KOHLER. Power Systems

TT-1683 3/16

INSTALLATION INSTRUCTIONS

Original Issue Date: **3/16**
Model: **GLS-5, K-5, and KB-5 Automatic Transfer Switches**
Market: **ATS**
Subject: **M340 to Decision-Maker® MPAC 1500 Controller Conversion Kit GM99316-S3**

Introduction

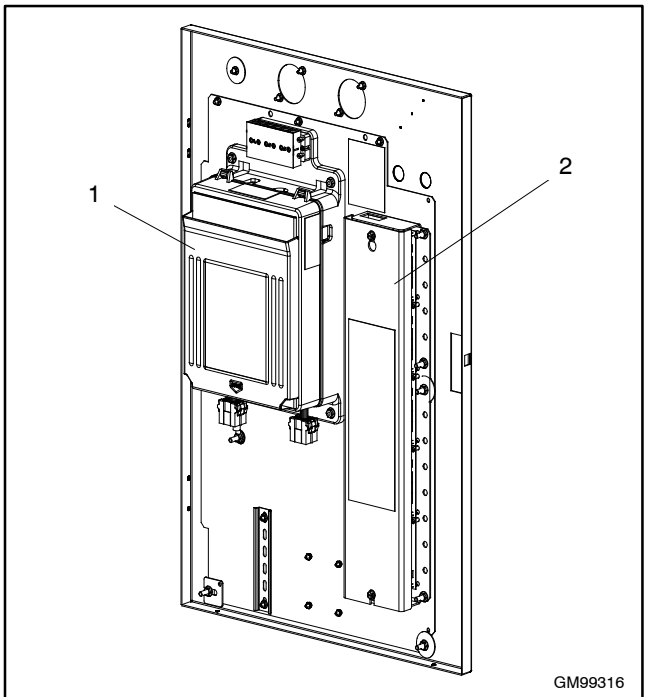
Use conversion kit GM99316-S3 to replace the M340 controller with a Decision-Maker® MPAC 1500 controller on the standard-transition automatic transfer switch models listed above.

Note: Do not use this conversion kit on programmed-transition models, which use -6 in the model designation to indicate programmed transition.

See Figure 7 to interpret the transfer switch model designation.

See Figure 1 for an illustration of the installed kit. See Figure 2 for controller identification, if necessary.

Note: The optional accessory board (I/O) assembly shown in the figures is available separately.



1. MPAC 1500 controller assembly
2. Optional accessory board (I/O) assembly

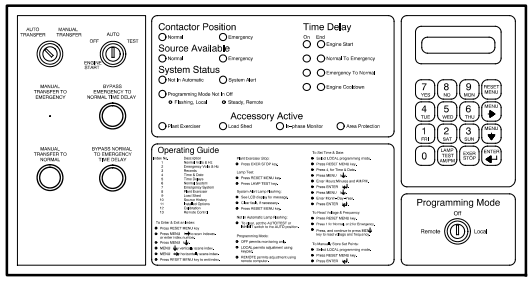
Figure 1 Decision-Maker® MPAC 1500 Controller Conversion Kit, Installed

Tools Required

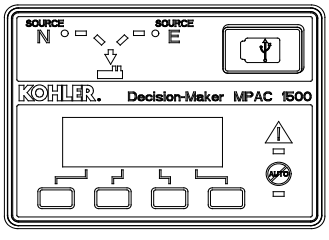
- Phillips® screwdriver
- Small flat tip screwdriver
- Wire cutter
- 7/16 nut driver
- 11/32 nut driver
- 5/16 nut driver

Read the entire installation procedure and compare the kit parts with the parts list in this publication before beginning installation. Refer to the wiring diagrams at the end of this publication as needed during the installation. Perform the steps in the order shown.

Note: Do not discard these instructions after kit installation. Keep this document with the transfer switch documentation for future reference.



M340 Controller



Decision Maker® MPAC 1500 Controller

TT1683

Figure 2 Controller Identification

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

Kohler Power Systems
Asia Pacific Headquarters
7 Jurong Pier Road
Singapore 619159
Phone (65) 6264-6422, Fax (65) 6264-6455

Controller Accessories

Many functions that required optional accessories with the M340 controller are integrated into the Decision-Maker® MPAC 1500 controller operation. For example, an active time delay can be ended by pressing a button on the Decision-Maker® MPAC 1500 controller. Separate time delay bypass switches are not required. See Figure 3 for accessory information.

M340	Decision Maker® MPAC 1500
Bypass (end) Time Delay Switches	Integrated
Source Monitor	Integrated
Test Switch	Integrated
Override Switches	Integrated
Preferred Source Switch	Alarm Module required (see Figure 4)
Current Meter (amps)	Current Sensing Kit required (see Figure 6)
Plant Exerciser	Integrated
Manual Switch Operation	Supervised Transfer Control Switch (see Figure 5)
Voltage/Frequency Meters	Integrated
Load Shed Contact	Integrated Load Control Function (one output connection required)

Figure 3 Accessories

Accessory Modules

Optional accessory modules are listed in Figure 4. One module mounting kit holds up to five accessory modules.

Accessory Modules	Part Number
Module Mounting Assembly *	GM46258-S
Standard I/O Module	GM46888-S
High Voltage/Current I/O Module	GM46890-S
Alarm Module	GM40808-S
External Battery Supply Module	GM46889-S
* One mounting assembly holds up to 5 modules.	

Figure 4 Accessory Modules for Decision-Maker® MPAC 1500

Other Accessories

Other Decision-Maker® MPAC 1500 accessories are available. See Figure 5. Contact your local distributor/dealer for more information.

Other MPAC 1500 Accessories	Part Number
Controller Disconnect Switch	GM46770-S3
Supervised Transfer Control Switch †	GM40807-S1
† Includes alarm module GM40808-S.	

Figure 5 Other Accessories

Current Sensing

If current sensing is required (i.e. for current [amps] monitoring and display), obtain the appropriately rated current sensing kit before starting the controller kit installation procedure. If the transfer switch is equipped with current transformers (CTs), they will need to be replaced with the new current transformers for use with the MPAC 1500 controller. See Figure 6 for available current sensing kit numbers. Check the amp rating and number of phases of the transfer switch and select the closest current sensing kit with an equal or higher amp rating.

Kit Description		Current Sensing Kit Number
Amps	Phases	
200	3	GM89028-S3
200	1	GM89028-S21
400	3	GM89028-S6
400	1	GM89028-S24
1000	3	GM89028-S8
1000	1	GM89028-S26
1200	3	GM89028-S11
1200	1	GM89028-S28
2000	3	GM89028-S15
3000	3	GM89028-S17

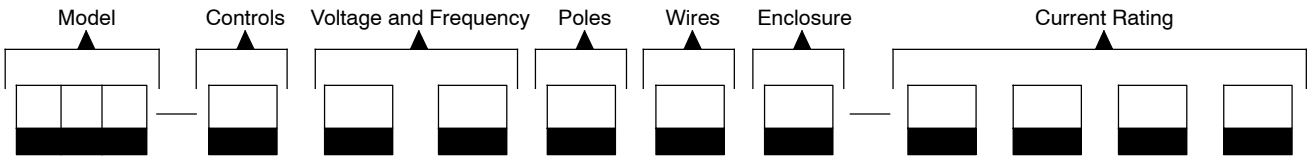
Figure 6 Current Sensing Kits

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® generator set distributor for availability.

Model Designation

To interpret the transfer switch model designation, see the model designation chart in Figure 7. Codes for the model GLS, K and KB switches are combined in the model designation chart. Some codes do not apply to all three models.

Model Designation



Kohler® Model Number Key

This chart explains the Kohler® transfer switch model numbering code system. The sample model number shown is for a Model K automatic transfer switch that uses a 600 volt maximum contactor power switching device with M340 microprocessor-based electrical controls rated at 240 volts, 60 hertz, 1 phase, 2 poles, and 3 wires in a NEMA type 1 enclosure with a current rating of 800 amps. Not all possible combinations are available.

SAMPLE MODEL NUMBER

K-564231-0800

Model (1 to 3 letters)
GLS: Model GLS automatic transfer switch
K: Model K automatic transfer switch
KN: Model KN non-automatic transfer switch
KB: Model KB bypass and isolation transfer switch

Electrical Controls (Logic Controller)
5: M340 microprocessor, standard transition
6: M340 microprocessor, programmed-transition

Voltage and Frequency (other codes possible)

240 VAC max, 30-100 Amp sizes only:	**600 VAC max:**	
21: 110 Volts, 50 Hz	53: 220 Volts, 60 Hz	67: 190 Volts, 50Hz
22: 120 Volts, 60 Hz	60: 600 Volts, 60 Hz	68: 208 Volts, 60 Hz
23: 220 Volts, 50 Hz	61: 110 volts, 50 Hz	69: 440 Volts, 60 Hz
24: 240 Volts, 60 Hz	62: 120 Volts, 60 Hz	70: 400 Volts, 50 Hz
27: 190 Volts, 50 Hz	63: 220 Volts, 50 Hz	71: 380 Volts, 50 Hz
28: 208 Volts, 60 Hz	64: 240 Volts, 60 Hz	72: 380 Volts, 60 Hz
	65: 550 Volts, 60 Hz	73: 416 Volts, 50 Hz
	66: 480 Volts, 60 Hz	

Number of Poles and Phases
2: 2 pole, 1 phase 3: 3 pole, 3 phase 4: 3 pole, 1 phase
5: 3 pole, 3 phase with overlapping neutral contacts

Number of Wires
3: 3 Wire 4: 4 Wire

Enclosure
0: Open unit 1: NEMA type 1 2: NEMA type 12
3: NEMA type 3R 4: NEMA type 1 CSA* 7: Open unit CSA*
* CSA versions available only up to 2000 amperes

Current Rating
Numbers indicate the current rating of switch in amperes

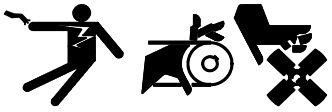
Note: Some codes do not apply to all models.

Figure 7 Model Designation Key

Safety Precautions

Observe the following safety precautions while installing the kit.

⚠ WARNING



Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (–) lead first when disconnecting the battery. Reconnect the negative (–) lead last when reconnecting the battery.

⚠ DANGER

Hazardous voltage.
Will cause severe injury or death.

Disconnect all power sources before opening the enclosure.

Servicing the transfer switch. Hazardous voltage can cause severe injury or death. Deenergize all power sources before servicing. Turn off the main circuit breakers of all transfer switch power sources and disable all generator sets as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect power to all battery chargers. (3) Disconnect all battery cables, negative (–) leads first. Reconnect negative (–) leads last when reconnecting the battery cables after servicing. Follow these precautions to prevent the starting of generator sets by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer. Before servicing any components inside the enclosure: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Test circuits with a voltmeter to verify that they are deenergized.

Servicing the transfer switch. Hazardous voltage can cause severe injury or death. Deenergize all power sources before servicing. Turn off the main circuit breakers of all transfer switch power sources and disable all generator sets as follows: (1) Move all generator set master controller switches to the OFF position. (2) Disconnect power to all battery chargers. (3) Disconnect all battery cables, negative (–) leads first. Reconnect negative (–) leads last when reconnecting the battery cables after servicing. Follow these precautions to prevent the starting of generator sets by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer. Before servicing any components inside the enclosure: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Test circuits with a voltmeter to verify that they are deenergized.

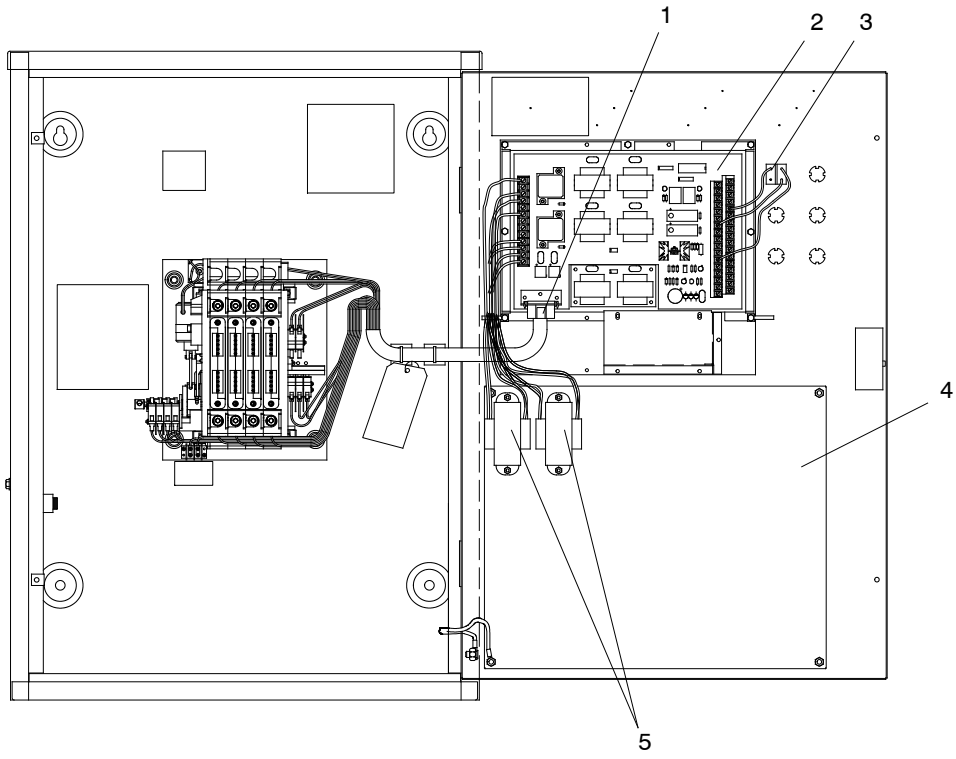
Installation Procedure

Note: The photos and diagrams shown in this procedure represent a typical transfer switch. They may not be an exact match for your ATS model.

1. Place the generator set master switch in the OFF position or press the OFF/RESET button on the generator set controller.
2. Disconnect the power to the battery charger, if equipped.
3. Disconnect the generator set engine starting battery(ies), negative (–) lead first.
4. Disconnect power from the transfer switch on both sources, Normal and Emergency.
5. If the transfer switch is equipped with current transformers (CTs), remove all CTs from the power lines of the ATS.
6. Disconnect and remove the TEST pushbutton. See Figure 8.
7. Disconnect and remove any other optional switches. See Figure 9.
8. If the transfer switch is equipped with meters, disconnect and remove all meters and the selector switch. See Figure 9.

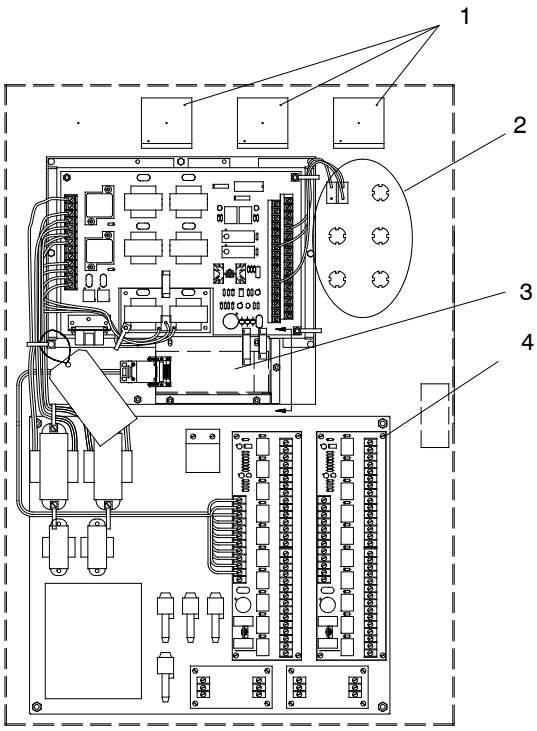
   Note: Separate meters are not required with the MPAC 1500 controller. Voltage, frequency, and current (amps)* are shown on the controller display.

* For current monitoring and display, a current sensing kit is required. See Figure 6.



1. Controller harness
2. M340 controller assembly
3. Test pushbutton
4. Inner panel
5. Transformers

Figure 8 Model GLS-5 ATS with M340 Controls



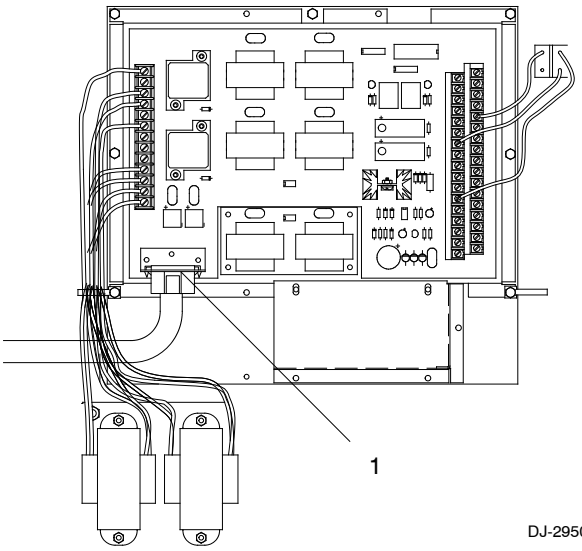
1. Meters
2. Optional switches may be installed in this area
3. Communication module with cover
4. Inner panel with transformers and accessories

Figure 9 M340 Controller with Optional Accessories

9. Disconnect any other accessories mounted on the inner panel.

Note: For installation of optional accessories (such as input/output [I/O] or alarm modules), refer to the instructions provided with the accessory kit or to the Decision-Maker® MPAC 1500 Operation/Installation manual, TP-6883.

