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* - INDICATES COMPONENTS NOT SUPPLIED BY YASKAWA.
 - - INDICATES CUSTOMER WIRING.
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YASKAWA		DATE	11/20/13	TITLE	SCHEMATIC DIAGRAM
DESIGNED BY	P. STOCKUS	DATE	11/21/13	REVISED BY	IQPUMP1000 CONFIGURED
CHECKED BY	D. TUMILSON	DATE	11/21/13	REVISED BY	400HP 12-PULSE
APPROVED BY		DATE		REVISED BY	
DESIGNED BY	P. STOCKUS	DATE	11/21/13	REVISED BY	
CHECKED BY		DATE		REVISED BY	
APPROVED BY		DATE		REVISED BY	
DESIGNED BY	P. STOCKUS	DATE	11/27/14	REVISED BY	
CHECKED BY		DATE		REVISED BY	
APPROVED BY		DATE		REVISED BY	

REV.	DESCRIPTION	ECO.#	DRAWN BY	DATE
03	CHANGED PM STYLE AND FAN SCHEMATIC	5448	NSL	8/11/14
02	CHANGED TO JTD FUSES	5360	PS	6/9/14
01	MOVED L1 FUSES TO THE LINE SIDE	4946	PS	1/27/14

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TABLE 1 FACTORY SET IQPUMP1000 CONFIGURED DRIVE PARAMETERS

PARAMETER	DATA	UNIT	DESCRIPTION/REMARKS
b1-01	SEE TABLE 2	N/A	AUTO SET-POINT SELECTION
b1-02	SEE TABLE 2	N/A	RUN COMMAND SELECTION
E1-01	480	VOLTS	STANDARD INPUT VOLTAGE SETTING
E1-05	460	VOLTS	STANDARD MAXIMUM OUTPUT VOLTAGE SETTING
E2-01	---	AMPS	MOTOR FULL LOAD CURRENT (TO BE SET BY USER)
H1-03	25	N/A	TERMINAL S3 = EXTERNAL FAULT (NORMALLY CLOSED)
H1-05	SEE TABLE 2	N/A	TERMINAL S5 FUNCTION SELECTION
H1-07	24	N/A	TERMINAL S7 = EXTERNAL FAULT (NORMALLY OPEN)
H1-27	5.00	SEC	TERMINAL S7 EXTERNAL FAULT (EF7) DELAY TIME
H3-02	SEE TABLE 2	N/A	TERMINAL A1 FUNCTION SELECTION
H3-06	SEE TABLE 2	N/A	TERMINAL A3 FUNCTION SELECTION
H3-09	SEE TABLE 2	N/A	TERMINAL A2 FEEDBACK SIGNAL LEVEL SELECTION
o2-03	1	N/A	USER INITIALIZATION FACTORY SET PARAMETER DEFAULT VALUES (FOUND IN A1-03="1110")
o3-02	1	N/A	COPY ALLOWED SELECTION ENABLED
P1-02	1	N/A	SYSTEM UNITS (WHERE 1 = POUNDS PER SQUARE INCH (PSI))
P1-03	00145	SYSTEM UNITS	FEEDBACK DEVICE SCALING (TO BE SET BY USER)
P5-01	SEE TABLE 2	N/A	HAND MODE FREQUENCY REFERENCE SELECTION
P5-02	---	HZ	HAND MODE FREQUENCY REFERENCE (TO BE SET BY USER) - SEE TABLE 2
P5-04	SEE TABLE 2	N/A	DRIVE KEYPAD HAND KEY ENABLE/DISABLE
Q1-01	---	SYSTEM UNITS	AUTO MODE SET-POINT REFERENCE (TO BE SET BY USER)

■ = FACTORY 2-WIRE INITIALIZATION/DEFAULT SETTING

NOTES:

- CONNECTED TO THE CABINET. CUSTOMER TO CONNECT THE CABINET GROUND LUGS TO EARTH GROUND AND UTILITY GROUND.
- THE CUSTOMER MUST USE TYPE 3R RATED HUBS OR FITTINGS (OR EQUIVALENT) TO MAINTAIN THE ENCLOSURE RATING.
- N/A
- N/A
- INSULATED TWISTED SHIELDED WIRE IS REQUIRED. 2 OR 3 CONDUCTOR #18GA. (BELDEN NO. 8760 OR 8770, OR EQUIVALENT). SHIELD TO CONNECT TO PROPER TERMINAL AS SHOWN. CONNECT THE SHIELD ONLY AT THIS END. STUB AND ISOLATE THE OTHER END. DO NOT RUN THESE WIRES IN THE SAME CONDUIT AS THE AC POWER AND AC CONTROL WIRES.
- CUSTOMER TO ADJUST THE THERMOSTAT ON THE SPACE HEATER HR1 FOR THE MINIMUM DESIRED TEMPERATURE INSIDE THE DRIVE CABINET. THIS SET TEMPERATURE IS NORMALLY SELECTED TO BE SLIGHTLY HIGHER THAN THE MINIMUM AMBIENT TEMPERATURE OF THE AIR SURROUNDING THE CABINET, AND IS THE TEMPERATURE AT WHICH THE SPACE HEATER HR1 WILL SHUT OFF.
- SERIAL COMMUNICATIONS OPTIONS T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, OR TV (SEE TABLE 2).
 OPTION T2 = ETHERNET/IP; OPTION T3 = DEVICENET; OPTION T4 = PROFINET; OPTION T5 = LONWORKS;
 OPTION T6 = ETHERNET MODBUS TCP/IP AND OPTION TV = DRIVE EMBEDDED MODBUS PROTOCOL.
 THE DRIVE KEYPAD MUST BE IN "AUTO" MODE, IF SERIAL COMMUNICATIONS IS TO BE USED TO CONTROL THE DRIVE.
- WHEN OPTION TL IS ORDERED, A JUMPER IS REQUIRED FROM DRIVE TERMINALS (S1) TO (SN), SO THAT THE LONWORKS SERIAL COMMUNICATIONS CAN BE USED TO CONTROL THE DRIVE.
 CUSTOMER TO REPLACE THE JUMPER WITH NORMALLY CLOSED SAFETY INTERLOCKS, IF APPLICABLE.

FIELD WIRING PRESSURE WIRE CONNECTOR WIRE TYPE RANGE AND TIGHTENING TORQUE SPECIFICATIONS

FOR 0 TO 100 AMPS, USE 60-75°C COPPER WIRE
 AND ABOVE 100 AMPS, USE 75°C COPPER WIRE.

TABLE 2 FACTORY SET IQPUMP1000 CONFIGURED DRIVE PARAMETERS

CONTROL OPTION PRESENT	PARAMETER										AUTO MODE		HAND MODE		
	b1-01	b1-02	H1-05	H3-02	H3-06	H3-09	P5-01	P5-04	DRIVE CONTROL BOARD SWITCH S1(A2)	SET-POINT	FEEDBACK	DRIVE KEYPAD Q1-01	DRIVE KEYPAD IN THE "AUTO" MODE	DRIVE KEYPAD IN THE "HAND" MODE	TIGHTENING TORQUE (LB.-IN.)
NONE	0	0	80	0	20	2	1	1	1	YES	TERMINAL BLOCK TBT1(4-6) SIGNAL	YES	DRIVE KEYPAD IN THE "AUTO" MODE	DRIVE KEYPAD IN THE "HAND" MODE	(1-3) x 450
NONE	0	0	80	0	20	0	1	1	V	YES	4-20 MADC	YES	DRIVE KEYPAD IN THE "AUTO" MODE AND AUTO MODE RUN/STOP CONTACT	DRIVE KEYPAD IN THE "HAND" MODE	CUSTOMER TO SUPPLY A UL LISTED CLOSED LOOP CONNECTOR PER AC DRIVE TECHNICAL MANUAL
NONE	0	1	80	0	20	2	1	1	1	YES	YES	YES			6 - 250MCM
NONE	0	1	80	0	20	0	1	1	V	YES	YES	YES			6 - 350MCM
															22 - 10

■ = FACTORY 2-WIRE INITIALIZATION/DEFAULT SETTING

FACTORY SETTING



CIRCUIT BREAKER (CB1)	WIRE SIZE RANGE (AWG)	TIGHTENING TORQUE (LB.-IN.)
(1-3) x (3/0-500MCM)	(1-3) x 450	(1-3) x 450
AC MOTOR (A1-T1,T2,T3)	CUSTOMER TO SUPPLY A UL LISTED CLOSED LOOP CONNECTOR PER AC DRIVE TECHNICAL MANUAL	
GROUND LUGS	6 - 250MCM	275
NEUTRAL (TBT1)	6 - 350MCM	275
CONTROL (TBT1)	22 - 10	16 - 20



DATE	REVISION	DESCRIPTION
11/20/13	1	SCHEMATIC DIAGRAM
11/21/13	2	IQPUMP1000 CONFIGURED
11/21/13	3	400HP 12-PULSE

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