ME868PIB
TURBO-FLO LE INTERLOCK BRACKETS
INSTALLATION AND OPERATION

1506 George Brown Dr.
Marshall, MI 49068
Phone (269) 789-6700
Fax (269) 781-8340
www.marshallexcelsior.com

!WARNING!

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

Install, operate and maintain Marshall Excelsior Co. equipment in accordance with federal, state, and local codes and these instructions. The installation in most states must also comply with NFPA standards 58 and 59, and ANSI K61.1

Only personnel trained in the proper procedures, codes, standards and regulations of the LP-Gas and NH_3 should install, maintain and service this equipment. Be sure all instructions are read and understood before installation, operation and maintenance. These instructions must be passed along to the end user of the product.

!CAUTION!

Contact or inhalation of liquid propane, ammonia and its vapors can cause serious injury or death. LP-gas and NH_3 must be released outdoors in air currents that will insure dispersion to prevent exposure to people and livestock. LP-Gas must be kept far enough from any open flame or other source of ignition to prevent fire or explosion! LP-Gas is heavier than air and will not disperse or evaporate rapidly if released in still air.

!CAUTION!

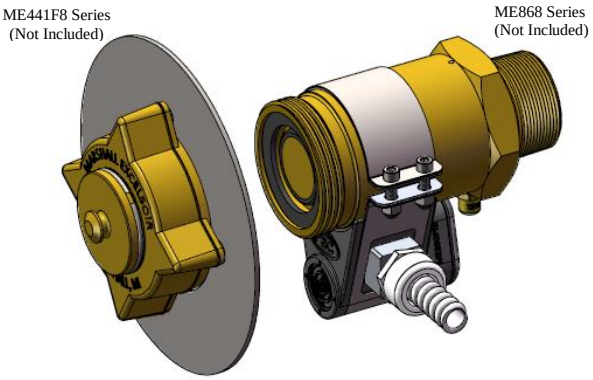
The power supply in an installed system may produce energy hazards, which can cause bodily harm. To reduce the risk of electrical shock, a trained service technician must disconnect the power supply cables from the battery terminals before installation or service of the system.

SCOPE OF THE MANUAL

This manual covers instructions for installation, wiring and use of the Marshall Excelsior (MEC™) ME8668PIB Smart Interlock Technology brackets.

INTRODUCTION

The ME868PIB series Turbo-Flo LE Interlock Brackets allow their users to verify that an ACME cap is properly installed after any filling, dispensing, etc. operation during field distribution of LP-Gas and NH_3 product. These products are designed to operate in a wide variety of temperatures, see Specifications.



Specifications

	Standard	*Low Temperature*
Supply Voltage:	10-30 VDC	10-30 VDC
Max Current Draw:	200 MA (0.2A)	200 MA (0.2A)
Sensor Type:	Normally Open	Normally Open
Relay Type:	Normally Open	Normally Open
Fuse Rating:	1 AMP	1 AMP
Temperature Limits:	-20° to 160° F	-40° to 158° F

FEATURES

- Molded urethane sensor body housing for durability and maximum sensor protection
- Stainless steel mounting band and hardware
- Supplied standard with MEC Smart Interlock Technology
  - Technology features Turck® proximity switch for maximum weather resistance and security against vibration
  - Supplied with watertight conduit and necessary wiring hardware to reach 5’ below deck with watertight receptacle plug
  - Optional wiring harness cable kits available in 20’ or 30’ lengths

	DESCRIPTION
ME868PIB	ME868 Series Turbo-Flo Interlock Bracket
ME868PIBL	ME868 Series Low Temperature Turbo-Flo Interlock Bracket
	CAP ATTACHMENTS
ME441F8	3-1/4” F. ACME cap w/ 8” SS Flange
ME441F8-1	3-1/4” F. ACME cap w/ 8” SS Flange & Chain
ME441F8-1C	3-1/4” F. ACME cap w/ 8” SS Flange & Cable
	CABLES AND KITS
MEP801PC/20	20’ Interlock Cable w / Watertight Receptacle Plug - Only
MEP801PC/30	30’ Interlock Cable w / Watertight Receptacle Plug - Only
MEP801PCK/20	20’ Interlock Cable: 1 Relay / LED Power Indicator / Inline Fuse
MEP801PCK/30	30’ Interlock Cable: 1 Relay / LED Power Indicator / Inline Fuse
MEP802PCK/20	20’ Interlock Cable: 2 Relay / LED Power Indicator / Inline Fuse
MEP802PCK/30	30’ Interlock Cable: 2 Relay / LED Power Indicator / Inline Fuse
MEP803PCK/20	20’ Interlock Cable: 3 Relay / LED Power Indicator / Inline Fuse
MEP803PCK/30	30’ Interlock Cable: 3 Relay / LED Power Indicator / Inline Fuse

