

## INSTRUCTIONS M-485A HORN SIGNAL CONTROLLER

### **GENERAL DESCRIPTION:**

The M-485A Horn Signal Controller is a solid state control for automating sound signals in conditions of restricted visibility as prescribed by (IMO) COLREGS Part D, Rule 35. The M-485A is intended to activate your electric air horn directly, or an electric solenoid valve which opens the air line to an air horn.

Signal codes produced by the M-485A, and their COLREG references include:

a.) One Long Blast (4-6 seconds)

“A power-driven vessel making way through the water shall sound at intervals of not more than 2 minutes, 1 prolonged blast.”

b.) Two Long Blasts (4-6 seconds each)

“A power-driven vessel underway but stopped and making no way through the water shall sound at intervals of not more than 2 minutes two prolonged blasts in succession with an interval of about 2 seconds between them.”

c.) One Long and Two Short Blasts

“A vessel not under command, a vessel restricted in her ability to maneuver, a vessel constrained by her draught, a sailing vessel, a vessel engaged in fishing and a vessel engaged in towing or pushing another vessel, shall, instead of the signals prescribed in paragraphs (a) or (b) of this Rule, sound at intervals of not more than 2 minutes, three blasts in succession, namely one prolonged followed by two short blasts.

The M-485A includes two rocker type switches. The switch on the left (Motor/Sail Switch) should be set to “Motor” or “Sail” depending upon the type of vessel on which the controller is installed. For Motor/Sailers, the switch should be set according to the power being applied when underway. The rocker switch on the right (Underway/Stopped Switch) is a three position switch. This switch provides the appropriate “Underway” or “Stopped” blast pattern as determined by the “Motor” or “Sail” setting. Note that the “Underway” and “Stopped” blast pattern are the same when the Motor/Sail switch is set on “Sail”, since sailing vessels use code (c) above regardless of whether they are underway or stopped. The M-485A Controller is off when the Underway/Stopped Switch is in the center off position.

## **INSTALLATION:**

The M-485A Controller has been designed to make installation as simple as possible. The supplied wiring harness is color coded and pre-wired to the switch assembly and the control unit.

The following basic steps should be followed for installation:

- 1.) Disconnect the vessel's battery or turn the battery switch off when installing the controller.
- 2.) See drawing 2-5440 attached. Find a suitable location on the helm for this switch assembly. Cut a hole in the helm to accept the switch assembly, per this drawing. The cutout is a rectangle, 1-15/16" high x 2" wide. Note however that space needs to be allowed for the switch faceplate, which is larger than the hole. Also, BE VERY CAREFUL AND DO NOT CUT THE HOLE OVERSIZE.
- 3.) Mount the control module behind the helm.
- 4.) Connect wiring per drawing 3-6380 attached. (For use with KB-15 Electric Horns and M-127 Push Button, see Drg. 3-7056) If your existing at-will horn switch is of SPST type (simple on/off type) it does not matter which wire connects to which connector on this switch.
- 5.) Verify wiring connections. Make sure "Underway/Stopped" switch is in the center off position.
- 6.) Reconnect power.
- 7.) Test your installation. You will probably want to do this before pressing your switch assembly into the helm. Once the switch assembly is in the helm it is very difficult to remove.
  - a.) With the M-485A Controller in the off position, blast your horn using your original manual push button. It should work as it did before your M-485A installation.
  - b.) Select either "Motor" or "Sail", and press the "Underway/Stopped" switch to "Underway". Check that the signal code you hear matches the code as listed in the M-485A General Description Section above. Repeat this test for the "Stopped" code. Blast patterns should repeat in approximately 2 minutes.
  - c.) Switch the "Underway/Stopped" switch to the center off position.
- 8.) Make sure foam gasket is on underside of switch assembly. Press switch assembly firmly into place in helm.