10. Disconnect the contactor harness from the M340 controller at plug P1. See Figure 10.



1. P1 connection

Figure 10 Disconnect P1

11. Remove the metal cover over the optional communication module, if present. See Figure 11.

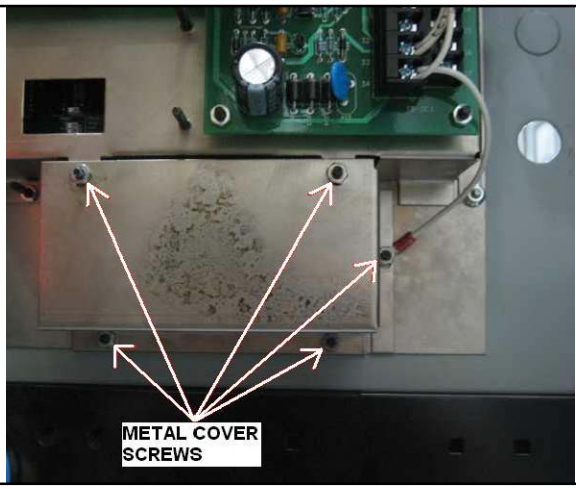


Figure 11 Remove Cover Screws

12. Remove the mounting screws to remove the controller and the inner panel from the enclosure door.

Figure 12 Controller, Switches, Meters, and Inner Panel Removed

Note: Refer to the notes in Figure 16 before installing the mounting plate and switch cover plate. Some door studs may need to be cut off and some mounting holes enlarged in the field, depending on the specific application.

13. Install the conversion kit mounting plate (GM99317) . Use seven lock washers (X-22-7) and seven nuts (X-6210-4) to install the mounting plate as shown in Figure 13 and Figure 16. Install three flat washers (X-25-122) with three nuts (X-6210-2) as shown.

14. Install panel retainer (GM70051). See Figure 13.

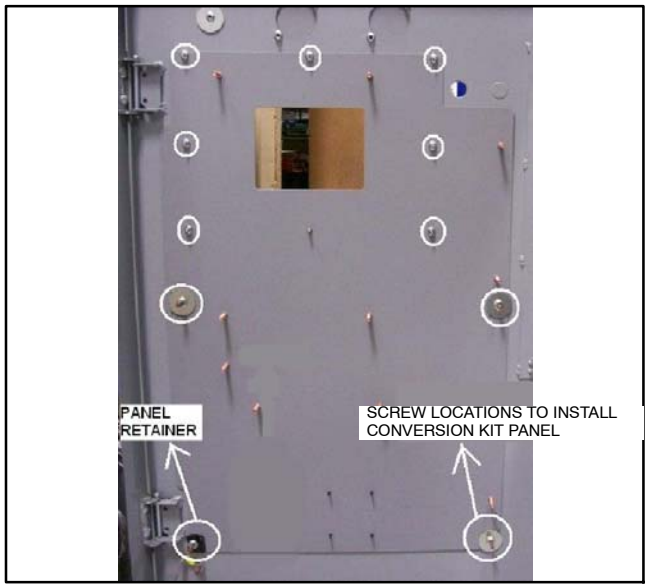


Figure 13 Mounting Plate Installation

15. Install the switch cover plate (GM69929). Use one washer X-25-122 and five nuts X-6210-4 to install the cover plate as shown in Figure 14 and Figure 16. The installed plate is shown in Figure 15.

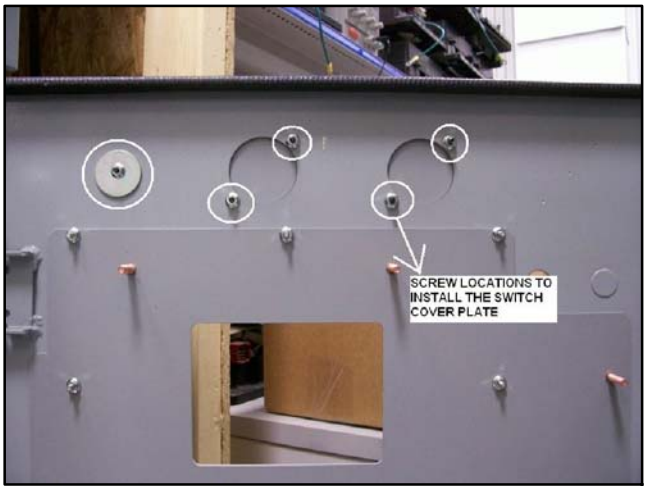


Figure 14 Switch Cover Plate GM69929

Figure 15 Door with Mounting Plate and Switch Cover Plate

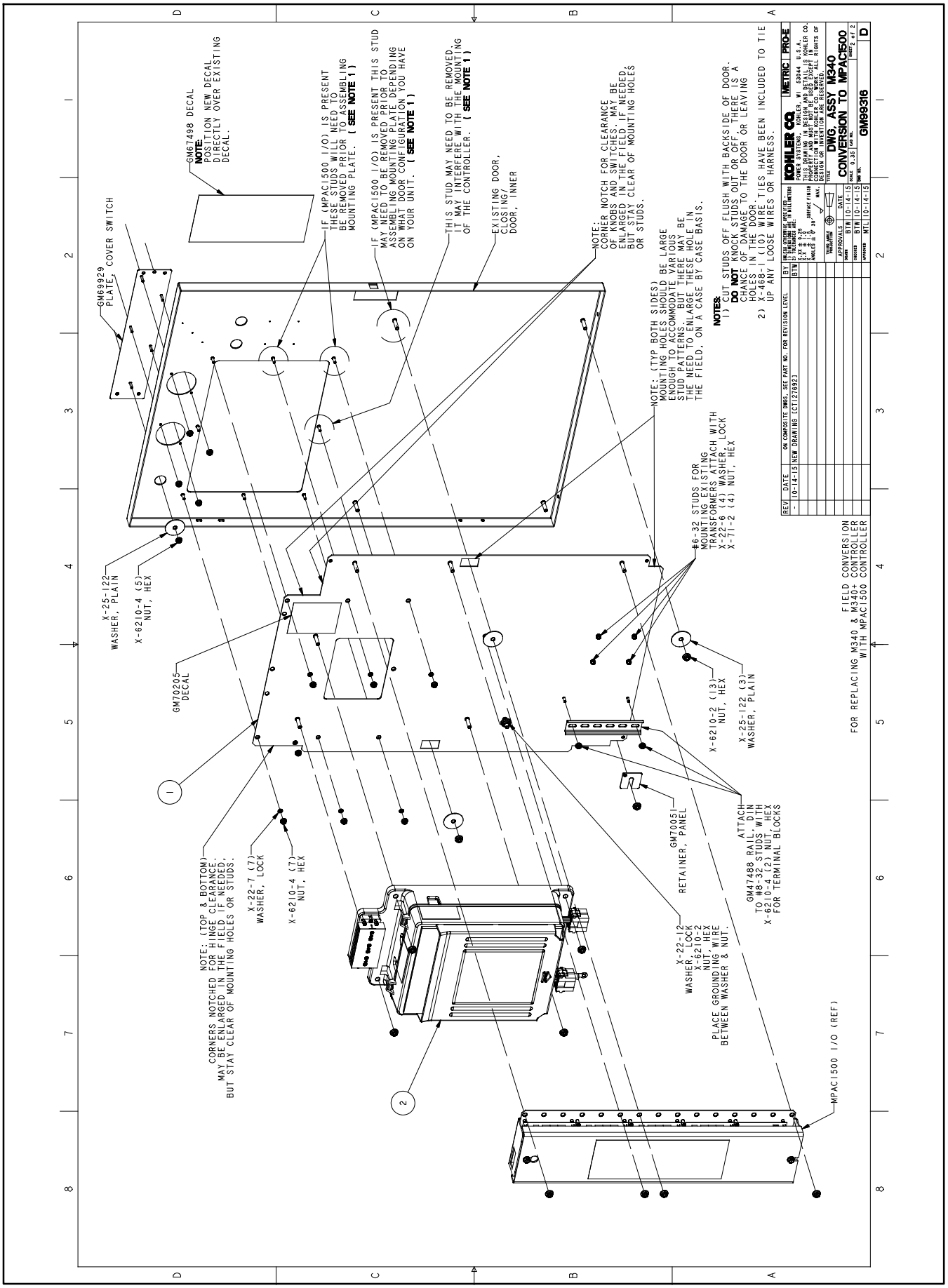
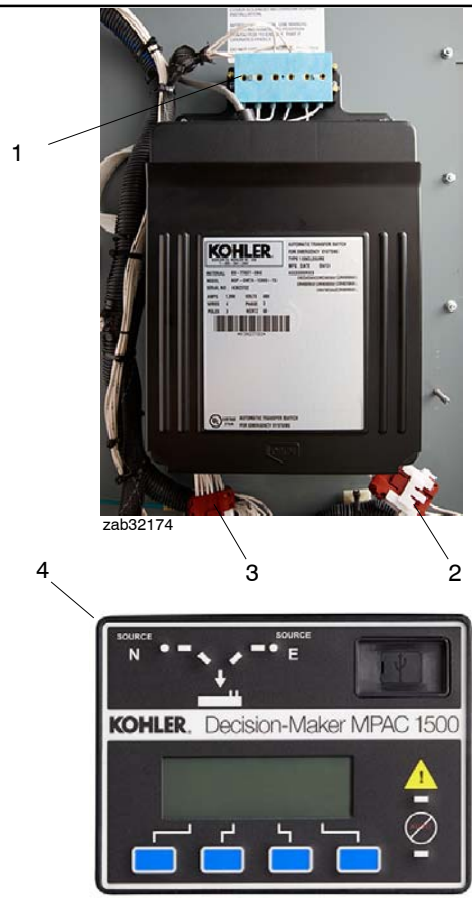


Figure 16 Conversion Kit Assembly

Note: The illustrations in the following steps may not show the latest controller design. See Figure 17 for the updated current sensing kit terminal block, harness connection, and programmed-transition interface board connection.



1. Current sensing terminal block with insulation and harness (optional)
2. Programmed-transition interface board connection (programmed- and closed-transition models only)
3. Contactor harness
4. Controller user interface

Figure 17 Decision-Maker® MPAC Controller Updated Features

16. Install the Decision-Maker® MPAC 1500 controller assembly (GM85884-1) onto the conversion kit mounting plate using four nuts X-6210-2. See Figure 18.

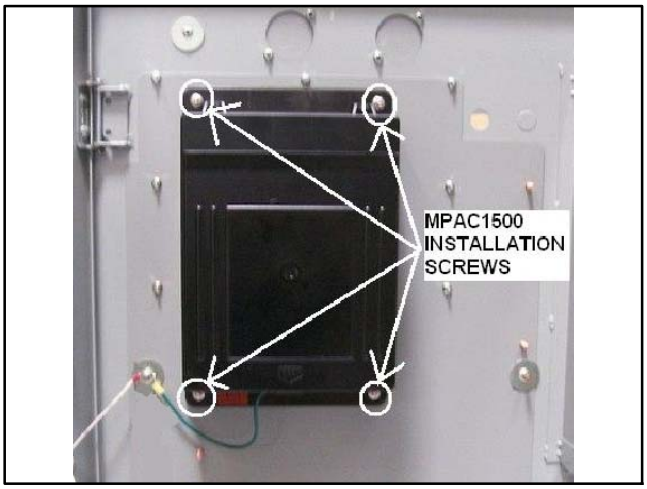
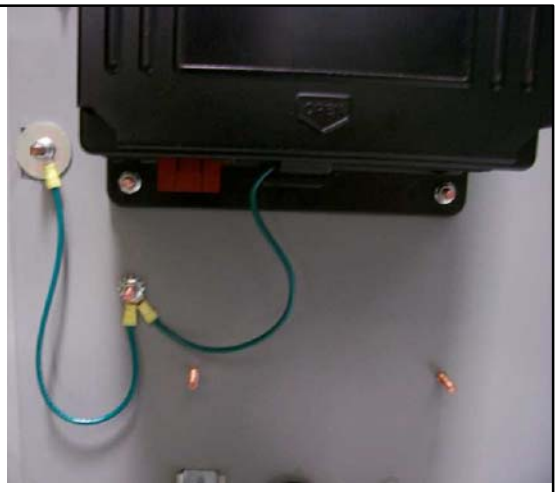


Figure 18 Controller Assembly Installation

17. See Figure 19 for ground connections. Use green grounding lead LK-1212-1515 to connect the ground stud on the conversion panel to the ground lug on the door. Using lock washer X-22-12, connect the ground wires to the ground stud on the door. Place the grounding wires between the washer and the nut.



Note: This photo does not show the latest controller design. See Figure 17.

Figure 19 Ground Lead Connections

18. Affix conversion kit decal GM70355 over the old decal on the outside of the enclosure door. See Figure 20 and Figure 21.

Note: This photo does not show the latest controller design. See Figure 17.

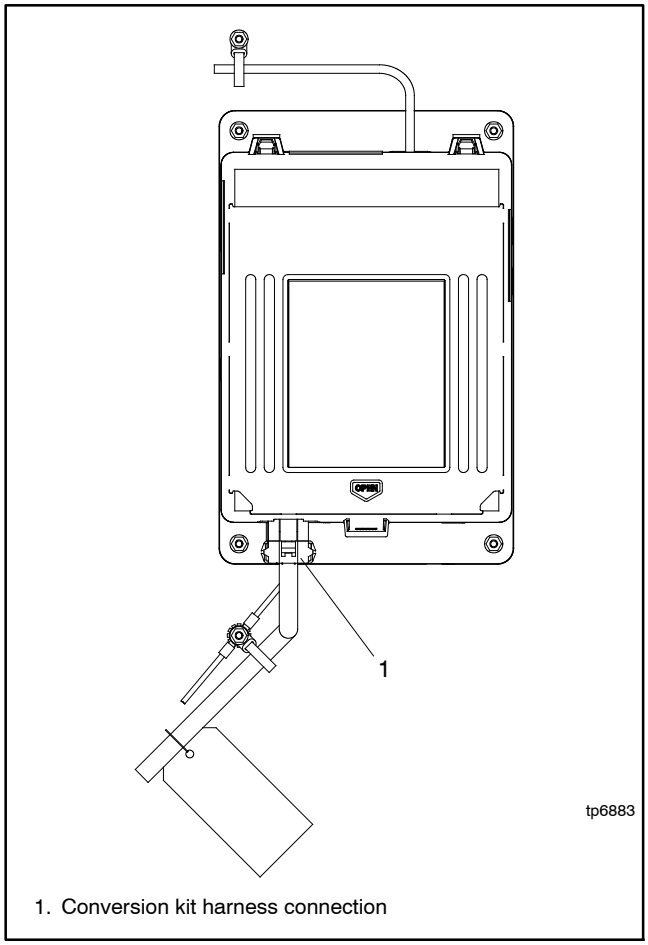
Figure 20 Before Decal Installation

Note: This photo does not show the latest controller design. See Figure 17.

Figure 21 After Decal Installation

19. Connect P24 of the conversion kit harness GM71472 to the contactor harness, which was disconnected from the M340 controller in step 10. See Figure 23.

20. Connect P1 of the conversion kit harness to P1 of the Decision-Maker® MPAC 1500 controller. See Figure 22.



1. Conversion kit harness connection

Figure 22 Connection to Decision-Maker® MPAC 1500 Controller

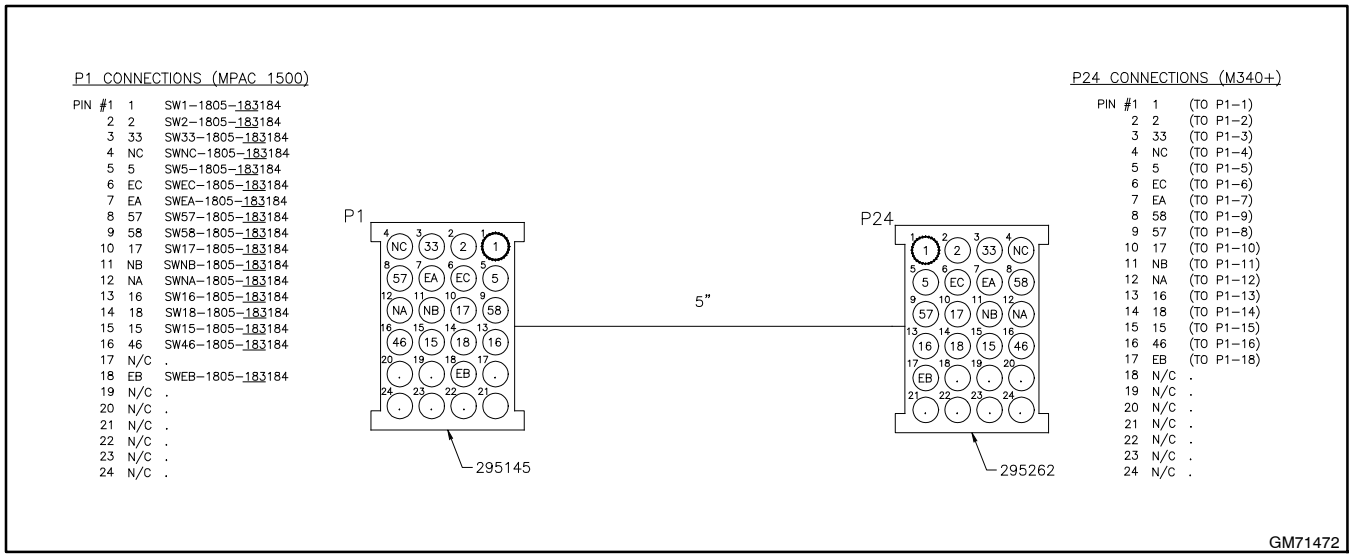


Figure 23 Conversion Kit Harness

21. For current sensing, obtain the appropriately rated current sensing kit and install according to Figure 26. Connect the current transformers as shown in Figure 27. See the Parts List for current sensing kit numbers.

22. Record the required information on decal GM70205. See Figure 24. See Figure 6 for current sensing kits and Figure 28 for wiring diagram numbers.

