



ZIEHL industrie-elektronik -
competent and innovative in development and manufacturing of electronic devices for the industry. From **Universal-Relays for monitoring temperatures** over **relays for uncoupling of grid-connection** for solar plants to **special electronics** for your application.

Product Overview

Temperature-Relays and Sensors
Monitoring of Current, Voltage and Phase.
Current Transformers
MINIPAN Digital Panelmeters
Controls for Suction Plants
Relays for Frequency and Speed
Measuring-Transducers and Measuring Point
Changeover Switches
Customer specific Electronics

Temperature-Relays



PTC-Relays

to protect motors, bearings, heat sinks or generally surfaces against thermal overload. Available with ATEX-approval (94/9/EG), also with intrinsically safe sensor-input. Application in combination with PTC-thermistors MINIKA®, 60...180 °C.



PTC-Relays for Dry Transformers

make no tripping-pulse when switched on. Low-cost versions to versions with intelligent fan-control and fan-monitoring are available



Pt 100 (RTD) and Thermocouple

monitor and control temperatures with up to 8 sensors and 6 alarms/limits. Digital displays, monitoring of differences and analog outputs allow a big variety of applications. Also available for sensors Pt 1000, KTY 83/84 and PTC.



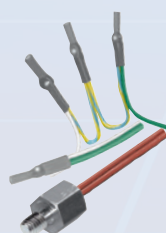
WebControl

Relays with Ethernet-interface can be connected to Intranet/Internet and operated with a normal browser. Data can be read out via Modbus TCP/IP. Alarms can be signalled with relays and/or by e-mail.



Temperature-Sensors Pt 100 (RTD)

Pt 100 (RTD) for use with Temperature-Relays, Transducers or Displays. Designs for measuring in windings, as screw-in, immerse or room-sensor.



Temperature-Sensors PTC (Thermistors)

Type MINIKA in combination with PTC-Relays protect windings in transformers or motors from thermal overload. They can also be used e.g. for monitoring of temperatures in bearings in machines and plants.

Mains Monitoring



Relay for Phase, $\cos\phi$, Phase-Sequence and Current-Direction

Phase-Relays prevent from asymmetry and wrong phase-sequence.
Phase-Sequence Relays automatically change a wrong phase-sequence.
 $\cos\phi$ -Relays monitor motorload and current-direction.



Current Relays (AC-current on/off)

Current-Relays in OR-circuits recognize when there is a current in 1 of up to 12 monitored lines.
Current relays in AND-circuit only switch on when there is a current in all 3 monitored lines and report e.g. a break of a fuse or a damaged load.



Current Relays (adjustable)

monitor currents AC or DC.
Versions with up to 3 measuring-inputs cope with various applications.
In combination with external transformers and shunts nearly any level of current can be monitored.



Monitor for Power Generation Plants

monitor voltage, frequency and vector shift at e.g solar-plants and switch off rapidly in case of a fault. According to VDE-AR-N 4105, bdew and many other standards

Relay for Direction of Energy Flow

increases portion of own consumption by shifting consumption in times with high energy production.



Voltage Monitoring Relays

Monitor DC-, AC- and 3-phase networks up to 690 V for under- and/or overvoltages and protect connected devices against damage by over- or undervoltage.



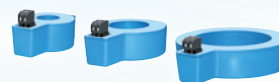
Electronic Current Transformers

with integrated electronics for detection AC-current ON/OFF, without any supply-voltage. Easy detection of the state of a load. Direct connection to PLC is possible. Put-on-sensor for AC- and DC-currents.



Residual Current Monitor

In combination with the according current transformers monitoring of residual currents in grounded grids. Reporting of damages in insulation before damage occurs and prevention from switch-offs.



Frequency Relays

monitor the frequency 10-500 Hz in AC-networks 80-440 V.
The version with integrated measuring-transducer provides a potential-free signal 0/4-20 or 0-10 V mA according to a selectable frequency-range.

MINIPAN[®] Digital Panel Instruments

We supply Digital Panel Instruments in various housings. Measuring inputs are available for DC and AC voltage and current, temperature-sensors Pt 100 (RTD), Pt 1000, KTY 83/84 and thermocouples as well as resistance. Further options are 2 switching-points (relays) and analog outputs. This allows a wide variety of applications. The red LED-displays are exceptionally rich in contrast and thus can be read in any light conditions and from unfavourable angles.



