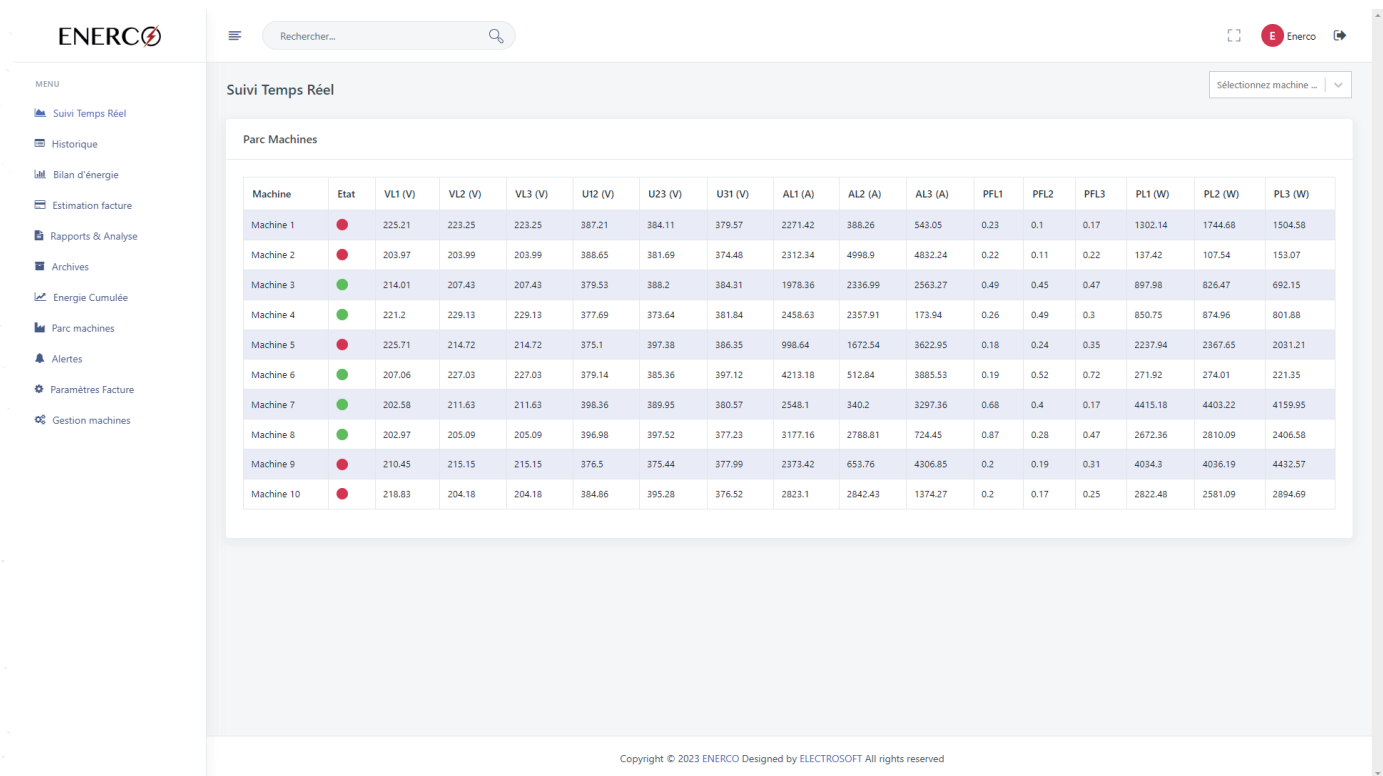


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Monitoring application

Real time monitoring of all electrical parameters
with several modes (numerical and graphical)



