wagner magnete

756

Electronic Pole Reversal Control Unit

The pole-reversal control unit, type 756, is a controllable power and voltage source zu magnetize:

- Electromagnets (EL)
- Electro-permanent magnets (EP)
- Electro-permanent magnets with neodymium system (Nd)

The unit is controlled using 24 V DC control inputs. The system statuses are displayed via three-line display, LED displays and photo-MOS relay.

The unit is supplied via 3-phase mains connection 50 / 60 Hz. The unit is suitable for nominal magnetic currents of at least 6 A.

The pole-reversal control unit is characterized by the following features:

- Optional current or voltage controlled operation
- Pre-selection of up to 4 freely programmable parameter sets for the magnet by optional control inputs
- very short switching times
- When switching off the magnet quickly, the energy released is fed back to the mains
- Very fine resolution of the holding force levels
- Exclusive use of PhotoMOS relays for the feedback signals (no bouncing, relays can connect smallest currents without showing high resistance)
- Configuration via USB and monitor program (optional)
- Ground leakage protection

The pole-reversal control unit 756 provides a nominal input of 22,17 kVA (3 x 400 V, 32 A). Depending on the application (type of magnet, nominal voltage and power consumption of the magnet connected), the unit can also be supplied with reduced voltage and / or reduced fusing.

To switch off electro-permanent magnets, or to reduce the residual magnetism for electromagnets, reversing of poles is necessary. Here a magnetic field with changing polarities and decreasing intensity is generated.
This process reduces the residual magnetism to a minimum. The pole-reversal control unit 756 controls the necessary currents / voltages using the magnet. The basic setting of the pole-reversal control unit is made at our works prior to dispatch. If required, the pole-reversal process can be changed by selecting another pole-reversal program. In addition, it is possible to change the pole-reversal programs using the optional monitor program.

Technical data:

- Mains supply voltage: 3x400 V AC (+/- 10 %), PE
- Mains frequency: 50 / 60 Hz
- Protection class: IP 20
- Operating mode: Continuous operation
- perm. temperature range: 0 °C bis 40 °C
- acc. to EMC and Low Voltage Directive
- Holding force levels: up to 256 levels (16 freely programmable, interpolated)
- Installation height 1000 m MSL
  In case the machine is operated at higher altitudes, the possible output will be reduced.

Input signals:

- Clamp
- Pole-reversal
- Switch off without pole-reversal
- Acknowledge fault message
- 4 inputs for selecting the holding force levels
- 4 extra inputs can be assigned optionally
- USB interface for configuration
- 24 V DC, 2,5 mA

Program selection:

Use switch S1 on the front plate to select up to 16 pole-reversal programs..

Output signals:

- Magnet clamped
- Reverse magnet polarity
- Fault
- PhotoMOS relay with common earth, MINUS or PLUS switching
- max. 24 V, max. 0,5 A
- 6 optional outputs

Short-circuit behavior:

The pole-reversal control unit is protected against destruction of the power semiconductors by internal fuses.

Connection values for various output voltages:

Type	Use for	Magnet voltage [V DC]	max. nominal current magnet [A DC]	Dimensions WxHxD [mm]	Weight [kg]
756-EL110/16	Electromagnets (continuous current)	110	16	125x375x245	7,2
756-EL220/16	Electromagnets (continuous current)	220	16	125x375x245	7,2
756-EL110/30	Electromagnets (continuous current)	110	30	125x375x245	7,2
756-EL220/30	Electromagnets (continuous current))	220	30	125x375x245	7,2
756-EP210/30	Electro-permanent magnets (pulsed operation)	210	30	125x375x245	7,2
756-EP360/30	Electro-permanent magnets (pulsed operation)	360	30	125x375x245	7,2
756-EP210/60	Electro-permanent magnets (pulsed operation)	210	60	125x375x245	7,2
756-EP360/60	Electro-permanent magnets (pulsed operation)	360	60	125x375x245	7,2

756-.../... freely configurable version for up to 4 different magnet systems;
other magnet voltages available as special configuration

Accessories:

Control unit

For manual control of the pole-reversal control unit, different control units of type 744 are available. They are equipped with a coding switch to adjust the holding force and illuminated keys to clamp and unclamp the magnet. Keys and coding switch are also available as installation components.

Monitor program

With the additional "USG Monitor" software, the configuration options for the pole-reversal control unit are extended considerable. The following options are available, for example:

- selecting the 6-step, 8-step, and 16-step holding force curve and changing the freely-programmable holding force curve
- changing the pole reversal programs
- activating special options

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