

CLAIMS

What is claimed is:

1. An apparatus, comprising:

a power supply;

a control device connected to the power supply;

a welding device selectively connected to the power supply via the control device; and

a switch connected between the control device and the welding device;

wherein the control device includes a time delay relay that measures a predetermined time period;

wherein the switch maintains a closed position when the predetermined time period expires and the welding device is producing a welding arc;

wherein the switch switches from the closed position to an open position when the predetermined time period expires and the welding device stops producing the welding arc; and

wherein the control device transfers current from the power supply to the welding device when the switch is in the closed position, and blocks current from the power supply to the welding device when the switch is in the open position.

2. The apparatus of claim 1, wherein the switch is a magnetic switch.

3. The apparatus of claim 1, wherein the switch maintains the closed position:

when the predetermined time period is unexpired; or

when the welding device is producing the welding arc when the predetermined time period expires and the welding device continues to produce the welding arc without interruption following the expiration of the time period.

4. The apparatus of claim 1, wherein the switch switches from the closed position to the open position:

when the predetermined time period expires and the welding device has stopped producing the welding arc; or

when the welding device has continuously produced the welding arc following the expiration of the time period and then the welding device stops producing the welding arc for the first time following the expiration of the time period.

5. The apparatus of claim 1, wherein the switch switches from the open position to the closed position when a user taps the welding device to a conductive surface.

6. The apparatus of claim 5, wherein the time delay relay includes a timer that starts the predetermined time period when the user taps the welding device to the conductive surface.

7. The apparatus of claim 1, wherein the control device includes a contactor having a coil that is selectively energized by the switch.

8. The apparatus of claim 7, wherein:

when the switch is in the closed position, the switch transfers current to the coil, which actuates the contactor to electrically connect the power supply to the welding device; and

when the switch is in the open position, the coil remains unenergized and the contactor electrically disconnects the power supply from the welding device.

9. The apparatus of claim 7, further comprising:

a first electrical connector electrically connecting the power supply to a power input of the control device;

a second electrical connector disposed in the control device and connecting the power input to the contactor that is electrically connected to a power output of the control device;

a third electrical connector electrically connecting the power output to the welding device; and

a fourth electrical connector electrically connecting the welding device to the time delay relay.

10. The apparatus of claim 9, wherein:

the time delay relay is electrically connected to the contactor; and

the switch is disposed on the fourth electrical connector.

11. The apparatus of claim 9, wherein:

the control device is electrically connected between the power supply and the welding device;
and

the time delay relay is electrically connected between the switch and the contactor.

12. The apparatus of claim 1, further comprising a network server that communicates with a controller of the control device;

wherein the controller transfers data to the network server.

13. A method, comprising:

providing a power supply and a welding device;

disposing a control device electrically between the power supply and the welding device;

disposing a switch between the control device and the welding device;

measuring a predetermined time period with the control device;

maintaining the switch in a closed position when the predetermined time period expires and the welding device is producing a welding arc;

switching the switch from the closed position to an open position when the predetermined time period expires and the welding device stops producing the welding arc;

transferring current from the power supply to the welding device, via the control device, when the switch is closed; and

blocking current from the power supply to the welding device, via the control device, when the switch is in the open position.

14. The method of claim 13, further comprising maintaining the closed position:

when the predetermined time period is unexpired; or

when the welding device is producing the welding arc when the predetermined time period expires and the welding device continues to produce the welding arc without interruption following the expiration of the time period.

15. The method of claim 13, further comprising switching the switch from the closed position to the open position:

when the predetermined time period expires and the welding device has stopped producing the welding arc; or

when the welding device has continuously produced the welding arc following the expiration of the time period and then the welding device stops producing the welding arc for the first time following the expiration of the time period.

16. The method of claim 13, further comprising:

switching the switch from the open position to the closed position when a user taps the welding device to a conductive surface; and

starting a timing of the predetermined time period when the user taps the welding device to the conductive surface.

17. The method of claim 13, further comprising:

transferring current from the switch to a contactor of the control device, and actuating the contactor to electrically connect the power supply to the welding device, when the switch is in the closed position; and

maintaining a coil of the contactor in an unenergized state, which electrically disconnects the power supply from the welding device, when the switch is in the open position.

18. An apparatus, comprising:

a power supply;

a control device having a power input that is connected to the power supply via a first electrical connector;

a welding device selectively connected to the power supply via a second electrical connector of the control device, the second electrical connector connecting the power input to a contactor of the control device that is electrically connected to a power output of the control device;

a magnetic switch connected between the control device and the welding device;

a third electrical connector electrically connecting the power output to the welding device; and

a fourth electrical connector electrically connecting the welding device to a time delay relay of the control device that measures a predetermined time period;

wherein the magnetic switch maintains a closed position when the predetermined time period expires and the welding device is producing a welding arc;

wherein the magnetic switch switches from the closed position to an open position when the predetermined time period expires and the welding device stops producing the welding arc; and

wherein the control device transfers current from the power supply to the welding device when the magnetic switch is in the closed position, and blocks current from the power supply to the welding device when the magnetic switch is in the open position.

19. The apparatus of claim 18, wherein:

the time delay relay is electrically connected to the contactor;

the magnetic switch is disposed on the fourth electrical connector;

the control device is electrically connected between the power supply and the welding device;

and

the time delay relay is electrically connected between the magnetic switch and the contactor.

20. The apparatus of claim 18, wherein:

the welding device producing the welding arc creates a magnetic field that closes the magnetic switch; and

when the welding device stops producing the welding arc, then the magnetic field stops and the magnetic switch moves from the closed position to the open position when the predetermined time period is expired.