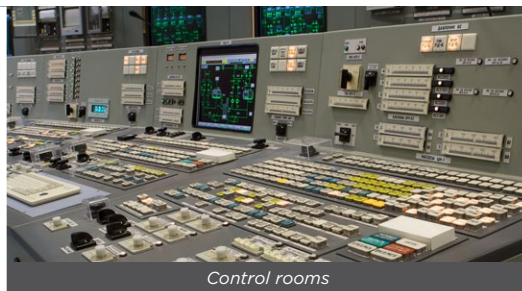


## Pressure Indicator with very large digits



*Application examples: Marine applications*



*Control rooms*



*Food industry*

**The D-Series is a front panel mount indicator, controller and monitoring system for measurement applications in industrial environments. It is the robust alternative for your existing, not waterproof, panel meters.**

### Advantages

- Unique, robust IP66, IP67 (NEMA Type4X) panel mount front enclosure made of die cast aluminum, allowing even big jets of water and total immersion.
- Intuitive "Know one, know them all!" configuration menu, saving time, cost and aggravation.
- Resistant to harsh weather conditions: rain, snow, salty atmospheres.
- Only a few inches depth clearance for smaller, low cost panels and panel doors.

### Features

- Displays actual pressure and measuring unit.
- Very large 26mm (1") digits.
- Piegraph indication: ten segments.
- Number of digits for temperature: 5  $\frac{1}{2}$ .
- LED backlight option.
- Selectable on-screen engineering units: mBar - Bar - PSI.
- Ability to process (0)4-20mA or 0-10V DC signals.
- Power requirements: Input loop powered, battery powered or 8 - 30V DC, 24V AC and 115 - 230V AC.
- Sensor supply: 8.2 / 12 / 24V DC.
- Auto backup of settings and running totals.
- Ambient temperature -40°C up to +80°C (-40°F up to 176°F).

## Introduction

The D050 is a straight forward, panel mount pressure indicator. The measuring unit to be displayed is simply selected through an alfanumerical configuration menu. No adhesive labels have to be put on the outside of the enclosure: a weather proof and user friendly solution! The configuration of the Span, off-set and number of decimals is done through software functions, without any sensitive dip-switches or trimmers.

## Configuration

All configuration settings are accessed via a simple operator menu which can be password protected. Each setting is clearly indicated with an alphanumerical description, which avoids confusing abbreviations. Once familiar with one D-series product, you will be able to program all models in all series without a manual. All settings are safely stored in EEPROM memory in the event of sudden power failure.

## Display

The display has very large 26mm (1") digits which displays the pressure and measuring unit. The display is a transfective type, which means that a high contrast reading is guaranteed, even in full sunlight. The D050 has a smart display update function incorporated. Related to the lower temperatures, the update frequency of the LCD is tuned automatically to achieve a readable display even at -40°C / -40°F.

## Backlight

For those applications where readability during day and night is an issue, a white backlight is available. The intensity can be adjusted in the configuration menu.



All info at a glance



Easy to install



Easy to program



Know one know them all!



Reliable



User-friendly

## Overview application D050

The D050 fits in applications where a basic pressure measurement display is required without pressure monitoring. Alternative models: D053 or the F-Series pressure indicators.



## Signal input

The D050 does accept (0)4 - 20mA and 0 - 10V input signals from any type of pressure measurement device. The input signal type can be selected by the user in the configuration menu without having to adjust any sensitive mechanical dip-switches, jumpers or trimmers. Also a 4 - 20mA input loop powered model is available.

## Power requirements

The basic power supply for the D050 is 8 - 30V DC. Several other power supplies are possible: With the 24V AC/DC and 115 - 230V AC power supplies, an 8.2 / 12 / 24V DC sensor supply is offered. For analog sensors, a 4 - 20mA input loop powered version is available. Finally we offer a long life lithium battery with a life expectancy that will last up to five years.