23. Place decal GM70205 on the mounting plate as shown in Figure 25.

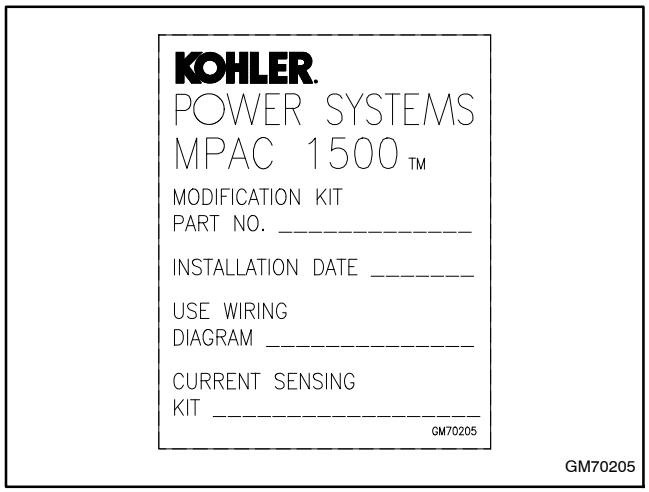
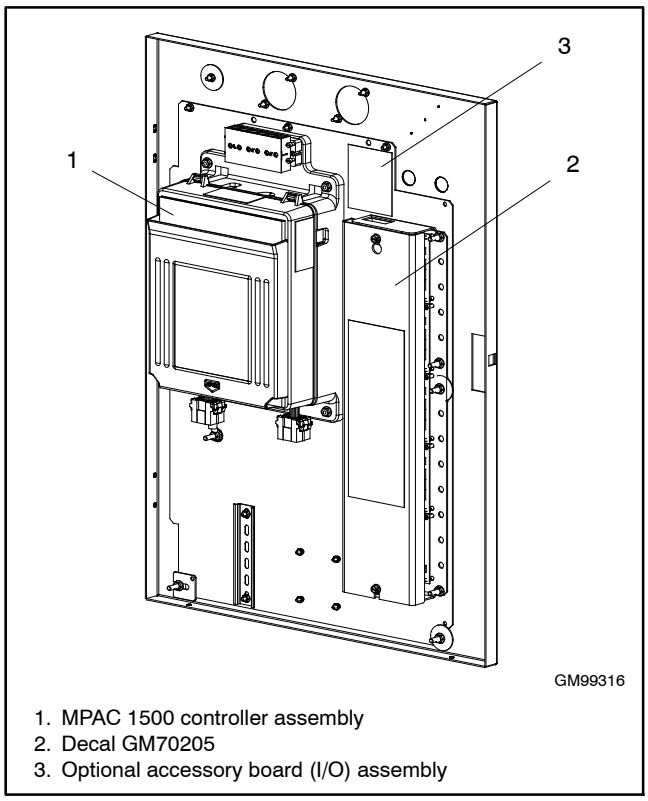


Figure 24 Decal GM70205



1. MPAC 1500 controller assembly
2. Decal GM70205
3. Optional accessory board (I/O) assembly

Figure 25 Decal GM70205 Location

24. If optional accessory modules are used, attach the accessory mounting kit to the conversion kit mounting plate. See Figure 16 and Figure 25. Then refer to instruction sheet TT-1449, provided with the accessory mounting kit, to install and connect the modules.

25. For installation of other optional accessories, refer to the instructions provided with the accessory kit or to the Decision-Maker® MPAC 1500 Operation/Installation manual, TP-6883.

26. Reconnect power to the transfer switch.

27. Check that the generator set master switch is in the OFF position.

28. Reconnect the generator set engine starting battery, negative (–) lead last.

29. Reconnect power to the battery charger, if equipped.

30. Program the Decision-Maker® MPAC 1500 controller voltages, time delays, and system phases. See TP-6883, Operation Manual, for instructions.

31. Run the operation tests outlined in Operation Manual TP-6883 to verify system operation.

Note: Keep this document, which includes installation instructions and wiring diagrams, with the transfer switch documentation.

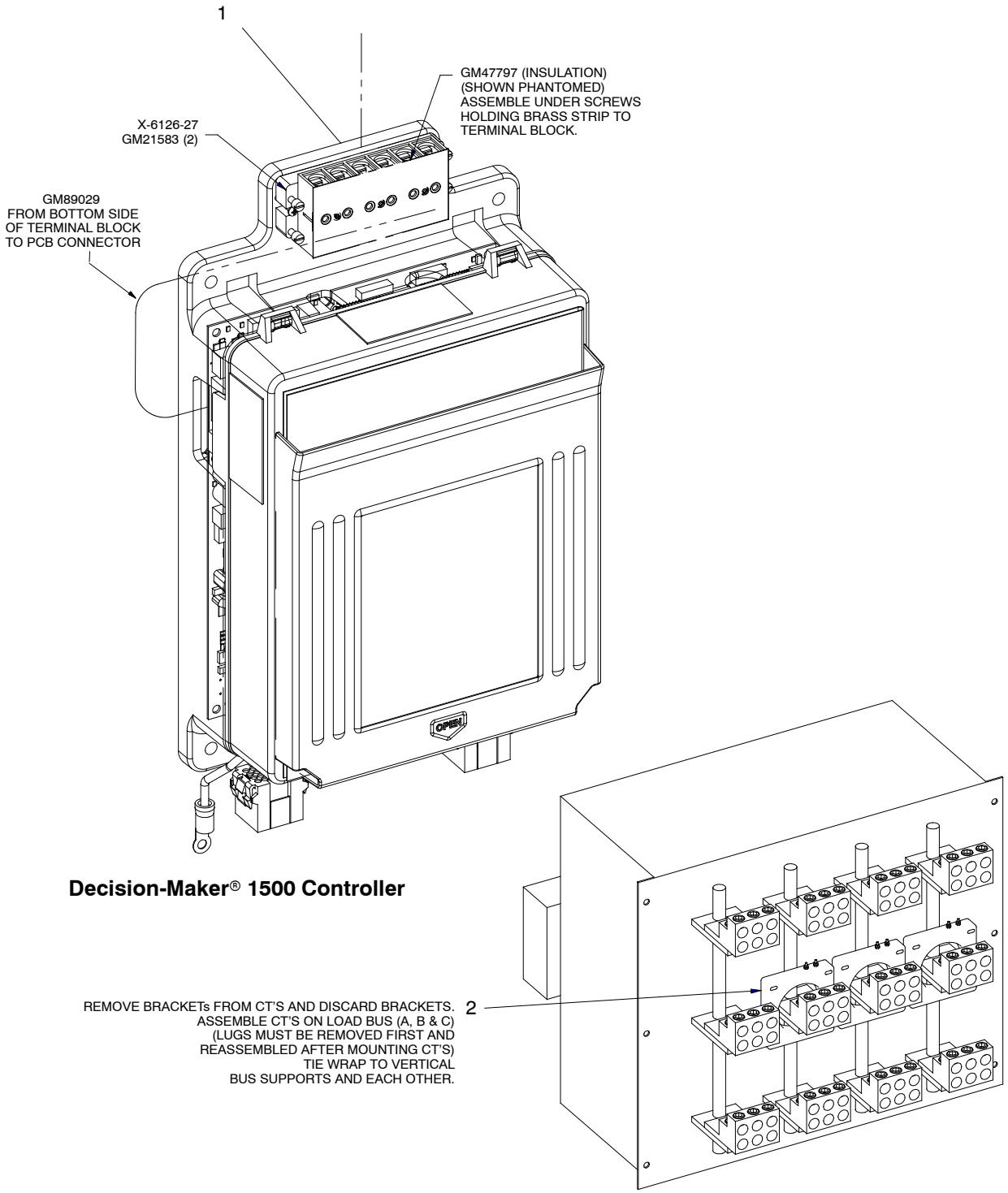
Parts Lists

M340 to Decision-Maker® MPAC 1500 Conversion Kit

Kit: GM99316-S3		
Qty.	**Description**	**Part Number**
1	Plate, Cover Switch	GM69929
1	Retainer, Panel	GM70051
1	Decal, KPS MPAC	GM70205
1	Decal, Conversion	GM70355
1	Harness, wiring controller	GM71472
1	MPAC 1500 assembly	GM85884-1
1	Plate, Mounting	GM99317
1	Lead	LK-1212-1515
1	Operation Manual - MPAC1500	TP-6883
1	Installation Instructions	TT-1683
1	Washer, Lock .743 in. OD	X-22-12
8	Washer, Lock .333 in. OD	X-22-7
5	Washer, Plain 1.5 in. OD	X-25-122
10	Cable tie	X-468-1
2	Cable tie, nylon	X-468-3
14	Nut, flange spiralock 1/4-20	X-6210-2
15	Nut, flange whiz 8-32	X-6210-4

Current Sensing Kit Parts

Description	Part Number	Part Quantity									
		Kit number GM89028:									
		-S3	-S6	-S8	-S11	-S15	-S17	-S21	-S24	-S26	-S28
		200 A 3 ph	400 A 3 ph	1000 A 3 ph	1200 A 3 ph	2000 A 3 ph	3000 A 3 ph	200 A 1 ph	400 A 1 ph	1000 A 1 ph	1200 A 1 ph
Screw, Plastic Tapping	GM21583	2	2	2	2	2	2	2	2	2	2
Harness, CT 10 FT.	GM40562	1	1	1	1	1	1	1	1	1	1
Transformer, Current	GM47788	3						2			
Transformer, Current	GM47789		3						2		
Transformer, Current	GM47790			3						3	
Transformer, Current	GM47791				3						2
Transformer, Current	GM47792					3					
Transformer, Current	GM47793						3				
Insulation, Terminal Block	GM47797	1	1	1	1	1	1	1	1	1	1
Bracket, CT Mounting	GM47800										1
Diagram, Wiring CT MPAC 1500	GM47803	1	1	1	1	1	1	1	1	1	1
Drawing, Assembly Current Sensing	GM89028	1	1	1	1	1	1	1	1	1	1
Harness, CT	GM89029	1	1	1	1	1	1	1	1	1	1
Terminal Block	X-6126-27	1	1	1	1	1	1	1	1	1	1
Nut, Flange Spirallock	X-6210-2										4
Screw, Thread Forming	X-67-114										8



NOTES:

HI SIDE OF CT'S MUST ALWAYS FACE TOWARD THE CONTACTOR.
Route CT harness neatly to controller with controller/contactor harness. Use cable ties as necessary.
See wiring diagram GM47803 (Figure 27).

1. Connect harness GM40562 (10 ft. harness). See Figure 27 for electrical connections.
2. Current transformers. See Parts List for part numbers.

Figure 26 Current Sensing Kit Installation

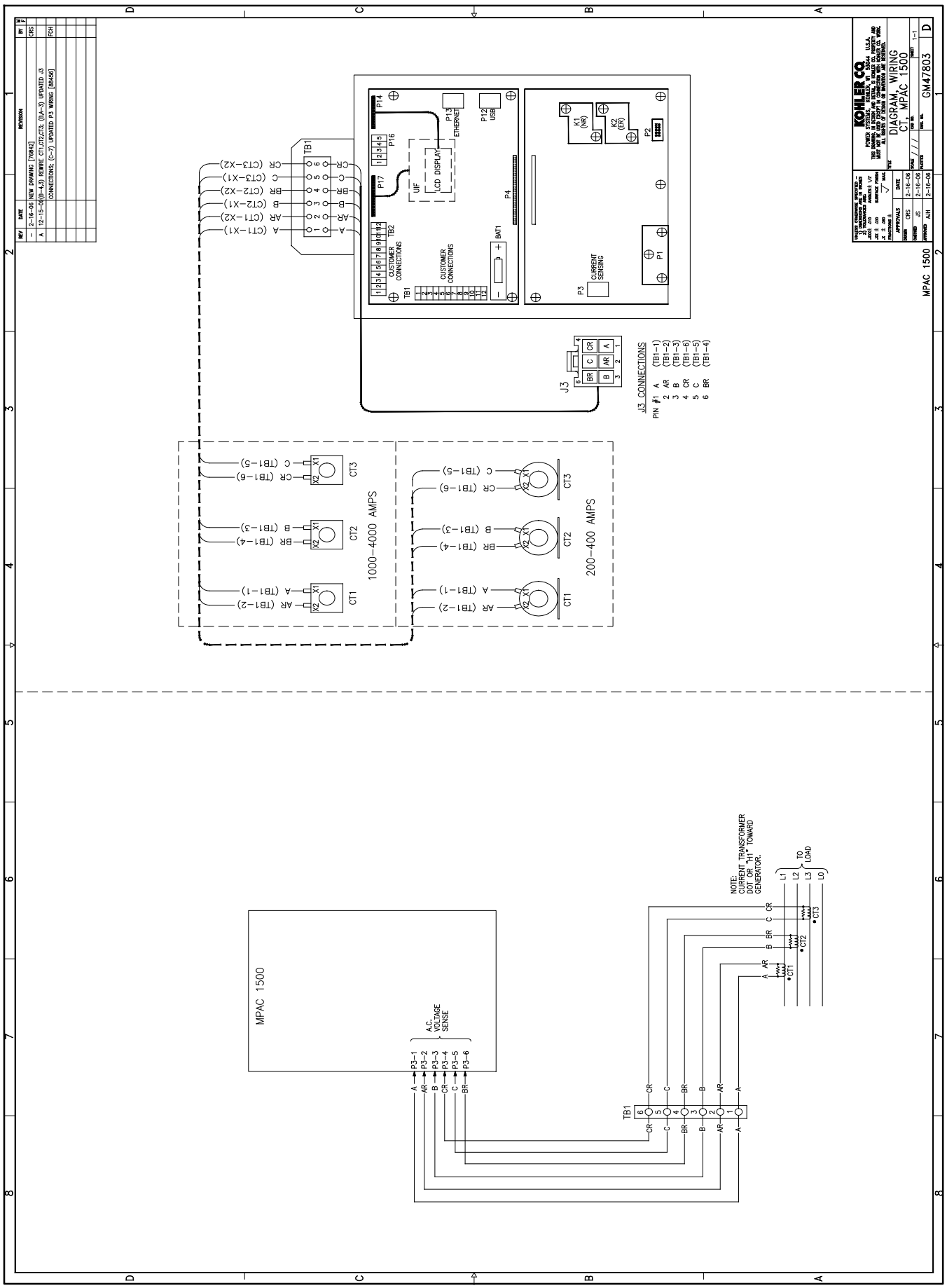


Figure 27 Current Sensing Kit Wiring Diagram, GM47803

Transfer Switch Wiring Diagrams

The schematic diagrams and wiring diagrams for the transfer switches with Decision-Maker® MPAC 1500 controls are arranged in alpha-numeric order on the following pages. Find your model and the corresponding drawing numbers in Figure 28.

The schematic and wiring diagram drawing numbers for the transfer switch with M340 controls are shown in Figure 28 for reference only. Those drawings are not included in this document. Refer to the original documentation provided with the transfer switch for M340 drawings, if necessary.

To interpret the transfer switch model designation, see the model designation chart in Figure 7. Codes for the model GLS, K and KB switches are combined in the model designation chart. Some codes do not apply to all three models.

ATS Model *	Poles*	Phases*	Amps	M340 Drawing Numbers (for reference only)		MPAC 1500 Conversion Drawings	
				Schematic	Wiring Diagram	Schematic	Wiring Diagram
GLS-5	2	1	40–400	362173	362171	GM99377	GM99378
	3	3					
	4	3					
K-5	2	1	30–4000	294859	294854	GM100323	GM100324
	3	3					
	3	1					
KB-5	2	1	150–400	294808	294815	GM100325	GM100326
	3	3					
	3	1					
	4†	3					
	2	1	600–800	294811	294817	GM100328	GM100329
	3	3	600–800	353347	294817	GM100327	GM100329
	3	1					
	4†	3					
	3	3	1000–1200	294812	294819	GM100330	GM100331
	3	1					
	4†	3					

* See Figure 7 to interpret the model designation.