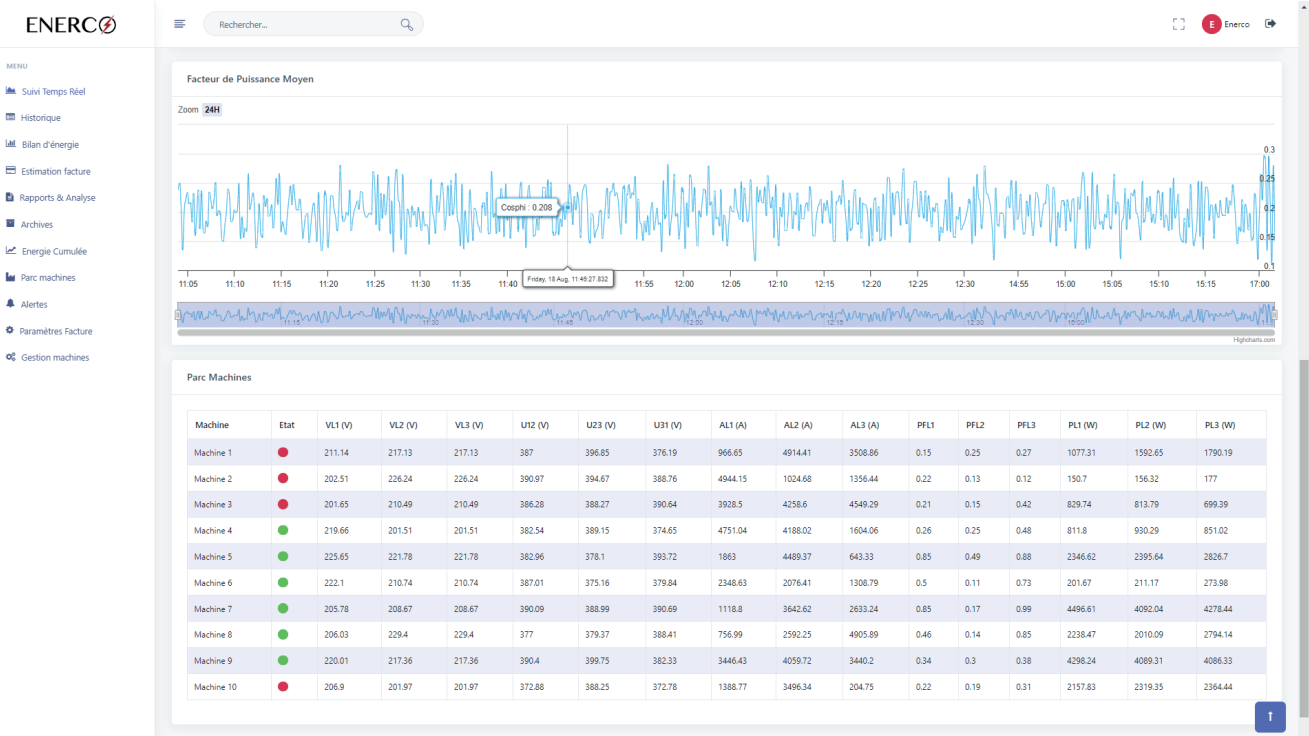
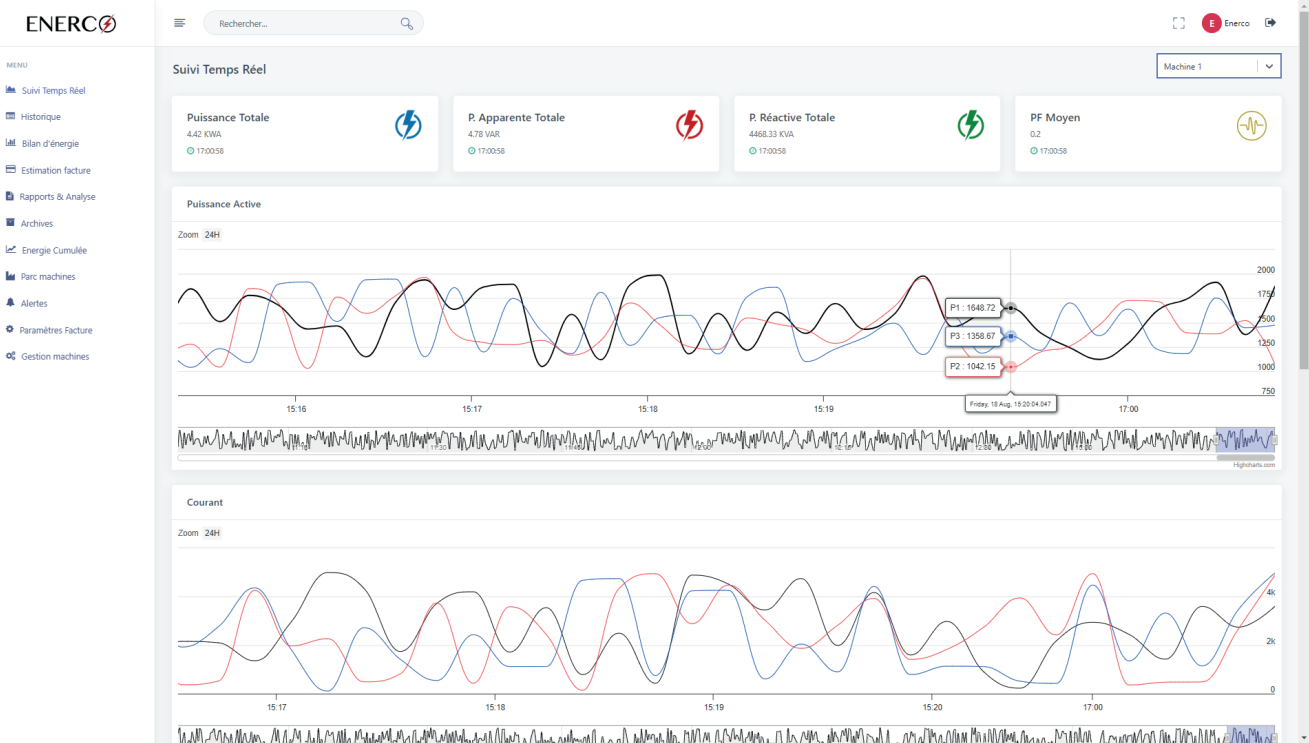
The screenshot displays the ENERCO monitoring application interface. On the left is a navigation menu with options like 'Suivi Temps Réel', 'Historique', 'Bilan d'énergie', etc. The main area is titled 'Suivi Temps Réel' and contains a table labeled 'Parc Machines' with 10 rows of machine data. Each row includes columns for machine name, status (indicated by a colored dot), and various electrical parameters such as voltages (VL1-VL3, U12-U23, U31), currents (AL1-AL3), power factors (PFL1-PFL3), and power (PL1-PL3).

