

**TOMAR MODELS**  
**401-1228-PREHLO & 401-1228-PRELO-WP**  
**LO PRIORITY 10 HZ**

ISO470-00  
03-23-2005

20 WATT 1 HEAD EMITTER POWER SUPPLY  
NON-WATERPROOF and WATERPROOF LAMP STYLE  
FOR REMOTE LIGHTHEAD INSTRUCTION SHEET

**SAFETY NOTICES WARNING**

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

**SAFETY MESSAGE TO INSTALLERS, USERS,  
AND MAINTENANCE PERSONNEL**

It is important to follow all instructions shipped with this product. This power supply is to be installed by a trained installer who is thoroughly familiar with electrical wiring techniques, including manufacturers guidelines for mobile vehicular applications, the national electrical code and local codes.

This power supply generates 580 volts. NEVER work on this power supply or lighting system before removing input power. WAIT 10 MINUTES AFTER REMOVING INPUT POWER BEFORE ATTEMPTING ANY SERVICE ON THIS SYSTEM.

The selection of the mounting location for this device, its controls and the routing of the wiring is to be accomplished under the direction of the engineer in charge.

The 401-1228-PRELO weighs approximately 0.6 pounds. For mobile vehicular applications, the installer must find a safe mounting location so that in the event of an accident the power supply cannot become loose within the passenger compartment of the vehicle and potentially cause impact to a passenger.

Listed below are other important safety instructions and precautions.

- Read and understand all instructions before beginning any installation.
- DO NOT connect power to this device before completing the installation. If installing in a vehicle, disconnect the battery of the vehicle before beginning installation.
- After installation, ensure that all mounting hardware is tightened, all electrical joints are tight, and all connections are properly seated.
- After installation and testing is complete, provide a copy of these instructions to all operating personnel.
- TEST THE SYSTEM REGULARLY TO ENSURE THAT IT IS OPERATING PROPERLY.

**INSTALLATION**

**1. UNPACKING**

After unpacking the power supply, examine it for damage that may have occurred in shipping. If the equipment has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them.

Carefully check contents of the shipping package and verify that you have received the following items.

- 1 ea. Model 401-1228-PRELO or -WP Emitter Power Supply
- 1 ea. INSTALLATION SHEET

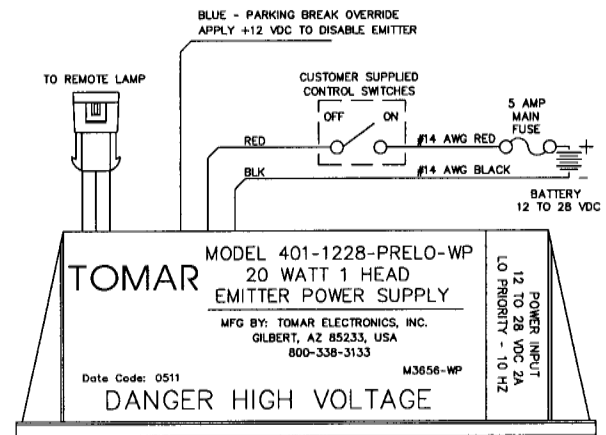
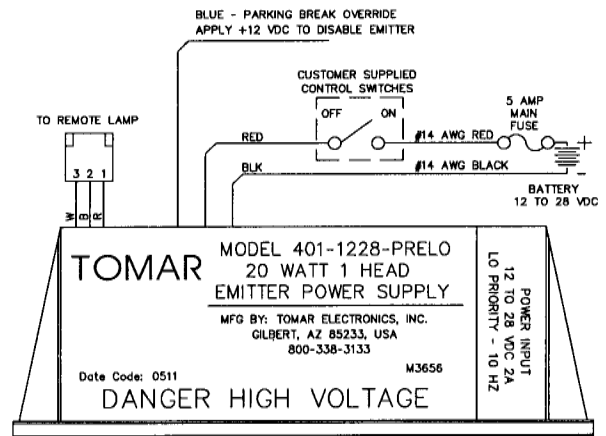
If you are missing any of the above items contact TOMAR Electronics Customer Service to request the missing part.

**2. MOUNTING**

THE 401-1228-PRELO WEIGHS APPROXIMATELY 0.6 POUNDS. FOR MOBILE VEHICULAR APPLICATIONS, THE INSTALLER MUST FIND A SAFE, STURDY MOUNTING LOCATION SO THAT IN THE EVENT OF AN ACCIDENT THE POWER SUPPLY CANNOT BECOME LOOSE WITHIN THE PASSENGER COMPARTMENT OF THE VEHICLE AND POTENTIALLY CAUSE IMPACT TO A PASSENGER.

**Control Wiring**

- Red +12 to 28 VDC - Preemption Emitter Activation
- Black Ground
- Blue Apply + VDC Parking Brake Override - Disable Emitter



The Model 401-1228-PRELO Emitter Power Supply is designed for mounting on a sturdy flat surface protected from rain, spills, excessive heat, and physical damage. It may be installed in the trunk of a car, the saddlebag of a motorcycle, or other similar protected location. This device may also be installed in the engine compartment of a vehicle as long as it is mounted to a sturdy, flat surface, as far away from the engine as possible.

Wiring for the device must be protected from cuts, nicks, abrasion, fraying, or any form of accidental exposure to prevent contact with its high voltage output.

Mount the power supply so that its nameplate can be seen by maintenance personnel. It displays an important safety message and advises of the high voltage output.