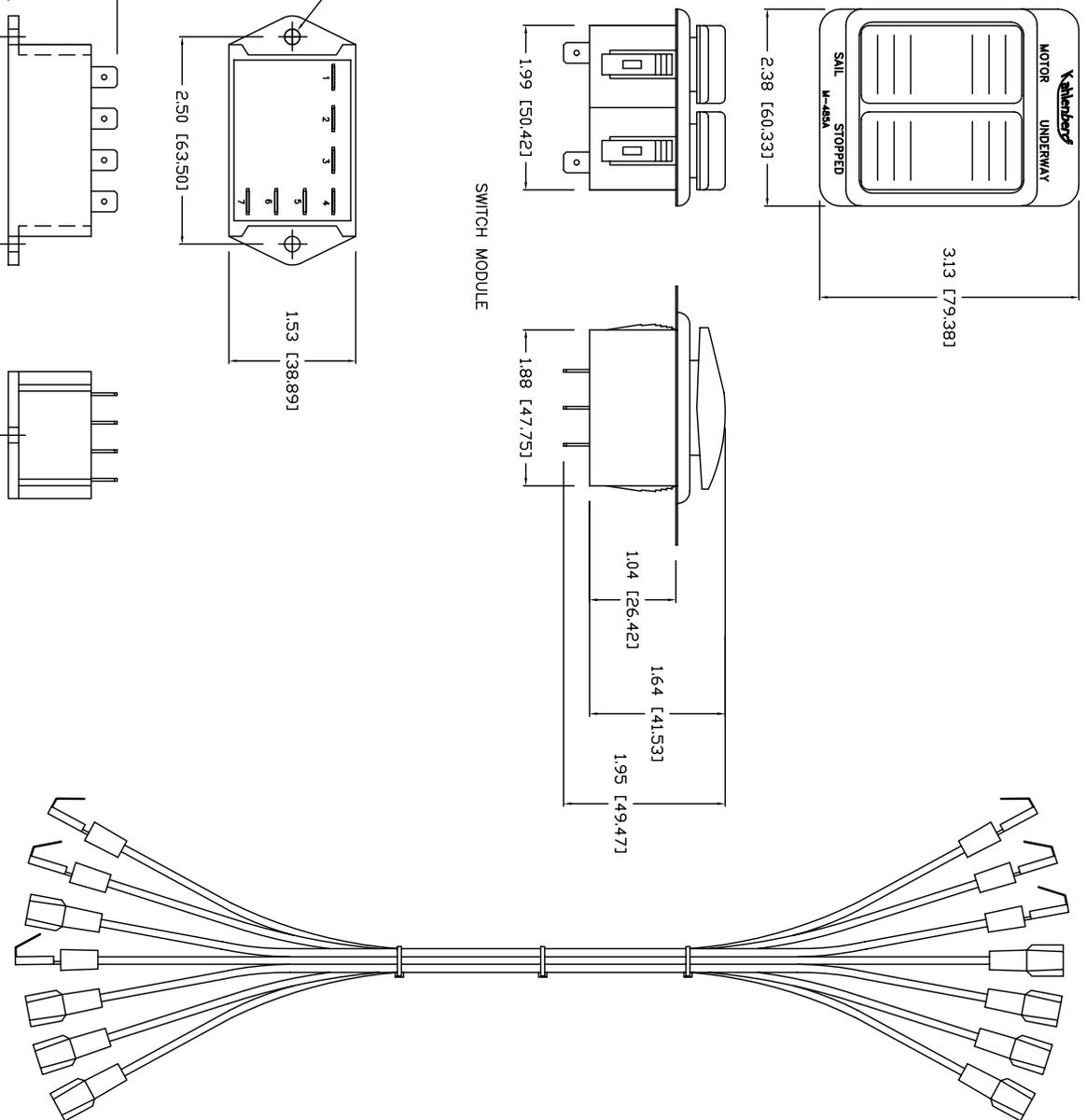
**REPLACEMENT PARTS:**

For ordering of replacement parts, please reference parts list #3-6369 attached. A matching push button, Kahlenberg #M-126 is also available for use with the M-485A Controller.