† 3 pole, 3 phase with overlapping neutral

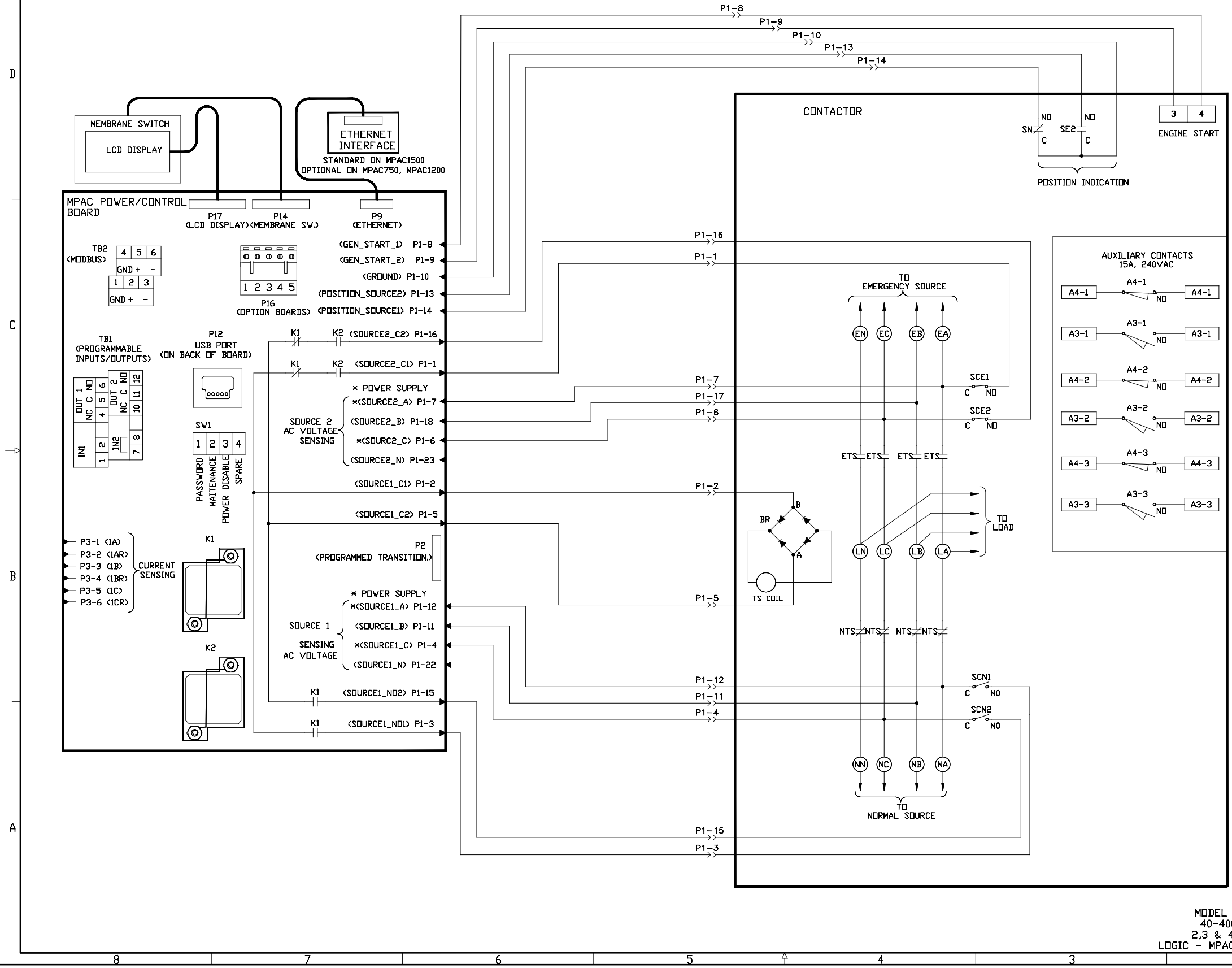
Figure 28 Drawing Numbers

REV	DATE	REVISION	BY	N F
-	1-5-16	NEW DRAWING (CT1306643)	BTW	

LEGEND

A3, A4 - AUXILLIARY CONTATCTS
BR - BRIDGE RECTIFIER
CNE - TRANSFER COIL (NORMAL/EMERGENCY)
K(#) - RELAY
LCD - LIQUID CRYSTAL DISPLAY
MLB - MAIN LOGIC BOARD
P(#) - PLUG
PSB - POWER SUPPLY BOARD
SCE - COIL CLEARING CONTATC (EMERGENCY)
SCN - COIL CLEARING CONTACT (NORMAL)
SE - SWITCH POSITION CONTACT (EMERGENCY POSITION)
SN - SWITCH POSITION CONTACT (NORMAL POSITION)
SW(#) - DIP SWITCH
TB1 - CUSTOMER CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
TS - TRANSFER SWITCH
UIF - USER INTERFACE

NOTE:
DIAGRAM SHOWN WITH 'NORMAL' ENERGIZED AND CONTACTOR IN THE NORMAL POSITION.



FOR WIRING DIAGRAM SEE DWR. GM99378

MODEL GLS-5
40-400 AMP
2,3 & 4 POLE
LOGIC - MPAC 1500

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
XXX ± .010 ANGLES ± 1/2°
XX ± .030 SURFACE FINISH 125 MAX
X ± .060
FRACTIONS ±

APPROVALS	DATE
DRAWN BTW	1-5-16
CHECKED HCC	1-5-16
APPROVED MTL	1-5-16

KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.
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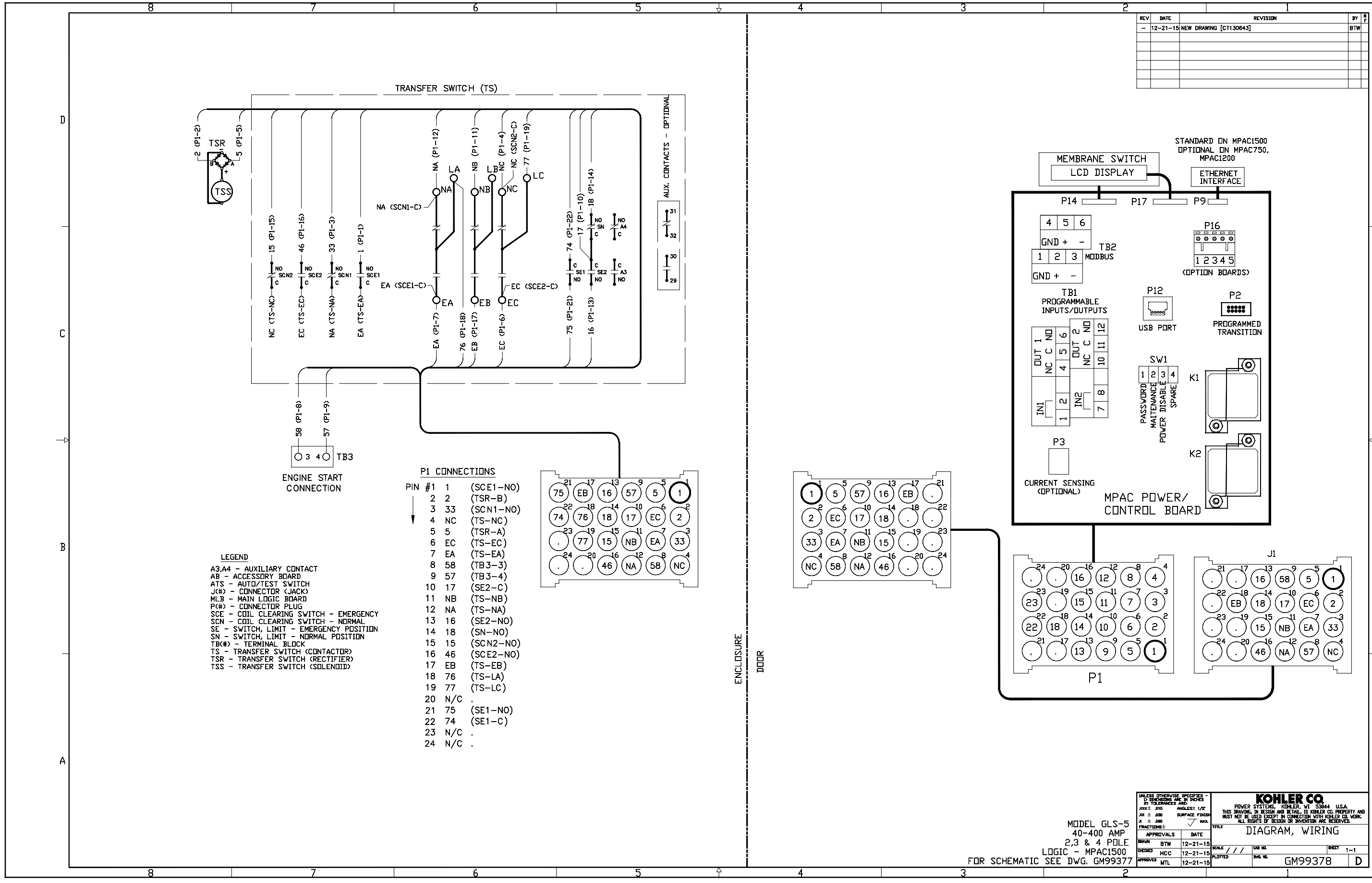
TITLE: DIAGRAM SCHEMATIC
SCALE: / / /
CAD NO.
SHEET 1-1
PLOTTED
DWG. NO. GM99377 D

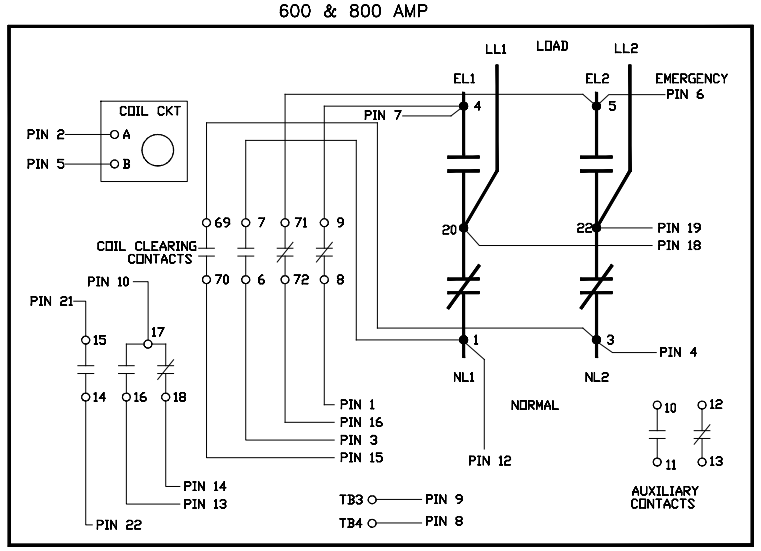
Schematic Diagram, Model GLS Standard Transition with MPAC 1500 Controls, GM99377



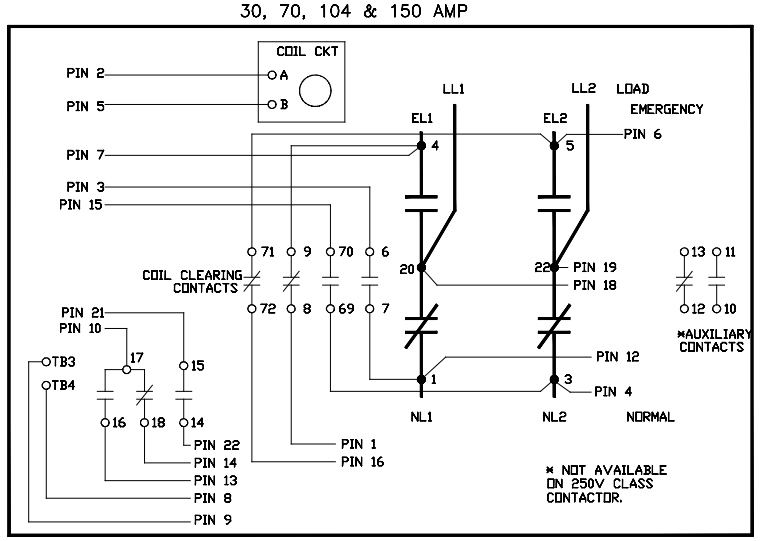
Wiring Diagram, Model GLS Standard Transition with MPAC 1500 Controls, GM99378

REV	DATE	REVISION	BY	M E
-	2-4-16	NEW DRAWING [CT1305901	BTW	

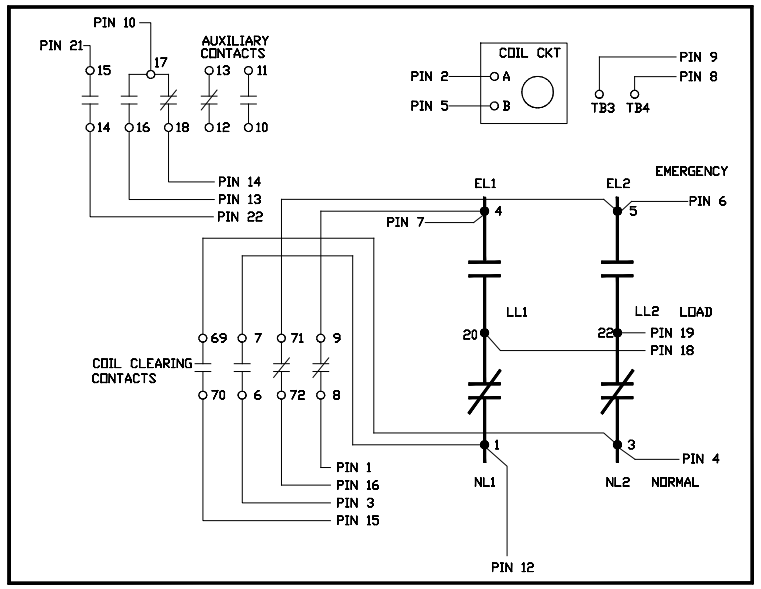
600 & 800 AMP

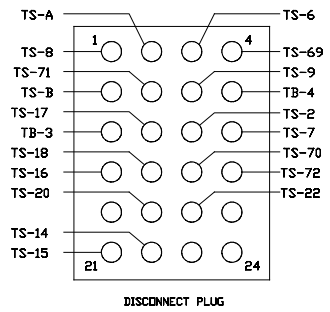


30, 70, 104 & 150 AMP

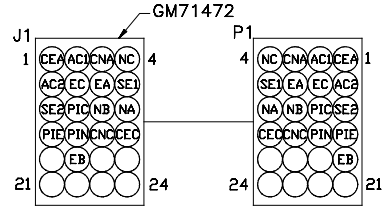


1000 & 1200 AMP

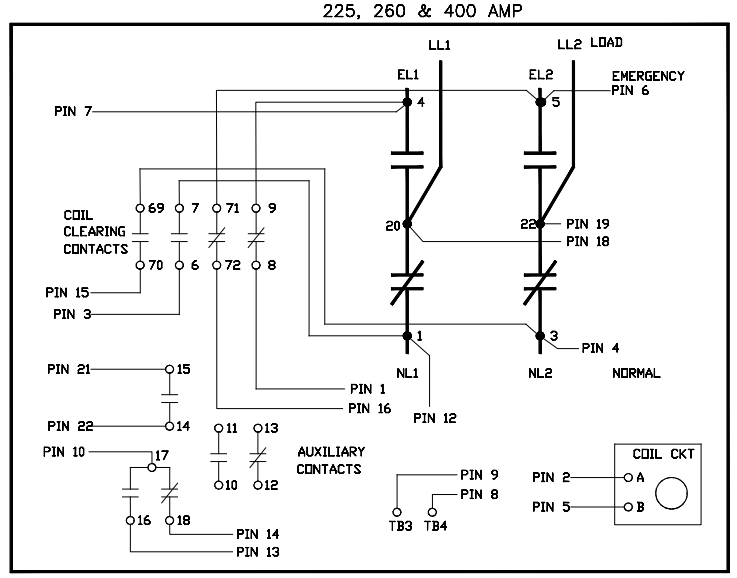




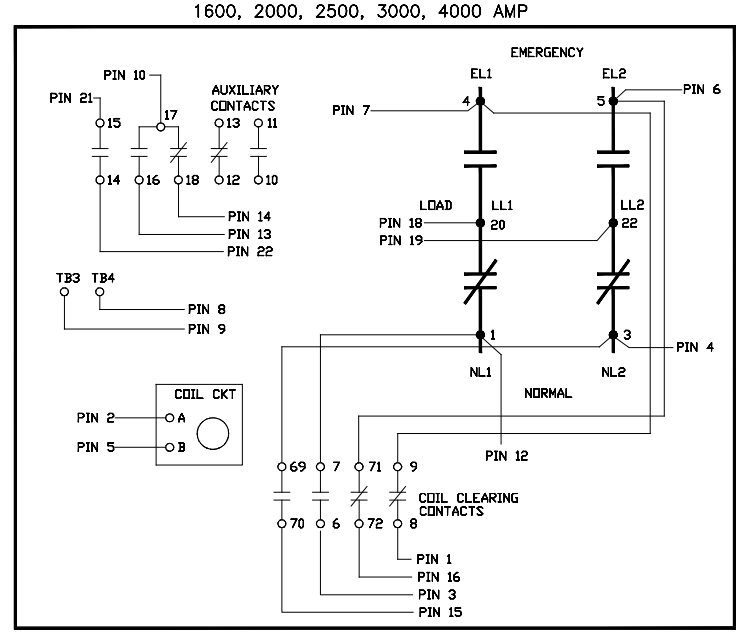
DISCONNECT PLUG

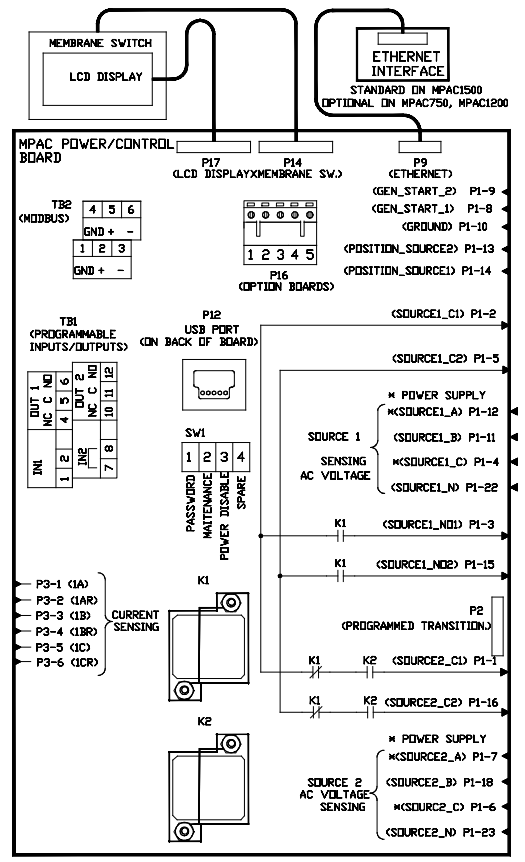


225, 260 & 400 AMP



1600, 2000, 2500, 3000, 4000 AMP





LEGEND

K(#) - RELAY
LCD - LIQUID CRYSTAL DISPLAY
MLB - MAIN LOGIC BOARD
P(#) - PLUG
PSB - POWER SUPPLY BOARD
SW(#) - DIP SWITCH
TB1 - CUST. CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
UIF - USER INTERFACE

NOTES:
SWITCH SHOWN IN NORMAL POSITION
TB3 & TB4 ARE ENGINE START TERMINALS

FOR WIRING DIAGRAM SEE DWG. GM100324

MODEL K-5
30-4000 AMP
2,3&4 POLE
LOGIC - MPAC1500

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX± .010 ANGLES± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

