## SYNCHRONIZATION METERS

## SQ 0204, SQ 0214, ZQ 1207, FQ 1207, ZQ 1208, FQ 1208



If you want to manually or semi-automatically synchronise generator and bus bar SQ 0214 and SQ 0204 are the right instruments for you. Our synchronization meters are very unique products, especially SQ 0214. Synchronization meters are intended for manual or semiautomatic synchronization of two electric-energy distribution systems. SQ 0204, SQ 0214 synchroscopes are the instruments for measuring a phase angle between two electric-energy distribution systems. The SQ 0214 type also measures voltages and frequencies of both systems. Both types can be on request provided with the built-in relay output which signalises if the conditions for synchronization have been met. ZQ 1207 or ZQ 1208 two-system frequency meter is used for measuring frequencies in two networks. FQ 1207 or FQ 1208 double voltage meter measures voltages in two networks.









SQ 0204

SQ 0214

ZQ 1207 FQ 1207

ZQ 1208 FQ 1208

TYPE	SQ 0204	SQ 0214	ZQ 1207	ZQ 1208	FQ 1207	FQ 1208
Front frame (mm)	96 x 96	96 x 96	96 x 96	96 x 96 *	96 x 96	96 x 96 *
Cutting for mounting (mm)	92 x 92	92 x 92	92 x 92	92 x 92	92 x 92	92 x 92
Scale length (mm)	360°	360°	92/72	2 x 50	92/72	2 x 50
Accuracy class	+/-1° el.	+/-1° el.	0.5	0.5	1.5	1.5
RATING						
100V, 230V	•	•	•	•	•	•
400V	•	•	•	•	•	•
500V	•**	•**			•	•
600V	•**	●**			•	•
Frequency		•	•	•		

<sup>\*</sup> ZQ 1208 and FQ 1208 for front frame 144 x 144 mm on request.

Ship version meters SQ 0204, ZQ 1207 and FQ 1207 available on request. Connection diagrams for SQ 0204, SQ 0214, ZQ 1207, ZQ 1208, FQ 1207, FQ 1208 on page 153.

The SQ 0214 displays on LCD two voltages ( $U_{gen}$ ,  $U_{bb}$ ) and two frequencies ( $f_{gen}$ ,  $f_{bb}$ ). When difference between  $f_{gen}$  and  $f_{bb}$ is lower then 0.02 Hz then  $U_{BUS}$ ,  $U_{GEN}$ ,  $F_{BUS}$  and  $\Delta \phi$  are displayed

Bus-bar voltage U<sub>bb</sub> Bus-bar frequency f<sub>bb</sub>

> 50.07Hz 31V 50.73Hz

Bus-bar voltage  $U_{bb}$  Bus-bar frequency  $f_{bb}$ 

Generator voltage  $U_{gen}$ 

Generator frequency fgen

Generator voltage  $U_{qen}$  Phase difference  $\Delta \phi$ 

Connection diagrams on page 159. Dimensional drawings on page 145.



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<sup>\*\*</sup> Other ratings on demand