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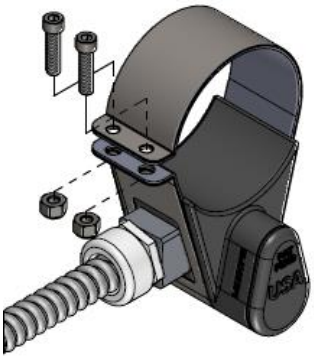
INSTALLATION

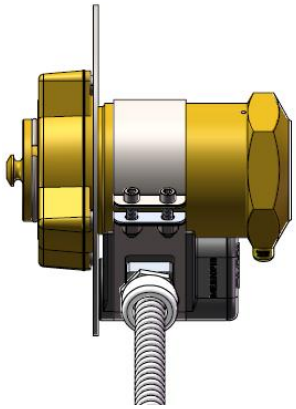
NOTE: Before installing, inspect Interlock Assembly for shipping damage that may affect performance.

1. Remove mounting hardware from band as shown



2. Spread Interlock band over ACME adapter as shown. Ensure sensor is positioned below ACME adapter and Valve Body.

3. Install ACME cap with flange (see Cap Attachments) onto Adapter and tighten with MEP120B spanner wrench.
4. Install mounting hardware into Interlock band and tighten until finger-tight. Ensure sensor position is still adjustable.
5. Adjust position of sensor until face of sensor body is in contact with flange of ACME cap. Tighten mounting hardware to secure sensor.



6. Route and Secure Conduit
   a. Determine where the conduit is to be routed and where it will pass through the deck or cabinet wall:

   b. Secure conduit to support surface approximately every 6”-8” with suitable conduit clamp or wire tie (not provided).
7. Connect Interlock to Allison Transmission “Auxiliary Function Range Inhibitor”

!WARNING!

- **The positive (+) supply conductor of the interlock circuit MUST be protected by a fuse with a maximum rating of 1 Amp, as provided in the MEC Proximity Cable Kits. It MUST be replaced only with a fuse of the same rating.**
- **The maximum current draw through the sensor is 200 MA (0.2A)**
- **Ground connections MUST be made as indicated by vehicle manufacturers’ instructions**

   a. Connect Sensor Cable plug to the mating connector on the 20’ or 30’ Single relay (MEP801PCK/20, MEP801PCK/30), Dual relay (MEP802PCK/20, MEP802PCK/30), or Universal (MEP802PC/20, MEP802PC/30) Proximity Cable Kit
   b. Secure the connection in a protection location, route and secure all cables and wires using loom and wire ties or other suitable means.
   c. Mount the sealed relay using the bracket provided, either in the engine compartment or cab as desired.
   NOTE when mounting in the engine compartment, keep relay away from sources of heat and orient wires so they point downward.
   d. Make the electrical connections as indicated on the Wiring Circuit Diagrams included in this manual. For final connections to the Allison “Auxiliary Function Range Inhibitor” circuit, follow the manufacturers’ instructions provided with the Allison transmission.
   NOTE: Only trained personnel that are qualified to make connections to the Allison Transmission’s range inhibitor function, such as Allison Transmission certified technicians, should make these connections.
   e. Test the Proximity Interlock / Range Inhibitor function for proper operation by installing the ACME flange cap and the ACME adapter, confirming that the red LED in the relay lights up indicating the circuit has been closed, and that the Range Inhibitor interlock function allows Allison Transmission to shift out of park. See Troubleshooting below

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OPERATION

When the ACME Flange Cap is placed onto the ACME Adapter, the sensor is activated closing the sensor circuit. The circuit interfaces with the auxiliary function range inhibitor, allowing the vehicle transmission to be shifted out of Park position.

!WARNING!

Never operate with a leaking valve. Failure to follow these instructions could result in an explosion and/or fire causing property damage, personal injury or death.

MAINTENANCE

To ensure proper operation of MEC™ Smart Interlock Technology Brackets, perform the following maintenance at least once a month:

1. Check that all fasteners are secure. Tighten any that are found to be loose.
2. Check sensor relay for proper operation as indicated by red LED light on relay.

