

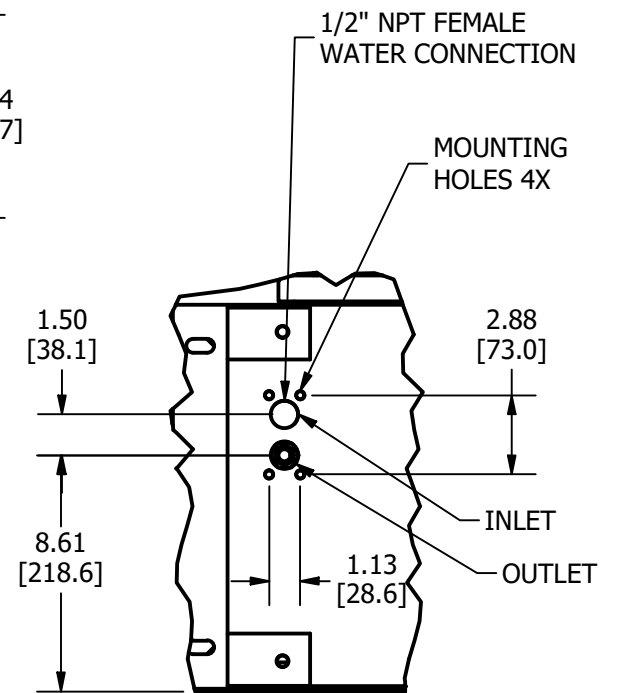
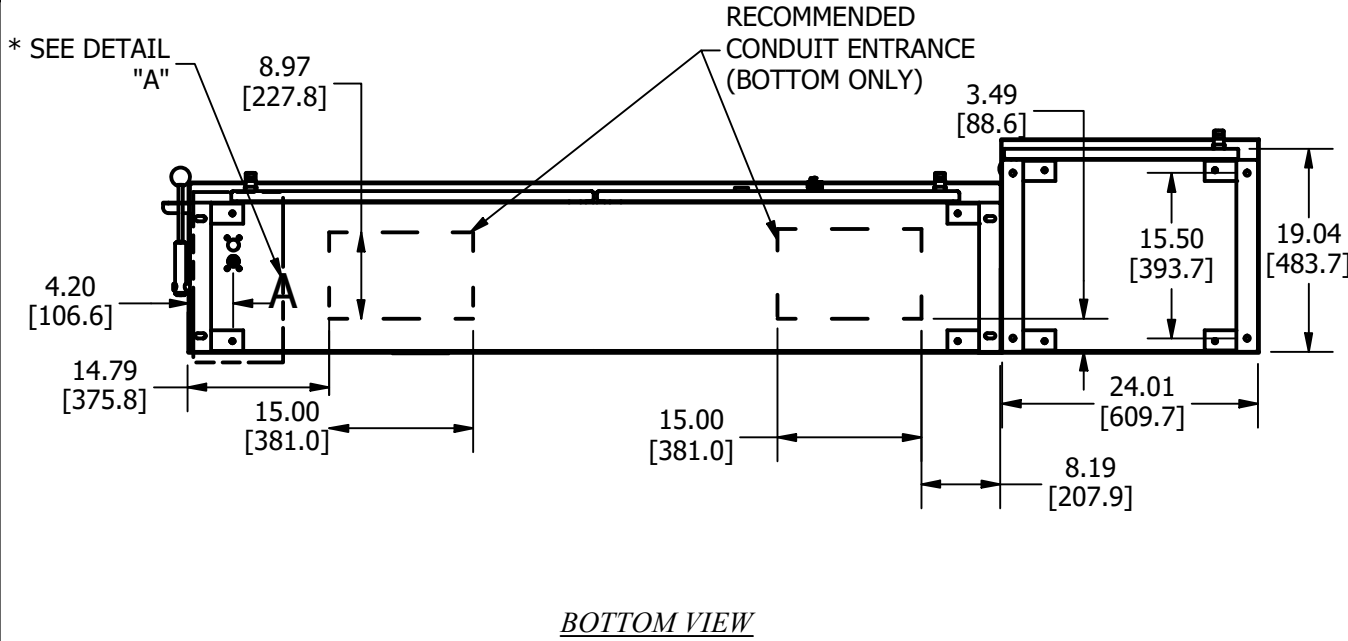
