## CLIENT: AL KARAM TOWEL

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

COMPONENTS COSTING AS PER PROVIDED B.O.Q.

l	RAT	ING	MAKE	QTY
	AMP	SC		
SUPPLY OF NEW 3200A BREAKER, COPPER MAI				
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 PAI ACB TP(ADJ.)	3200A	100kA	ABB	2
UVT	220VAC	100.01	ABB	2
SHUNT OPENING	220VAC		ABB	2
SHUNT CLOSING	220VAC		ABB	2
MOTOR MECHANISM	220VAC		ABB	2
CTs	220770		FICO/METALEX	3
ENERGY ANALYZER	220VAC	R/Y/B	CIRCUTOR / EQU	1
PHASE INDICATION LIGHTS (R/Y/B)	220VAC 2A	17/1/0	CAMSCO / HIMEL	3
CONTROL MCB / FUSE + BASE	3200/5A		CAMSCO / HIMEL	3
COMMOD/100L T DAGE	3200/3A		ONWIGOU / I IIIVIEL	
CONTROL SECTION:	ľ			ı
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
EXHAUST FAN WITH FILTER			IMPORTED	2
SUPPLY OF 2000A CHANGE OVER PANEL				
ACB TP(ADJ.)	2000A	100kA	ABB	1
UVT	220VAC		ABB	1
SHUNT OPENING	220VAC		ABB	1
SHUNT CLOSING	220VAC		ABB	1
MOTOR MECHANISM	220VAC		ABB	1
ACR TR(ADI)	20004	100kA	OWNED PROVIDED	1
ACB TP(ADJ.) UVT	2000A	TUUKA	OWNER PROVIDED	
SHUNT OPENING	220VAC		OWNER PROVIDED	1
	220VAC	<del>-</del>	OWNER PROVIDED	1
SHUNT CLOSING MOTOR MECHANISM	220VAC 220VAC		OWNER PROVIDED OWNER PROVIDED	1
MOTOR MECHANISM	ZZUVAC		OWNER PROVIDED	ı ı
OT:			FICO/METALEX	3
CTs	220VAC	R/Y/B	CIRCUTOR / EQU	1
CTs ENERGY ANALYZER			CAMSCO / HIMEL	
	2A			6
ENERGY ANALYZER	2A 3200/5A		CAMSCO / HIMEL	6
ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE				
ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE  CONTROL SECTION:			CAMSCO / HIMEL	6
ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE  CONTROL SECTION: TIMER WITH BASE	3200/5A		CAMSCO / HIMEL  AUTONICS/ EQU.	6
ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE  CONTROL SECTION: TIMER WITH BASE INDICATION LIGHTS (NORMAL G)	3200/5A 220VAC		CAMSCO / HIMEL  AUTONICS/ EQU.  CAMSCO / HIMEL	2 1
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)	3200/5A		CAMSCO / HIMEL  AUTONICS/ EQU.  CAMSCO / HIMEL  CAMSCO / HIMEL	2 1 1
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	3200/5A 220VAC 220VAC		CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX	2 1 1
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 CONTROL MCB / FUSE + BASE	3200/5A 220VAC		CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL	2 1 1 1 2
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 CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH	3200/5A 220VAC 220VAC		CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL	2 1 1 1 2
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 CONTROL MCB / FUSE + BASE	3200/5A 220VAC 220VAC		CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL	2 1 1 1 2
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 CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY	3200/5A 220VAC 220VAC		CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL IMPORTED	2 1 1 1 2 1 1
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 CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER  SUPPLY & INSTALLATION OF 900KVAR PFI	3200/5A  220VAC 220VAC 2A		CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL IMPORTED IMPORTED	2 1 1 1 2 1 1 1 2
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 M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER  SUPPLY & INSTALLATION OF 900KVAR PFI ACB TP	3200/5A  220VAC 220VAC 2A  1600A	100kA	CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL IMPORTED IMPORTED OWNER PROVIDED	2 1 1 1 2 1 1 2
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 CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER  SUPPLY & INSTALLATION OF 900KVAR PFI	3200/5A  220VAC 220VAC 2A	100kA	CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL IMPORTED IMPORTED	2 1 1 1 2 1 1 2
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 CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER  SUPPLY & INSTALLATION OF 900KVAR PFI ACB TP CTS	3200/5A  220VAC 220VAC 2A  1600A	100kA	CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL IMPORTED IMPORTED OWNER PROVIDED METLEX	2 1 1 2 1 1 2 2
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 CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER  SUPPLY & INSTALLATION OF 900KVAR PFI ACB TP CTS	3200/5A  220VAC 220VAC 2A  1600A	100kA	CAMSCO / HIMEL  AUTONICS/ EQU. CAMSCO / HIMEL CAMSCO / HIMEL PHOENIX CAMSCO / HIMEL CAMSCO / HIMEL IMPORTED IMPORTED OWNER PROVIDED METLEX	2 1 1 2 2 1 1 2

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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