Reference Drawings: Outline Dimensions: 3-6368  
Parts List: 3-6369  
Physical Wiring Diagram: 3-6380  
Wiring Diagram (Standard): 3-6371  
Wiring Diagram for use with KB-15 Electric Horn: 3-7056  
Switch Overlay, cut size: 2-5440

***The Kahlenberg M-485A Horn Controller utilizes Fogmate™ technology as developed by TSX Products Corporation, Marine Electronics Division.***

REV.	BY	DATE	DESCRIPTION	APP'D.
A	ZN	02/10/06	ADDED CORRECT WIRE CONNECTORS TO HARNESS	EMK



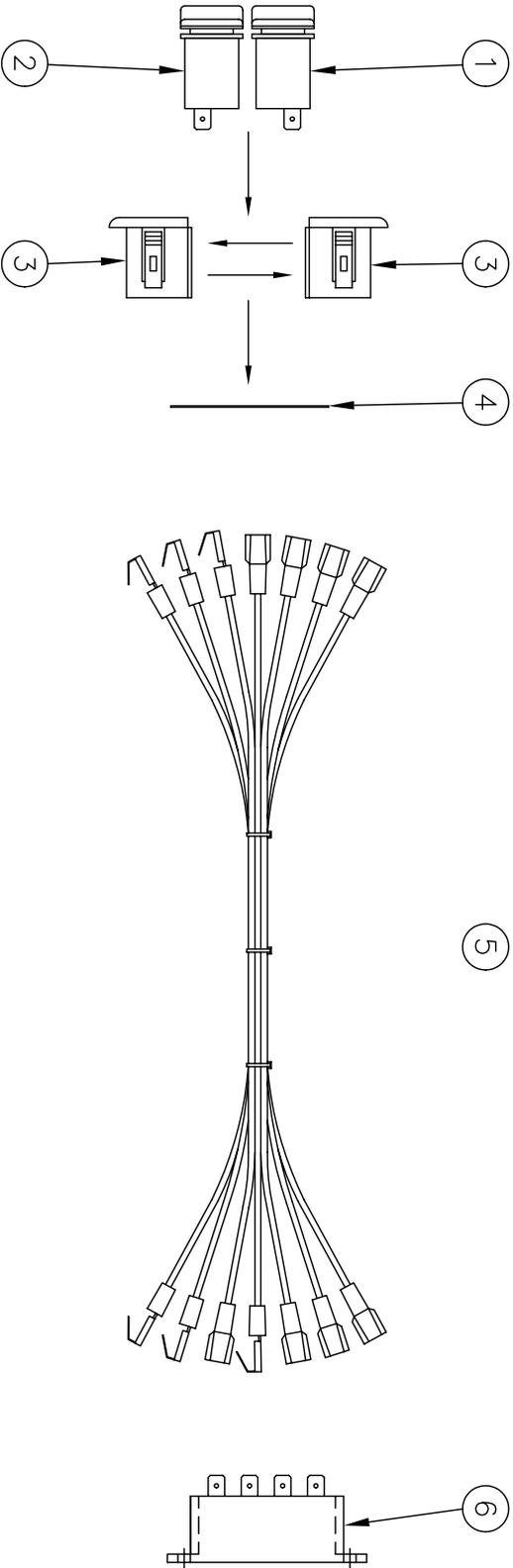
12/24 V.D.C. OPERATION  
 Consumes no power when off  
 Consumes 6mA in standby mode  
 Consumes 75mA when horn is activated  
 Drives vessels horns up to 20 Amps

**Kalenberg**  
 KALENBERG BROS. CO. TWO RIVERS, WISCONSIN 53241

OUTLINE DIMENSIONS  
 M-485A FOG SIGNAL  
 HORN CONTROL

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZN	06/28/05	EMK	N.T.S.	3-6368	A