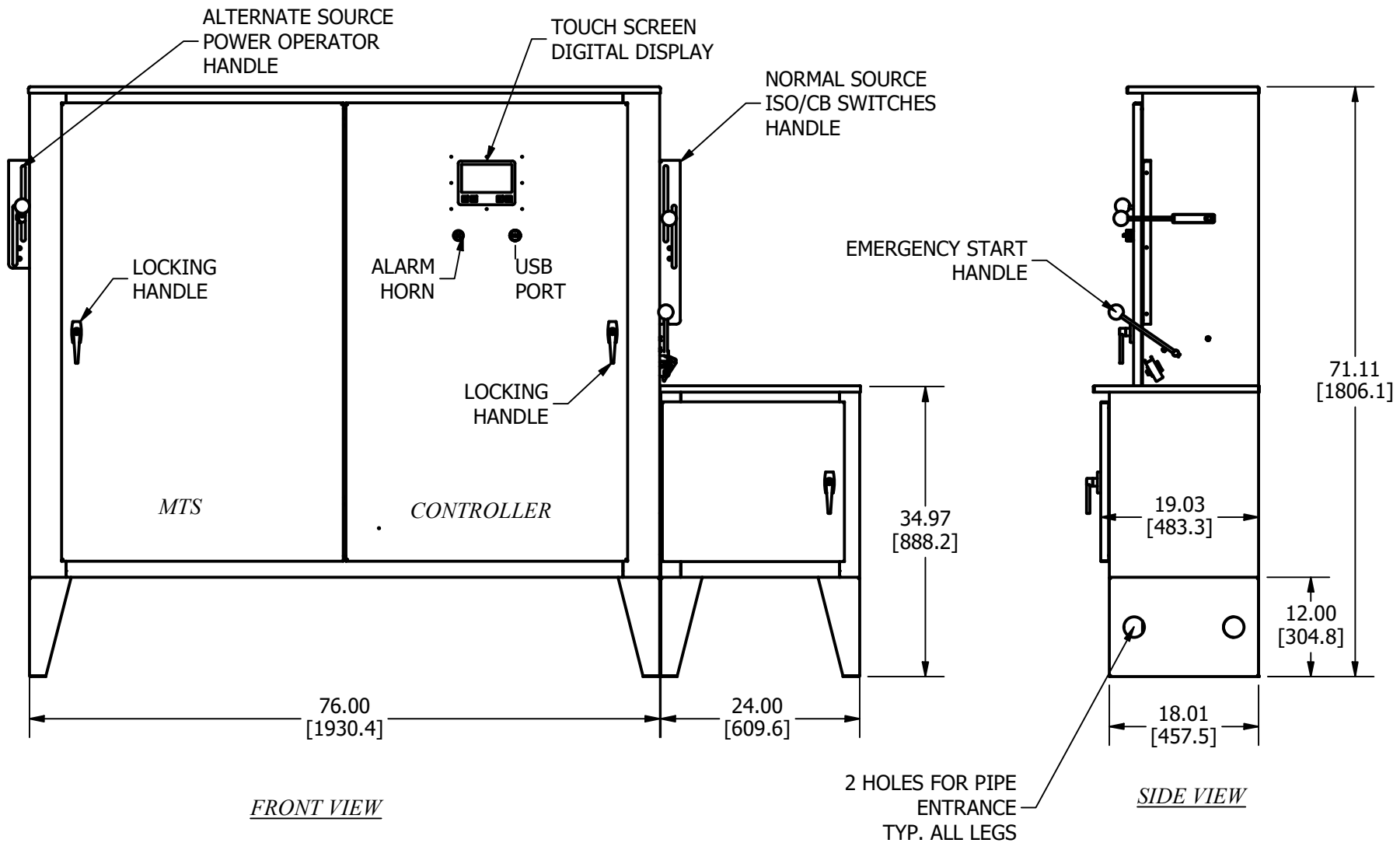


