

Measuring and Monitoring Relays

Motor Protection Relay



CPW-E12

230 V AC - 1 changeover contact

- $\cos\phi$ monitor
- selectable response value
- selectable response time
- can be used together with a frequency converter
- LED indication

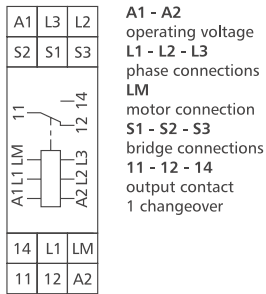
Part Numbers

110 281 05 20	230 V AC - 1 ... 10 A
110 281 05 20 13	230 V AC - 0.2 ... 2.5 A

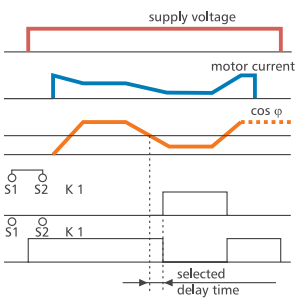
Housing Dimensions



Wiring



Function Diagram



Functional Description

The $\cos\phi$ monitor is used to detect an underload. Adjustable response value and response time. It can also be used together with a frequency converter (frequency 2 to 200 Hz). Monitoring is accomplished by recognising the phase shift between current and voltage. This phase angle varies according to the load of the motor. The instrument is equipped with a green LED for operating voltage indication and a red LED for error indication.

Technical Data

Input

nominal voltage	230 V AC
power consumption (max)	1.5 VA
operating voltage range	0.9 - 1.1 U_N
frequency range	2 ... 200 Hz
duty cycle	100 %
input voltage (motor)	230 V AC / 400 V AC
input current	min. 0.2 A, max. 10 A (load current)
load inrush current	100 A (<0.5 s)
setting range $\cos\phi$	0 .. 0.97 (relative scale)
response time	1 .. 100 s
operating temperature range	0 °C ... +55 °C
storage temperature range	-25 °C ... +70 °C

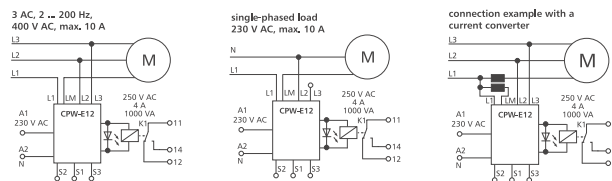
Output

output contact	1 changeover contact
contact material	AgNi
switching voltage (max.)	250 V AC
making/breaking capacity	1000 VA
continuous current	4 A
contact fuse	4 A
permissible switching frequency	1200 switching cycles/h
isolation per VDE 0110	
rated voltage	250 V AC/DC
overvoltage category	III
pollution degree	2
test voltage (coil/contact)	2000 V, 50 Hz 1 min
EMC test	emission per EN 50 081 T1 interference immunity per EN 50 082 T2

Housing

type of protection (EN 60529)	housing IP50, terminal blocks IP20
relative humidity range	
per IEC 60721-3-3	
environmental class	3k3
wire cross section	2.5 mm ²
mounting position	any
colour	green
weight	170 g
housing dimensions WxHxL	22.5 x 75 x 100 mm
modular	without spacing

Wiring Diagrams



Function setting by bridge position at S1 - S2 - S3

- S1 - S2 open**
relay is released at underload
 - S1 - S2 bridge**
relay is activated at underload
 - S1 - S3 open**
with error memory
 - S1 - S3 bridge**
without error memory
- Remote reset of the module is possible with a closing contact at S1 - S3.

If the error memory is activated (no bridge at S1-S3) the fault message remains displayed until it is acknowledged or the operating voltage is shut-off.