APPROVALS		DATE
DRAWN	BTW	2-4-16
CHECKED	HCC	2-4-16
APPROVED	MTL	2-4-16

KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DIAGRAM, SCHEMATIC

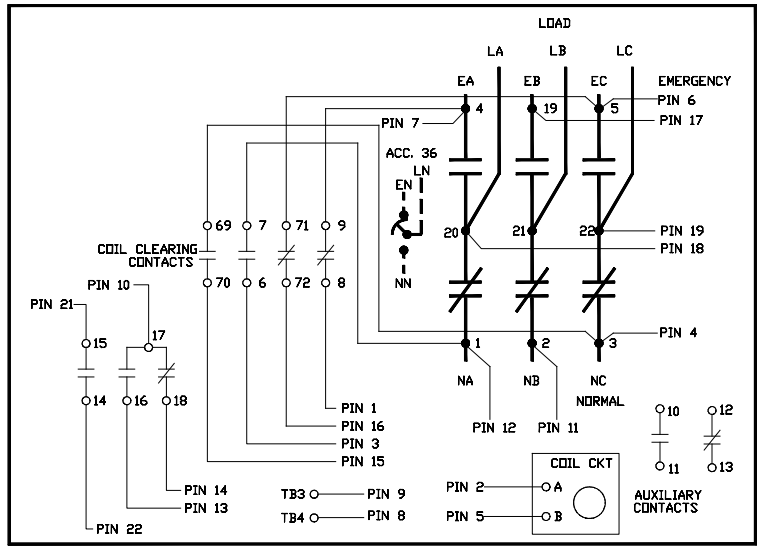
SCALE: / / / | CAD NO. | SHEET 1-2

PLOTTED | DWG. NO. GM100323 | C G

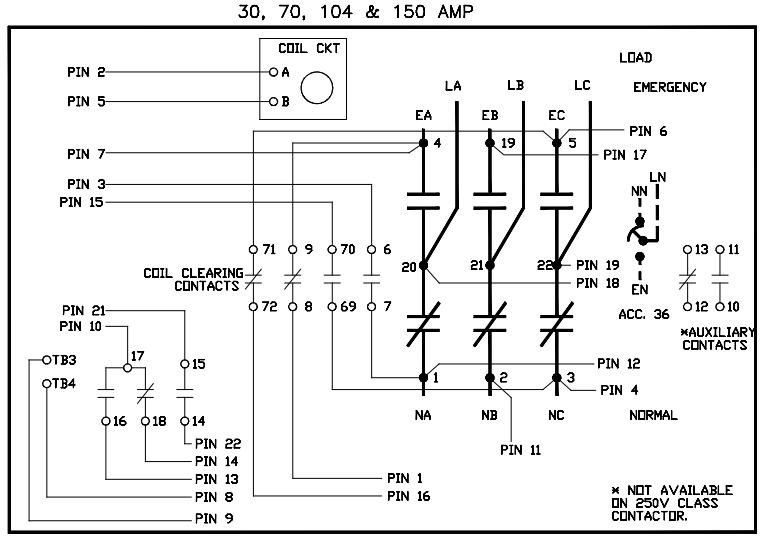
Schematic Diagram, 30-4000 Amp Model K Standard Transition with MPAC 1500 Controls, GM100323 Sheet 1 of 2

REV	DATE	REVISION	BY	W F
-	2-4-16	NEW DRAWING [CT1305901]	BTW	

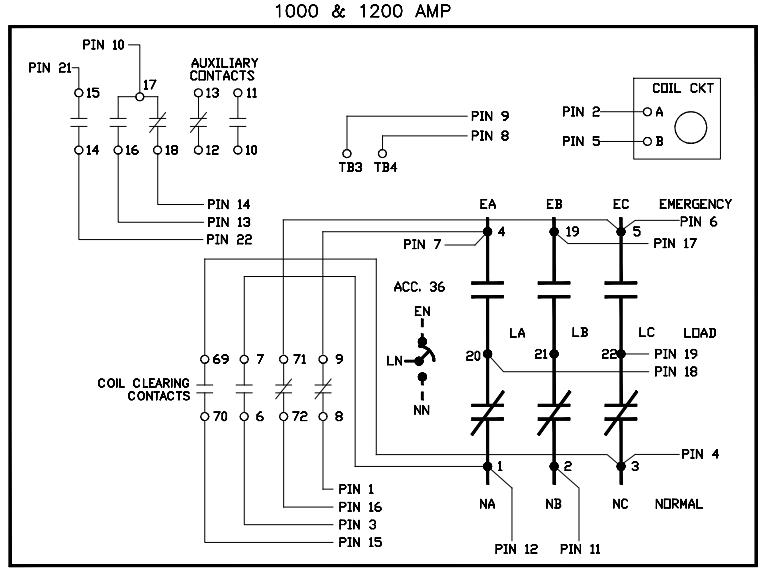
600 & 800 AMP

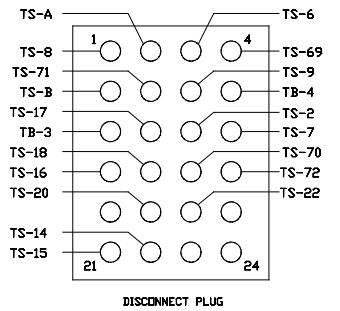


30, 70, 104 & 150 AMP

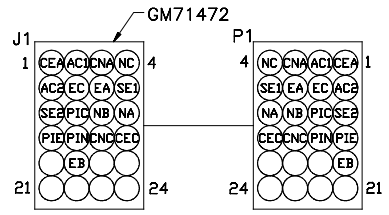


1000 & 1200 AMP

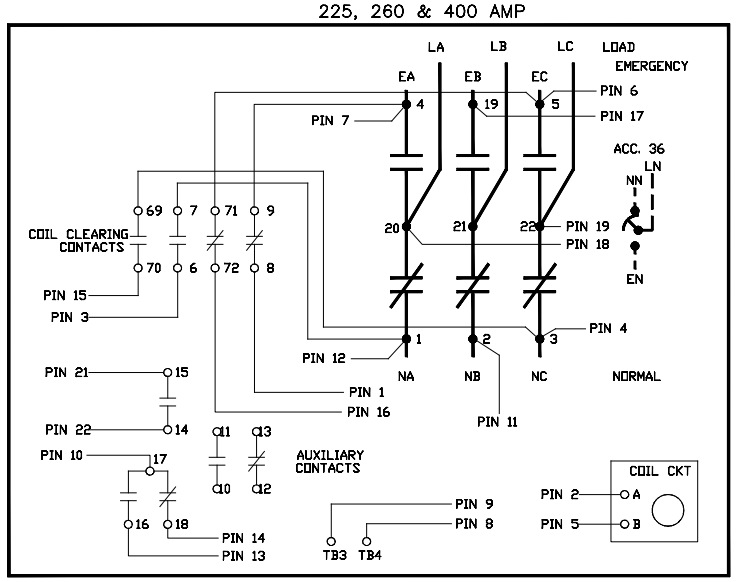




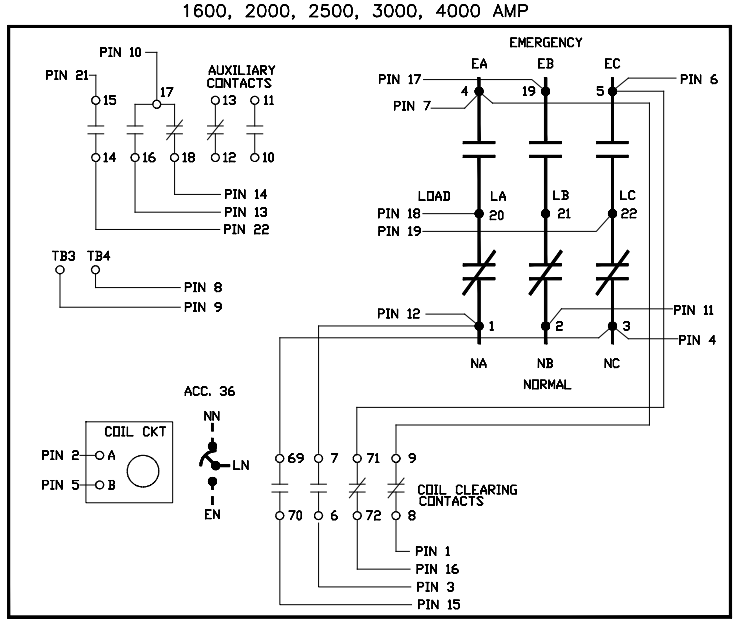
DISCONNECT PLUG

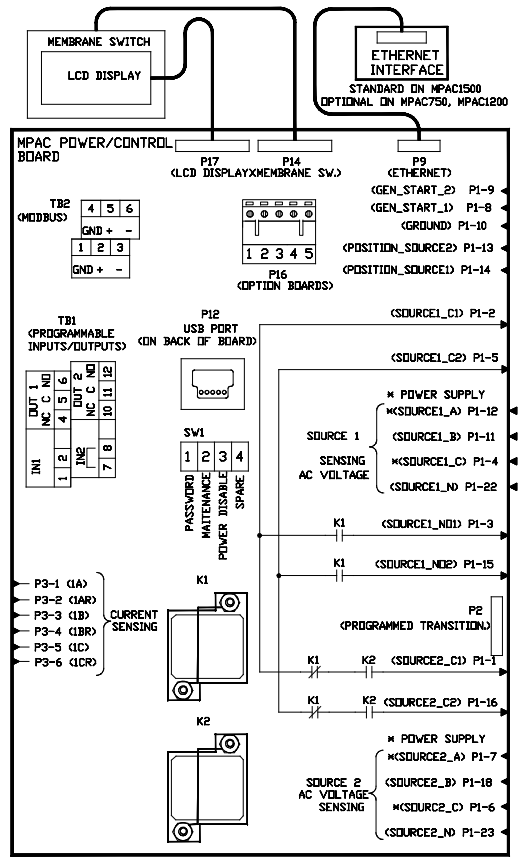


225, 260 & 400 AMP



1600, 2000, 2500, 3000, 4000 AMP





LEGEND

K(#) - RELAY
LCD - LIQUID CRYSTAL DISPLAY
MLB - MAIN LOGIC BOARD
P(#) - PLUG
PSB - POWER SUPPLY BOARD
SW(#) - DIP SWITCH
TB1 - CUST. CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
UIF - USER INTERFACE

NOTES:

SWITCH SHOWN IN NORMAL POSITION
TB3 & TB4 ARE ENGINE START TERMINALS

FOR WIRING DIAGRAM SEE DWR. GM100324

MODEL K-5
30-4000 AMP
2,3&4 POLE
LOGIC - MPAC1500

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX± .010 ANGLES± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS±

APPROVALS		DATE
DRAWN	BTW	2-4-16
CHECKED	HCC	2-4-16
APPROVED	MTL	2-4-16

KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

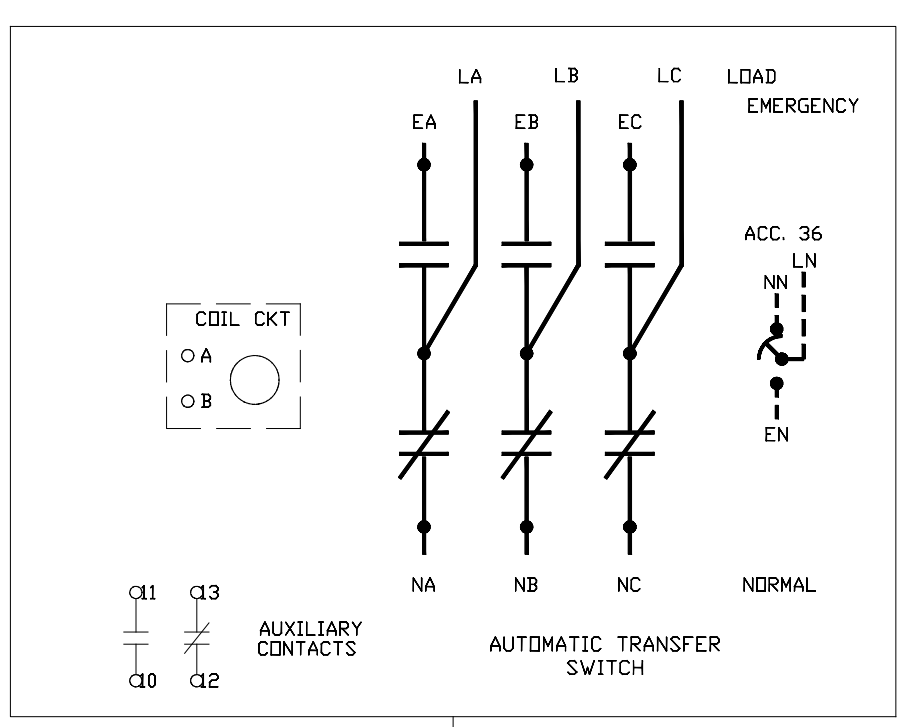
TITLE: DIAGRAM, SCHEMATIC

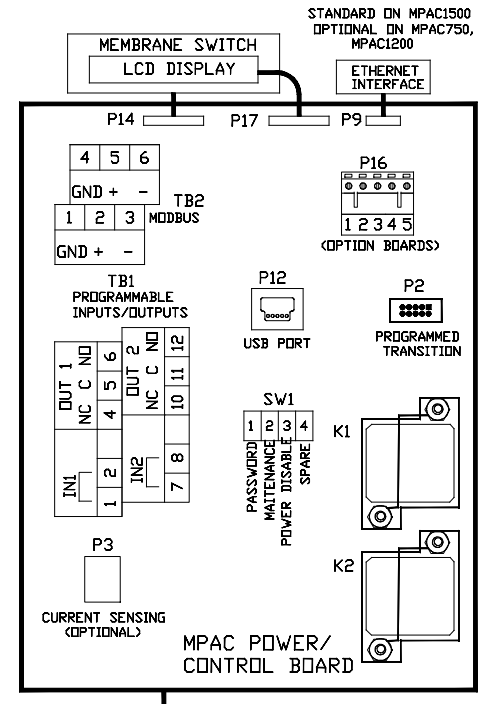
SCALE: / / / | CAD NO. | SHEET 2-2

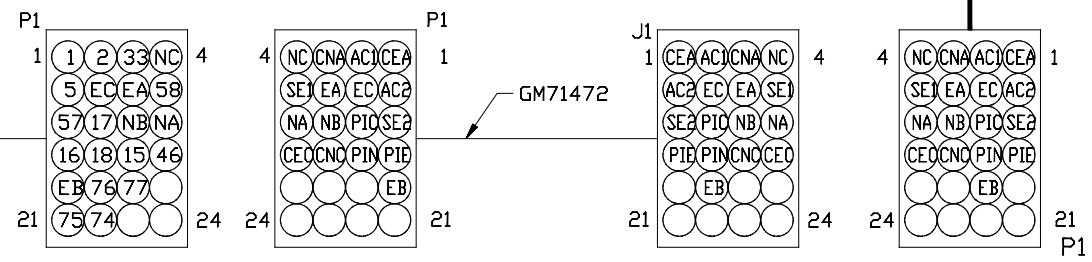
PLOTTED | DWG. NO. GM100323 | C G

Schematic Diagram, 30-4000 Amp Model K Standard Transition with MPAC 1500 Controls, GM100123 Sheet 2 of 2

REV	DATE	REVISION	BY	M E
-	2-8-16	NEW DRAWING [CT1305901	BTW	







LEGEND

LCD - LIQUID CRYSTAL DISPLAY
P(#) - PLUG
TB1 - CUST. CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
UIF - USER INTERFACE

FOR SCHEMATIC DIAGRAM SEE DWR. GM100323

MODEL K-5
30-4000 AMP
2,3&4 POLE
LOGIC - MPAC1500

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX± .010 ANGLES± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

