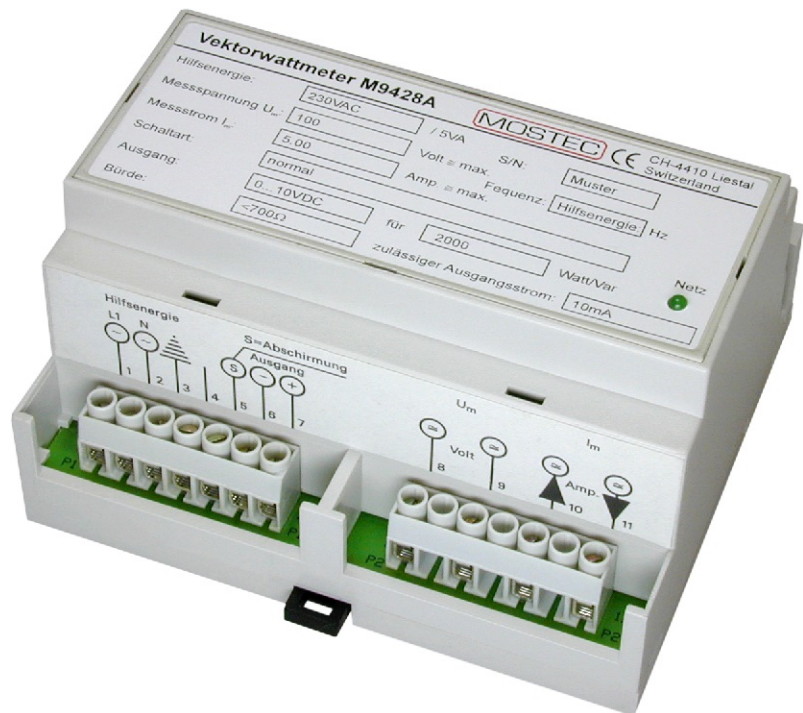


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Wattmeter 1-Phase Type M9428A



Technical Data

This Watt transducer is a multiplying vector transducer, which multiplies voltage by current in real time with the algebraic formula \pm voltage times \pm current = power. This multiplication occurs about 5000 times per second. The resulting, accurate pulse with modulated signal passes a 2-pole low pass filter, the signal isolation amplifier and outputs as a bipolar current signal. Because voltage and current are multiplied at the same time, all imaginary values are suppressed. It measures the real power "Watt" only. X:5-current transformers allow the measurement of unlimited current values in high power applications. With an option (no mixed DC/AC voltage) it is possible to measure the reactive power "VAR" in AC power lines. DC components are suppressed in this reactive mode.

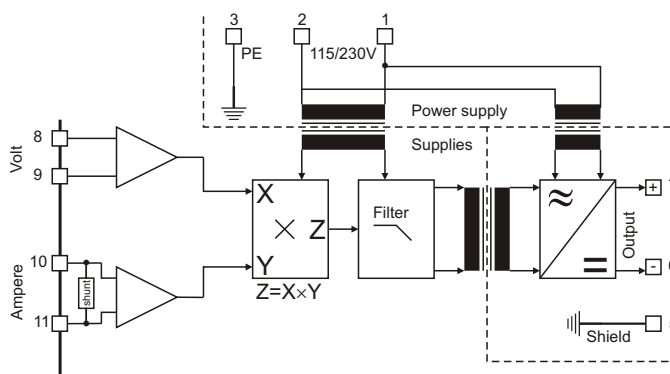
Application:

The M9428A is not - or less intended to be used for billing or energy cost analyzes, its primary application is in the field of measuring and control for industrial controls. Applications where an actual value of power has to be measured as input value to a control system. The generated signal is used to feed process control computers, programmable controllers, process guidance systems, viscosity measurements via the stirrer torque (=power), over or under power cutoffs, remote controls, data loggers and recorders etc. The transducer is build according to the newest CE requirements and fulfills all EMC conformities.