Trouble Shooting

Problem	Possible Cause	Recommended Action
LED on relay does not light or relay does not activate	Relay not properly grounded	Mount the relay bracket to a grounded metallic surface or attach a ground strap between the relay bracket and an electrically grounded connection
	Protective over-current fuse is blown	Replace the fuse ONLY with a fuse of an identical 1 Amp rating
	No power to sensor	Remove cover on sensor housing to verify green light on Turck® sensor. If there is no light: • Check fuse • Check for 12 volts with key on • Check ground wire from sensor
LED on relay does not light or relay does not activate	No signal from sensor	Remove cover on housing with ACME flange cap installed on ACME adapter. Verify change light on Turck® sensor. If there is no light then sensor needs to be replaced.
	Wiring is Incorrect or Damaged	• Check for 12 volts at Pin 1 of sensor plug with key on • Check for 12 volts at Pin 2 with ACME flange cap installed on ACME adapter and key on • Check for continuity between Pin 3 and negative (-) terminal of battery • Check for any loose crimps or damaged wires • Check for corrosion at all wiring connection points
	Faulty relay	Replace relay
LED on relay is lit but truck will not shift out of park	Wiring incorrect or damaged	• Verify connections to and from the TCM of the transmission • Check for any loose crimps or damaged wires • Check for corrosion at all wiring connections
	Faulty relay	Replace relay
Connections test OK but interlock still does not function properly	Damaged or defective proximity sensor, sensor cable or sensor connector pins	Disconnect sensor connector and connect test jumper in its place. If interlock functions properly with test jumper but not with sensor, sensor must be repaired or replaced.

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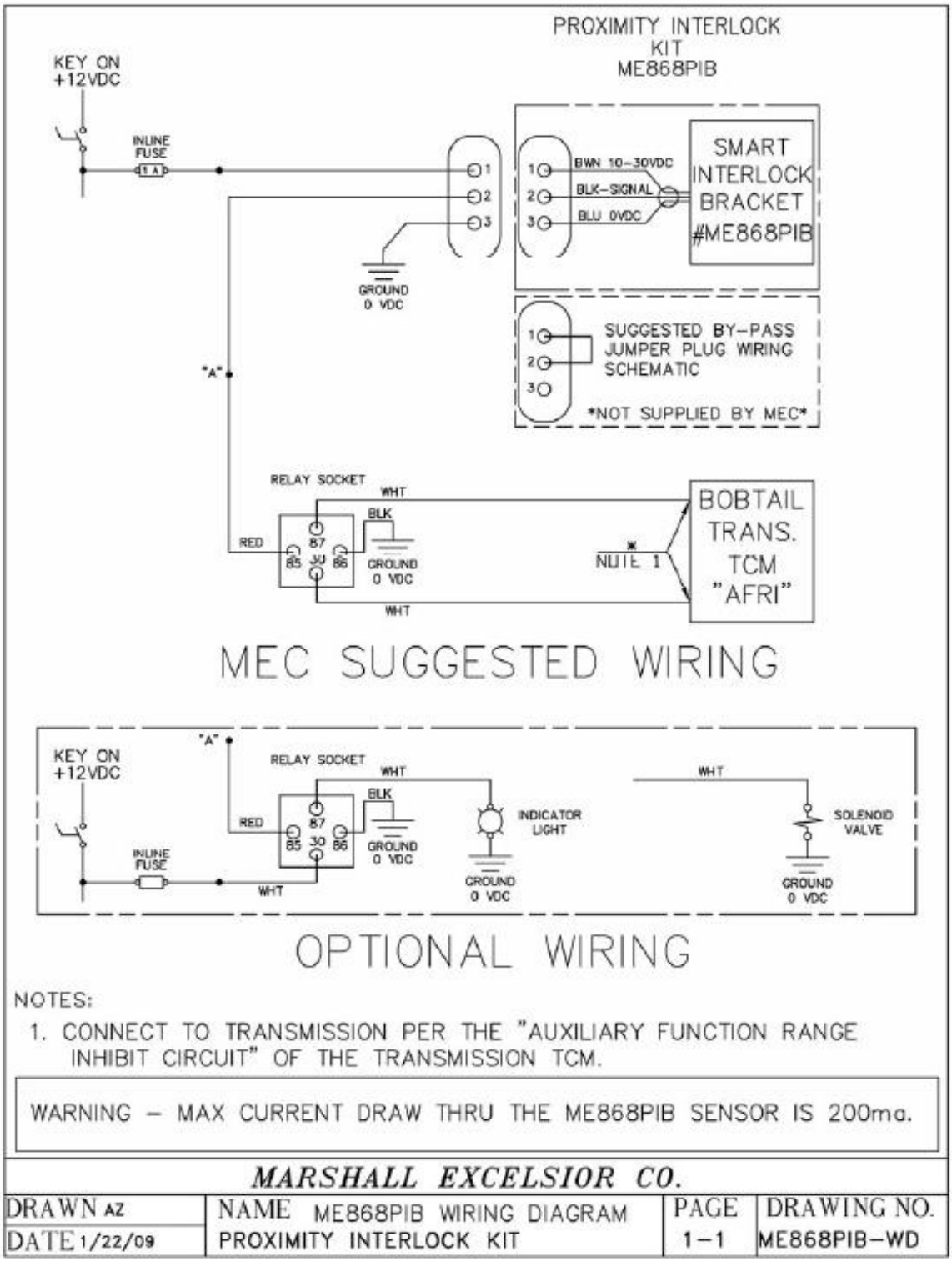
ME868PIB WIRING DIAGRAM