Waterproof IP66 / 67 (Type4X)

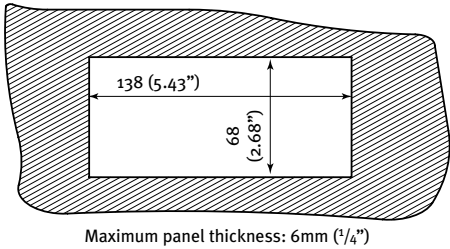


Only a few inches depth clearance

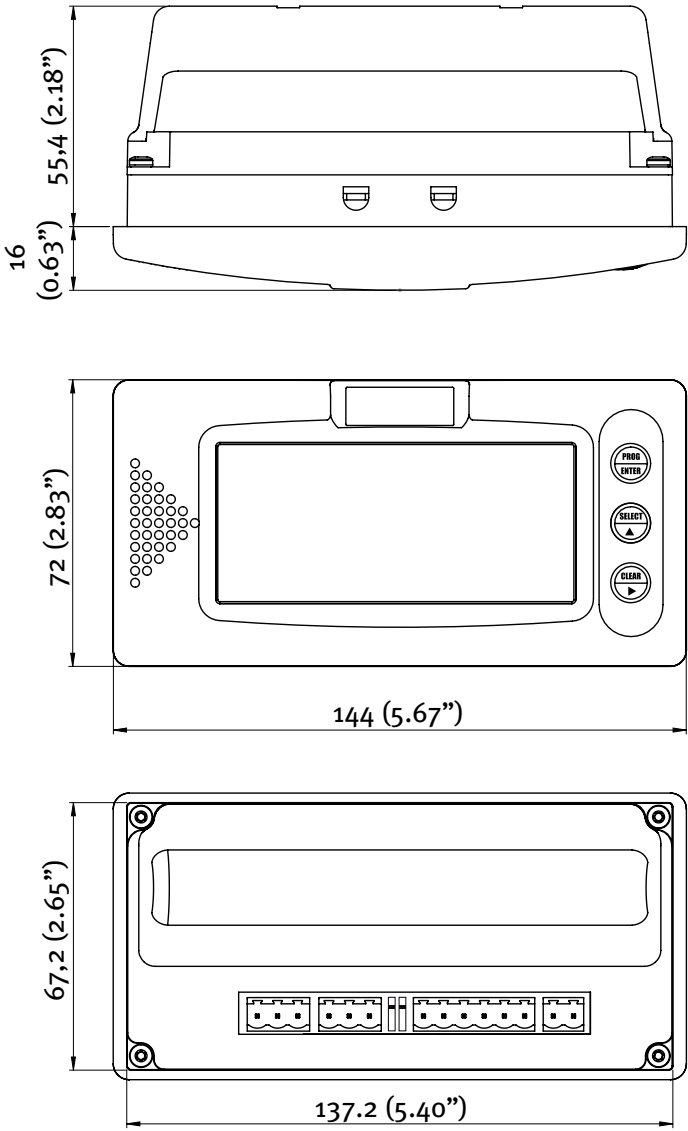
Enclosures

The D050 is supplied in a unique, robust IP66, IP67 (NEMA Type4X) class panel mount front enclosure made of die cast aluminum, based on a popular DIN sized enclosure of 144 x 72mm. The front enclosure withstands powerful water jets and even total immersion. The maximum thickness of the panel is 6mm (1/4"). The D-Series is the better alternative for your existing, not waterproof, front panel mounted indicators.

