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ESS PARAMETERS

PARAMETER	DESCRIPTION	SETTING	COMMENTS
1–2	MOTOR FULL LOAD CURRENT	**A	
1–3	MOTOR kW	**kW	
1–4	LOCKED ROTOR TIME	**:** MIN:SEC	
1–5	LOCKED ROTOR CURRENT	***%	
1–6	MOTOR SERVICE FACTOR	***%	
2–1	START MODE	**	
2–2	START RAMP TIME	**:** MIN:SEC	TO MAXIMUM 15s
2–3	INITIAL CURRENT	***%	
2–4	CURRENT LIMIT	***%	TO MAXIMUM 350%
2–5	ADAPTIVE START PROFILE	**	
2–9	STOP MODE	**	
2–10	STOP TIME	**:** MIN:SEC	TO MAXIMUM 15s
2–11	ADAPTIVE STOP PROFILE	**	
2–12	ADAPTIVE CONTROL GAIN	**%	
5–16	RESTART DELAY	00:01 MIN:SEC	
5–17	STARTS PER HOUR	**	TO MAXIMUM 5
6–3	CURRENT IMBALANCE	LOG ONLY	
6–4	UNDERCURRENT	LOG ONLY	
6–5	OVERCURRENT	LOG ONLY	
6–6	UNDERVOLTAGE	LOG ONLY	
6–7	OVERVOLTAGE	LOG ONLY	
6–10	EXCESS START TIME	TRIP STARTER	
6–11	INPUT A	LOG ONLY	
6–12	INPUT B	LOG ONLY	
6–13	NETWORK COMMS	LOG ONLY	
6–14	REMOTE KEYPAD	LOG ONLY	
6–15	FREQUENCY	TRIP STARTER	
6–16	PHASE SEQUENCE	LOG ONLY	
6–17	MOTOR OVER TEMPERATURE	TRIP STARTER	
6–18	MOTOR THERMISTOR	LOG ONLY	
6–19	SHORTED SCR	TRIP STARTER	
6–20	BATTERY/CLOCK	LOG ONLY	
7–9	RESET/ENABLE LOGIC	NORMALLY OPEN	
8–1	RELAY A FUNCTION	OFF	
8–4	RELAY B FUNCTION	TRIP STARTER	

