SAXON SWITCHGEAR

PROFILE

Saxon Switchgear, established in **2009**, is a multinational organization committed to the development, design, engineering & manufacturing of Low Voltage Electrical Switchgear & Automation Control Panels.

Saxon has the prestigious accreditations of **ASTA** as per the latest **IEC standards (IEC-61439-1 & 2, Fully Type Tested)** & well experienced Quality Management System.

Certified to **ISO 9001:2008,** with the approvals of **FEWA, DEWA, SEWA and RTA**. We have a strong relationship with **ABB, SCHNEIDER, SIEMENS, LG, HAGER, LEGRAND and LT**. We manufacture and assemble Power and Control Panels **(up to 6000A Form IV)**, in our facility located in HFZA.

Saxon Switchgear is proud to be considered one of the leading Low Voltage Panel Builders in the UAE with a team of qualified, experienced and trained engineers, modern equipment and state of the art production facility. We play a vital role in the new era of growing technology and emerge as a globally recognized organization in the infrastructure industry and specifically in the field of power. With more than a decade's experience in the industry, we have sound expertise in the manufacturing, assembling, delivery, installation and servicing of electrical panels. We partner up with developers, consultants, MEP contractors and manufacturing industries in providing electrical engineering solutions to our clients in the construction, manufacturing and oil & gas industries in the UAE, other GCC nations and African countries.

CERTIFICATIONS & APPROVALS


ASTA CERTIFICATE
of Verification Tests


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ASTA CERTIFICATE
of Verification Tests

دولة الإمارات العربية المتحدة
الهيئة الاتحادية للكهرباء والماء
Federal Electricity & Water Authority

هيئة كهرباء ومياه دبي
Dubai Electricity & Water Authority

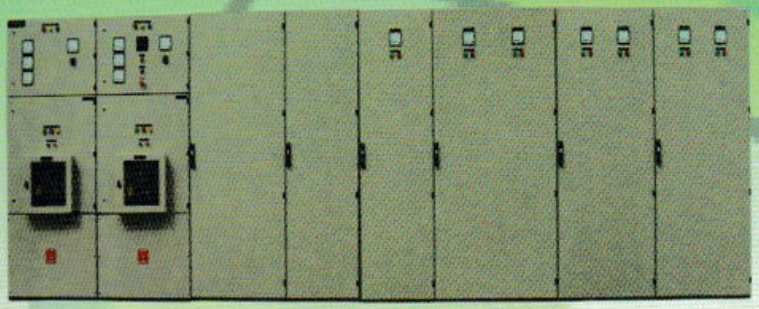
هيئة كهرباء و مياه الشارقة
Sharjah Electricity & Water Authority

هيئة الطرق والمواصلات
ROADS & TRANSPORT AUTHORITY
RTA

PRODUCTS

- Low Voltage Panels up to 6000A
- Main Distribution Boards
- Generator Synchronizing Panels
- Capacitor Bank Panels
- Motor Control Center Panels
- Pump Control Panels
- Automatic Transfer Switch Panels
- Sub Main Distribution Boards
- Street Lighting Feeder Pillars
- Metering Cabinets
- Isolator Panels
- Manual Change Over Panels
- Final Distribution Boards
- Control Panels
- RTU Panels
- Junction Box