REV.	BY	DATE	DESCRIPTION	APP'D.
A	ZN	02/10/06	ADDED ITEMS 7 & 8	EMK



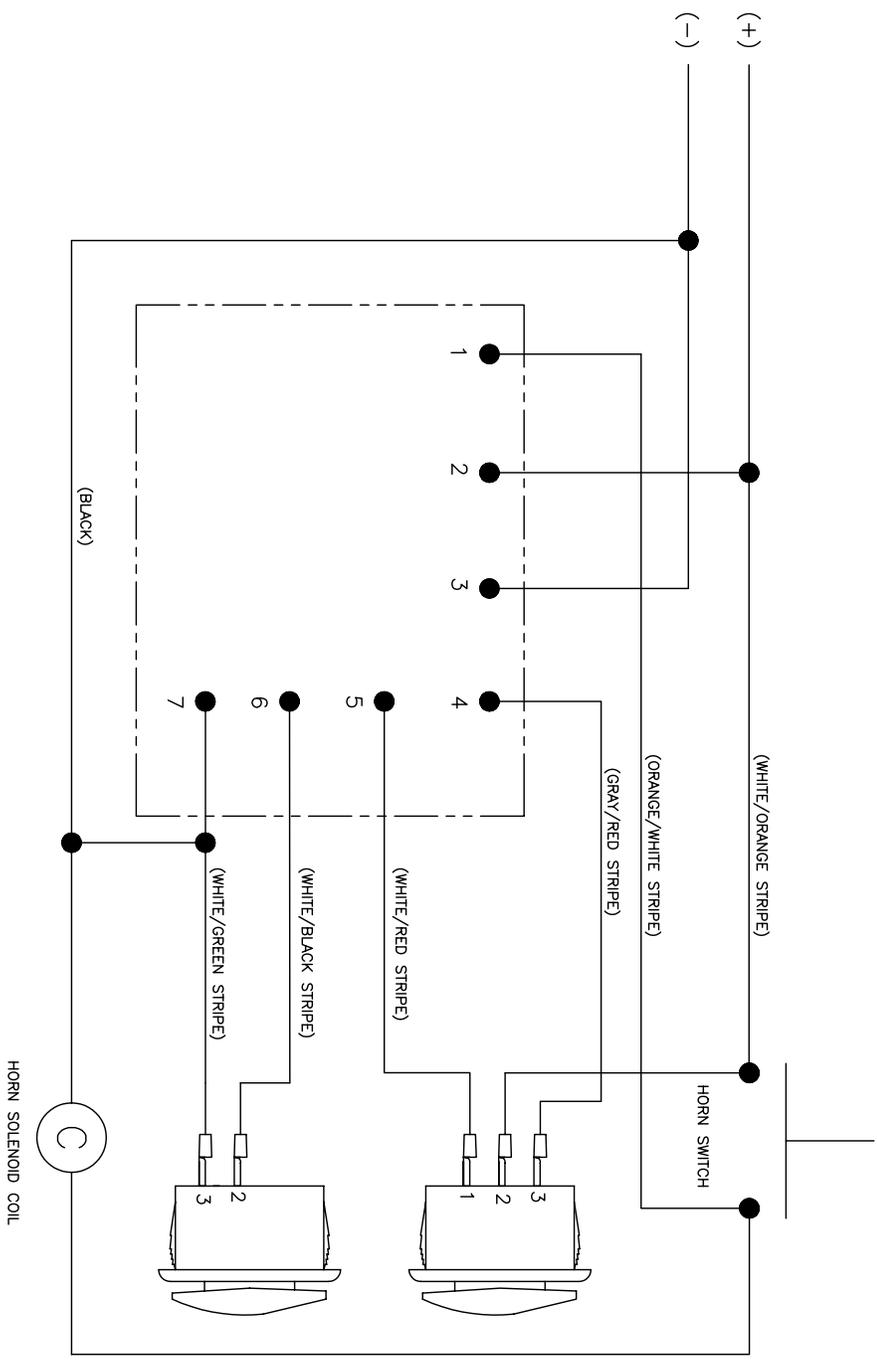
ITEM	PART #	DESCRIPTION	QUAN.
1	P411-23	SWITCH, ON/OFF/ON	1
2	P411-24	SWITCH, ON/OFF	1
3	P548-02	BEZEL END	2
4	P356-10	NAMEPLATE	1
5	P568-01	WIRING HARNESS	1
6	P522-06	TIMER MODULE, 12 V.D.C.	1
7	P522-07	TIMER MODULE, 24 V.D.C.	1
8	PT160-002	14-16 AWG CONNECTOR "PIGGYBACK"	6
	PT160-003	16-16 AWG FEMALE CONNECTOR	4

**Kahlenbergs**  
KALLENBERG BROS. CO. TWO RIVERS, WISCONSIN 53241

PARTS LIST  
M-485A FOG SIGNAL  
HORN CONTROL

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZUN	07/12/05	EMK	N.T.S.	3-6369	A

REV.	BY	DATE	DESCRIPTION	APP'D.



