

A

B

C

D

E

F

A

B

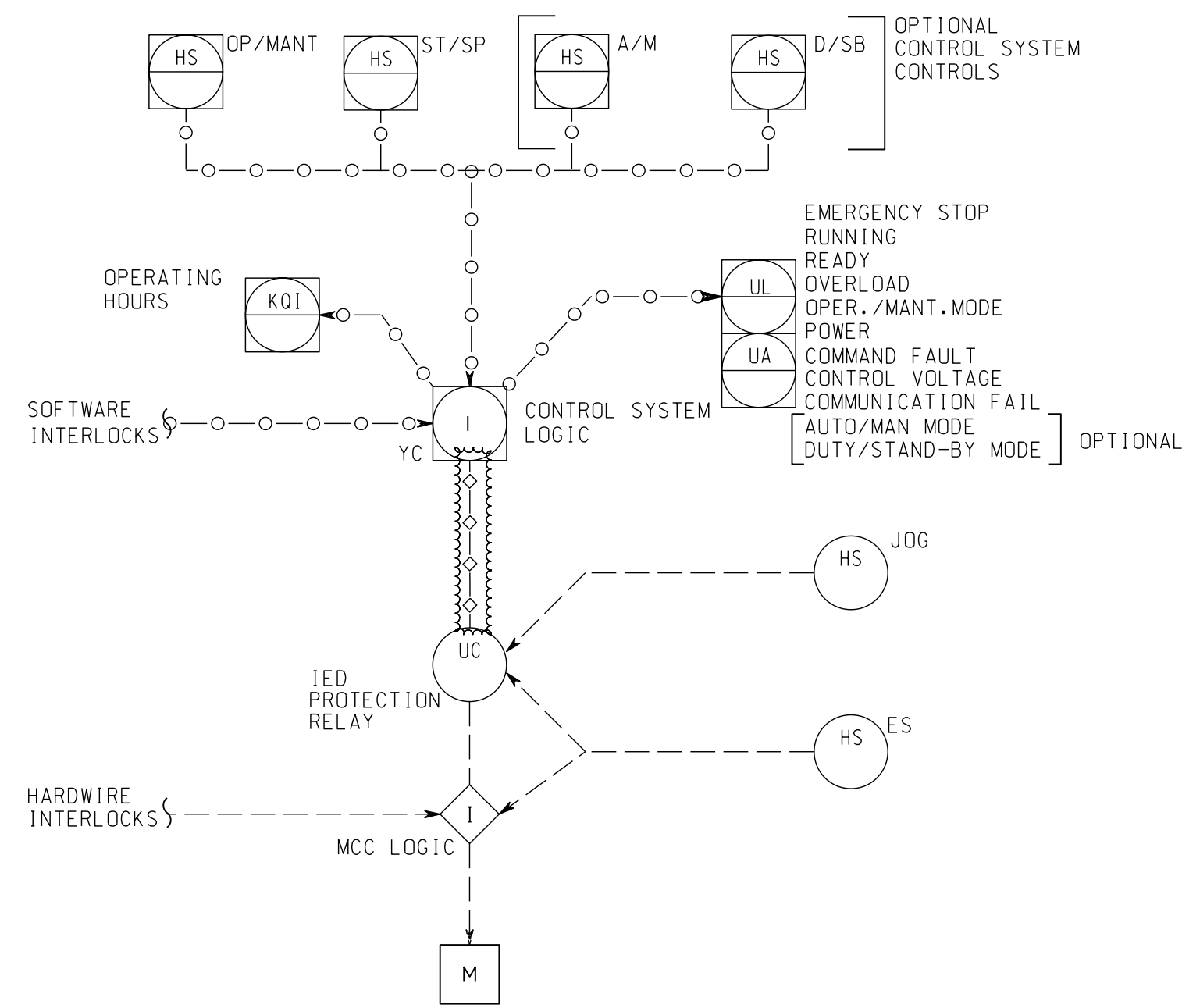
C

D

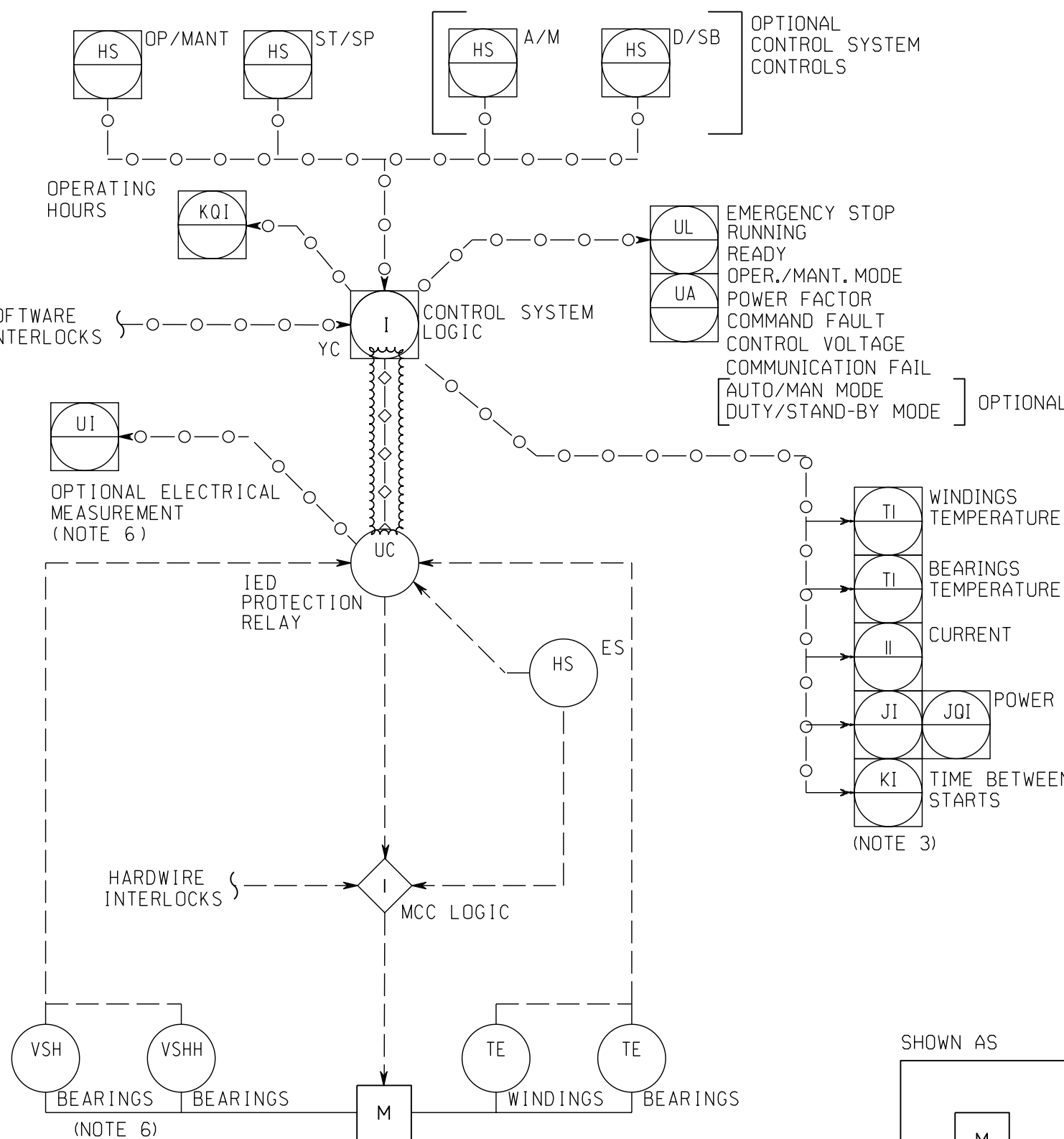