APPROVALS		DATE
DRAWN	BTW	2-8-16
CHECKED	HCC	2-78-16
APPROVED	MTL	2-8-16

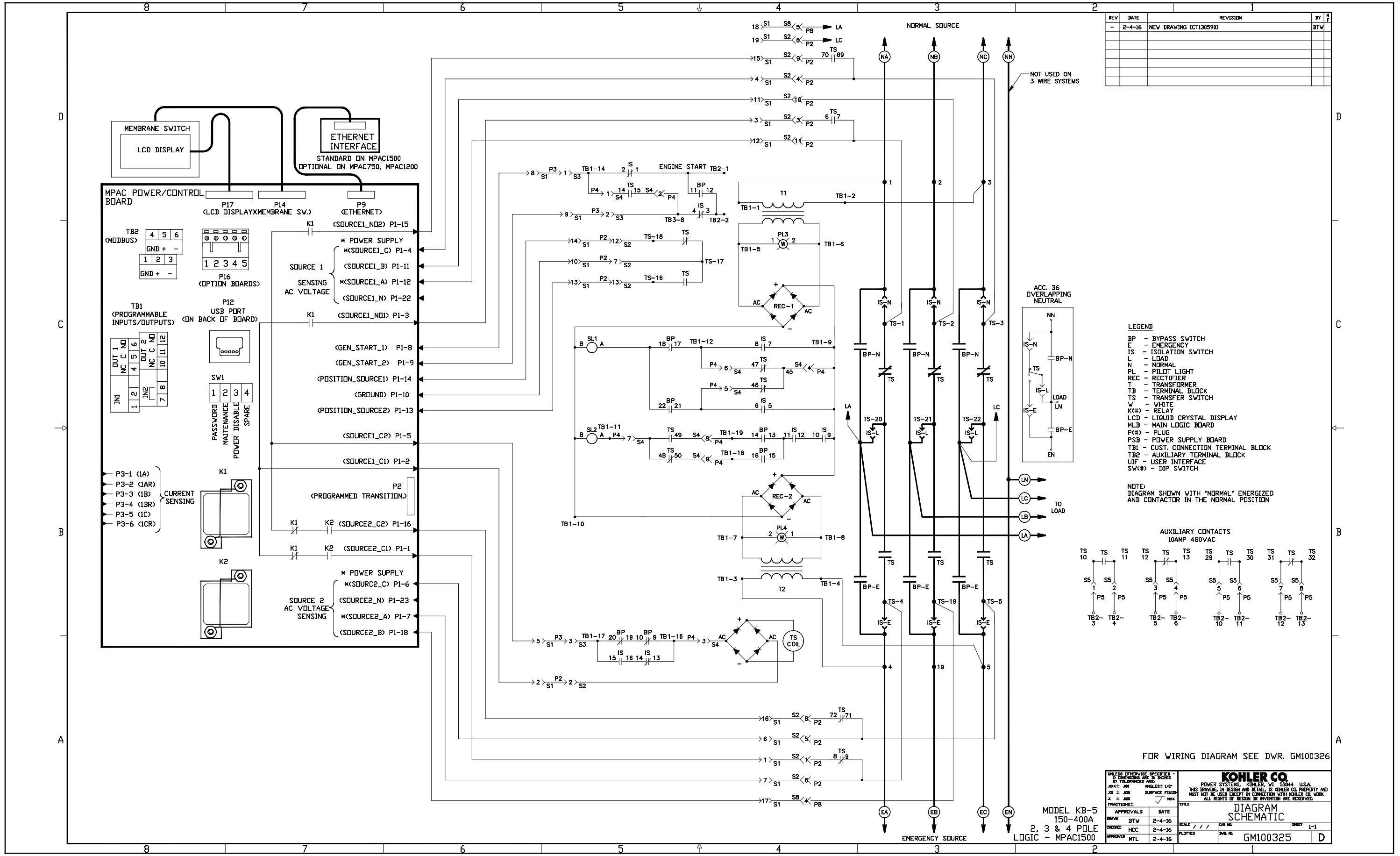
KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DIAGRAM, WIRING

SCALE: / / / | CAD NO. | SHEET 1-1

PLOTTED | DWG. NO. GM100324 | C G

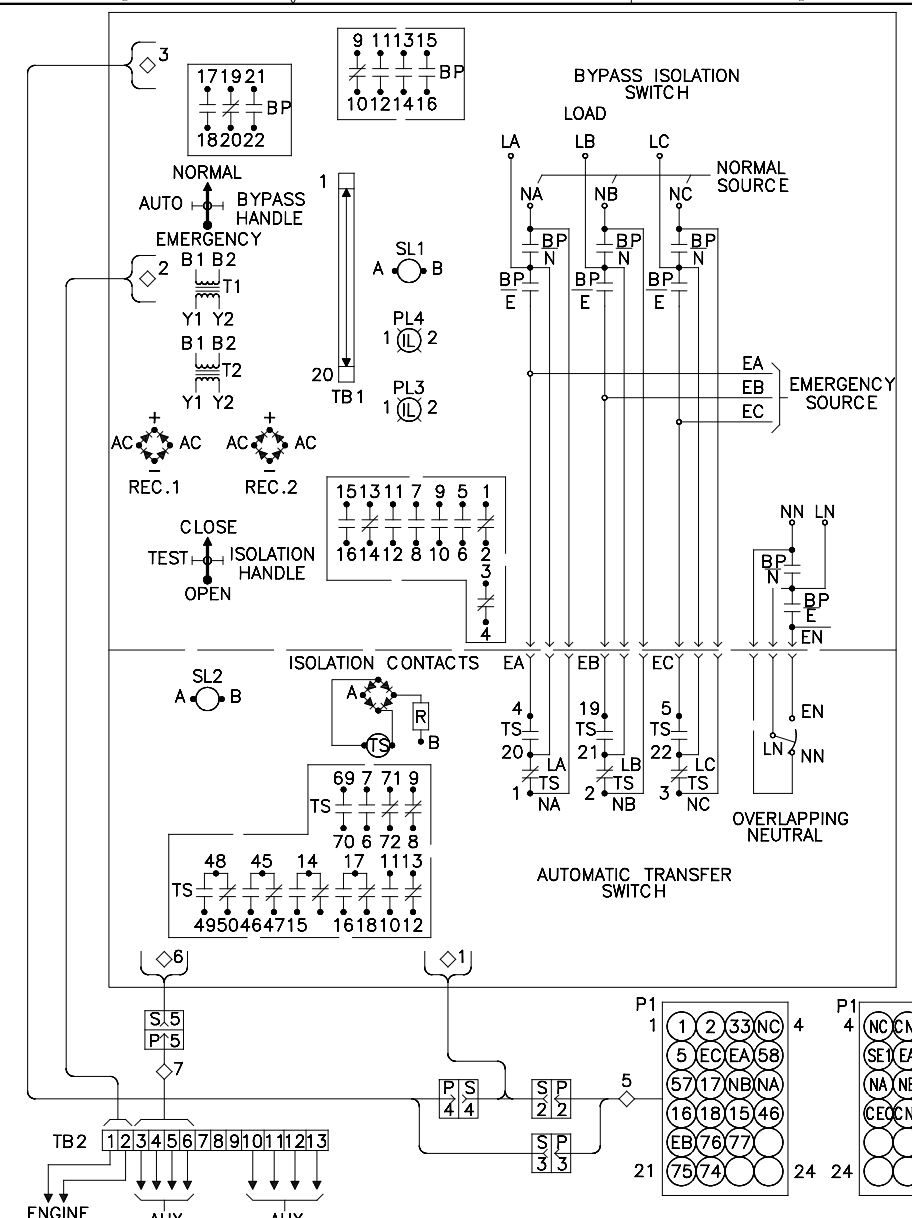
Wiring Diagram, 30-4000 Amp Model K Standard Transition with MPAC 1500 Controls, GM100324

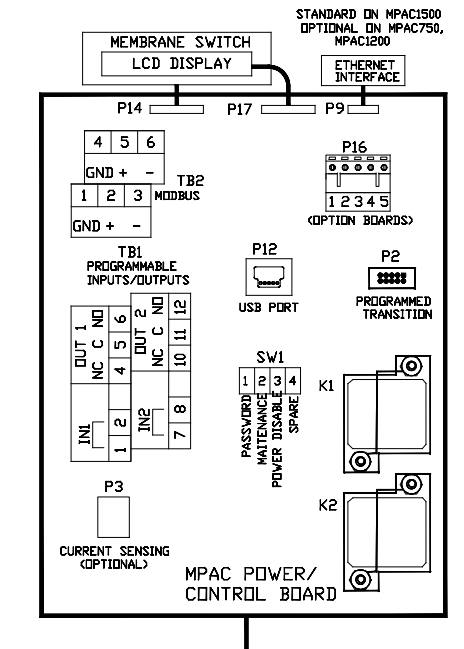


Schematic Diagram, 150-400 Amp Model KB Standard Transition with MPAC 1500 Controls, GM100323

REV	DATE	REVISION	BY	N F
–	2-8-16	NEW DRAWING [CT130590]	BTW	

LEGEND
BP – BYPASS SWITCH
IS – ISOLATION SWITCH
P – PLUG
PL – PANEL LAMP
R – RESISTOR
REC – RECTIFIER
S – SOCKET
SL – SOLENOID
TB – TERMINAL BLOCK
TS – TRANSFER SWITCH
T1 – TRANSFORMER
T2 – TRANSFORMER
LCD – LIQUID CRYSTAL DISPLAY
P(#) – PLUG
TB1 – CUST. CONNECTION TERMINAL BLOCK
TB2 – AUXILIARY TERMINAL BLOCK
UIF – USER INTERFACE





NOTES
1. SWITCH SHOWN DE-ENERGIZED CONNECTED TO NORMAL SOURCE.
2. THIS SIGN INDICATES A BRANCH CIRCUIT #
3. INDICATES CUSTOMER CONNECTION POINTS.
4. INDICATES FACTORY CONNECTION POINTS.
5. CONNECTION POINTS THAT HAVE BOTH CUSTOMER CONNECTIONS & FACTORY
6. OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER
7. MATING PLUG & SOCKET TERMINAL NUMBERS MATCH WHEN PLUGGED TOGETHER.
8. SL1 – (SOLENOID LOCK) TO PREVENT CONNECTING ATS UNLESS SOURCE TO
9. SL2, SL3 – ALLOW BYPASS ONLY TO THE SOURCE TO WHICH THE TRANSFER
10. 15A – TRANSFER SWITCH AUXILIARY CONTACT.

FOR SCHEMATIC SEE DWR. GM100325

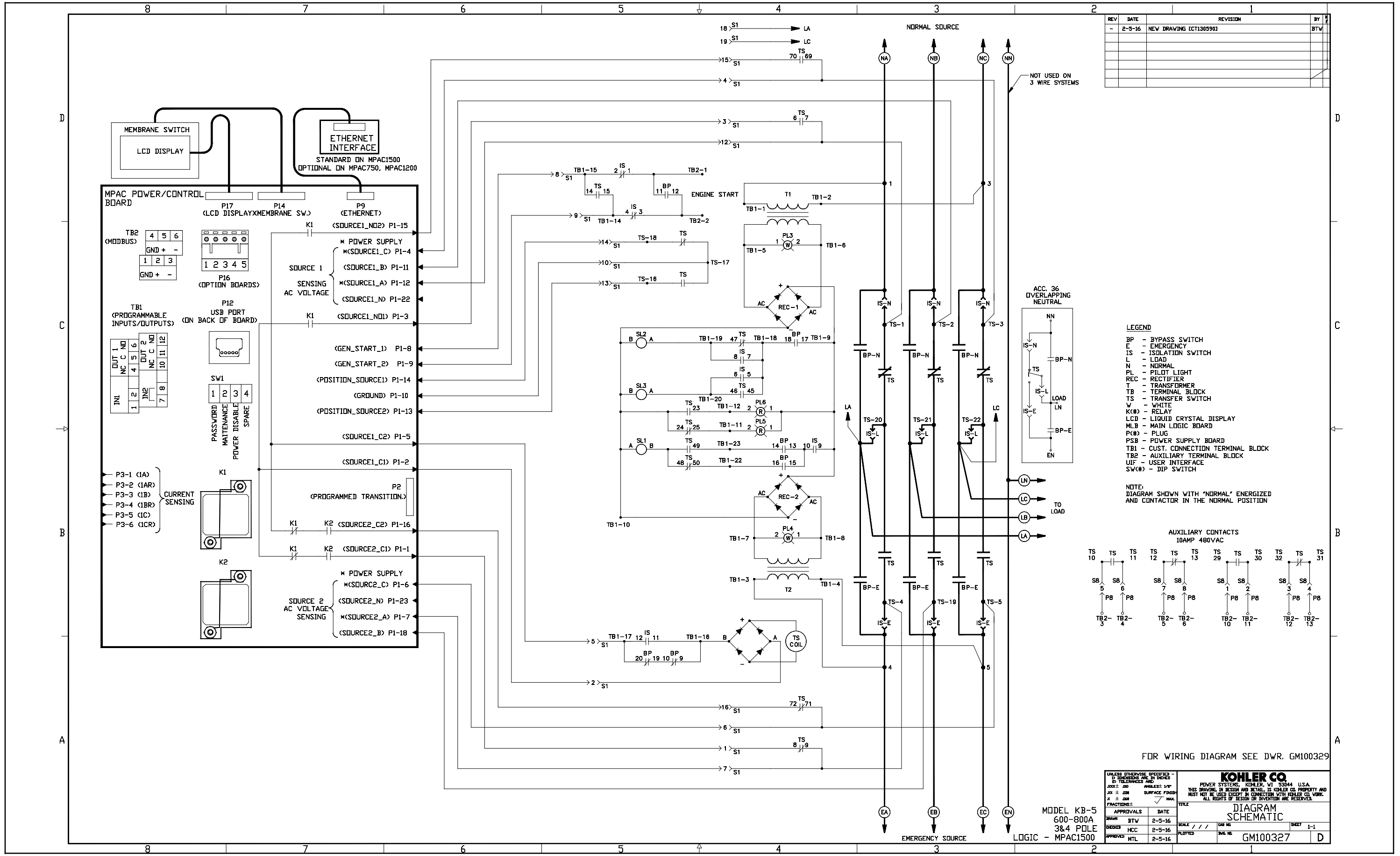
WIRE NO.	A.T.S. ON PANEL WIRE CONNECTIONS TO S2 & S4 ⟨1⟩ NO.	WIRE	BYPASS–ISOLATION SWITCH, STATIONARY WIRING ⟨2⟩ NO.	WIRE	BYPASS–ISOLATION SWITCH, CONNECTION TB1, S3, & P4 ⟨3⟩ NO.	WIRE	LOGIC BOARD HARNESS NO. S1 ⟨4⟩	WIRE	INTER–CONNECTING HARNESS NO. P1, P2, & P3 ⟨5⟩	WIRE	A.T.S. AUXILIARY CONNECTIONS S5 ⟨6⟩	AUX. CONT.	EMERG.		AUTO		NORM.
													BYPASS HANDLE POSITION				
													O=OPEN CONTACT		X=CLOSED CONTACT		
		36	IS–14, IS–16														
34	TS–72, S2–8	35	IS–12, IS–10														
33	TS–70, S2–9	31	TB1–10, SL1–B, SL2–B														
30	TS–45, S4–4	30	TB1–9, IS–5, IS–7, IS–9														
28	TS–B, S4–3	29	BP–10, BP–19														
20	TS–50, S4–9	28	TB1–16, BP–9, IS–13			NC	S1–4, TB3–NC			44	TB2–13, P5–8						
19	TS–49, S4–8	27	TB2–2, BP–12, IS–3			NB	S1–11, TB3–NB			43	TB2–12, P5–7						
18	TS–48, S4–7	26	TB2–1, BP–11, IS–1			NA	S1–12, TB3–NA			42	TB2–11, P5–6	15–16	O		X		X
17	TS–47, S4–6	25	BP–13, BP–15, IS–11			EC	S1–6, TB3–EC			41	TB2–10, P5–5	13–14	X		X		O
16	TS–46, S4–5	24	TB1–7, PL4–1			EB	S1–17, TB3–EB	34	P1–16, P2–8	40	TB2–6, P5–4	11–12	O		X		X
15	TS–45, S4–4	23	TB1–8, PL4–2			EA	S1–7, TB3–EA	33	P1–15, P2–9	39	TB2–5, P5–3	9–10	X		X		O
14	TS–1, S2–7	22	TB1–6, PL3–2			77	S1–19, TB6–77	14	P1–12, P2–11	38	TB2–4, P5–2	7–8	O		X		X
14	TS–1, S2–11	21	TB1–5, PL3–1			76	S1–18, TB6–76	13	P1–11, P2–10	37	TB2–3, P5–1	5–6	O		X		X
13	TS–2, S2–10	20	TB1–18, BP–16			75	S1–21, TB6–75	12	P1–13, P2–13	WIRE NO.	A.T.S. AUXILIARY CONNECTIONS TO TB2, P5 ⟨7⟩	3–4	X		X		O
12	TS–16, S2–13	19	TB1–19, BP–14	30	TB1–9, P4–4	74	S1–22, TB6–74	11	P1–14, P2–12			1–2	X		X		O
11	TS–18, S2–12	18	TB1–11, SL2–A	28	TB1–16, P4–3	58	S1–8, TB4–58	10	P1–10, P2–7			AUX.	CLOSED		TEST		OPEN
10	TS–17, S2–7	17	TB1–12, BP–17, IS–8	20	TB1–18, P4–9	57	S1–9, TB4–57	9	P1–5, P3–3			CONT.	ISOLATION HANDLE POSITION				
	TS–4, TS–9	16	TB1–15, IS–6, BP–21	19	TB1–19, P4–8	46	S1–16, P8–4	8	P1–9, P3–2	44	TS–32, S5–8						
	TS–4, S2–6	15	BP–18– BP–22, SL1–A	18	TB1–11, P4–7	33	S1–3, P8–6	7	P1–8, P3–1	43	TS–31, S5–7	21–22	O	X	O	O	O
5	TS–5, TS–71	14	TB1–1, NA	17	TB1–12, P4–6	18	S1–14, TB2–18	6	P1–7, P2–6	42	TS–30, S5–6	19–20	O	O	X	O	O
5	TS–5, S2–5	9	TB1–17, BP–20, IS–15	16	TB1–15, P4–5	17	S1–10, TB2–17	5	P1–6, P2–5	41	TS–29, S5–5	17–18	O	O	O	X	O
4	TS–3, TS–69	8	TB1–13, IS–4	9	TB1–17, S3–3	16	S1–13, TB4–16	4	P1–4, P2–4	40	TS–13, S5–4	15–16	O	O	O	X	X
4	TS–3, S2–4	7	TB1–14, IS–2	8	TB1–13, S3–2	15	S1–15, P8–3	3	P1–3, P2–3	39	TS–12, S5–3	13–14	X	X	O	O	O
3	TS–6, S2–3	6	TB1–3, EA	8	TB1–13, P4–2	5	S1–5, P8–2	2	P1–2, P2–2	38	TS–11, S5–2	11–12	X	X	O	O	O
2	TS–A, S2–2	5	TB1–4, EC	7	TB1–14, S3–1	2	S1–2, P8–5	1	P1–1, P2–1	37	TS–10, S5–1	9–10	O	O	X	O	O
	TS–8, S2–1	4	TB1–2, NC	7	TB1–14, P4–1	1	S1–1, P8–1										

