Active Power Transducer WMU150 (5A) Class 0,5

"Four Wire symmetrical"       3-Way Separation       Output  +/-20mA and +/-10V

Application for 5A Current Transformers

The measuring transformer is used in power supply units, emergency power supplies and interconnected networks for measuring, displaying or monitoring the active power in a 2- or 4-conductor AC current network. The input values come from power or current transformers as required.

With independent auxiliary supply voltage (231VAC or 24VDC) the power output will be correctly measured also under extreme undervoltages.

Because depend on various applications and current transformers different settings are needed, the customer can change the settings by himself and storekeeping of units is lower.

Below the flap of the WMU150-Case are 4 turnswitches to be placed for setting the maximum power of unit i.e. 1 2 0 0 (W). So you can set every power from 500W to 1300W (for 231VAC). With common current– and voltage transformers for analog meters and measuring transducers the power of application will be set by request. The scale factors of transformers then defines the power for the measuring transducer unit. A voltage transformer will only be needed in middle voltage plants. With another setting the customer can change the output from +/-20mA (+/-10V) to 4-20mA (2-10V). A small adjuster is available for trimming the 4mA (2V) value.

Function

The WMU150 measuring transducers have a 4-quadrant multiplier which records the active power of the one-phase network connected with high precision. The active power is evaluated precisely, even with strongly distorted sine waves and failing half-sine waves. The total power is output at the 20mA output. Negative power (reverse power) is output at the output with negative current (-20mA). Two loads on the outputs (20mA and 10V) are possible by simultaneous operation (minus outputs from 20mA and 10V must be potentially separated).

Technical Data

- **Type**: Active Power Transducer WMU150
- **Design**: Plastic housing on 35mm DIN bar according to DIN EN 50022 / DIN 46277
- **Housing material**: ABS with fire protected equipment UL 94 V-0
- **Dimensions, Weight**: 45 x 75 x 109,5 mm (WxHxD), appr. 240 g
- **Auxiliary voltage**: 231V AC 2,5 VA, other values on request, option 24VDC
- **Input Voltage**: 231V (L-N) , 50/60Hz, Other values on request
- **Input Current**: 5A AC , maximum Current until 120%, 200% up to 30 sec.
- **Measuring Delay**: 100 ms
- **Output**: +/- 20mA, 4-20mA with 500 Ohm (max.); +/-10V , 2-10V (10mA max)
- **Class of accuracy**: 0,5 % from final value
- **Potential separation**: Voltage separation between Auxiliary Supply – Input Voltage – Input Current – Output each to the other 3,75 kV
- **On period**: 100 %
- **Terminals**: Strand 2,5 qmm, Rigid 4 qmm, Torque 0,5 Nm, Screw size M3
- **Type of Protection**: Housing IP 40 (EN 60529) , Terminals IP 20
- **Environments**: -10 °C bis +55°C, 95% Hum
- **Mains isolation**: EN 60 742 (Safety transformers)
- **General Regulations**: EN 50 178 (Electrical resources in power installations)
- **Noise suppressions**: EN 61000 and EN V 50 140
- **EMV nach**: EN 61000 und EN V 50 140
- **Installation position**: Any
- **Maintenance**: Maintenancefree

Remark: "Four wire symmetrical" = used designation
Adjustments

Adjusting or new configuration will be performed by opening the flap on top of the cabinet. On the four turn switches standing side by side the final power value at 20mA output signal will be set, i.e. 1000W, by turning the switches to the value, at present the 1000 switch to 1 and all other switches to 0. 1000W corresponds to a AC current of 4.33A with 231V mains voltage against N in a 2 wire net. With choosing of matching current transformer XXXX / 5A or XXXX / 1A the right working range will be achieved.

For the configuration of output 4-20mA the jumper JP1 must be put to the lower place, see picture. In this position the output current of 4mA can be varied with the nearby trimming potentiometer for trimming of the 0-value on-site.