Panel cut out

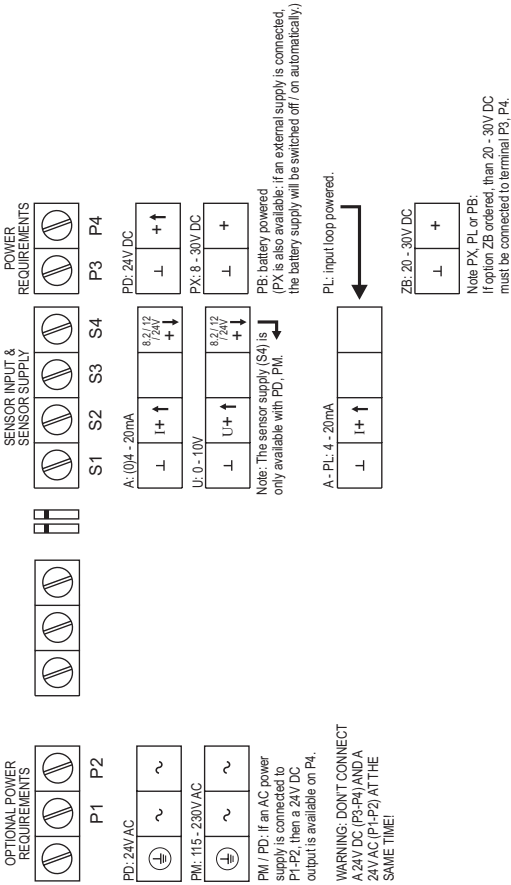


Dimensions enclosure

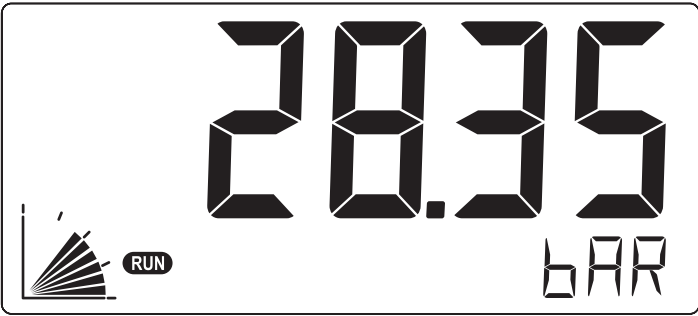


Dimensions according DIN 43700 / IEC 61554

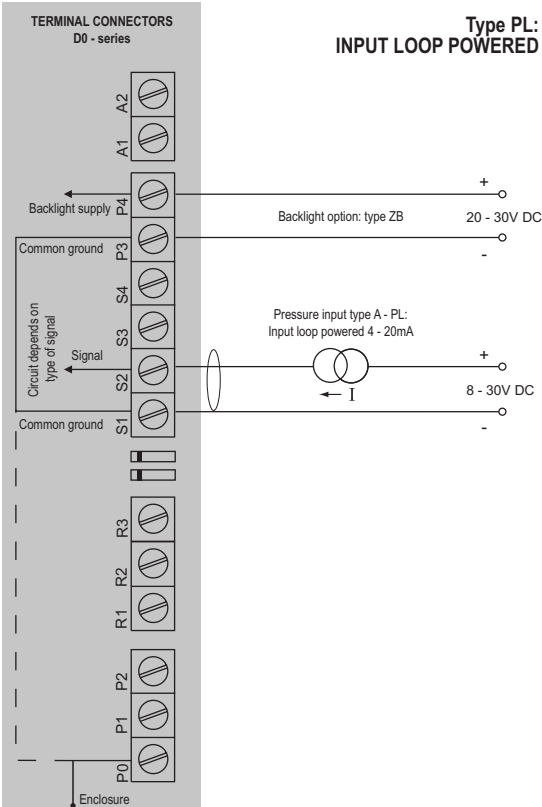
Terminal connections D050



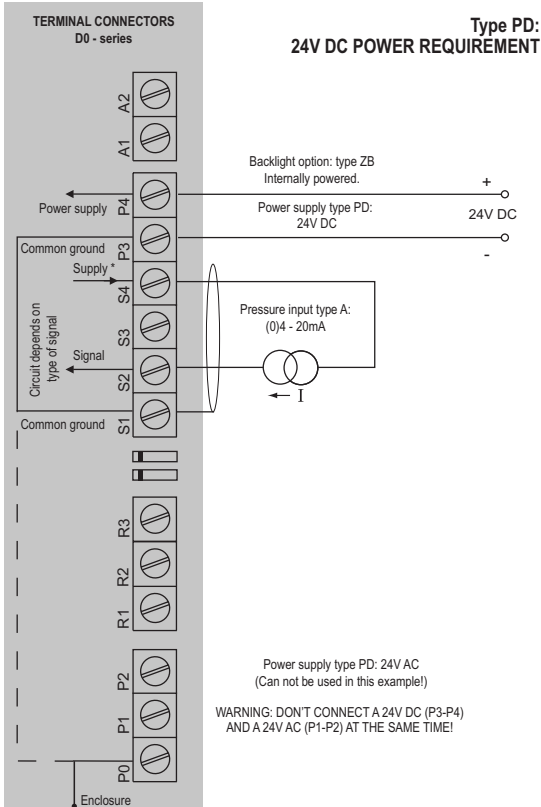
Display example - 90 x 40mm (3.5" x 1.6")



