Unipower®

Technical Information

Generally

Unipower APM100B is a measurement transducer that measures power in kW on 3-phase symmetric loads according to the formula:

$P = \sqrt{3} \times U \times I \times Cos\phi$

- * Suitable for mains voltages from 3x400V to 3x460V
- * Built-in current converter for currents up to 80A.
- * Programmable measurement range: 0.1kW to 70kW
- * 0(4)-20mA and 0(2)-10V analogue output
- * SO1 output for kWh pulses
- * Programmable averaging function
- * Galvanic isolation between mains net and digital inputs and analog outputs



Features

Analogue output

Voltage input

The APM100B is suitable for mains voltages between 3x400V and 3x460V. Supply voltage and measurement voltage are common. **Current input**

The APM100B has a built-in current converter. The converter is placed around the built-in tube, where the live wire is lead through.

kW measurement range

Using the BCD-switches on the front a measurement range from 0.1kW to 70kW may be chosen. The measurement range is set in steps of 0.1kW. **kWh output**

The APM100B generates 100 or 300 pulses/h at 100% load. The pulses are available on output SO1. It is possible to choose measurement ranges, where the pulse rate is consistent with kWh or 0.1/0.01 kWh, see fig. 1. For other settings the calculation from pulses to kWh must be done in a PLC or counter.

Filter

At fluctuating loads a filter function is available using S2. When S2 is activated the measured value is an average of 16 "normal" measurement values.

The APM100B integrates a voltage output and a current output. By using input (S3) these outputs are set to either 0-20mA (0-10V) or 4-20mA (2-10V). It is not possible to generate 0-10V and 4-20mA simultaneously. **Digital input**

Three digital inputs marked S1-S3 are used to configure the APM100B. S2 is changeable during operation. S1 and S3 are "read" during power up. S1-S3 are active (ON) when connected to GND.

LED indicators

The APM100B is equipped with 3 LED indicators. LED marked "On" indicates that the unit is connected to mains supply. LED marked "Load" is lit when the load exceeds 3% of max. load. The LED marked "kWh" reflects the SO1 output at 10 times the pulse rate set, i.e. 1000/3000 pulses/h at 100% load.

Mounting

When mounting the APM100B it is important to do it in accordance with the schematics on page 2. The current must be measured in the phase connected to Pin 1 and the direction must be as shown. Max cable diameter is 10mm. <u>Note:</u> The unit measures currents linearly up to 130A and is protected against currents up to 500A.

Mechanical		Electrical	
Housing:	Lexan UL94V-0 (top)	Supply:	$3x400-3x460Vac \pm 10\%$
	Noryl UL94V-0 (bottom)	Measurement voltage:	Same as supply voltage
Mounting:	M36 for 35 mm DIN rail	Current input	80A (130A)
CT dia.:	Max. 10mm	Frequency:	45-65 Hz
IP class:	Housing IP40. Terminals IP20	Accuracy:	Class 2%
Terminals:	Max 16A. Max 2,5 mm ²	Analogue output 1:	0(4)-20 mA max 300Ω
	Max torque 0,6 Nm	Analogue output 2:	0-10V min load 10k Ω
Temp.:	-15 to +50 grad C	kWh output:	100/300 imp/time/fs
Weight:	300 g	SO1 output:	Passive optocoupler, current
Dimens.:	D 58 x W 70 x H 86 mm		limited to 25 mA
CE mrk:	EN50081-1, EN50082-2	SO1 pulse width:	200ms
	EN61010-1		

Technical Specifications

Version 1.0



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