DIMENSIONS & DATA

ELECTRIC FIRE PUMP WITH TRANSFER SWITCH



MPT450TS

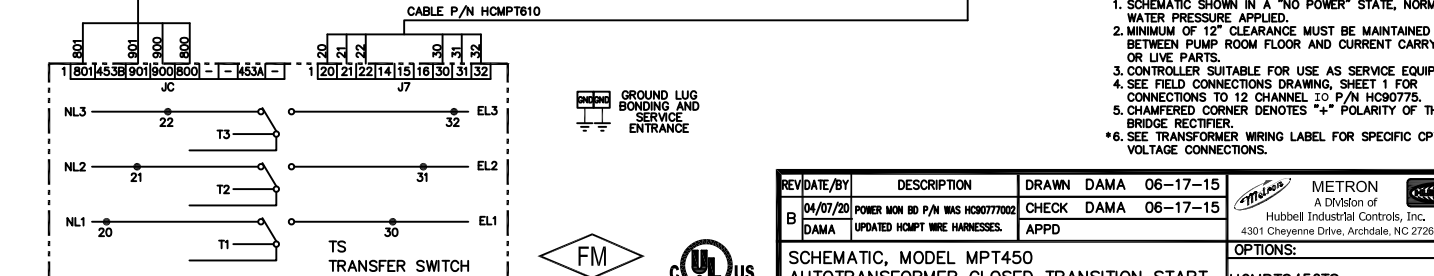
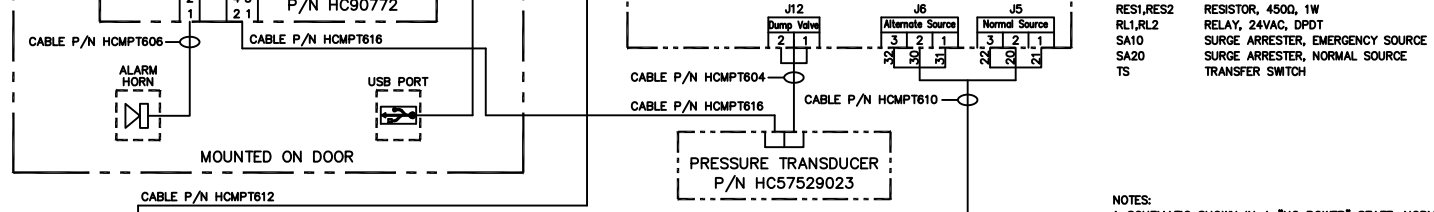
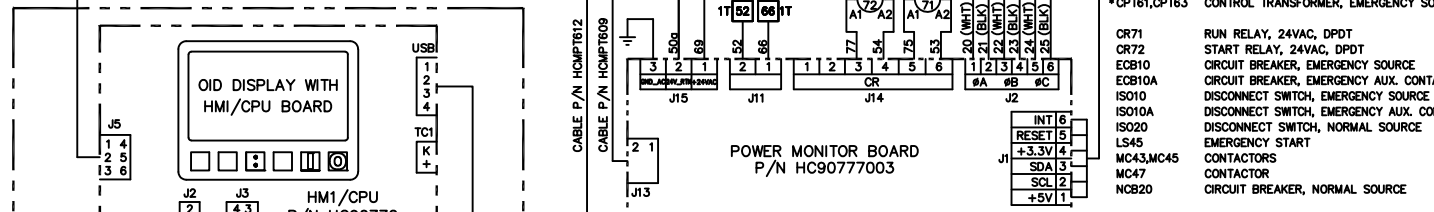
