## CLIENT: AL KARAM TOWEL

## PROJECT: M/S Supply of PANELS FOR AL KARAM TOWEL

COMPONENTS COSTING AS PER PROVIDED DETAILS

DESCRIPTION	RAT	ING	MAKE	QTY	
ı	AMP	sc			
SUPPLY OF NEW 3200A BREAKER, COPPER MA INCOMING FROM K.E 1	IN BUS AND LINKS IN	EXISTING PANEL			
ACB TP (ADJ.)	3200A	100kA	ABB	1	
MOTOR MECHANISM 220V AC			ABB	1	
UVT			ABB	1	
SHUNT OPENING			ABB	1	
SHUNT CLOSING			ABB	1	
CTs	3200/5A		METLEX	3	
PHASE INDICATION LIGHTS (R/Y/B)			S.A./CAMSCO	3	
CONTROL MCB / FUSE + BASE	2A		CAMSCO / HIMEL	6	
BUSBAR PER PHASE + NEUTRAL	1X100 X 5	SERVICES	LOVATA	4	
BUSBAR EARTH	80 X 05	SERVICES	LOVATA	1	
SUPPLY OF 3200A AUTO PHASE REVERSAL PA	NEL				
ACB TP(ADJ.)	3200A	100kA	ABB	2	
UVT	220VAC		ABB	2	
SHUNT OPENING	220VAC		ABB	2	
SHUNT CLOSING	220VAC		ABB	2	
MOTOR MECHANISM	220VAC		ABB	2	
CTs	ZZOVAO		FICO/METALEX	3	
ENERGY ANALYZER	220VAC	R/Y/B	CIRCUTOR / EQU	1	
PHASE INDICATION LIGHTS (R/Y/B)	220VAC	17/1/0	CAMSCO / HIMEL	3	
CONTROL MCB / FUSE + BASE	3200/5A	+	CAMSCO / HIMEL CAMSCO / HIMEL	3	
CONTINUE MICE / FUSE + BASE	320U/3A	1	CANOCO / FINIEL	] 3	
CONTROL SECTION:		1 1	INTER/EQU		
EVR RELAY			INTER/EQU.	1	
TIMER WITH BASE			AUTONICS/ EQU.	2	
INDICATION LIGHTS (NORMAL G)	220VAC		CAMSCO / HIMEL	1	
INDICATION LIGHTS (ABNORMAL R)	220VAC		CAMSCO / HIMEL	1	
CONTROL MCB / FUSE + BASE	2A		CAMSCO / HIMEL	2	
PHASE SEQUENCE RELAY			EMIREL/EQU.	1	
CONTROL RELAY WITH BASE			PHOENIX	1	
THERMOSTATE RELAY			IMPORTED	1	
THERMOOTATE REEAT					
EXHAUST FAN WITH FILTER			IMPORTED	2	
				2	
EXHAUST FAN WITH FILTER	2000A	100kA		2	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL	2000A 220VAC	100kA	IMPORTED	<u>'</u>	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.)		100kA	IMPORTED ABB	1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT	220VAC	100kA	IMPORTED  ABB  ABB	1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING	220VAC 220VAC	100kA	IMPORTED  ABB  ABB  ABB	1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM	220VAC 220VAC 220VAC 220VAC		ABB ABB ABB ABB ABB	1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)	220VAC 220VAC 220VAC 220VAC 220VAC	100kA	ABB ABB ABB ABB ABB ABB	1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT	220VAC 220VAC 220VAC 220VAC 220VAC		ABB ABB ABB ABB ABB ABB ABB	1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING	220VAC 220VAC 220VAC 220VAC 220VAC 2000A 220VAC 220VAC		ABB	1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT	220VAC 220VAC 220VAC 220VAC 220VAC		ABB ABB ABB ABB ABB ABB ABB	1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM	220VAC 220VAC 220VAC 220VAC 220VAC 2000A 220VAC 220VAC 220VAC		ABB	1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS	220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 3	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER	220VAC		ABB	1 1 1 1 1 1 1 1 1 1 1 3	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS	220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 3	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL SECTION:	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 6 6 6	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL SECTION:  TIMER WITH BASE	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL SECTION:  TIMER WITH BASE  INDICATION LIGHTS (NORMAL G)	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL SECTION:  TIMER WITH BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTs  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL SECTION:  TIMER WITH BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL RELAY WITH BASE  CONTROL RELAY WITH BASE	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM   CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH  THERMOSTATE RELAY	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM   CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH  THERMOSTATE RELAY  EXHAUST FAN WITH FILTER  SUPPLY OF 900KVAR PFI	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH  THERMOSTATE RELAY  EXHAUST FAN WITH FILTER  SUPPLY OF 900KVAR PFI  ACB TP	220VAC 2A 3200/5A  220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL RELAY WITH BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH  THERMOSTATE RELAY  EXHAUST FAN WITH FILTER  SUPPLY OF 900KVAR PFI	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM   CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL SECTION:  TIMER WITH BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL MCB / FUSE + BASE  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH  THERMOSTATE RELAY  EXHAUST FAN WITH FILTER  SUPPLY OF 900KVAR PFI  ACB TP  CTS  12 STAGE PFI RELAY	220VAC 2A 3200/5A  220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
EXHAUST FAN WITH FILTER  SUPPLY OF 2000A CHANGE OVER PANEL  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  ACB TP(ADJ.)  UVT  SHUNT OPENING  SHUNT CLOSING  MOTOR MECHANISM  CTS  ENERGY ANALYZER  PHASE INDICATION LIGHTS (R/Y/B)  CONTROL MCB / FUSE + BASE  CONTROL MCB / FUSE + BASE  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (NORMAL G)  INDICATION LIGHTS (ABNORMAL R)  CONTROL MCB / FUSE + BASE  M-O-A SELECTOR SWITCH  THERMOSTATE RELAY  EXHAUST FAN WITH FILTER  SUPPLY OF 900KVAR PFI  ACB TP  CTS	220VAC 2A 3200/5A  220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

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MCCB TP	100A	25kA	OWNER PROVIDED	3			
6 X 25KVAR = 150 KVAR (3 VARIABLE STAGE)							
POWER FACTOR CAPACITOR @ 415VAC	25KVAR		OWNER PROVIDED	5			
POWER FACTOR CAPACITOR @ 415VAC	25KVAR		NOKIAN / EQU.	1			
MAGNETIC CONTACTOR TP @ AC-3	50A		FUJI / EQU.	3			
MCCB TP	50A	25kA	TERASAKI	3			
6x100KVAR=600KVAR (6 VARIABLE STAGE):							
POWER FACTOR CAPACITOR @ 415VAC	50KVAR		NOKIAN / EQU.	12			
MAGNETIC CONTACTOR TP @ AC-3	105A		FUJI / EQU.	12			
MCCB TP	100A	25kA	TERASAKI	12			
	•						
MANUAL - OFF - AUTO SWITCH		G/R	CAMSCO	12			
ON/OFF PUSH BUTTON (G/R)			S.A./CAMSCO	24			
ON/OFF INDICATION LIGHT (G/R)	2A	2A/5	CAMSCO / HIMEL	24			
CONTROL MCB / FUSE + BASE			EMAS	3			