D050-A-PL-XX-ZB

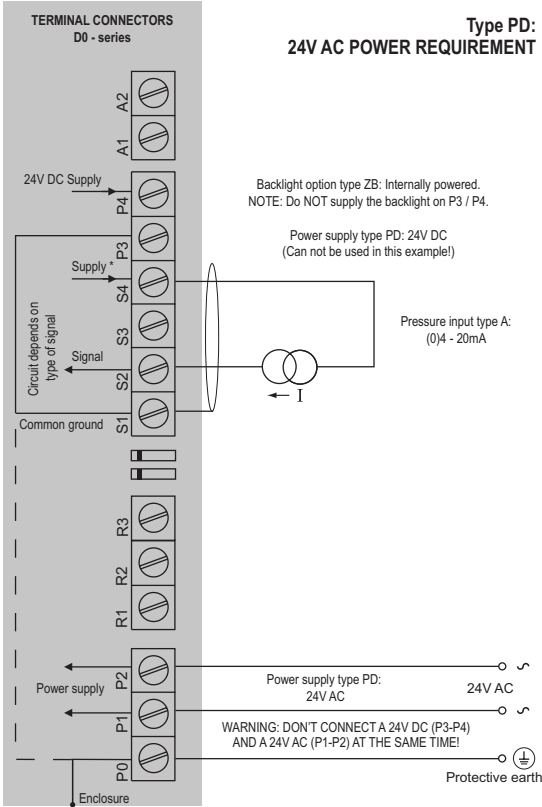


D050-A-PD-XX-ZB



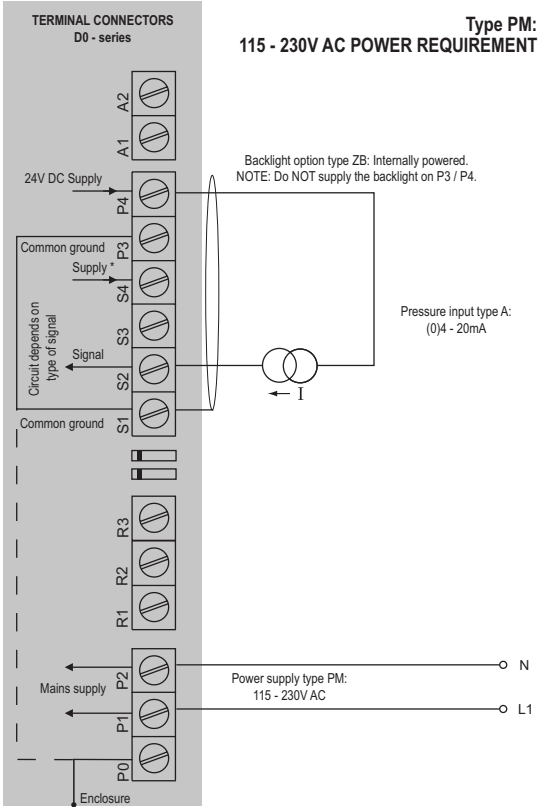
\* Sensor supply voltage for analog sensor type A / U:  
Terminal S4: 8.2 / 12 / 24V DC.

D050-A-PD-XX-ZB



\* Sensor supply voltage for analog sensor type A / U:  
Terminal S4: 8.2 / 12 / 24V DC.

D050-A-PM-XX-ZB



\* Sensor supply voltage for analog sensor type A / U:  
Terminal S4: 8.2 / 12 / 24V DC.

## Display

<b>Type</b>	High intensity reflective numeric and alphanumeric LCD, UV-resistant.
<b>Dimensions</b>	90 x 40mm (3.5" x 1.6").
<b>Digits</b>	5½ very large 26mm (1") digits. Various symbols and measuring units.
<b>Piegraph</b>	Ten segments - related to the input signal.
<b>Refresh rate</b>	User definable: fast, 1sec, 3sec, 15sec, 30sec, off.
<b>Option ZB</b>	Transflective LCD with white LED-backlight. Intensity can be adjusted in the configuration menu. Good readings in full sunlight and darkness.

## Ambient temperature

<b>Safe areas</b>	-40°C to +80°C (-40°F to +176°F).
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## Power requirements

<b>Type PB</b>	Long life Lithium battery - life-time depends upon settings and configuration - up to 5 years. (requires PL or PX)
<b>Type PD</b>	24V AC/DC ± 10%. Power consumption max. 1 Watt.
<b>Type PL</b>	Input loop powered from sensor signal 4 - 20mA (requires type A)
<b>Type PM</b>	115 - 230V AC ± 10%. Power consumption max. 1 Watt.
<b>Type PX</b>	8 - 30V DC. Power consumption max. 0.3 Watt.
<b>Type ZB</b>	20 - 30V DC. Power consumption max. 1 Watt. With type PD / PM: internally powered.