Machine	Etat	VL1 (V)	VL2 (V)	VL3 (V)	U12 (V)	U23 (V)	U31 (V)	AL1 (A)	AL2 (A)	AL3 (A)	PFL1	PFL2	PFL3	PL1 (W)	PL2 (W)	PL3 (W)
Machine 1	●	225.21	223.25	223.25	387.21	384.11	379.57	2271.42	388.26	543.05	0.23	0.1	0.17	1302.14	1744.68	1504.58
Machine 2	●	203.97	203.99	203.99	388.65	381.69	374.48	2312.34	4998.9	4832.24	0.22	0.11	0.22	137.42	107.54	153.07
Machine 3	●	214.01	207.43	207.43	379.53	388.2	384.31	1978.36	2336.99	2563.27	0.49	0.45	0.47	897.98	826.47	692.15
Machine 4	●	221.2	229.13	229.13	377.69	373.64	381.84	2458.63	2357.91	173.94	0.26	0.49	0.3	850.75	874.96	801.88
Machine 5	●	225.71	214.72	214.72	375.1	397.38	386.35	998.64	1672.54	3622.95	0.18	0.24	0.35	2237.94	2367.65	2031.21
Machine 6	●	207.06	227.03	227.03	379.14	385.36	397.12	4213.18	512.84	3885.53	0.19	0.52	0.72	271.92	274.01	221.35
Machine 7	●	202.58	211.63	211.63	398.36	389.95	380.57	2548.1	340.2	3297.36	0.68	0.4	0.17	4415.18	4403.22	4159.95
Machine 8	●	202.97	205.09	205.09	396.98	397.52	377.23	3177.16	2788.81	724.45	0.87	0.28	0.47	2672.36	2810.09	2406.58
Machine 9	●	210.45	215.15	215.15	376.5	375.44	377.99	2373.42	653.76	4306.85	0.2	0.19	0.31	4034.3	4036.19	4432.57
Machine 10	●	218.83	204.18	204.18	384.86	395.28	376.52	2823.1	2842.43	1374.27	0.2	0.17	0.25	2822.48	2581.09	2894.69

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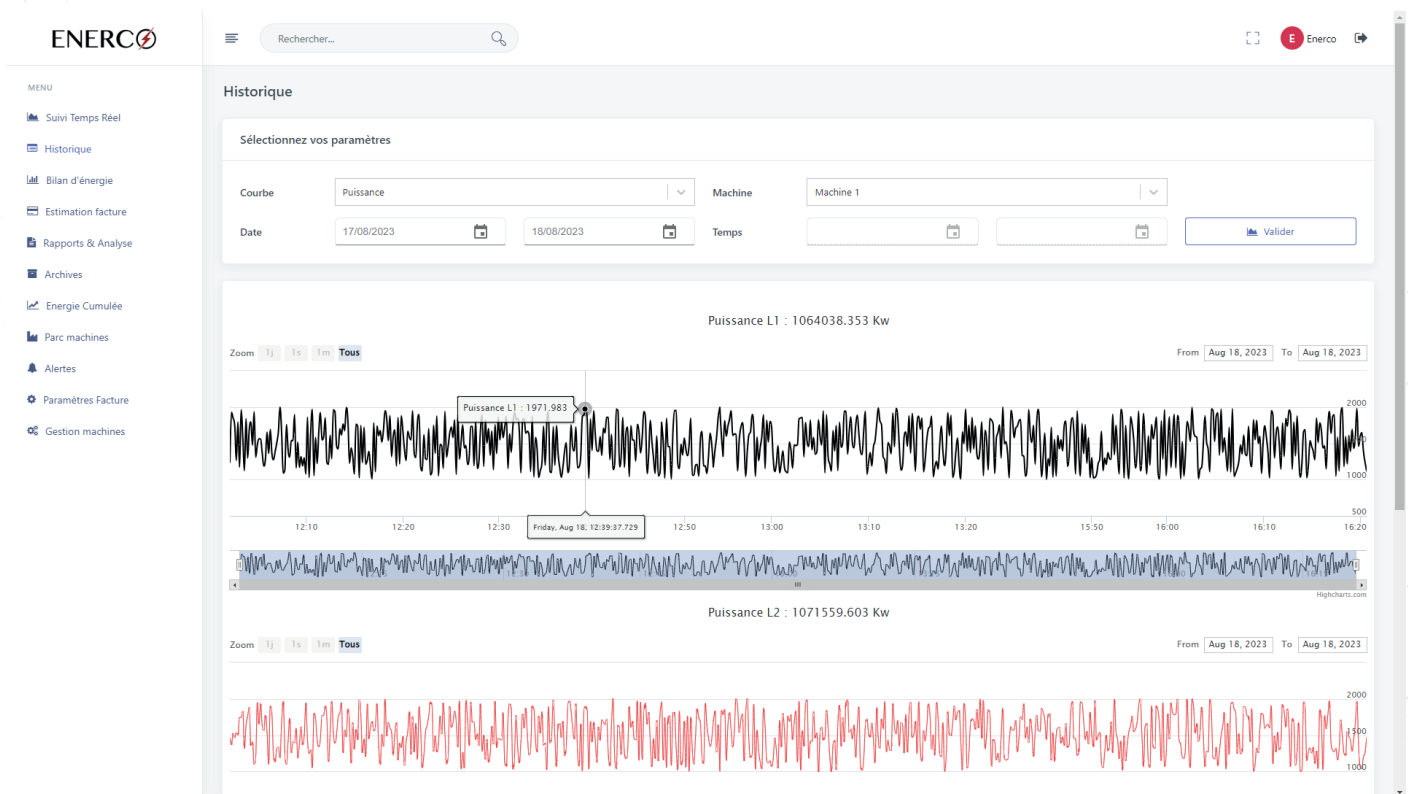
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- Consult the historical of all the recordings with period selection.
- Display of the variation curves of the electrical parameters