MODEL KB-5
150-400A
2,3&4 POLE
LOGIC – MPAC1500

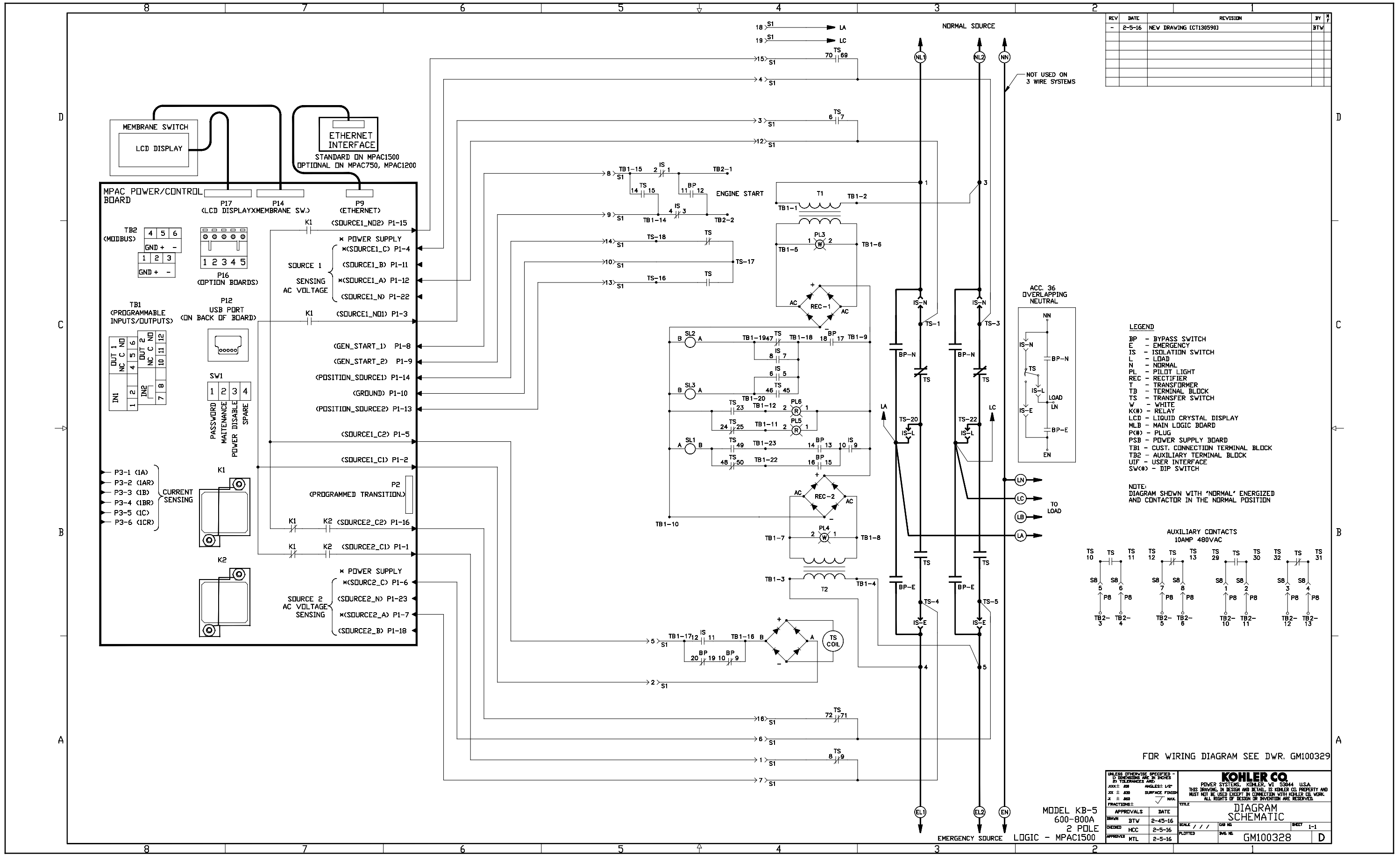
UNLESS OTHERWISE SPECIFIED – DIMENSIONS ARE IN INCHES TO TOLERANCES AND:		KOHLER CO. Kohler, Wisconsin
XXX ± .010	ANGLES ± 1/2°	POWER SYSTEMS, KOHLER, WI 53044 U.S.A.
XX ± .030	SURFACE FINISH	THIS DRAWING, IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
X ± .000	MAX.	
FRACTIONS ±		TITLE: DIAGRAM, WIRING
APPROVALS	DATE	
DRAWN BTW	2-8-16	SCALE: /// CAD NO. SHEET 1-1
CHECKED HCC	2-8-16	
APPROVED MTL	2-8-16	PLOTTED DWG. NO. GM100326 D

FOR SCHEMATIC SEE DWR. GM100325

Wiring Diagram, 150-400 Amp Model K Standard Transition with MPAC 1500 Controls, GM100326



Schematic Diagram, 600-800 Amp Model KB Standard Transition with MPAC 1500 Controls, GM100327



REV	DATE	REVISION	BY	N F
-	2-5-16	NEW DRAWING (CT1305903)	BTW	

LEGEND

BP - BYPASS SWITCH
E - EMERGENCY
IS - ISOLATION SWITCH
L - LOAD
N - NORMAL
PL - PILOT LIGHT
REC - RECTIFIER
T - TRANSFORMER
TB - TERMINAL BLOCK
TS - TRANSFER SWITCH
W - WHITE
K(#) - RELAY
LCD - LIQUID CRYSTAL DISPLAY
MLB - MAIN LOGIC BOARD
P(#) - PLUG
PSB - POWER SUPPLY BOARD
TB1 - CUST. CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
UIF - USER INTERFACE
SW(#) - DIP SWITCH

NOTE:
DIAGRAM SHOWN WITH 'NORMAL' ENERGIZED AND CONTACTOR IN THE NORMAL POSITION

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES - TOLERANCES ARE: XXX ± .010, ANGLES ± 1/2°, XX ± .030, SURFACE FINISH 125 MAX, X ± .060, FRACTIONS ±

APPROVALS	DATE
DRAWN BTW	2-45-16
CHECKED HCC	2-5-16
APPROVED MTL	2-5-16

KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DIAGRAM SCHEMATIC
SCALE: / / /
CAD NO.
SHEET 1-1
PLOTTED
DWG. NO. GM100328 D

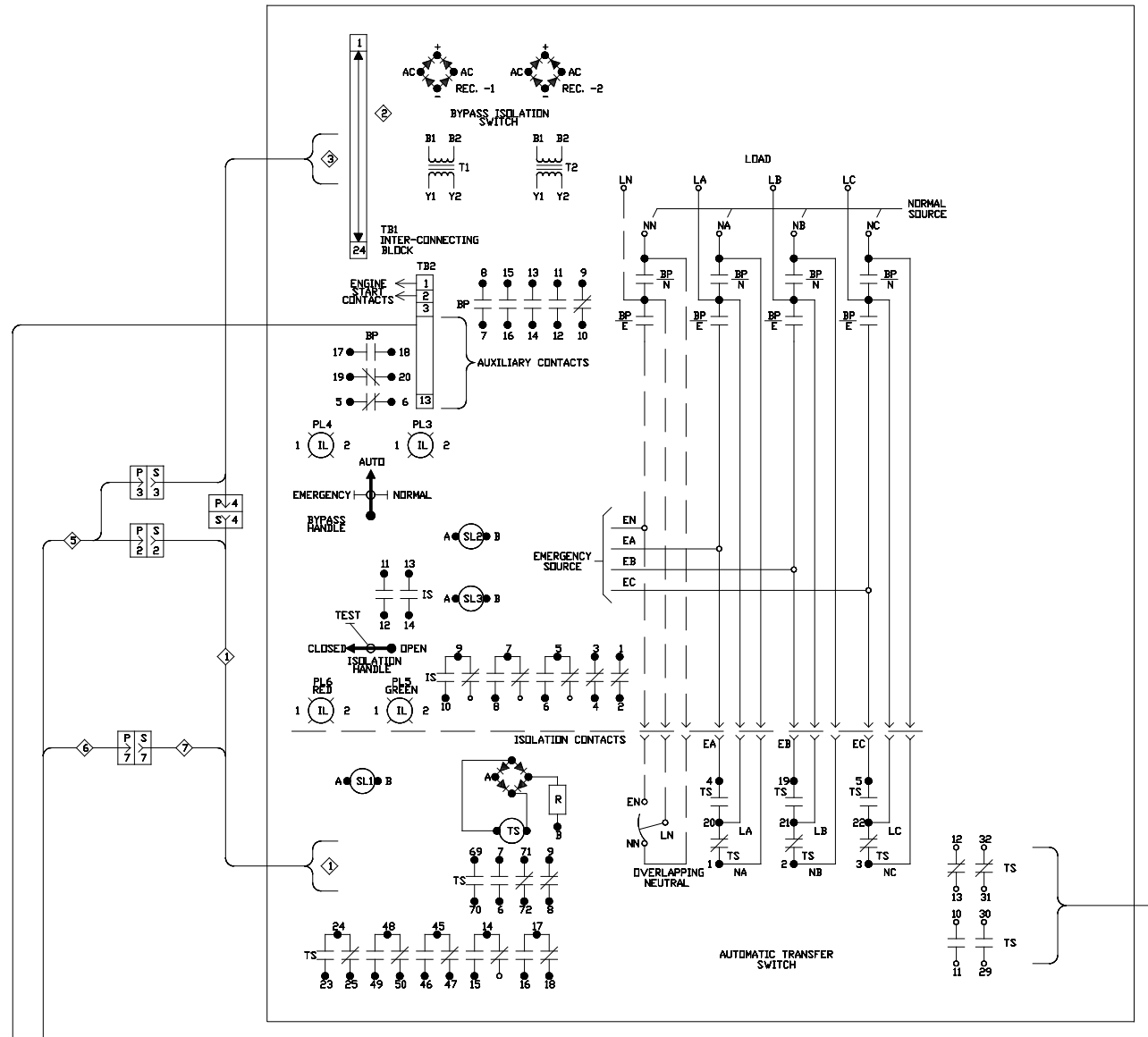
MODEL KB-5
600-800A
2 POLE

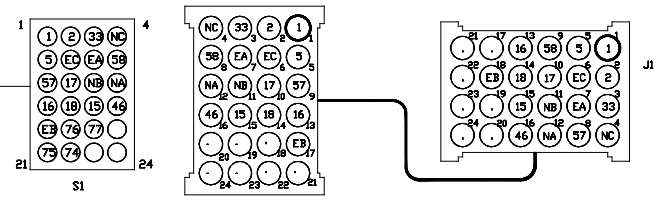
Schematic Diagram, 600-800 Amp Model KB Standard Transition with MPAC 1500 Controls, GM100328

REV	DATE	REVISION	BY	N F
-	2-8-16	NEW DRAWING (CT1305901	BTW	

NOTES
1. SWITCH SHOWN DE-ENERGIZED CONNECTED TO NORMAL SOURCE.
2. THIS SIGN INDICATES A BRANCH CIRCUIT #
3. ○ INDICATES CUSTOMER CONNECTION POINTS.
4. ● INDICATES FACTORY CONNECTION POINTS.
5. CONNECTION POINTS THAT HAVE BOTH CUSTOMER CONNECTIONS AND FACTORY CONNECTIONS ARE SHOWN OPEN AS CUSTOMER CONNECTION POINTS.
6. OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE SWITCH.
7. MATING PLUG AND JACK TERMINAL NUMBERS MATCH WHEN PLUGGED TOGETHER.
8. SL1 - (SOLENOID LOCK) TO PREVENT CONNECTING ATS UNLESS SOURCE TO LOAD IS SAME AS SOURCE BYPASSED.
9. SL2, SL3 - ALLOW BYPASS ONLY TO THE SOURCE TO WHICH THE TRANSFER SWITCH LOAD IS CONNECTED.

LEGEND
IS - ISOLATION SWITCH
P - PLUG
PL - PILOT LAMP
R - RESISTOR
REC - RECTIFIER
S - SOCKET
SL - SOLENOID
TB - TERMINAL BLOCK
TS - TRANSFER SWITCH
T1 - TRANSFORMER
T2 - TRANSFORMER
LCD - LIQUID CRYSTAL DISPLAY
P(#) - PLUG
TB1 - CUST. CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
UIF - USER INTERFACE





FOR SCHEMATIC SEE DWG. GM100327 & GM100328

WIRE NO.	A.T.S. (IN PANEL) WIRE CONNECTIONS TO SE & S4 ①	WIRE NO.	BYPASS-ISOLATION SWITCH STATIONARY WIRING ②	WIRE NO.	BYPASS-ISOLATION SWITCH CONNECTION TB1, S3, & P4 ③	WIRE NO.	INTER-CONNECTING HARNESS P1, P2, & P3 ④	WIRE NO.	HARNESS P7 TO P1 ⑥	WIRE NO.	A.T.S. TO HARNESS S7 ⑦	WIRE NO.	TB2 AUXILIARY CONTACTS ⑧	WIRE NO.	TS AUXILIARY CONTACTS ⑤	AUX. CONT.	ISOLATION HANDLE POSITION: CLOSED	TEST	OPEN	AUX. CONT.	BYPASS HANDLE POSITION: ENERG.	80°-10°	AUTO	10°-80°	NORM.
			36 IS-14, IS-16																					
			35 IS-12, IS-10																					
			31 TB1-10, SL1-B, SL2-B																					
			30 TB1-9, IS-5, IS-7, IS-9																					
34	TS-72, S2-8		29 BP-10, BP-19																					
33	TS-70, S2-9		28 TB1-16, BP-9, IS-13																					
29	TS-8, S4-3		27 TB2-5, BP-12, IS-3																					
20	TS-50, S4-9		26 TB2-1, BP-11, IS-1																					
19	TS-49, S4-8		25 BP-13, BP-15, IS-11																					
18	TS-48, S4-7		24 TB1-7, PL4-1																					
17	TS-47, S4-6		23 TB1-8, PL4-2																					
16	TS-46, S4-5		22 TB1-6, PL3-2				34 P1-16, P2-8																	
14	TS-1, TS-7		21 TB1-5, PL3-1				33 P1-15, P2-9																	
14	TS-1, S2-11		20 TB1-18, BP-16				14 P1-12, P2-11																	
12	TS-16, S2-13		19 TB1-19, BP-14	30	TB1-9, P4-4		12 P1-13, P2-13																	
11	TS-18, S2-12		18 TB1-11, SL2-A	28	TB1-16, P4-3		11 P1-14, P2-12																	
10	TS-17, S2-7		17 TB1-12, BP-17, IS-8	20	TB1-18, P4-9		10 P1-10, P2-7																	
6	TS-4, TS-9		16 TB1-15, IS-6, BP-21	19	TB1-19, P4-8		9 P1-5, P3-3																	
6	TS-4, S2-6		15 BP-18, BP-22, SL1-A	18	TB1-11, P4-7		8 P1-9, P3-2					13	TB2-13, P8-4	32	TS-32, S8-3									
5	TS-5, TS-71		14 TB1-1, NA	17	TB1-12, P4-6		7 P1-8, P3-1					12	TB2-12, P8-3	31	TS-31, S8-4	11-12	O	X	O	19-20	O	O	X	O	O
5	TS-5, S2-5		9 TB1-17, BP-20, IS-15	16	TB1-15, P4-5		6 P1-7, P2-6					11	TB2-11, P8-2	30	TS-30, S8-2	9-10	O	X	O	17-18	O	X	O	X	O
4	TS-3, TS-69		8 TB1-13, IS-4	9	TB1-17, S3-3	5	P1-6, P2-5	EB	P7-4, P1-17	EB	TS-19, S7-4	10	TB2-10, P8-1	29	TS-29, S8-1	7-8	O	X	X	15-16	O	O	O	X	X
4	TS-3, S2-4		7 TB1-14, IS-2	8	TB1-13, S3-2	4	P1-4, P2-4	77	P7-6, P1-19	77	TS-21, S7-6	6	TB2-6, P8-8	13	TS-13, S8-8	5-6	O	X	X	13-14	X	X	O	O	O
3	TS-6, S2-3		6 TB1-3, EA	8	TB1-13, P4-2	3	P1-3, P2-3	76	P7-5, P1-18	76	TS-20, S7-5	5	TB-5, P8-7	12	TS-12, S8-7	3-4	X	X	O	11-12	X	X	O	O	O
2	TS-4, S2-2		5 TB1-4, EC	7	TB1-14, S3-1	2	P1-2, P2-2	75	P7-2, P1-21	75	TS-15, S7-2	4	TB-4, P8-6	11	TS-11, S8-6	1-2	X	X	O	9-10	O	O	X	O	O
1	TS-5, S2-1		4 TB1-2, NC	7	TB1-14, P4-1	1	P1-1, P2-1	74	P7-1, P1-22	74	TS-14, S7-1	3	TB2-3, P8-5	10	TS-10, S8-5										