E

F

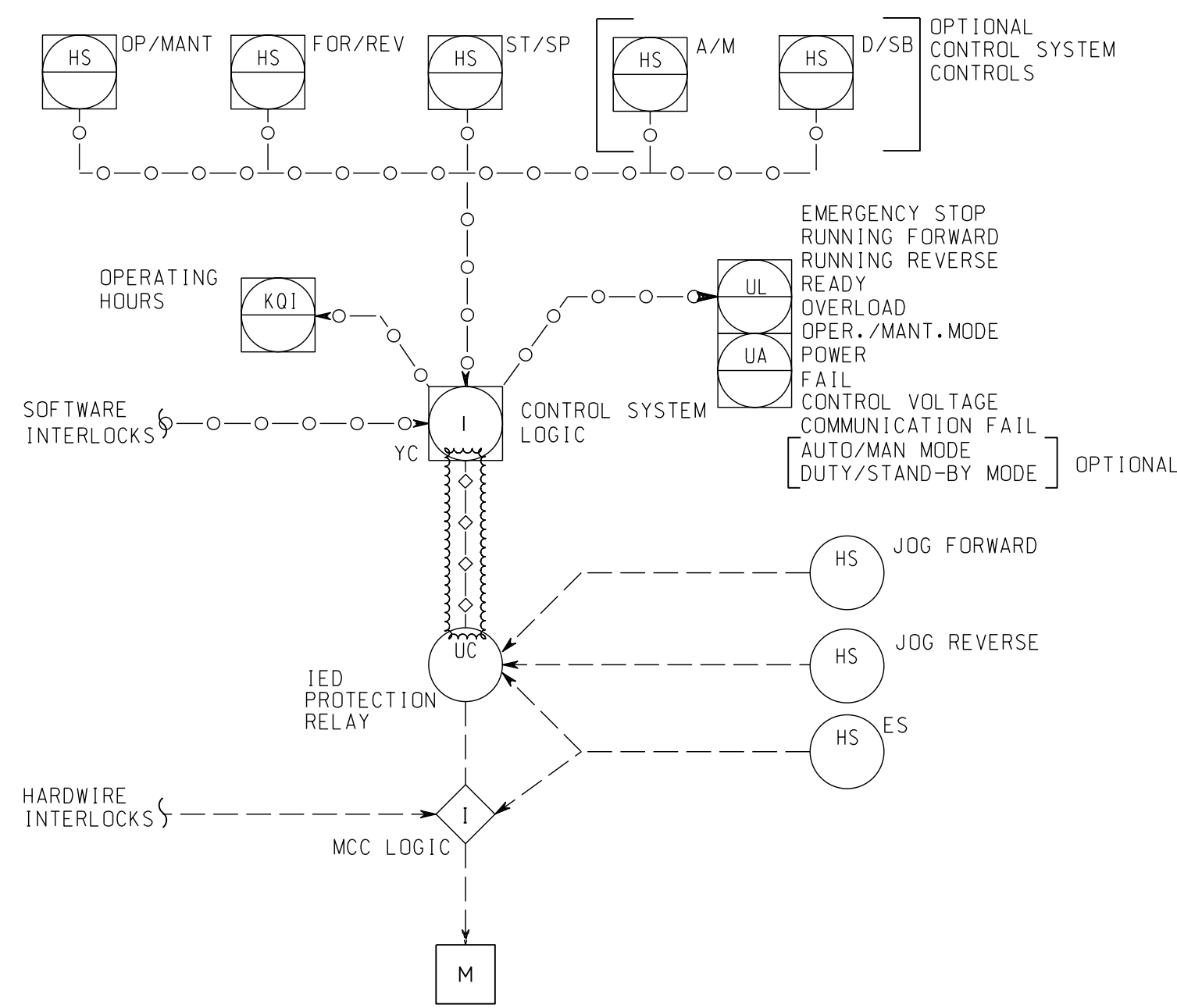
TYPE M1:480 VAC FIXED SPEED MOTOR