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- Estimation of the invoice by machine or group of machines and over the desired period

فاتورة إستهلاك الجهد المتوسط (تقديرية)
ESTIMATION FACTURE MOYENNE TENSION



by Electro Soft

N° Facture : 33790883 : رقم الفاتورة : District SFAX NORD إقليم
Mois 13 - 08 - 2023 -> 18 - 08 - 2023 شهر

Fax 74256396 فاكس Téléphone 74256254 الهاتف
RIB ou RIP رقم الحساب البنكي للإقليم
Payeur ELECTROSOFT المستهلك
Adresse Immeuble zafir, Sfax 3000 العنوان
Consommateur ELECTROSOFT المستهلك
Adresse Immeuble zafir, Sfax 3000 العنوان

الوحدة UR	المرجع Référence	رمز المسدد Code Payeur	رقم الحساب البنكي البريدي للحريف RIB ou RIP
52	253698	35	125436528987

الاستهلاك الفوتون ك و س Consummation à facturer Kwh	فقدان الحمل Perte en charge	فقدان الأحمال Perte à vide	الطاقة المسجلة Energie enregistrée	الضارب Coefficient multiplicateur	مؤشر العداد Inex		عدادات Compteur
					القديم Ancien	الجديد Nouveau	
2659.88							PH 1 طور PH 2 طور PH 3 طور Total المجموع
0							Jour النهار Pointe ذروة Soir مساء Nuit ليل Total المجموع
0							Reactif

المبلغ Montant	السعر P.U	الاستهلاك	البيانات Designation	مخفظة Réduite	ذروة الشتاء Pointe hiver	مساء Soir	ذروة الصيف Pointe été	نهار Jour	القدرة Puissance
654.33	246	2659.88	نهار ذروة مساء ليل	300				657	الكثبة Souscrite
0		0	مساء ليل					300	القوى Maximale المطلوبة Dépassement ذروة puissance القدرة
654.33		2659.88	المجموع Total					250	البركة Installée
0			العوارض Bonification						
--			العقوبات Pénalité						
654.33			المجموع Total 1					0.37	عامل القدرة Coe.φ
0.11			مكافأة القدرة Prime de puissance					0	عبارب Coe.K
--			تجاوز القدرة Dépassement Puissance						
--			تكاليف المواد Location Matériel						
--			مصاريف التدخل Frais d'intervention						
--			مصاريف التأخير Frais Relance						
--			مصاريف التأخير Frais de Retard						
0.11			المجموع Total 2						
--			إدارة قسيمة مضافة / الاستهلاك TVA/ consommation						
--			إدارة قسيمة مضافة / TVA/ Relevance						
3.50			معلوم إقتادة ات Contribution RTT						
15.96			المعلوم البلدي Surtaxe Municipale						
19.46			المجموع Total 3						
			نسبة / استهلاك Avance/consom.						
693.94			البنج المطلوب NET A PAYER						
			أخر أجل للدفع Date limite de paiement						

CONTRIBUTION GMG: 20.05

0.37 عامل القدرة
0 عبارب
Coe.K

Arrêtée la présente facture à la somme de :
وقفت هذه الفاتورة بمبلغ قدره :

Surtaxe Municipale + FTE

Nous vous rappelons que les factures antérieures d'un montant de
demeurent impayées

