d. Connect the coaxial cable from the **PROGRAM OUT** connector on the back of the Model 420 to the **PROGRAM IN** connector (7) on the rear of the power supply.

e. Install an instrumentation cable between the magnet support stand top plate connector (8) and the magnet station connector J7A or J7B.

f. Install an instrumentation cable between the LHe/Temp connectors J8A and/or J8B on the rear of the Model 420 and the Model 13x Liquid Helium Level Instrument and/or temperature instrument (9).

g. Remote communications via IEEE-488 and/or RS-232 (or optional RS-422) can be accomplished by connecting suitable cabling to J11 and/or J12, respectively.

2.5.6 Low-Current, High-Resolution Four-Quadrant Supply

AMI offers a low-current (5 A or 10 A maximum) system option to achieve high-resolution control of the magnet current. The system consists of a Model 420, a low-current four-quadrant power supply (typically the Kepco BOP series), and associated interconnecting cabling. Figure 2-6 illustrates the interconnects for a Kepco BOP 20-5M or 20-10M power supply.

Note

Due to continuous discharge voltage limitations present in the Kepco BOP series supplies, the charging/discharging voltage is limited to a maximum of 10 volts by the Model 420 for maximum safety.

Connect the cabling in the following manner:

a. Connect the positive (+) power supply terminal (1) to the positive vapor-cooled current lead (2) using 1/4-20 or similar hardware.

b. Connect the negative vapor-cooled current lead (3) to the positive (+) shunt terminal (4) on the back of the Model 420.

Caution

Do not overtighten the nuts on the current shunt terminals of the Model 420 (see the torque specifications on page 7). Overtightening can result in damage to the terminals.

c. Connect the negative (–) shunt terminal (5) on the back of the Model 420 to the negative (–) power supply terminal (6).

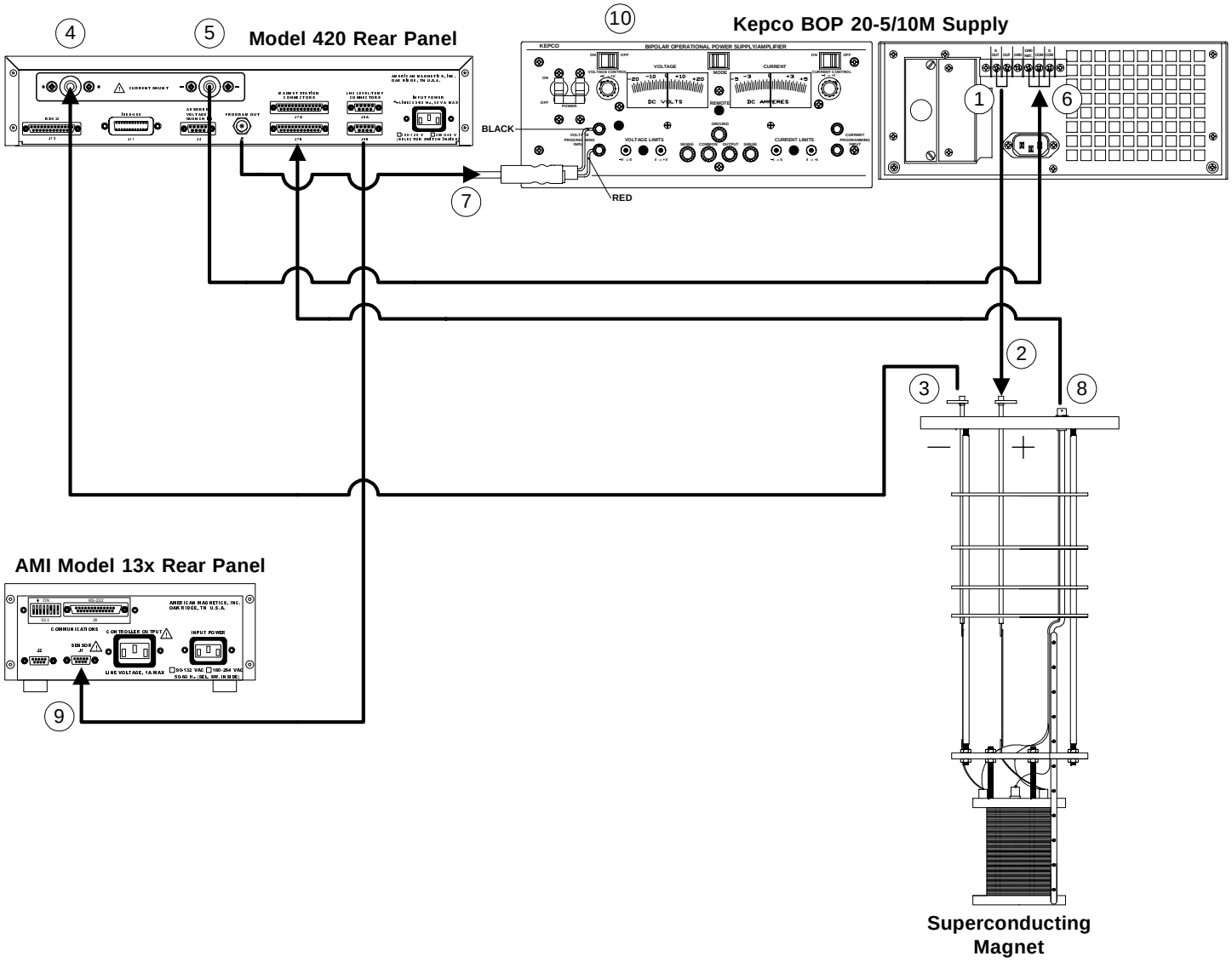

Figure 2-6. System interconnect diagram for the Kepco BOP series power supply.

d. Connect the coaxial cable from the **PROGRAM OUT** connector on the back of the Model 420 to the **VOLTAGE PROGRAMMING INPUT** connector (7) on the front panel of the power supply. Note the cable configuration as shown in the diagram.

e. Install an instrumentation cable between the magnet support stand top plate connector (8) and the magnet station connector J7A or J7B.

f. Install an instrumentation cable between the LHe/Temp connectors J8A and/or J8B on the rear of the Model 420 and the Model 13x Liquid Helium Level Instrument and/or temperature instrument (9).

g. Set the Kepco power supply **MODE** to voltage control (to the left), and set both manual control switches to the **OFF** position.