INSTRUCTIONS FOR USE

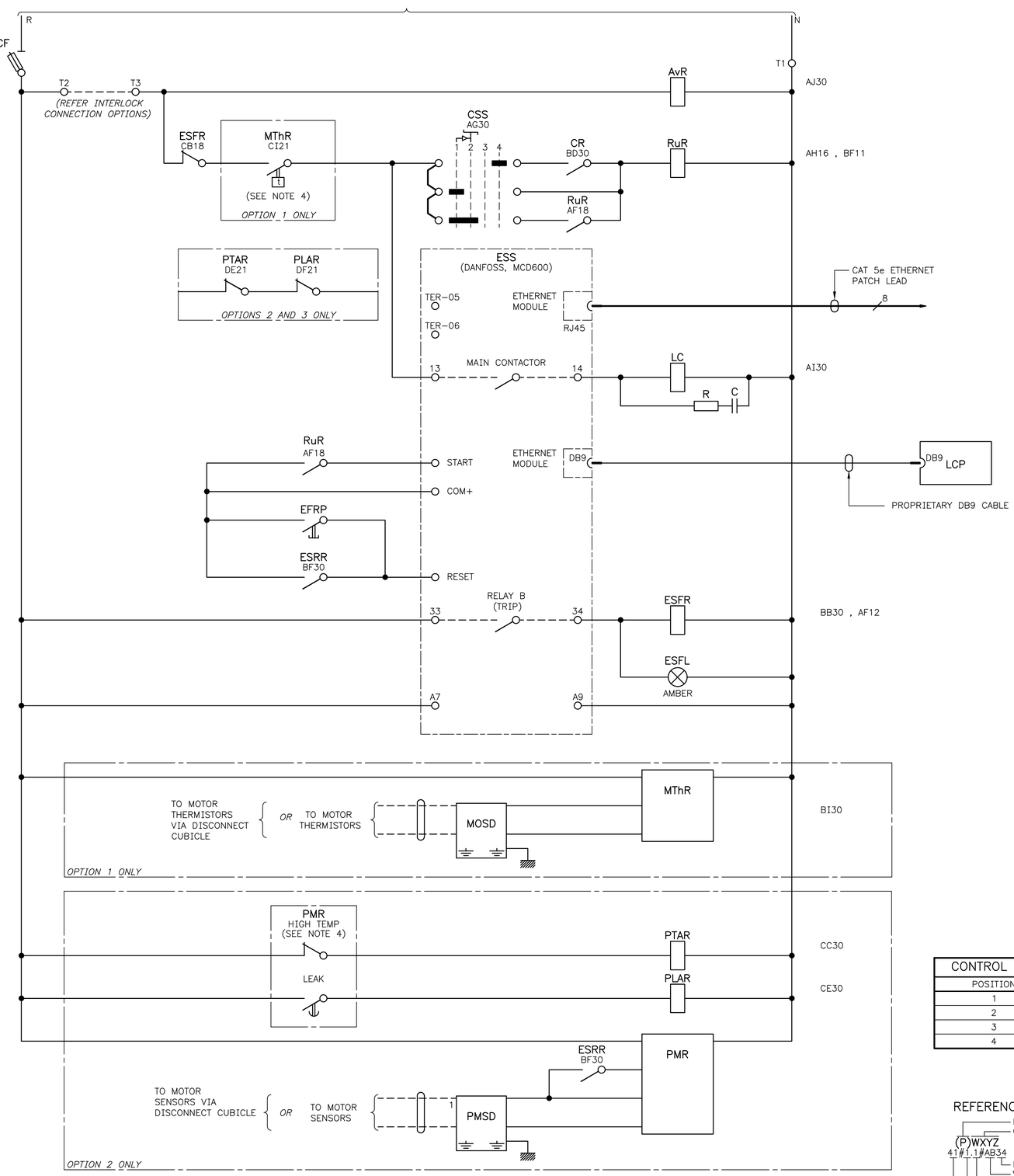
1. *ASTERISKS INDICATE APPLICATION SPECIFIC VALUES THAT SHALL BE NOMINATED BY DETAIL DESIGNER*
2. *PARAMETERS NOT LISTED REMAIN AT DEFAULT VALUES*
3. *STANDARD REGISTERS FOR PUMP MONITORING:*
   - *CURRENT 40005*
   - *AVERAGE 3 PHASE POWER 40608*
4. *FOR ESS PARAMETERS TO FUNCTION ETHERNET CARD NEEDS TO BE SET TO LEGACY MODE BY RESETTING REGISTER 40001 TO 0*
5. *PARAMETER GROUP 12 COMMUNICATIONS CARD SETTINGS TO BE DEFINED BY OPERATIONS TECHNOLOGY*

CODE SCHEDULE

AvR	AVAILABLE RELAY
C	CAPACITOR
CF	CONTROL FUSE
CR	CONTROL RELAY
CSS	CONTROL SELECTOR SWITCH
D	DIODE
EFRP	ELECTRONIC SOFT STARTER FAULT RESET PUSHBUTTON
ESFL	ELECTRONIC SOFT STARTER FAULT INDICATING LIGHT
ESFR	ELECTRONIC SOFT STARTER FAULT RELAY
ESpP	EMERGENCY STOP PUSHBUTTON
ESRR	ELECTRONIC SOFT STARTER REMOTE RESET RELAY
ESS	ELECTRONIC SOFT STARTER
LC	LINE CONTACTOR
LCP	LOCAL CONTROL PANEL
MOSD	MOTOR OVERTEMPERATURE SURGE DIVERTER
MThR	MOTOR THERMISTOR RELAY
PLAR	PUMP LEAK ALARM RELAY
PMR	PUMP MONITORING RELAY
PMSD	PUMP MONITORING SURGE DIVERTER
PTAR	PUMP MOTOR HIGH TEMPERATURE ALARM RELAY
R	RESISTOR
RuR	RUN RELAY

