

## PD 3122

- 16 Digital Source, Sink or Push-Pull I/O's
- Load current measurement
- P-NET via RS485 cable
- Built-in input and output functions
- Overload protection and Alarming
- Advanced internal self-testing
- Programmable in COPP
- Wide Power Supply range
- Wide Temperature range
- Low Power Consumption

### APPLICATION

The PD3122 module offers 16 Digital I/O channels as interface for various types of process signals, valves, pumps, level detectors, actuators etc. and push-pull outputs for direct motor control. Each channel can operate as a Digital Output, Digital Input or Analogue Voltage Input.

The digital outputs can work as source, sink or push-pull with output current measurement.

Digital I/O channels 1, 2 and 3 can additionally perform fast PWM Output functions.

Digital inputs can be configured as PNP or NPN. The digital inputs can perform Line Check functions. This is useful with two-wire proximity switches. In case of error, the hardware will report either 'Line open' or 'Line short-circuited' respectively.

All Digital inputs can measure analogue voltage 0-10 V.

Digital I/O channels 9 and 10 can additionally perform fast Digital Input functions.

All channels are overload and short-circuit protected. Notification can be enabled on any disconnection or process failure.

The device is programmable in COPP, which means that a part of, or a complete automation application can be downloaded and run in the module.

The program can make use of ready-made components to control and monitor any process or machine application, both locally in the device but also via the network interacting with other devices.

### SPECIFICATIONS

#### Digital Inputs (referenced to -24 Vin)

Frequency ..... Max. 1 kHz @ 50% duty cycle  
 Input ..... On: Vin < 4.5 V, Off: Vin > 6.5 V  
 Hysteresis ..... Typ. 1 V

#### Line check: (\*)

Line open voltage ..... > 0.75 \* Vin  
 Line short circuit voltage ..... < 2 V  
 Input pull down resistance ..... 6.8 kΩ  
 Input active pull up (configurable) ..... 3 mA

#### Fast Mode Digital Input (referenced to -24 Vin) (\*)

Frequency ..... Max. 50 kHz @ 50 % duty cycle  
 Input voltage Off ..... 2.5 V + Hys/2  
 Input voltage On ..... 2.5 V - Hys/2  
 Hysteresis (Hys) ..... Typ. 1.0 V

#### Digital I/O Analogue Voltage Input

Signal range ..... 0-10 V  
 Accuracy/Resolution ..... 200 mV / 1 mV

#### Digital Outputs

Oneshot and Duty cycle time resolution ..... 417 μs  
 Internal resistance ..... Typ. 0.5 Ω  
 Output start current (duration max 200 ms) ..... Typ. 5 A  
 Load current at ON (Source only) ..... Max. 1.0 A  
 Short circuit cutoff delay time (current > 5 A) ..... 104 μs  
 Leak current at OFF ..... Max. 500 μA

#### Fast Mode Digital Output

Frequency max @ 0.5 % resolution ..... 40 kHz  
 Resolution increases at lower frequencies

#### Load Current Measurements

Range ..... 10 A  
 Accuracy ..... Min. 2.5 %, +/- 25 mA  
 Resolution ..... 5 mA  
 Repeatability ..... Min. 1 %, +/- 25 mA

#### Power Specifications

Supply voltage nominal ..... 24 VDC  
 Supply voltage ..... 12-32 VDC  
 Typ. internal power consumption (@ 24 VDC) ..... 0.5 W  
 Max. power consumption (@ 24 VDC) ..... 2.5 W  
 Fuse ..... 5 x 20 mm 5 A time delay

#### Environmental Conditions

Operation temperature ..... -25 °C to +70 °C  
 Storage temperature ..... -40 °C to +85 °C  
 Relative humidity ..... < 95 % RH (non-cond.)  
 Protection class ..... IP40  
 (\* Use shielded cable)

...continues

**MOUNTING AND CONNECTION**

DIN rail mounting of the module is possible with the included mounting accessories.