PROXIMITY INTERLOCK KIT



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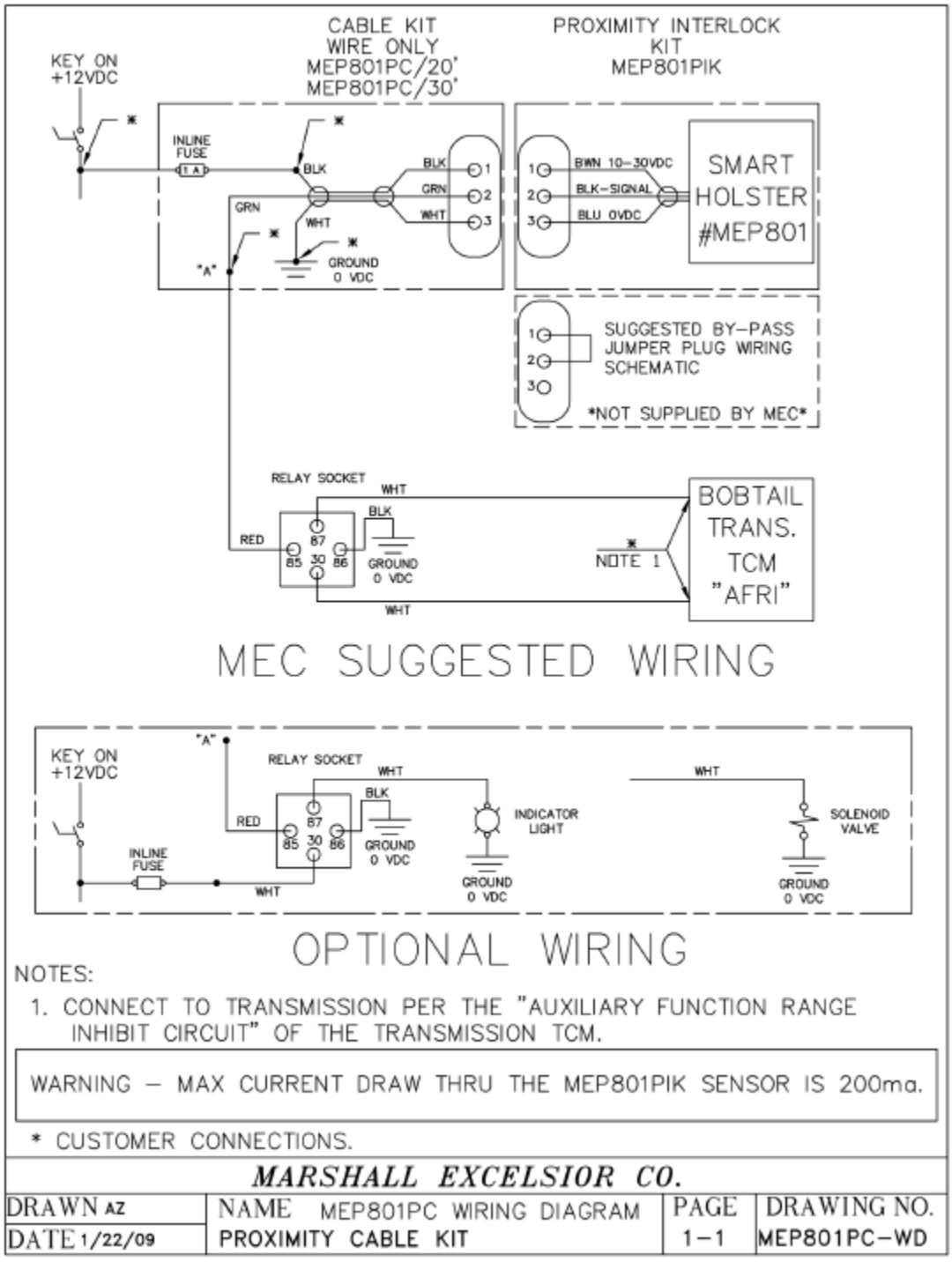
ME801PC WIRING DIAGRAM

