

# Unipower HPL430

## Load monitor with 1 Max and 1 dP/dt limit

### Generally

kW-monitor with embedded functions for the control and supervision of AC-motor driven equipment. The unit is used for demanding tasks where an alarm is wanted at power changes independent of the static load. Besides dP/dt supervision the unit contains a dU/dt detector which will prevent an alarm when a voltage increase occur. The unit contains an analogue output 4-20mA proportional to the kW-measurement. During an alarm condition the analogue output is set to 0mA.



### Features

- \* kW[%] measurement
- \* Digital programming
- \* Start timer 0,1-25 sec.
- \* Reaction timer 10ms-25 sec.
- \* Max. limit 5-100%
- \* dP/dt limit 2-50%
- \* 8 A directly or external C/T
- \* Phase order supervision
- \* Peak detector

### Applications

- \* Pump supervision (Max. and dP/dt)
- \* Supervision of conveyor belts
- \* Control of material flow
- \* Simple tool supervision
- \* 2-point regulation via hysteresis on the Max.- or the Min.-limit
- \* Machinery where an alarm is required at a given motor torque (Max. and Min.)

### Technical data

#### Mechanical

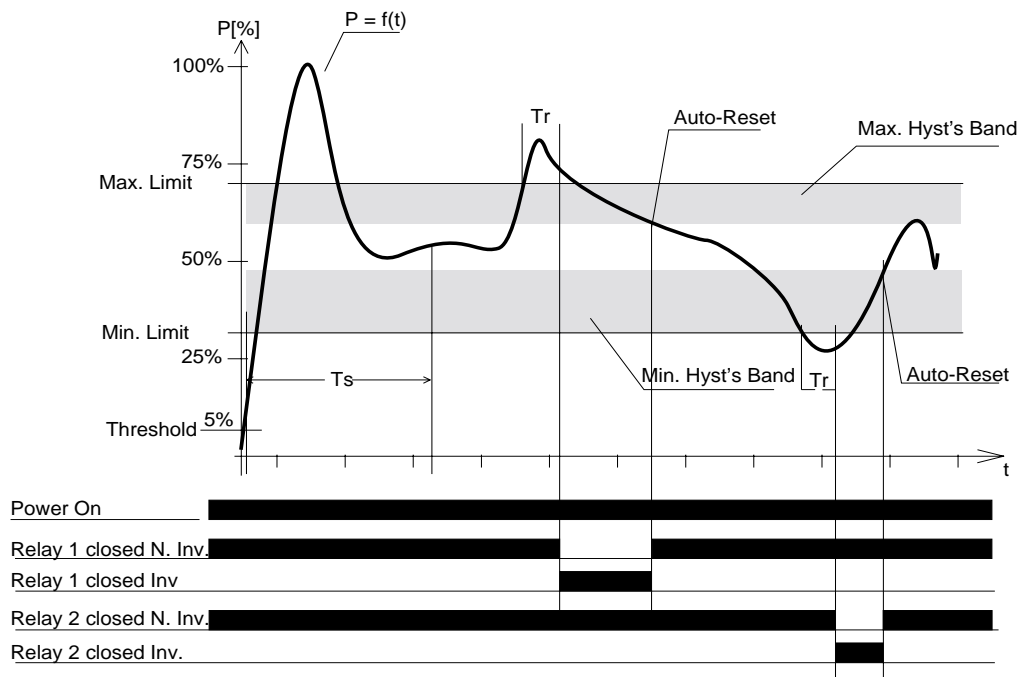
Housing: Makrolon UL94V-1 (housing)  
Makrolon UL94V-2 (connector)  
Mounting: 35 mm DIN rail- or wall mounting  
IP class: Housing IP40  
Connector IP20  
Temp range: -15 to +50 °C  
Weight: 500 g  
Dimensions: D 75 x B 56 x H 110 mm  
UL certif.: UL508. File E190959

#### Electrical

Supply/measurement: See technical info on the unit  
Available: 3x120 to 3x575V~  
Current range: Internal max 8 A~  
External N/1 or N/5 A~  
Frequency range: 50/60 Hz  
Consumption: 3 VA  
Relay ratings: 250V~/5A~  
Analogue output: 4-20 mA max 400 ohm  
CE mark to: EN50081-1, EN50082-2,  
EN61010-1

# Unipower

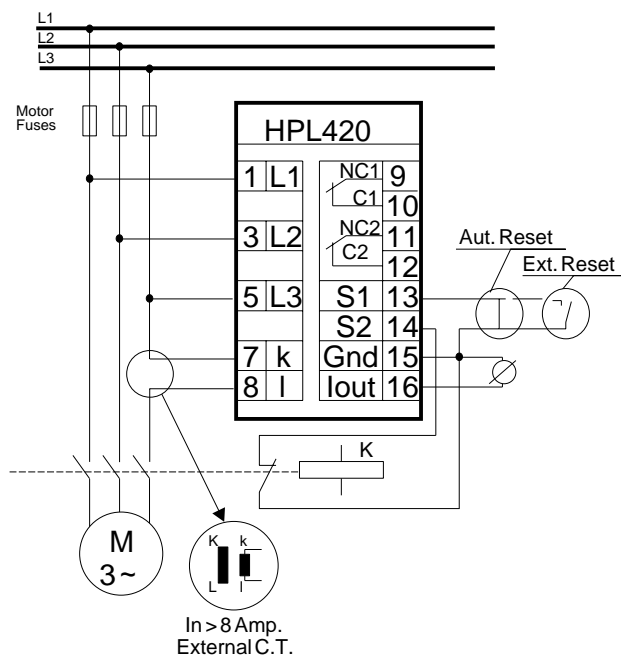
leading in digital and analogue load  
monitors and measurement transducers.



The Figure above shows a typical AC-motor power consumption curve immediately after power has been applied to the motor. The bars at the bottom of the figure indicate power applied to the unit and the position/state of the relay (On/Off). The HPL430 contains a function which is able to supervise differential loadchanges. Any change in the mains voltage will change the idle power

consumption and may cause false alarms. The  $dU/dt$  limit will prevent false alarms if a  $dU/dt$  and a  $dP/dt$  excess occur simultaneously. If input S1 is connected to GND the  $dP/dt$  supervision will be disabled. Connecting S2 to GND will disable all supervision.

## Typical wiring



## Unipower product program

Units for DIN-rail mounting (35mm) or panel mounting (72 x 72).

**Measurement transducers:** 1- and 3-phase symmetric and asymmetric kW-measurement, before and after frequency inverters. Analogue output (4-20mA) and pulse output (kWh).

**Load monitors:** 3-phased symmetric and asymmetric kW-measurement. Programmable kW-limits: Max., Min and  $dP/dt$ . Support functions: Start timer, reaction timer, hysteresis, auto reset, manual reset, alarm blocking etc. Analogue output (4-20mA).

**Tool supervision:** Compact units for supervision of up to 16 cuts. Measurement of power and work for break, wear and missing tool. Monitoring program for installation and statistics, for DOS or Windows.