Low Voltage Panels up to 6000A



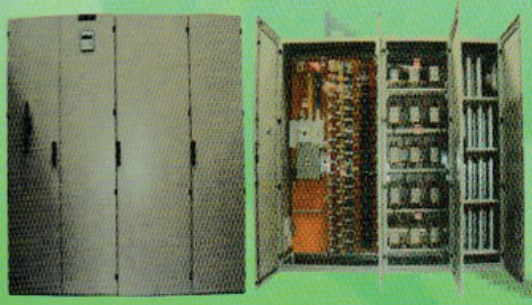
Main Distribution Boards

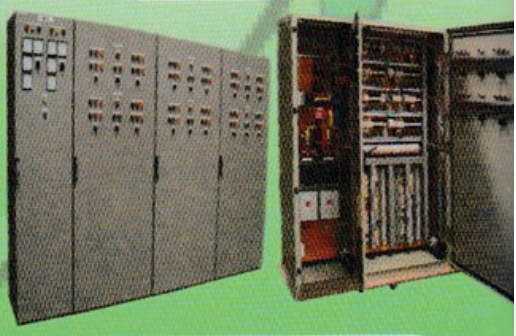
Generator Synchronizing Panels

Capacitor Bank Panels

Motor Control Center Panels

Pump Control Panels

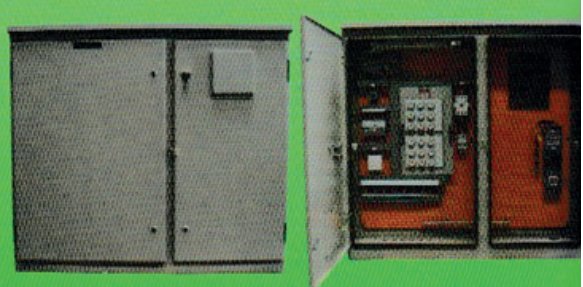




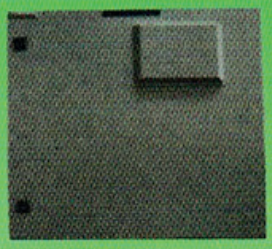
Automatic Transfer Switch Panels

Sub Main Distribution Boards

Street Lighting Feeder Pillars

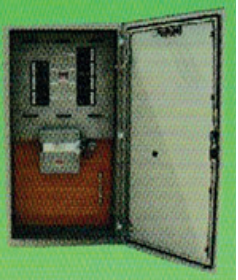


Metering cabinets



Isolator Panels

Manual Change Over Panels



Final Distribution Boards

Control Panels

RTU Panels

TECHNICAL INFORMATION

Calulation of the Capacitor Size

The reactor power which is necessary to achieve a desired power factory is calculated by the following formula

$Q_C = P (\tan\varphi_1 - \tan\varphi_2)$

P	Active power of the load to be corrected
Qc	Reactive power of the required correcting capacitor
$\cos\varphi_1$	Orignal Power factor before correction
$\cos\varphi_2$	new power factor

The factor $(\tan\varphi_1 - \tan\varphi_2)$ can be determined by means of the chart below

original power factor		multiplication factor $(\tan\varphi_1 - \tan\varphi_2)$ for a target power facto $\cos\varphi_2$									
$\cos\varphi_1$	$\cos\varphi_2$	0.70	0.70	0.80	0.85	0.90	0.92	0.94	0.96	0.98	1.00
0.20	4.899	3.879	4.017	4.149	4.279	4.415	4.473	4.536	4.607	4.696	4.899
0.25	3.873	2.853	2.991	3.123	3.253	3.389	3.447	3.510	3.581	3.670	3.873
0.30	3.180	2.160	2.298	2.430	2.560	2.695	2.754	2.817	2.888	2.977	3.180
0.35	2.676	1.656	1.795	1.926	2.057	2.192	2.250	2.313	2.385	2.473	2.676
0.40	2.291	1.271	1.409	1.541	1.672	1.807	1.865	1.928	2.000	2.068	2.291
0.45	1.985	0.964	1.103	1.235	1.365	1.500	1.559	1.622	1.693	1.781	1.985
0.50	1.732	0.712	0.850	0.982	1.112	1.248	1.306	1.369	1.440	1.529	1.732
0.55	1.518	0.498	0.637	0.768	0.899	1.034	1.092	1.156	1.227	1.315	1.518
0.60	1.333	0.313	0.451	0.583	0.714	0.849	0.907	0.970	1.042	1.130	1.333
0.65	1.169	0.149	0.287	0.419	0.549	0.685	0.743	0.806	0.877	0.966	1.169
0.70	1.020		0.138	0.270	0.400	0.536	0.594	0.657	0.729	0.817	1.020
0.75	0.882			0.132	0.262	0.398	0.456	0.519	0.590	0.679	0.882
0.80	0.750				0.130	0.266	0.324	0.387	0.458	0.547	0.750
0.85	0.620					0.135	0.194	0.257	0.328	0.417	0.620
0.90	0.484						0.058	0.121	0.193	0.281	0.484
0.95	0.329								0.037	0.126	0.329