و.م UR	المرجع Référence	رمز المسدد Code Payeur	رقم الفاتورة N° Facture	شهر Mois	السنة Année	مبلغ Monant	مفتاح Cité
52	253698	35	33790883			693.94	

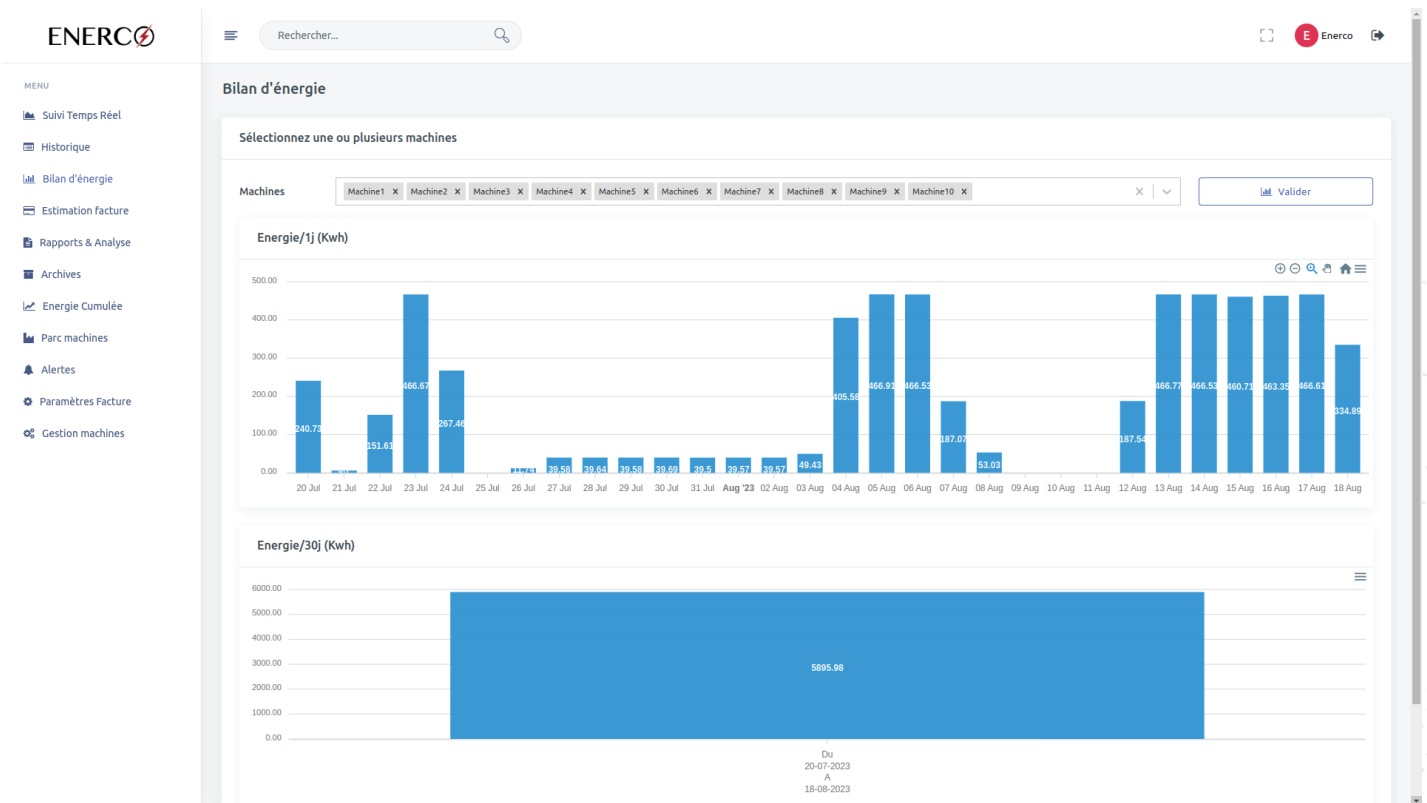
COUPON قسيمة

تعد مع وثيقة التسديد إلى الشركة الوطنية للكهرباء والغاز
A retourner avec notre règlement à la STEG
District de : SFAX NORD إقليم

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- consumption balance per machine or group of machines: daily, monthly and yearly.



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- Generate reports on energy efficiency, occupancy rate and productivity of machines.