MINIPAN 300

4-digits, 36 x 72 mm, programmable
DC-inputs: 500/100/10 V, 300 mV, 1 A, 0/4-20 mA
AC-inputs: 500/50/10 V, 150 mV, 1 A
Pt 100 (RTD): 2-/3-wire, line-resistance programmable
Universal supply AC/DC 24-240 V



MINIPAN SE 352

4-digits, 48 x 96 mm, programmable
Inputs AC/DC 300 mV to 500 V, 0/4-20 mA, 1/5 A,
Pt 100/1000 2-/3-wire, KTY 83/84
2 Alarms (relays)
Universal supply AC/DC 24-240 V



MINIPAN 352 P

4-digits, 72 x 72 mm, programmable
Inputs AC/DC 300 mV to 500 V, 0/4-20 mA, 1/5 A, Pt 100/1000 2-/3-wire, KTY 83/84, thermocouples,
Resistance up to 30 kΩ
2 Alarms (relays)
Universal supply AC/DC 24-240 V



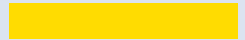
MINIPAN 350 V

4-digits, 35 mm wide
Inputs and data see MINIPAN 300

MINIPAN 352 V

4-digits, 70 mm wide
Inputs and data see MINIPAN SE 352
Universal supply AC/DC 24-240 V

Controls for Suction Plants



Current Relays (Current on/off)

recognize when a load, e.g. a saw is switched on and control a central suction system. In combination with current transformers STWA 1 or current sensors S1 the current in lines to up to 12 machines can be monitored.



Current Relays (Current on/off)

with integrated control for valves at the suction ducts to the machines. Control of a frequency-converter at the motor of the suction, control of volume-flow, discharge and filter-cleaning allow an optimized performance of the suction.



Electronic Current Transformers

with integrated electronics for detection AC-current ON/OFF, without supply-voltage. Detection of the state of the machines for running the suction plant with a PLC.



Vibrator Controls

guarantee optimal operation of filters in suction plants. Various programs are available. A time-check function ensures minimal abrasion, as filters are vibrated only after a certain period of ventilation has passed.

Switching Relays and Controls



Level Monitoring Relays

monitor up to 4 levels of conductive liquids. Applications are protection from running dry or overflow, monitoring of pumps for leaks or regulating a liquid between 2 levels.



Measuring Point Change-over Switch

connect up to 16 signals (Pt 100, 0-10 V or 0/4-20 mA) to one measuring input. The inputs can be selected with a BCD-signal, e.g. from a PLC. Automatic action is possible.



Speed Relays

monitor over- and underspeed at machines to protect them from damage by too high or too low speed. Available with integrated measuring-transducer.



Limit Value Switches

monitor standard-signals 0/4-20 mA resp. 0-10 V of any measuring-transducers for up to 2 limits.



Watchdog Relays

monitor the activity of processors in PC in critical applications and switch off in case of malfunctions (loss of clock).

Measuring Transducers

We supply measuring transducers for input-signals DC current/voltage, AC current, Pt 100 (RTD), Pt 1000, thermocouples, potentiometer, frequency, speed and power.

Several other products have analog outputs and can be used as measuring transducers.



Temperature

in combination with temperature-sensors Pt 100, Pt 1000, KTY 83/84 or thermocouples they provide temperature-linear output-signals DC 0...10 V or 0/4...20 mA.



Motor Protection

for Pt 100 as the superior alternative to monitoring motors with PTC.

Mounted near the motor it supplies the temperature of the warmest of 3 sensors via a 4-20 mA-loop to the control unit.



Measuring Point Multiplier

measures the temperature at the input sensor (Pt100 (RTD), Pt1000, KTY83/84, thermocouples B, E, J, K, L, N, R, S or T) and converts it to a signal Pt100 (RTD). Interface RS 485 for simulation of Pt100 (RTD).



Electronic Current Transformers

With integrated electronics.

Measuring ranges up to 100 A.

Analog outputs 0-20 mA and 4-20 mA.

Frequency output (transistor) for direct evaluation with a digital input of a PLC.



DC current/voltage

The measuring transducers for DC convert and isolate DC-signals.

Universal transducers with measuring inputs DC 0...±60/150/300mV, scaleable 0...5...600V, 1/5A, 0/4...20 mA, and outputs 0...10 V, 0/4...20 mA are available.



AC current/voltage

Measuring transducers for AC voltage 30...600 V and AC current 1...5 A (higher currents with external transformer). Potential free outputs DC 0...10 V, 0/4...20 mA.

Quality a matter of course.

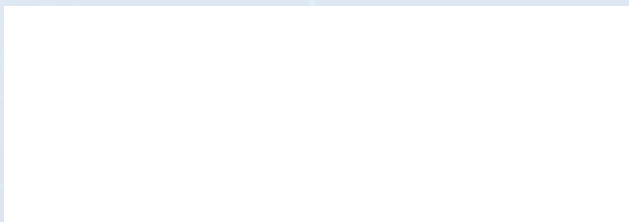
We design and produce our complete program for our customers in Schwäbisch Hall, Germany, according to DIN EN ISO 9001:2015.

The high quality of our products is guaranteed because we carry out individual tests on every unit.

Contact

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Measuring, Controlling, Monitoring on highest level



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