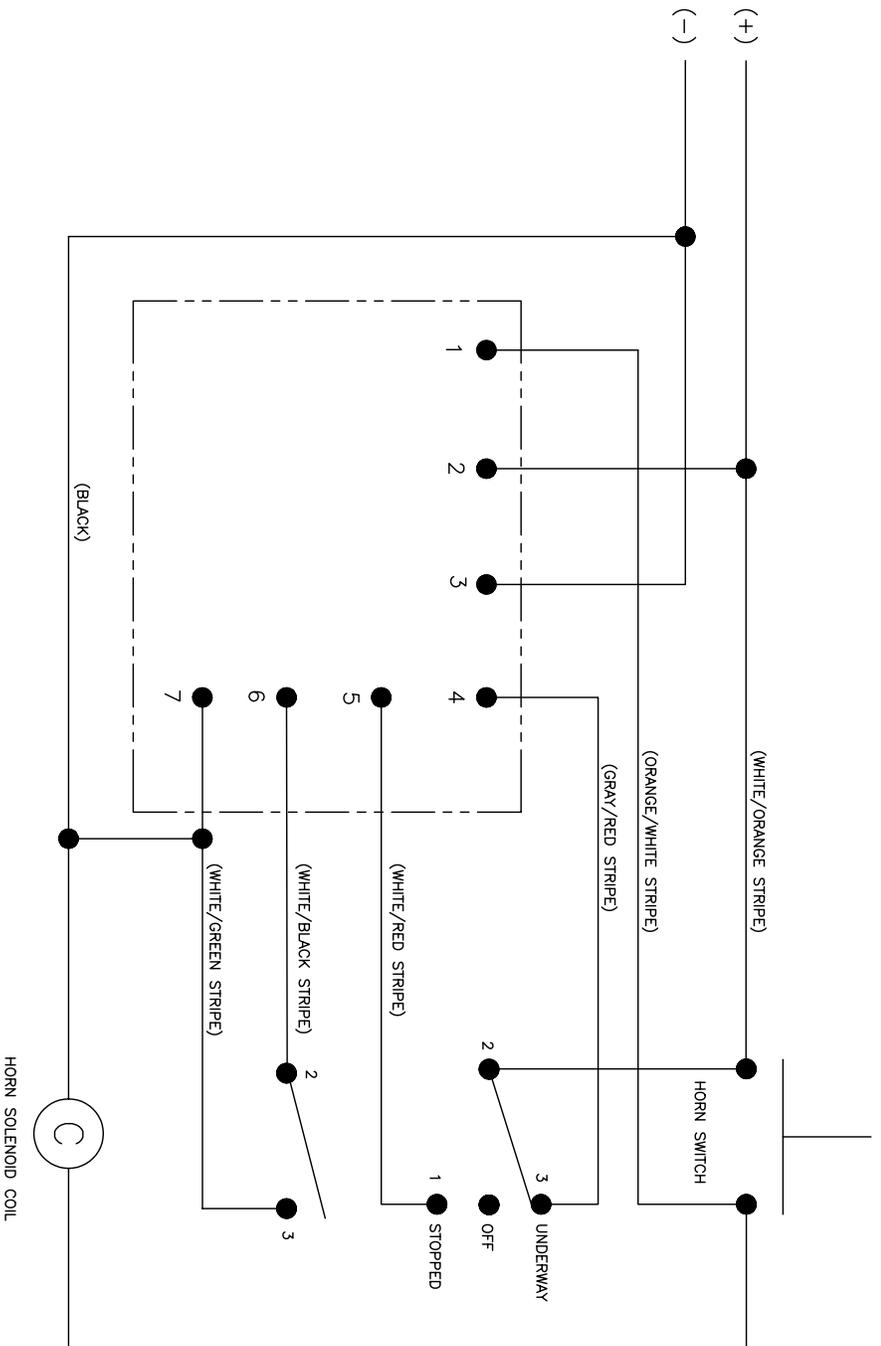
12/24 V.D.C. OPERATION  
 Consumes no power when off  
 Consumes 6mA in standby mode  
 Consumes 75Ma when horn is activated  
 Drives vessels horns up to 20 Amps