Rapport Energétique					
Nom machine	Ligne 1	Ligne 2	Ligne 3	Total	Date
Machine1	35.95 Kwh	36.08 Kwh	36.03 Kwh	108.06 Kwh	17-08-2023
Machine2	3.6 Kwh	3.6 Kwh	3.6 Kwh	10.8 Kwh	17-08-2023
Machine3	16.78 Kwh	16.79 Kwh	16.81 Kwh	50.38 Kwh	17-08-2023
Machine4	20.41 Kwh	20.39 Kwh	20.37 Kwh	61.16 Kwh	17-08-2023
Machine5	60.04 Kwh	60 Kwh	60.2 Kwh	180.24 Kwh	17-08-2023
Machine6	5.99 Kwh	6 Kwh	6 Kwh	17.99 Kwh	17-08-2023

2) Nombre d'heures de consommation énergétique sur 24h:

Nom machine	Nombre heure Total	Nombre heure Usinage	Nombre heure Réglage
Machine1	23.99h	12.72h	11.27h
Machine2	23.99h	13.01h	10.99h
Machine3	23.99h	12.74h	11.25h
Machine4	23.99h	12.79h	11.2h
Machine5	23.99h	12.71h	11.28h
Machine6	23.99h	12.58h	11.41h

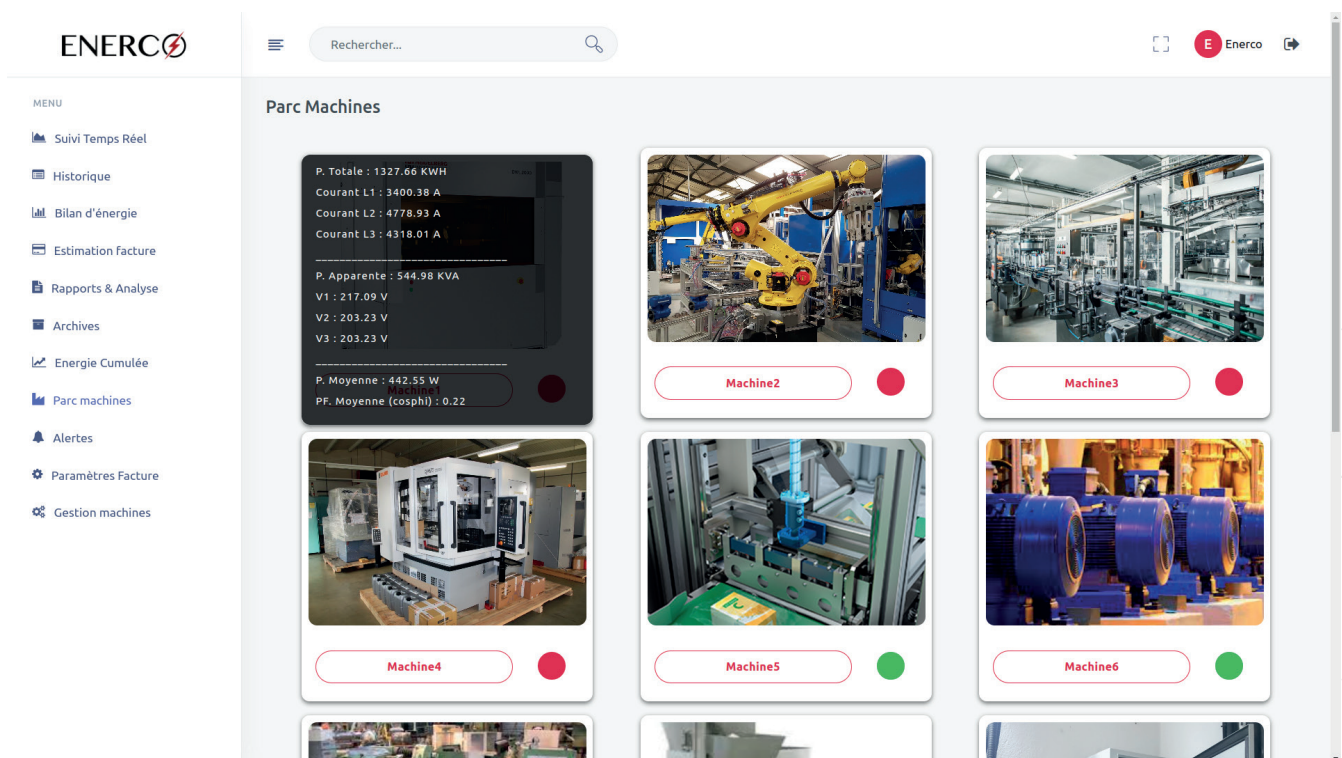
3) Taux de consommation énergétique par 24h (en %):

Nom machine	% Total	% Usinage	% Réglage
Machine1	99.97%	53.01%	46.96%
Machine2	99.97%	54.10%	45.79%
Machine3	99.97%	53.00%	46.68%
Machine4	99.97%	53.31%	46.66%
Machine5	99.97%	52.96%	47%
Machine6	99.97%	52.43%	47.53%

