

## Industrial counter/tachometer PAX2D



- Universal AC and DC power supply unit
- 2-fold counter/tachometer with mathematical function
- Input for NPN, PNP, TTL and contact sensors
- 10-step linearization for tachometer display
- 2-line backlit LCD display
- Front side protection class IP65
- Easily programmable via front buttons
- Minimum and maximum value memory, totalizing function
- Display of a physical unit of measurement possible

<https://www.wachendorff-prozesstechnik.de/en/PAX2D>

### Description

The new PAX2D counter/tachometer was developed on the basis of the previous PAX series, which is characterized in particular by its robustness, durability and flexibility.

The 2-line, three-color backlit LCD display shows e.g. the counter value in the upper area and has the option of displaying e.g. a speed in the lower area. Thanks to the flexible color selection in the upper display, the color can also change during alarm states. It is also possible to select a physical unit.

In addition to the pulse input for all common sensors, the sensor supply and the universal AC/DC power supply ensure that the PAX2D can be used in almost all applications. This is supported by the expansion with optional plug-in cards (serial interface up to Profibus DP, analog output, alarm values). Functions such as minimum and maximum value memory, integration over time and taring are just as much a matter of course as the programming lock and definition of access rights.

The high input frequency of up to 50 kHz for the tachometer, coupled with the integrated USB interface for programming, makes the PAX2D one of the most modern displays on the market.

### Product details

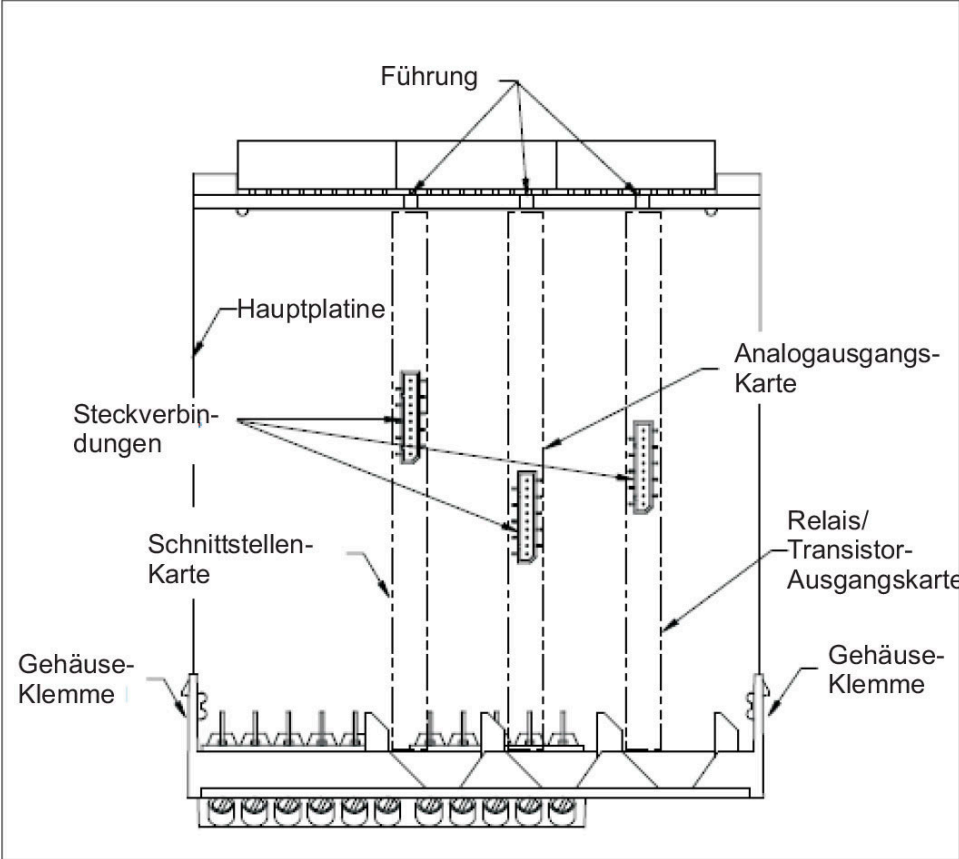
Display:	Backlit dimmable LCD display Upper line: 6-digit, three-color (red, green, orange) with 18 mm digits Lower line: 9-digit, green with 8.9 mm digits
Physical unit:	A physical 3-digit (red, green or orange) unit can be easily programmed from a list.
Indicators:	Four red backlit indicators for switching outputs.
Keyboard:	4 buttons, whereby 2 buttons are freely programmable function buttons are freely programmable function keys.
Counter displays:	6-digit (top line) or 9-digit (bottom line) Top line: -199,999 to 999,999 Bottom line: -199,999,999 to 999,999,999