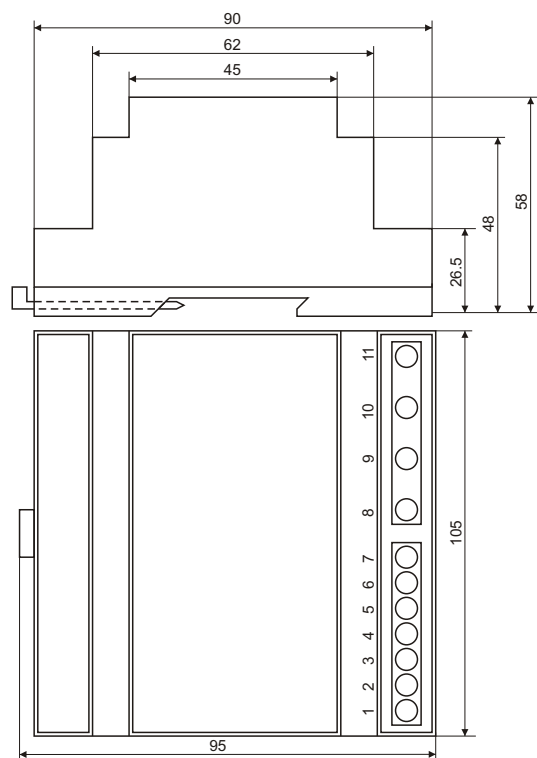
Technical Data:

Voltage (Um):	Max. standard values: 100V, 115V, 230V and 400V, AC/DC, others on request	
Input impedance:	1,56M Ω at 400V (3.9k Ω /Volt)	
Current (Im):	Standard values: 0...1, 0...2, 0...5 AC/DC, others on request	
Current-shunt:	100m Ω ...10m Ω , manganin 25ppM/ $^{\circ}$ C	
Max. overload:	10X value, max. 1 second	
Working principle:	Vector multiplication and integration	
Output:	0...1V, 0...10V, 0...20mA, 4...20mA, others on request	
Zero adjust:	adjustable from side panel, 0/4mA or 0V	
Zero offset:	\pm 0.05%	
Gain adjust:	adjustable from side panel, 20mA or 10V	
Gain error:	\pm 0.1%	
Max. rise time:	Typ. 400ms from 10% to 90%, others on request	
Max. load at current:	\leq 500 Ω	
Max. length of cable:	2000m, 2-wire shielded, grounded on both side of the cable	
Max. load at voltage:	\leq 15mA	
Galvanic isolation:	Test voltage 2500V/50Hz/1 minute	
Accuracy:	\pm 0.1%	
Reproducibility:	better than 0.02%	
Temperature coefficient:	Zero drift typ. 30ppM/ $^{\circ}$ C, gain drift typ. 50ppM/ $^{\circ}$ C	
Long time stability:	\leq 0.1% after 3 month	
CE-conformity:	fulfilled	
Power supply:	230VAC, 50-60Hz, 5VA, others on request	
Fuse:	50mA T, 5x20mm	
Working temperature range:	-5 to 45 $^{\circ}$ C	
Max. humidity:	95%, non-condensing	
Terminal description:	1 = Power supply L1 2 = Power supply N 3 = Power supply PE 5 = Output shield 6 = Output minus 7 = Output plus	8 = Voltage input Lx 9 = Voltage input Nx 10 = Current input 11 = Current output
Mounting:	35mm mounting rail, EN50022-35	
Case:	Plastic case safety class II, IP20, IEC144 with finger proofed terminals	
Dimensions:	105 x 90 x 58mm	
Weight:	350g	
Warranty:	2 years	
Options:	- other power supply - special ranges - -90 $^{\circ}$ Phase, for reactive power measure "VAR"	
Order Example:	M9428A, supply 230V, measure voltage 230V, measure current max. 5A, output 4...20mA = 0...1000Watt	

Block diagram:



Dimensions:



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