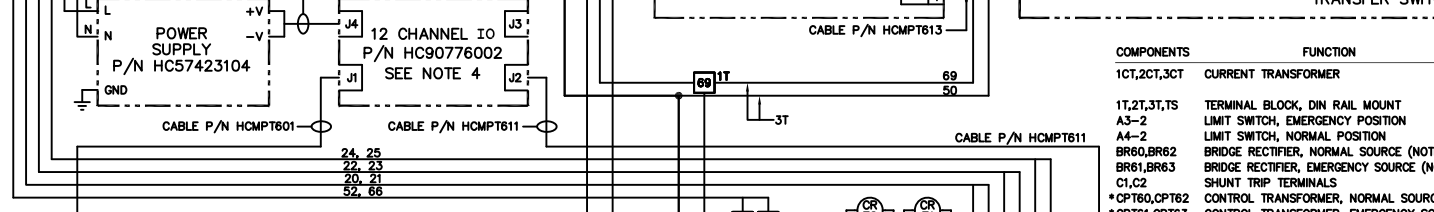
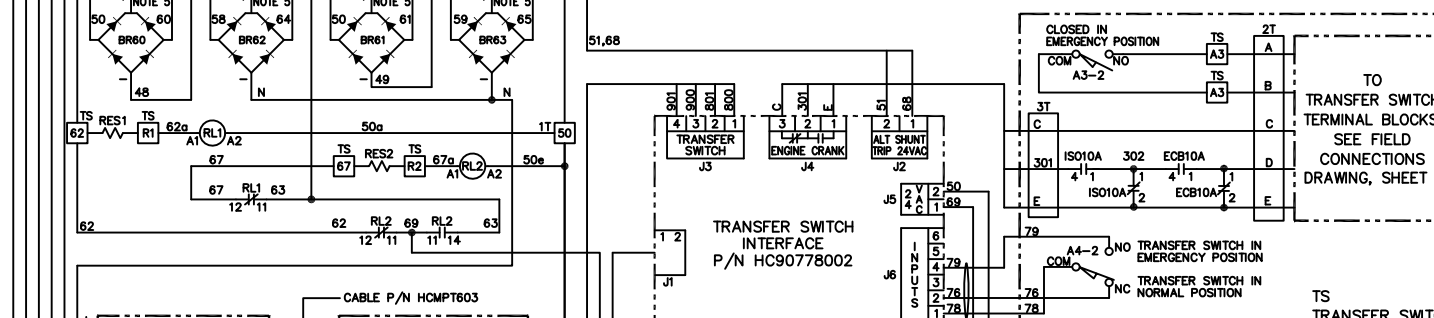
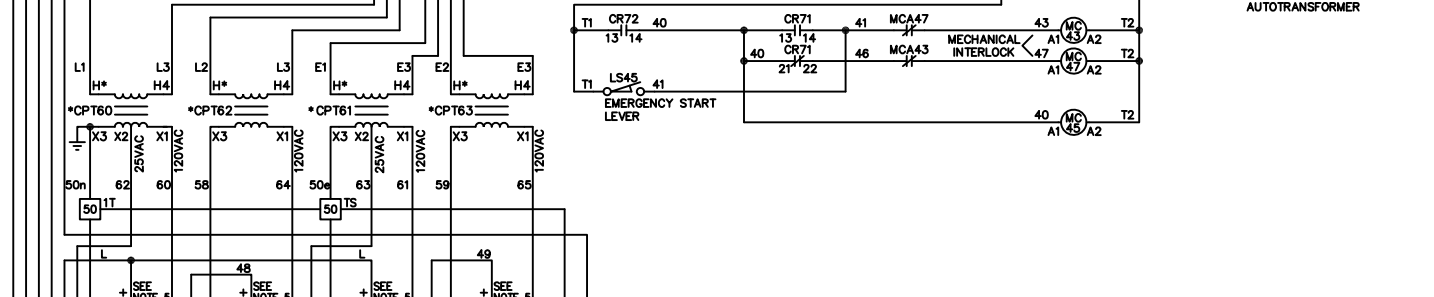
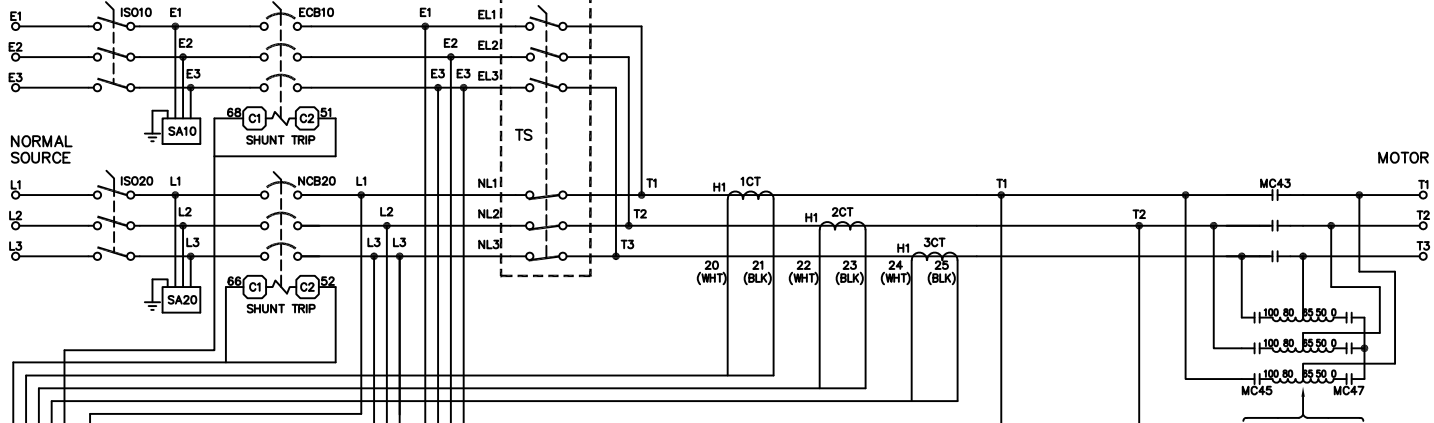