PROXIMITY INTERLOCK KIT



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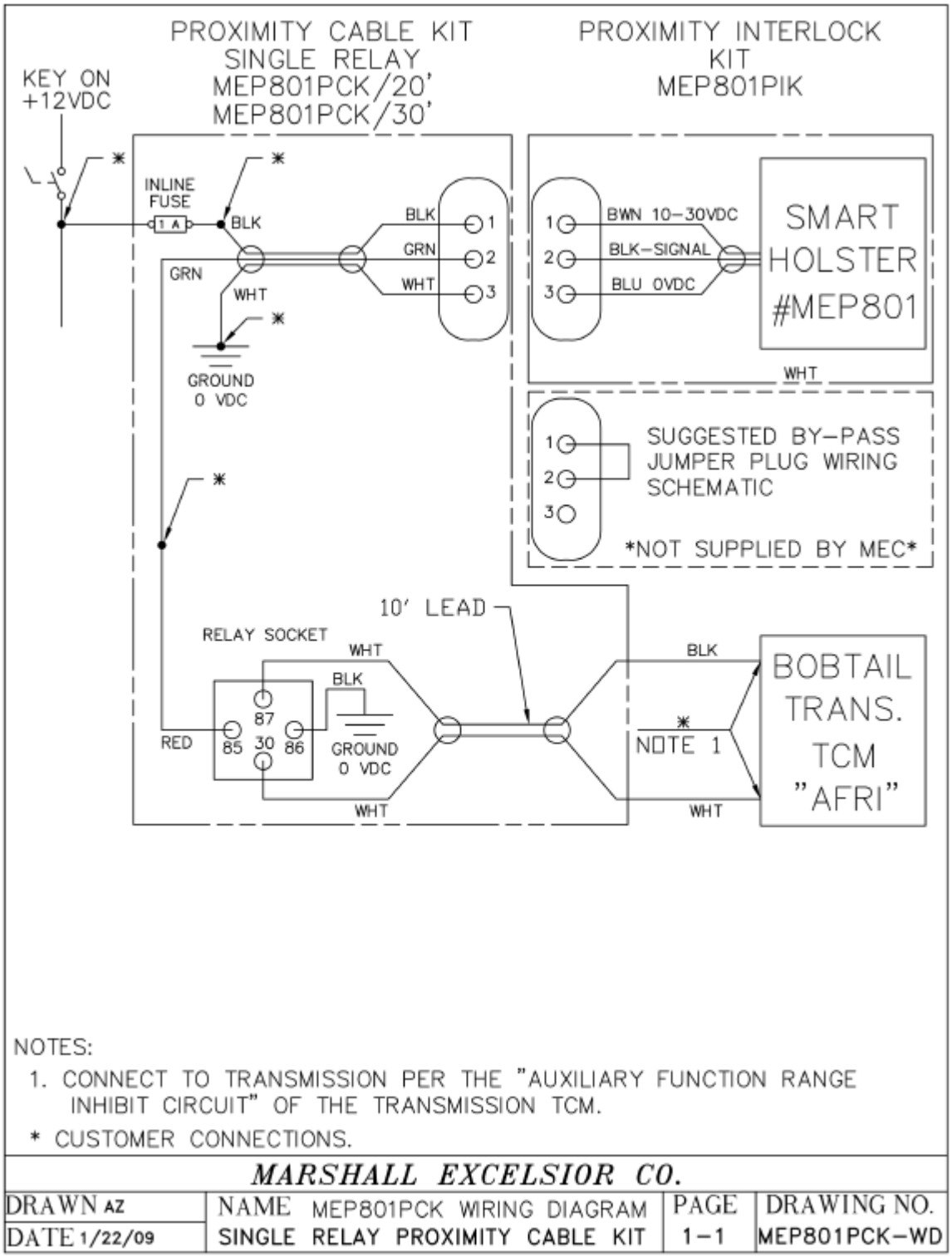
ME801PCK WIRING DIAGRAM

PROXIMITY INTERLOCK KIT



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ME802PCK WIRING DIAGRAM

PROXIMITY INTERLOCK KIT