















### Calculation of measuring range for watt/var transducers

U = Nominal mains voltage. 3-phase network: Between 2 phases (e.g. 3 x 10kV).  
 Single phase network: Between phase and neutral.

I = Primary rated current (rated value, e.g. 500/1).

	Lowest measuring range	Highest measuring range
3-Phase network	$0.5 \times \sqrt{3} \times U \times I$	$2 \times \sqrt{3} \times U \times I$
Single phase network	$0.5 \times U \times I$	$2 \times U \times I$

Standard measuring ranges: 1 - 1.2 - 1.5 - 2 - 2.5 - 3 - 4 - 5 - 6 - 7.5 - 8 and multiples of 10 and 100 thereof

### Example

3-phase network, balanced load:	3 x 10kV	
Voltage transformer:	10k/100	
Current transformer:	500/1A	
Lowest Measuring range:	$W = 0.5 \times \sqrt{3} \times 10.000 \times 500 = 4.3\text{MW}$	Nearest higher standard range: 5.0MW
Highest Measuring range:	$W = 2 \times \sqrt{3} \times 10.000 \times 500 = 17.3\text{MW}$	Nearest lower standard range: 15.0MW
Possible ranges:	5 - 6 - 7.5 - 8 - 10 - 12 - 15MW. Could be chosen according to calculated current consumption, power factor and a suitable deflection or output.	

**Note:** The Measuring range of a VAR transducer should be  $\geq 50\%$  of the selected measuring range of the corresponding WATT transducer, e.g. WATT transducer: 12...0...2MW VAR transducer: -6...0...6Mvar or higher.

### Order specifications for above example

Type	TAP-210DG/3
Connection (See drawing)	1W3
Measuring range	-15..0..+15MW
Current transformer ( $I_{pri} : I_{sec}$ )	500/1A
Measuring Voltage ( $U_{nom}$ )	3 x 10kV
Voltage transformer ( $U_{pri} : U_{sec}$ )	10k/100
Auxiliary voltage ( $U_{aux}$ )	220V AC
Output signal	-10..0..+10V

### Dimensional details

All dimensions in mm

Weight: max. 0.5 kg (Type 1), max. 0,35 kg (Type 2)

Transducers for DIN rail mounting Recommended distance between mounted transducers: 30 mm

Due to our continuous development we reserve the right to supply equipment which may vary from the described.



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