Data sheet

Synchronism check relay
KSR 30

Technical Data

Voltage:
100/400 V ~ +10%/-20%

Frequency:
50 … 60 Hz
(other voltages and frequencies on request)

Consumption
System 1, Terminal 1 and 2 or 1 and 3: 5 VA
System 2, Terminal 4 and 5 or4 and 6: 1 VA

Setting range
3 ... 30° *(el.)* of beat voltage
(Linear setting by means of fixable
potentiometer, scaled 0 .. 10)

Ambient temperature
-20°C … +55°C

Output relay / Contact capacity
max. 250 V ~ und 7.5 A
max. 30 V = 180 Watt
max. 250 V = 100 Watt

Degree of protection
IP 20/P20

Weight
0,8 kg

Description	Ordering information
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The synchronism check relay KSR should be applied to avoid antiphase paralleling of 3phase AC-system, when synchronizing is operated manually or automatically.
The unit is assembled in a plastic enclosure, fitted with facilities for snap-in fixing on a mounting rail. The connection terminals are assembled at the front side of the housing.
The two AC voltage systems, which are to be paralleled, have to be connected to the unit. The measuring circuit compares the phase position, by detecting the beat voltage. When beat voltage approaches zero point, falling below the set value, the output relay will be energized and remains in this position as long as the set value will not be exceeded. The LED signal indicates switching of output relay contact and is showing, that paralleling now is enabled.
The synchronism check relay Is suitable for 100 % duty cycle, but Is should be switched off, when synchronizing procedure is finished. The synchronizing enable range should be selected as small as possible. The correct setting angle α has to be calculated, taking Into account the individual operating time t_v of circuit-breaker and the permissible frequency difference Δf, in conformity with the following formula: $\alpha = 0,4\ t_v$ [ms] x Δf [Hz]
Example: The individual closing time t_v of a circuit-breaker (including the time lag of all auxiliary contactors connected in this control curciut) was found to be 75 ms. The permissible frequency difference Δf in this case shall be 1.0 Hz.
Than the setting point will be: α = 0,4 x 75 x 1,0 = 30°