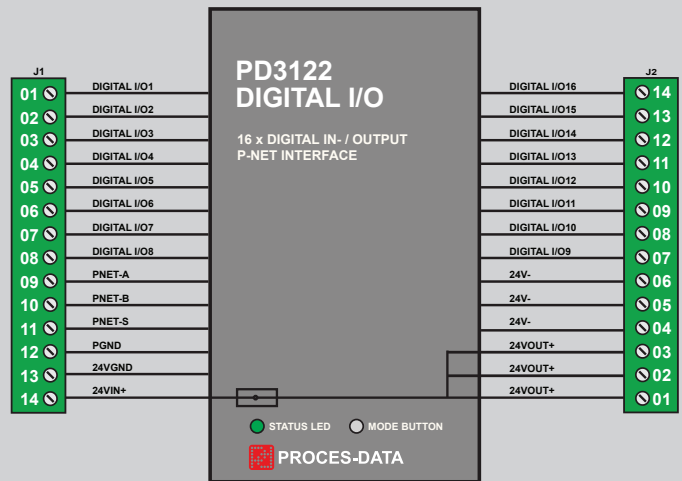
The 5 A slow blow fuse protecting 24V+ outputs and the Digital outputs is replaceable from the front side of the module. Please use a screwdriver to unlock and lock the fuse holder.

A mode pushbutton and a status information LED is located at the front side of the module.

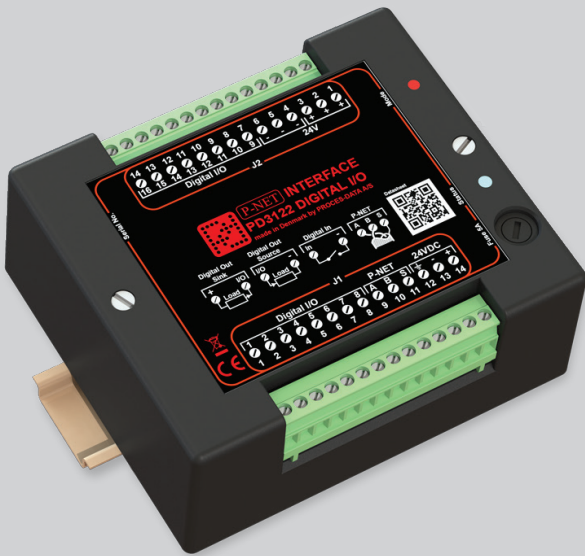
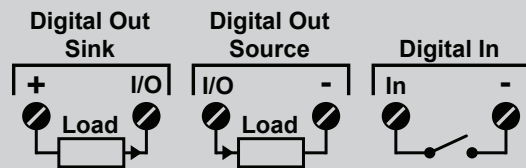
The module has two detachable snap connectors with screw terminals for digital and analogue I/O connections, power supply and P-NET communication.

There are three 24V- terminals and three 24V+ terminals common for the I/O connections. Depending on the actual configuration of the module, it may be necessary to connect more than one wire per 24V+ or 24V- output terminal.

The front foil of the module contains information about the module, the connections, fuse, serial number and a QR code with a link to the product home page.

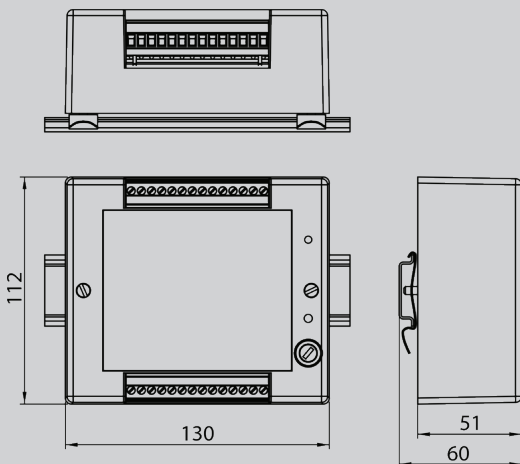


**Examples of connections**



Rear View

**MECHANICAL (mm)**



**Mechanical Specifications**

Dimensions (HxWxD)..... 51 x 130 x 112 mm  
 Weight approx.....360 g  
 Vibration ..... IEC 60068-2-6 : 2007