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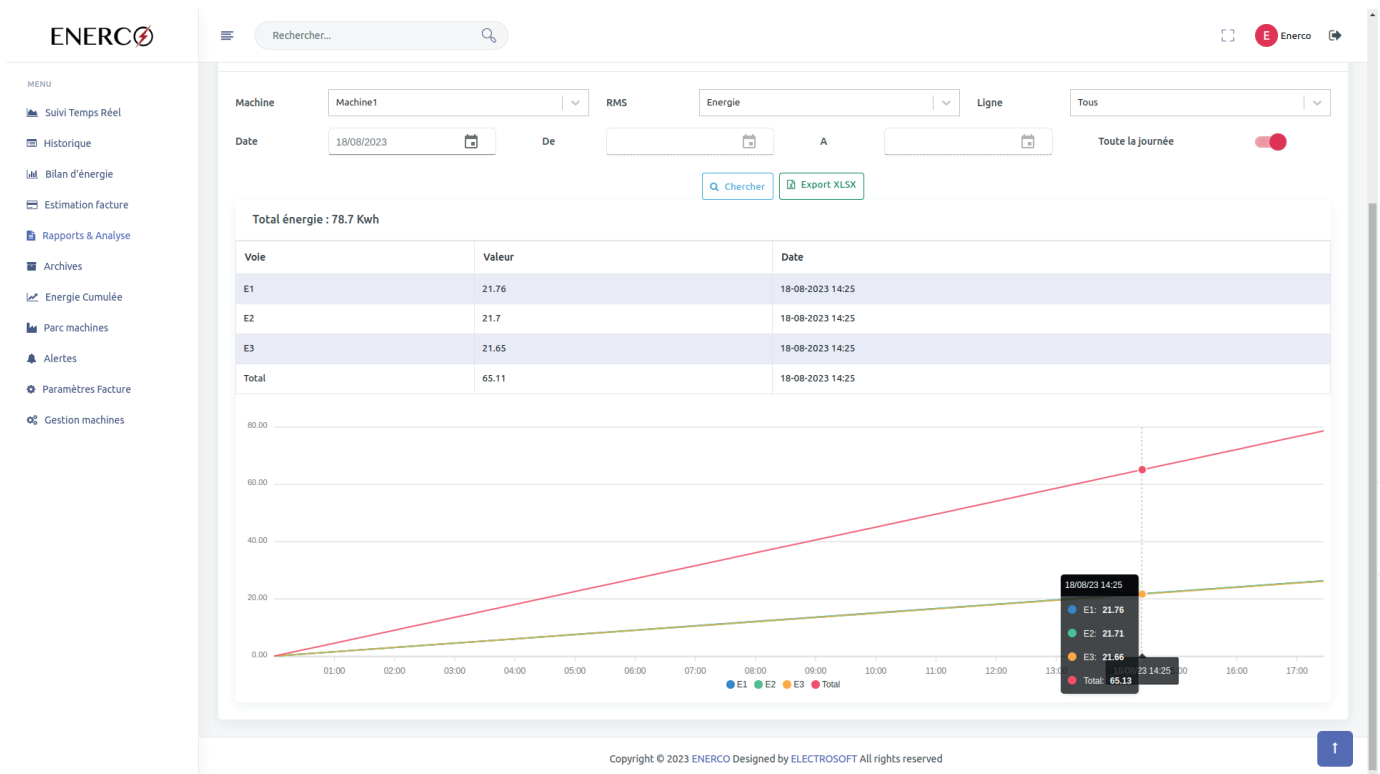
- Visualization of the machine park with real time supervision of energy parameters (By placing the cursor on the machine).



The screenshot displays the ENERCO web interface. On the left is a navigation menu with items: Suivi Temps Réel, Historique, Bilan d'énergie, Estimation Facture, Rapports & Analyse, Archives, Energie Cumulée, Parc machines, Alertes, Paramètres Facture, and Gestion machines. The main area is titled 'Parc Machines' and features a search bar at the top. A summary panel on the left shows energy data: P. Totale : 1327.66 KWH, Courant L1 : 3400.38 A, Courant L2 : 4778.93 A, Courant L3 : 4318.01 A; P. Apparente : 544.98 KVA, V1 : 217.09 V, V2 : 203.23 V, V3 : 203.23 V; P. Moyenne : 442.55 W, PF. Moyenne (cosphi) : 0.22. The main area contains six machine cards, each with a photo and a status indicator: Machine2 (red), Machine3 (red), Machine4 (red), Machine5 (green), and Machine6 (green).

