

ABSTRACT

An electrical connector for connecting to a welding machine may include a unitary sheath for housing a primary and a second conductor and at least one encapsulated mechanism in electrical communication with a processor for measuring welding parameters in real time. The encapsulated mechanisms may include mechanisms for measuring the primary current and voltages available to a first electrical tool; measuring the temperature at a work piece; and measuring the duration of the primary current flow across the work piece. The electrical connector may further include a display for indicating the values of the primary current and voltages available to the first electrical tool, the temperature and duration of primary current flow across the work piece. A data logging module may be utilized for capturing and recording the values of the parameters. The encapsulated mechanisms may further be operable in simultaneous and independent modes.

Fig. 8