TYPE M3: MEDIUM VOLTAGE (4.16 kV) FIXED SPEED MOTOR



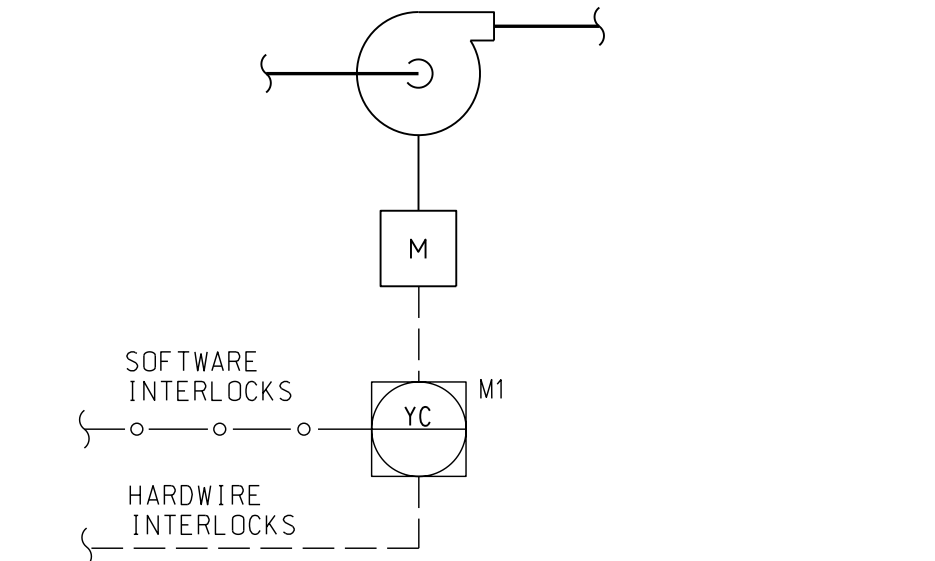