MODEL KB-5
600-800A, 2,3&4 POLE
LOGIC - MPAC1500

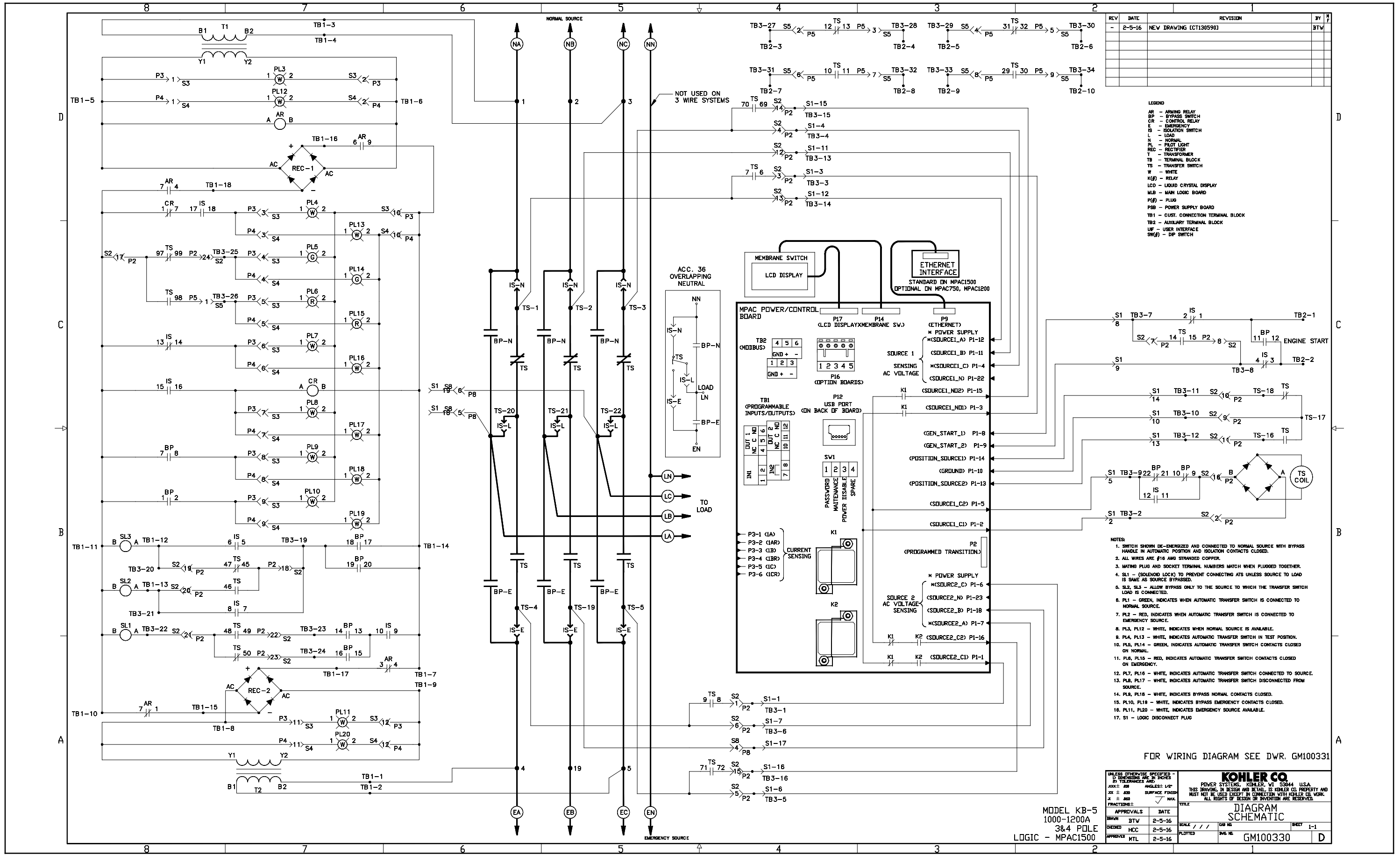
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES - TOLERANCES ARE: FRACTIONS± 1/64, XX± .010, X± .030, .XXX± .005, ANGLES± 1/2°, SURFACE FINISH 125 MAX.

APPROVALS		DATE
DRAWN	BTV	2-8-16
CHECKED	HCC	2-8-16
APPROVED	MTL	2-8-16

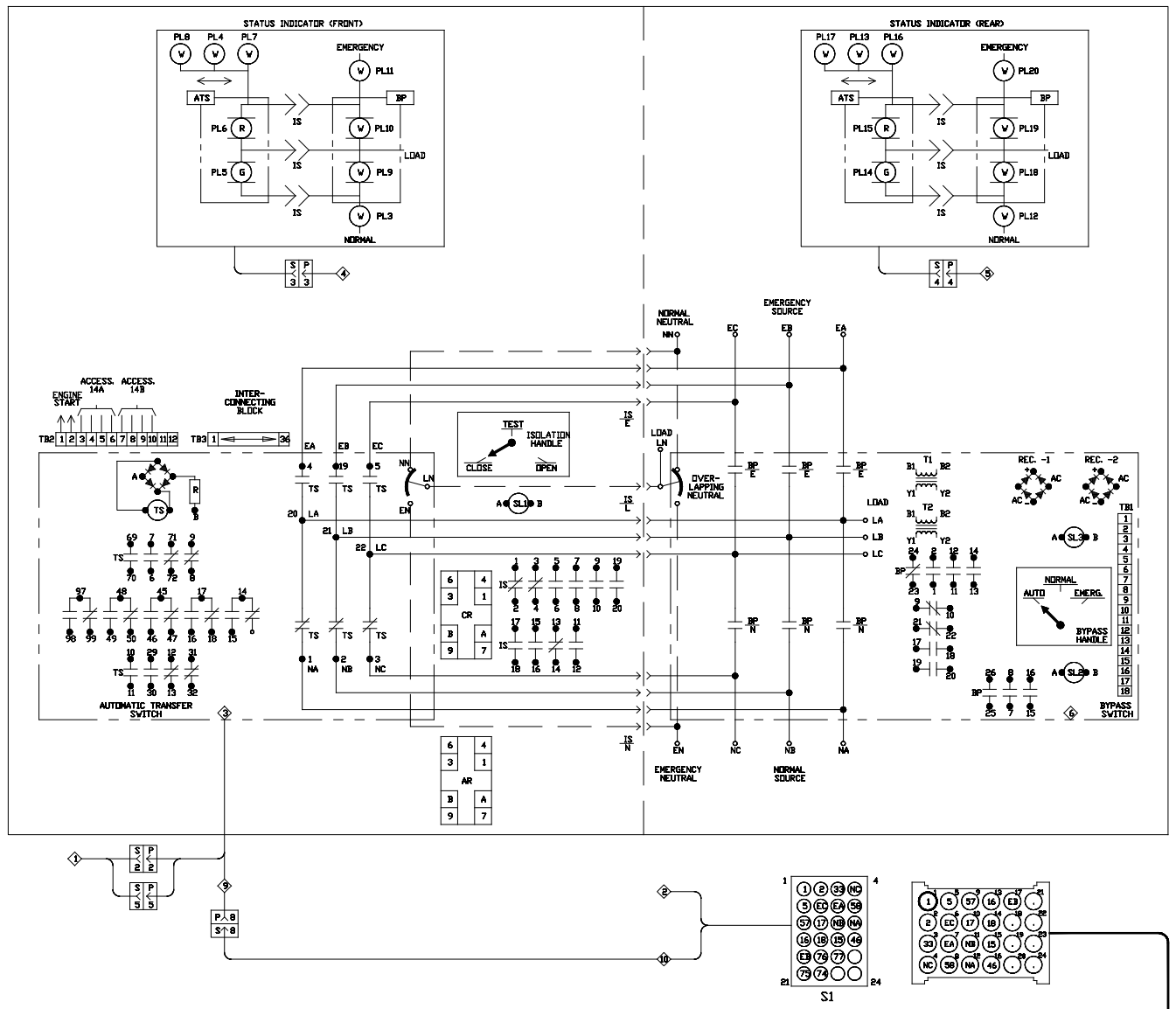
KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.
THIS DRAWING, IN DESIGN AND DETAIL, IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

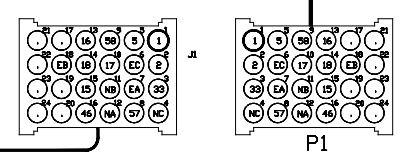
TITLE: DIAGRAM, WIRING
SCALE: / / / CAD NO. SHEET 1-1
PLOTTED DWG. NO. GM100329 D

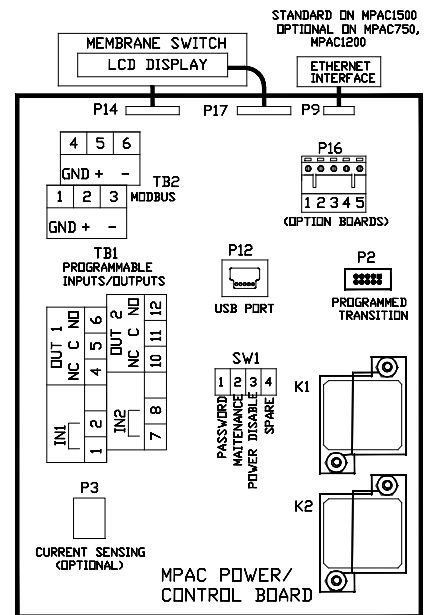
Wiring Diagram, 600-800 Amp Model KB Standard Transition with MPAC 1500 Controls, GM100329



Schematic Diagram, 100-1200 Amp Model KB Standard Transition with MPAC 1500 Controls, GM100330







REV	DATE	REVISION	BY	N F
-	2-8-16	NEW DRAWING [CT1305901]	BTW	

NOTES
1. SWITCH SHOWN DE-ENERGIZED CONNECTED TO NORMAL SOURCE. BYPASS HANDLE IN AUTOMATIC POSITION AND ISOLATION CONTACTS CLOSED.
2. THIS SIGN INDICATES A BRANCH CIRCUIT #
3. ○ INDICATES CUSTOMER CONNECTION POINTS.
4. ● INDICATES FACTORY CONNECTION POINTS.
5. CONNECTION POINTS THAT HAVE BOTH CUSTOMER CONNECTIONS AND FACTORY CONNECTIONS ARE SHOWN OPEN AS CUSTOMER CONNECTION POINTS.
6. OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE SWITCH.
7. MATING PLUG AND SOCKET TERMINAL NUMBERS MATCH WHEN PLUGGED TOGETHER.
8. SL1 - (SOLENOID LOCK) PREVENTS WITHDRAWAL OF ATS IF IT IS NOT BYPASSED AND PREVENTS INSERTION OF ATS IF ATS POSITION DOES NOT COINCIDE WITH BP POSITION.
9. SL2, SL3 - ALLOW BYPASS ONLY TO THE SOURCE TO WHICH THE TRANSFER SWITCH LOAD IS CONNECTED.
10. ◇ INDICATES WIRE RUN.

LEGEND
AR - AUXILARY RELAY
BP - BYPASS SWITCH
CR - CONTROL RELAY
IS - ISOLATION SWITCH
P - PLUG
PL - PANEL LAMP
REC - RECTIFIER
S - SOCKET
SL - SOLENOID
TB - TERMINAL BLOCK
TS - TRANSFER SWITCH
T1 - TRANSFORMER
T2 - TRANSFORMER
LCD - LIQUID CRYSTAL DISPLAY
P(●) - PLUG
TB1 - CUST. CONNECTION TERMINAL BLOCK
TB2 - AUXILIARY TERMINAL BLOCK
UIF - USER INTERFACE

WIRE NO.	INTER-CONNECTIONS SOCKET S2 ①	WIRE NO.	INTER-CONNECTIONS PLUG P1 ②	WIRE NO.	ATS-CONNECTIONS PLUG P2 ③	WIRE NO.	INTER-CONNECTING PLUG P3 ④	WIRE NO.	INTER-CONNECTING PLUG P4 ⑤	WIRE NO.	INTER-CONNECTIONS ⑥	WIRE NO.	ATS-CONNECTIONS PLUG P8 ⑨
34	S2-33, TB3-34							62	BP-25, BP-24	57	AR-4, TB1-18		
33	S2-32, TB3-33							61	BP-17, BP-20, TB1-14, TB1-7	56	AR-3, TB1-17		
32	S2-31, TB3-32			34	TS-30, P5-9					55	AR-6, TB1-16		
31	S2-30, TB3-31			33	TS-29, P5-8			38	BP-13, BP-15	40	AR-B, TB1-6		
30	S2-29, TB3-30			32	TS-11, P5-7			37	BP-10, BP-21	39	AR-A, TB1-5		
29	S2-28, TB3-29			31	TS-10, P5-6			21	SL2-A, TB1-13	54	CR-7, IS-17		
28	S2-27, TB3-28			30	TS-32, P5-5			20	SL3-A, TB1-12	41	CR-B, AR-9, TB1-14		
27	S2-26, TB3-27			29	TS-31, P5-4			19	BP-18, BP-19	46	CR-A, IS-16		
26	S2-25, TB3-26			28	TS-13, P5-3			18	BP-7, BP-1, TB1-10, TB1-11#, SL3-B	34	TB3-34, TB2-10		
25	S2-24, TB3-25			27	TS-12, P5-2					33	TB3-33, TB2-9		
24	S2-23, TB3-24			26	TS-98, P5-1				TB1-11, SL2-B	32	TB3-32, TB2-8	77	S8-6, P1-19
23	S2-22, TB3-23			25	TS-99, P2-24			14	TB1-4, NA	31	TB3-31, TB2-7	76	S8-5, P1-18
22	S2-21, TB3-22			24	TS-50, P2-23			6	TB1-1, EA	30	TB3-30, TB2-6	E9	S8-4, P1-17
21	S2-20, TB3-21			23	TS-49, P2-22			5	TB1-2, EC	29	TB3-29, TB2-5	75	S8-2, P1-24
20	S2-19, TB3-20			22	TS-48, P2-21			4	TB1-3, NC	28	TB3-28, TB2-4	74	S8-1, P1-23
19	S2-18, TB3-19			21	TS-46, P2-20					27	TB3-27, TB2-3		
18	S2-17, TB3-18			20	TS-47, P2-19			WIRE NO.	BYPASS SWITCH ON PANEL WIRING ⑥	41	TB1-7, IS-9	WIRE NO.	HARNESS SOCKET S8 TO PLUG P1 ⑩
17	S2-16, TB3-17	16	P1-16, TB3-16	19	TS-45, P2-18					38	BP-15, IS-10		
16	S2-15, TB3-16	14	P1-15, TB3-15	18	TS-97, P2-17					36	TB2-2, IS-3, BP-12		
15	S2-14, TB3-15	14	P1-12, TB3-14	17	TS-8, P2-16					35	TB2-1, IS-1, BP-11		
14	S2-13, TB3-14	13	P1-11, TB3-13	16	TS-72, P2-15					24	TB3-24, BP-16		
13	S2-12, TB3-13	12	P1-13, TB3-12	15	TS-70, P2-14	48	P3-3, IS-18	48	P4-3, IS-18	23	TB3-23, BP-14		
12	S2-11, TB3-12	11	P1-14, TB3-11	14	TS-1, TS-7, P2-13	47	P3-6, IS-14	47	P4-6, IS-14	22	TB3-22, SL1-A		
11	S2-10, TB3-11	10	P1-10, TB3-10	13	TS-2, P2-12	46	P3-7, CR-A	46	P4-7, IS-16	21	TB3-21, IS-8, TB1-13		
10	S2-9, TB3-10	9	P1-5, TB3-9	12	TS-16, P2-11	45	P3-8, BP-8	45	P4-8, BP-8	20	TB3-20, IS-6, TB1-12		
9	S2-8, TB3-9	8	P1-9, TB3-8	11	TS-10, P2-10	44	P3-9, BP-2	44	P4-9, BP-2	19	TB3-19, IS-7, IS-5, BP-19		
8	S2-7, TB3-7	7	P1-8, TB3-7	10	TS-17, P2-9	43	P3-12, TB1-9	43	P4-12, TB1-9	18	TB3-18#, IS-13, IS-15, CR-1, AR-7, TB1-10		
6	S2-6, TB3-6	6	P1-7, TB3-6	6	TS-4, TS-9, P2-6	42	P3-11, TB1-8	42	P4-11, TB1-8				
5	S2-5, TB3-5	5	P1-6, TB3-5	5	TS-5, TS-71, P2-5	41	P3-10, BP-17	41	P4-10, TB1-7		TB3-10, SL1-B	77	TS-21, P8-6
4	S2-4, TB3-4	4	P1-4, TB3-4	4	TS-3, TS-69, P2-4	40	P3-2, TB1-6	40	P4-2, TB1-6	17	TB3-17, IS-11, BP-9	76	TS-20, P8-5
3	S2-3, TB3-3	3	P1-3, TB3-3	3	TS-6, P2-3	39	P3-1, TB1-5	39	P4-1, TB1-5	9	TB3-9, IS-12, BP-22	E9	TS-10, P8-4
2	S2-2, TB3-2	2	P1-2, TB3-2	2	TS-4, P2-2	26	P3-5, TB3-26	26	P4-5, TB3-26	8	TB3-8, IS-4	75	TS-15, P8-2
1	S2-1, TB3-1	1	P1-1, TB3-1	1	TS-8, P2-1	25	P3-4, TB3-25	25	P4-4, TB3-25	7	TB3-7, IS-2	74	TS-14, P8-1

AUX. CONT.	EMERG.		AUTO		NORM.
	BYPASS HANDLE POSITION				
17-18	□		X		X
15-16	□		□		X
13-14	X		□		X
11-12	□		X		X
9-10	□		X		□
7-8	□		X		X
5-6	□		X		X
3-4	X		X		□
1-2	X		X		□

□=OPEN CONTACT X=CLOSED CONTACT

AUX. CONT.	CLOSED		TEST		OPEN
	ISOLATION HANDLE POSITION				
19-20	□	X	□	X	□
17-18	□	X	□	X	□
15-16	□	□	□	X	X
13-14	X	X	□	□	□
11-12	X	X	□	□	□
21-22	X	□	X	□	□
9-10	□	□	X	□	X
7-8	□	□	□	X	X
1-2	X	X	□	□	□

FOR SCHEMATIC DIAGRAM SEE DWG. GM100330

MODEL KB-5
1000-1200 AMP
3&4 POLE
LOGIC - MPAC 1500

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TO TOLERANCES AND:
.XXX± .010 ANGLES± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS±

APPROVALS	DATE
DRAWN BTW	2-8-16
CHECKED HCC	2-8-16
APPROVED MTL	2-8-16

KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DIAGRAM, WIRING

SCALE: / / / | CAD NO. | SHEET 1-1

PLOTTED | DWG NO. GM100331 | D

Wiring Diagram, 1000-1200 Amp Model KB Standard Transition with MPAC 1500 Controls, GM100331