**Kahlenberg's**  
 KAHLENBERG BROS. CO. TWO RIVERS, WISCONSIN 53241

WIRING DIAGRAM  
 M-485A FOG SIGNAL  
 HORN CONTROL

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZJN	09/29/05	EMK	N.T.S.	3-6380	

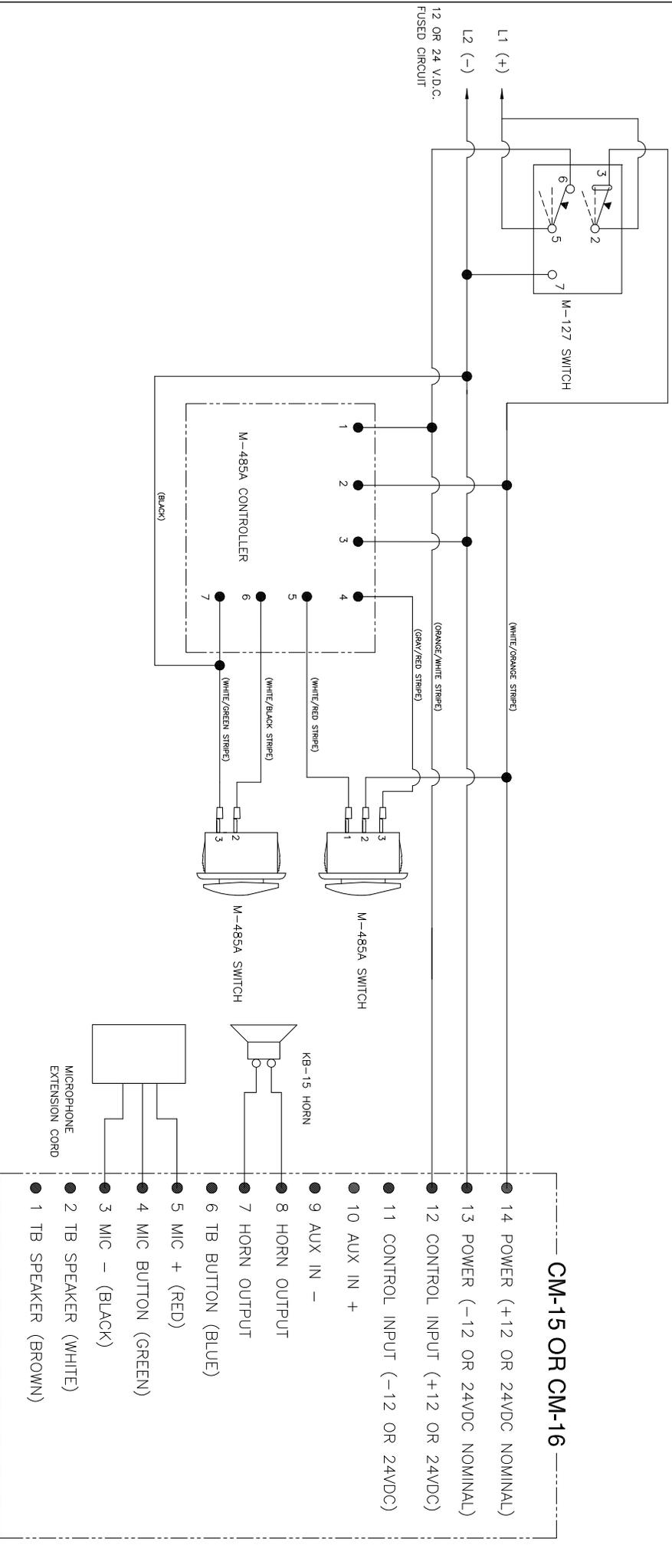
REV.	BY	DATE	DESCRIPTION	APP'D.



12/24 V.D.C. OPERATION  
 Consumes no power when off  
 Consumes 6mA in standby mode  
 Consumes 75Ma when horn is activated  
 Drives vessels horns up to 20 Amps

 KAHLLENBERG BROS. CO. TWO RIVERS, WISCONSIN 53241				
WIRING DIAGRAM M-485A FOG SIGNAL HORN CONTROL				
DR.	DATE	CKD.	SCALE	DRWG. NO.
ZJN	07/21/05	EMK	N.T.S.	3-6371
				REV.