ENCLOSURE TYPES	
VOLTAGES	HORSEPOWERS
	TYPE 3R CRS (STD) SHOWN
	TYPE 4 CRS
	TYPE 4X CRS
208V	150
230-240V	150-200
380-415V	250-300
440-480V	300-400
	TYPE 304 SS (PAINTED)
	TYPE 304 SS UNPAINTED
	TYPE 316 SS PAINTED
	TYPE 316 SS UNPAINTED

- NOTES:**
- ENCLOSURE MADE FROM 16GA. STEEL WITH RED POLYESTER POWDER FINISH.
 - ENTER CABLE(S) FROM TOP OR BOTTOM (PREFERRED)
 - PROTECT INTERNAL EQUIPMENT FROM DRILLING CHIPS
 - DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE. ALWAYS CONSULT FACTORY TO CONFIRM CURRENT INFORMATION.
 - TYPE 3R SHOWN.
 - ALL DIMENSIONS IN INCHES. ALL DIMENSIONS ARE SAME FOR 3R, 12, 4 AND 4X ENCLOSURE TYPES.
 - POWER AVAILABLE AND PUMP RUNNING LIGHTS ARE STANDARD

SELECTION TABLE (CHOOSE FROM TABLES ON LEFT)			
CONTROLLER TYPE	HP	VOLTAGE	ENCLOSURE TYPE
MPT450TS			
CONTROLLER WITH MTS (METRON TRANSFER SWITCH)			RATING:
DATE: 1/2017	DRAWN BY: S. JUDD		REV. N/A
METRON Division of - Hubbell ICD, Inc. 4301 Cheyenne Drive Archdale, N.C. 27263			DRAWING NO. MPTD33819

EMERGENCY SOURCE



COMPONENTS	FUNCTION
1CT,2CT,3CT	CURRENT TRANSFORMER
1T,2T,3T,TS	TERMINAL BLOCK, DIN RAIL MOUNT
A3-2	LIMIT SWITCH, EMERGENCY POSITION
A4-2	LIMIT SWITCH, NORMAL POSITION
BR60,BR62	BRIDGE RECTIFIER, NORMAL SOURCE (NOTE 5)
BR61,BR63	BRIDGE RECTIFIER, EMERGENCY SOURCE (NOTE 5)
C1,C2	SHUNT TRIP TERMINALS
*CPT60,CPT62	CONTROL TRANSFORMER, NORMAL SOURCE
*CPT61,CPT63	CONTROL TRANSFORMER, EMERGENCY SOURCE
CR71	RUN RELAY, 24VAC, DPDT
CR72	START RELAY, 24VAC, DPDT
ECB10	CIRCUIT BREAKER, EMERGENCY SOURCE
ECB10A	CIRCUIT BREAKER, EMERGENCY AUX. CONTACT
ISO10	DISCONNECT SWITCH, EMERGENCY SOURCE
ISO10A	DISCONNECT SWITCH, EMERGENCY AUX. CONTACT
ISO20	DISCONNECT SWITCH, NORMAL SOURCE
LS45	EMERGENCY START
MC43,MC45	CONTACTORS
MC47	CONTACTOR
NCB20	CIRCUIT BREAKER, NORMAL SOURCE
RES1,RES2	RESISTOR, 4500, 1W
RL1,RL2	RELAY, 24VAC, DPDT
SA10	SURGE ARRESTER, EMERGENCY SOURCE
SA20	SURGE ARRESTER, NORMAL SOURCE
TS	TRANSFER SWITCH