current carrying capacities of Busbars

Copper busbars according to DIN 43761 / 12.75 (extract) material E-CuF30/F25

Width X Thickness	CONTINUOUS CURRENT							
	Ambient temperature : 35°C Temperature rise : 30°C				Ambient temperature : 50°C Temperature rise : 32°C			
	Painted Number of bars		Painted Number of bars		Painted Number of bars		Painted Number of bars	
	1	2	1	2	1	2	1	2
	I	II	I	II	I	II	I	II
mm	A	A	A	A	A	A	A	A
20x5	20x5	560	274	500	319	-	274	-
30x5	30x5	760	379	672	447	-	379	-
40x5	40x5	952	482	836	573	-	482	-
50x5	50x5	1140	583	994	697	-	583	-
20x10	20x10	924	427	825	497	924	427	825
30x10	30x10	1200	570	1060	676	1200	573	1060
40x10	40x10	1470	715	1290	850	1470	715	1290
50x10	50x10	1720	852	1510	1020	1720	852	1510
60x10	60x10	1960	985	1720	1180	1960	985	1720
80x10	80x10	2410	1240	2110	1500	2410	1240	2110
100x10	100x10	2850	1490	2480	1810	2850	1490	2480

Forms of Separation / Type of Construction

Form 1

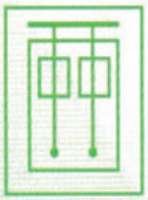
No Internal Separation

Form 2

Separation of busbars from the functional units

Terminals NOT separated from busbars

Type 1:
Busbar separation by insulated coverings e.g sleeving, wrappingmor coatings

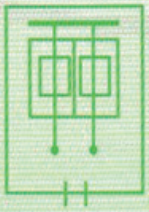


Terminals separated from busbars

Type 1:
Busbar separation bymetallic or non-metallic rigid barriers or partitions

Form 3a

Separation of busbars from the functional units, functional units from one another terminals from functional units but not from each other



Terminals NOT Separated from busbars

TYPE 1:
Busbar separation by insulated coverings e.g. sleeving, wrapping or coatings

Form 3b

Separation of busbars from the functional units, functional units from one another terminals from functional units but not from each other

Terminals Separated from busbars

TYPE 2:
Busbar separation by metallic or non-metallic rigid barrier or partitions

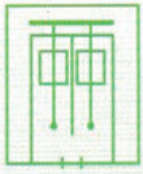
Form 4

Separation of busbars from the functional units, functional units from one another terminals of functional units

Typical Variants

Terminals in same comparmentment as functional unit

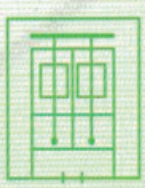
Type 1:
Busbar separation by insulated coverings e.g. sleeving, wrapping or coatings. Cables glanded elsewhere



Type 2:
Busbar separation by metallic or non-metallic rigid barriers or partitions. Cables glanded elsewhere.

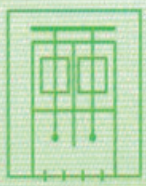
Type 3:
All separation by metallic or non-metallic rigid barriers or partitionals.
The terminals for each functional unit have their own integral glanding facility.

Terminals NOT in same compartment as functional unit



Type 3:
Busbar separation by insulatedcovering e.g. sleeving, wrapping or coatings. Cables glanded elsewhere

Type 1:
Busbar separation by metallic or non-metallic rigid barriers or partitions. Termainals separated by insulated coverings. Cables glanded in common cabling chamber



Type 1:
All separation by metallic or non-metallic rigid barriers or partitions. Cables glsnded in common cabling chamber

Type 1:
All separation by metallic or non-metallic rigid barriers or partitions.The terminals for each functional unit have their own integral glanding facility