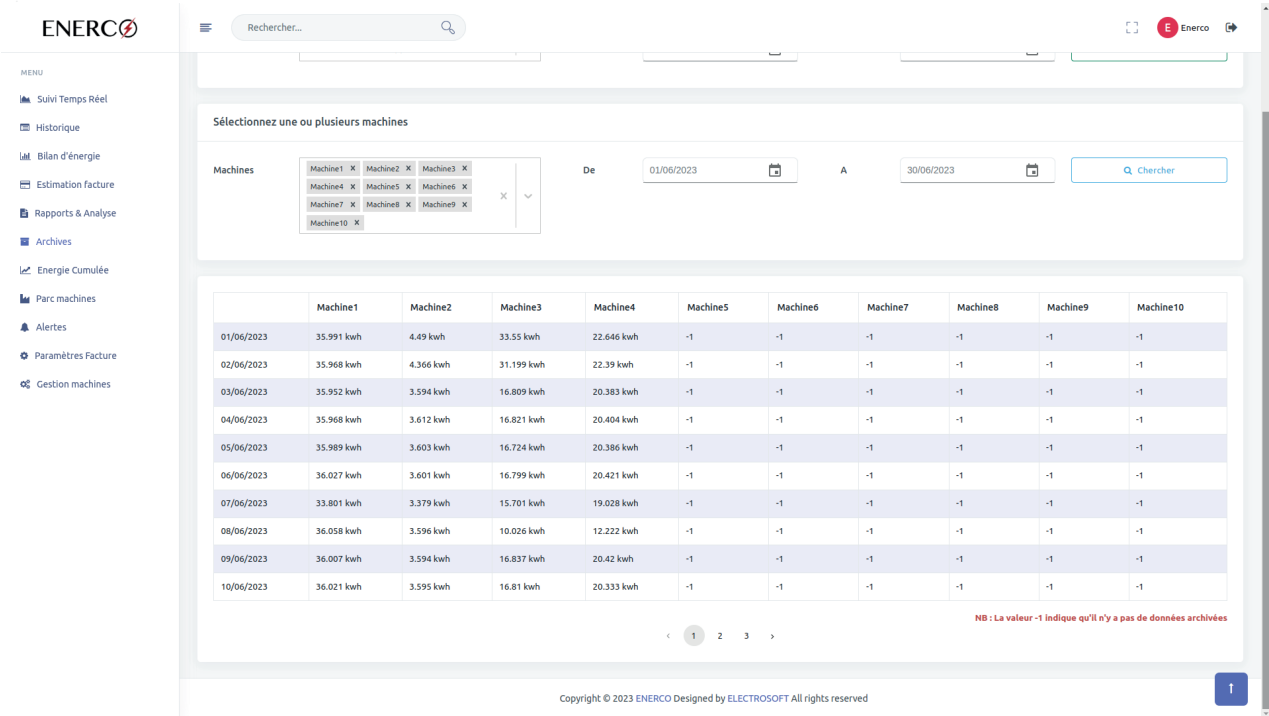
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Rechercher...

Sélectionnez une ou plusieurs machines

Machines: Machine1 X Machine2 X Machine3 X Machine4 X Machine5 X Machine6 X Machine7 X Machine8 X Machine9 X Machine10 X

De: 01/06/2023 A: 30/06/2023 Chercher

	Machine1	Machine2	Machine3	Machine4	Machine5	Machine6	Machine7	Machine8	Machine9	Machine10
01/06/2023	35.991 kwh	4.49 kwh	33.55 kwh	22.646 kwh	-1	-1	-1	-1	-1	-1
02/06/2023	35.968 kwh	4.366 kwh	31.199 kwh	22.39 kwh	-1	-1	-1	-1	-1	-1
03/06/2023	35.952 kwh	3.594 kwh	16.809 kwh	20.383 kwh	-1	-1	-1	-1	-1	-1
04/06/2023	35.968 kwh	3.612 kwh	16.821 kwh	20.404 kwh	-1	-1	-1	-1	-1	-1
05/06/2023	35.989 kwh	3.603 kwh	16.724 kwh	20.386 kwh	-1	-1	-1	-1	-1	-1
06/06/2023	36.027 kwh	3.601 kwh	16.799 kwh	20.421 kwh	-1	-1	-1	-1	-1	-1
07/06/2023	33.801 kwh	3.379 kwh	15.701 kwh	19.028 kwh	-1	-1	-1	-1	-1	-1
08/06/2023	36.058 kwh	3.596 kwh	10.026 kwh	12.222 kwh	-1	-1	-1	-1	-1	-1
09/06/2023	36.007 kwh	3.594 kwh	16.837 kwh	20.42 kwh	-1	-1	-1	-1	-1	-1
10/06/2023	36.021 kwh	3.595 kwh	16.81 kwh	20.333 kwh	-1	-1	-1	-1	-1	-1

NB : La valeur -1 indique qu'il n'y a pas de données archivées

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Energie cumulée pour le : 18-8-2023

Machine1 26.25 Kwh	Machine2 2.62 Kwh	Machine3 12.22 Kwh	Machine4 14.82 Kwh
Machine5 43.69 Kwh	Machine6 4.36 Kwh	Machine7 74.2 Kwh	Machine8 43.52 Kwh
Machine9 74.13 Kwh	Machine10 43.53 Kwh		





















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Rechercher...

Gestion Machines

Listes des machines

Images	Nom machine	Tension Max	Tension Min	Courant Max	Courant Min	N° Responsable	Action
	Machine1						
	Machine2	450	200	1000	1	21627349849	
	Machine3	999	200	10000000	0	21627349849	
	Machine4	999	200	100000	0	21627349849	
	Machine5	999	200	1535256	0	21627349849	
	Machine6	999	200	1665241565			
	Machine7	999	200	15225825	0	21627349849	
	Machine8	999	200	651651561	0	21627349849	
	Machine9	999	200	27527	0	21627349849	
	Machine10	999	200	721727	0	21627349849	

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