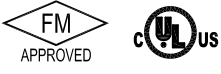
- NOTES:**
1. SCHEMATIC SHOWN IN A "NO POWER" STATE, NORMAL WATER PRESSURE APPLIED.
 2. MINIMUM OF 12" CLEARANCE MUST BE MAINTAINED BETWEEN PUMP ROOM FLOOR AND CURRENT CARRYING OR LIVE PARTS.
 3. CONTROLLER SUITABLE FOR USE AS SERVICE EQUIPMENT.
 4. SEE FIELD CONNECTIONS DRAWING, SHEET 1 FOR CONNECTIONS TO 12 CHANNEL I/O P/N HC90775.
 5. CHAMFERED CORNER DENOTES "+" POLARITY OF THE BRIDGE RECTIFIER.
 6. SEE TRANSFORMER WIRING LABEL FOR SPECIFIC CPT. VOLTAGE CONNECTIONS.

REV/DATE/BY	DESCRIPTION	DRAWN	DAMA	06-17-15
B 04/07/20	POWER MON BOARD P/N WAS HC90777002	CHECK	DAMA	06-17-15
DAMA	UPDATED WIRE HARNESS	APPD		

SHEMATIC, MODEL MPT450 AUTOTRANSFORMER CLOSED TRANSITION START ELECTRIC FIRE PUMP CONTROLLER WITH TRANSFER SWITCH



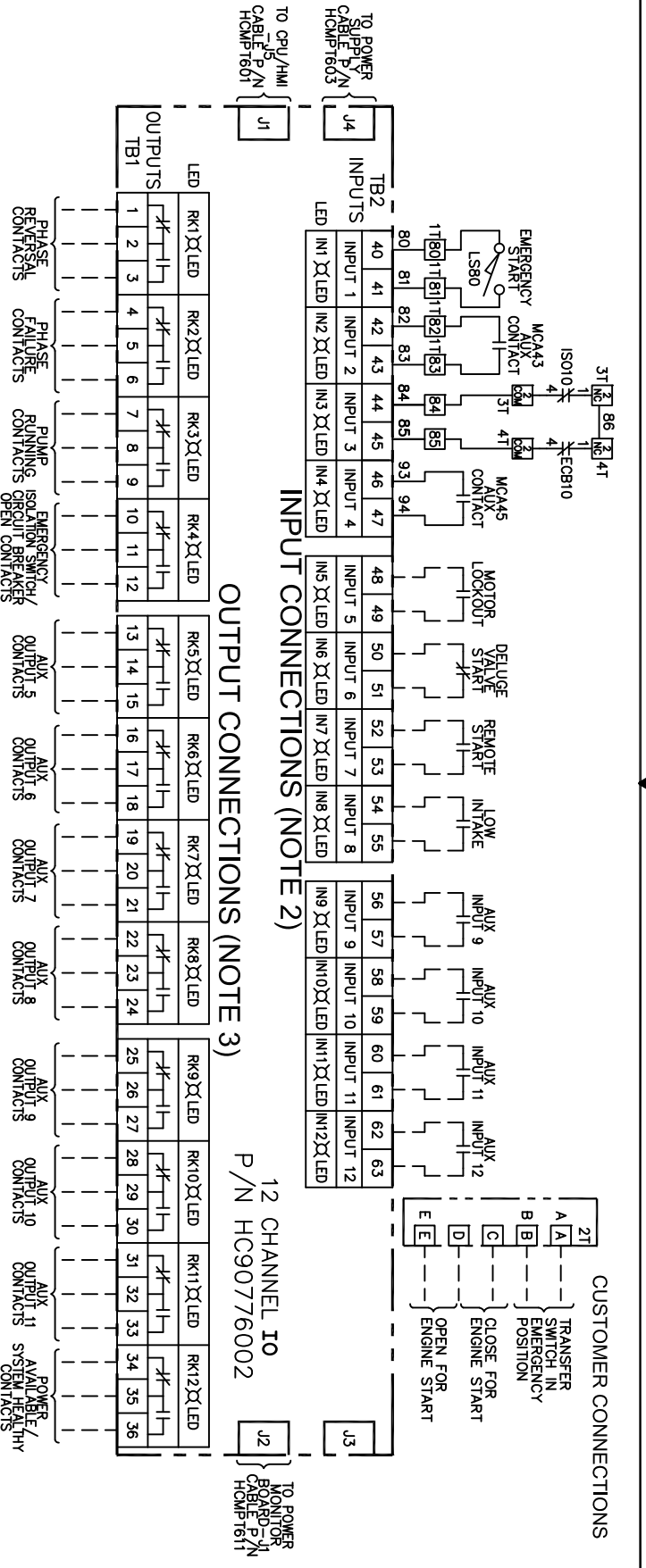
OPTIONS:	HCMP T540TS
SCALE	NTS
SHEET	1 OF 1



