CLAIMS

1. An isolation transformer comprising:

a transformer core having a first surface and a second surface;

a first through-bore extending through the transformer core from the first surface to the second surface, the first through-bore having an elongated profile with at least a portion of the elongated profile providing a first flat winding surface;

a second through-bore extending through the transformer core from the first surface to the second surface, the second through-bore having an elongated profile with at least a portion of the elongated profile providing a second flat winding surface, the second flat winding surface spaced apart from the first flat winding surface by a central portion of the transformer core;

a first three-wire cable comprising a first conductive wire, a second conductive wire, and a third conductive wire, the second conductive wire positioned between the first conductive wire and the third conductive wire, the first, second and third conductive wires twisted together, the first three-wire cable threaded through the first through-bore and around the central portion of the transformer core; and

a second three-wire cable comprising a fourth conductive wire, a fifth conductive wire, and a sixth conductive wire, the fifth conductive wire positioned between the fourth conductive wire and the sixth conductive wire, the fourth, fifth and sixth conductive wires twisted together, the second three-wire cable threaded through the first through-bore and the second through-bore and around the central portion of the transformer core, the second three-wire cable interleaved with the first three-wire cable such that one turn of the first three-wire cable is positioned between adjacent turns of the second three-wire cable, wherein

the first and third conductive wires of the first three-wire cable are connected in parallel to form a first primary winding of the isolation transformer, and the fourth and sixth conductive wires of the second three-wire cable are connected in parallel to form a second primary winding of the isolation transformer, the first and second primary windings connected in series to form a center-tapped primary winding; and

the second conductive wire of the first three-wire cable forms a first secondary winding of the isolation transformer, and the fifth conductive wire of the second three-wire cable forms a second secondary winding of the isolation transformer, the first and second secondary windings connected in series to form a center-tapped secondary winding.

2. The isolation transformer as defined in claim 1, wherein each of the first and second through-bores has an oval-shaped profile having a central rectangular portion, a first semicircular end portion and a second semicircular end portion, each of the first and second flat winding portions defined by a respective side of the central rectangular portion of the respective through-bore.