TYPE M5:480 VAC FIXED SPEED MOTOR (FORWARD/REVERSE)



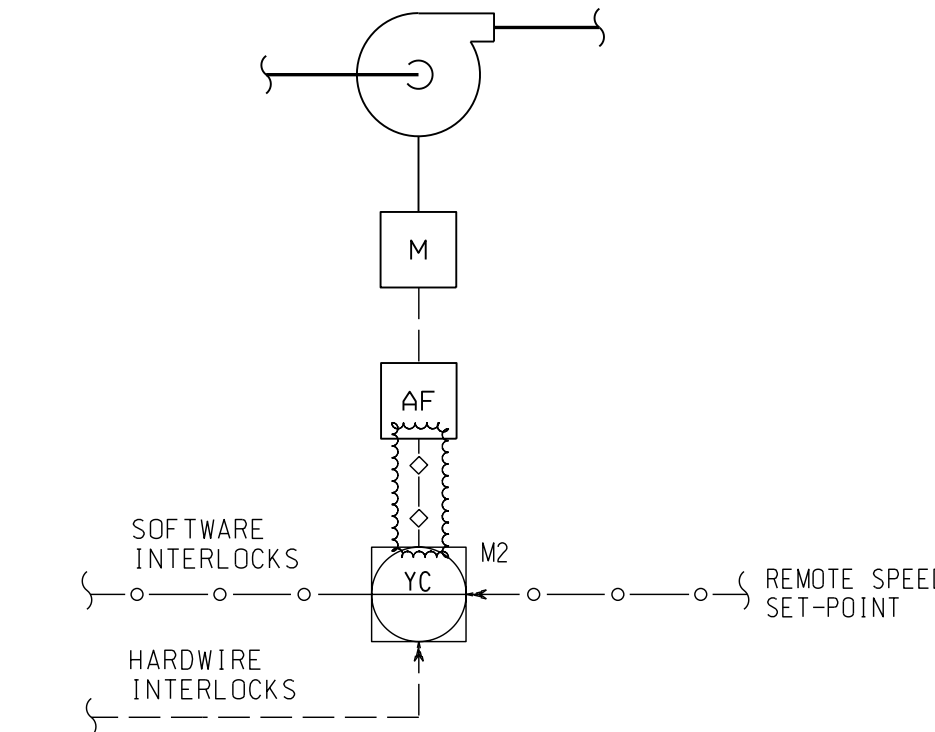
NOTES:

- THE FOLLOWING DCS FUNCTIONS ARE OPTIONAL:
AUTOMATIC/MANUAL SELECTOR
DUTY/STANDBY SELECTOR
DUTY/STAND BY SELECTOR, A SUCCESSIVE LETTER SHALL BE ADDED NEXT TO THE MOTOR TYPE SYMBOL, AS INDICATED THE LIST BELOW.
A : AUTOMATIC/MANUAL SELECTOR
D : DUTY/STANDBY SELECTOR
- THE MEANING OF L/R SELECTOR IS, THE "CONTROL OF A MOTOR DIRECTLY FROM THE ADJUSTABLE FREQUENCY DRIVE" OR FROM THE "DISTRIBUTED CONTROL SYSTEM".
- ALARM LEVELS OF THESE PARAMETERS SHALL BE DEFINED CASE BY CASE.
- ST : START
SP : STOP
OP : OPERATION
MANT : MAINTENANCE
ES : EMERGENCY STOP
FOR : FORWARD
REV : REVERSE
- IF THE MOTOR CAN BE ACTIONATED FORWARD/REVERSE, CHANGE THE JOG PUSH BUTTON BY FORWARD JOG BUTTON AND INCLUDE OTHER REVERSE JOG BUTTON.
- FOR MOTORS WITH RATED POWER GREATER THAN OR EQUAL TO 750 KW (1000 HP), CURRENT TRANSFORMERS AND VIBRATION SWITCHES SHALL BE INCLUDED.
- MEDIUM VOLTAGE AFD HAVE JOG FORWARD/JOG REVERSE PANEL MOUNTED SELECTOR.
- DETAILED MOTOR BLOCK SIGNALS ARE DESCRIBED IN DCS CONFIGURATION AND PROGRAMMING DESIGN CRITERIA.
- FOR MOTOR CONTROLLED BY A PLC, THE DCS SYMBOL SHALL BE CHANGED TO PLC SYMBOL

EXAMPLE OF USING TYPICAL CONTROL DESCRIPTION SYMBOLS IN P&ID



EXAMPLE: 480 VAC MOTOR WITH FIXED SPEED, INCLUDING INDIVIDUAL AUTOMATIC/MANUAL SELECTOR FROM DCS.



EXAMPLE: 480 VAC MOTOR WITH ADJUSTABLE FREQUENCY DRIVE, INCLUDING INDIVIDUAL AUTOMATIC/MANUAL SELECTOR FROM DCS.

☐ SPANISH LANGUAGE GOVERNS
☒ ENGLISH LANGUAGE GOVERNS

BHP PARA REVISION FOR REVIEW

☐ Revisado / Reviewed
☐ Revisado con Comentarios Reviewed with comments
☐ Rechazado y volver a emitir Rejected, reissue
☒ Solo Información Information Only

Fecha / Date 17-05-2019 Firma / Signature Marcial Mendoza

Fluor-Salfa

BHP MINERA SPENCE S.A.

SCALE	DATE	DRAWN BY:	DATE
DESIGNED BY:	11-12-18	SYAM	11-12-18
REVISOR BY:	11-12-18	DISCIPLINE LEADER: ADAPA/BARRERA	11-12-18
ENGINEERING MGR: JOSH/LEGGETT	11-12-18	PROJECT MGR: A. KING	11-12-18

SGO PROJECT
MINERAL PROCESS FACILITIES
TYPICAL MOTOR CONTROL DESCRIPTION P&ID

VENDOR DRAWING N°: 4-V2-2000-PR-PID-000009

CONTRACT N°: 8500135645 BHP DRWG N°: 4-V2-2000-PR-PID-000009

REV 2

03-May-19 12:18:28
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Rev. No.	DATE	REVISIONS	DIS.	REV.	D.L.	BHP	REFERENCE DOCUMENTS	BHP N°
03-may-19	ISSUED APPROVED FOR CONSTRUCTION	FC	GG	HG/JB				
20-dec-18	ISSUED APPROVED FOR CONSTRUCTION	SKC	RM	SA/JB				
17-jan-18	ISSUED APPROVED FOR DESIGN	AB	DP	HG				
11-aug-17	ISSUED FOR COMPANY APPROVAL	AB	DP	HG				
25-jul-17	ISSUED FOR INTERNAL REVIEW	AB	DP	HG				