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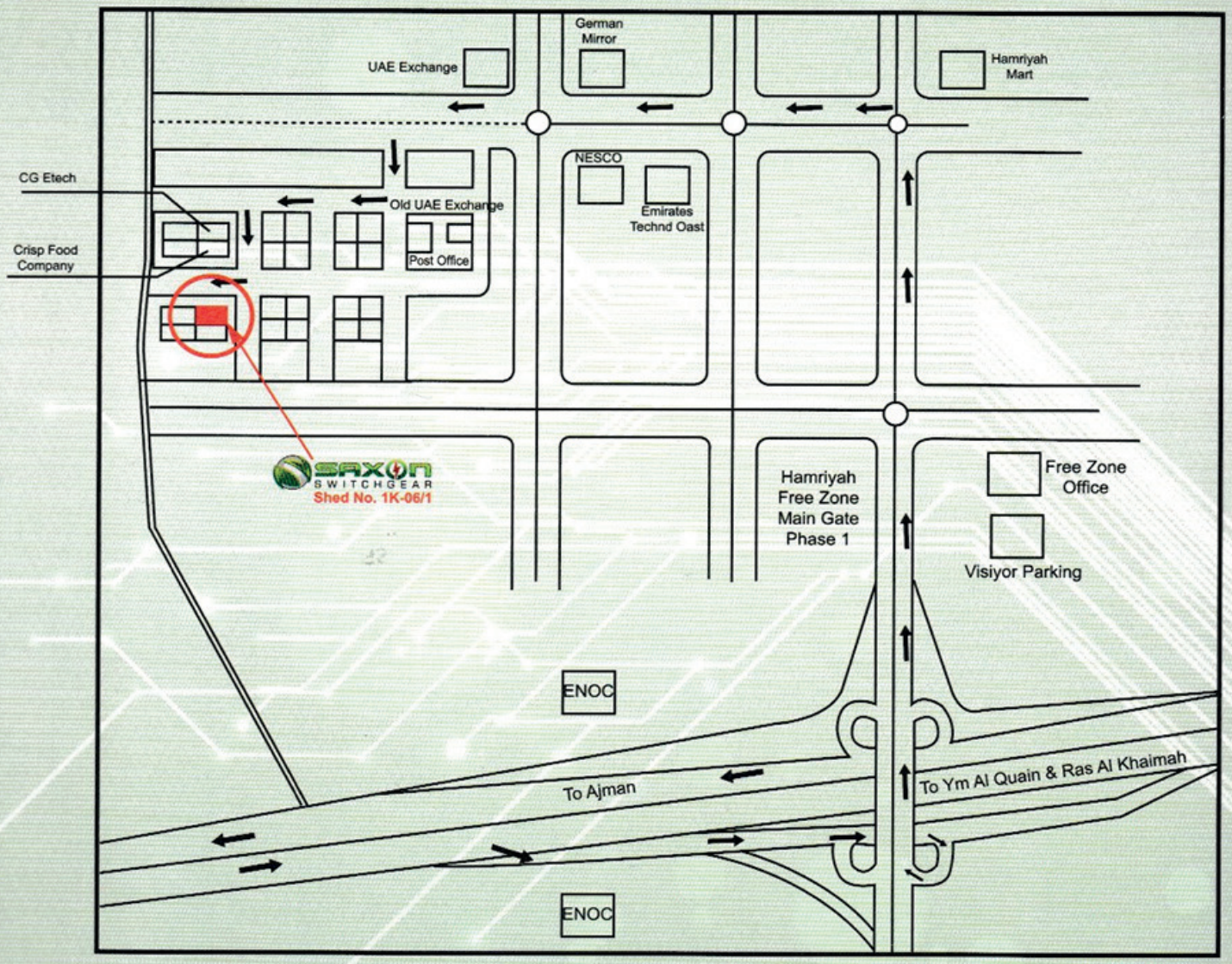

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UKAS PRODUCT CERTIFICATION

SAXON SWITCHGEAR

QRS ISO 9001 : 2008 CERTIFIED

ASCB(E) Accrediting Certifying Bodies

ISO 9001 : 2008 CERTIFIED