CUT ALONG DOTTED LINES BELOW

2

1



CUT ALONG DOTTED LINES BELOW

A

A

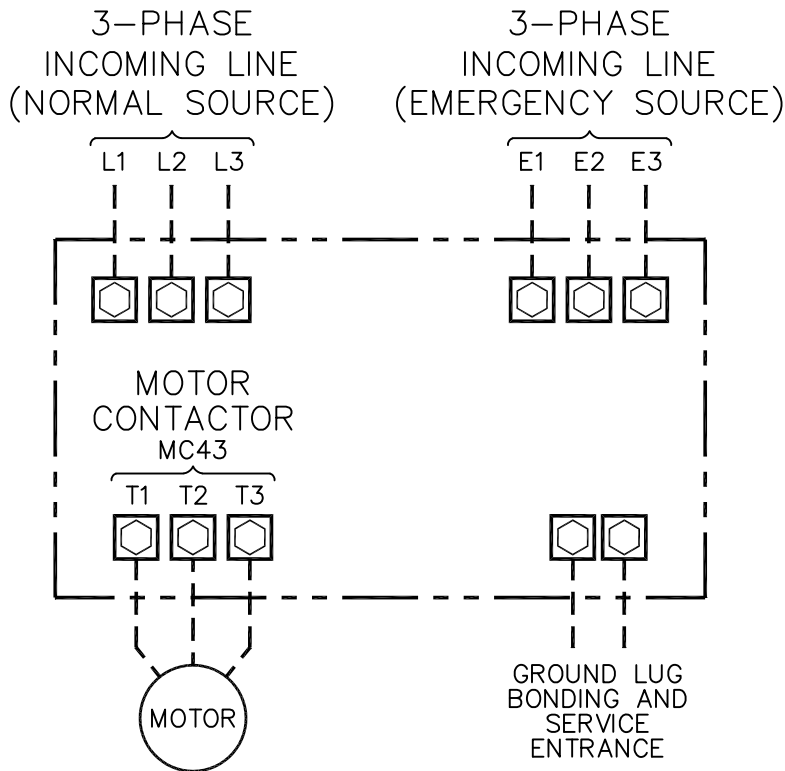
- NOTES:
- CONTACTS SHOWN IN NO POWER CONDITION, PUMP OFF.
 - INPUT CONNECTIONS REQUIRE DRY CONTACTS.
 - OUTPUT CONNECTIONS ARE CONTACTS RATED FOR PILOT DUTY ONLY. 10 AMPS AT 250 VOLTS-AC MAXIMUM LOAD.
 - AMPS AT 12 VOLTS-DC MAXIMUM LOAD.
 - EXTERNAL CONTROL WIRE #16 GA AWG MAXIMUM.
 - CUSTOMER CONNECTIONS ARE SHOWN BY MEANS OF DASH LINES.