The Model 401-1228-PRELO is potted in polyurethane to prevent any damage from vibration or moisture. Although not intended for unprotected use exposed to direct water, the power supply is very water resistant and condensation or other dripping water will not damage it.

Mounting hardware and installation details are left to the installer.

### 3. POWER SUPPLY PROTECTION DESIGN

The 401-1228-PRELO Power Supply design uses a large high amperage internal shunt diode to protect against reversed polarity input voltage, in conjunction with customer supplied fuse.

The lamp output ports are protected from external shorts or opens in the lamps or wiring. The power supply will shut itself off if any lamp becomes shorted; no damage will be done to the supply. The supply will restart automatically as soon as the short is removed. The supply also includes output voltage regulators so that its energy storage capacitors will not be damaged if it is activated without lamps connected.

### 4. WIRING

**DISCONNECT BATTERY OR OTHER POWER SOURCE BEFORE INSTALLING THE 401-1228-PRELO.**

#### INPUT POWER

The Model 401-1228-PRELO Power Supply is designed to operate from 12 or 28VDC automotive electrical systems. The red wire is positive. The black wire is negative. Refer to the wiring diagram and use 14 AWG size wire minimum to connect the positive and negative power leads to the power supply.

This power supply is polarity sensitive. It is recommended that a 5 amp fuse be installed in-line with the Red power lead. Do not attempt to operate the supply with the fuse bypassed or shorted at anytime as the power supply will be irreparably damaged or destroyed and its warranty voided, if connected to the wrong polarity without the proper size fuse protection.

#### LAMP CONNECTIONS

**CAUTION: LAMP CONNECTIONS CARRY 580 VOLTS. USE EXTREME CAUTION.**

Cabling plugged into the lamp connectors must match the wire color code shown on the nameplate. Failure to observe color-coding will cause short lamp life or failure of the power supply to operate at all.

### 5. TESTING

Double check to verify that you have connected the power supply to the proper polarity before applying battery power. Once you have completed the lamp port and input wiring, you may reinstall the vehicle battery or reactivate the main power source.

#### INSTALLATION IS NOW COMPLETE

#### EMITTER POWER SUPPLY OPERATION

Operation of the 401-1228-PRELO is very simple. Refer to the wiring diagram, to activate the emitter lamp close the ON/OFF switch to apply +12 vdc to the RED activation wire. If the BLUE parking brake override feature is to be used, setting the vehicle parking brake will +12 vdc to BLUE to DISABLE the emitter. This prevents an emergency vehicle from accidentally "Locking-Up" an intersection near the scene.

#### TROUBLE SHOOTING WARNING

**EMITTER POWER SUPPLIES ARE HIGH VOLTAGE DEVICES AND CAN STORE LETHAL AMOUNTS OF ENERGY. DO NOT REMOVE OR CONNECT LAMPS OR TOUCH LAMPS WHILE IN OPERATION. DISCONNECT INCOMING POWER AT POWER SUPPLY AND WAIT 10 MINUTES BEFORE BEGINNING ANY SERVICE ON ANY PORTION OF A LIGHTING SYSTEM.**

#### TROUBLE

#### THINGS TO CHECK

- |               |  |
|---------------|--|
| Nothing Works | 1) Check battery or power source and main fuse or breaker.<br>2) Check ground connection.<br>3) Check for reverse polarity on input power connection.<br>4) Power supply may be defective. Replace with known good unit. |
| Lamp Does     | 1) Check lamp by replacing it with a known good lamp.  |

#### MAINTENANCE

Replace dead or intermittent lamps immediately. The 401-1228-PRELO Emitter Power Supply lighting system should be checked regularly for proper operation. The lamp connected to the 401-1228-PRELO should be kept clean and checked monthly for signs of wear. If the lamp is blackened along more than approximately 30% of its length, or flashes erratically, the lamp should be replaced.

#### 401-1228-PRELO POWER SUPPLY SPECIFICATIONS

Size:	2" X 3" X 1.5" Tall
Weight:	0.6 lbs. Nominal
Construction:	ABS case, Polyurethane Potting
Power Requirements:	2.30 AMPS AVG @ 12 VDC 1.20 AMPS AVG @ 28 VDC
Output Power Rating:	20 Watts minimum
Flash Rate:	10 HZ - LO PRIORITY

#### 401-1228-PRELO EMITTER POWER SUPPLY WARRANTY

TOMAR Electronics, Inc. warrants the product described herein for a period of 2 years under normal use and service from the date of manufacture as marked on the product, that the product will be free of defects in material and workmanship. This warranty does not cover ordinary wear and tear, abuse, misuse, overloading, altered products, or damage caused by the purchaser connecting the unit to the wrong voltage or polarity, or lightning damage.

THERE IS NO WARRANTY OF MERCHANTABILITY; THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION HEREIN. THERE ARE NO WARRANTIES EXPRESSED OR IMPLIED OR ANY AFFIRMATION OF FACT OR REPRESENTATION EXCEPT AS SET FORTH HEREIN.

TOMAR Electronics' sole responsibility and liability, and purchaser's exclusive remedy shall be limited to the repair or replacement at TOMAR's option, of a part or parts not so conforming to the warranty. All products requiring warranty service shall be returned to TOMAR within 2 years of manufacture, shipping prepaid. TOMAR will return repaired or replaced products to the purchaser via prepaid ground transportation. In no event shall TOMAR be liable for damages of any nature, including incidental or consequential damages, including but not limited to any damages resulting from non-conformity, defect in material or workmanship.

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