



U2-Guard.2 - the overvoltage monitor for welding transformers

In various wire mesh and Posiweld welding machines, the secondary circuits of the welding transformers cannot be grounded for physical reasons. The U2-Guard.2 monitors the voltage of these ungrounded secondary circuits.

Operating principle

If the insulation fails between the primary and secondary circuit, or if dangerous voltage potentials occur on the transformer, two potential-free relay contacts trip the power circuit breaker. Via a third potential-free relay contact, the control system (PLC) is notified that the power circuit breaker has been tripped. The error is displayed on the PLS operating interface, as well as with LEDs on the U2-Guard.2. This ensures that the cause of the interruption is quickly established.

Expandable up to 24 measuring channels

The U2-Guard.2 monitoring device consists of a base module and at least one extension module. Up to 8 extension modules can be connected to the basic module. Each extension module features 3 measuring channels, each measuring channel monitors one transformer. The individual modules are mounted on standardised mounting rails (EN50022) in the control cabinet and electrically connected to another by an internal, plug-in bus connection.

Two channels for double safety

The measurement and ground loops to the transformers are each designed as a set of two. For each measuring loop implemented, the U2-Guard.2 can detect both cable breaks and short circuits. The U2-Guard.2 complies with the current standards and has been EC type-tested.

Intrinsic safety

The monitoring device of the U2-Guard.2 tests itself independently when the power is switched on (powering up the cabinets) and, if the test result is okay, it issues a clearance so that the power circuit breaker of the welding machine can be switched on.

Periodical inspection of the overvoltage monitor

The errors «overvoltage», «measuring loop wire break» and «ground loop wire break» can be tested manually with check keys at any time. The simulated errors are displayed with LEDs directly on the U2-Guard.2. The manual checks can be done with the power circuit breaker off.

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