REV/DATE/BY	DESCRIPTION	DRAWN	DRAWN NO.	CHECKED	CHECKED NO.
A	05/15/17 CHANGED BOARD PART NOS. ELIMINATED POWER COMMS HUB	11-18-15	11-18-15	11-18-15	11-18-15
FIELD CONNECTIONS, MODEL MPT450 AUTOTRANSFORMER CLOSED TRANSITION START ELECTRIC FIRE PUMP CONTROLLER WITH TRANSFER SWITCH					
METTRON A Division of Hubbell Industrial Controls, Inc. 4301 Cheyenne Drive, Asheville, NC 27268 USA				APPROVED	
OPTIONS: HCMP1F450TS				SCALE NTS SHEET 1 OF 2	



2

1



WIRE SIZE SERVICE ENTRANCE GROUND LUG	
MAXIMUM WIRE SIZE	TIGHTENING TORQUE (in-lb)
#6 AWG	45
#1/0 AWG	50
#250MCM AWG	325

PRESSURE SYSTEM CONNECTION
1/2" NPT

* LINE TERMINALS – WIRE CAPACITY AND QUANTITY

MAXIMUM MOTOR HORSEPOWER					WIRE SIZE PER PHASE (75°C Cu)	TIGHTENING TORQUE (in-lb)
200–208V	220–240V	380–415V	440–480V	550–600V		
5–40	5–40	5–75	5–100	–	(1)#8–#3/0 AWG	120
50–75	50–75	100–125	125–150	–	(1)#3/0–#350MCM AWG	225
100–125	100–125	150–200	200–250	–	(1)#2/0–#500MCM AWG (2)#3/0–#250MCM AWG	375 275
150	150–200	250–300	300–400	–	(2)#3/0–#350MCM AWG	275
200–250	250	350	450–500	–	(3)#3/0–#400MCM AWG	375
–	–	–	–	–	–	–

* MOTOR TERMINALS – WIRE CAPACITY AND QUANTITY

MAXIMUM MOTOR HORSEPOWER					WIRE SIZE PER PHASE (75°C Cu)	TIGHTENING TORQUE (in-lb)
200–208V	220–240V	380–415V	440–480V	550–600V		
5–20	5–20	5–30	5–30	–	(1)#8–#4 AWG	120
25–75	25–75	40–125	40–150	–	(1)#6–#300MCM AWG	275
100–125	100–125	150–200	200–250	–	(1)#350MCM–#500MCM AWG	375
150	150–200	250–300	300–400	–	(2)#4/0–300MCM AWG	275
200–250	250	350–400	500	–	(3)#250MCM–#350MCM AWG	275

NOTES:

- * 1.) FOR CORRECT FIELD WIRE SIZING, REFER TO THE NATIONAL ELECTRICAL CODE, NFPA-70.
- 2.) MOTOR CONNECTIONS SHOWN ARE TYPICAL. SINCE MOTOR CONNECTIONS VARY WIDELY, REFER TO THE MOTOR MANUFACTURER'S CONNECTION DIAGRAM FOR SPECIFIC WIRING ARRANGEMENT.



REV/DATE/BY	DESCRIPTION	DRAWN/DAMA	11-18-15	METRON A Division of Hubbell Industrial Controls, Inc. 4301 Cheyenne Drive, Archdale, NC 27283 USA
C 02/07/20	UPDATED WIRE CAPACITY AND WIRE SIZE TABLES.	CHECK/DAMA	11-18-15	
DAMA		APPD		OPTIONS: HCMPTF450TS
FIELD CONNECTIONS, MODEL MPT450 AUTOTRANSFORMER CLOSED TRANSITION START ELECTRIC FIRE PUMP CONTROLLER WITH TRANSFER SWITCH				SCALE NTS SHEET 2 OF 2