## Sensor excitation

<b>Type PB / PX</b>	Not available.
<b>Type PD / PM</b>	Dipswitch adjustable sensor supply: 8.2V DC, $I_{out}$ max. 35mA @ 20°C. 12V DC, $I_{out}$ max. 50mA @ 20°C. 24V DC, $I_{out}$ max. 75mA @ 20°C. (this voltage can vary depending on the input supply voltage)

## Terminal connections

<b>Type</b>	Removable plug-in terminal strip. Wire max. 1.5mm <sup>2</sup> and 2.5mm <sup>2</sup>
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## Directives & Standards

<b>EMC</b>	Directive 2014/30/EU, FCC 47 CFR part 15.
<b>Low voltage</b>	Directive 2014/35/EU
<b>RoHS</b>	Directive 2011/65/EU
<b>IP &amp; NEMA</b>	EN 60529 & NEMA 250.

## Data protection

<b>Type</b>	EEPROM backup of all settings. Backup of running totals every minute. Data retention at least 10 years.
<b>Password</b>	Configuration settings can be password protected.

## Enclosure

<b>Window</b>	Polycarbonate window.
<b>Sealing</b>	Silicone.
<b>Control keys</b>	Three industrial micro-switch keys. UV-resistant silicone keypad.

## Panel mount enclosure

<b>Dimensions</b>	144 x 72 x 71.4mm (5.67" x 2.83" x 2.81") - W x H x D according DIN 43700 / IEC 61554.
<b>Panel cut-out</b>	138 x 68mm (5.43" x 2.68") L x H.
<b>Material</b>	Die-cast aluminum front panel + GRP back enclosure.
<b>Protection</b>	IP66, IP67 (NEMA Type4X) at the front-side.
<b>Weight</b>	325 gr.
<b>Panel thickness</b>	Max. 6mm (¼").

## Signal inputs - Pressure sensor

<b>Type A</b>	(0)4 - 20mA. Analog input signal can be scaled to any desired range within 0 - 20mA.
<b>Type U</b>	0 - 10V DC. Analog input signal can be scaled to any desired range within 0 - 10V DC.
<b>Accuracy</b>	Resolution: 16 bit. Error < 0.01mA / ± 0.05% FS. Low level cut-off programmable.
<b>Span</b>	0.00001 - 199,999 with variable decimal position.
<b>Offset</b>	-99,999 / +199,999 units.
<b>Update time</b>	Four times per second.
<b>Voltage drop</b>	Type A: max. 1V DC @ 20mA.
<b>Voltage drop</b>	Type A - PL (loop powered): max. 2.6V DC @ 20mA.
<b>Load impedance</b>	Type U: 3kΩ.
<b>Relationship</b>	Linear and square root calculation.
<b>Note A / U</b>	For signal type A and U: external power to sensor is required; e.g. type PD / PM.

## Operator functions

<b>Displayed info</b>	<ul style="list-style-type: none"> <li>• Actual pressure.</li> <li>• Measuring unit.</li> </ul>
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## Temperature

<b>Digits</b>	5½ digits.
<b>Units</b>	mbar, bar, PSI, no-unit.
<b>Decimals</b>	0 - 1 - 2 - 3 - 4 or 5.



	Description						
Model	D050	Pressure indicator with very large digits.					
Input	A	(0)4 - 20mA input.			-A		
	U	0 - 10V DC input.			-U		
Enclosure	HB	Aluminum panel mount front enclosure.			-HB		
Power	PD	24V AC / DC + sensor supply.			-PD		
	PL	Input loop powered from sensor signal 4 - 20mA - requires type A.			-PL		
	PM	115 - 230V AC + sensor supply.			-PM		
	PX	Basic power supply 8 - 30V DC (no real sensor supply).			-PX		
Battery	PB	Additional lithium battery (optional) - requires PL or PX.			-PB -P_		
Hazardous	XX	Safe area only.				-XX	
Options	ZB	Backlight.				-ZB	
	ZX	No options.				-ZX	
		D050	-_	-HB	-P_	-XX	-Z_

The **bold** marked text contains the standard configuration: D050-A-HB-PX-XX-ZX.