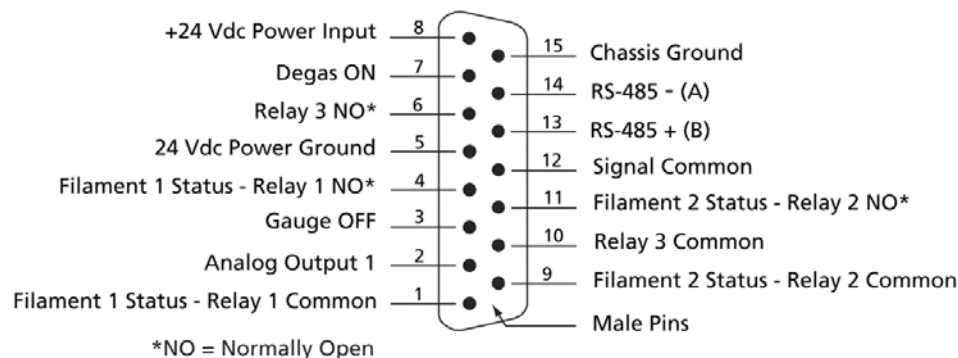


## Instruction Addendum for Series 390 Micro-Ion® Gauge, Catalog #390531-3-TE-T with Filament Status Output

### Description

The 390531-3-TE-T has been modified to provide a filament functional status for filament 1 and filament 2 using two relay contacts on the 15 pin connector for each of the filaments. The two pins will indicate if the filaments are functioning (open contacts), or have failed to function (closed contacts). Filament 1 uses pins 1 and 4: Filament 2 uses pins 9 and 11. The relay will remain in that state until the power to the 390 module is cycled, or the gauge is replaced.



Pins 1 and 4 are used for Filament 1 status  
Pins 9 and 11 are used for Filament 2 status

Figure 1: 15-Pin Connector Pin Outs

### Relay Configuration

The relays can be configured for either a voltage output (ie. 24 Vdc tied to Common) or configured for a ground connection, depending on the needs of the system controller. Without the voltage connected to the common lead, there will be no voltage on the Normally Open contacts.

The relay contact is rated for 1A at 30 Vdc resistive load, or a minimum of 5 mA at 5 Vdc resistive load.

In addition to the filament status relays, the Filament Delay is set at the factory to 2 Seconds. This delay is in addition to the automatically calculated delay for the Tungsten filament turn ON, as described in Section 3.3 of the 390001 Instruction Manual.

### Emission Current Range

As system pressure decreases, the Conductron sensor measures the pressure until it has decreased to a pressure at which the Micro-Ion gauge can operate. At this gauge pressure, the Micro-Ion gauge turns on at the low emission current level.

As pressure continues to decrease the Micro-Ion gauge switches from low emission current to high emission current (4mA). If pressure increases after the current level has gone from low to high, the gauge switches back to low emission current. The 390531-3-TE-T default switching pressure for the low-to-high emission current transition is 1.00E-7 Torr. The emission current will switch from high to low when the pressure increases above 5.00E-6 Torr.

The emission current switching level may be user-modified using the RS-485 **SER** command, as described in the Micro-Ion ATM Module Instruction Manual (p/n 390001).