REV.	BY	DATE	DESCRIPTION	APP'D.



USE ONLY THE SUPPLIED 16AWG (2 x 1.3mm) MARINE CABLE BETWEEN THE KB-15 HORN AND THE CM-15 OR CM-16 CONTROL MODULE. USE OF ANY OTHER CABLE MAY DAMAGE THE UNIT.

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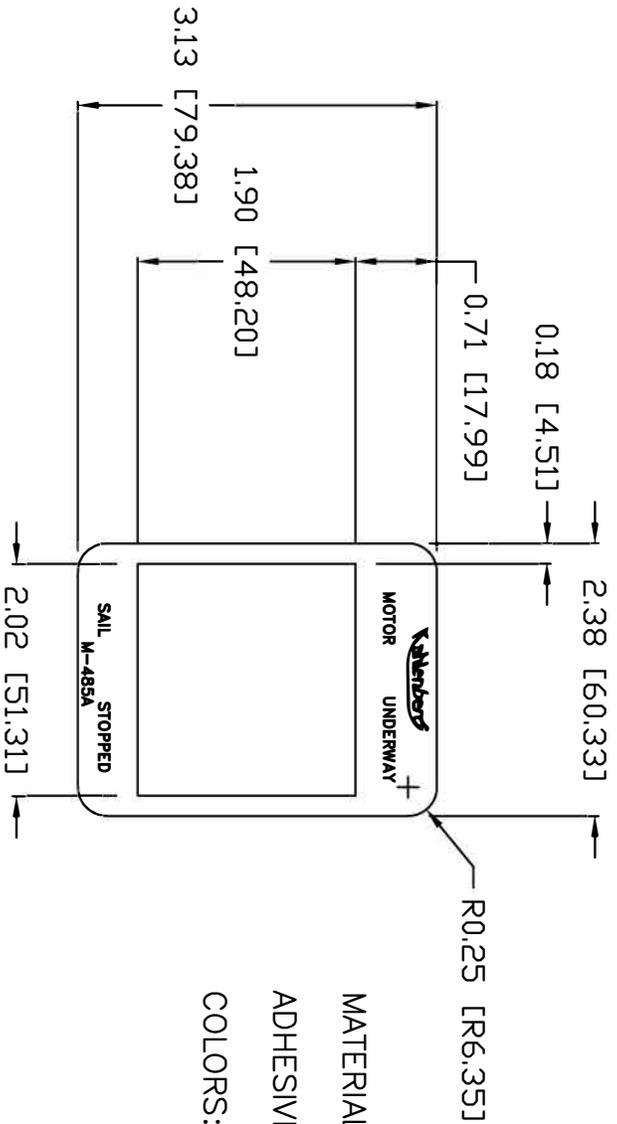
KAHLENBERG INDUSTRIES INC. TWO RIVERS, WI, U.S.A.

WIRING DIAGRAM  
M-485A CONTROLLER,  
CM-15 & CM-16 CONTROLLER MODULES  
WITH KB-15 HORN

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZJN	08/22/16	EMK	N.T.S.	3-7056	

2-5440

REV.	BY	DATE	DESCRIPTION	APP'D.
A	ZN	05/26/16	CHANGED MATERIAL SPECIFICATION	EMK



PART # P356-10 NAMEPLATE

MATERIAL: 0.002" WHITE POLYESTER  
 WITH 0.005" POLYCARBONATE OVERLAMINATE  
 ADHESIVE: 468MP ADHESIVE PERMANENT  
 PRESSURE SENSITIVE, 0.002" THICK  
 COLORS:  
 BLACK BACKGROUND WITH  
 WHITE TEXT & ARTWORK.

<b>Kahlenberg</b>					
KAHLENBERG BROS. CO. TWO RIVERS, WISCONSIN 54241					
DETAILS					
P356-10 NAMEPLATE FOR M-485A WHISTLE CONTROLLER					
DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZJN	06/27/05	EMK	N.T.S.	2-5440	A