GENERAL NOTES

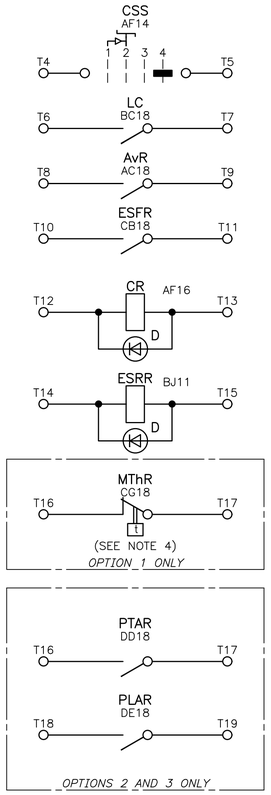
1. DRAWN NO POWER CONDITION
2. UNLESS OTHERWISE SHOWN 240V AC CONTROL CABLING MINIMUM 0.75mm^2 Cu PVC V75 OR LSFLEX R–125
3. UNLESS OTHERWISE SHOWN 24V DC CONTROL CABLING MINIMUM 0.5mm^2 Cu PVC V75 OR LSFLEX R–125
4. MOTOR THERMISTOR RELAY AND PMR HIGH TEMP CONTACTS CHANGE STATE ON ENERGIZATION
5. PUMP MONITORING RELAY 'HIGH TEMP ALARM' CONTACT CHANGES STATE ON ENERGIZATION
6. PUMP MONITORING RELAY 'LEAK ALARM' CONTACT DOES NOT CHANGE STATE ON ENERGIZATION



OPTION TABLE

No	DESCRIPTION
1	MOTOR WITH THERMISTORS
2	MOTOR WITH THERMAL SWITCH AND STATOR LEAK SENSOR (FLYGT)
3	MOTOR WITH THERMAL SWITCH AND STATOR LEAK SENSOR (FLYGT MAS801)

SEE MN01–22–4.3 FOR OPTION 3

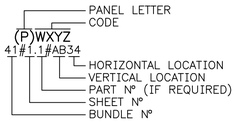


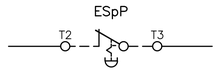
CONTROL INTERCONNECTIONS

CONTROL SELECTOR SWITCH

POSITION	FUNCTION
1	LOCAL START
2	LOCAL RUN
3	OFF
4	NORMAL

REFERENCE EXPLANATION





INTERLOCK CONNECTION OPTIONS

SELECTION DEPENDENT ON APPLICATION

ISSUE	DATE	GRID	REVISION	DRN	REC	APPD
E	01/2023		PTAR CONTROL CONTACT REVISED	PH	SEL	EG
D	02/2022		COMMUNICATIONS CHANGED TO ETHERNET	PH	TL	EG
C	03/2021		REDESIGNED FOR MCD600; CONTROL INTERLOCKS REVISED	PH	TL	EG
B	10/2020		SDTAM MODULE ADDED; MOTOR PROTECTION CIRCUIT AND AvR CONTROL WIRING REVISED	PH	EG	NJ

566
810

DESIGN SURVEY NONE	VERTICAL DATUM NONE	DES CALC T LIU	NORTH POINT
	COORDINATE SYS NONE	DES CHD E GLIWSKI	
ASCON SURVEY NONE	DES REF	DRN P HARVEY	
		Q.C. CHD S MEMORY	

SUBMITTED 29/11/2019 T LIU (SIGNED) SENIOR ENGINEER – ELECTRICAL

RECOMMENDED 29/11/2019 E GLIWSKI (SIGNED) PRINCIPAL ENGINEER – ELECTRICAL

APPROVED 28/11/2019 N JOHNSON (SIGNED) SNR PRINCIPAL ENGINEER – ELECT

ENGINEERING

WATER CORPORATION

ELECTRICAL STANDARD SWITCHBOARD DESIGNS
SMALL PUMP STATIONS
MOTOR STARTER REFERENCE – WASTEWATER
ELECTRONIC SOFT STARTER – CONTROL DIAGRAM 100.1A – 263A

FILE | PLAN | CAD | ISSUE
PROJECT | MN01–22–8.2 | E

ORIGINAL SHEET SIZE A1

MF

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