Speedometer displays:	6-digit (upper or lower line) <b>Tachometer A or tachometer B:</b> 0 to 999,999 <b>Speedometer C or maximum values:</b> -199,999 to 999,999 Maximum input frequency: 50 kHz Minimum input frequency: 0.001 Hz Display update time: 0.1 to 999.9 seconds Accuracy: +/-0.01%
Input A and B:	NPN, PNP sensors, CMOS, TTL, potential-free contacts, permanent magnet sensors are accepted. Setting via DIP switch. Damping adjustable to 50 Hz. Minimum input frequency for tachometer: 0.01 Hz Maximum input voltage: 30 VDC In dual counter mode with rotary encoder, user inputs 1 and/or 2 are also used as signal inputs. These user inputs are set to an NPN input without damping as standard. The damping against contact bounce of a mechanical input signal must be provided externally.
Sensor supply:	+ 18 VDC @ 60 mA DC max; ±5 %, short-circuit proof.
User input:	Three programmable user inputs NPN or PNP switching (adjustable via jumper), response time: 12 msec. when activating or deactivating, max. input signal: 30 VDC <b>NPN switching</b> (20 kOhm pull-up resistor to +3.3 V): Active at $v_{in} < 1.1 V$ ; Inactive at $v_{in} > 2.2 V$ <b>PNP switching</b> (20 kOhm pull-down resistor): Active at $V_{in} > 2.2 V$ ; Inactive at $v_{in} < 1.1 V$

Programming:	Programming is carried out either via the integrated USB interface and the free Crimson 2 programming software or via the four front buttons. The simple and logically structured menu navigation allows very fast commissioning. In addition, access rights can be assigned, e.g. quick access to the switching points can be enabled. The Crimson 2 software is available as a free download.	Pluggable transistor output cards:	<ul style="list-style-type: none"> <li>• 4 x NPN-OC transistors: max. 100 mA at <math>V_{sat} = 0.7 V</math>, <math>V_{max} 30 V</math>, galvanic isolation of 500 V from the signal input.</li> <li>• 4 x PNP-OC transistors: Internal supply: 24 VDC +/-10%, max. 30 mA all 4 transistors. External supply: max. 30 VDC, 100 mA for each individual transistor.</li> </ul>
Power supply:	40 VAC to 250 VAC, 50/60 Hz, 20 VA or 21.6 VDC to 250 VDC, 8 W. Isolation up to 2,300 $V_{rms}$ for 1 minute to all inputs and outputs.	Pluggable analog output card:	Selectable output signal: 0/4 mA to 20 mA, 0 VDC to 10 VDC. Digitally scalable, offset. Accuracy: 0.17 % of range at 18 °C to 28 °C operating temperature, 0.4 % of range at 0 °C to 50 °C operating temperature. Resolution 1/3500. Voltage: 10 VDC (500 Ohm max. load). Current: 20 mA (500 Ohm load max.). Galvanically isolated from the signal input up to 500 V.
Data backup:	Non-volatile data memory		
Ambient temperature:	Operation: 0 °C to +60 °C. Storage: -40 °C to +60 °C.		
Relative humidity:	max. 85% rH, non-condensing.		
Protection class:	Jet-proof and dust-tight to IP65 from the front. Rear protection class IP20.		
Housing:	Black, impact-resistant plastic housing made from a single cast. The electronic slot can be pulled out to the rear. The plug-in cards can be installed very easily.		
Dimensions:	W 97 mm x H 50 mm x D 105 mm.		
Panel cut-out:	according to DIN: 92 mm x 45 mm.		
Fastening:	via mounting frame with clamping screws.		
Connection:	Via screw terminals.		
Weight:	approx. 227 g.		
Scope of delivery:	Device, fixing material, seal, operating instructions.		
Customs tariff number:	9030 33 70		
Manufacturer:	Red Lion, USA		
Output cards:	The device can be upgraded very quickly with various output cards. Each device can be equipped with a maximum of one interface card, one relay or transistor output card and one analog output card. The installation of the cards is simple and intuitive.		
Pluggable interface card:	<ol style="list-style-type: none"> <li>1. half-duplex RS232, programmable (terminal strip or plug).</li> <li>2. multipoint RS485, programmable (terminal strip or plug).</li> <li>3. DeviceNet, programmable.</li> <li>4. PROFIBUS-DP, programmable</li> </ol>		
Pluggable relay output cards:	<ul style="list-style-type: none"> <li>• 2 x relay changeover contact 5 A at 120/240 VAC or 28 VDC (ohmic load), at 120 VAC (80 VA inductive load). Service life of the relays is 100,000 cycles at max. load. The service life increases with lower loads.</li> <li>• 4 x NO relay 3 A at 240 VAC or 30 VDC (resistive load), at 120 VAC (80 VA inductive load). Service life of the relays is 100,000 cycles at max. load.</li> </ul>		

Drawings

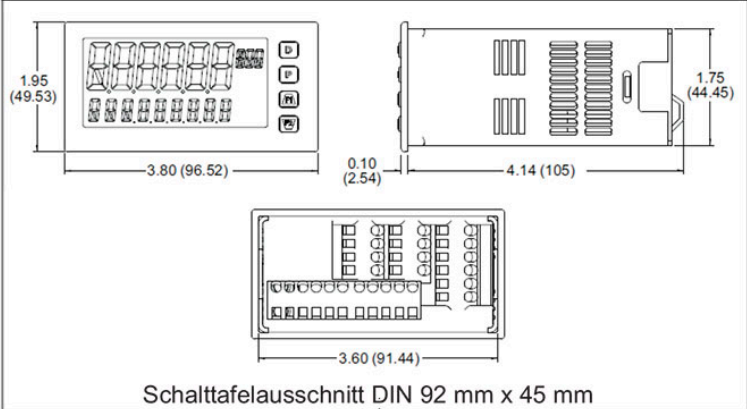
Mechanical structure



Mechanischer Aufbau

**Drawings**

**Dimensions (mm)**



Abmessungen (in Inch (mm))



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